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**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY 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 ON 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 AERIAL TOPOGRAPHIC SURVEY PREPARED BY VIRGINIA RESOURCE MAPPING DATED MARCH 31, 2006, AND FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED APRIL 24, 2008. BOUNDARY SURVEY WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED DECEMBER 12, 2006.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 50B5 AND 50B4 WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. C-24-4590-D.
- SEWER IS PUBLIC. CONTRACT NO. C-24-4590-D.
- STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED VIA TWO STORMWATER MANAGEMENT PONDS (ONE WET POND FOR WATER QUALITY AND CHANNEL PROTECTION VOLUME, OVERBANK FLOOD PROTECTION AND EXTREME FLOOD VOLUME, AND ONE DRY POND FOR CHANNEL PROTECTION VOLUME, OVERBANK FLOOD PROTECTION AND EXTREME FLOOD VOLUME) ONE BIOTRETENTION FACILITY FOR WATER QUALITY AND RECHARGE VOLUME IN STONE TRENCH, AND FOUR UNDERGROUND STONE TRENCHES FOR RECHARGE VOLUME. OWNERSHIP AND MAINTENANCE IS TO BE PROVIDED BY HOWARD COUNTY DEPT. OF PARKS AND RECREATION. THESE FACILITIES ARE SIZED FOR THE FUTURE AMENITIES ON THE EAST SIDE OF THE STREAM LABELED AS "NOT PART OF THIS PLAN". ALL AREAS WILL BE VERIFIED UPON SUBMISSION OF SDP FOR FUTURE AMENITIES.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY IS REQUIRED FOR THIS PROJECT.
- WETLANDS ARE FOUND ON THIS PROJECT PER FIELD VISIT AND WETLAND DELINEATION BY JOHNSON MIRMIRAN & THOMPSON DATED JUNE 2005. FLOODPLAIN, STREAMS, STREAM BUFFERS, AND STEEP SLOPES ARE ALSO LOCATED ON SITE. DISTURBANCE TO THE WETLANDS AND BUFFERS IS PROPOSED FOR THE PROPOSED ENTRANCE ROAD AND SWM POND #2 (WETLAND PERMIT TRACKING #200864784/08-NT-3405). THIS DISTURBANCE IS ESSENTIAL TO THE PROJECT IN ACCORDANCE WITH SECTION 16.116(c) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- A PARKING NEEDS ANALYSIS WAS PREPARED BY PHRA, DATED JUNE 9, 2008, AND WAS APPROVED ON DECEMBER 11, 2008. THE PARKING NEEDS ANALYSIS INCLUDES PARKING COUNTS THAT HAVE BEEN PREPARED AT THE GLENWOOD COMMUNITY CENTER, MEETING NOTES FROM A APRIL 14, 2008, MEETING WITH HOWARD COUNTY STAFF, AND A BREAKDOWN OF THE USES THAT WILL OCCUR WITHIN THE PROPOSED STRUCTURE, AND PARKING REQUIREMENTS FOR EACH USE. THE PARKING NEEDS REQUIREMENTS WERE BASED ON THE NET SQUARE FOOT AREA FOR THE BUILDING, EXCLUDING HALLWAYS, STORAGE AREAS, AND MECHANICAL EQUIPMENT ROOMS. PLEASE SEE PARKING TABULATION THIS SHEET. SEE 14 CONTINUED.

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52	AMENITY PROFILES, SCHEDULES, AND DETAILS
53	RETAINING WALL PLAN AND DETAILS
54	RETAINING WALL ELEVATIONS

**SEE SHEET 2 FOR ADDITIONAL SHEET INDEX & SITE DATA ANALYSIS CHART**

TOTAL PROJECT AREA:	99.1555 AC (2,141,215 SF±)
AREA OF PLAN SUBMISSION:	49.1555 AC (2,141,215 SF±)
LIMIT OF DISTURBED AREA:	792,532.2 SF (18.19 AC)
LOD FOR THE POOL EXPANSION:	57,458 SF (1.32 AC)
PRESENT ZONING:	R-SC
EXISTING USES:	VACANT LOT
PROPOSED USES:	COUNTY PARK WITH COMMUNITY CENTER
PROPOSED FLOOR AREA:	86,071 SF
MAXIMUM # OF EMPLOYEES:	24
PARKING REQUIRED:	289 SPACES (SEE PARKING NEEDS ANALYSIS & SEE GENERAL NOTE 14)
TOTAL PARKING PROVIDED FOR PARK:	296 SPACES PROVIDED
TOTAL HC PARKING PROVIDED FOR PARK:	14 SPACES

**GENERAL NOTES CONT.**

- A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
- A TRAFFIC STUDY WAS PREPARED FOR THIS PROJECT BY JOHNSON MIRMIRAN & THOMPSON, DATED JUNE 2005, AND UPDATED BY TRAFFIC CONCEPTS IN JULY 2008. THE TRAFFIC STUDY AND APFO ROADS TEST WAS APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING ON DECEMBER 11, 2008.
- THE SUBJECT PROPERTY IS ZONED R-SC PER THE 02-02-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS DATED JULY 28, 2006.
- ALL ELEVATIONS SHOWN ARE BASED ON NAVD 1989.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S: F-07-129 AND F-08-201.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS. THE CONTRACTOR SHALL FOLLOW THE SEQUENCE OF CONSTRUCTION OUTLINED IN THESE PLANS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- LIGHTING FOR THIS SITE IS PROVIDED AS SHOWN AND WILL BE PROVIDED IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS. LIGHT TRESPASS ON ADJACENT RESIDENTIAL PROPERTIES IN THE R-SC ZONING DISTRICT SHALL BE LIMITED TO NO MORE THAN 0.1 FOOT CANDLES.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE HOWARD COUNTY ZONING REGULATIONS. NO LANDSCAPE SURETY IS REQUIRED FOR THIS PLAN AS THIS PROJECT IS A COUNTY PROJECT.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PRESERVING 18.44 ACRES OF ON-SITE RETENTION AND BY EXCEEDING THE BREAK-EVEN POINT OF 18.31 ACRES. NO FOREST CONSERVATION SURETY IS REQUIRED FOR THIS PROJECT AS IT IS A COUNTY PROJECT.
- A DUMPSTER IS SHOWN ON THIS PLAN. TRASH REMOVAL WILL OCCUR ON A REGULAR BASIS.
- THERE ARE NO BURIAL GROUNDS OR CEMETERY SITES ON THE SUBJECT PROPERTY.
- THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE ROUTE 1 MANUAL BY EXTENDING A SIDEWALK CONNECTION TO MEREDITH AVENUE AND BY PROVIDING A PAINTED CROSSWALK AT THE DRIVEWAY ENTRANCE TO THE PARK.
- THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN WETLANDS, STREAMS, REQUIRED BUFFERS, 100 YEAR FLOODPLAIN AND 25% OR GREATER SLOPES, EXCEPT AS PERMITTED BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING AS ESSENTIAL OR NECESSARY DISTURBANCES (SEE GENERAL NOTE 13).
- AN ACCESSIBLE ROUTE SHALL BE PROVIDED BETWEEN HANDICAPPED PARKING OR PUBLIC RIGHT OF WAYS TO THE MAIN BUILDING ENTRANCE IN ACCORDANCE WITH CURRENT ADA AND LOCAL STANDARDS. ALL HANDICAPPED RAMPS SHALL BE CONSTRUCTED ACCORDING TO CURRENT ADA AND LOCAL STANDARDS, EXCEPT AS SUPERSSEDED IN CURRENT ADA AND LOCAL STANDARDS THE FOLLOWING SHALL APPLY:
  - MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%.
  - A MINIMUM 5' X 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS, AND BUILDING EGRESS POINTS
  - ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING SPACES.
  - AN ACCESS ROUTE FROM THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS, REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS. SEE SHEET 38 FOR DETAIL OF HANDICAPPED PARKING.
- PROVIDED PLANT QUANTITIES SHOWN ON THE LANDSCAPE PLANS REPRESENT MORE THAN THE REQUIRED PLANTING PER PLANTING SCHEDULES A, B, & D.

# SITE DEVELOPMENT PLAN

# NORTH LAUREL PARK

## PARCEL A-1 & COMMUNITY CENTER

## CAPITAL PROJECT C-0304

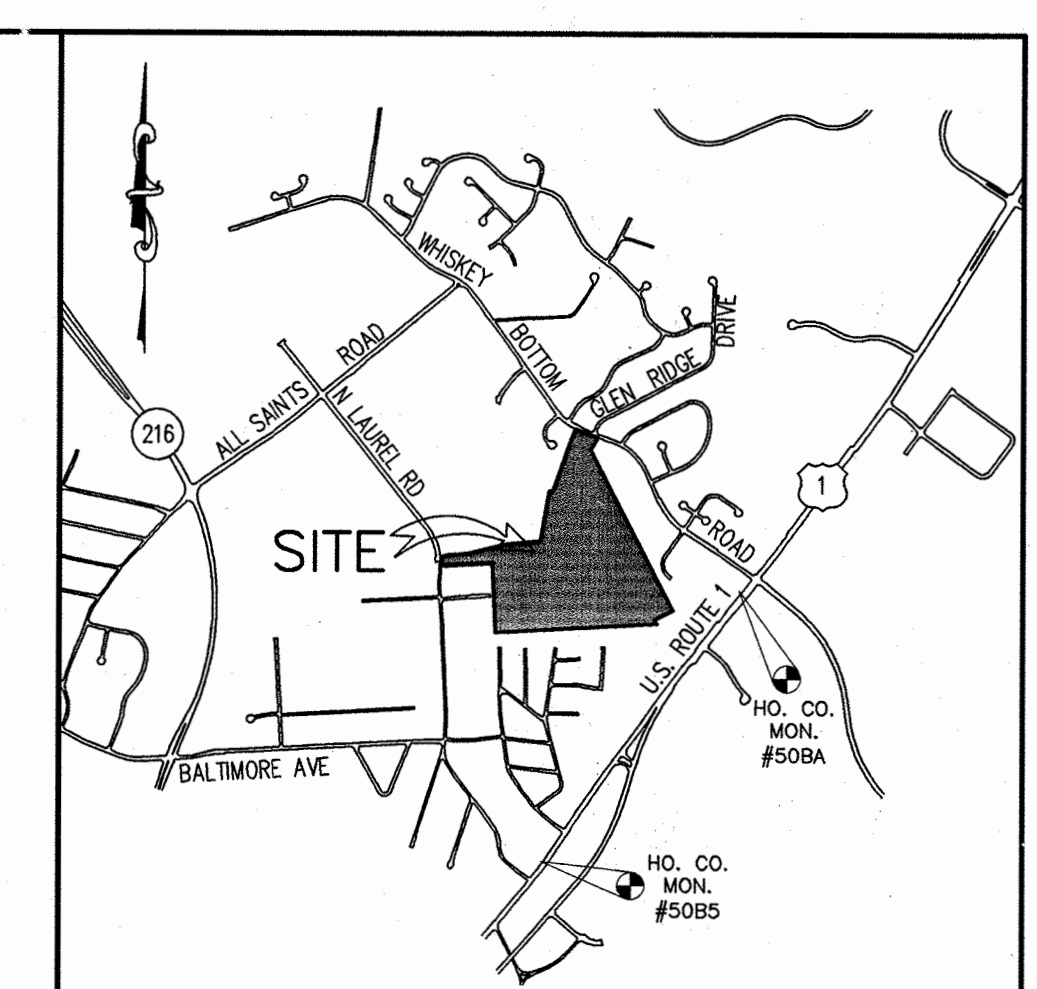
### PLANS PREPARED FOR

## HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

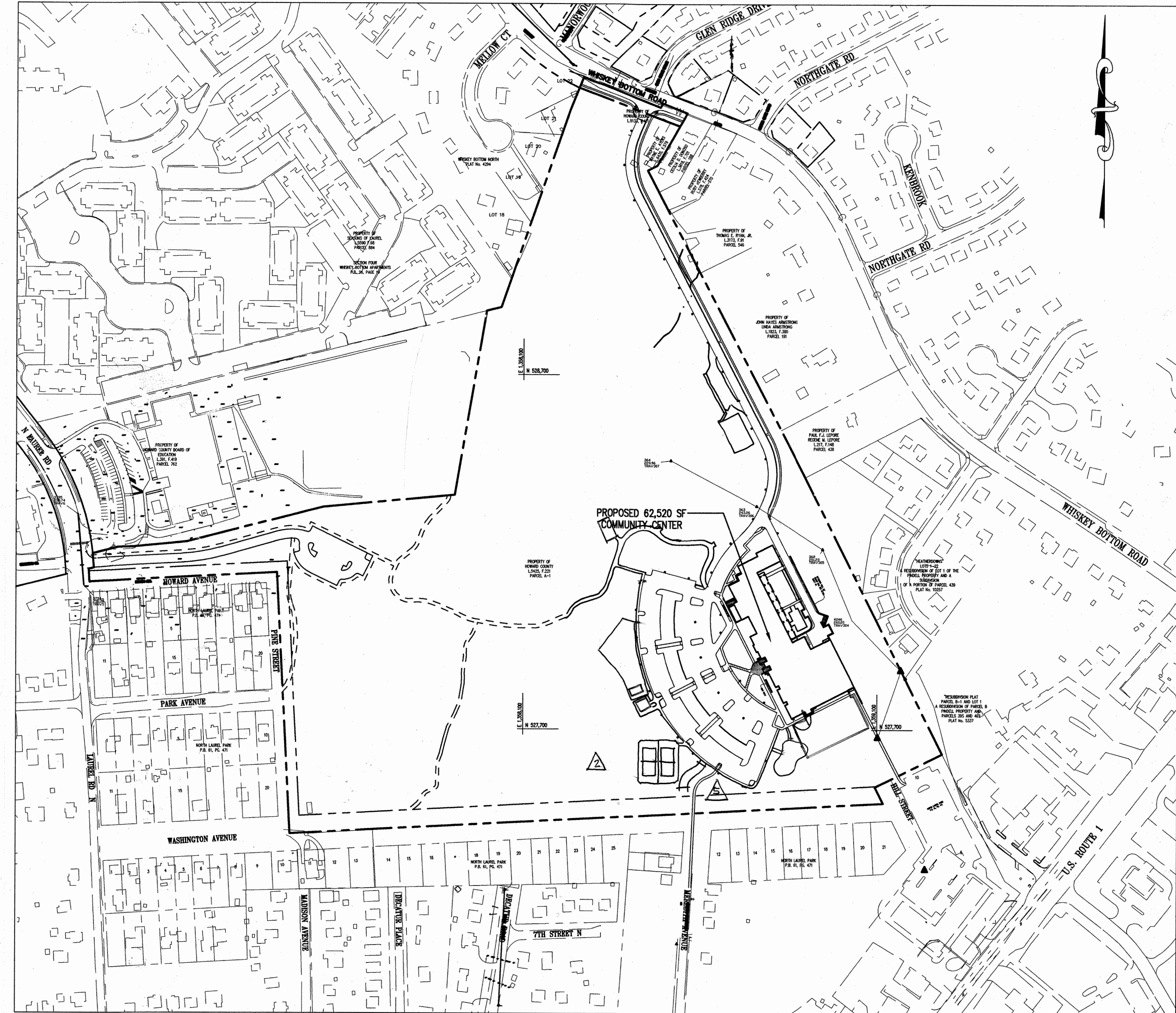
## HOWARD COUNTY, MARYLAND

**BENCHMARKS**

HOWARD COUNTY SURVEY CONTROL: 50B4
ELEVATION 248.625'
N 527,567.677 E 1,359,772.604
LOCATION IS ±180' SOUTH OF WHISKEY BOTTOM ROAD ALONG SOUTH BOUND US ROUTE 1.
HOWARD COUNTY SURVEY CONTROL: 50B5
ELEVATION 177.385'
N 524,999.374 E 1,357,925.748
LOCATION IS ±150' NORTH OF N LAUREL ROAD ALONG SOUTH BOUND US ROUTE 1.



**VICINITY MAP**  
SCALE: 1" = 2000'  
COPYRIGHT ADC THE MAP PEOPLE, PERMITTED USE  
HOWARD COUNTY ADC MAP 19 K10 & K11, MAP 20 A10 & A11



**LOCATION PLAN**  
1" = 200'

**GENERAL NOTES CONT.**

- FOR AREAS WHICH WILL NOT BE DISTURBED AGAIN IN THE SHORT TERM, PERMANENT GRASS SEED MIXTURES SHALL BE UTILIZED PER SPECIFICATION AND THE NOTES ON SHEET 11.
- ALL TOPSOIL SHALL BE STOCKPILED AND STORED ON SITE.
- REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.
- STORMWATER MANAGEMENT ASSOCIATED WITH THIS REVISION DATED 7/16/10 WAS APPROVED AS PART OF THE ORIGINAL SDP APPROVAL OF 12/1/09. THIS REVISION INCLUDES THE FOLLOWING AMENITIES: TENNIS AND BASKETBALL COURTS, SLATE PARK, BATHROOM PAVILION AND PATRIOTIC. THE STORMWATER DESIGN IS IN ACCORDANCE WITH THE MDC 2000 REGULATIONS.
- SEE F-10-071 AND SDP-10-010 FOR REVISED FOREST CONSERVATION EASEMENTS. ALSO SEE \_\_\_\_\_ FOR REVISED FOREST CONSERVATION EASEMENTS.
- SMPLIFIED ECP FOR THE POOL ADDITION WAS APPROVED ON OCTOBER 24, 2010.
- CONTINUED PARKING NEEDS ANALYSIS STUDY WAS UPDATED ON JANUARY 25, 2019 TO INCLUDE THE POOL ADDITION.
- THE 0.19 ACRES OF FOREST CONSERVATION BEING REMOVED WITH REVISION #4 IS BEING MITIGATED BY THE FOREST BANK AT THE PRESERVE AT CLARKSVILLE, F-06-072.

**ADDRESS CHART**

PARCEL NUMBER	STREET ADDRESS
A-1	9411 WHISKEY BOTTOM ROAD

**PLAN REVISION NOTE: ON OR AROUND 9/22/2017 CAPITAL PROJECT DIVISION TITLED NORTH LAUREL STREAM RESTORATION WAS CREATED TO STABILIZE APPROX. 2,000 LINEAR FEET OF AN UNLIMBED TEBUTARY TO THE PARASCO RIVER, LOCATED WITHIN HOWARD COUNTY OPEN SPACE NOT ILLUSTRATED WITHIN THE LIMITS OF THIS PLAN. ALL ALTERNATIVE COMPLIANCE WAS PROCESSED THRU THE DPE UNDER WP-19-107, APPROVED ON 12/8/2017 TO WAIVE SECT. 16.155 (A)(1) AND 16.120(N) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SUBJECT TO CONDITIONS OF APPROVAL FOR THE DETAILED CONDITIONS OF APPROVAL AND THE CURRENT SITE CONDITIONS WITHIN THE DISTURBED AREA PLEASE SEE CAPITAL PROJECT PLANS.**

DATE	NO.	REVISION
3/18/20	5	ADDED DRAWING FOR EMERGENCY EGRESS TO WASHINGTON AVENUE. UPDATE PARKING PROVIDED
11/12/19	4	ADDED POOL, ADDITIONAL PLAYGROUND EXPANSIONS AND AMENDED FOREST CONSERVATION EASEMENTS AND NEW SHEETS
9/27/19	3	ADDED WP-19-107 APPROVAL NOTE. REF D-158

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Norman G. Buttle* 9/2/09  
DIRECTOR, DEP. DATE

*John W. ...* 9/1/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cinda Hunt* 9/2/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**PROJECT**  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

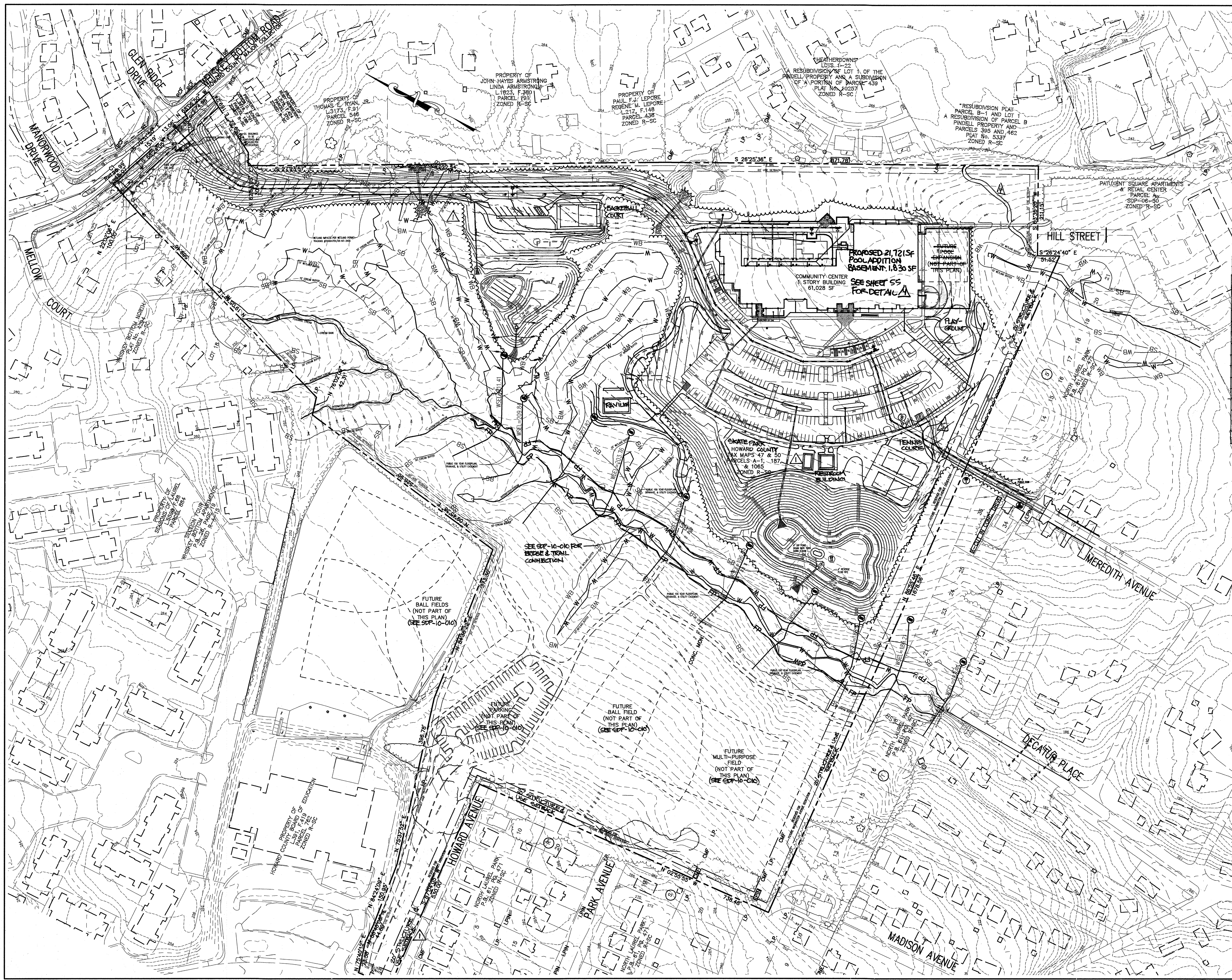
**AREA**  
TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**TITLE**  
REVISED TITLE SHEET

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

**DESIGNED BY:** SCM/JSN  
**DRAWN BY:** SCM/JSN  
**PROJECT NO.:** 14466-1-0  
C40CSDP01.DWG  
**DATE:** MAY 29, 2002  
**SCALE:** 1" = 100'  
**DRAWING NO.:** 1 OF 67





**LEGEND**

EXISTING 2' CONTOUR	---	302
EXISTING 10' CONTOUR	---	300
PROPOSED 2' CONTOUR	---	302
PROPOSED 10' CONTOUR	---	300
PROPERTY LINE AND RIGHT OF WAY	---	
FLOODPLAIN	FP	
EX. TREELINE	---	
PROP. TREELINE	---	
STREAM BUFFER	SB	
PROPOSED LIGHT POLE	⊙	
EX. FIRE HYDRANT	⊕	
PROP. FIRE HYDRANT	⊕	
WETLANDS	W	
WETLAND BUFFER	WB	
STREAM BUFFER	SB	

**SHEET INDEX**

NO	DESCRIPTION
55	REVISED SITE DEVELOPMENT PLAN
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57	REVISED SEDIMENT CONTROL DETAILS
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59	REVISED STORMWATER MANAGEMENT PLAN
60	REVISED STORMWATER MANAGEMENT DETAILS
61	REVISED STORMWATER MANAGEMENT AND SITE DETAILS
62	REVISED UTILITY PLAN
63	REVISED UTILITY PROFILES
64	REVISED STORM DRAIN DRAINAGE AREA MAP
65	REVISED LANDSCAPE PLAN
66	POOL BUILDING ELEVATIONS
67	SITE RETAINING WALLS
68	RETAINING WALLS - PLAN AND ELEVATION
69	WASHINGTON AVENUE CONNECTION PLAN

3/18/20 5 ADDED DRIVEWAY FOR EMERGENCY EGRESS TO WASHINGTON AVENUE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas J. Suttler* 3/23/09  
DIRECTOR, DEP. DATE

*Chris Demaris* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hunt* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
11/12/19	4	ADDED POOL ADDITION, PLAYGROUND EXPANSION AND AMENDED FOREST CONSERVATION EASIMENTS
8/23/10	1	ADDED SITE AMENITIES

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA  
TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**REVISED**  
**OVERALL SITE DEVELOPMENT PLAN**

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

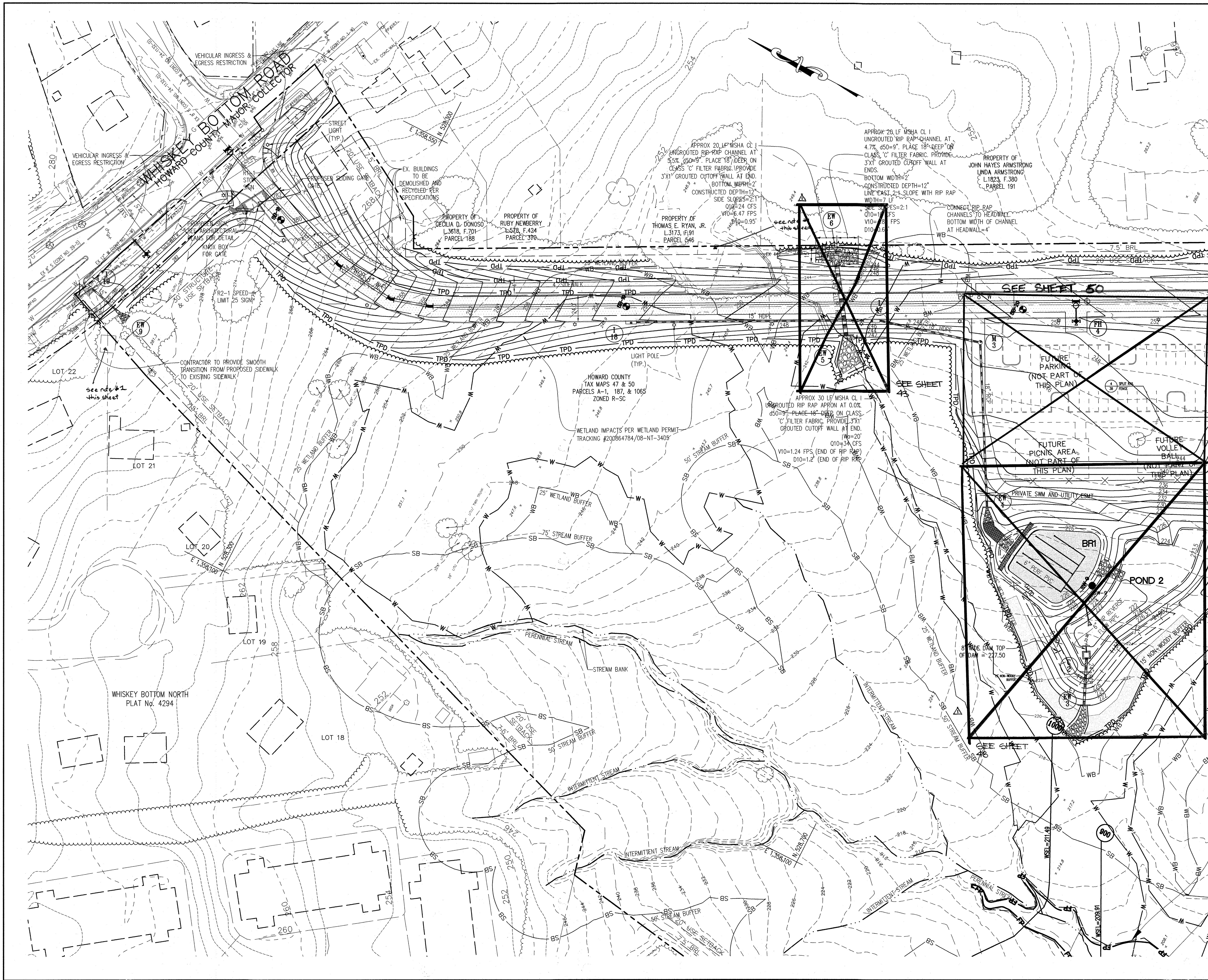
**PHRA**

SEAL

DESIGNED BY: JSN  
DRAWN BY: JSN  
PROJECT NO: 14466-1-0  
C4005DF02.DWG  
DATE: MARCH 4, 2009  
SCALE: 1" = 100'  
DRAWING NO. 2 OF 69

BY: *Shawn C. Mublin*  
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. 33064. EXPIRATION DATE: 01-28-11





**LEGEND**

	PROPERTY LINE
	EXISTING 10' CONTOURS
	EXISTING 2' CONTOURS
	PROPOSED 10' CONTOURS
	PROPOSED 2' CONTOURS
	EXISTING CURB AND GUTTER
	PROPOSED CURB & GUTTER
	EXISTING STORM DRAIN
	PROPOSED STORM DRAIN
	SETBACK LINES
	PROPOSED P-3 PAVING (HO. CO. DETAIL R-2.01)
	PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
	EXISTING LIGHTING
	EXISTING TREE
	PROP. SPOT ELEVATION
	EX. TREELINE
	PROPOSED TREELINE
	FLOODPLAIN
	STREAM BUFFER
	WETLANDS
	WETLAND BUFFER
	TREE PROTECTION FENCE
	LIMIT OF DISTURBANCE
	LIGHT POLE

**NOTE #1**  
Existing private sheds, partially misplaced on County property. Owners to be contacted and efforts made to have the sheds moved off County property over time.

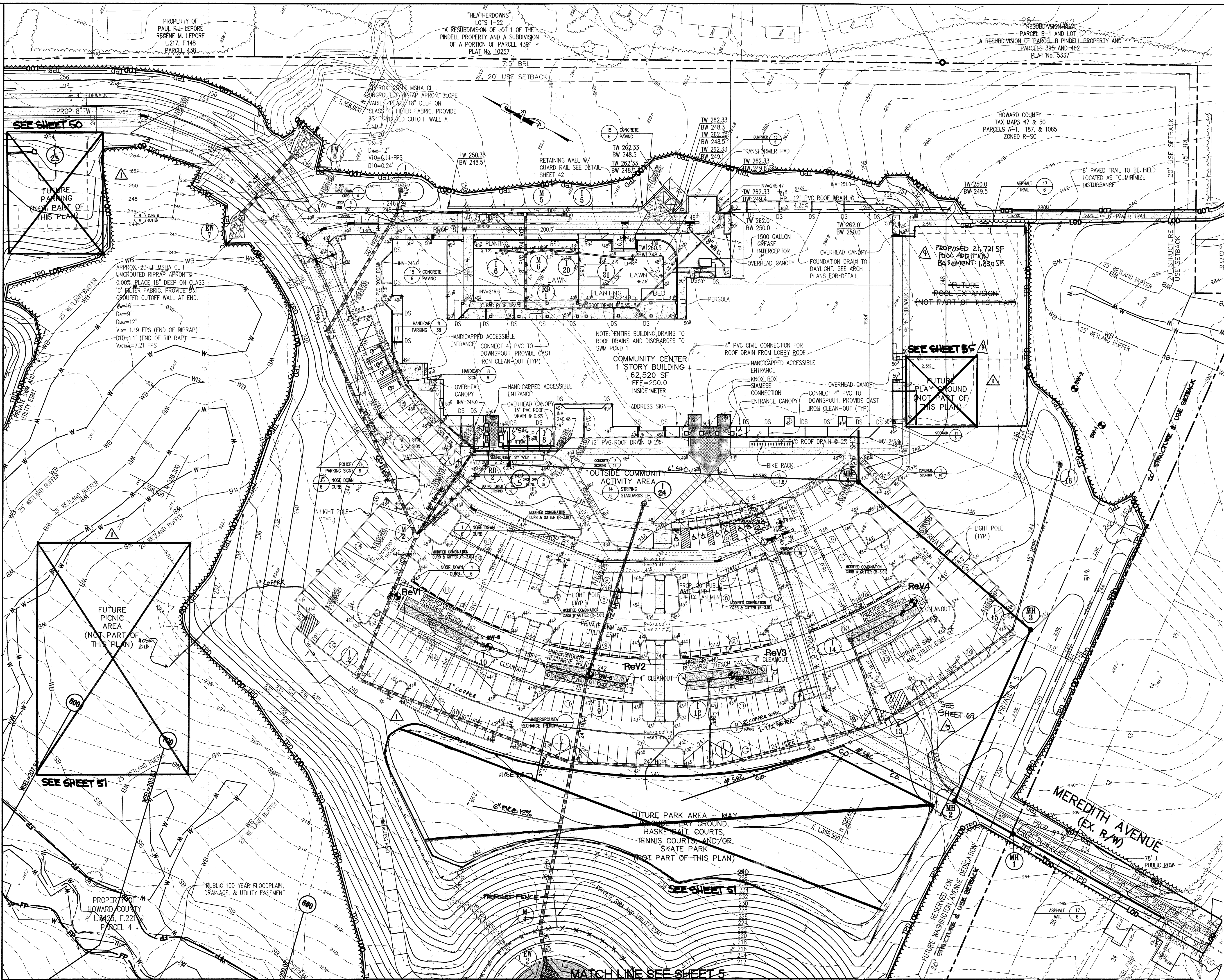
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Thomas S. Buttle</i> DIRECTOR, DEP.	3/23/09 DATE
<i>John Vanman</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/10/09 DATE
<i>Chris Hunt</i> CHIEF, DIVISION OF LAND DEVELOPMENT	3/19/09 DATE
8/25/10 2	ADDED SITE AMENITIES
8/12/09 1	ADJUST POND 2, REVISE CULVERT 1
DATE NO.	REVISION
OWNER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
PROJECT <b>NORTH LAUREL COMMUNITY CENTER</b> CAPITAL PROJECT C-0304	
AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE <b>SITE DEVELOPMENT PLAN</b>	
Patton Harris Rust & Associates Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
	DESIGNED BY : SCM
	DRAWN BY : SCM
	PROJECT NO : 14466-1-0 "C400SDP03.DWG"
	DATE : MARCH 4, 2009
	SCALE : 1" = 40'
	DRAWING NO. 3 OF 69

MATCH LINE SEE SHEET 4



MATCH LINE SEE SHEET 3

MATCH LINE SEE SHEET 5



**LEGEND**

---	PROPERTY LINE
---	EXISTING 10' CONTOURS
---	EXISTING 2' CONTOURS
---	PROPOSED 10' CONTOURS
---	PROPOSED 2' CONTOURS
---	EXISTING CURB AND GUTTER
---	PROPOSED CURB & GUTTER
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN
---	SETBACK LINES
---	PROPOSED P-3 PAVING (HO. CO. DETAIL R-2.01)
---	PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)

PROPERTY OF PAUL F. LEPORE, REGENE M. LEPORE, L.217, F.148, PARCEL 438

"HEATHERDOWNS" LOTS 1-22, A RESUBDIVISION OF LOT 1 OF THE PINDELL PROPERTY AND A SUBDIVISION OF A PORTION OF PARCEL 438, PLAT No. 10257

PARCELS B-1 AND LOT 1, A RESUBDIVISION OF PARCEL B, PINDELL PROPERTY AND PARCELS 395 AND 462, PLAT No. 5337

HOWARD COUNTY TAX MAPS 47 & 50, PARCELS A-1, 187, & 1065, ZONED R-SC

PATUXENT SQUARE APARTMENTS & RETAIL CENTER, PARCEL A, SDP-06-50, ZONED R-SC

**LEGEND CONT'D**

---	LIGHT POLE
---	EXISTING LIGHTING
---	EXISTING TREE
---	PROP. SPOT ELEVATION
---	EX. TREELINE
---	PROPOSED TREELINE
---	FLOODPLAIN
---	STREAM BUFFER
---	WETLANDS
---	WETLAND BUFFER
---	TREE PROTECTION FENCE

3/18/20 5 ADDED DRIVEWAYS FOR EMERGENCY EGRESS TO WASHINGTON AVENUE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas G. Suttler* 3/23/09  
DIRECTOR, DEP. DATE

*John Vanaman* 2/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE

*Cindy Harris* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT, DATE

1/12/19 4 ADDED POOL, ADDITIONAL PLAYGROUND EXPANSION AND AMENDED FOREST CONSERVATION EAS EXEMPTS

8/25/10 1 ADDED SITE AMENITIES

DATE	NO.	REVISION

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045, P 410 313 2414

DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045, P 410 313 2414

PROJECT: NORTH LAUREL COMMUNITY CENTER, CAPITAL PROJECT C-0304

AREA: TAX MAP 47 GRID 22 & TAX MAP 50, GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: REVISED SITE DEVELOPMENT PLAN

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

DESIGNED BY: SCM/JSN  
DRAWN BY: SCM/JSN  
PROJECT NO.: 14466-1-0, C400SDP.C.00P  
DATE: MARCH 4, 2009  
SCALE: 1" = 40'  
DRAWING NO.: 4 OF 69



MATCH LINE SEE SHEET 4



**LEGEND**

---	PROPERTY LINE
---	EXISTING 10' CONTOURS
---	EXISTING 2' CONTOURS
---	PROPOSED 10' CONTOURS
---	PROPOSED 2' CONTOURS
---	EXISTING CURB AND GUTTER
---	PROPOSED CURB & GUTTER
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN
---	SETBACK LINES
---	PROPOSED P-3 PAVING (HO. CO. DETAIL R-2.01)
---	PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
*	EXISTING LIGHTING
*	EXISTING TREE
13.2	PROP. SPOT ELEVATION
---	EX. TREELINE
---	PROP. TREELINE
FP	FLOODPLAIN
SB	STREAM BUFFER
W	WETLANDS
WB	WETLAND BUFFER

NOTES:  
1. SEE SHEET 15 FOR MORE DETAIL ON STORMWATER MANAGEMENT POND.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mona S. Suttler* 3/23/09  
DIRECTOR, DEP. DATE

*John Doman* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION, DATE

*Cindy Hanna* 3/9/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/25/10 | ADDED FENCE, REVISE SETBACKS  
DATE NO. REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

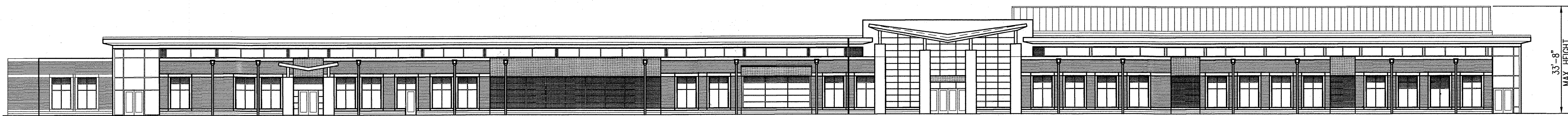
PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-3C  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**SITE DEVELOPMENT PLAN**

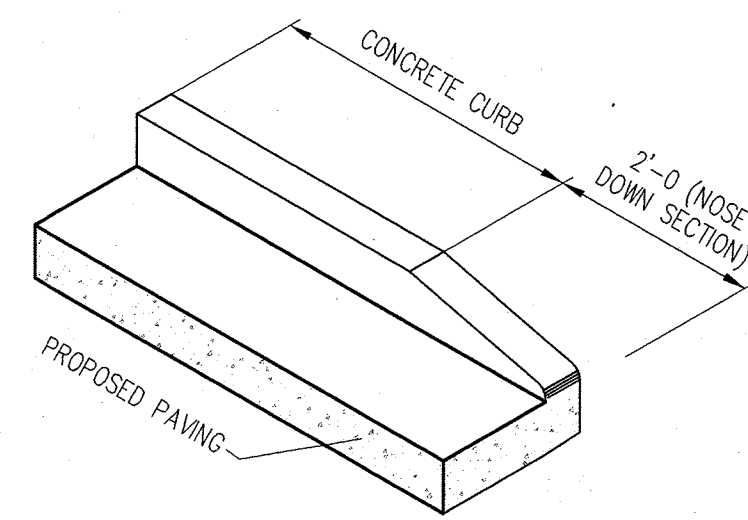
**Patton Harris Rust & Associates**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

SEAL  
DESIGNED BY : SCM  
DRAWN BY : SCM  
PROJECT NO : 14466-1-0  
C400SDP05.DWG  
DATE : MARCH 4, 2009  
SCALE : 1" = 40'  
DRAWING NO. 5 OF 69

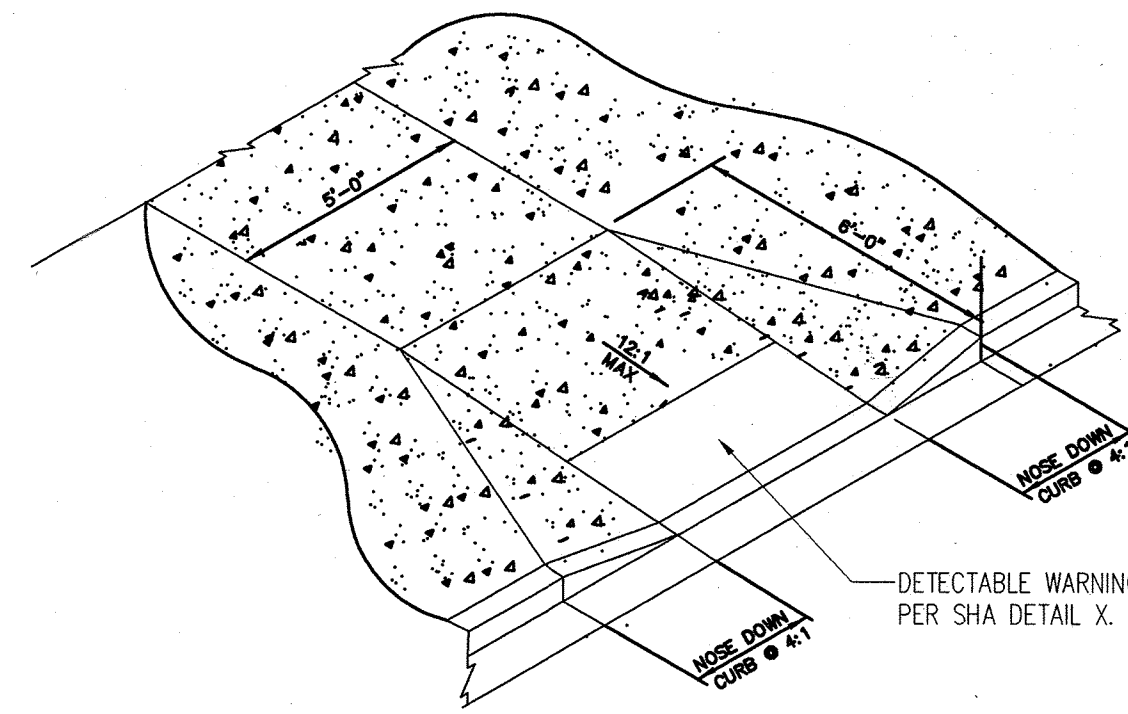


COMMUNITY BUILDING - FRONT ELEVATION  
SCALE: 1"=20'

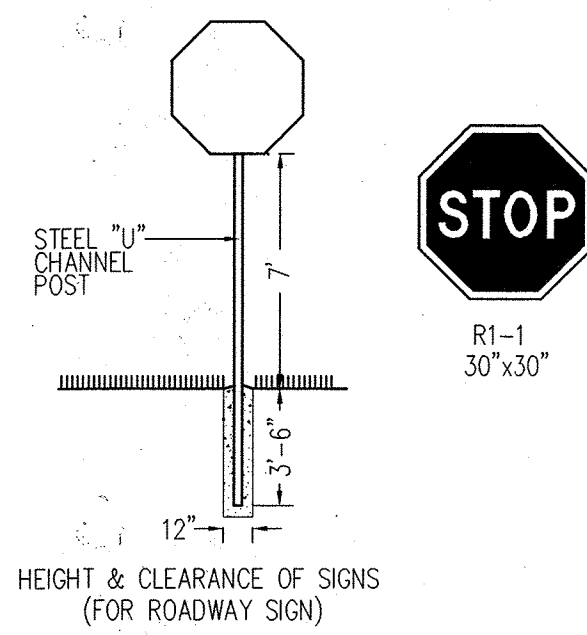




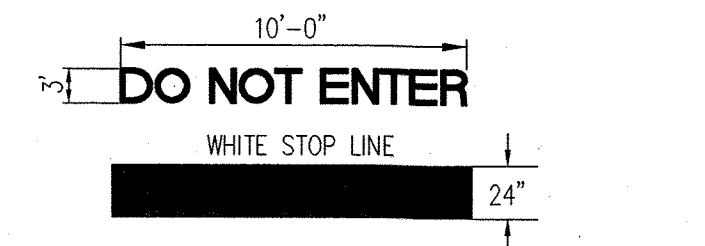
1/6 NOSE DOWN CURB DETAIL  
NOT TO SCALE



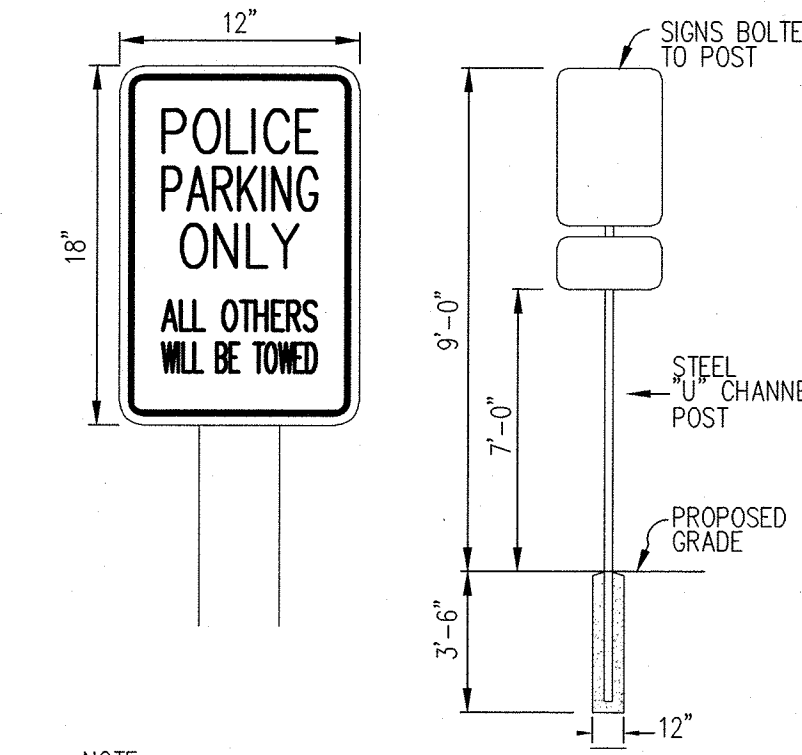
2/6 HANDICAP RAMP  
NOT TO SCALE



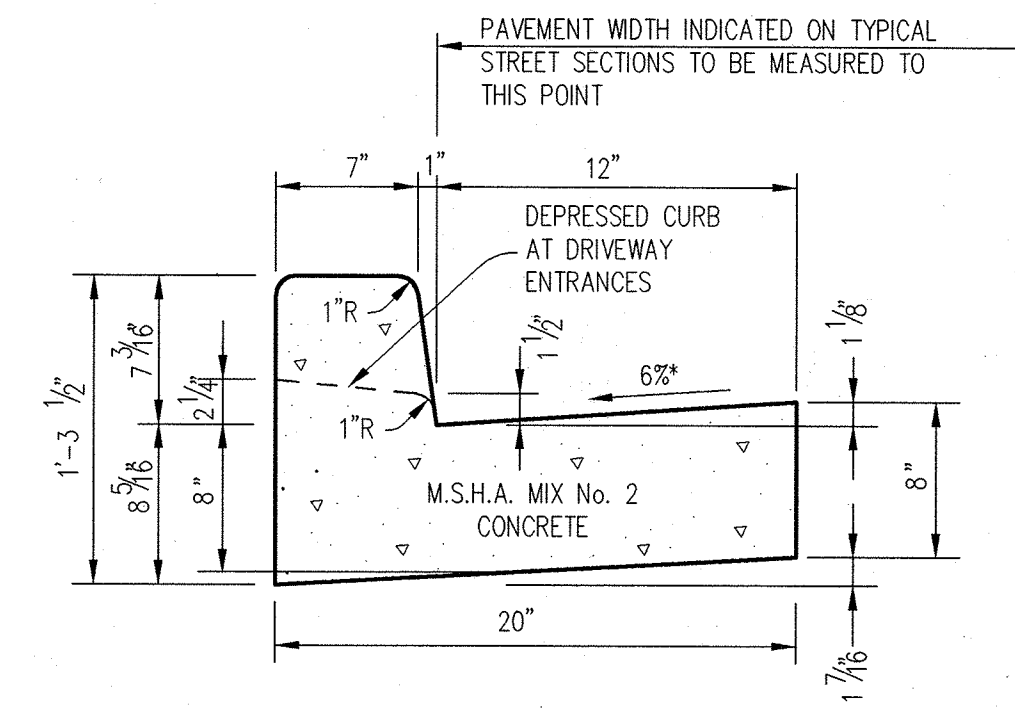
3/6 STOP SIGN DETAIL  
NOT TO SCALE



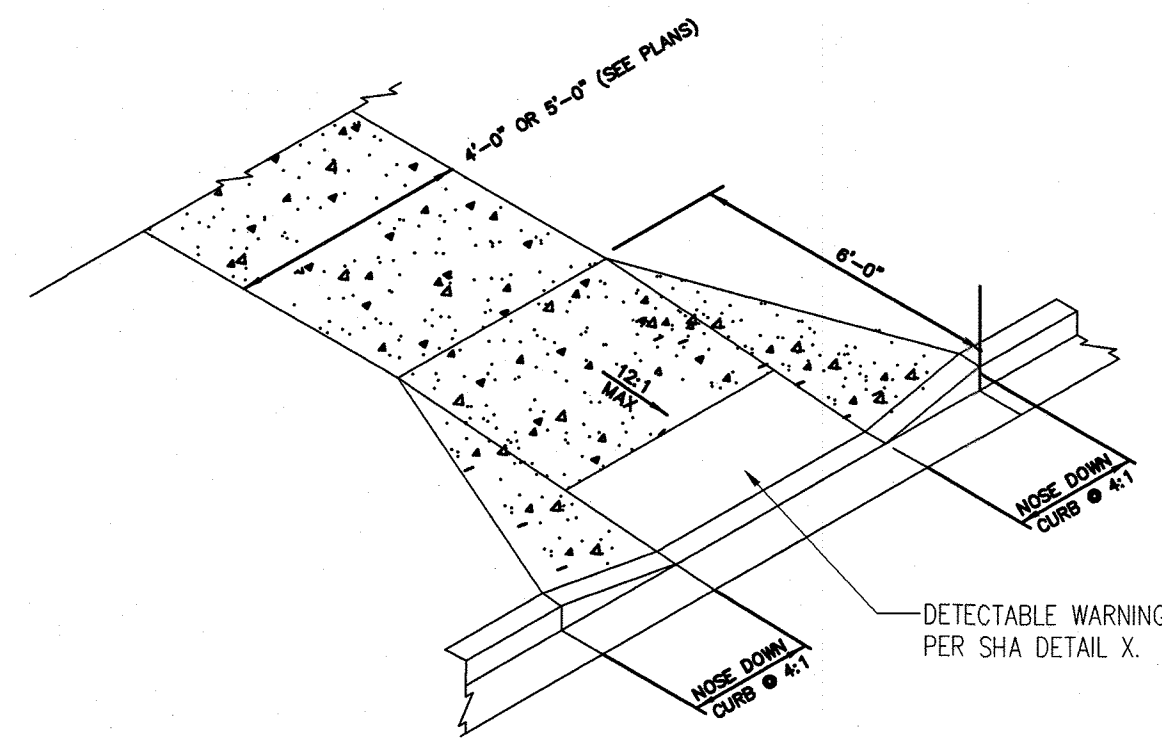
4/6 DO NOT ENTER STRIPING DETAIL  
NOT TO SCALE



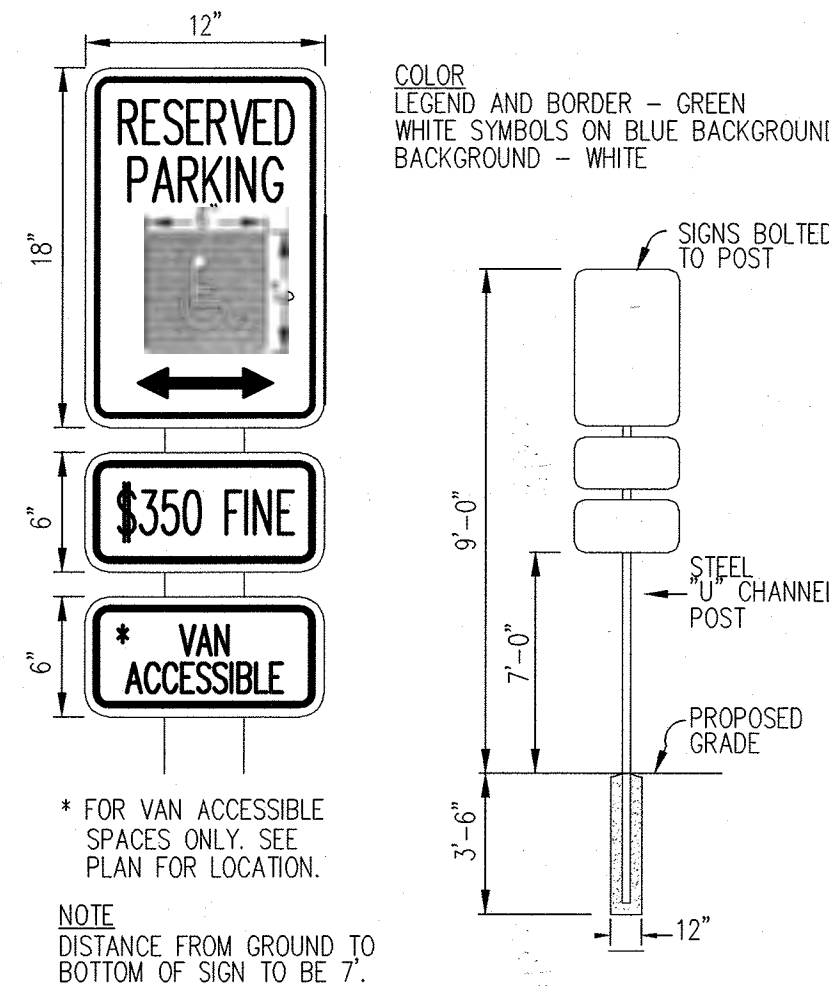
5/6 POLICE PARKING SIGN  
NOT TO SCALE



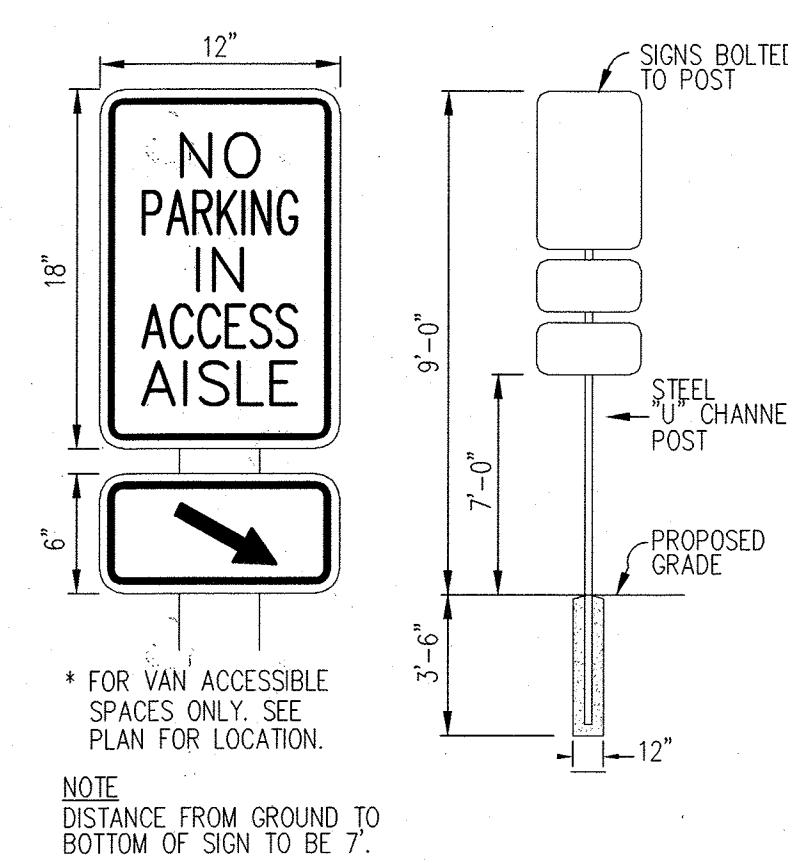
6/6 STANDARD 7" COMBINATION CURB AND GUTTER  
NOT TO SCALE



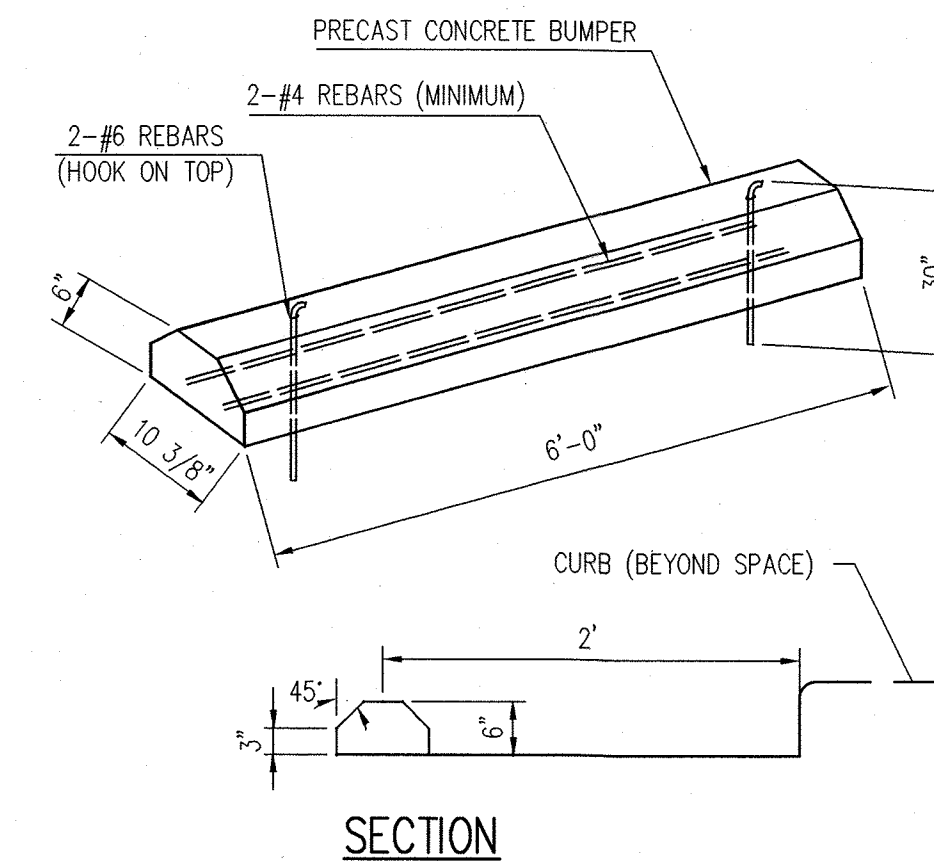
7/6 HANDICAP RAMP  
NOT TO SCALE



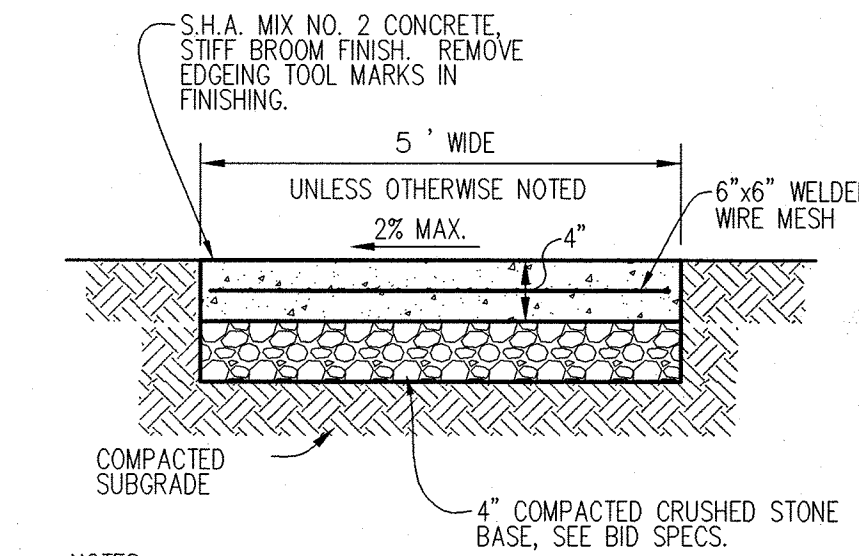
8/6 HANDICAP SIGN DETAIL  
NOT TO SCALE



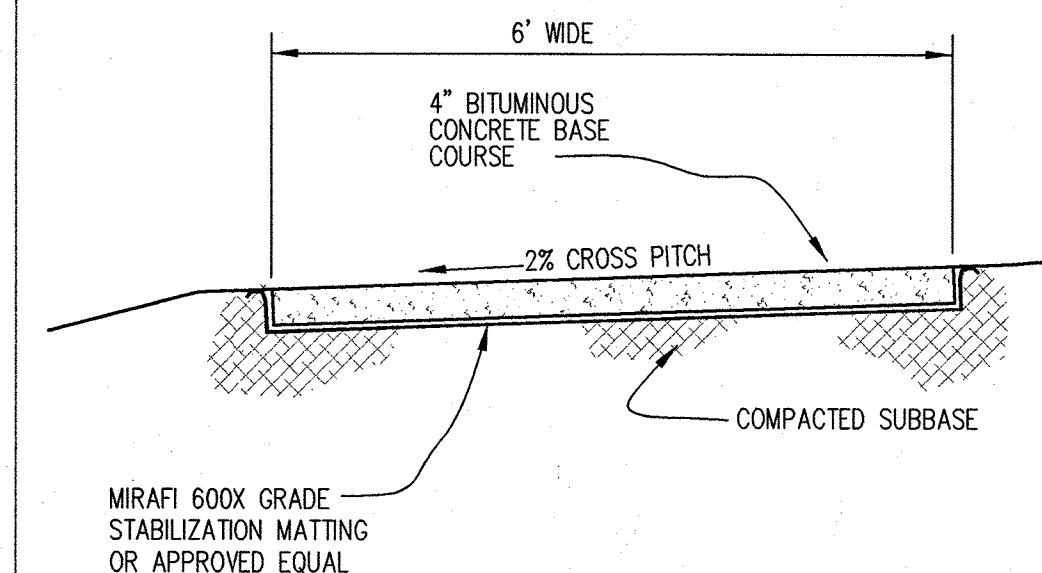
9/6 ACCESS AISLE SIGN  
NOT TO SCALE



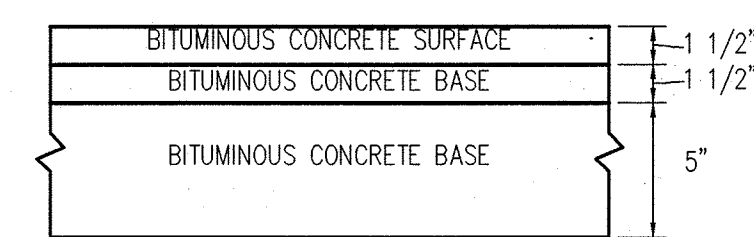
10/6 CONCRETE WHEEL STOP  
NOT TO SCALE



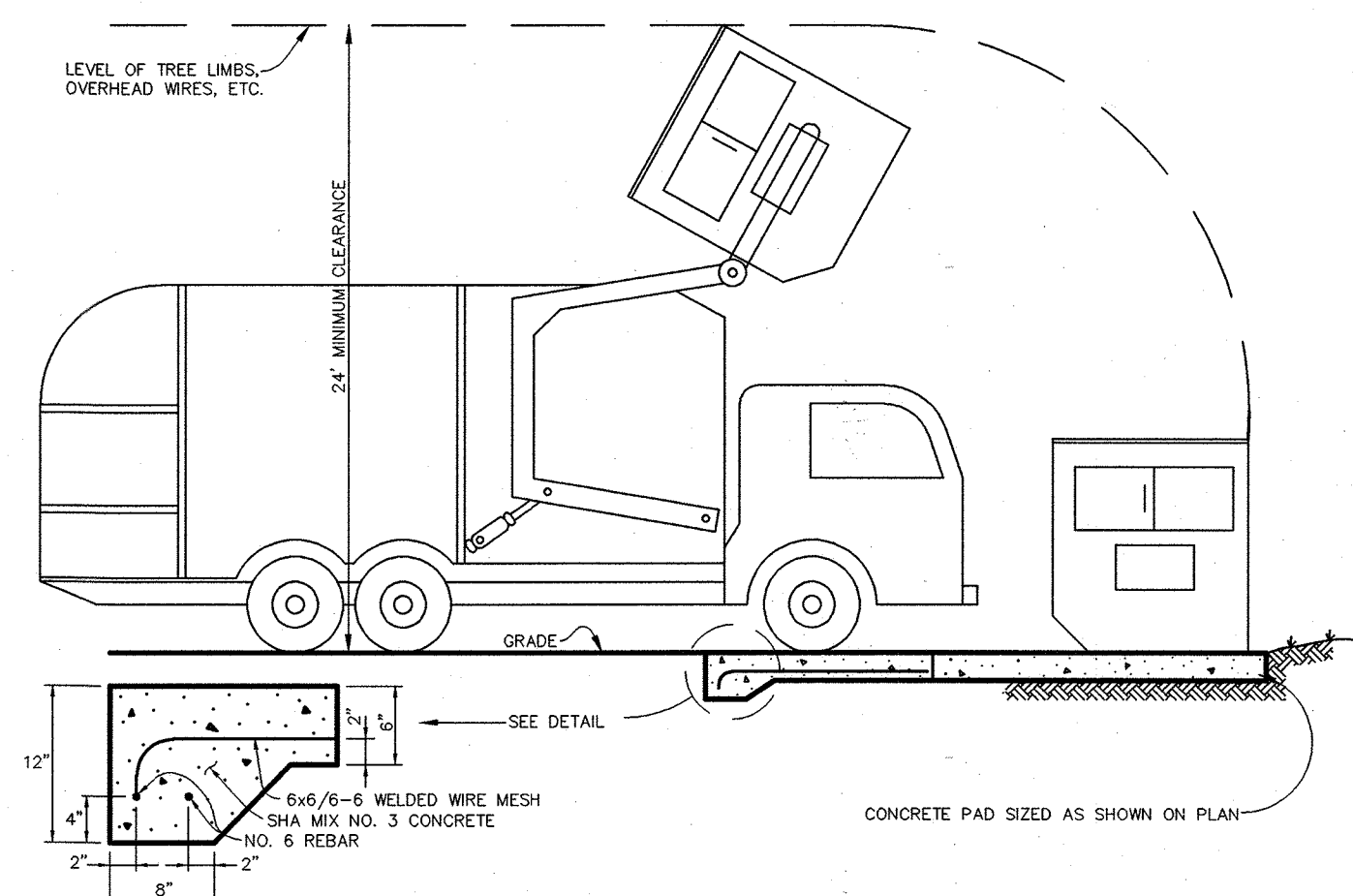
11/6 SIDEWALK DETAIL  
NOT TO SCALE



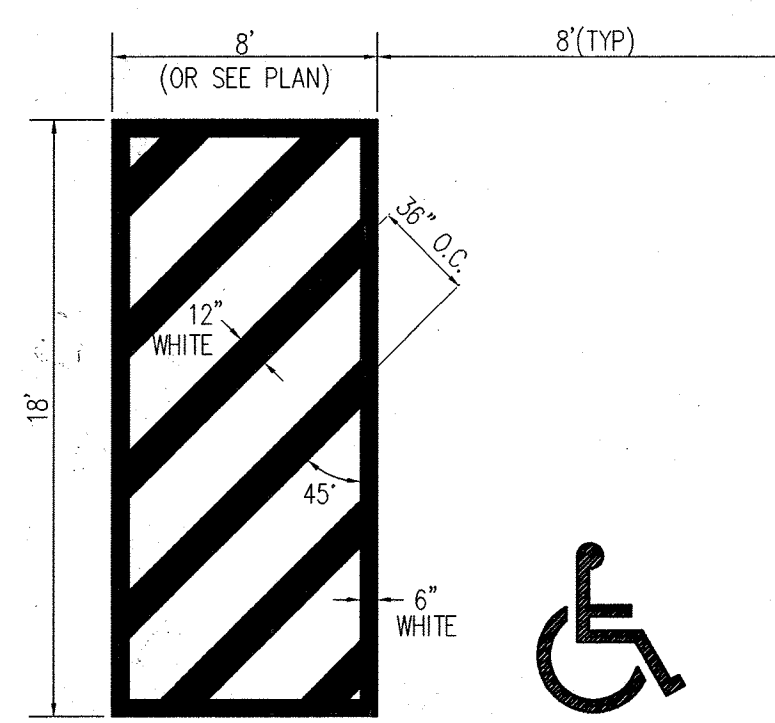
17/6 TYPICAL SECTION - ASPHALT PATHWAY  
NOT TO SCALE



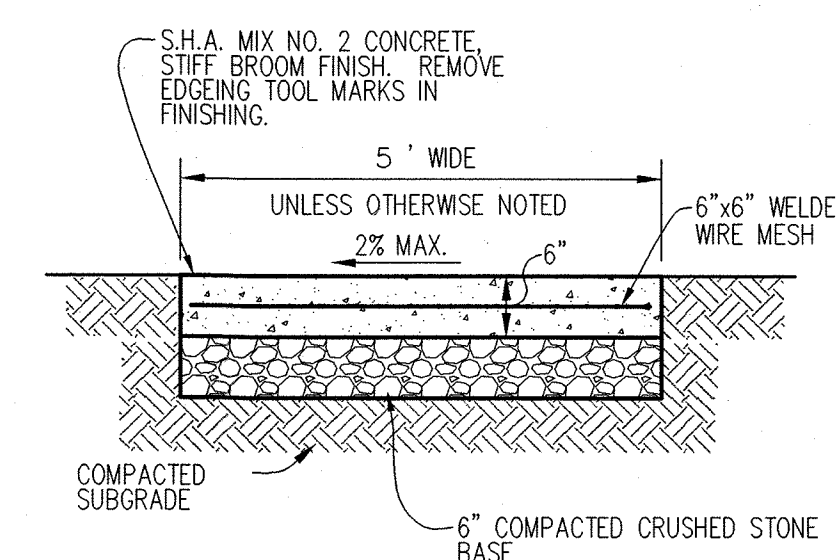
12/6 P-3 PAVING  
NOT TO SCALE



13/6 DUMPSTER PAD  
NOT TO SCALE



14/6 STRIPING STANDARDS  
NOT TO SCALE



15/6 CONCRETE PAVING  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Mama J. Antler</i>	3/23/09
DIRECTOR, DEP.	DATE
<i>Chris Dunning</i>	3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Chris Hahn</i>	2/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

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

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**SITE DETAILS**

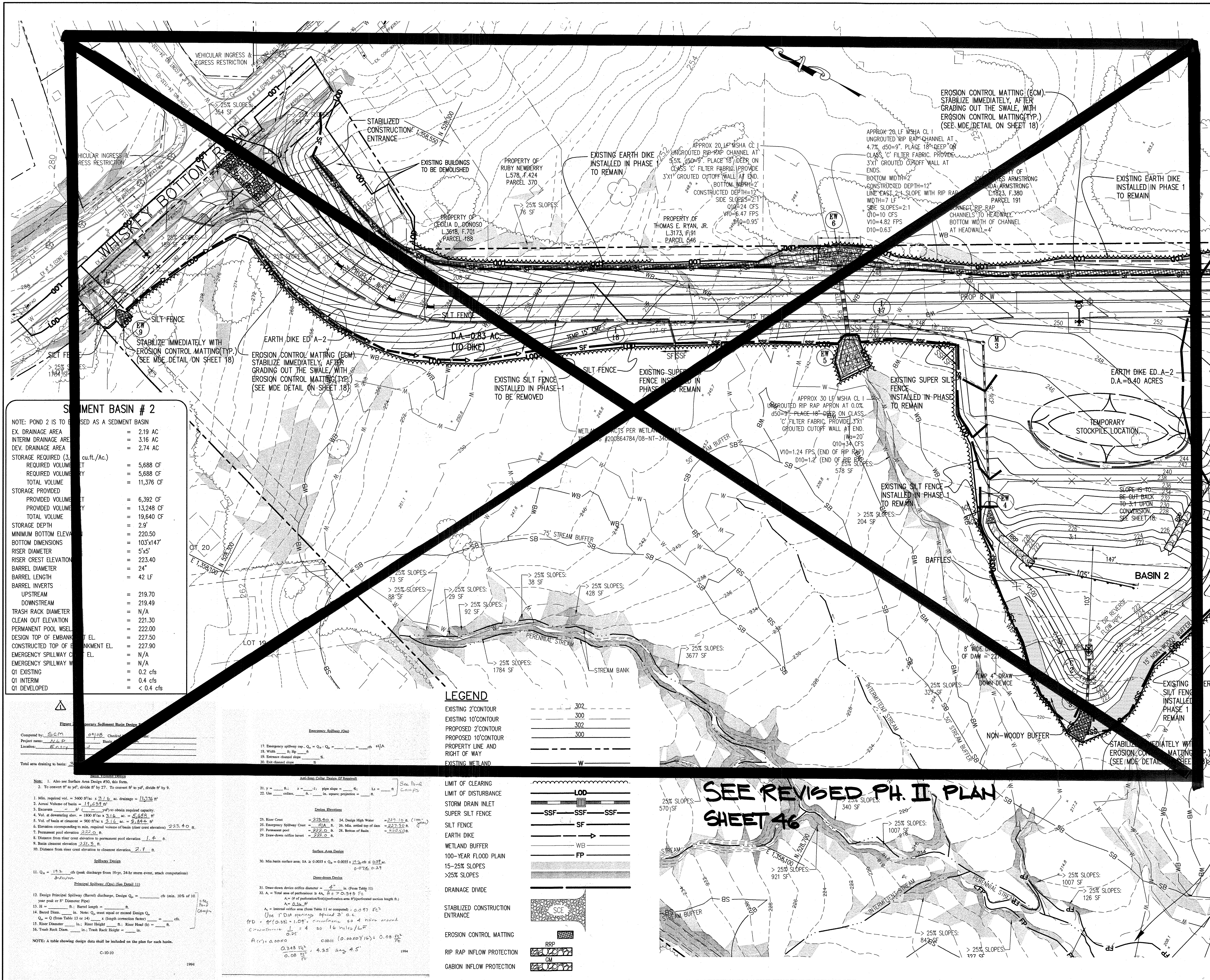
**Patton Harris Rust & Associates**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY: JSN
DRAWN BY: JSN
PROJECT NO: 14466-1-0 C400SDP06.DWG
DATE: MARCH 4, 2009
SCALE: AS SHOWN
DRAWING NO. 6 OF 69









**SEDIMENT BASIN # 2**

NOTE: POND 2 IS TO BE DESIGNED AS A SEDIMENT BASIN

EX. DRAINAGE AREA	= 2.19 AC
INTERIM DRAINAGE AREA	= 3.16 AC
DEV. DRAINAGE AREA	= 2.74 AC
STORAGE REQUIRED (3" cu.ft./Ac.)	= 5,688 CF
REQUIRED VOLUME	= 5,688 CF
TOTAL VOLUME	= 11,376 CF
STORAGE PROVIDED	= 6,392 CF
PROVIDED VOLUME	= 13,248 CF
TOTAL VOLUME	= 19,640 CF
STORAGE DEPTH	= 2.9'
MINIMUM BOTTOM ELEVATION	= 220.50
BOTTOM DIMENSIONS	= 103'x147'
RISER DIAMETER	= 5'x5'
RISER CREST ELEVATION	= 223.40
BARREL DIAMETER	= 24"
BARREL LENGTH	= 42 LF
BARREL INVERTS	= 219.70
UPSTREAM	= 219.49
DOWNSTREAM	= 219.49
TRASH RACK DIAMETER	= N/A
CLEAN OUT ELEVATION	= 221.30
PERMANENT POOL WSEL	= 222.00
DESIGN TOP OF EMBANKMENT EL.	= 227.50
CONSTRUCTED TOP OF EMBANKMENT EL.	= 227.90
EMERGENCY SPILLWAY CREST EL.	= N/A
EMERGENCY SPILLWAY WSEL	= N/A
OF EXISTING	= 0.2 cfs
OF INTERIM	= 0.4 cfs
OF DEVELOPED	= < 0.4 cfs

**LEGEND**

EXISTING 2' CONTOUR	---	302
EXISTING 10' CONTOUR	---	300
PROPOSED 2' CONTOUR	---	302
PROPOSED 10' CONTOUR	---	300
PROPERTY LINE AND RIGHT OF WAY	---	---
EXISTING WETLAND	W	---

**LIMIT OF CLEARING**

**LIMIT OF DISTURBANCE**

**STORM DRAIN INLET**

**SUPER SILT FENCE**

**SILT FENCE**

**EARTH DIKE**

**WETLAND BUFFER**

**100-YEAR FLOOD PLAIN**

**15-25% SLOPES**

**>25% SLOPES**

**DRAINAGE DIVIDE**

**STABILIZED CONSTRUCTION ENTRANCE**

**EROSION CONTROL MATTING**

**RIP RAP INFLOW PROTECTION**

**GABION INFLOW PROTECTION**

**Basin Design**

1. Also use Surface Area Design #10. Also from:

2. To convert ft<sup>2</sup> to yd<sup>2</sup>, divide ft<sup>2</sup> by 9.

3. Min. required vol. = 3600 ft<sup>3</sup> x 2.16 ac drainage = 11,376 ft<sup>3</sup>

4. Actual Volume of Basin = 11,376 ft<sup>3</sup>

5. Excavate \_\_\_\_\_ ft<sup>3</sup> to obtain required capacity.

6. Vol. of discharge pipe = 1800 ft<sup>3</sup> x 2.16 ac = 3,888 ft<sup>3</sup>

7. Vol. of basin at discharge = 3600 ft<sup>3</sup> x 2.16 ac = 7,776 ft<sup>3</sup>

8. Elevation corresponding to min. required volume of basin (crest elevation) 223.40 ft.

9. Permanent pool elevation 222.00 ft.

10. Distance from clear area elevation to permanent pool elevation 1.4 ft.

11. Basin crest elevation 221.2 ft.

12. Distance from riser crest elevation to cleanout elevation 2.1 ft.

**Basin Design**

13.  $Q_p = 1.48 \times C_d \times (h - z) \times \sqrt{2g(h - z)}$  (peak discharge from 10-yr. 24-hr storm over, attach computations)

**Basin Design**

14. Design Principal Spillway (Barrel) discharge, Design  $Q_p =$  \_\_\_\_\_ cfs (min. 10% of 10 year peak or 8' Diameter Pipe)

15. H = \_\_\_\_\_ ft.; Barrel length = \_\_\_\_\_ ft.

16. Barrel diam. \_\_\_\_\_ in. Note:  $Q_p$  must equal or exceed Design  $Q_p$ .

17.  $Q_p = Q$  (from Table 13 or 14) \_\_\_\_\_ cfs through corrected barrel

18. Riser Diameter \_\_\_\_\_ in.; Riser Height \_\_\_\_\_ ft.; Riser Head (H) \_\_\_\_\_ ft.

19. Trash Rack Diam. \_\_\_\_\_ in.; Trash Rack Height \_\_\_\_\_ in.

NOTE: A table showing design data shall be included on the plan for each basin.

**LEGEND**

EXISTING 2' CONTOUR	---	302
EXISTING 10' CONTOUR	---	300
PROPOSED 2' CONTOUR	---	302
PROPOSED 10' CONTOUR	---	300
PROPERTY LINE AND RIGHT OF WAY	---	---
EXISTING WETLAND	W	---

**LIMIT OF CLEARING**

**LIMIT OF DISTURBANCE**

**STORM DRAIN INLET**

**SUPER SILT FENCE**

**SILT FENCE**

**EARTH DIKE**

**WETLAND BUFFER**

**100-YEAR FLOOD PLAIN**

**15-25% SLOPES**

**>25% SLOPES**

**DRAINAGE DIVIDE**

**STABILIZED CONSTRUCTION ENTRANCE**

**EROSION CONTROL MATTING**

**RIP RAP INFLOW PROTECTION**

**GABION INFLOW PROTECTION**

**SEE REVISED PH. II PLAN SHEET 46**

MATCH LINE SEE SHEET 9

NOTE: EXISTING EARTH DIKE TO BE CONSTRUCTED BY SITE CONTRACTOR IN PHASE I.

**BY THE DEVELOPER :**

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Michael C. Michel* 3/4/09  
DEVELOPER DATE

**BY THE ENGINEER :**

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

*Thomas C. Butler* 3-4-09  
ENGINEER DATE

*Thomas C. Butler* 3-4-09  
ENGINEER DATE

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

*John S. ...* 3/9/09  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas C. Butler* 3/23/09  
DIRECTOR, DEP. DATE

*John Dammann* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Andy Harst* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/12/09 | REVISED PHASE II  
DATE NO. REVISION

**OWNER**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**DEVELOPER**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**PROJECT**

NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

**AREA**

TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

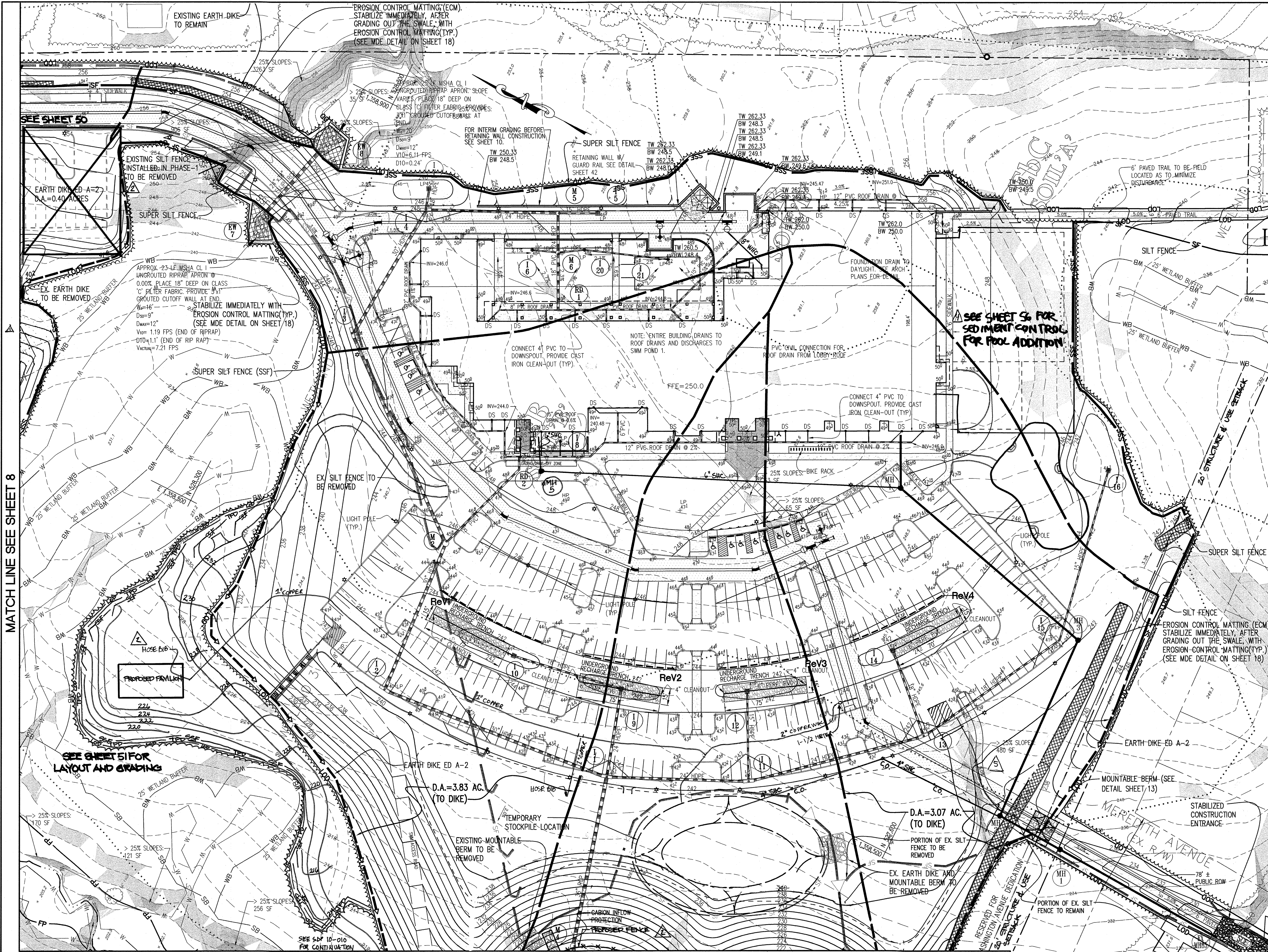
**TITLE**

GRADING AND SEDIMENT CONTROL  
PLAN PHASE 2

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

SEAL  
STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
MICHAEL C. MICHEL  
3-4-09  
DESIGNED BY : SCM  
DRAWN BY : SCM  
PROJECT NO : 14466-1-0  
C:\40SDP08.DWG  
DATE : MARCH 4, 2009  
SCALE : 1" = 40'  
DRAWING NO. 8 OF 69





MATCH LINE SEE SHEET 8

MATCH LINE SEE SHEET 10

FOR GRADING OF AMENITY AREAS SEE SHEET 51

FOR SEDIMENT CONTROL FOR POOL ADDITION SEE SHEET 56

NOTE: SEE SHEET 8 FOR LEGEND

3/18/20	5	ADDED PRIVATELY FOR EMERGENCY EGRESS TO LABORATORY ATTEN
11/27/19	4	ADDED POOL ADDITION, PLASOUND EXPANSION AND AMENDED EROSION CONTROL MEASUREMENTS

BY THE DEVELOPER:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/6/09  
 DEVELOPER DATE

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

*[Signature]* 3-4-09  
 ENGINEER DATE

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

*[Signature]* 3/9/09  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 3/23/09  
 DIRECTOR, DEP. DATE

*[Signature]* 3/16/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/25/10	2	ADDED SITE AMENITIES
8/12/09	1	REVISED PHASE II GRADING

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT C-0304

AREA  
 TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**GRADING AND SEDIMENT CONTROL PLAN PHASE 2**

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

SEAL  
  
 3-4-09  
 DESIGNED BY: SCM/JSN  
 DRAWN BY: SCM/JSN  
 PROJECT NO: 14466-1-0  
 C:\400SDP09.DWG  
 DATE: MARCH 4, 2009  
 SCALE: 1" = 40'  
 DRAWING NO. 9 OF 69







**STANDARD SEDIMENT CONTROL NOTES**

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1; B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
 

TOTAL AREA OF SITE	51.61 ACRES
AREA DISTURBED	18.18 ACRES
AREA TO BE PAVED	5.51 ACRES
AREA TO BE VEGETATIVELY STABILIZED	12.67 ACRES
TOTAL CU. YARDS	80,076 CU. YARDS
TOTAL FILL	81,629 CU. YARDS

 OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT 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.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, FILL OR EMBANKMENT MATERIALS. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WITH A SHORT-TERM COVER IS NEEDED. WHERE AREAS WILL NOT BE REDISTURBED AGAIN IN THE SHORT TERM, USE PERMANENT SEEDING AS NOTED BELOW.

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

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

**SEEDING:** FOR PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS. PER 1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 10 LBS. PER ACRE OF FOXTAIL MILLET. FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

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

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

**PERMANENT SEEDING NOTES**

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

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

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

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

**SEEDING:** FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH FOLLOWING MIXTURE: 100% TALL TURF TYPE FESCUE (3 WAY BLEND) AT 6 LBS./1000 SF. ALL SEED VARIETIES MUST BE SELECTED FROM LIST OF RECOMMENDED CULTIVARS OF TURF-TYPE TALL FESCUES AS INDICATED BY THE UNIVERSITY OF MARYLAND AGRONOMY MIMED 77 (REVISED MAY 1995) OR MOST CURRENT EDITION. SEED MIX SHALL CONSIST OF A THREE-WAY BLEND (54% .33% AND 33%) OF TURF-TYPE TALL FESCUES FROM ABOVE UNIVERSITY OF MARYLAND LIST OR RECOMMENDED CULTIVARS DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS:

- 1) 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- 2) USE SOD.
- 3) SEED AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.

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

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

**21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

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

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

**CONDITIONS WHERE PRACTICE APPLIES**  
 I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:  
 ---a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.  
 ---b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.  
 ---c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.  
 ---d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

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

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**  
 I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTATION STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:  
 ---I. 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.  
 ---II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.  
 ---III. WHERE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/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.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:  
 ---I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.  
 ---II. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:  
 ---a. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:  
 ---b. 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 PREPARED TO RAISE THE PH TO 6.5 OR HIGHER.  
 ---c. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.  
 ---d. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.  
 ---e. 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.

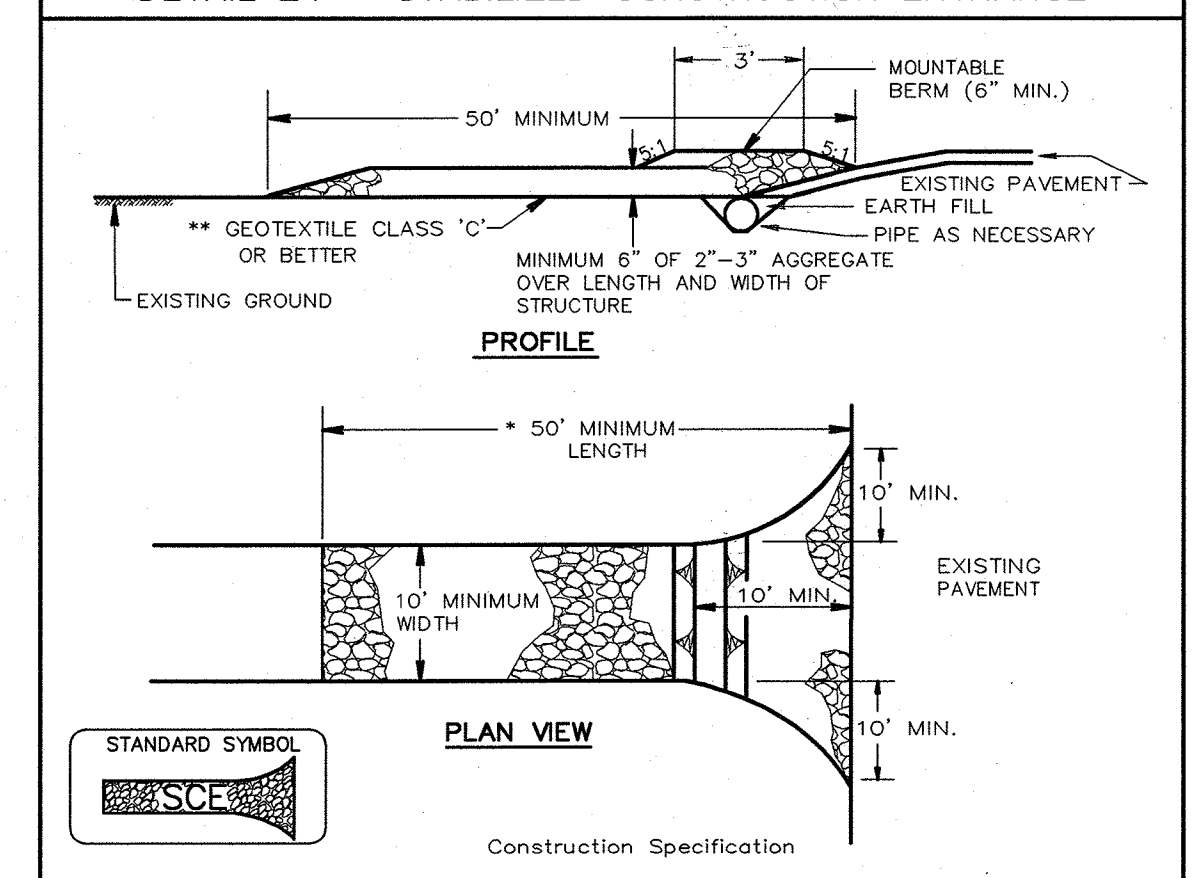
NOTE: TOPSOIL SUBSTITUTES TO AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY MAY BE USED IN LIEU OF NATURAL TOPSOIL.  
 ---I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION  
 ---I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.  
 ---II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.  
 ---III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE DONE 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.  
 ---IV. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION. WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:  
 ---I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED FOR NUTRIENT AMENDMENTS AND FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:  
 ---a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.  
 ---b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.  
 ---c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.  
 ---d. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/2 THE NORMAL LIME APPLICATION RATE. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SOD, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

**ALL TOPSOIL TO BE STOCKPILED AND STORED ON SITE!!**

**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**



- Construction Specification
1. Length - minimum of 50' ("30" for single residence lot).
  2. Width - 10' minimum, should be flared 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. \*\*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 - 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 slope and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
  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 the stabilized construction entrance.

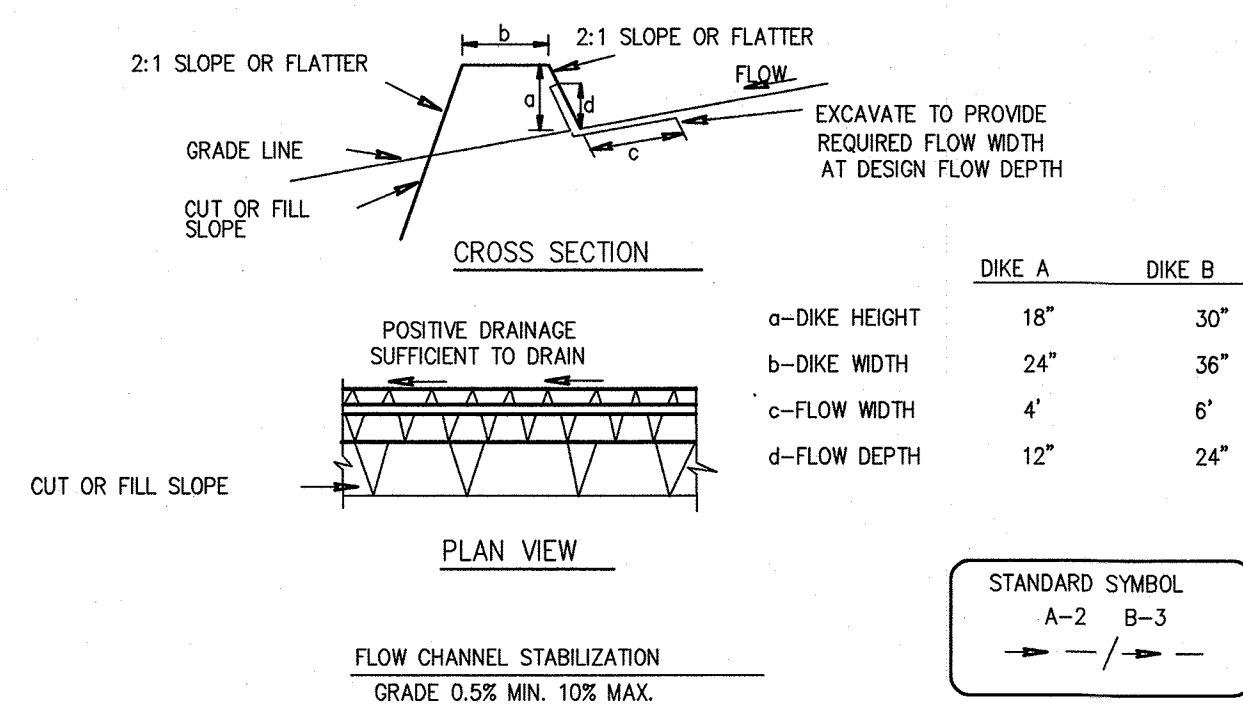
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 12 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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**SEQUENCE OF CONSTRUCTION**

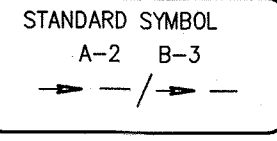
- THE GRADING, EROSION & SEDIMENT CONTROL AND CONSTRUCTION OF THIS SITE WILL BE DONE IN 2 PHASES. PHASE 1 PRIMARILY INCLUDES CONSTRUCTION OF SEDIMENT BASINS (TO BE CONVERTED TO SWM PONDS), WHILE PHASE 2 INVOLVES GRADING AND BUILDING OPERATIONS ON THE SITE.
1. OBTAIN GRADING PERMIT AND ALL REQUIRED PERMITS FROM MDE (MDE TRACKING # 986) FOR WETLAND DISTURBANCE, SCHEDULE AND ATTEND THE PRECONSTRUCTION MEETING (1 DAY)
2. OBTAIN DEMOLITION PERMIT AND DEMOLISH EXISTING HOUSE. USE EXISTING ASPHALT DRIVEWAY AS STAGING AREA. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT MEREDITH AVENUE FROM ROAD. INSTALL STABILIZED CONSTRUCTION ENTRANCE AT MEREDITH AVENUE FOR ACCESS TO SITE. (5 DAYS)
3. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
4. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
5. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
6. BEGIN POND NO. 1 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
7. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
8. BEGIN POND NO. 2 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
9. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
10. BEGIN POND NO. 3 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
11. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
12. BEGIN POND NO. 4 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
13. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
14. BEGIN POND NO. 5 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
15. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
16. BEGIN POND NO. 6 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
17. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
18. BEGIN POND NO. 7 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
19. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
20. BEGIN POND NO. 8 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
21. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
22. BEGIN POND NO. 9 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
23. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
24. BEGIN POND NO. 10 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
25. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
26. BEGIN POND NO. 11 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
27. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
28. BEGIN POND NO. 12 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
29. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
30. BEGIN POND NO. 13 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
31. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
32. BEGIN POND NO. 14 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
33. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
34. BEGIN POND NO. 15 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
35. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
36. BEGIN POND NO. 16 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
37. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
38. BEGIN POND NO. 17 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
39. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
40. BEGIN POND NO. 18 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
41. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
42. BEGIN POND NO. 19 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
43. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
44. BEGIN POND NO. 20 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
45. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
46. BEGIN POND NO. 21 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
47. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
48. BEGIN POND NO. 22 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
49. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
50. BEGIN POND NO. 23 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
51. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
52. BEGIN POND NO. 24 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
53. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
54. BEGIN POND NO. 25 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
55. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
56. BEGIN POND NO. 26 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
57. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
58. BEGIN POND NO. 27 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
59. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
60. BEGIN POND NO. 28 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
61. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
62. BEGIN POND NO. 29 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
63. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
64. BEGIN POND NO. 30 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
65. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
66. BEGIN POND NO. 31 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
67. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
68. BEGIN POND NO. 32 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
69. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
70. BEGIN POND NO. 33 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
71. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
72. BEGIN POND NO. 34 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
73. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
74. BEGIN POND NO. 35 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
75. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
76. BEGIN POND NO. 36 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
77. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
78. BEGIN POND NO. 37 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
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80. BEGIN POND NO. 38 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
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82. BEGIN POND NO. 39 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
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84. BEGIN POND NO. 40 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
85. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
86. BEGIN POND NO. 41 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
87. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
88. BEGIN POND NO. 42 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
89. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
90. BEGIN POND NO. 43 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
91. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
92. BEGIN POND NO. 44 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
93. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
94. BEGIN POND NO. 45 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
95. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
96. BEGIN POND NO. 46 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
97. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
98. BEGIN POND NO. 47 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
99. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
100. BEGIN POND NO. 48 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
101. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
102. BEGIN POND NO. 49 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
103. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
104. BEGIN POND NO. 50 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
105. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
106. BEGIN POND NO. 51 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
107. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET 7 FROM MEREDITH AVENUE TO POND. (3 DAYS)
108. BEGIN POND NO. 52 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS A SEDIMENT BASIN. (1 DAY)
109. INSTALL SILT FENCE ALONG PHASE 1 LIMIT OF DISTURBANCE FROM WHISKEY BOTTOM ROAD TO PREVENT EROSION OF EWS TO EWB, IF DEEMED NECESSARY BY INSPECTOR. SEE SHEET



**DETAIL 1 - EARTH DIKE**



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"



- Seed and cover with straw mulch.
- Seed and cover with Erosion Control Matting or line with sod.
- 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

**Construction Specifications**

- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
- Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
- Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
- The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
- Fill shall be compacted by earth moving equipment.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
- Inspection and maintenance must be provided periodically and after each rain event.

**DETAIL 4 - PIPE SLOPE DRAIN**

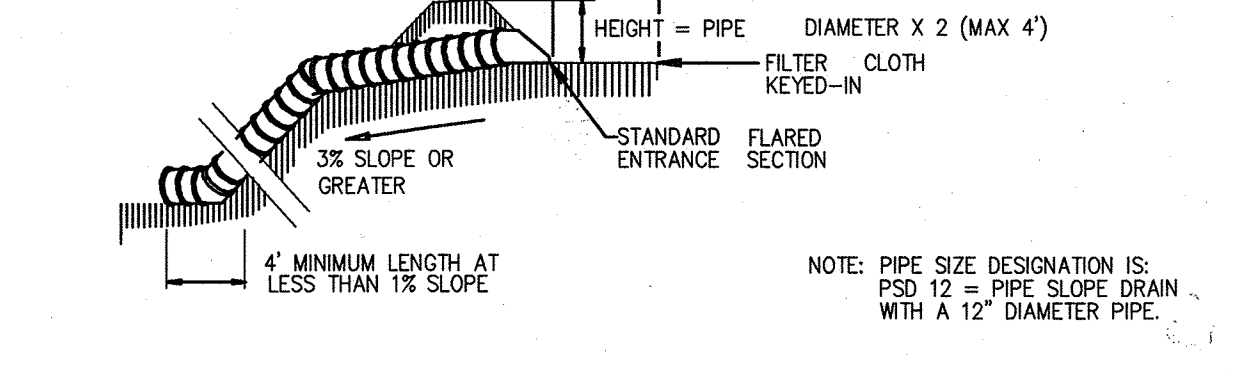
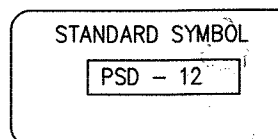
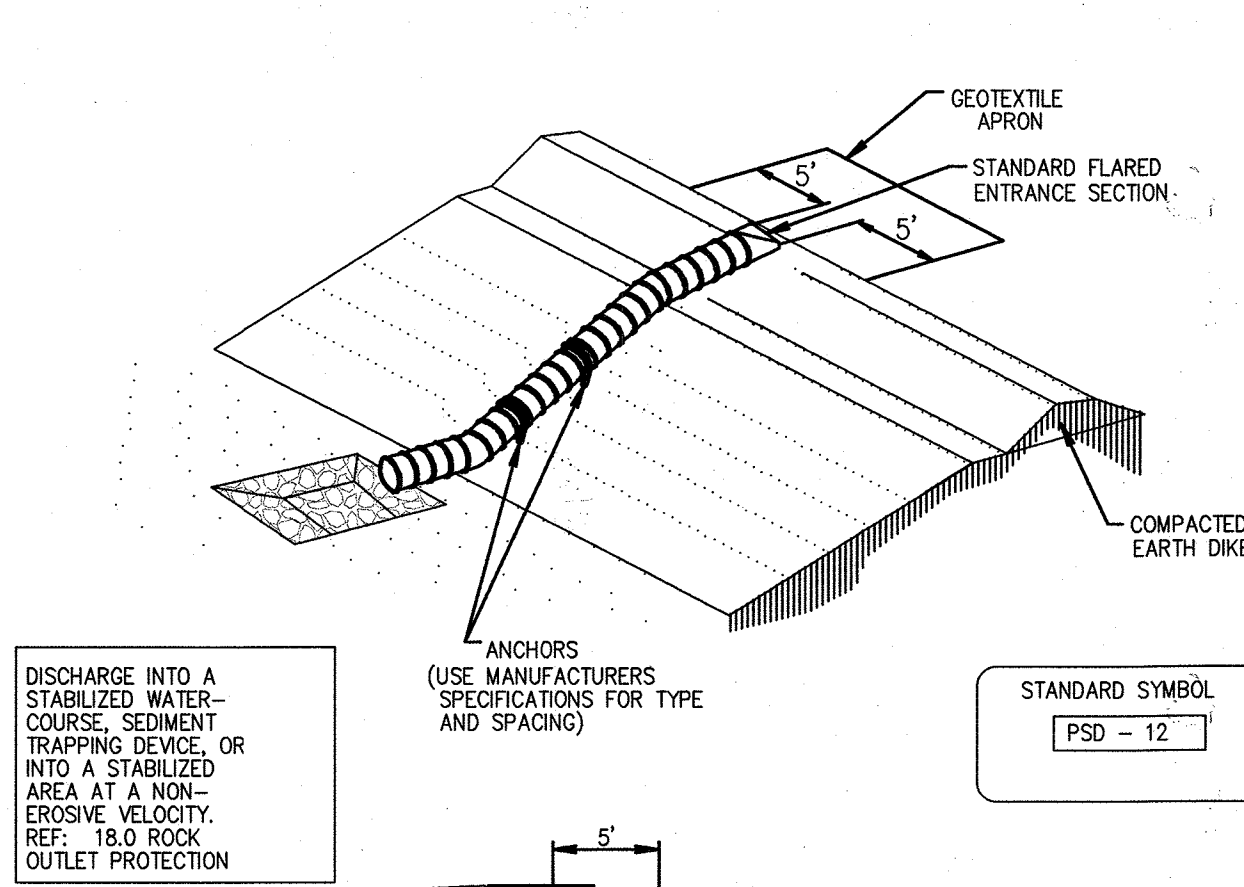
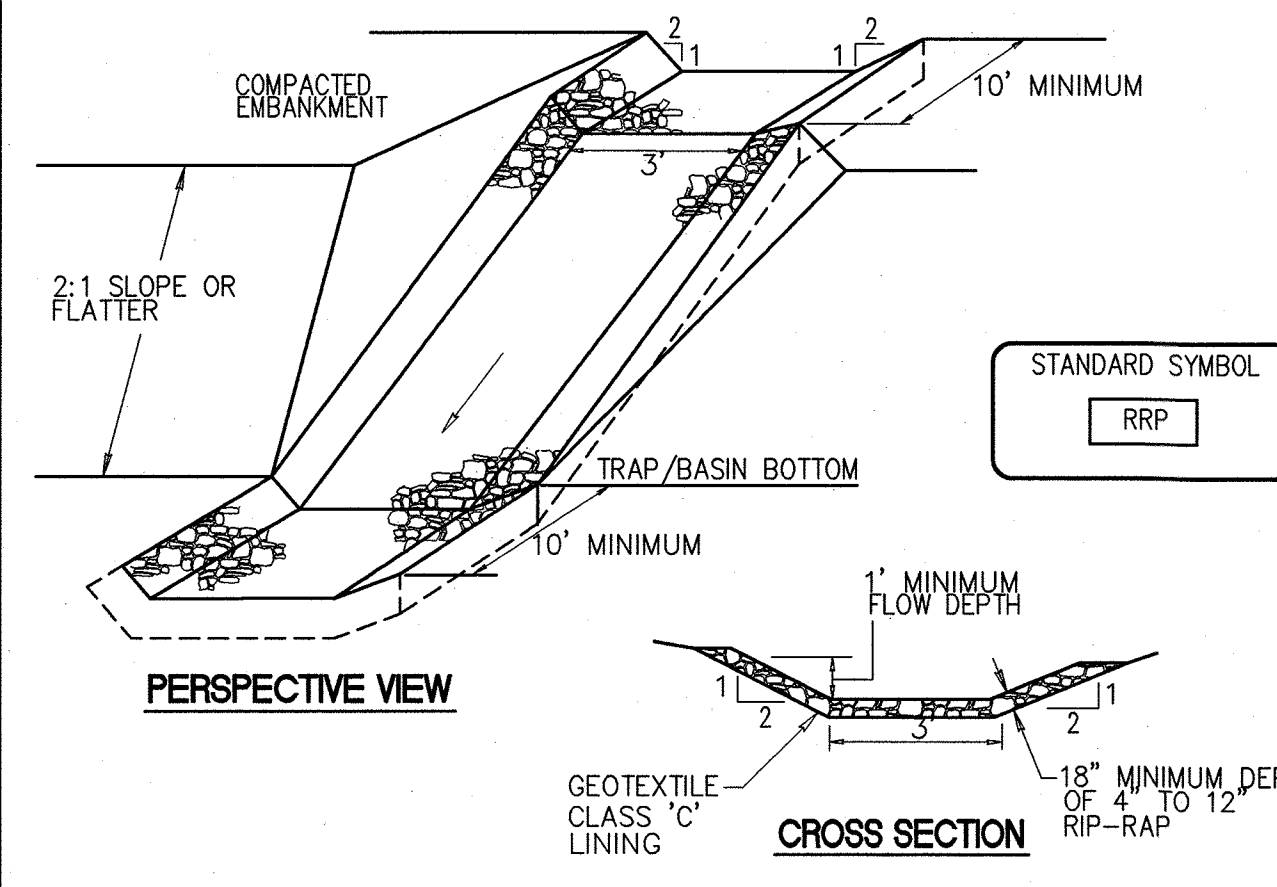


Table 6 Design Criteria for Pipe Slope Drain

Size	Pipe/Tubing Diameter (D) in	Maximum Drainage Area (Acres)
PSD-12	12	0.5
PSD-18	18	1.5
PSD-21	21	2.5
PSD-24	24	3.5
PSD-24 (2)	24	5.0

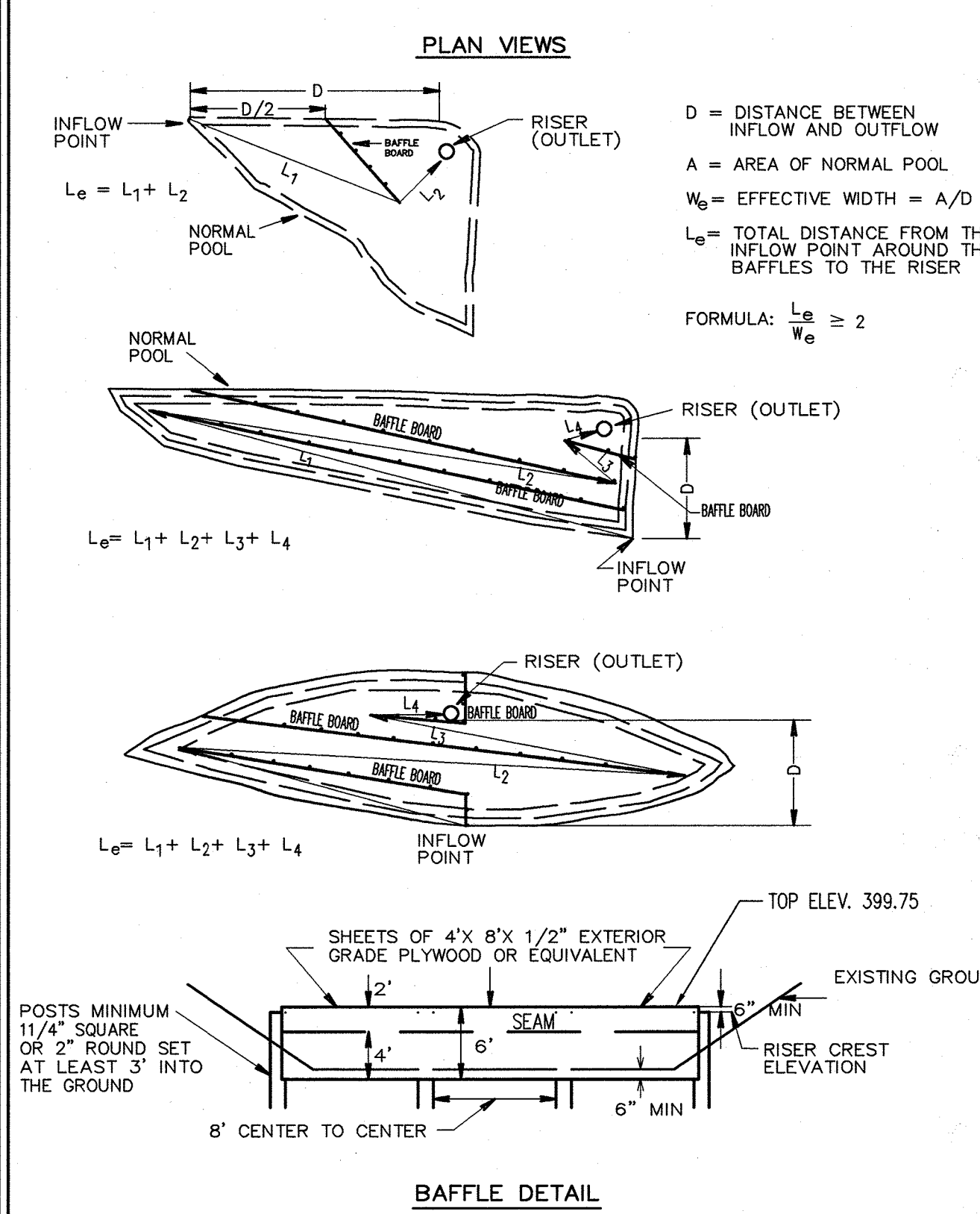
**DETAIL 5 - RIP-RAP INFLOW PROTECTION**



**CONSTRUCTION SPECIFICATIONS**

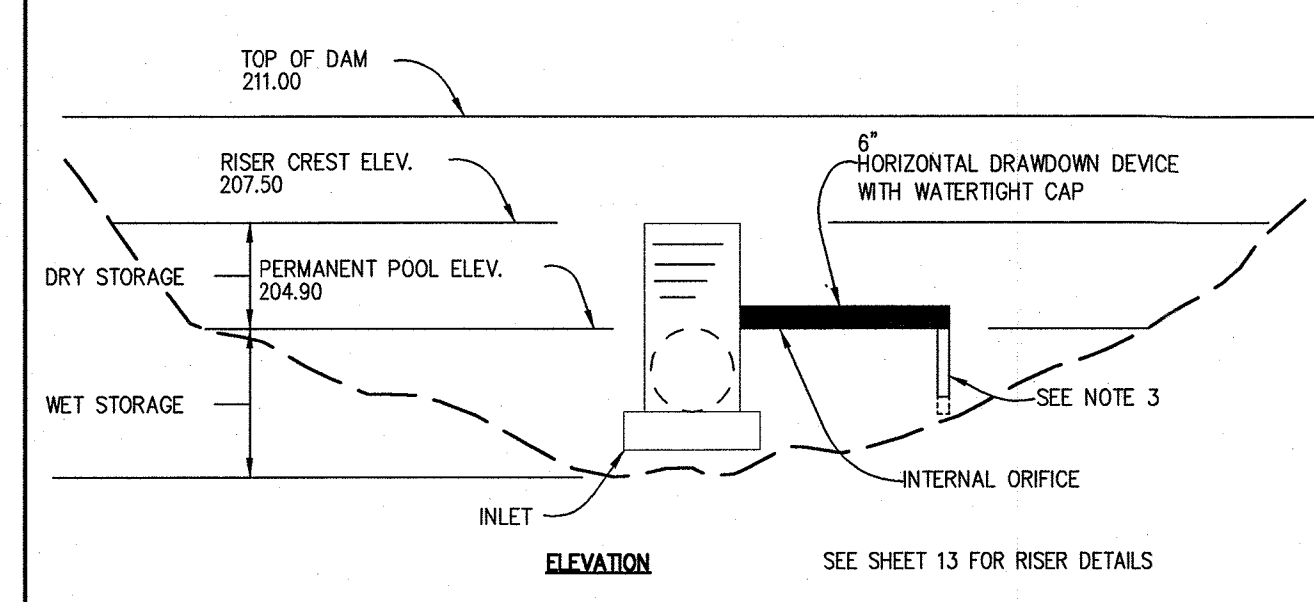
- RIP-RAP LINED INFLOW CHANNELS SHALL BE 1' IN DEPTH, HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND 3" (MIN.) BOTTOM WIDTH. THE CHANNEL SHALL BE LINED WITH 4" TO 12" RIP-RAP TO A DEPTH OF 18".
- FILTER CLOTH SHALL BE INSTALLED UNDER ALL RIP-RAP. FILTER CLOTH SHALL BE GEOTEXTILE CLASS C.
- ENTRANCE AND EXIT SECTIONS SHALL BE INSTALLED AS SHOWN ON THE DETAIL SECTION.
- RIP-RAP USED FOR THE LINING MAY BE RECYCLED FOR PERMANENT OUTLET PROTECTION IF THE BASIN IS TO BE CONVERTED TO A STORMWATER MANAGEMENT FACILITY.
- GABION INFLOW PROTECTION MAY BE USED IN LIEU OF RIP-RAP INFLOW PROTECTION.
- RIP-RAP SHOULD BLEND INTO EXISTING GROUND.
- RIP-RAP INFLOW PROTECTION SHALL BE USED WHERE THE SLOPE IS BETWEEN 4:1 AND 10:1. FOR SLOPES FLATTER THAN 10:1 USE EARTH DIKE OR TEMPORARY SWALE LINING CRITERIA.

**DETAIL 18 - SEDIMENT BASIN BAFFLES**



**POND 1**

**SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE**

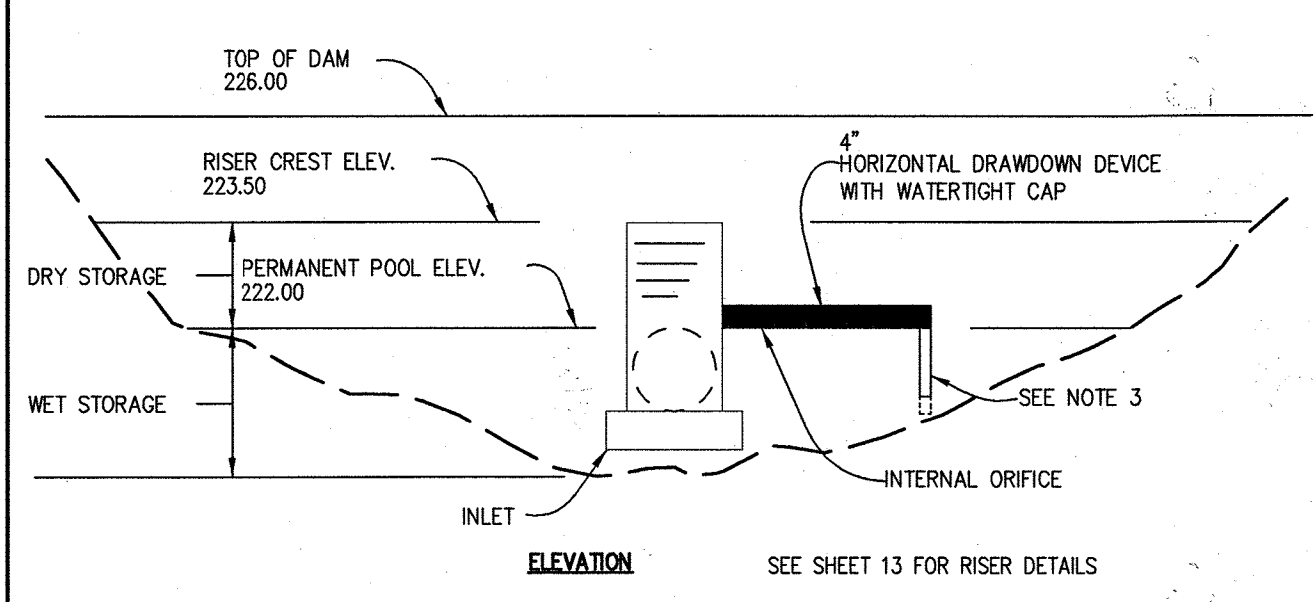


**Construction Specifications**

- The total area of the perforation must be greater than 2 times the area of the internal orifice.
- The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
- Provide support of drawdown device to prevent sagging and flotation. An acceptable preventative measure is to stake both sides of drawdown device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3" minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

**POND 2**

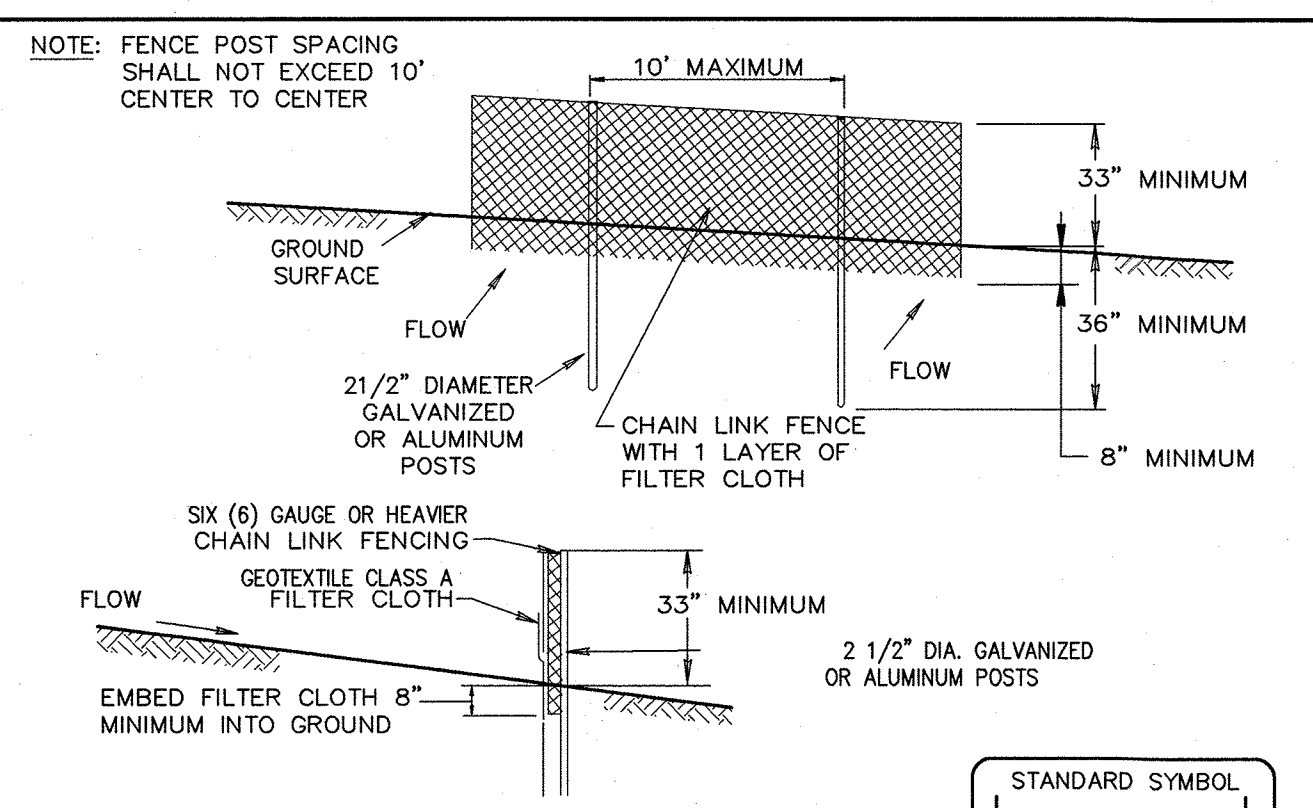
**SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE**



**Construction Specifications**

- The total area of the perforation must be greater than 2 times the area of the internal orifice.
- The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
- Provide support of drawdown device to prevent sagging and flotation. An acceptable preventative measure is to stake both sides of drawdown device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3" minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

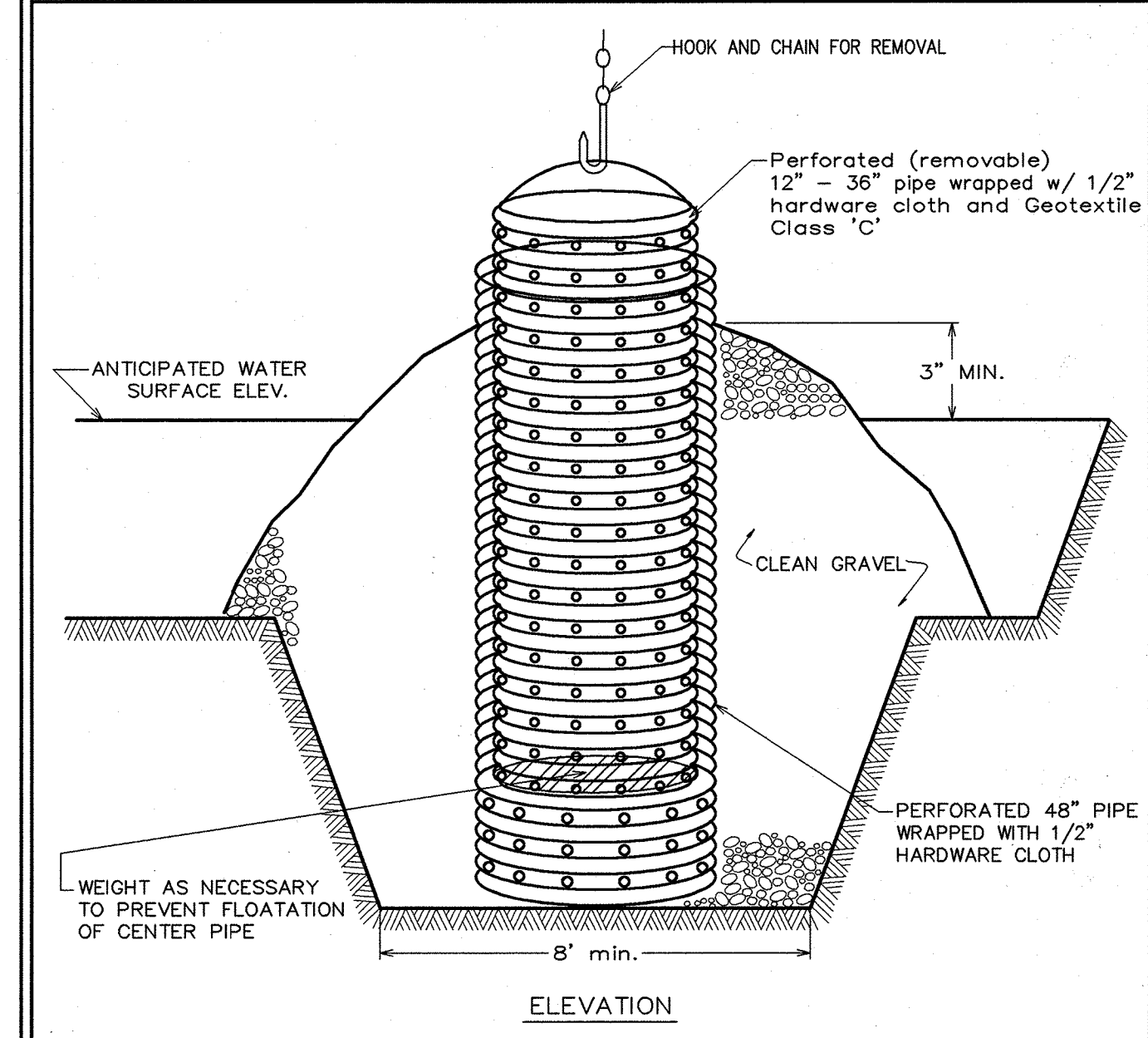
**DETAIL 33 - SUPER SILT FENCE**



**Construction Specifications**

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

**DETAIL 20A - REMOVABLE PUMPING STATION**



**Construction Specifications**

- The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
- After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
- The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
- The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

**BY THE DEVELOPER :**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Sheryl C. Mubush* 3/6/09  
DEVELOPER DATE

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

*Sheryl C. Mubush* 3-1-09  
ENGINEER DATE

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

*Sheryl C. Mubush* 3/6/09  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas J. Suttler* 3/23/09  
DIRECTOR DATE

*John D. ...* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy ...* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P. 410.313.2414

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P. 410.313.2414

**PROJECT**  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

**AREA** TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

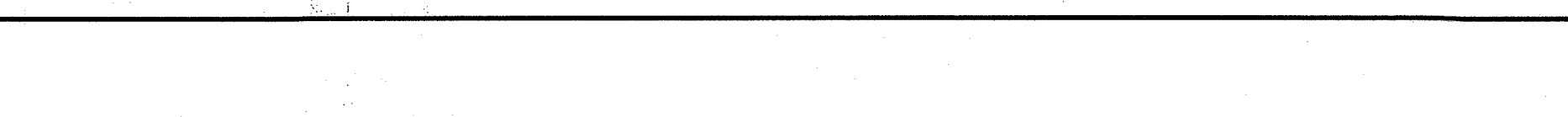
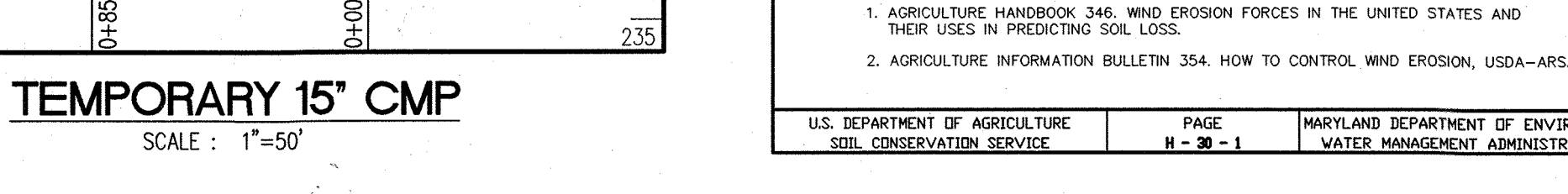
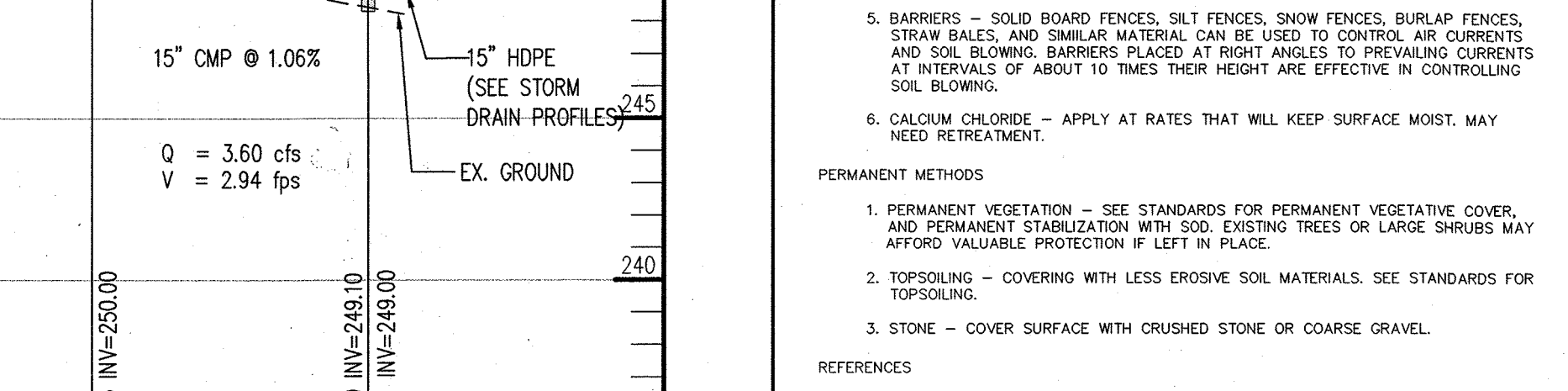
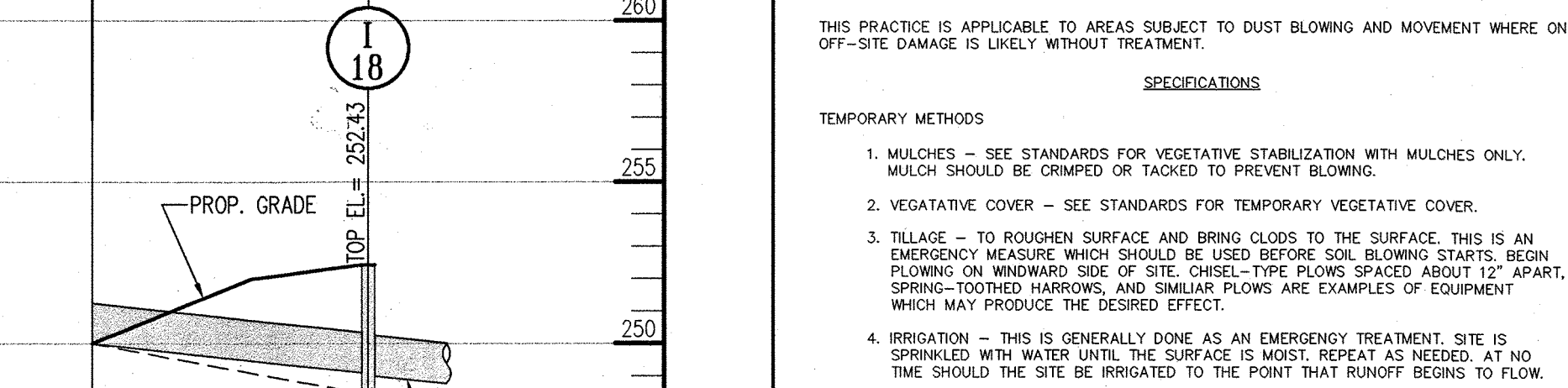
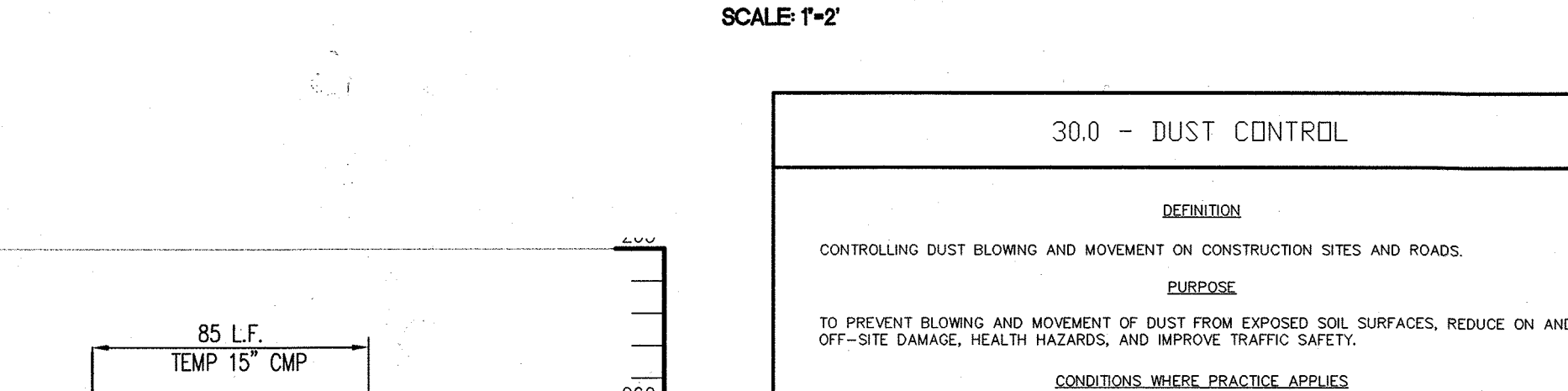
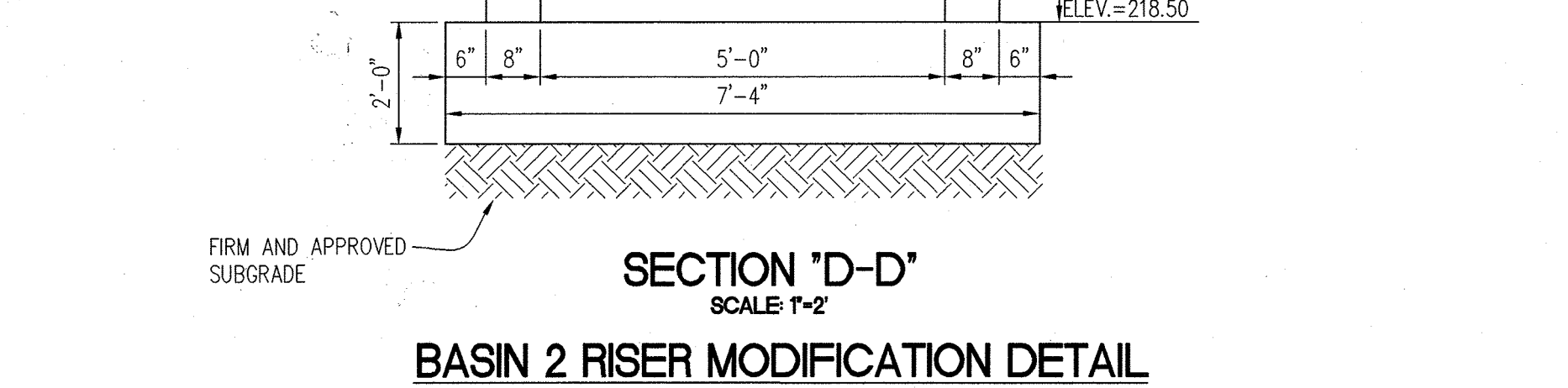
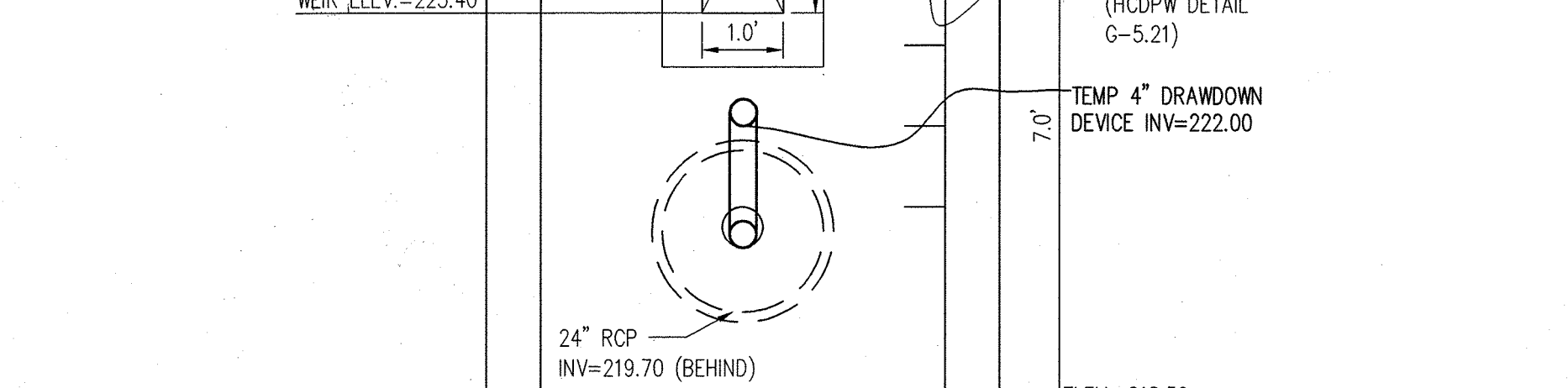
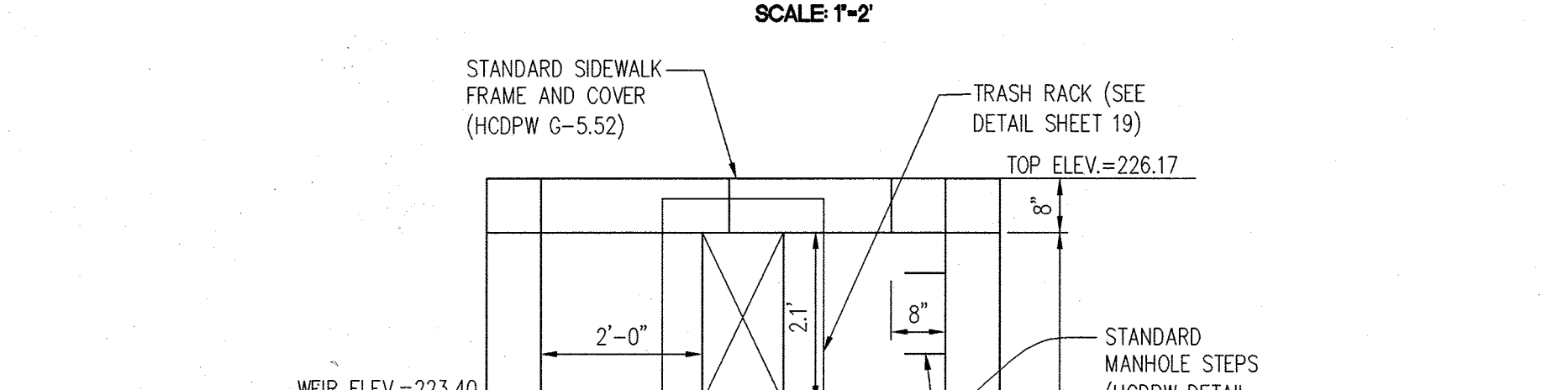
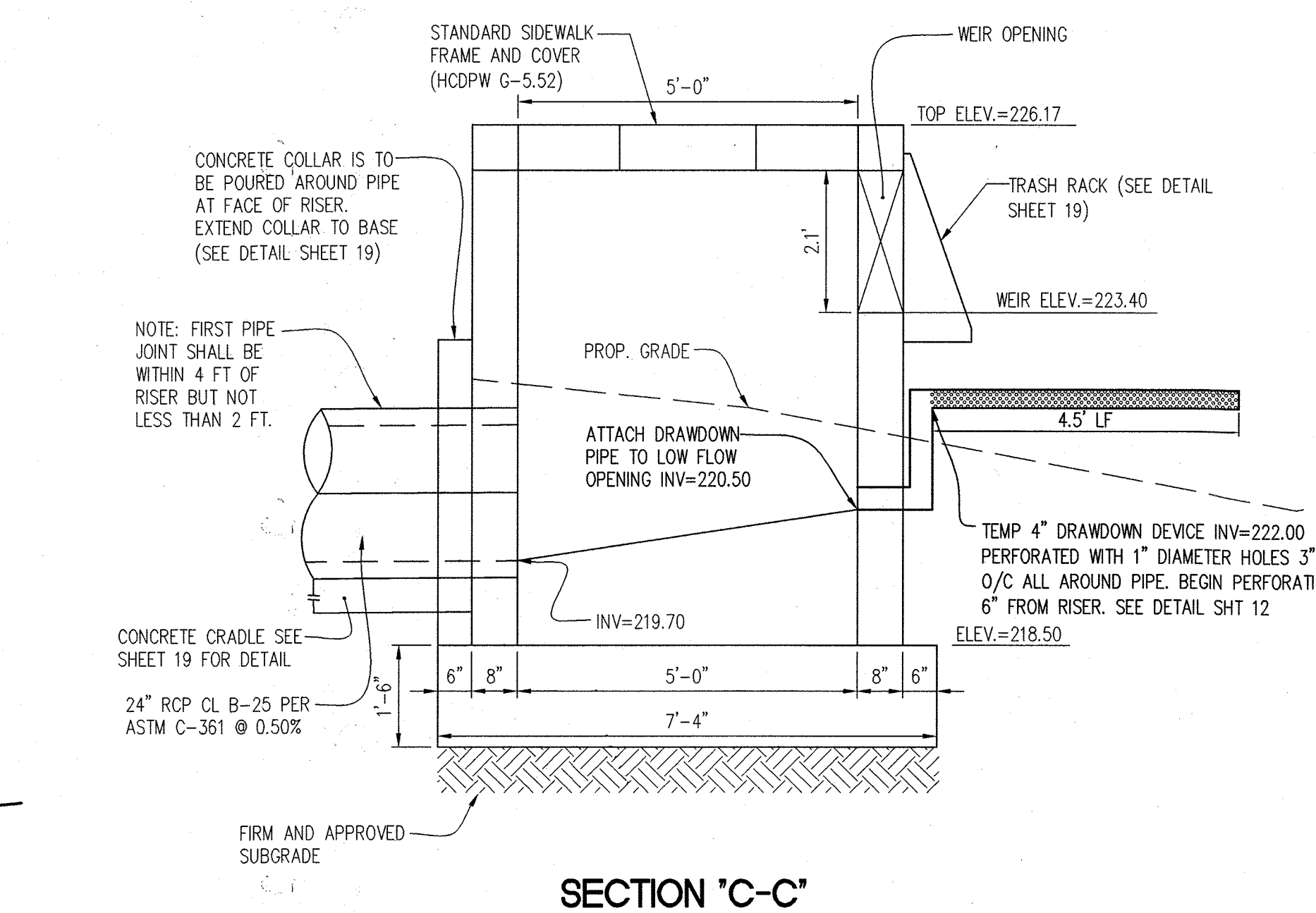
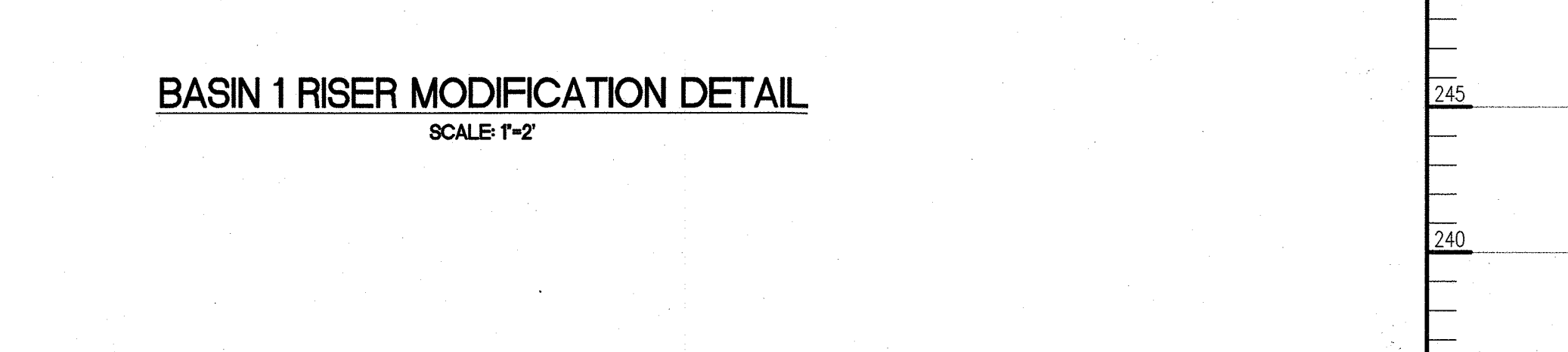
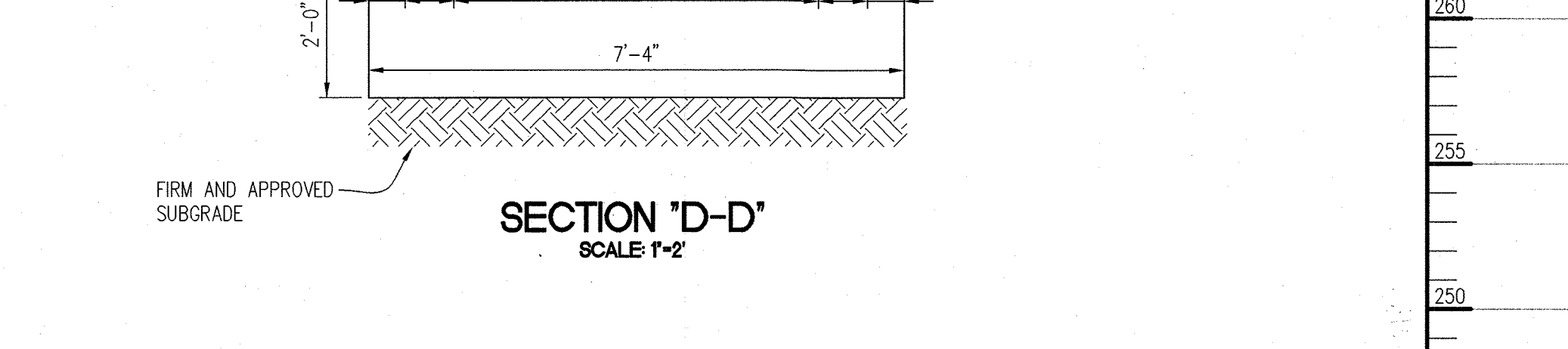
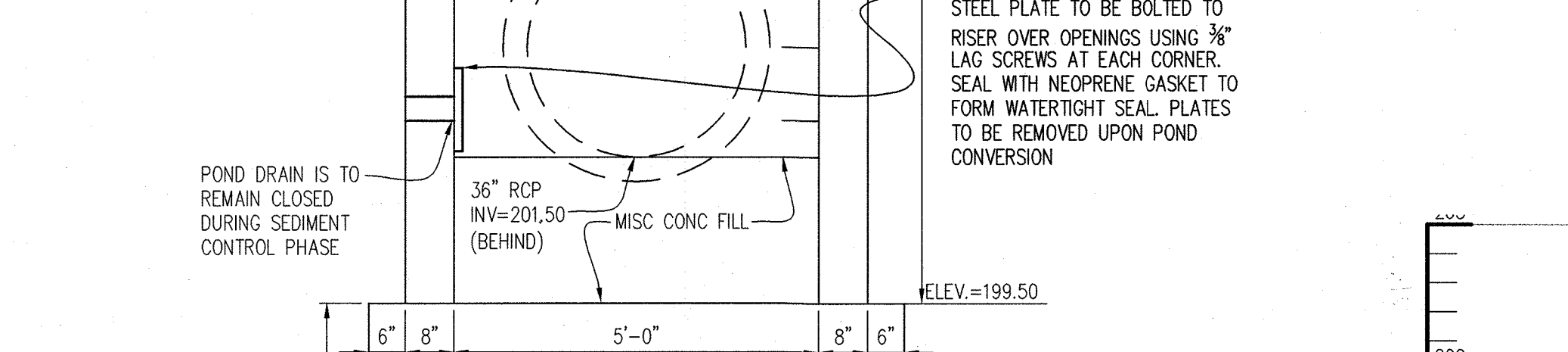
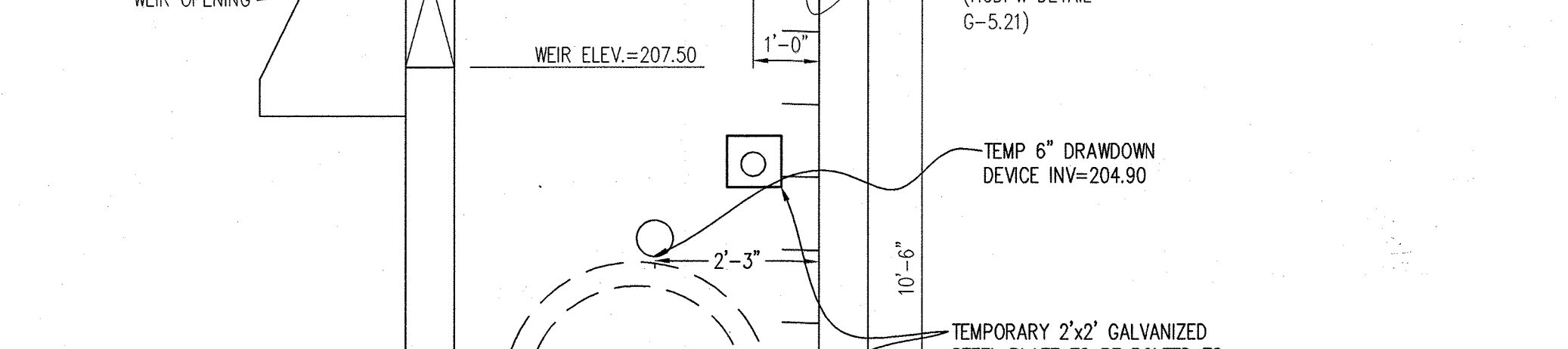
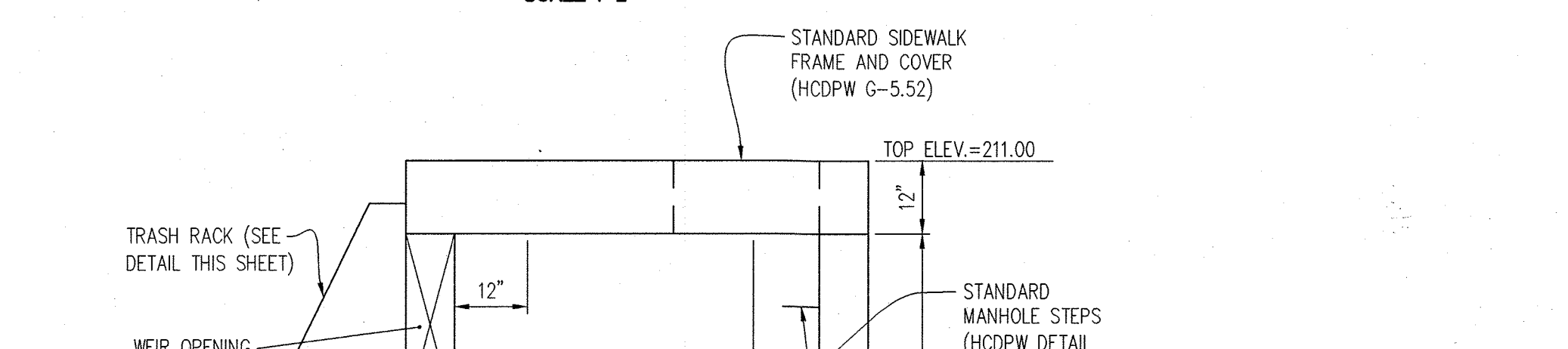
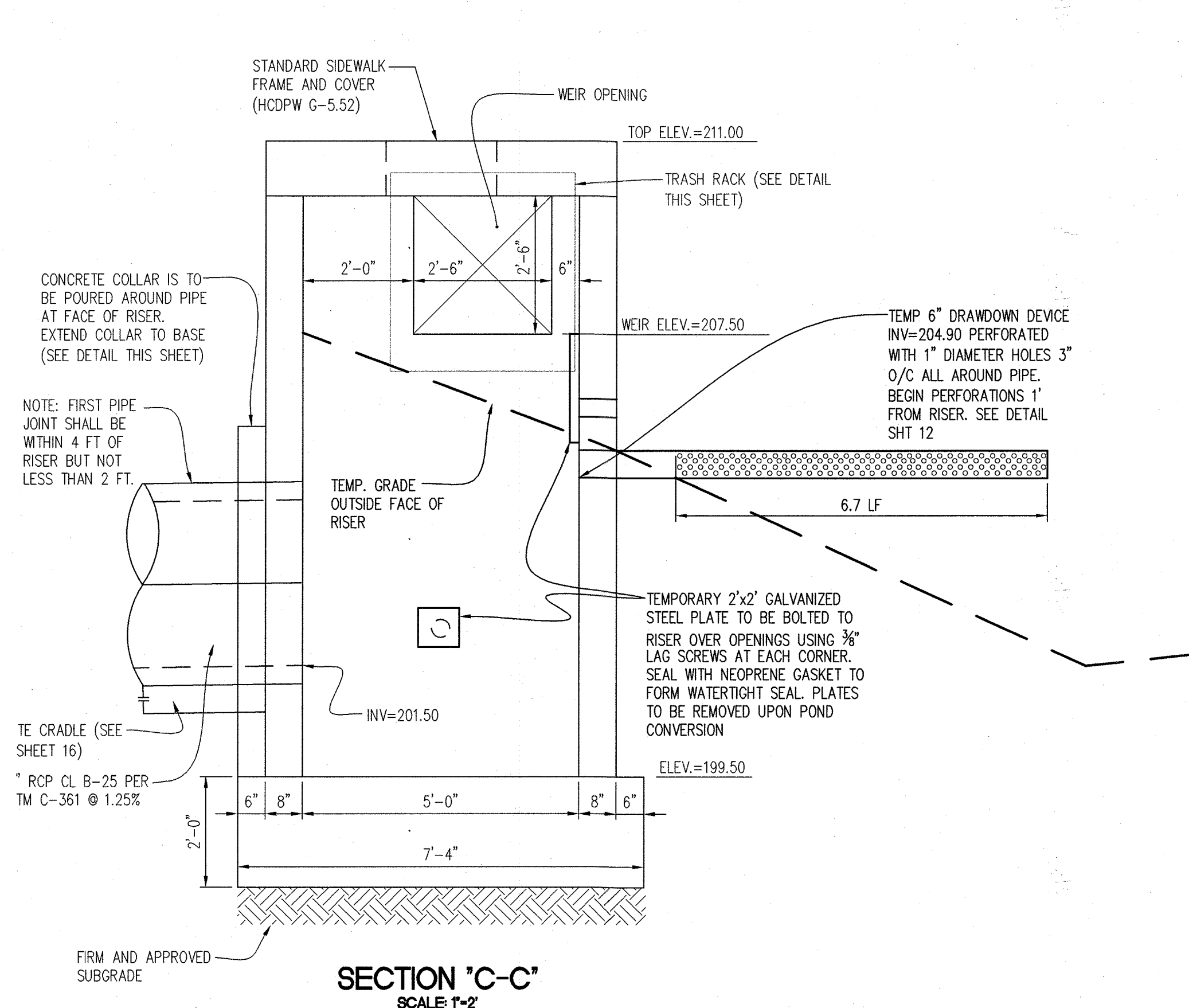
**TITLE**  
SEDIMENT CONTROL DETAILS

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

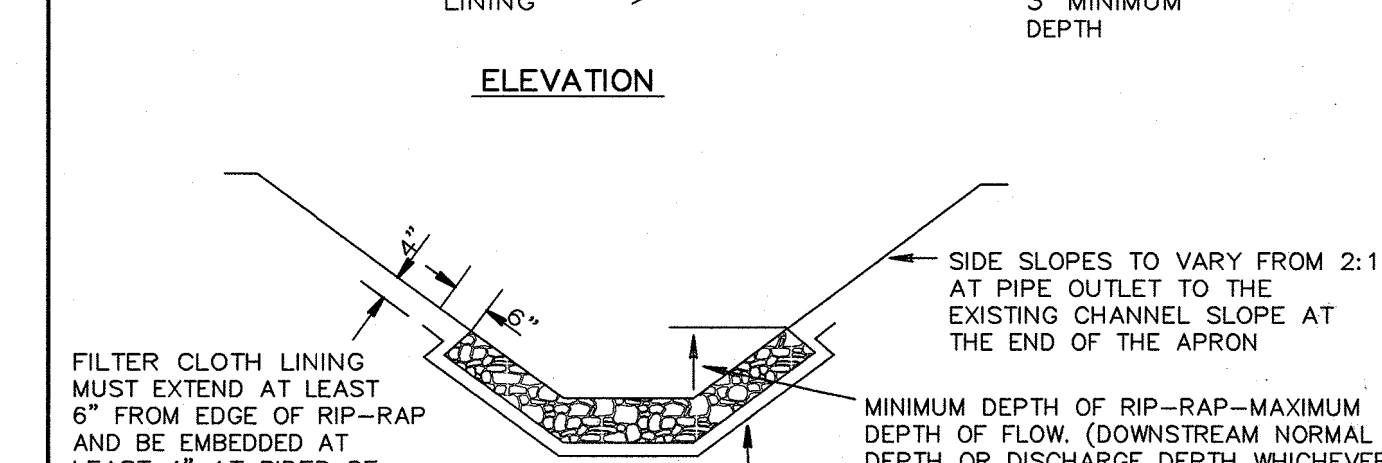
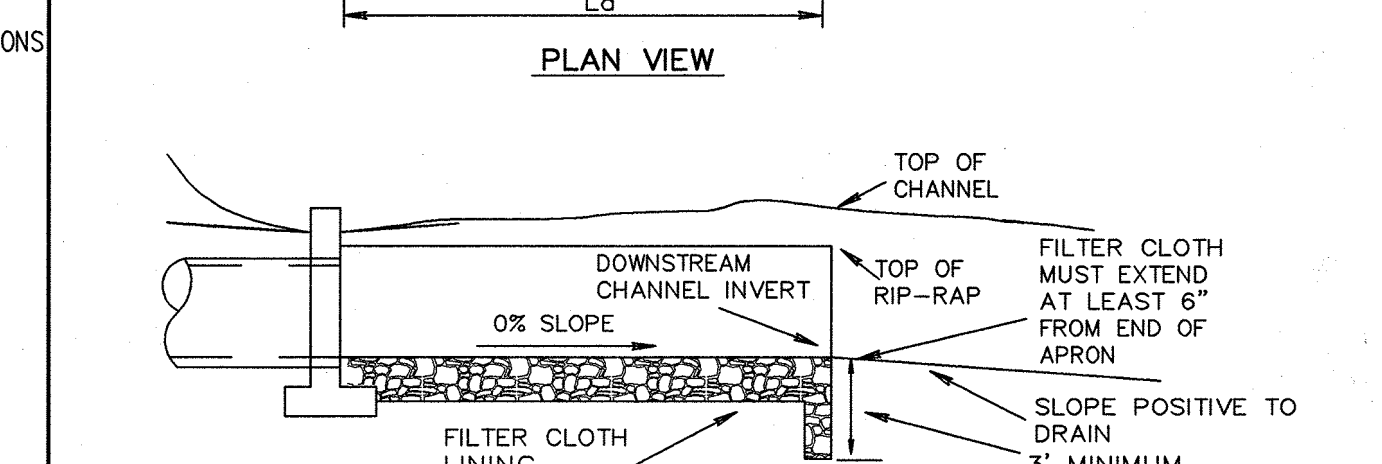
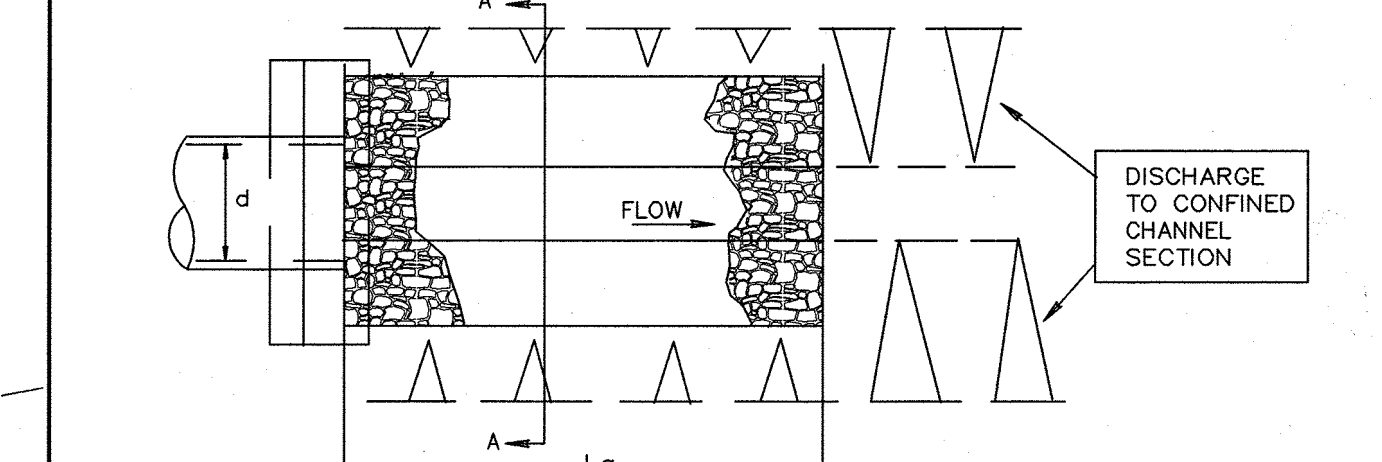
**SEAL**  
STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
BY: *Sheryl C. Mubush* 3-4-09

DESIGNED BY : SCM  
DRAWN BY : SGM  
PROJECT NO : 14466-1-0  
C4005DP12.DWG  
DATE : MARCH 4, 2009  
SCALE : AS SHOWN  
DRAWING NO. 12 OF 69





**DETAIL 26 - ROCK OUTLET PROTECTION II**



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-18-9 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

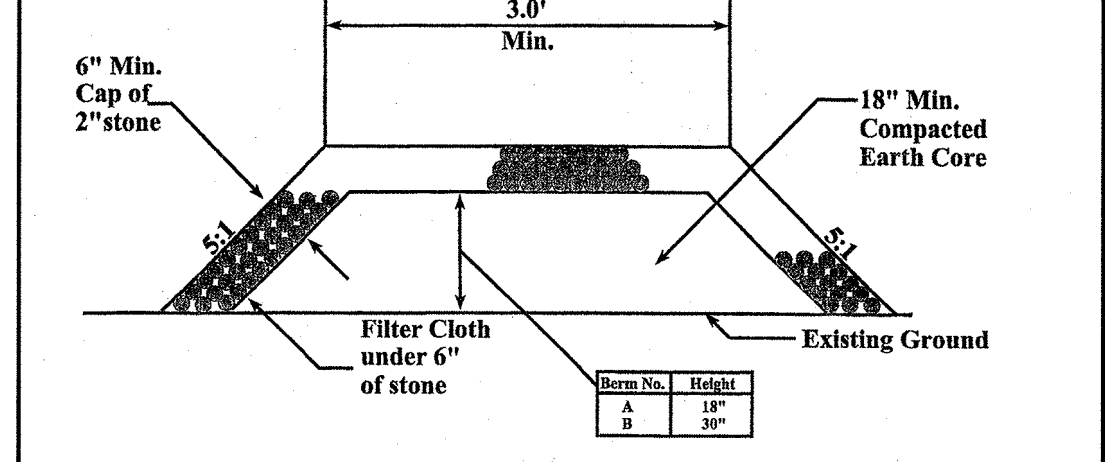
**ROCK OUTLET PROTECTION II**

Construction Specifications

- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F-18-9A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**MOUNTABLE BERM**  
Not to scale



Filter cloth shall be Geotextile Class 'C', or better.

BY THE DEVELOPER:  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *[Signature]* 3/6/09 DATE

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

ENGINEER: *[Signature]* 3-4-09 DATE

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

HOWARD SOIL CONSERVATION DISTRICT: *[Signature]* 3/9/09 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: *[Signature]* 3/23/09 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 3/10/09 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 3/19/09 DATE

DATE NO. REVISION

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045, P 410 313 2414

DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045, P 410 313 2414

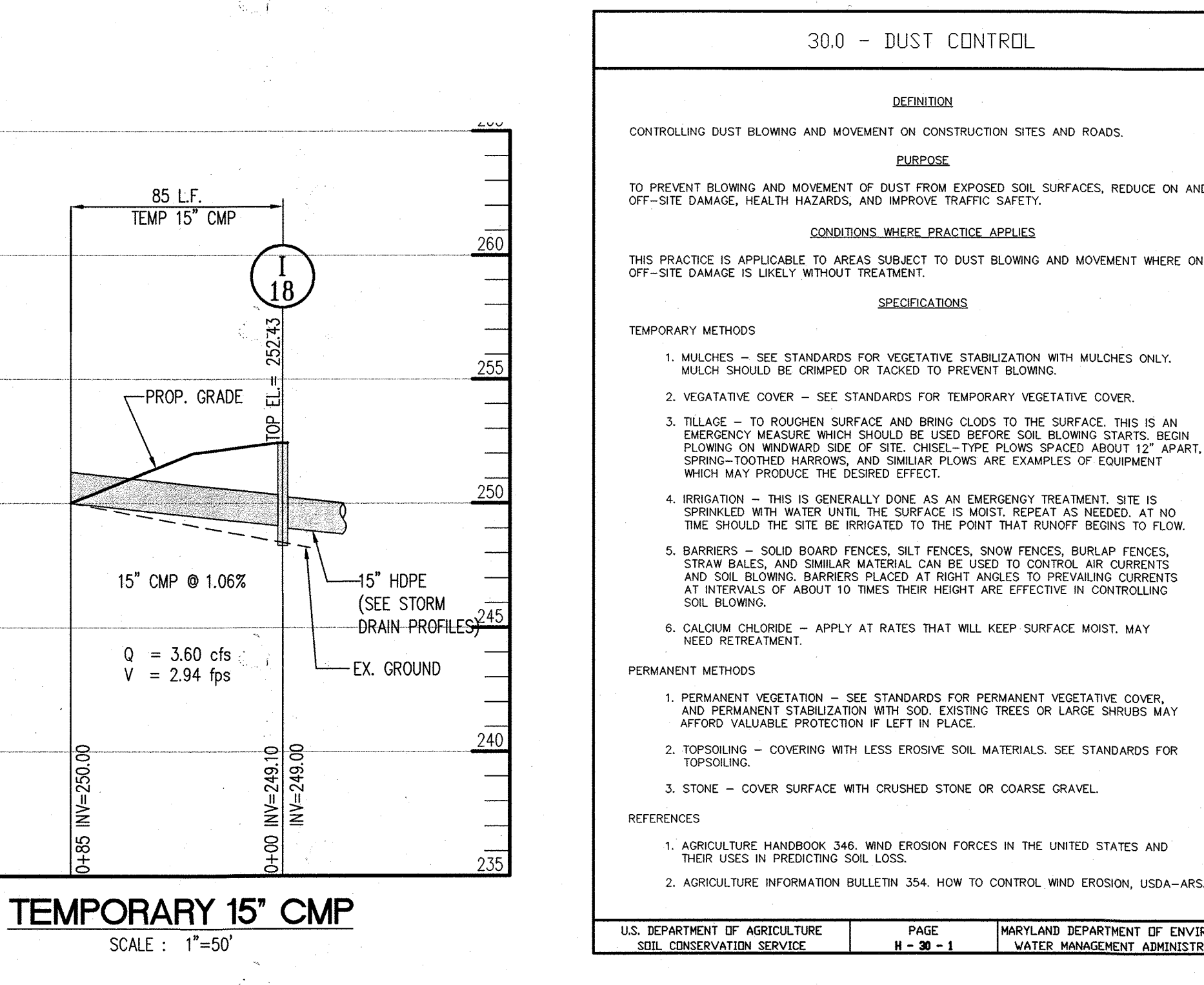
PROJECT: NORTH LAUREL COMMUNITY CENTER, CAPITAL PROJECT C-0304

AREA: TAX MAP 47 GRID 22 & TAX MAP 50, GRIDS 3 & 4, PARCELS A-1, 1B7 & 1065 ZONED R-SC, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL DETAILS

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

DESIGNED BY: SCM  
DRAWN BY: SGM  
PROJECT NO: 14466-1-0, C400SDP13.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 13 OF 69



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



**LEGEND**

EX. GRND. AT CENTER LINE - - - - -

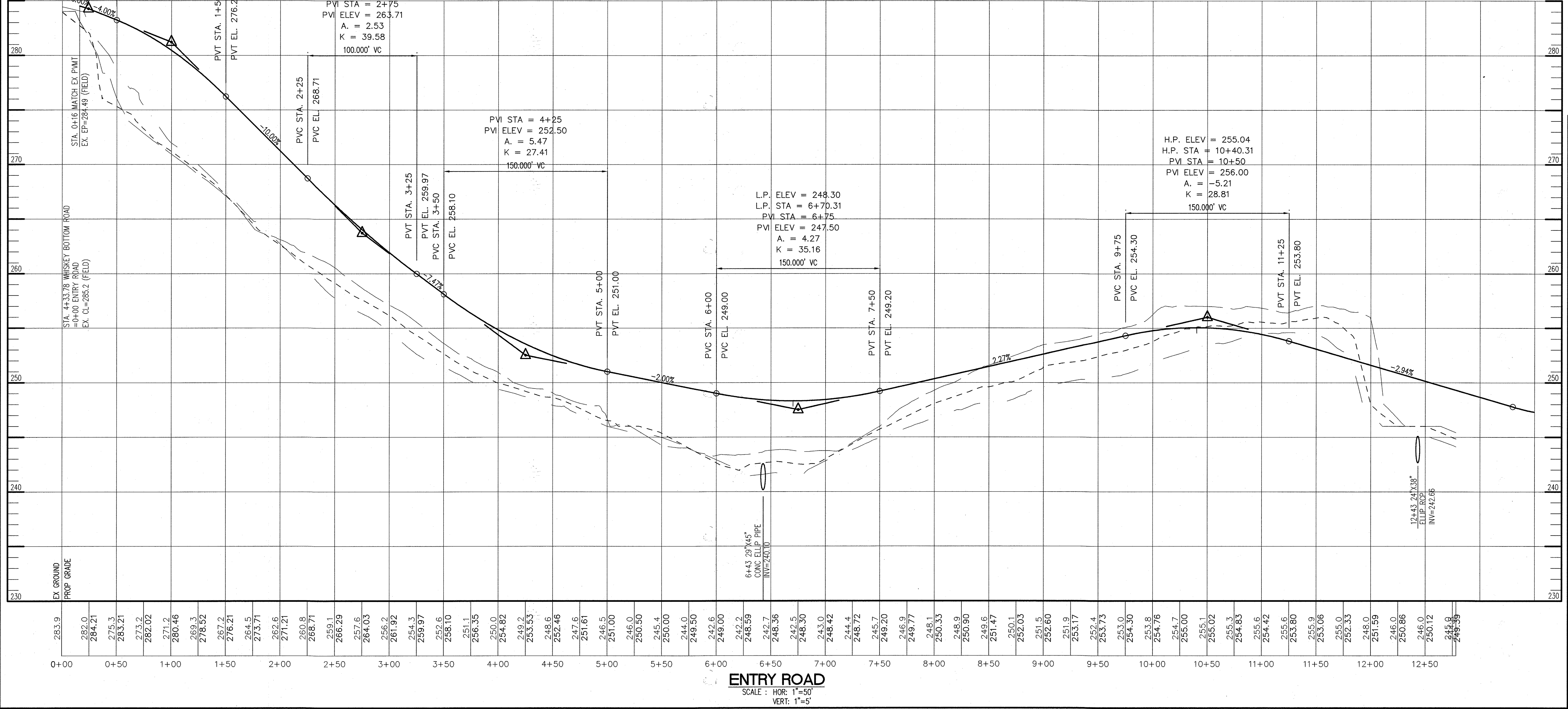
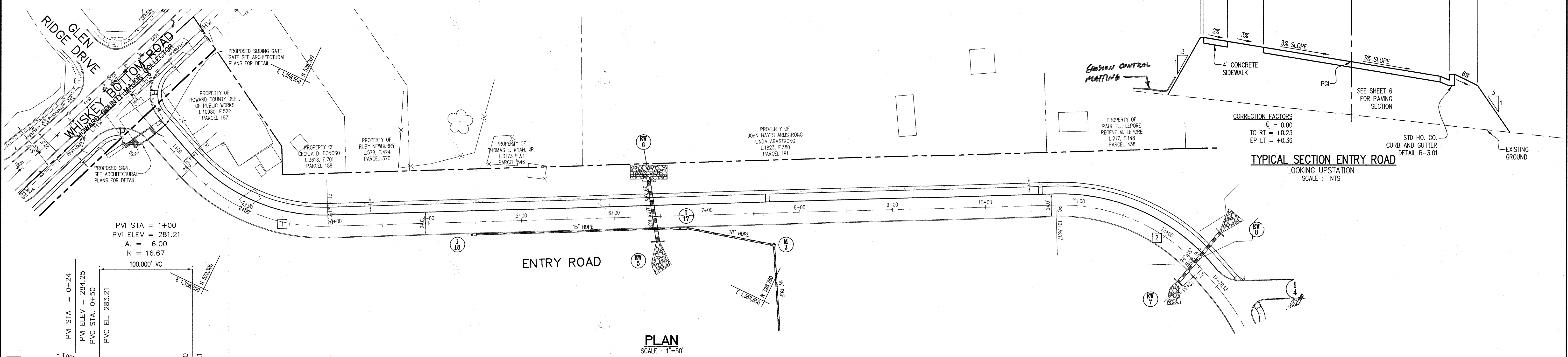
EX. GRND. 20' RIGHT - - - - -

EX. GRND. 20' LEFT - - - - -

PROP. GRADE AT CENTER LINE - - - - -

**CURVE DATA TABLE**

CURVE NO.	DELTA	RADIUS	ARC	TAN	CHD. BRG.	CHD. LEN.
1	50°42'39"	200.00	177.01	94.78	S02°02'37"E	171.29
2	50°57'17"	200.00	177.87	95.30	S01°55'18"E	172.06



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Morgan & Sutler* 3/23/09  
DIRECTOR DATE

*John D. Quinn* 2/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hunter* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045, P 410 313 2414

DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045, P 410 313 2414

PROJECT: NORTH LAUREL COMMUNITY CENTER, CAPITAL PROJECT C-0304

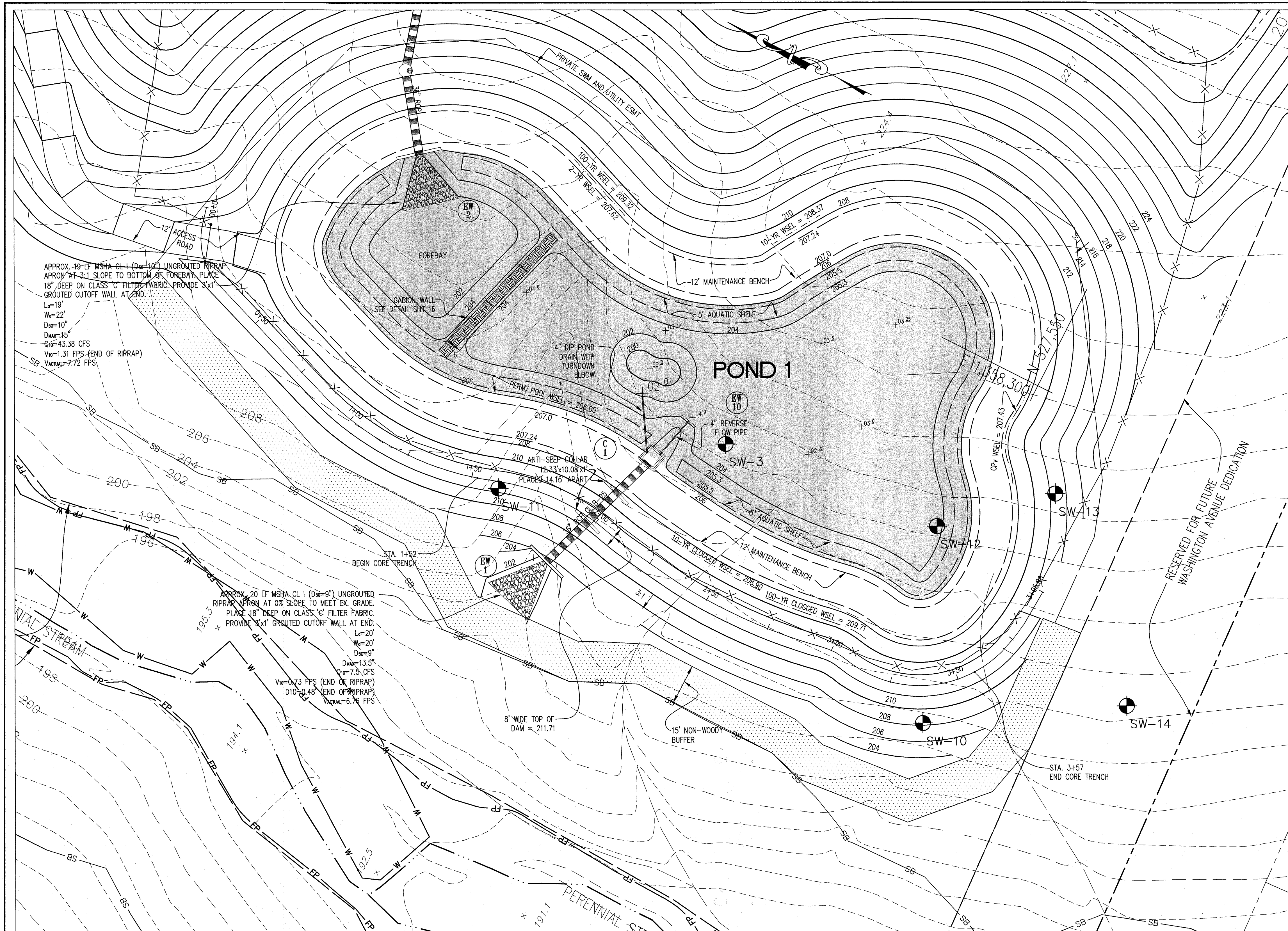
AREA: TAX MAP 47 GRID 22 & TAX MAP 50, GRIDS 3 & 4, PARCELS A-1, 157 & 1065 ZONED R-SC, 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE: GRADE ESTABLISHMENT PLAN, ENTRY ROAD FROM WHISKEY BOTTOM ROAD

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

SEAL: *Shane C. Mueller* 3-4-09  
DESIGNED BY: :SCM  
DRAWN BY: SGM  
PROJECT NO: 14466-1-0, C400SDP14.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 14 OF 69





STORMWATER MANAGEMENT POND No. 1 PLAN

SCALE: 1" = 20'

NOTE: REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.

BY THE DEVELOPER:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/6/09  
 DEVELOPER DATE

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

*[Signature]* 3-4-09  
 ENGINEER DATE

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

*[Signature]* 3/9/09  
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 3/23/09  
 DIRECTOR, DEP. DATE

*[Signature]* 3/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**STORMWATER MANAGEMENT  
 POND 1 PLAN**

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

SEAL  
 STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 3-4-09

DESIGNED BY: PDS  
 DRAWN BY: PDS  
 PROJECT NO: 14466-1-0  
 C400SDP15.DWG

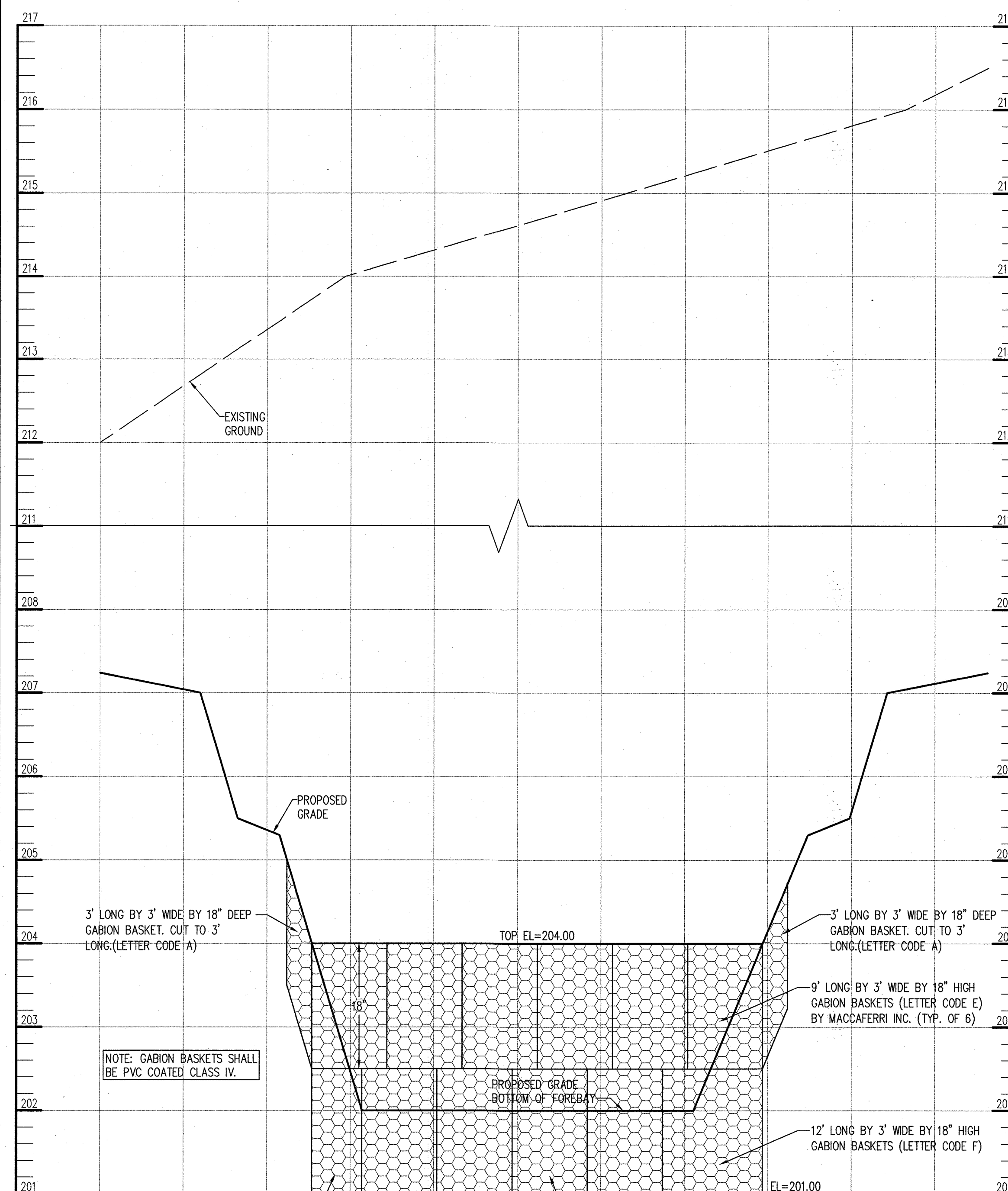
DATE: MARCH 4, 2009  
 SCALE: AS SHOWN

DRAWING NO. 15 OF 67

BY: *[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. 33854, EXPIRATION DATE: 01-24-11

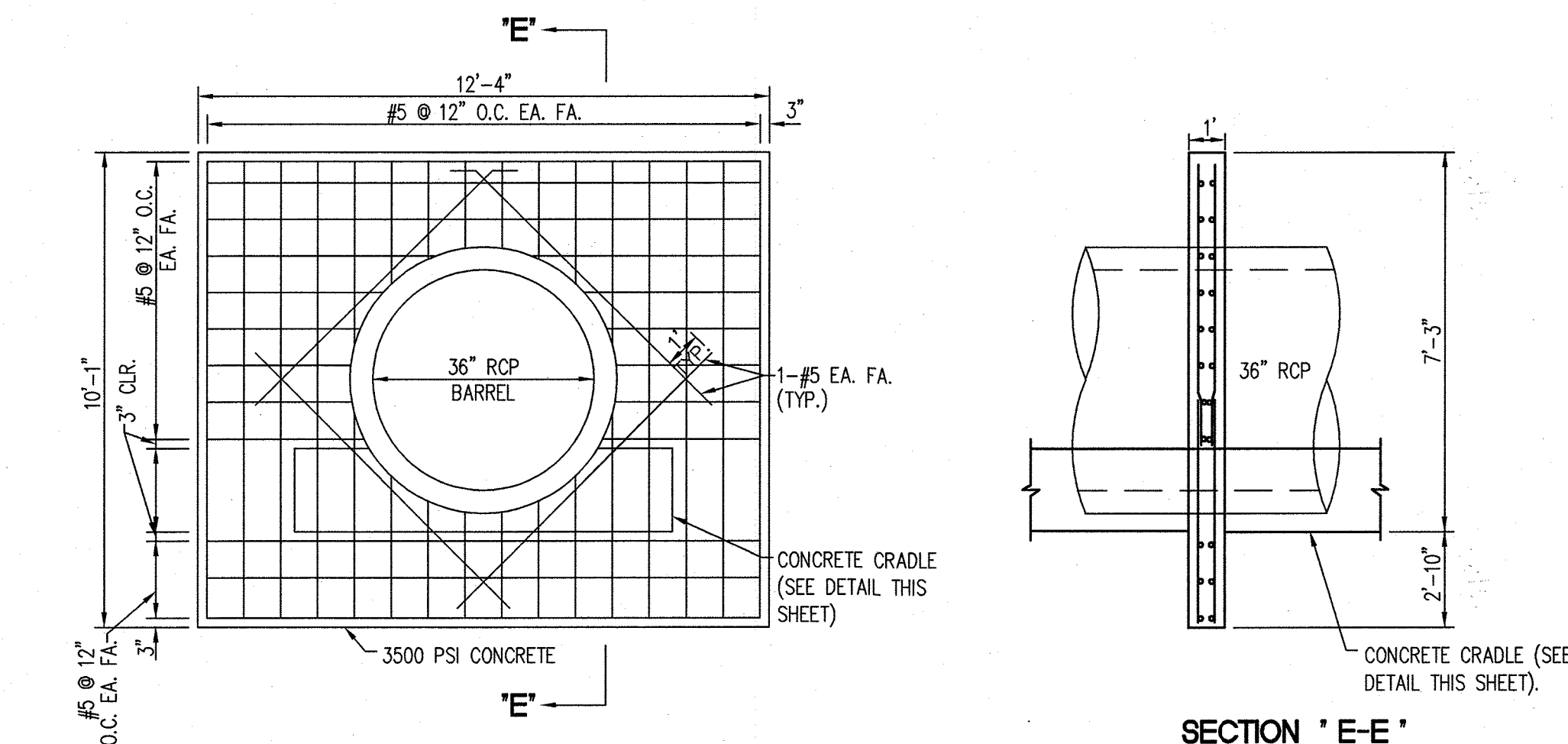
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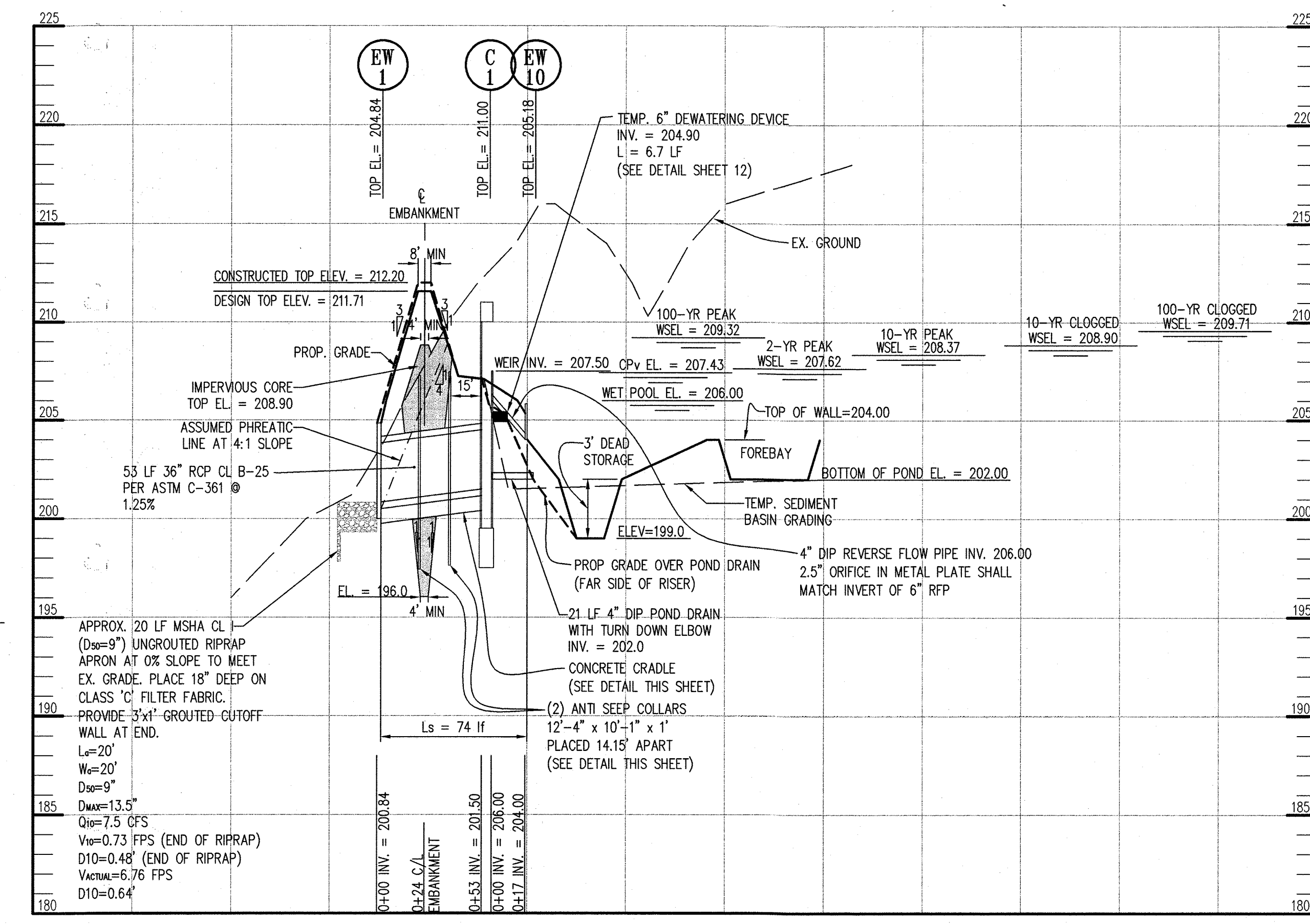


**POND NUMBER 1 GABION WALL DETAIL**

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

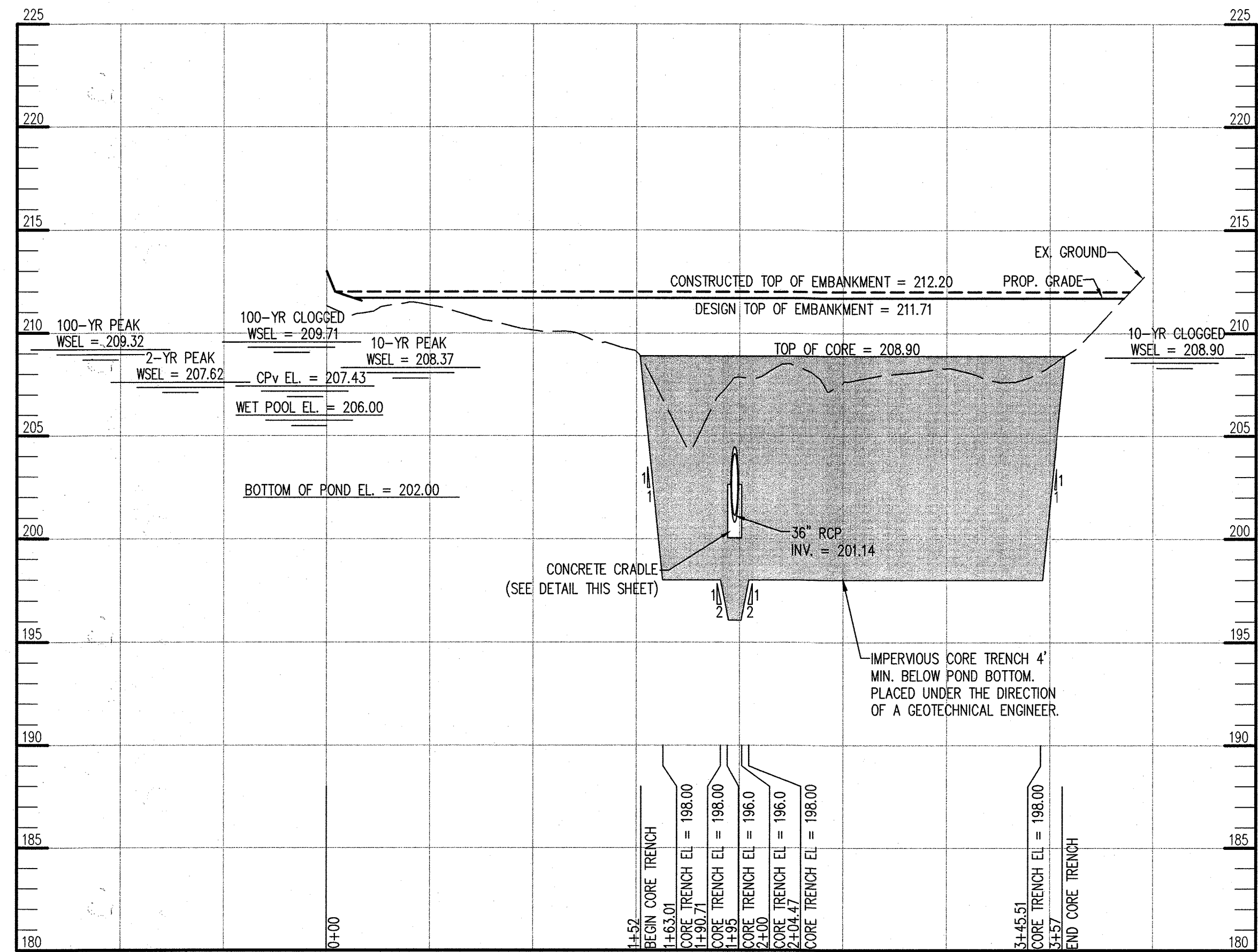


**CAST IN PLACE ANTI-SEEP COLLAR DETAIL**  
(2 REQUIRED)  
NOT TO SCALE



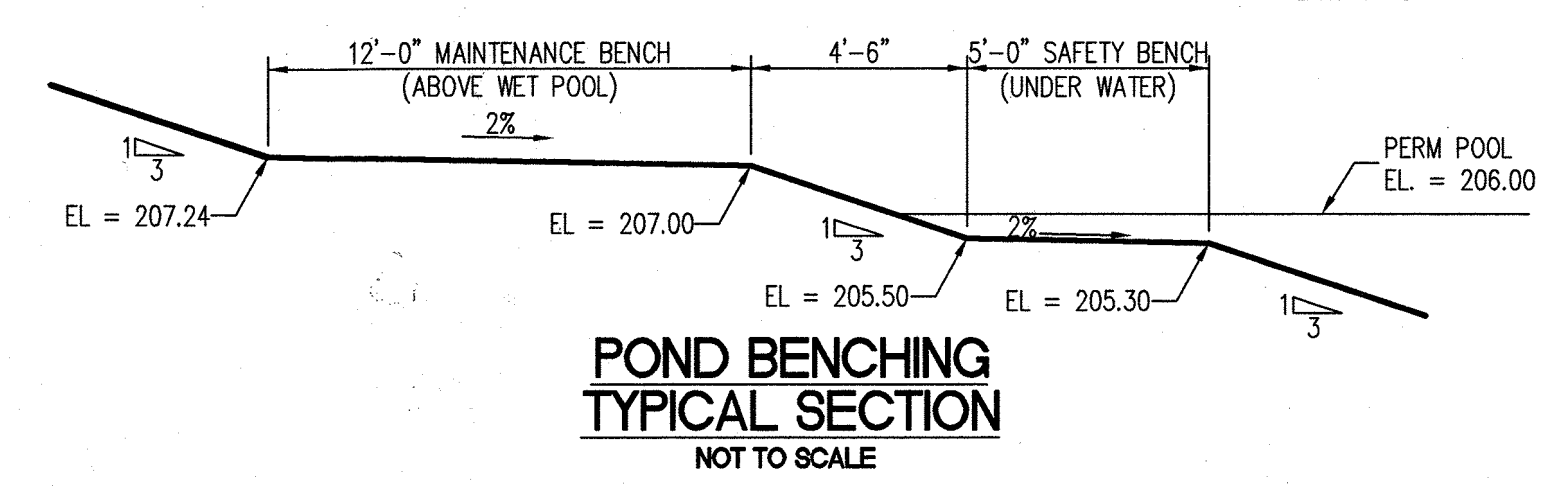
**POND 1 PRINCIPAL SPILLWAY PROFILE**

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

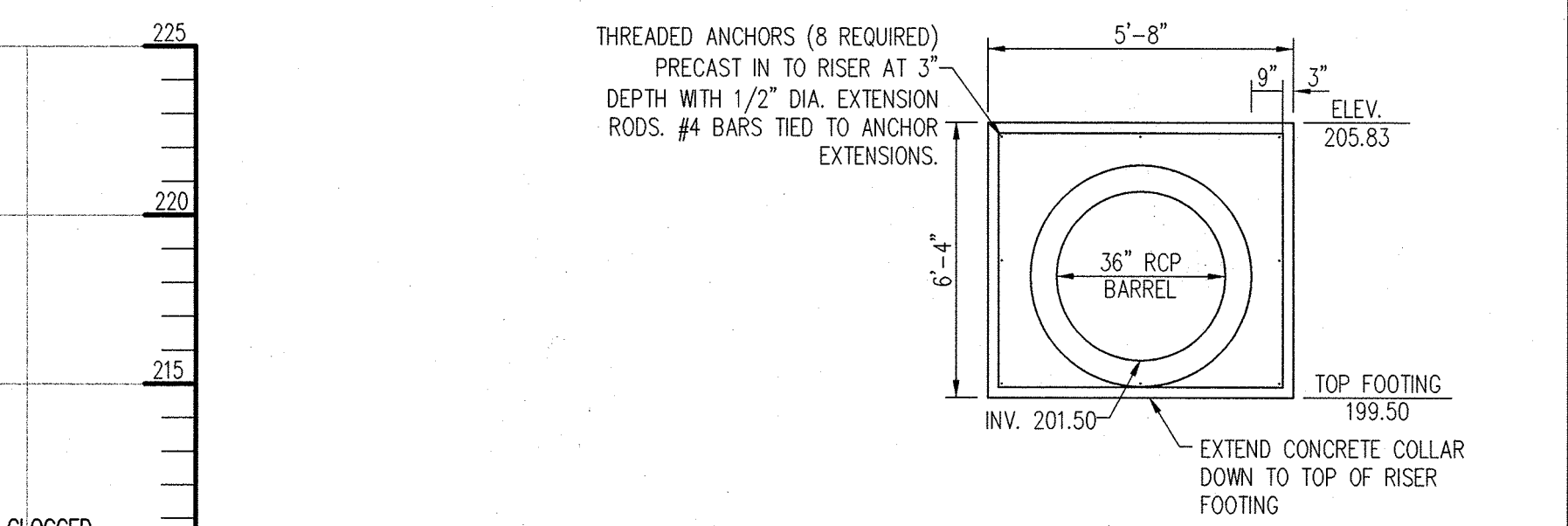


**POND 1 EMBANKMENT CENTERLINE PROFILE**

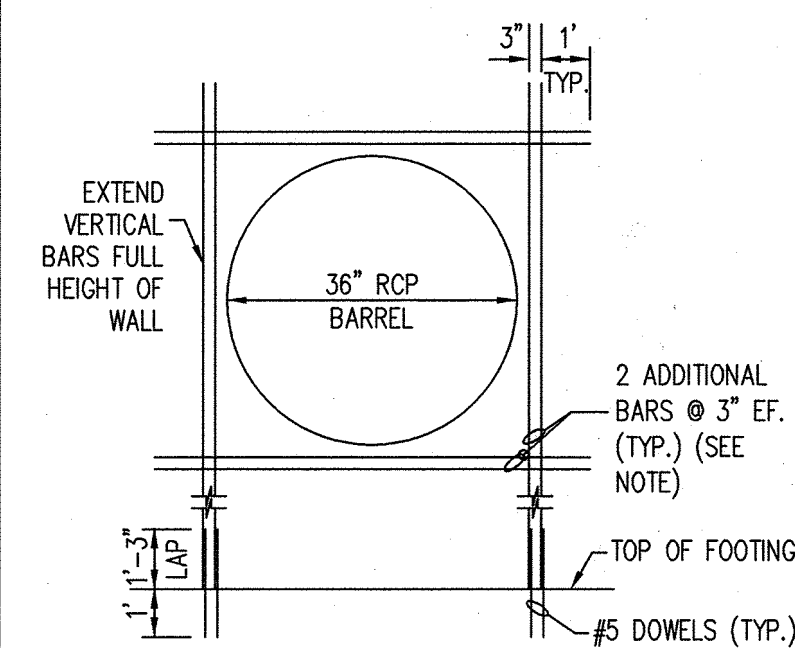
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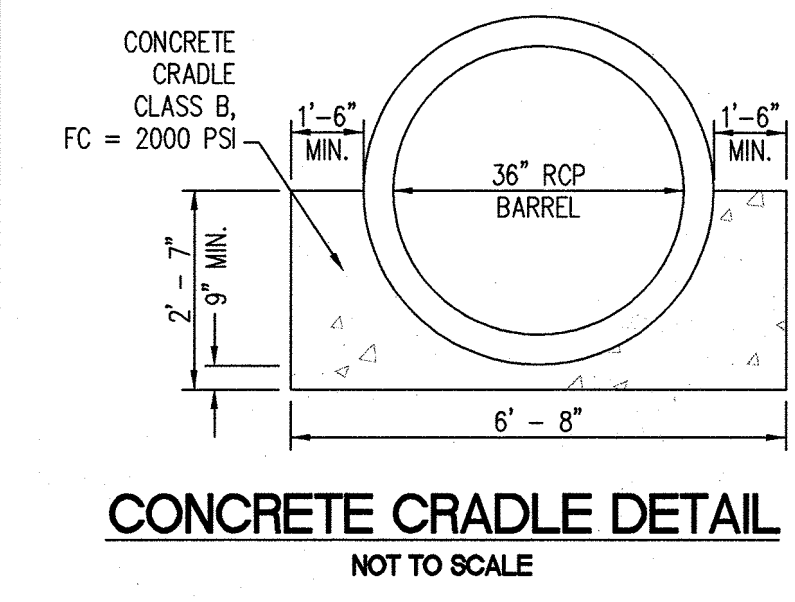
**POND BENCHING TYPICAL SECTION**  
NOT TO SCALE



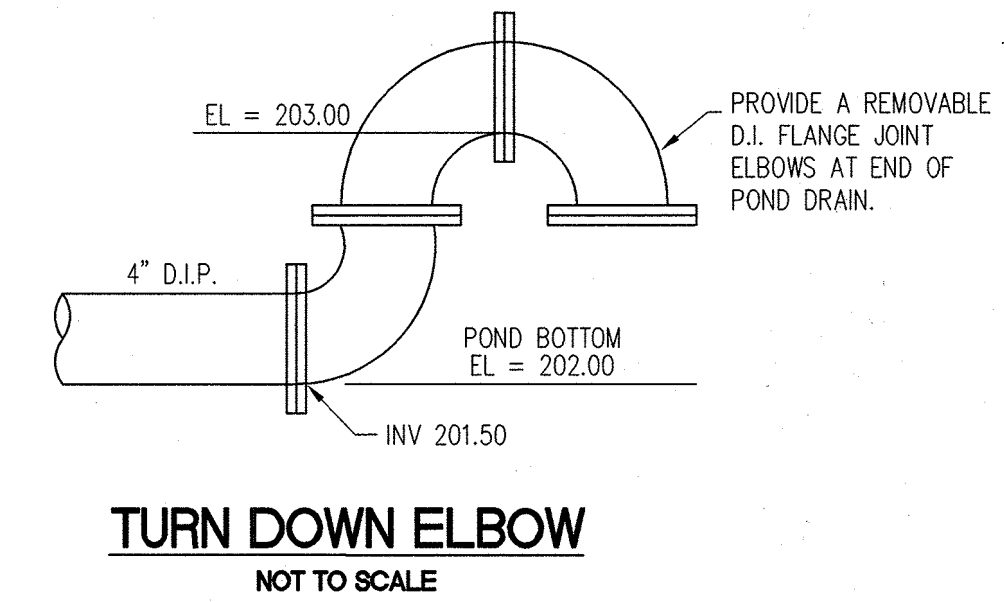
**CONCRETE COLLAR CONNECTION TO RISER**  
NOT TO SCALE



**OPENING REINFORCING DETAIL**  
NOT TO SCALE



**CONCRETE CRADLE DETAIL**  
NOT TO SCALE



**TURN DOWN ELBOW**  
NOT TO SCALE

**BY THE DEVELOPER :**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Sheryl C. Mitchell* 3/6/09  
DEVELOPER DATE

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

*Sheryl C. Mitchell* 3-4-09  
ENGINEER DATE

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

*Sheryl C. Mitchell* 3/9/09  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mona B. Butler* 3/23/09  
DIRECTOR, DEP. DATE

*John Deussen* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Homan* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**PROJECT**  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

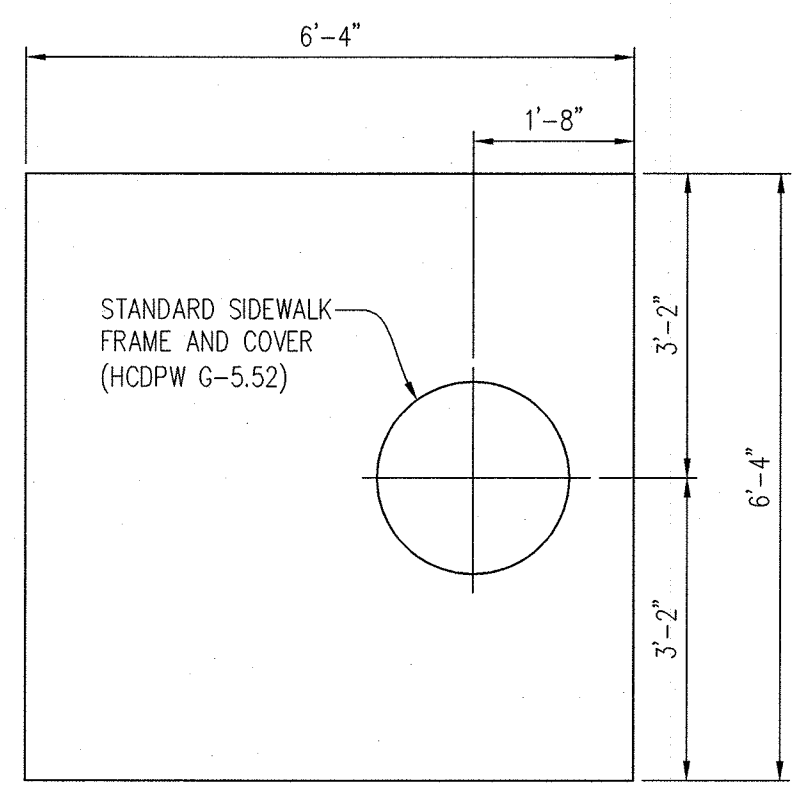
**AREA** TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 1B7 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**TITLE** STORMWATER MANAGEMENT POND 1  
PROFILES AND DETAILS

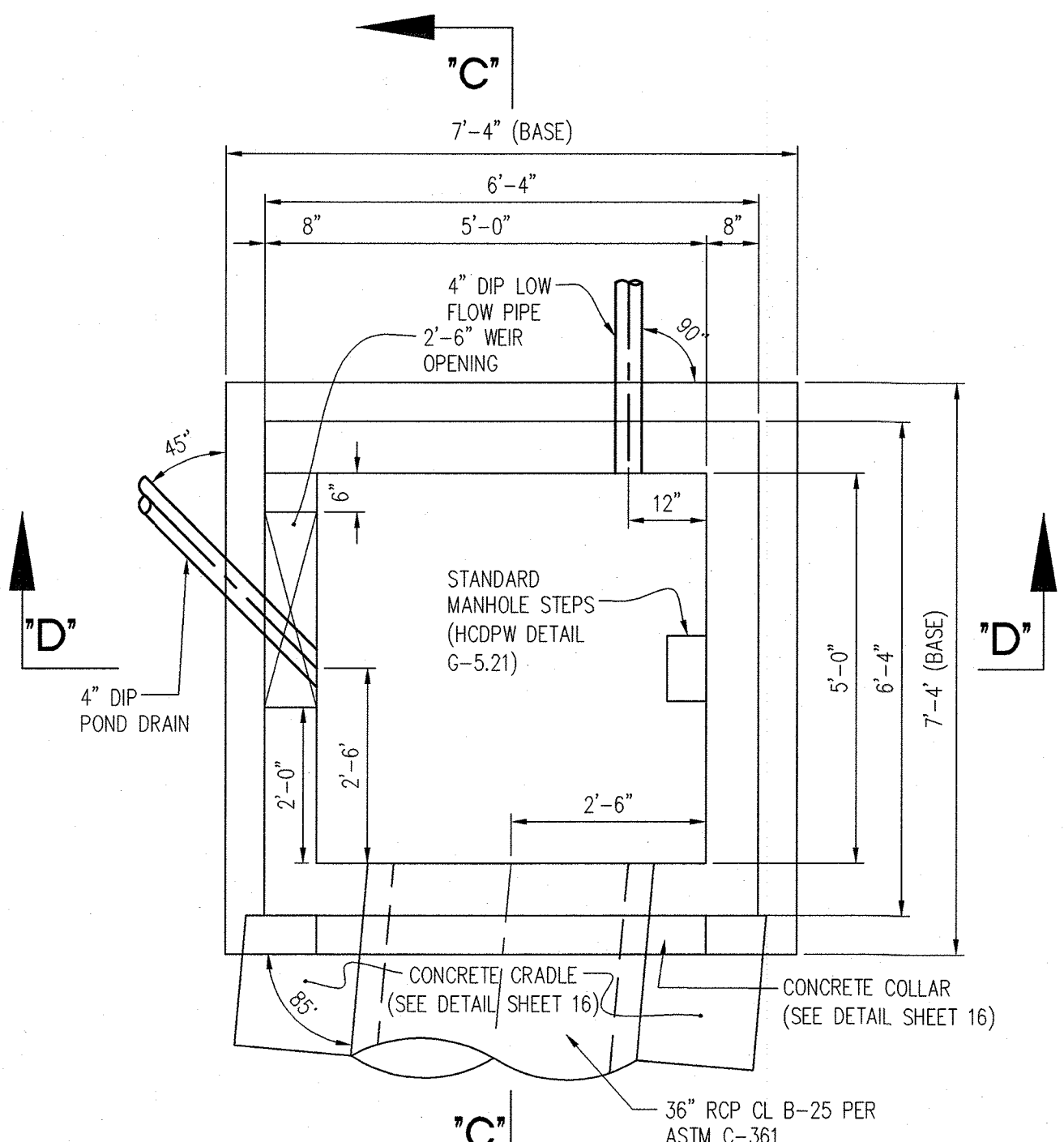
**Patton Harris Rust & Associates**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

**SEAL** *Sheryl C. Mitchell* 3-4-09  
DESIGNED BY : PDS  
DRAWN BY : PDS  
PROJECT NO : 14466-1-0  
C400SDP16.DWG  
DATE : MARCH 4, 2009  
SCALE : AS SHOWN  
DRAWING NO. 16 OF 69



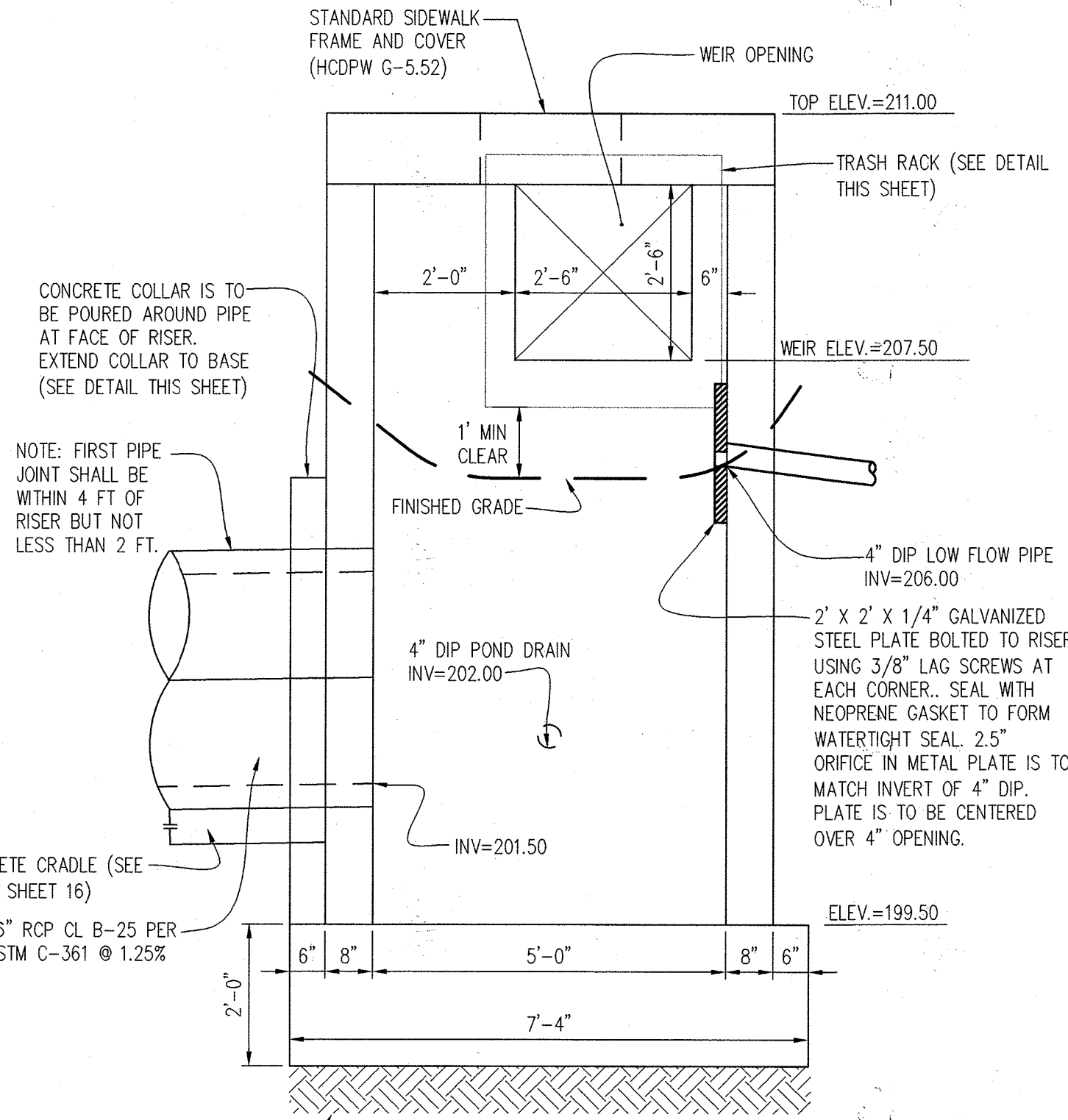


**TOP SLAB**  
SCALE 1'-2'

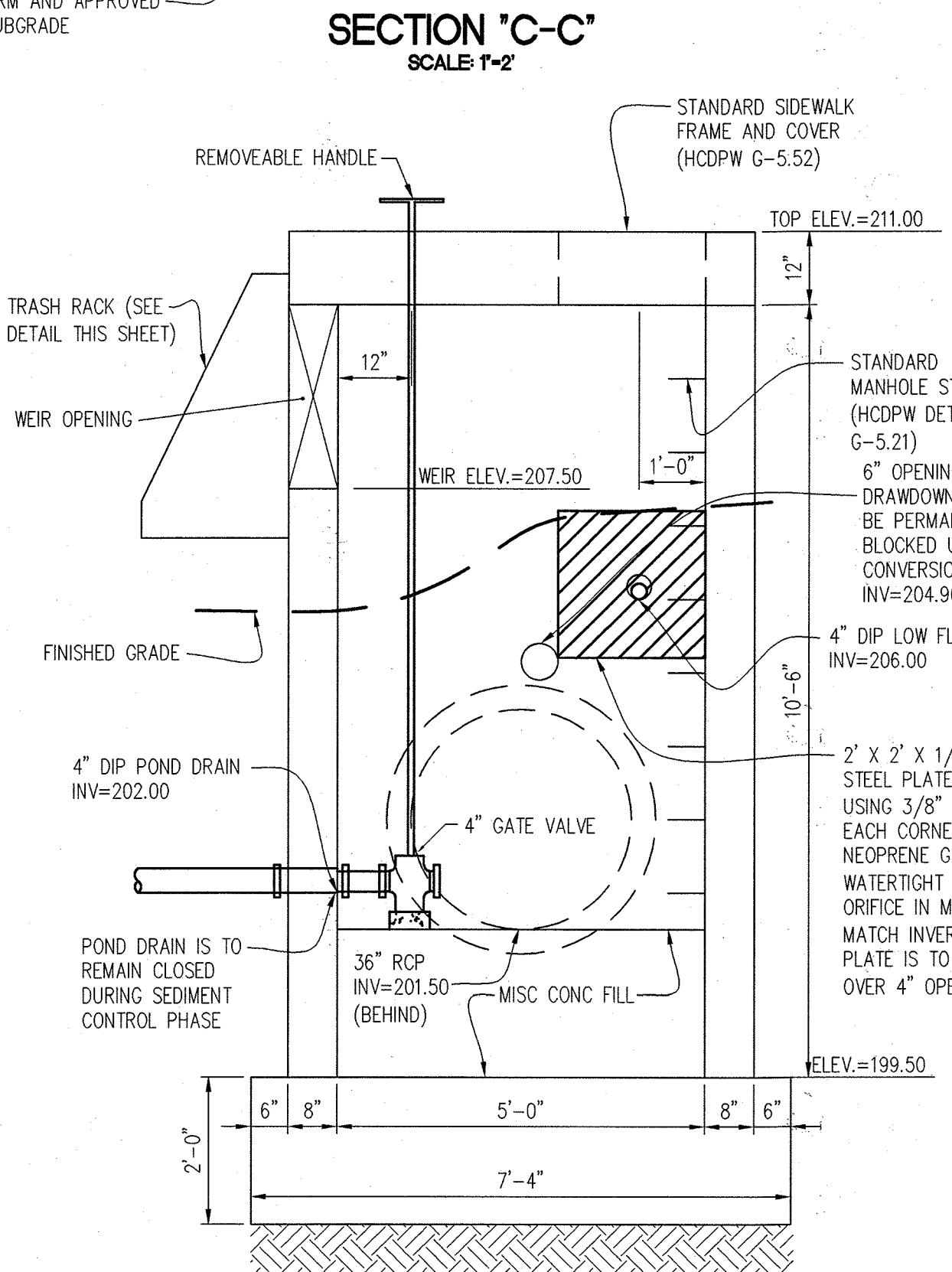


**PLAN SECTION TOP SLAB REMOVED**  
SCALE 1'-2'

**POND 1 CONCRETE RISER DETAIL STRUCTURE C1**  
SCALE 1'-2'

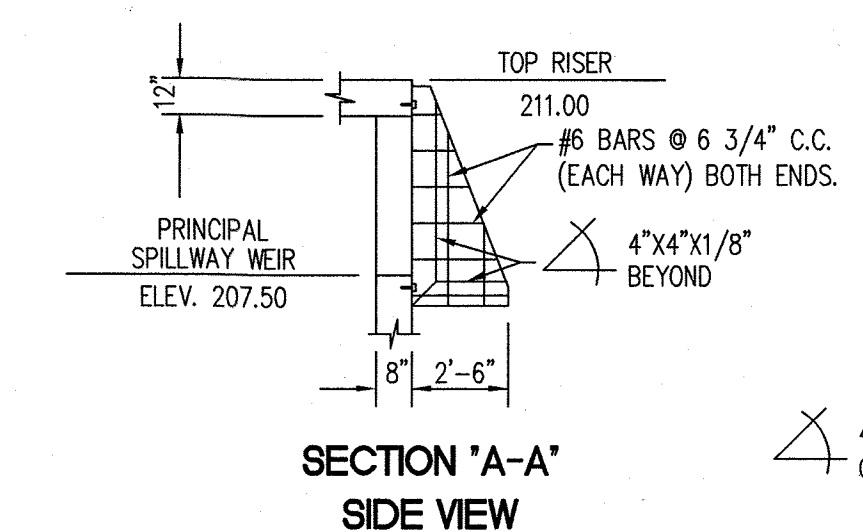


**SECTION 'C-C'**  
SCALE 1'-2'

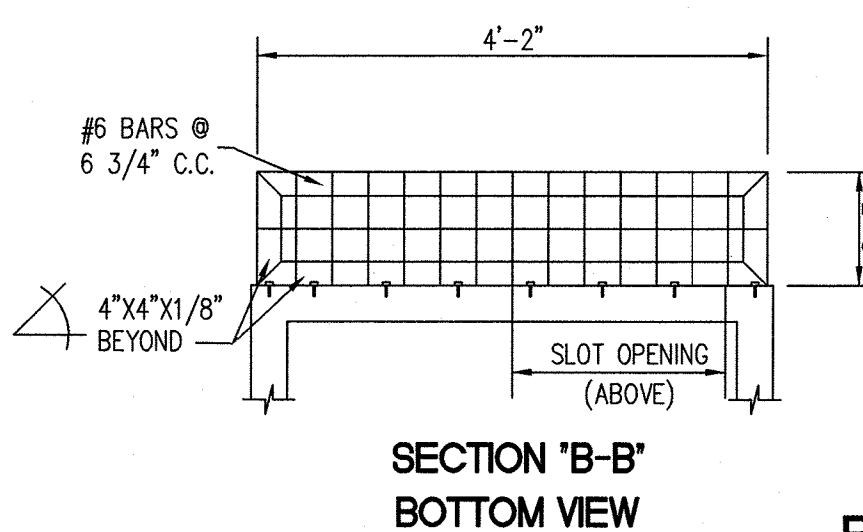


**SECTION 'D-D'**  
SCALE 1'-2'

- RISER GENERAL NOTES:**
1. THIS DETAIL IS FOR A PRECAST RISER ONLY.
  2. SHOP DRAWINGS MUST BE APPROVED BY THE DESIGN ENGINEER PRIOR TO FABRICATION.
  3. RISER STRUCTURES MUST BE REINFORCED CONCRETE.
  4. ALL CONNECTIONS SHALL BE WATER TIGHT.

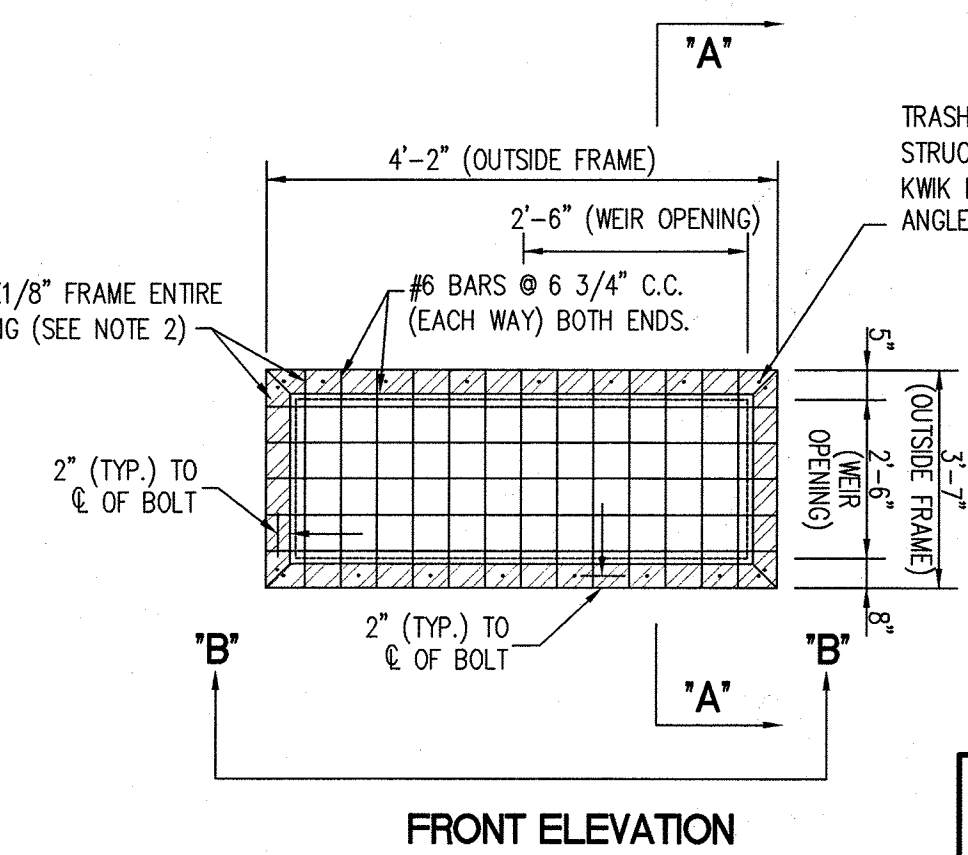


**SECTION 'A-A'**  
SIDE VIEW



**SECTION 'B-B'**  
BOTTOM VIEW

**RISER TRASH RACK DETAILS - FRONT WALL**  
NOT TO SCALE



TRASH RACK BOLTED TO OUTSIDE FACE OF STRUCTURE WITH 1/2" DIA. EXPANSION BOLTS (HILT KWIK BOLT OR EQUAL) @ 12" C.C. (TYP.) DRILL ANGLE FRAME TO ALLOW PASSAGE OF BOLTS.

- REMOVABLE TRASH RACK NOTES:**
1. ENTIRE TRASH RACK MUST BE HOT DIPPED GALVANIZED AFTER CONSTRUCTION.
  2. BUTT WELD FRAME ANGLE, FILLET WELD BARS TO ANGLE FRAME.
  3. PROVIDE 1/4" FILLET WELD AT BAR CROSSINGS.
  4. ANGLE FRAMES AND BARS SHALL BE FABRICATED USING ASTM A-36 STEEL.
  5. TRASH RACK SHALL BE MOUNTED TO RISER WITH 1/2" DIA. STAINLESS STEEL HEX HEAD BOLTS.
  6. HORIZONTAL BARS TO BE BEHIND VERTICAL BARS.
  7. TRASH RACK SHALL BE PAINTED BATTLESHIP GREY.

**BIORETENTION SPECIFICATIONS**

1. THE UNDERDRAIN PIPE MUST BE 6-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00% SLOPE. A MINIMUM OF THREE INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6 INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 5 FT. INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE.
2. 4" INCH CLEAN-OUTS SHOULD BE USED. CLEANOUTS FOR EACH PIPE SHOULD EXTEND 6 INCHES ABOVE THE TOP OF THE PLANTING MEDIA AND HAVE A REMOVABLE CAP.
3. THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPES MUST MEET MSHA SIZE #7 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE, AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED ANYWHERE WITHIN THE FILTER MEDIA (STONE OR SAND).
4. A MINIMUM 6-INCH FINE AGGREGATE SAND WINDOW SHALL BE PROVIDED BELOW THE SOIL FILTER/PLANTING MEDIA. A SAND WINDOW SHALL EXTEND FROM THE SAND FILTER TO THE SURFACE OF THE PLANTING MEDIA. THE SAND WINDOW MUST BE ASTM C33 FINE AGGREGATE CONCRETE SAND. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.
5. THE PLANTING MEDIA SHALL CONSIST OF 1/3 PERLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: CONTAIN NO MORE THAN 10% CLAY, 30-55% SILT AND 35-60% SAND. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. THE FIRST LAYER OF THE PLANTING MEDIA SHALL BE LIGHTLY TILLED TO MIX IT INTO THE SAND LAYER, SO NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
6. THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE UNIFORMLY TO A DEPTH OF 2 TO 3 INCHES. YEARLY REPLISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

**BIORETENTION AREA OPERATION AND MAINTENANCE SCHEDULE**

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

**BY THE DEVELOPER:**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Shawn C. Pinter* 3/6/09  
DEVELOPER DATE

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

*Shawn C. Pinter* 3-4-09  
ENGINEER DATE

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

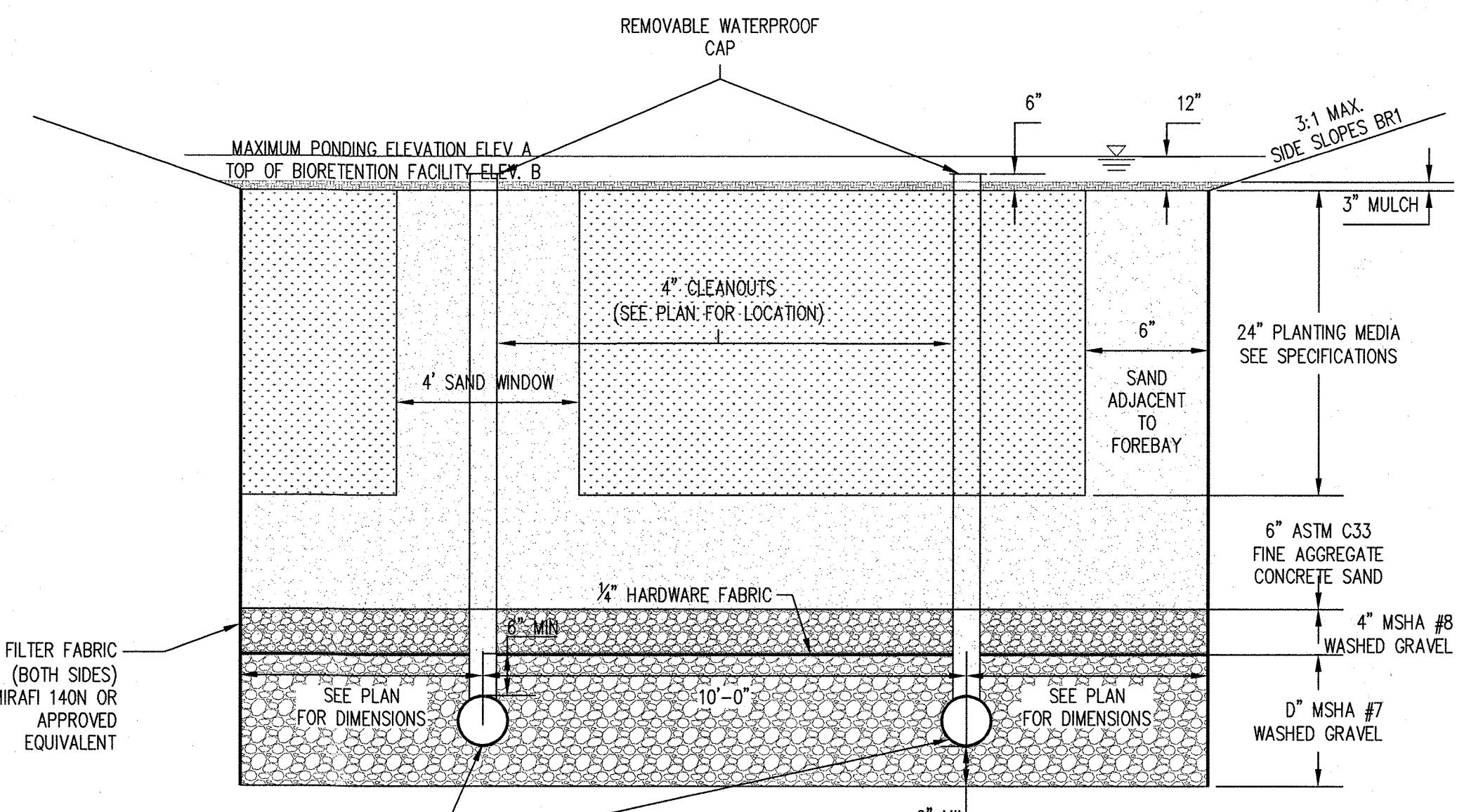
*Shawn C. Pinter* 3/9/09  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas J. Sutter* 3/23/09  
DIRECTOR, DEP. DATE

*John DeMunn* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

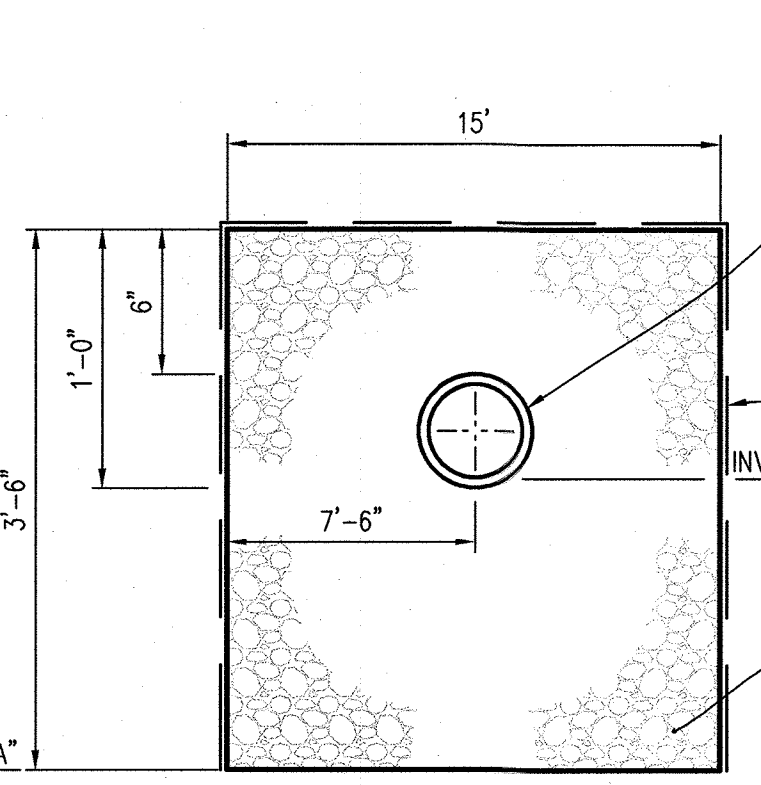
*Cindy Haver* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



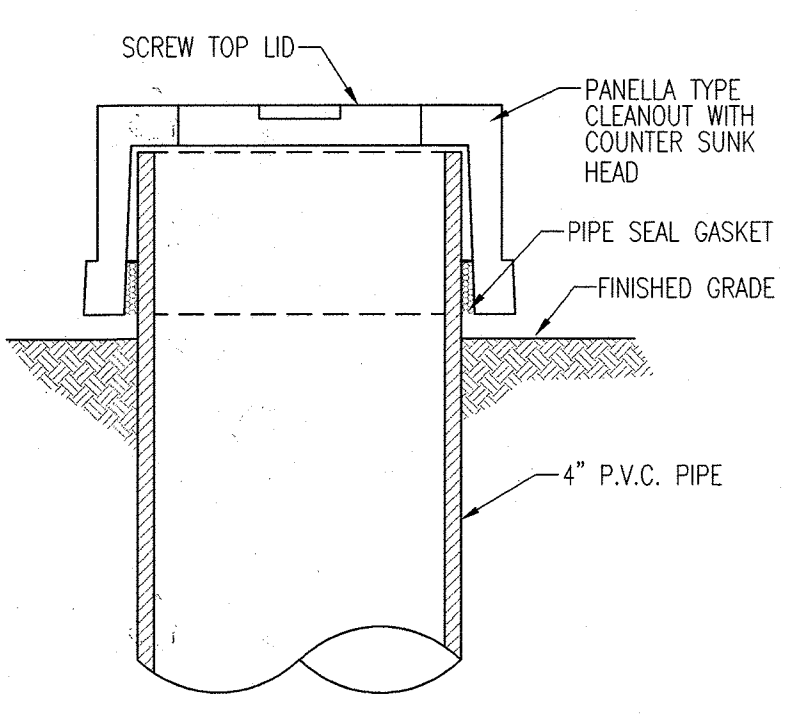
**BIORETENTION TYPICAL SECTION**  
NOT TO SCALE

BIORETENTION DATA TABLE				
	A	B	C	D
BR1	227.00	226.00	9"	21"

LOCATION	"A"	"B"
ReV1	233.50	236.00
ReV2	232.00	234.50
ReV3	233.50	236.00
ReV4	233.50	236.00



**TYPICAL SECTION RECHARGE TRENCH**  
(NOT TO SCALE)

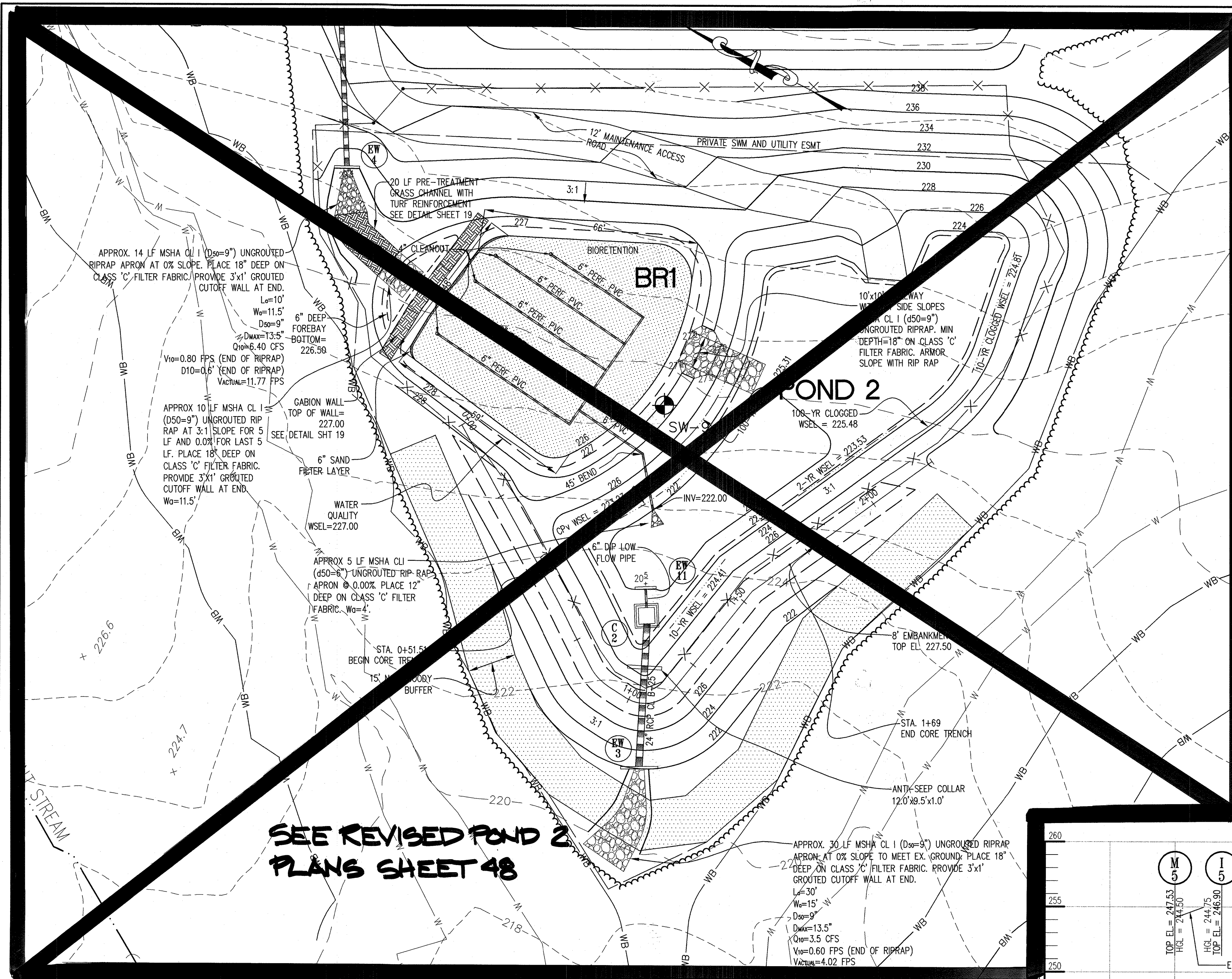


**CLEANOUT / OBSERVATION WELL CAP**  
(NOT TO SCALE)

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

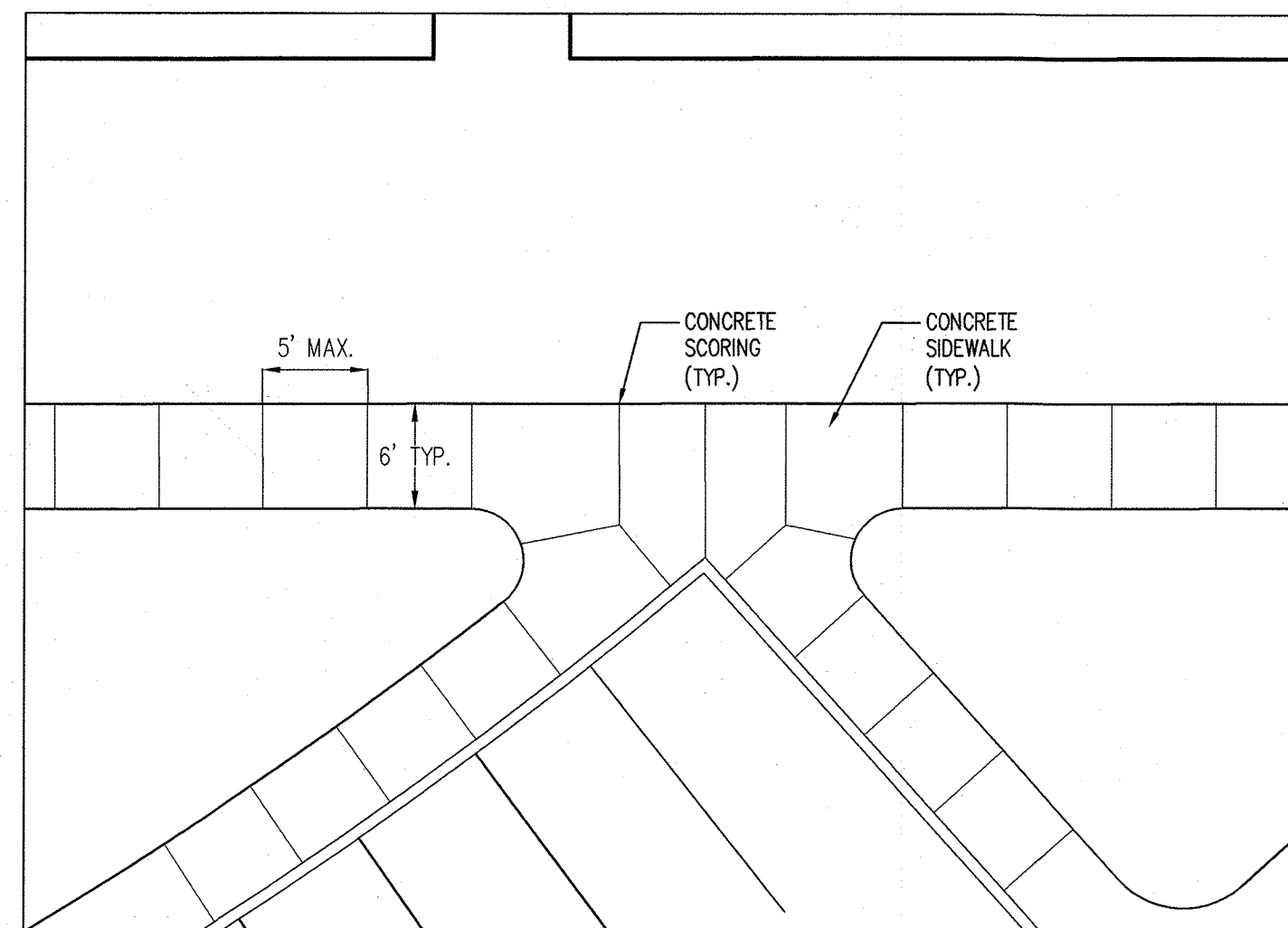
DESIGNED BY: PDS  
DRAWN BY: PDS  
PROJECT NO: 14466-1-0  
C400SDP17.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 17 OF 69



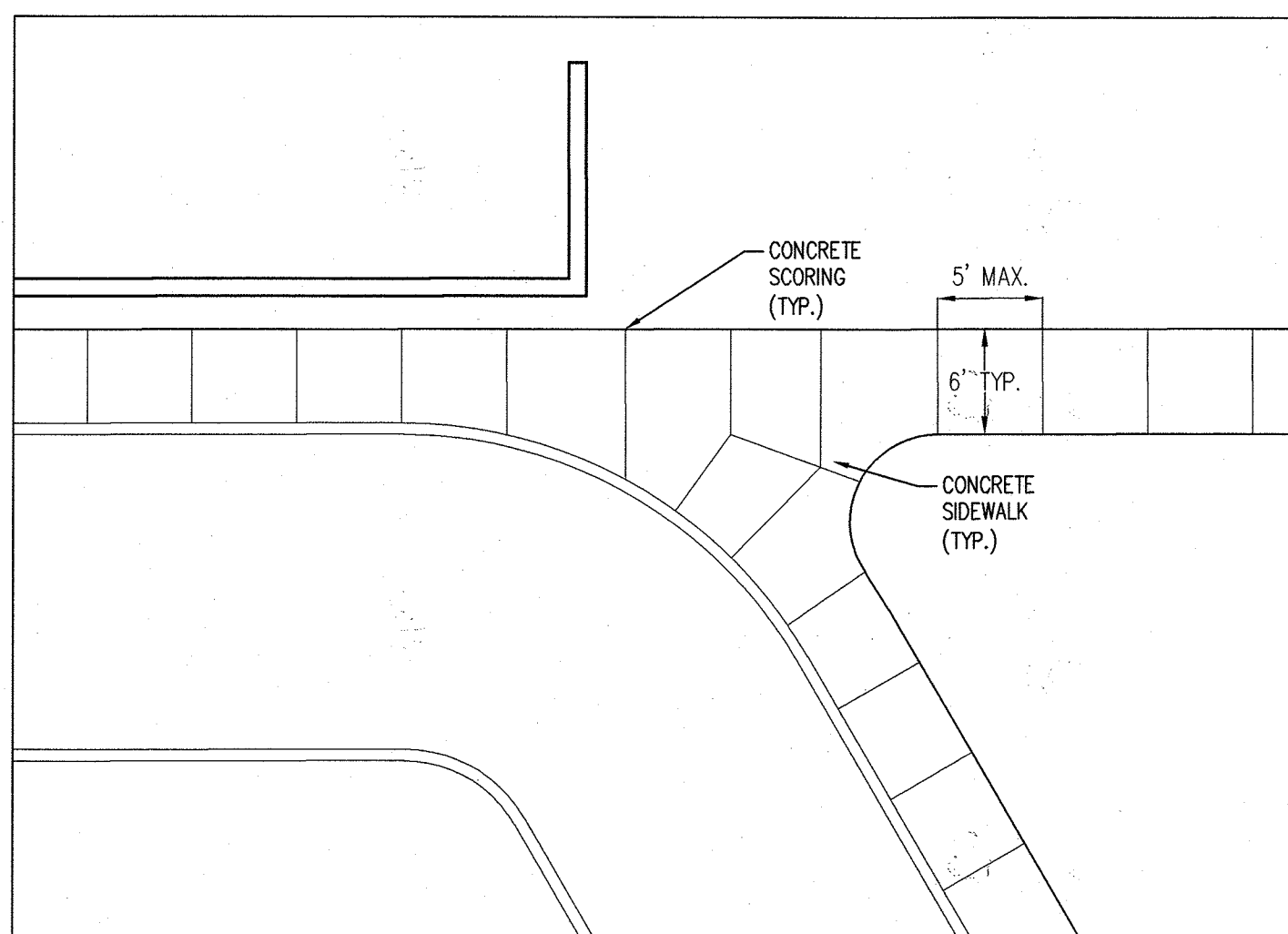


**SEE REVISED POND 2 PLANS SHEET 48**

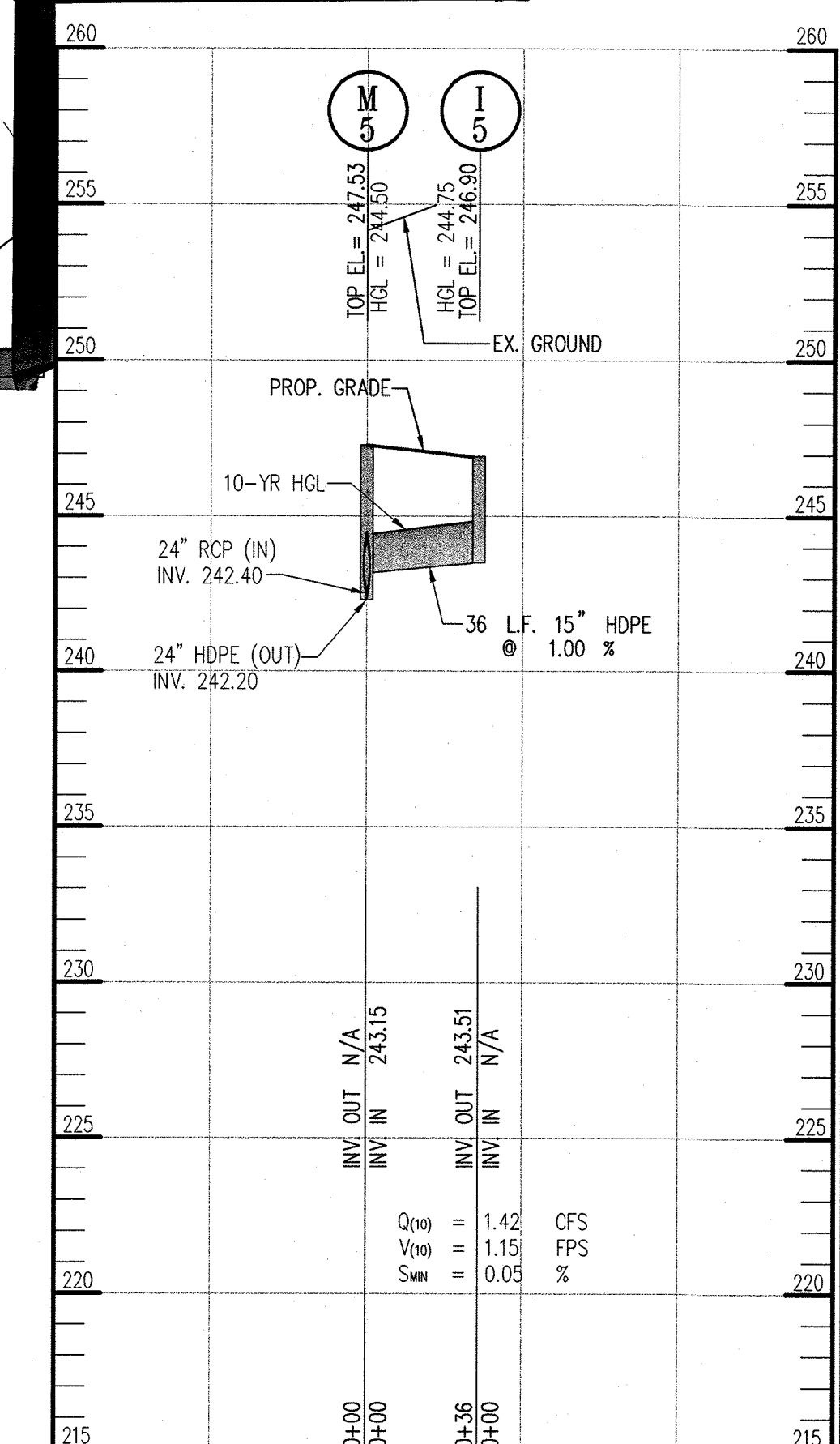
**STORMWATER MANAGEMENT POND No. 2 PLAN**  
SCALE: 1" = 20'



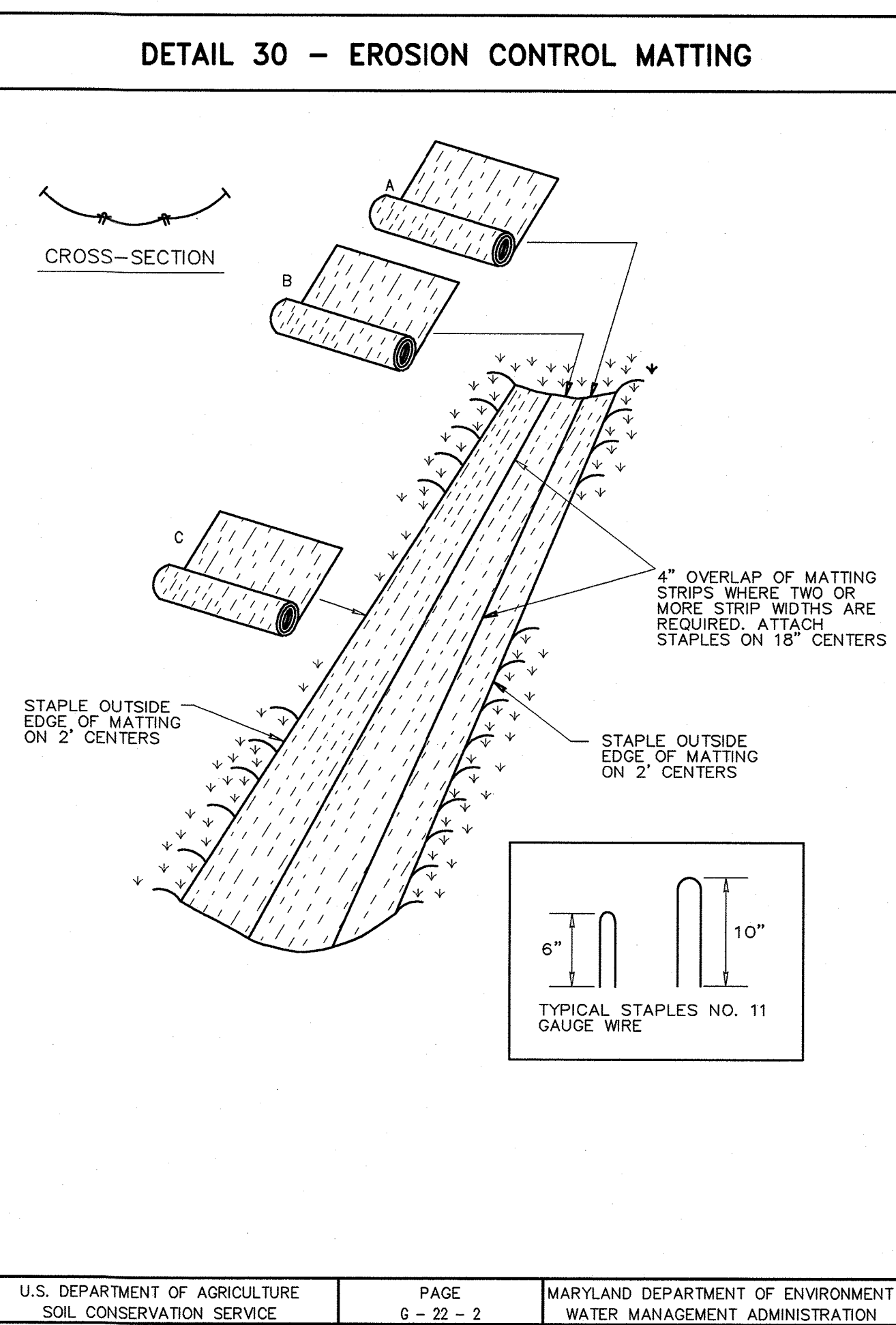
**CONCRETE SIDEWALK SCORING LAYOUT**  
SCALE: 1" = 10'



**CONCRETE SIDEWALK SCORING LAYOUT**  
SCALE: 1" = 10'



**STORM DRAIN PROFILE**  
SCALE: HOR: 1" = 50'  
VERT: 1" = 5'



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 6-22-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**EROSION CONTROL MATTING**

Construction Specifications

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

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 6-22-2A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NOTE: REFER TO GEOTECHNICAL REPORT FOR COMPLETE SET OF SITE AND BUILDING SOIL BORINGS.

**BY THE DEVELOPER:**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/6/09  
DEVELOPER DATE

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

*[Signature]* 3-4-09  
ENGINEER DATE

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

*[Signature]* 3/9/09  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 3/23/09  
DIRECTOR, DEP. DATE

*[Signature]* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/9/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/12/09 1 REVISED POND 2  
DATE NO. REVISION

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**PROJECT**  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

**AREA** TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

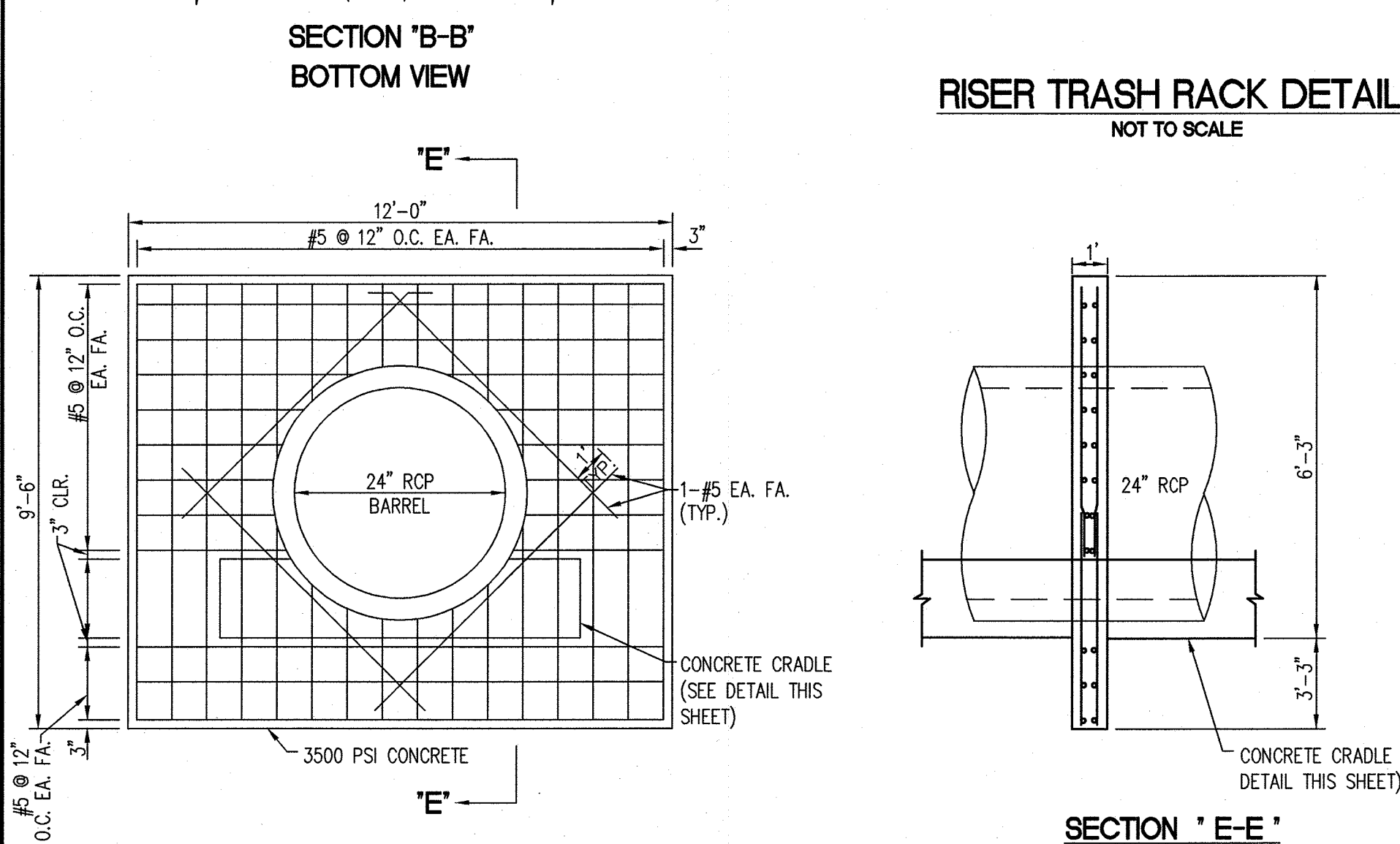
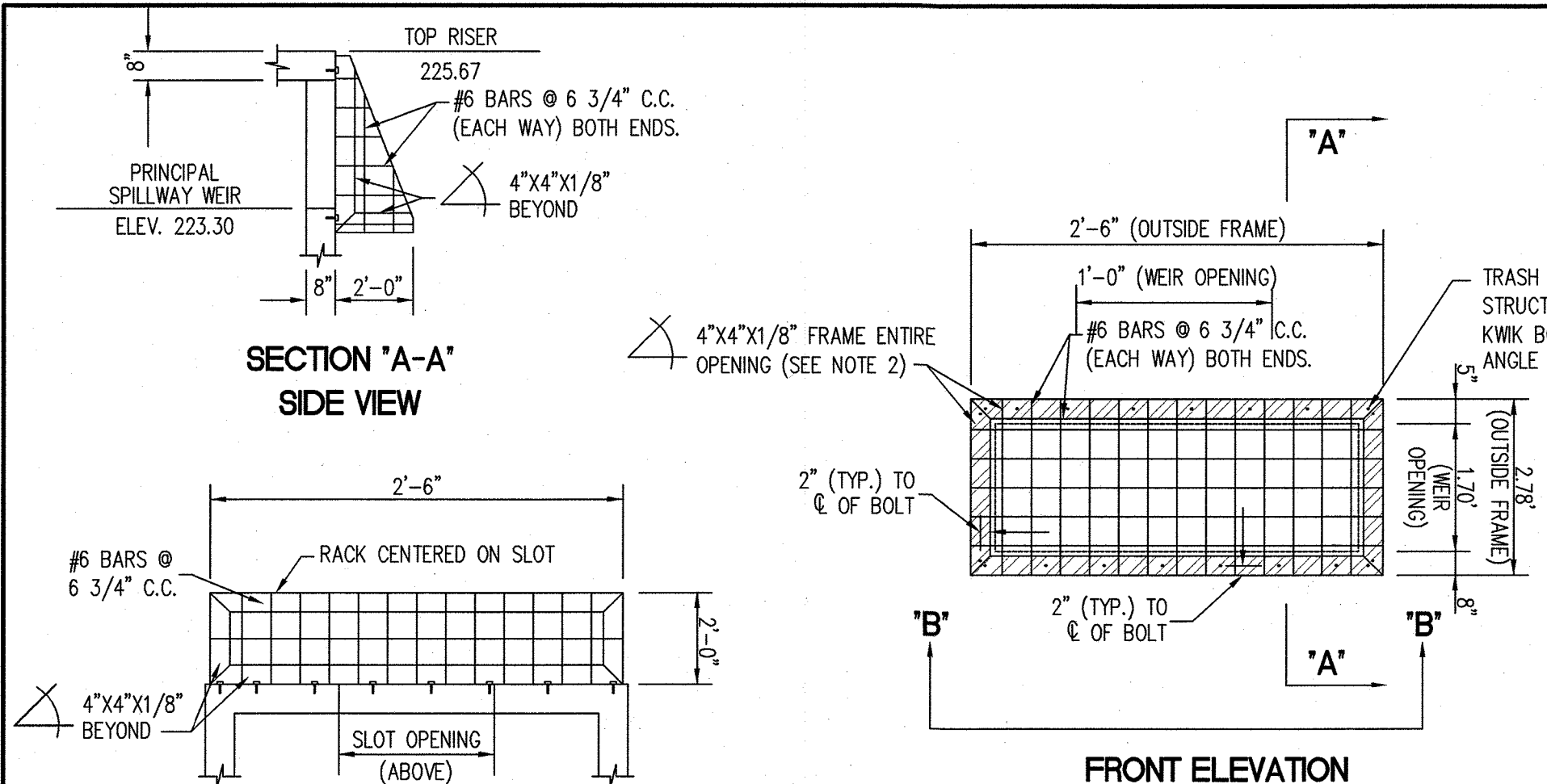
**TITLE** SWM POND 2 PLAN, STORM PROFILES,  
SEDIMENT CONTROL DETAILS & SITE DETAILS

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

SEAL  
STATE OF MARYLAND  
REGISTERED PROFESSIONAL ENGINEER  
3-4-09

DESIGNED BY: PDS  
DRAWN BY: PDS  
PROJECT NO: 14466-1-0  
C:400SDP18.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 18 OF 69

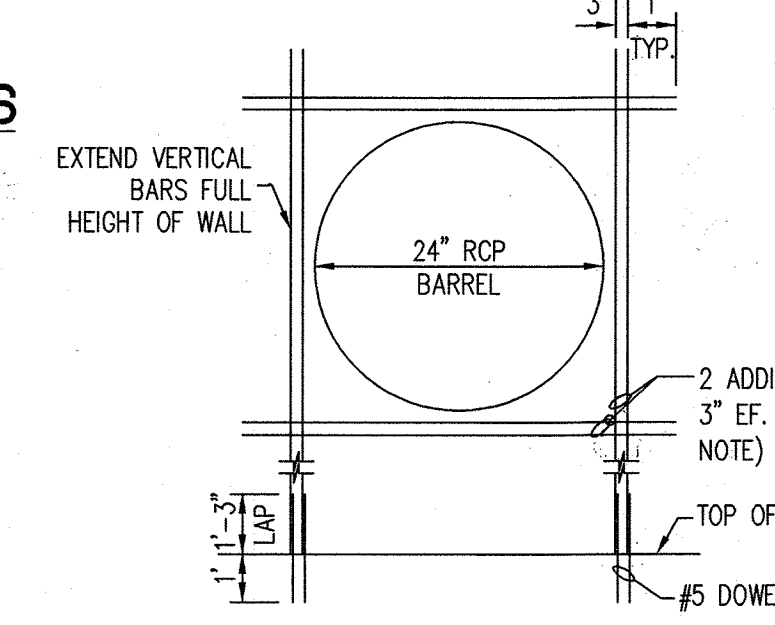




**TRASH RACK BOLTED TO OUTSIDE FACE OF STRUCTURE WITH 1/2" DIA. EXPANSION BOLTS (HILTI KWIK BOLT OR EQUAL) @ 12" C.C. (TYP.) DRILL ANGLE FRAME TO ALLOW PASSAGE OF BOLTS.**

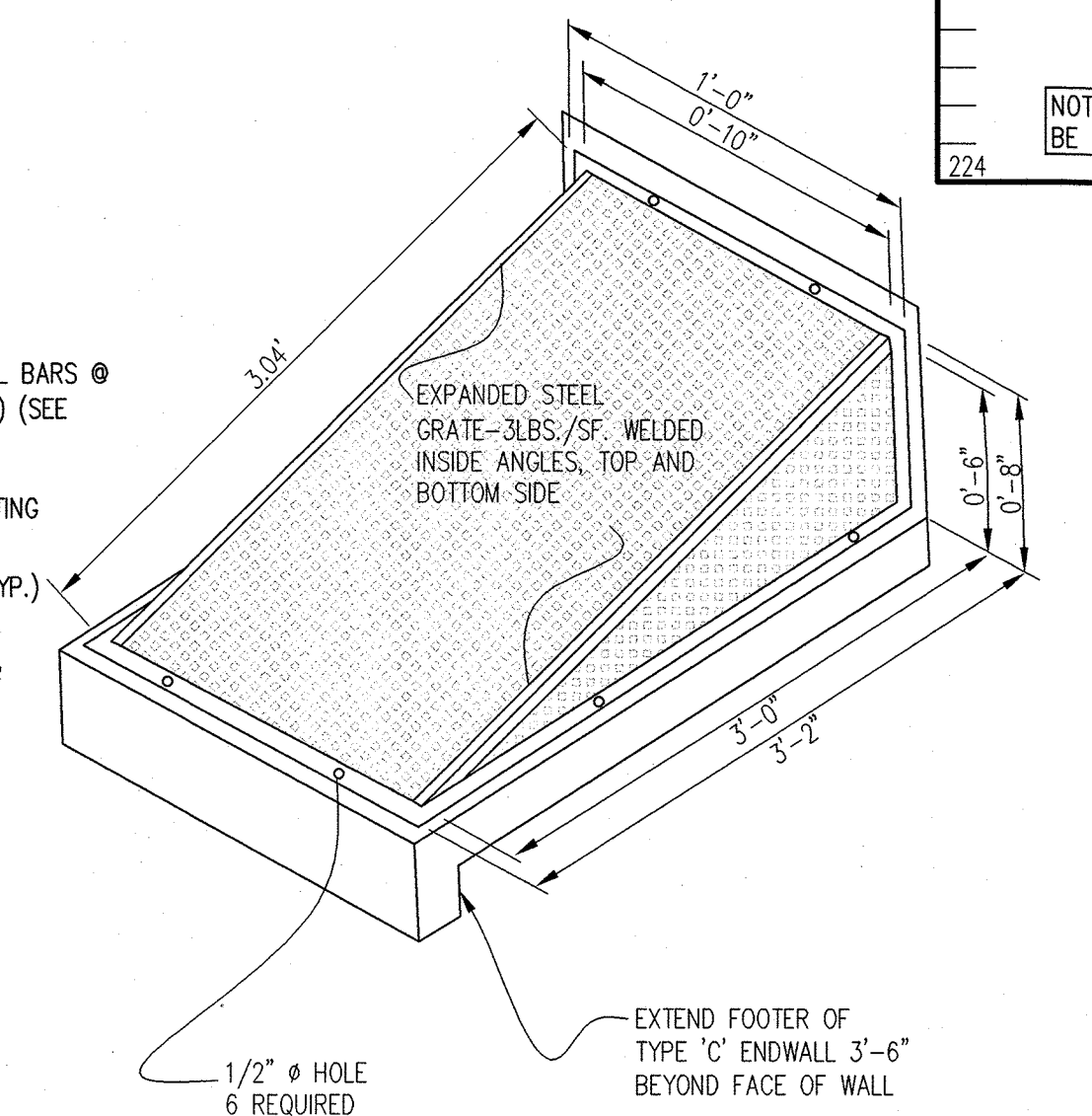
**REMOVABLE TRASH RACK NOTES:**

- ENTIRE TRASH RACK MUST BE HOT DIPPED GALVANIZED AFTER CONSTRUCTION.
- BUTT WELD FRAME ANGLE, FILLET WELD BARS TO ANGLE FRAME.
- PROVIDE 1/4" FILLET WELD AT BAR CROSSINGS.
- ANGLE FRAMES AND BARS SHALL BE FABRICATED USING ASTM A-36 STEEL.
- TRASH RACK SHALL BE MOUNTED TO RISER WITH 1/2" DIA. STAINLESS STEEL HEX HEAD BOLTS.
- HORIZONTAL BARS TO BE BEHIND VERTICAL BARS.
- TRASH RACK SHALL BE PAINTED BATTLESHIP GREY.

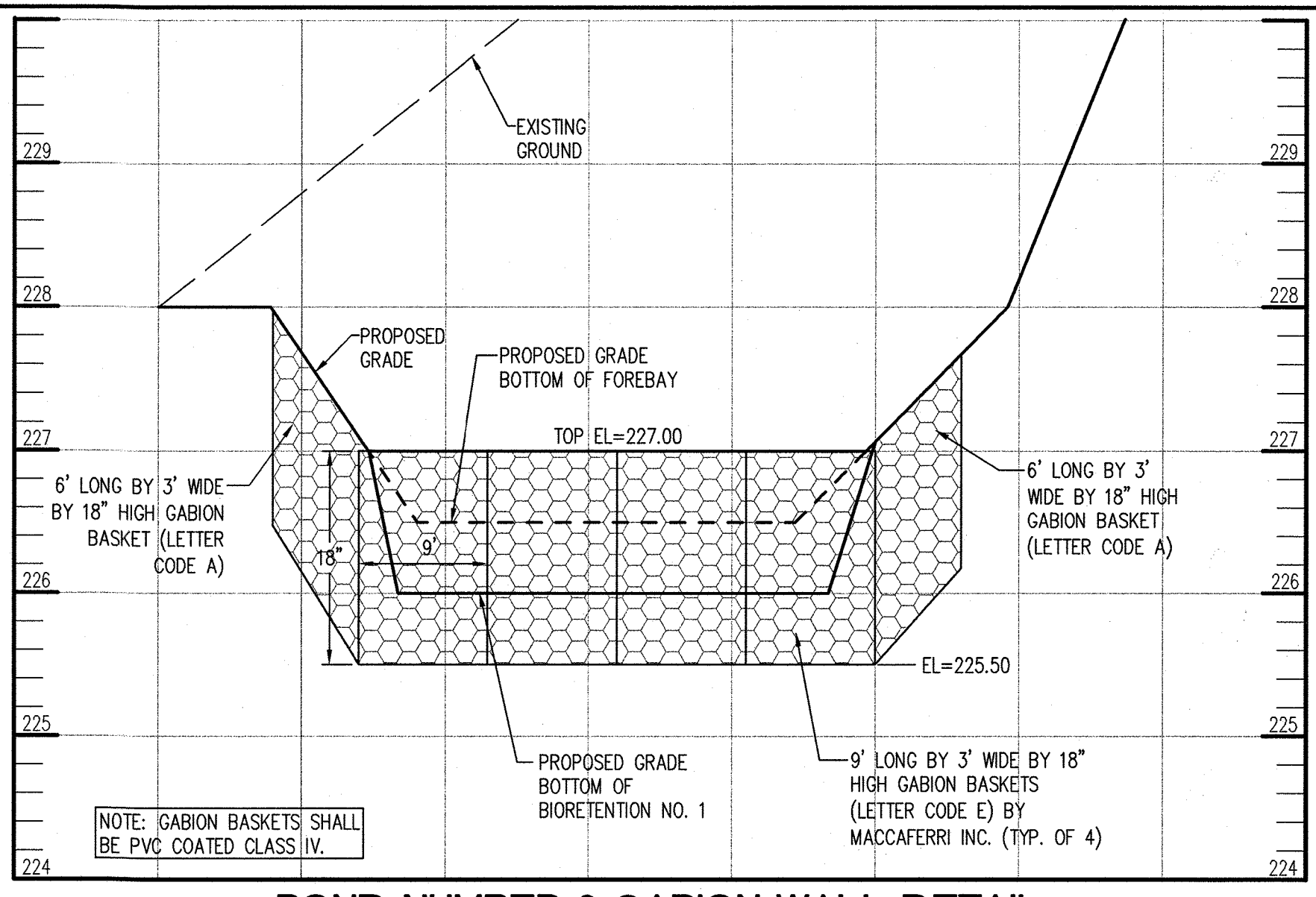


**GENERAL NOTES FOR TRASH RACK**

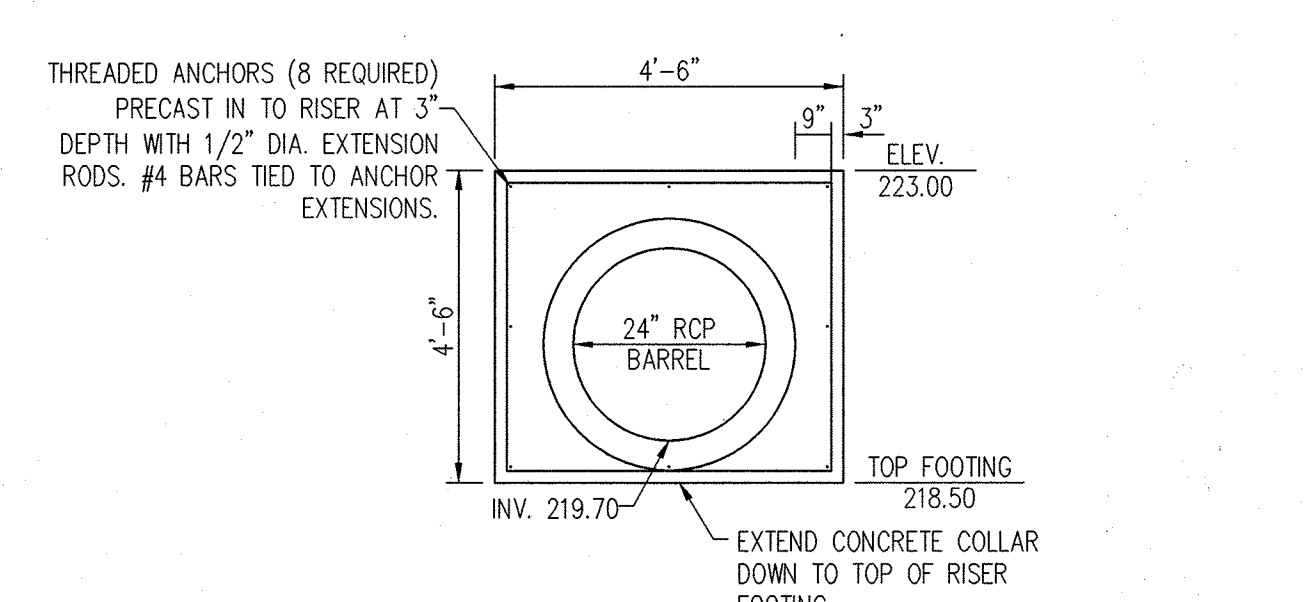
- STEEL TO CONFORM TO ASTM A-36.
- ALL SURFACES OF TRASH RACK MUST BE HOT DIPPED GALVANIZED AFTER FABRICATION.
- TRASH RACK TO BE FASTENED TO WALL WITH 3/8" MASONRY ANCHORS TRASH RACK TO BE REMOVABLE.
- TRASH RACK TO BE CENTERED OVER OPENING.
- TRASH RACK SHALL BE PAINTED BATTLESHIP GREY.



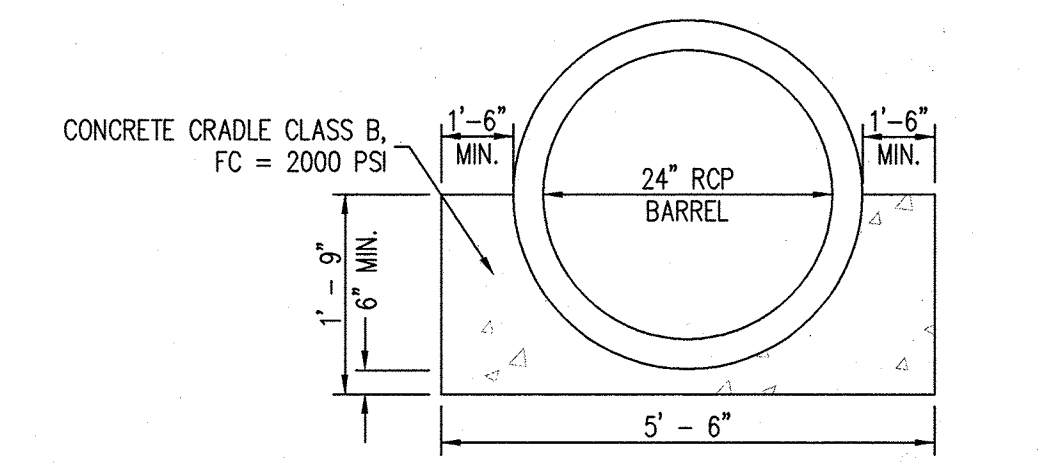
**LOW FLOW TRASH RACK DETAIL**  
NOT TO SCALE



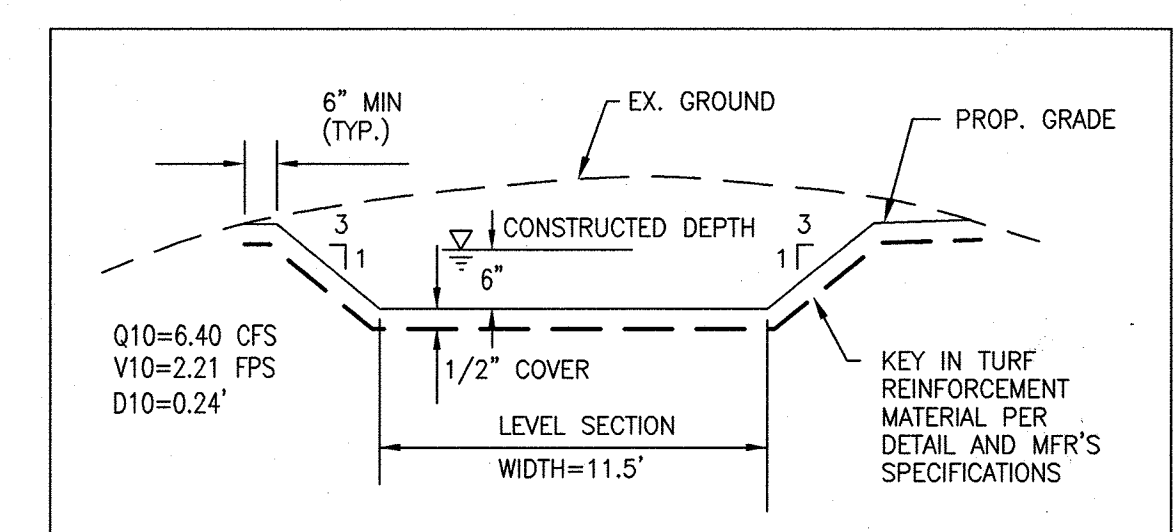
**POND NUMBER 2 GABION WALL DETAIL**  
SCALE: HOR: 1"=10'  
VERT: 1"=1'



**CONCRETE COLLAR DETAIL AT 24" RCP BARREL CONNECTION TO RISER**  
NOT TO SCALE



**CONCRETE CRADLE DETAIL**  
NOT TO SCALE

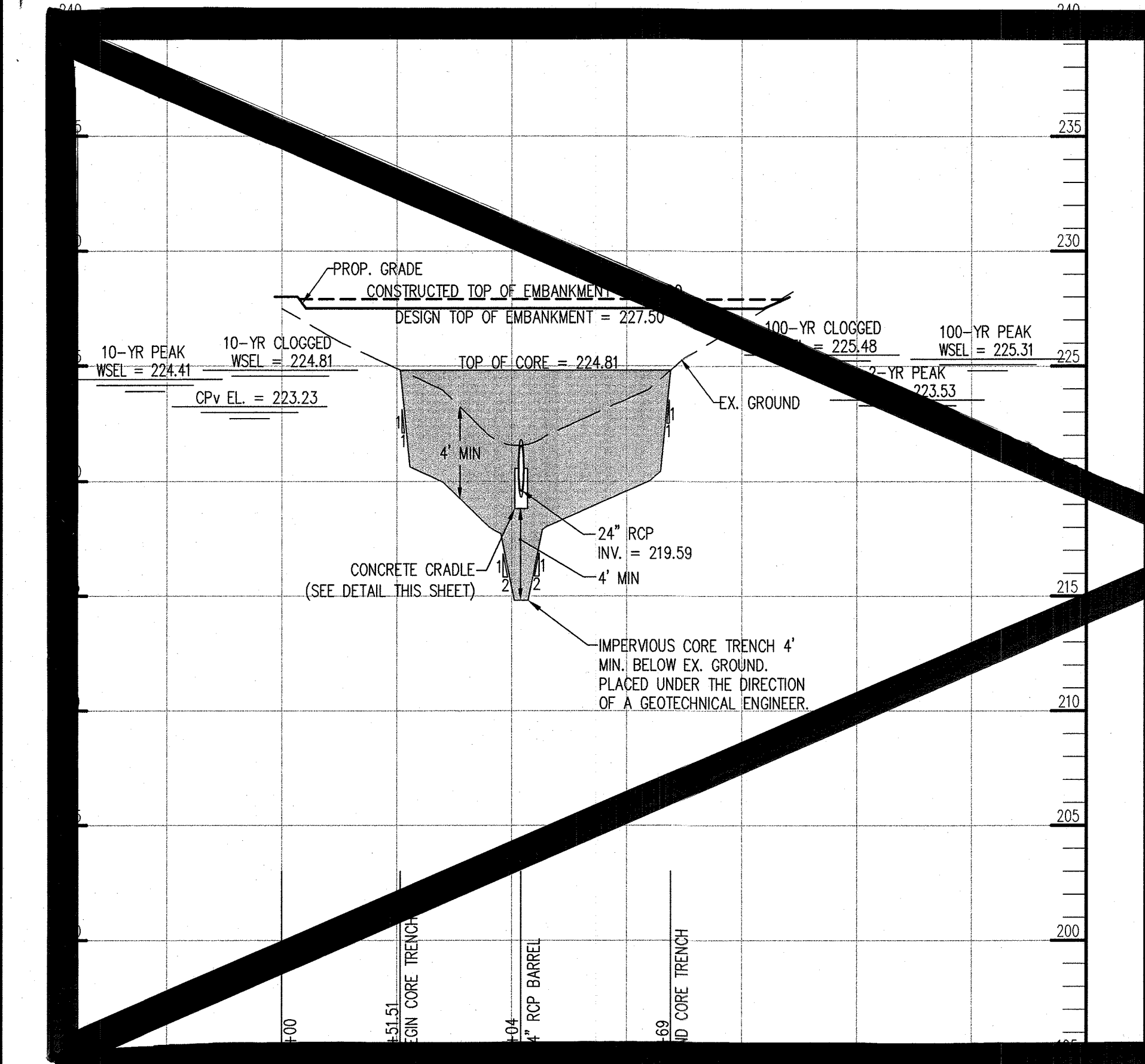


**NOTES**

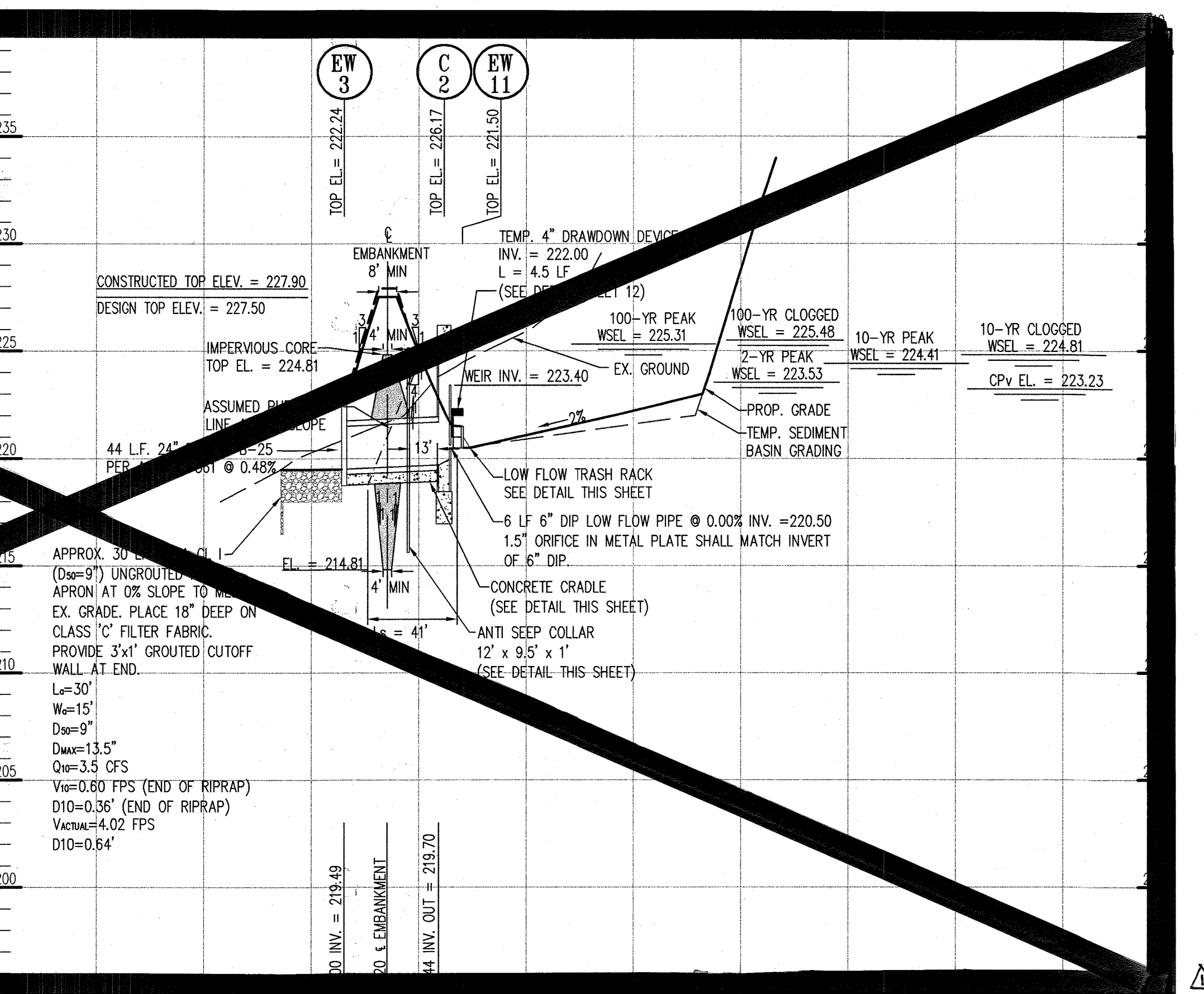
- INSTALL THE MATERIAL PER THE MANUFACTURER'S INSTRUCTIONS INCLUDING SURFACE PREPARATION AND STAPLING. IT IS VERY IMPORTANT THAT THE MATERIAL BE INSTALLED IN GOOD CONTACT WITH THE GROUND WITH NO WRINKLES OR VOID SPACES BELOW THE FABRIC. STAPLES MUST BE PLACED IN A DIAMOND PATTERN APPROXIMATELY 18" APART.
- FILL VOIDS IN THE MATERIAL WITH TOPSOIL BEFORE SODDING OR SEEDING DO NOT PLACE MORE THAN ONE HALF INCH (1/2") OF TOPSOIL OVER THE MATERIAL. THE MATERIAL MUST BE WITHIN THE ROOT ZONE FOR IT TO FUNCTION PROPERLY.
- MATERIAL MUST BE ENKAMAT 7010, ENKAMAT 7020, TENSAR TM-3000, PYRAMAT, OR OTHER HOWARD COUNTY APPROVED EQUIVALENT. TO BE CONSIDERED AS AN EQUIVALENT, THE MATERIAL MUST BE A SINGLE BONDED TURF REINFORCEMENT MATERIAL. PROPOSED ALTERNATIVES MUST BE APPROVED BY ENGINEER PRIOR TO PLACEMENT.
- TURF REINFORCEMENT IS NOT MEANT TO SERVE AS AN EROSION CONTROL MAT. IF NECESSARY, A BIODEGRADABLE MATERIAL SUCH AS EXVELSIOUR MAY BE PLACED OVER THE PREPARED SEED BED TO HOLD THE SEED IN PLACE. THE PURPOSE OF THE TURF REINFORCEMENT MATERIAL IS TO ADD STRENGTH TO THE ROOT SYSTEM AFTER GERMINATION.

**STRUCTURE E4 TO BIORETENTION No. 1 TURF REINFORCEMENT TYPICAL SECTION**  
NOT TO SCALE

**CAST IN PLACE ANTI-SEEP COLLAR DETAIL**  
(1 REQUIRED)  
NOT TO SCALE



**POND 2 EMBANKMENT CENTERLINE PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'



**POND 2 PRINCIPAL SPILLWAY PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'

**SEE REVISED POND PROFILES SHEET 49**

**BY THE DEVELOPER:**  
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*Shawn C. Mitchell* 3/6/09  
ENGINEER DATE

**BY THE ENGINEER:**  
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*Shawn C. Mitchell* 3-1-09  
ENGINEER DATE

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

*Shawn C. Mitchell* 3/9/09  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Damon E. Sutler* 3/23/09  
DIRECTOR, DEP. DATE

*Allen Deussen* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hauer* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/12/09 | REVISED POND PROFILES  
DATE NO. REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA  
TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**STORMWATER MANAGEMENT POND 2 PROFILES AND DETAILS**

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

SEAL  
*Shawn C. Mitchell* 3-4-09  
PROFESSIONAL ENGINEER  
DESIGNED BY: PDS  
DRAWN BY: PDS  
PROJECT NO: 14486-1-0  
C:\400SDP19.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 19 OF 69



CONSTRUCTION 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. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

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

Earth Fill

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill material 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 movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency 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 (Standard Proctor).

Cut Off Trench - The cutoff 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.

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

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material 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.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags,

etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time 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 structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

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

- 1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted

with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. The pH of the surrounding soils shall be between 4 and 9.

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

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

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter

of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8 inch closed cell gaskets the full width of the flange is also acceptable.

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

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

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

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

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

- 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

- 2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding / cradle for their entire length. This bedding / cradle shall consist of high slump 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. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

- 3. 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 4 feet from the riser.

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

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

Plastic Pipe - The following criteria shall apply for plastic pipe:

- 1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

- 2. Joints and connections to anti-seep collars shall be completely watertight.

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

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

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

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 902.10, 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.

Geotextile 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 SE (Non-Woven).

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 various parts of the work and for maintaining the excavations, foundation, 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 slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting 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 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 Natural Resources 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.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

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

Shirley C. Mitchell 3-4-09 ENGINEER DATE

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

Howard Soil Conservation District 3/9/09 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas R. Suttler 3/23/09 DIRECTOR, DEP. DATE

Walter Deane 3/10/09 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy Hanna 3/19/09 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414

DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414

PROJECT NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 1B7 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE STORMWATER MANAGEMENT SPECIFICATIONS AND POND 2 DETAILS

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

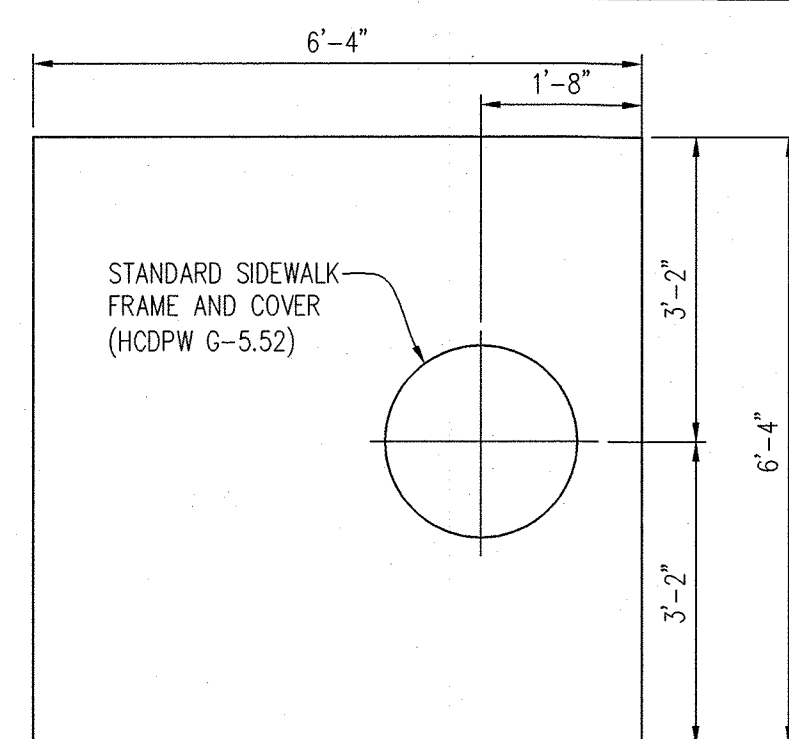
PHRA

SEAL 3-4-09

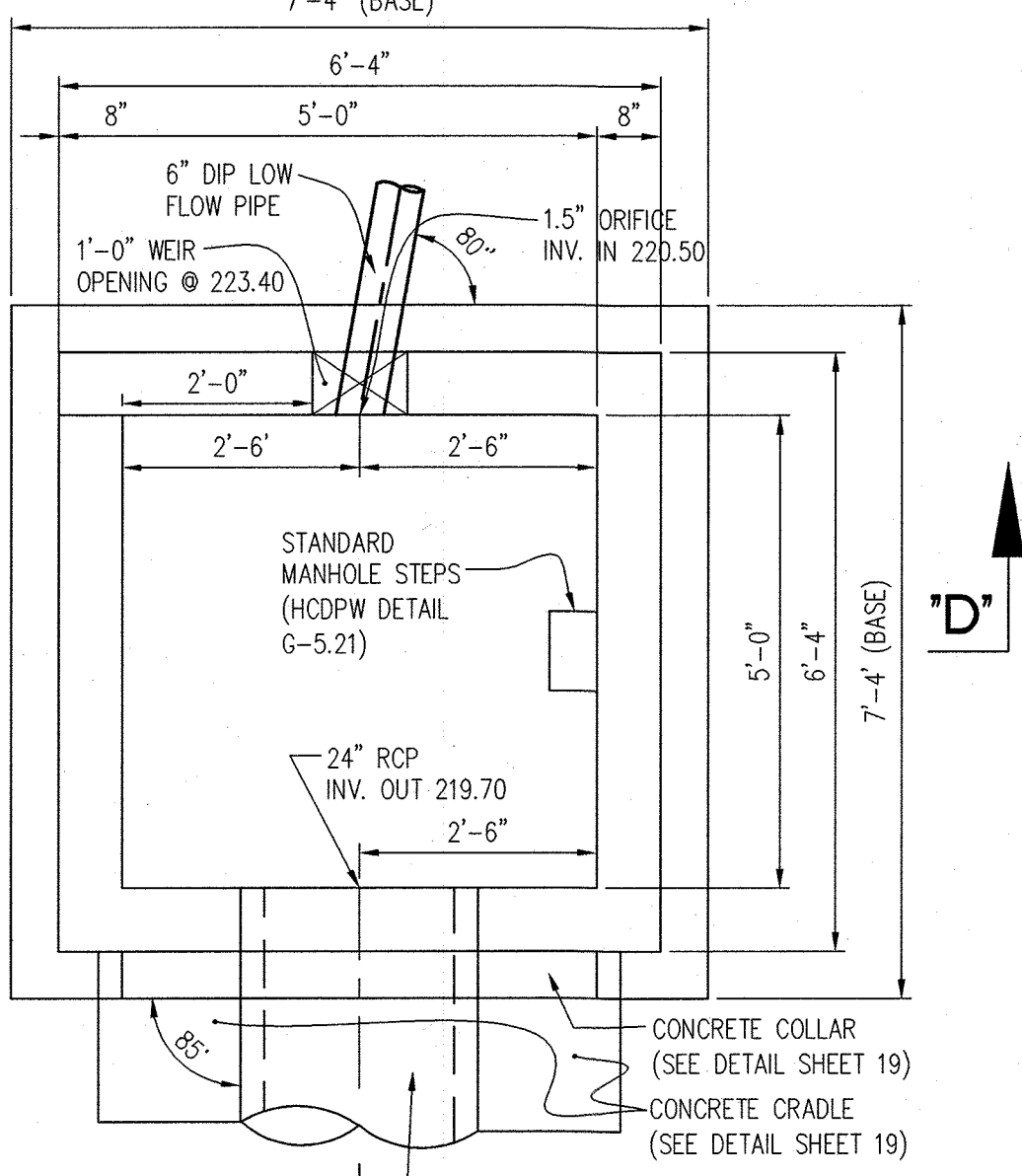
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DRAWN BY: PDS PROJECT NO: 14468-1-0 C:\005DF20.DWG

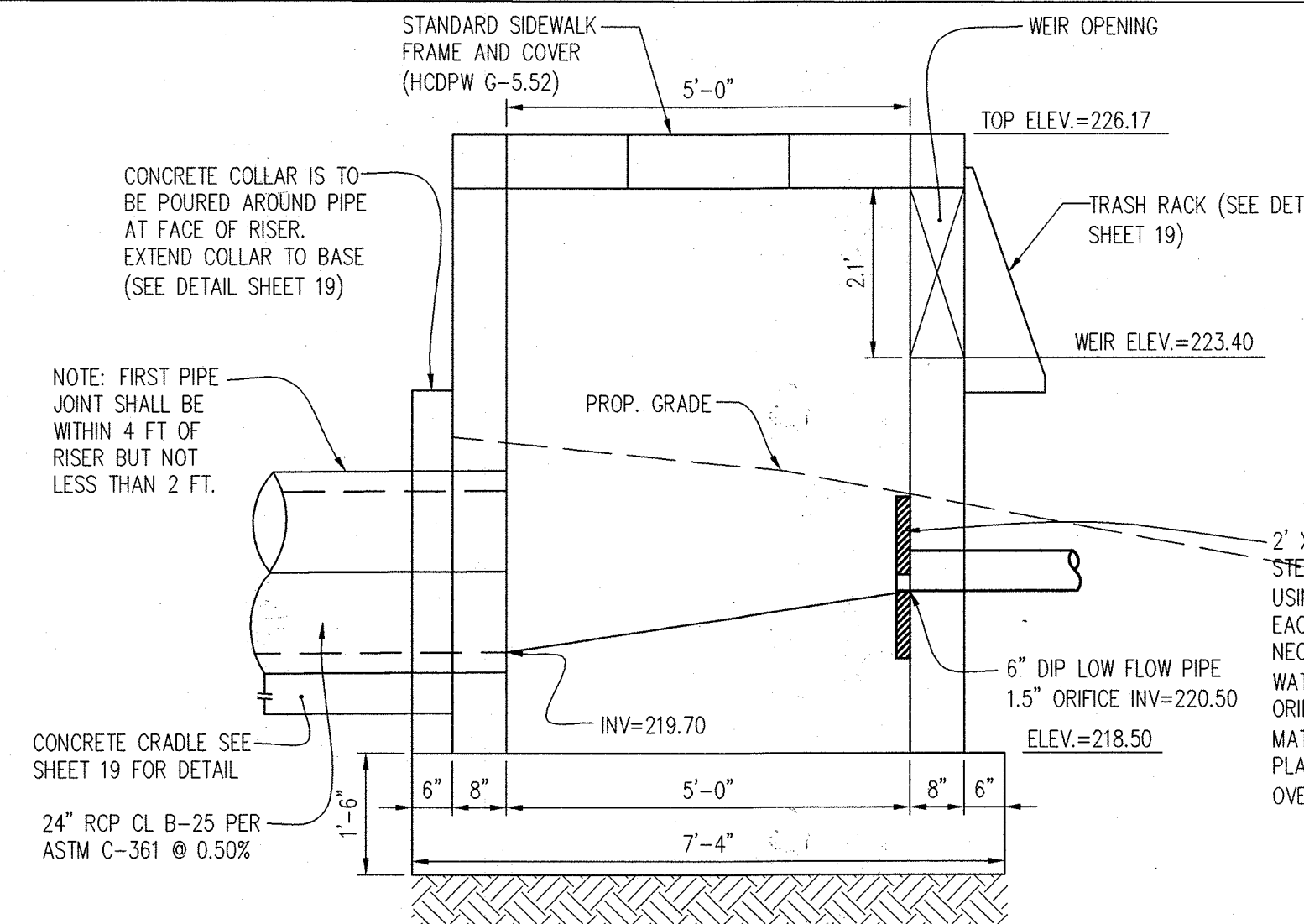
DATE: MARCH 4, 2009 SCALE: AS SHOWN DRAWING NO. 20 OF 69



TOP SLAB SCALE 1'-2'

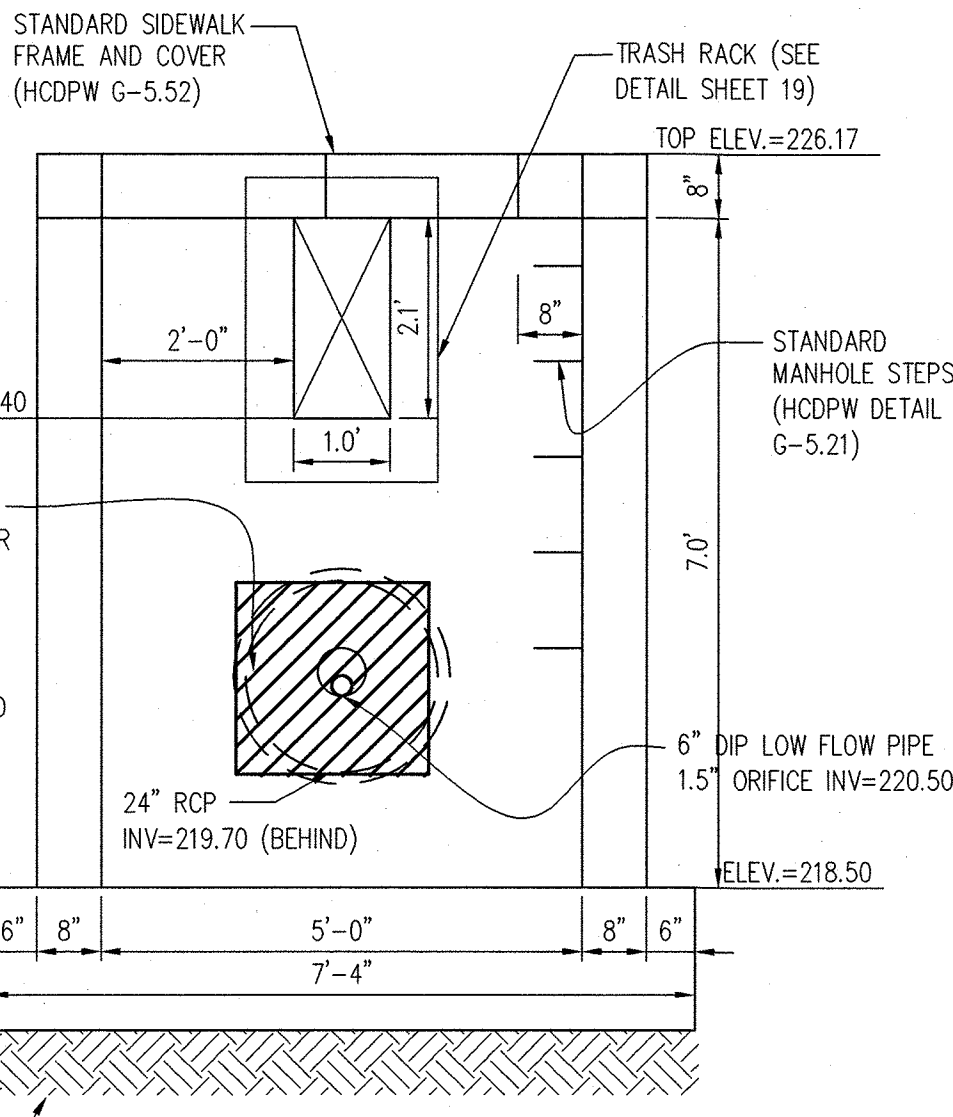


PLAN SECTION TOP SLAB REMOVED SCALE 1'-2'



SECTION 'C-C' SCALE 1'-2'

POND 2 CONCRETE RISER DETAIL STRUCTURE C2 SCALE 1'-2'



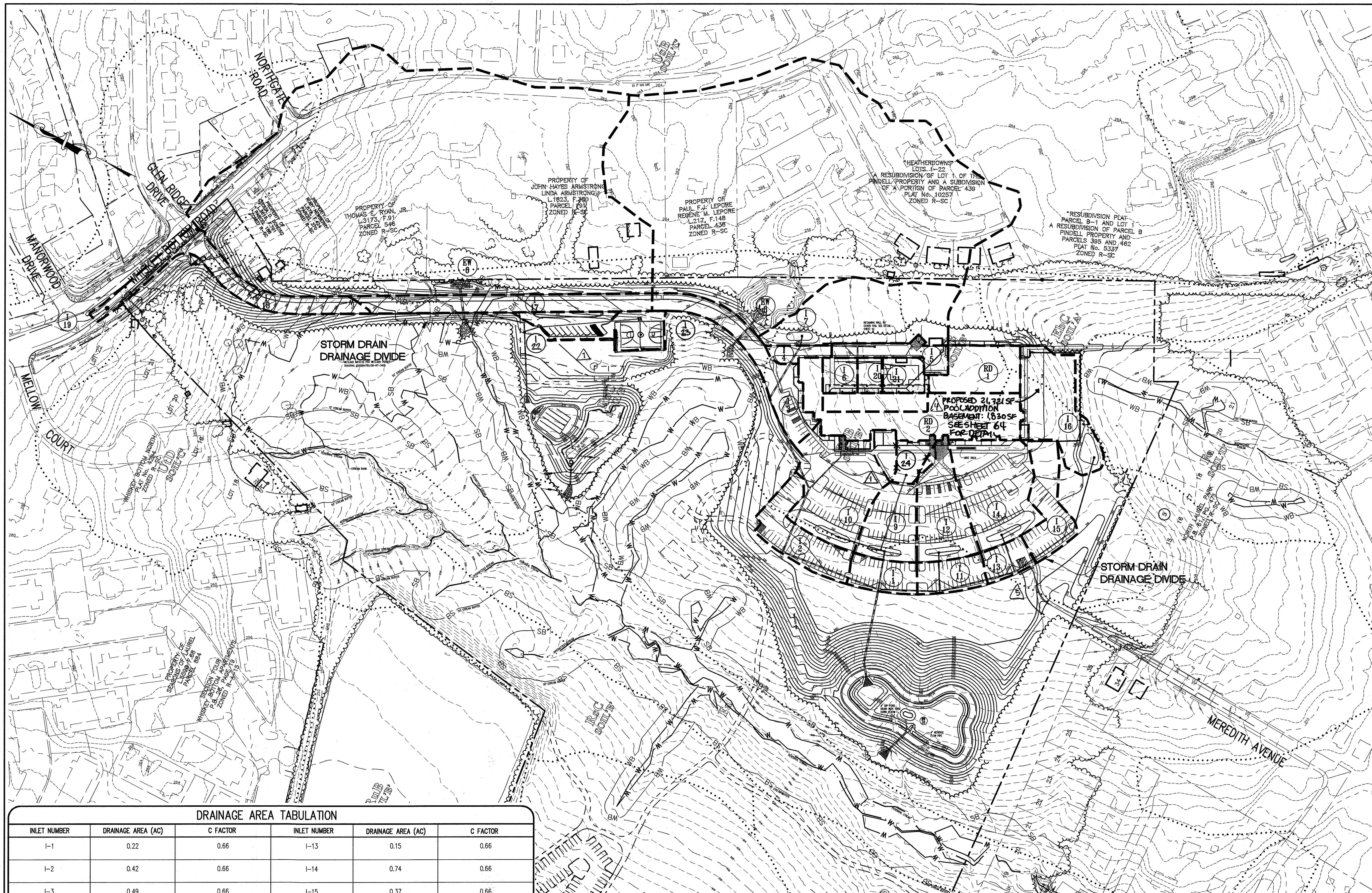
SECTION 'D-D' SCALE 1'-2'

- RISER GENERAL NOTES: 1. THIS DETAIL IS FOR A PRECAST RISER ONLY. 2. SHOP DRAWINGS MUST BE APPROVED BY THE DESIGN ENGINEER PRIOR TO FABRICATION. 3. RISER STRUCTURES MUST BE REINFORCED CONCRETE. 4. ALL CONNECTIONS SHALL BE WATERTIGHT.

BY THE DEVELOPER: I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

3/6/09 DEVELOPER DATE





DRAINAGE AREA TABULATION					
INLET NUMBER	DRAINAGE AREA (AC)	C FACTOR	INLET NUMBER	DRAINAGE AREA (AC)	C FACTOR
I-1	0.22	0.66	I-13	0.15	0.66
I-2	0.42	0.66	I-14	0.74	0.66
I-3	0.49	0.66	I-15	0.37	0.66
I-4	0.10	0.66	I-16	0.66	0.66
I-5	0.22	0.66	I-17	0.52	0.77
I-6	0.12	0.66	I-18	0.46	0.77
I-7	0.99	0.66	I-19	0.06	0.90
I-8	0.43	0.66	I-20	0.09	0.66
I-9	0.79	0.66	I-21	0.16	0.66
I-10	0.79	0.66	RD-1	0.58	0.66
I-11	0.22	0.66	RD-2	0.82	0.66
I-12	0.49	0.66	EW-6	9.01	RCN = 80
			EW-8	7.14	RCN = 80

DRAINAGE AREA TABULATION		
INLET NUMBER	DRAINAGE AREA (AC)	C FACTOR
I-22	0.24	0.76
I-23	0.20	0.71
I-24	0.19	0.66

**FOR STORM DRAINAGE AREA MAP FOR POOL ADDITION SEE SHEET 64**

3/18/20 | 5 | ADDED DRIVEWAY FOR EMERGENCY EGRESS TO THE HANSTON AVENUE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Dennis S. Butler* 3/23/09  
DIRECTOR, DEP. DATE

*John W. ...* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chris ...* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

11/12/19 | 4 | ADDED POOL ADDITION PLANS, GRASS EXPANSION AND AMENDED PERMIT CONVEYANCE AGREEMENTS.

8/25/10 | 1 | ADDED STORM DRAIN

DATE NO.	REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA  
TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**REVISED**  
**STORM DRAIN DRAINAGE AREA MAP**

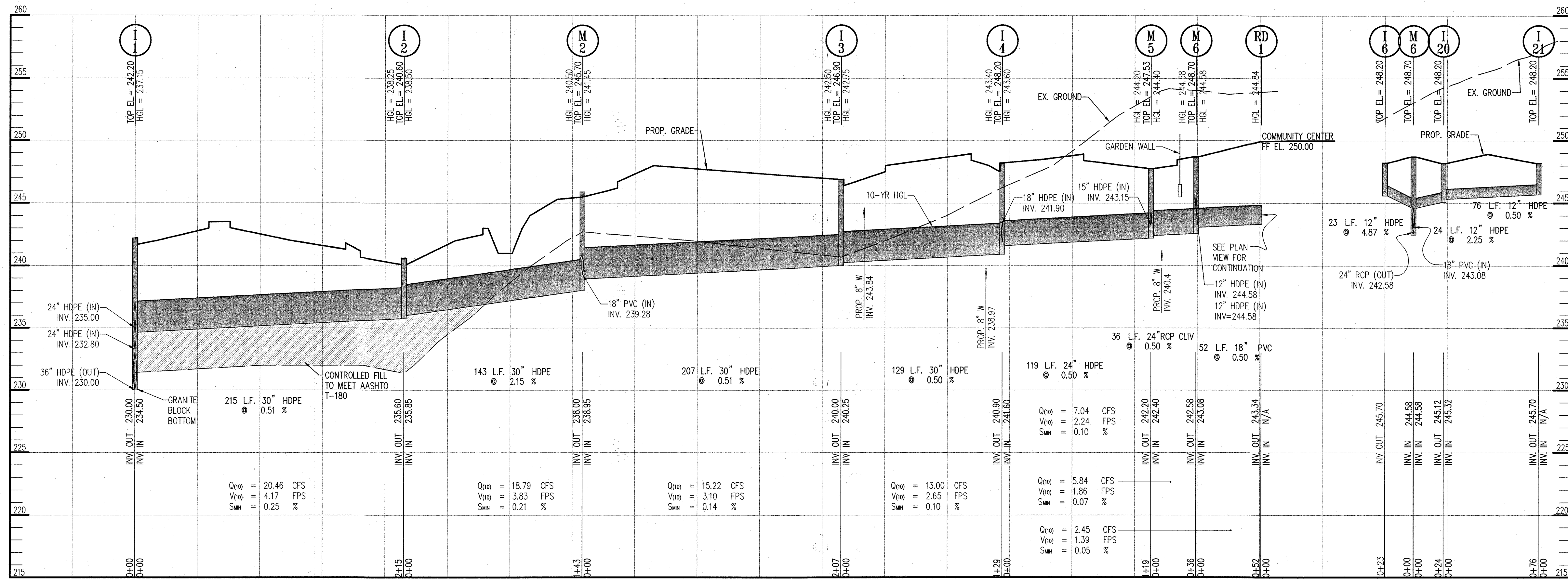
**Patton Harris Rust & Associates**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

SEAL

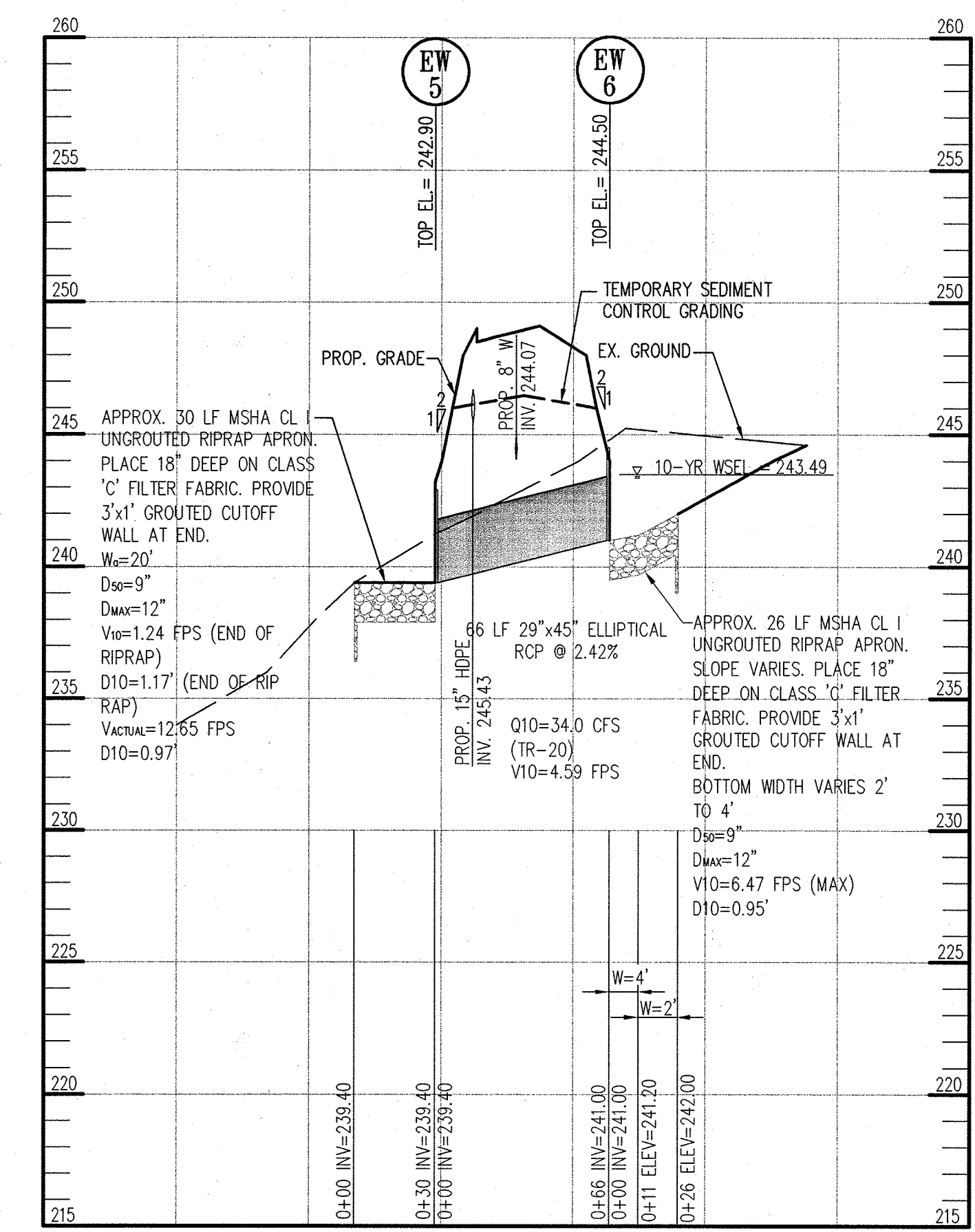
DESIGNED BY: SCM  
DRAWN BY: SCM  
PROJECT NO: 14466-1-0  
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DATE: MARCH 4, 2009  
SCALE: 1" = 100'  
DRAWING NO. 21 OF 69

SDP-08-118

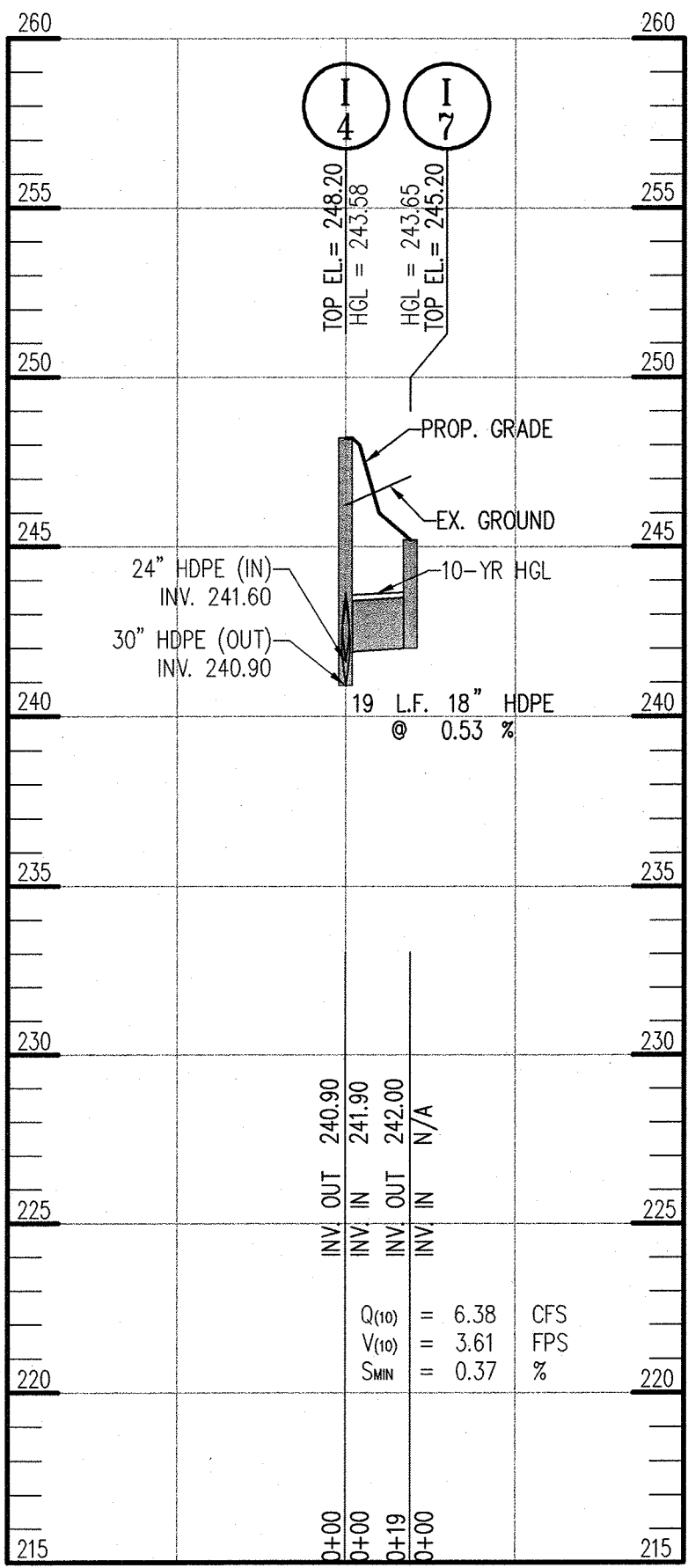




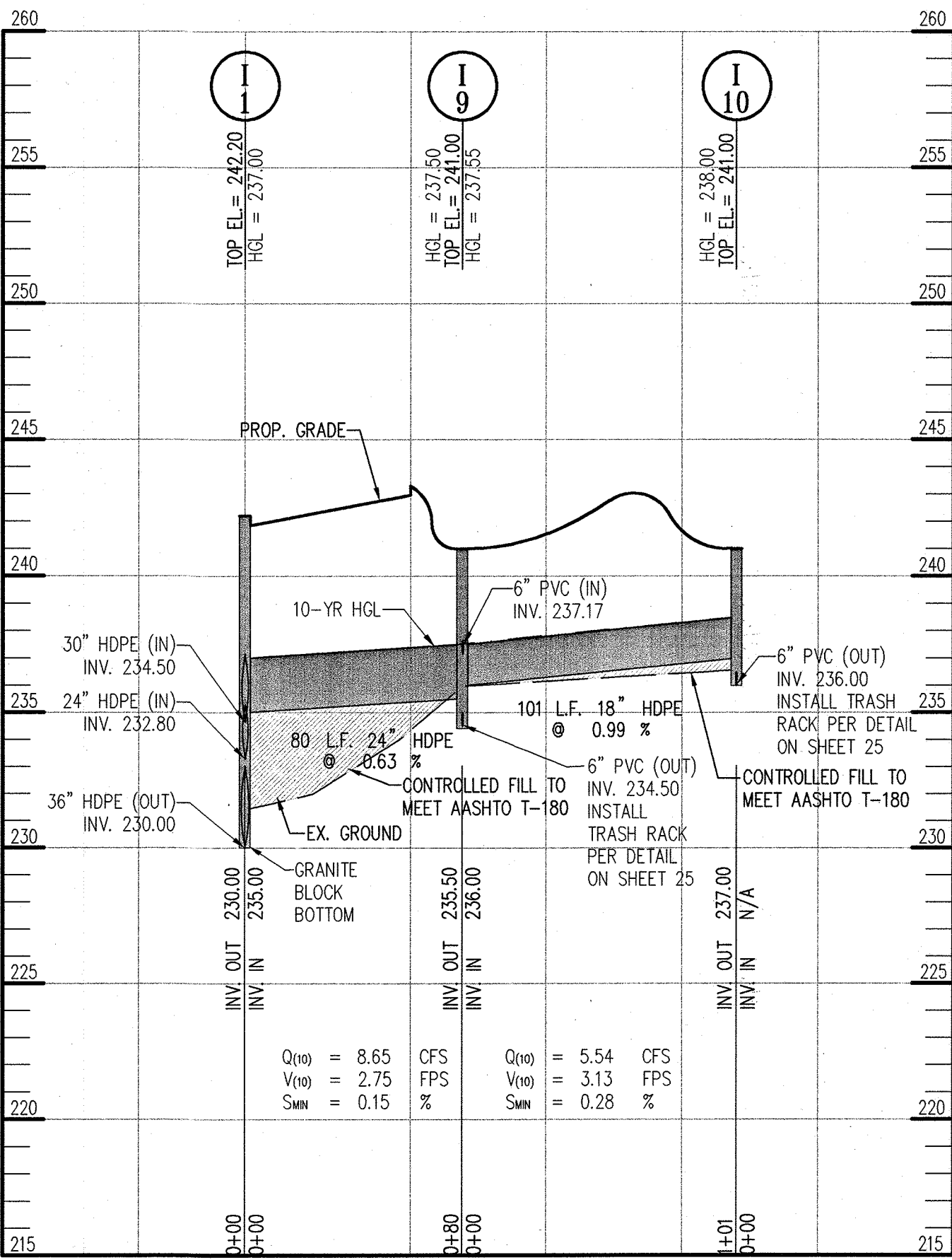
**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'



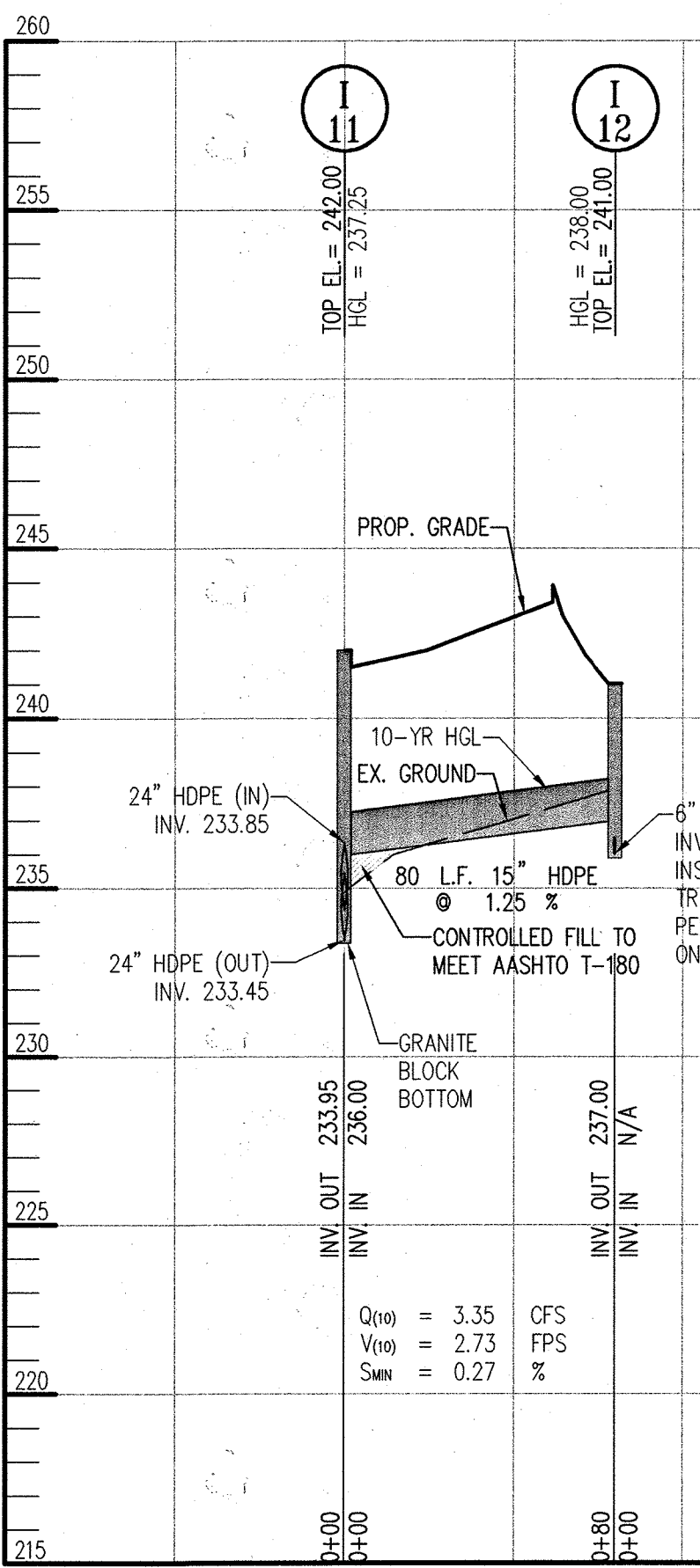
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VERT: 1"=5'



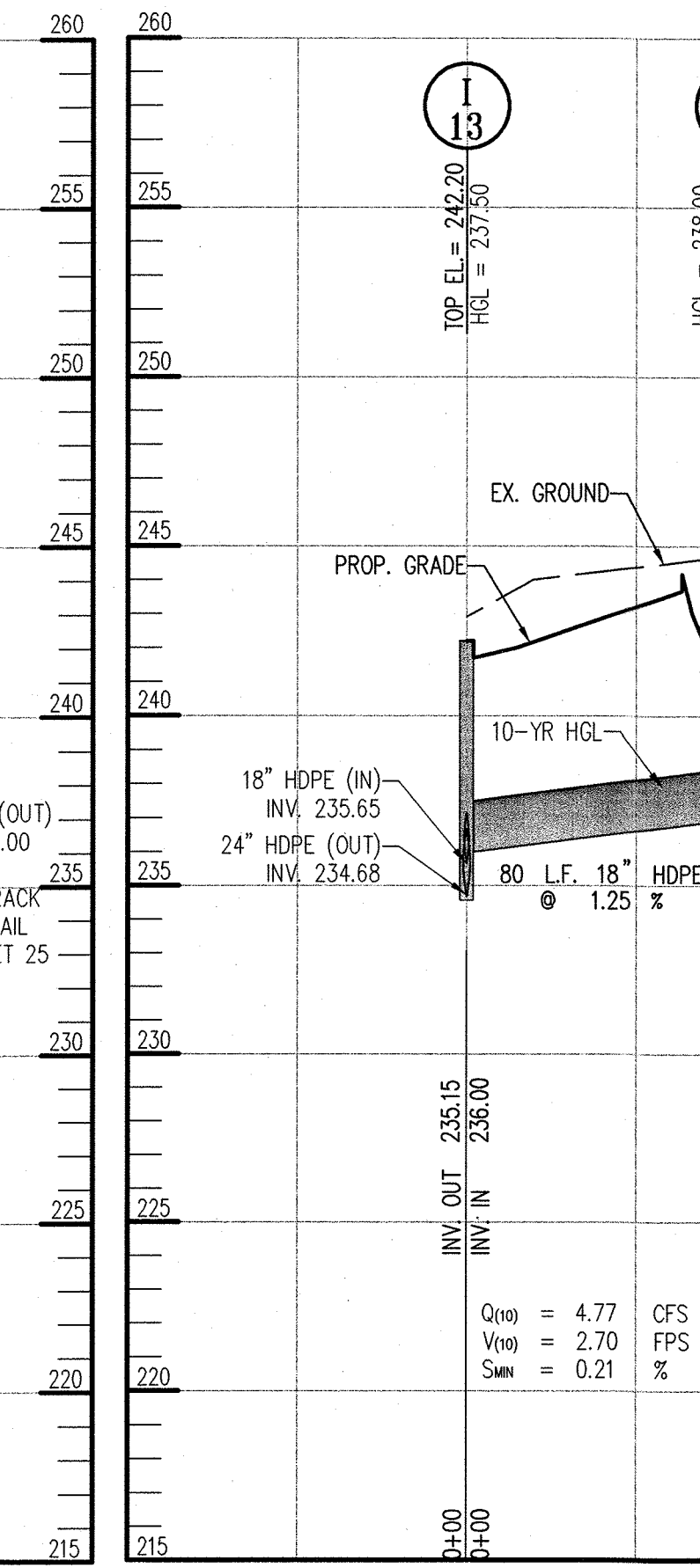
**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'



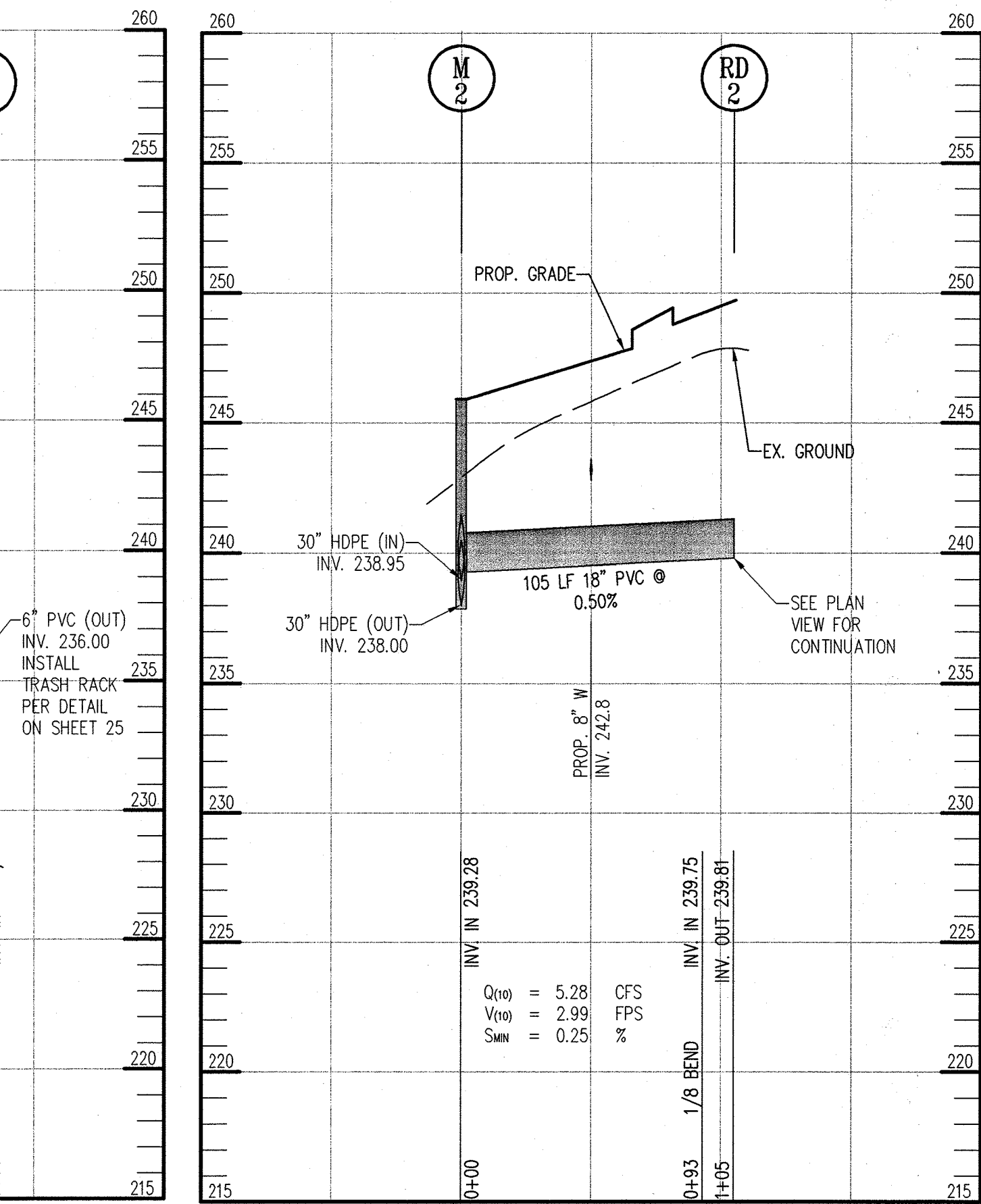
**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Thomas J. Butler* 3/23/09  
DIRECTOR, DEP DATE  
*John DeWitt* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Cathy Hanon* 3/9/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION  
OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

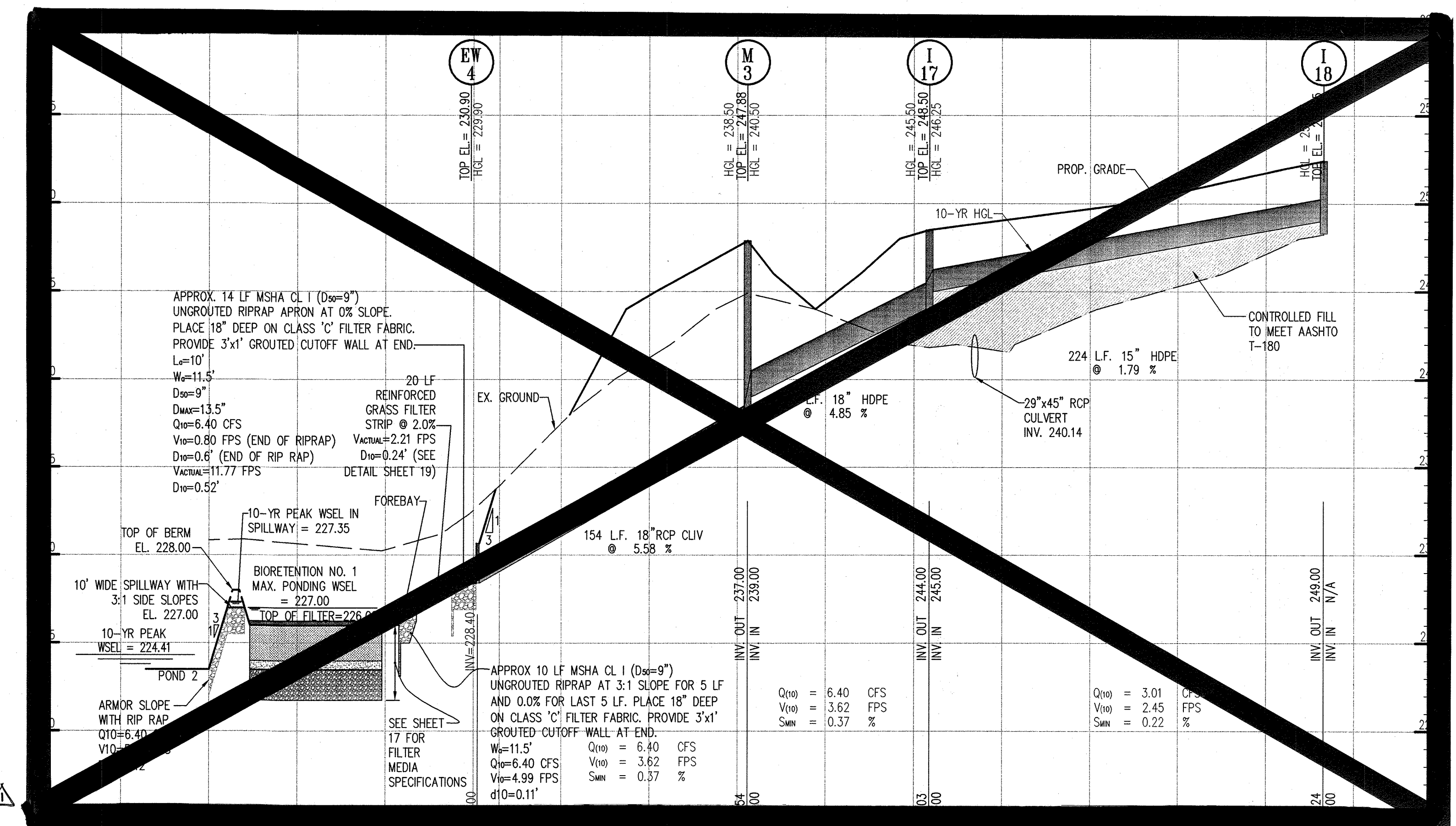
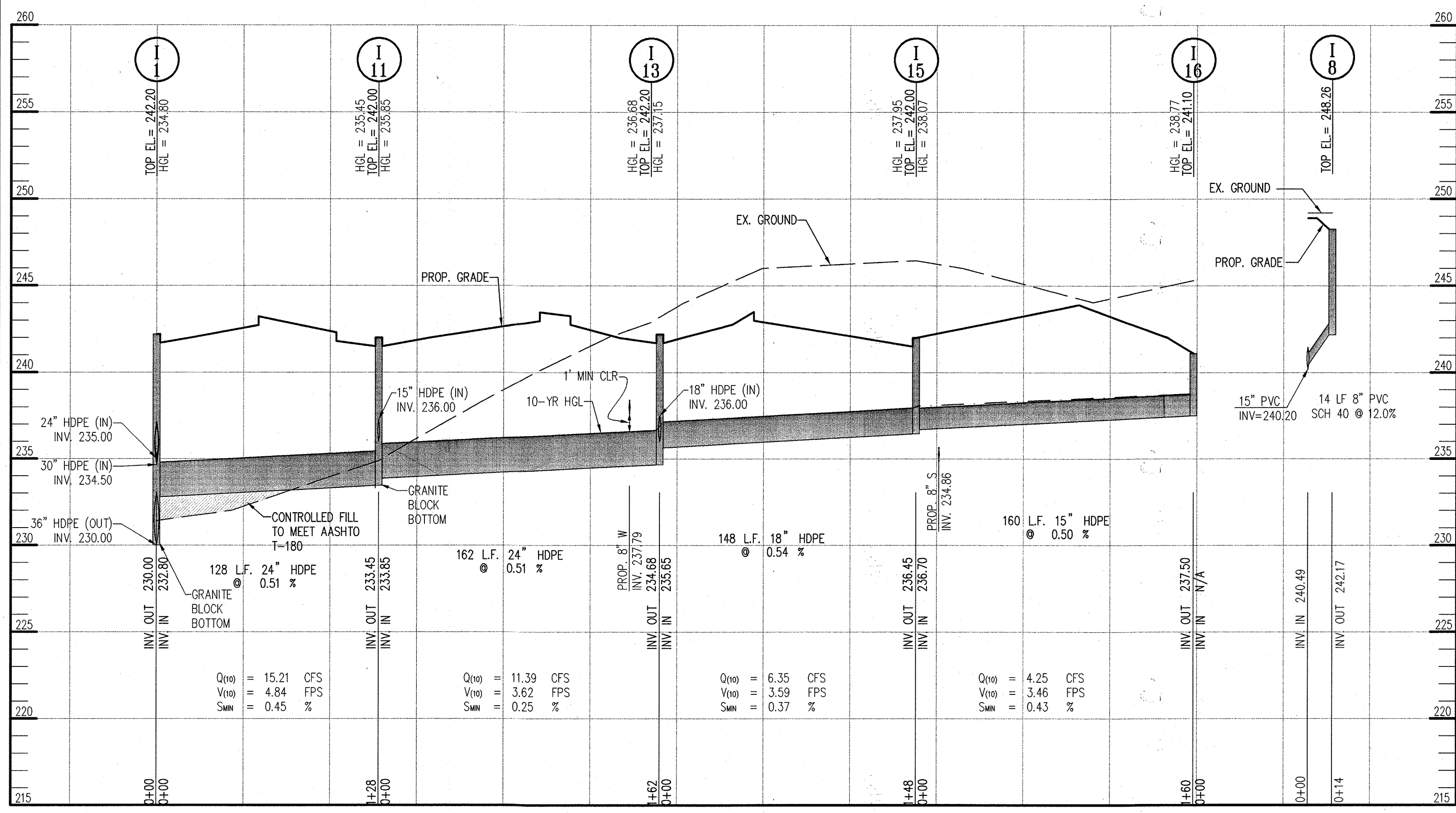
AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**STORM DRAIN PROFILES**

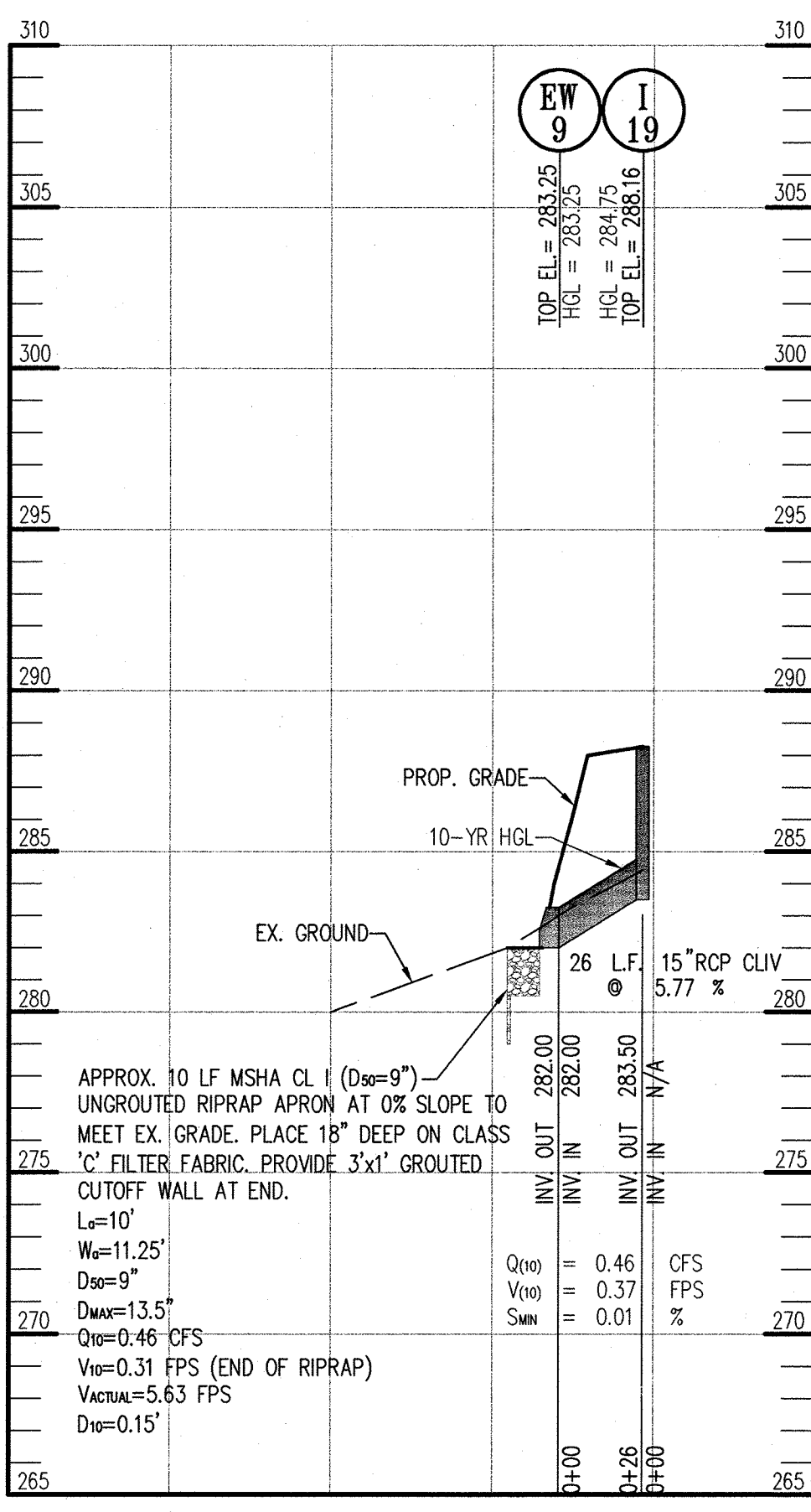
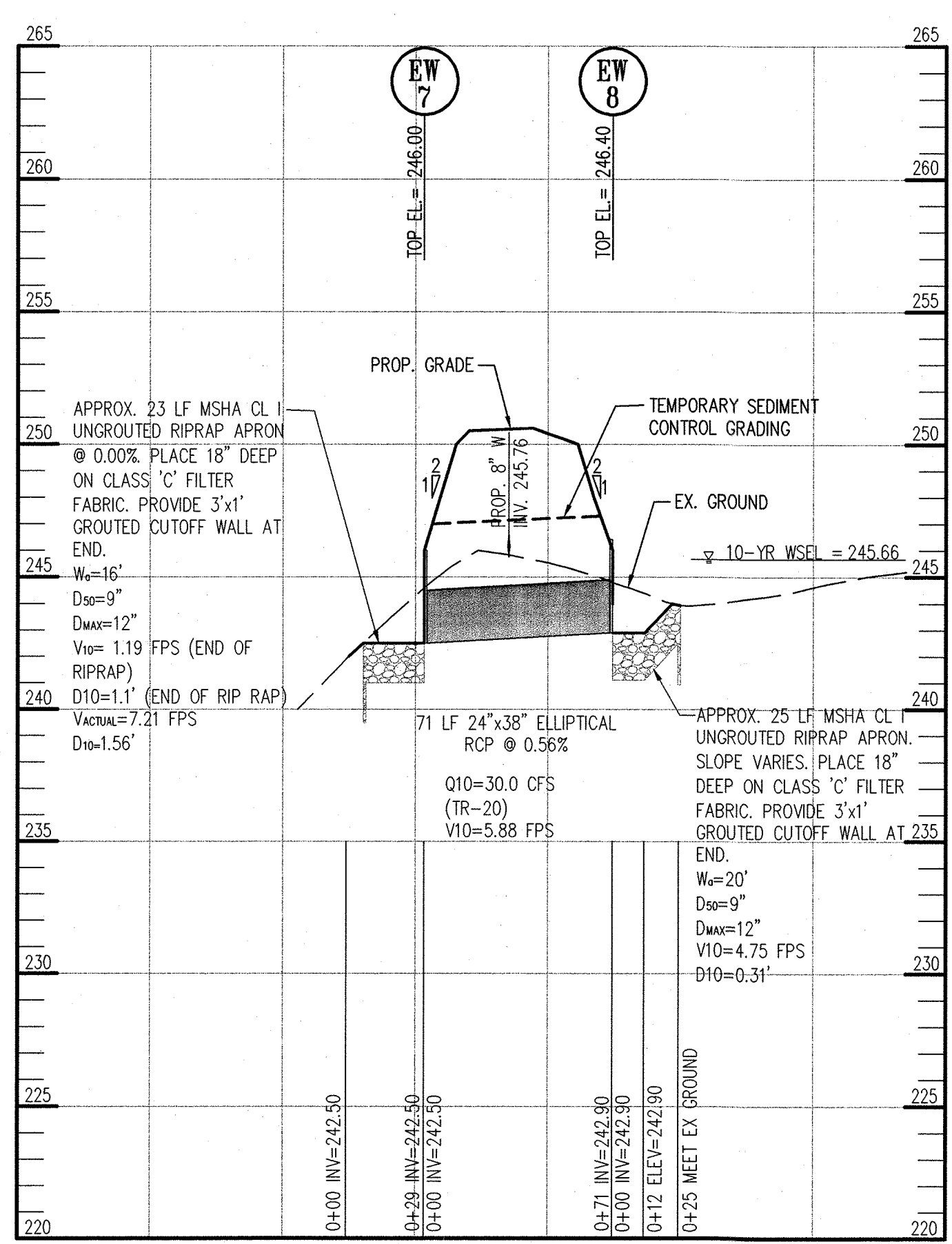
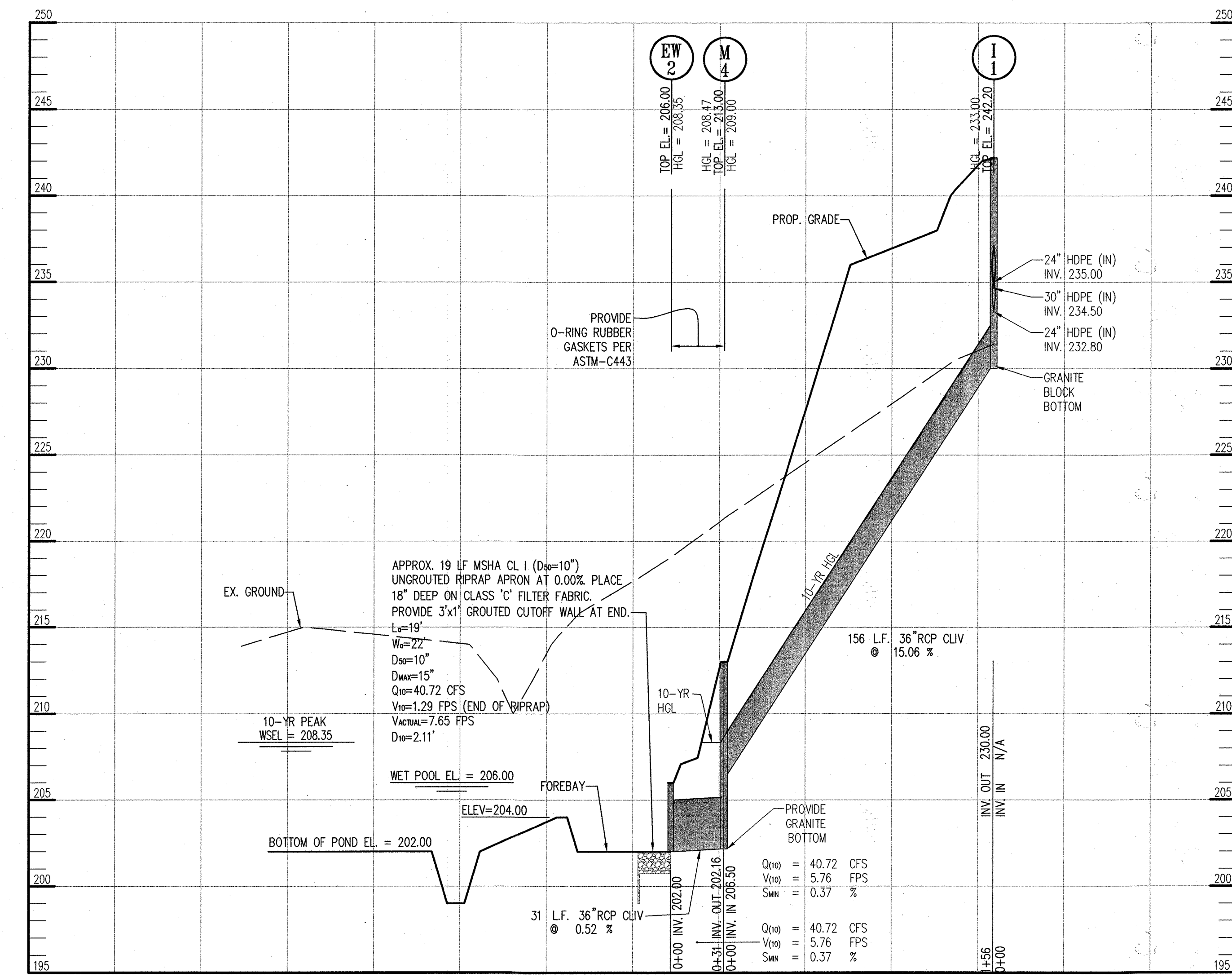
Patton Harris Rust & Associates  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY: PDS  
DRAWN BY: PDS  
PROJECT NO: 14468-1-0  
C400SDP22.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 22 OF 69





SEE SHEET 49



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Morgan G. Butler* 3/23/09  
 DIRECTOR, DEP. DATE  
*William S. ...* 3/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Cindy ...* 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/12/09 | ADJUST POND 2  
 DATE NO. REVISION

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT C-0304

AREA  
 TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**STORM DRAIN PROFILES**

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

DESIGNED BY: PDS  
 DRAWN BY: PDS  
 PROJECT NO: 14466-1-0  
 C400SDP23.DWG  
 DATE: MARCH 4, 2009  
 SCALE: AS SHOWN

BY: *Samuel C. ...*  
 PROFESSIONAL CERTIFICATE NO. 11877  
 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. 33554, EXPIRATION DATE 01-24-11



**STRUCTURE SCHEDULE**

NUMBER	TYPE	LOCATION		TOP ELEVATION		SIZE	REMARKS
		STATION	OFFSET	UPPER	LOWER		
I-1	A-10 INLET	SEE	PLAN	242.20	*	T = 10'	D-4.04
I-2	A-10 INLET	SEE	PLAN	240.60	*	T = 10'	D-4.04
I-3	A-10 INLET	SEE	PLAN	246.90	*	T = 10'	D-4.04
I-4	A-10 INLET	SEE	PLAN	248.20	*	T = 10'	D-4.04
I-5	TYPE 'S' INLET	SEE	PLAN	246.90	*	2'-7"x2'-7 1/2"	D-4.22
I-6	NYOPLAST INLINE DRAIN	SEE	PLAN	248.20	*	DIA=15"	15" STD H25 GRATE
I-7	TYPE 'S' INLET	SEE	PLAN	245.20	*	2'-7"x2'-7 1/2"	D-4.22
I-8	NYOPLAST INLINE DRAIN	SEE	PLAN	248.26	*	DIA=12"	12" STD H25 GRATE
I-9	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-10	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-11	A-10 INLET	SEE	PLAN	242.00	*	T = 10'	D-4.04
I-12	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-13	A-10 INLET	SEE	PLAN	242.20	*	T = 10'	D-4.04
I-14	TYPE 'S' INLET	SEE	PLAN	241.00	*	2'-7"x2'-7 1/2"	D-4.22 MODIFIED PER DETAIL SHT 25
I-15	A-10 INLET	SEE	PLAN	242.00	*	T = 10'	D-4.04
I-16	TYPE 'S' INLET	SEE	PLAN	241.10	*	2'-7"x2'-7 1/2"	D-4.22
I-17	A-15 INLET	SEE	PLAN	248.50	*	T = 15'	D-4.04
I-18	A-10 INLET	SEE	PLAN	253.05	252.65	T = 10'	D-4.04
I-19	A-10 INLET	SEE	PLAN	288.36	288.16	T = 10'	D-4.04
I-20	NYOPLAST DRAIN BASIN	SEE	PLAN	248.20	*	DIA = 15"	15" STD H-25 GRATE
I-21	NYOPLAST INLINE DRAIN	SEE	PLAN	248.20	*	DIA = 15"	15" STD H-25 GRATE
*	*	*	*	*	*	*	*
M-2	6'-0" MANHOLE	SEE	PLAN	245.70	*	DIA = 6'-0"	G-5.12
M-3	4'-0" MANHOLE	SEE	PLAN	247.88	*	DIA = 4'-0"	G-5.12
M-4	5'-0" MANHOLE	SEE	PLAN	213.00	*	DIA = 5'-0"	G-5.12
M-5	4'-0" MANHOLE	SEE	PLAN	247.53	*	DIA = 4'-0"	G-5.12
M-6	4'-0" MANHOLE	SEE	PLAN	248.70	*	DIA = 4'-0"	G-5.12
EW-1	TYPE 'C' ENDWALL	SEE	PLAN	204.84	*	DIA = 36"	D-5.21
EW-2	TYPE 'C' ENDWALL	SEE	PLAN	206.00	*	DIA = 36"	D-5.21
EW-3	TYPE 'C' ENDWALL	SEE	PLAN	222.24	*	DIA = 24"	D-5.21
EW-4	TYPE 'C' ENDWALL	SEE	PLAN	230.90	*	DIA = 18"	D-5.21
EW-5	TYPE 'O' ENDWALL	SEE	PLAN	242.90	*	ELLIP. 29"x45"	D-5.43
EW-6	TYPE 'O' ENDWALL	SEE	PLAN	244.50	*	ELLIP. 29"x45"	D-5.43
EW-7	TYPE 'C' ENDWALL	SEE	PLAN	246.00	*	DIA = 30"	D-5.21
EW-8	TYPE 'C' ENDWALL	SEE	PLAN	246.40	*	DIA = 30"	D-5.21
EW-9	CONCRETE END SECTION	SEE	PLAN	283.25	*	DIA = 15"	D-5.51
EW-10	TYPE 'C' ENDWALL	SEE	PLAN	205.18	*	DIA = 6"	D-5.21 USE SPEC FOR D=12"
EW-11	TYPE 'C' ENDWALL	SEE	PLAN	221.50	*	DIA = 6"	D-5.21 USE SPEC FOR D=12"
C-1	CONCRETE RISER	SEE	PLAN	211.00	*	5' X 5'	SEE DETAIL SHEET 17
C-2	CONCRETE RISER	SEE	PLAN	226.17	*	5' X 5'	SEE DETAIL SHEET 20

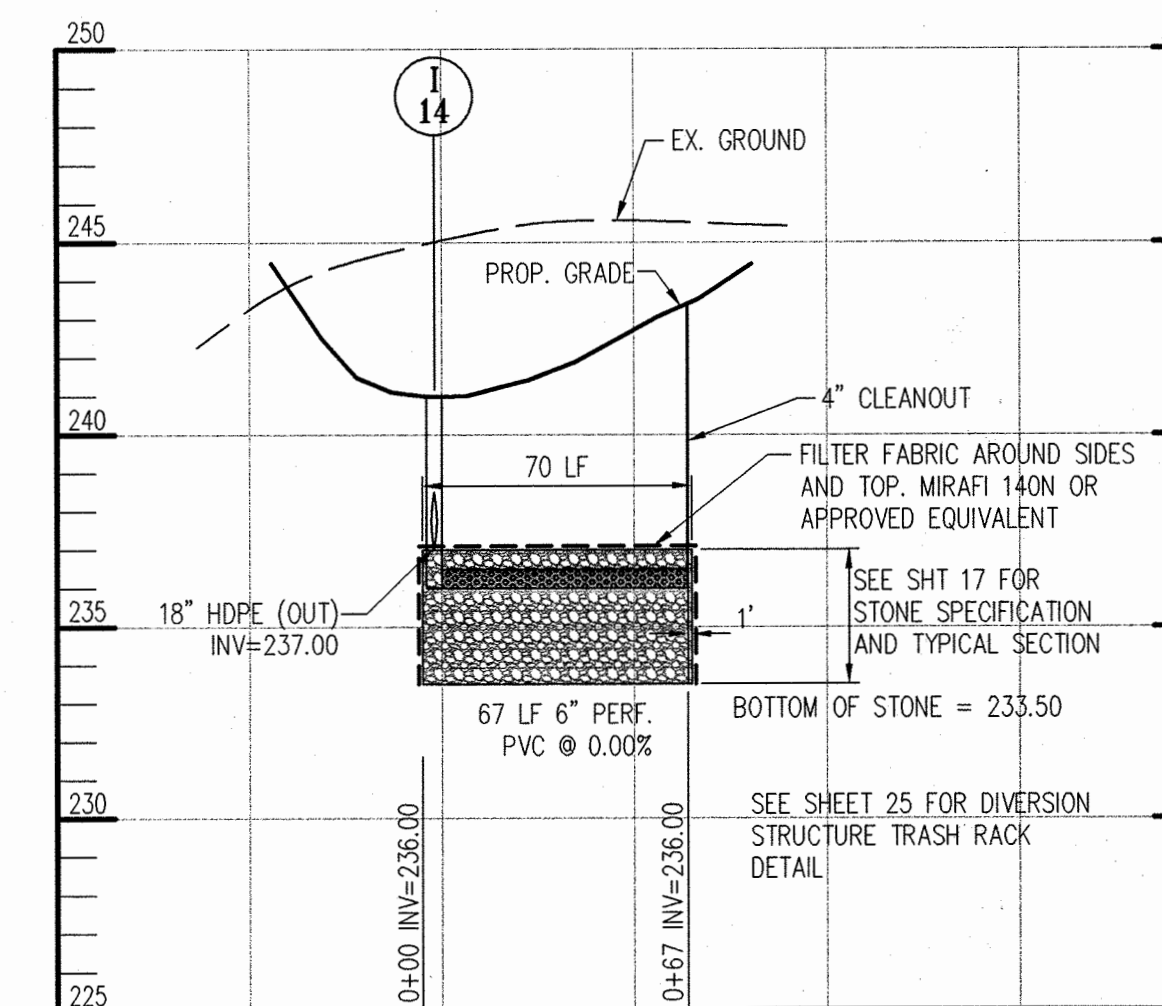
**NOTES**

- 1) ALL STRUCTURES ARE HOWARD COUNTY STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.
- 2) STATIONS ARE GIVEN TO CENTER OF STRUCTURE AT FACE OF CURB FOR CURB INLETS AND TO CENTER OF STRUCTURE FOR ALL OTHER STRUCTURES.
- 3) ELEVATIONS ARE GIVEN TO TOP OF CURB FOR CURB INLETS, TOP OF GRATE FOR GRATE INLETS AND TOP OF LID FOR MANHOLES.
- 4) PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.

**PIPE SCHEDULE**

SIZE	TYPE	LINEAR FOOTAGE	SIZE	TYPE	LINEAR FOOTAGE
15"	RCP CL. IV	26	*	*	*
18"	RCP CL. IV	154	24"	RCP CL. B-25	36
24"	RCP CL. IV	36	36"	RCP CL. B-25	53
36"	RCP CL. IV	187	6"	PERF. PVC SCH 40	1130
24" x 38"	ELLIP. RCP CL. IV	71	8"	PVC SCH. 40	81
29" x 45"	ELLIP. RCP CL. IV	66	12"	PVC SCH. 40	654
12"	HDPE	123	15"	PVC SCH. 40	317
15"	HDPE	500	18"	PVC SCH. 40	157
18"	HDPE	451	4"	DIP	47
24"	HDPE	489	6"	DIP	5
30"	HDPE	694	*	*	*

ALL QUANTITIES TO BE VERIFIED BY CONTRACTOR. ROOF DRAIN CONNECTIONS TO DOWN SPOUTS ARE NOT INCLUDED.



**HDPE SPECIFICATIONS**

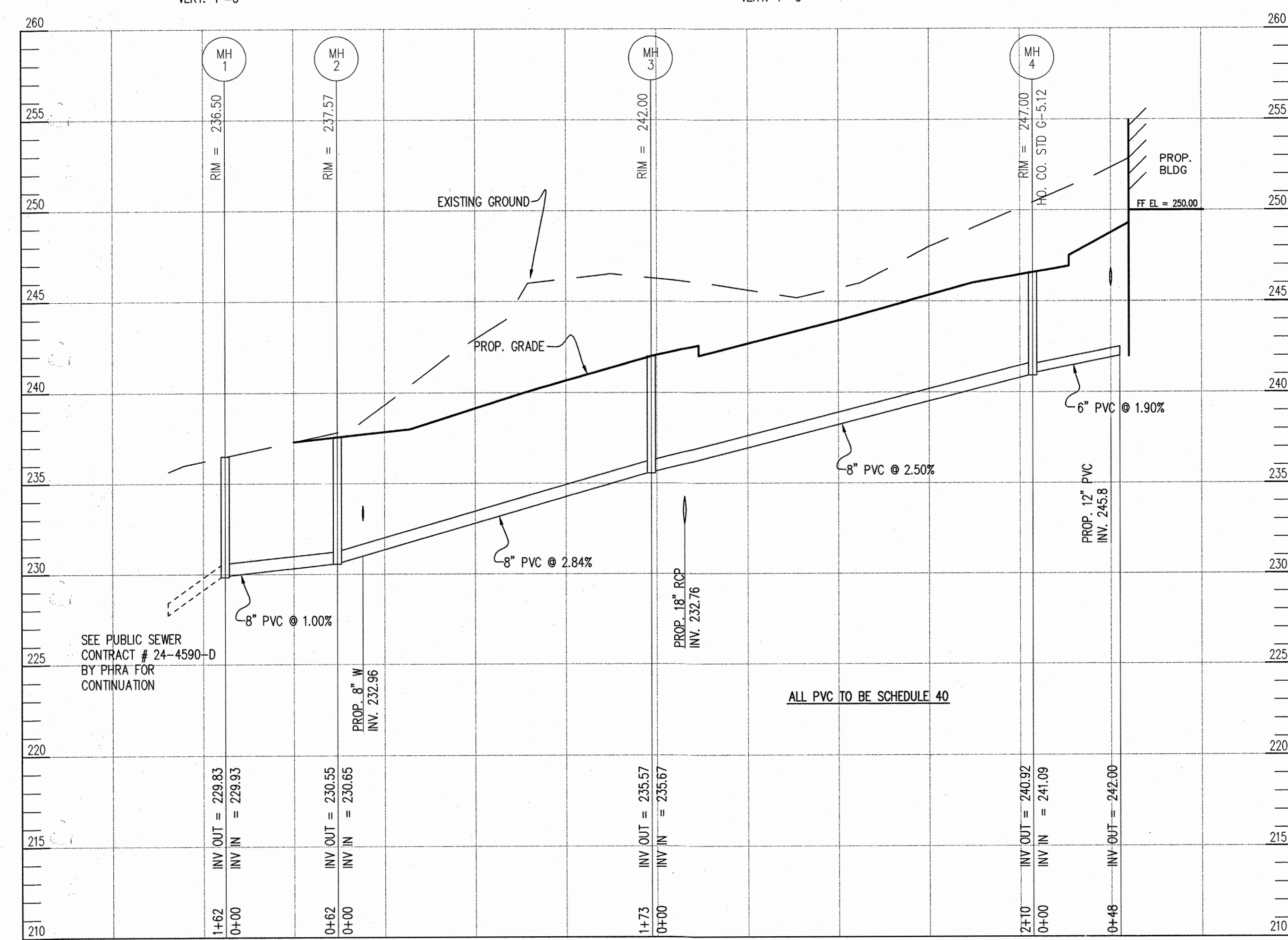
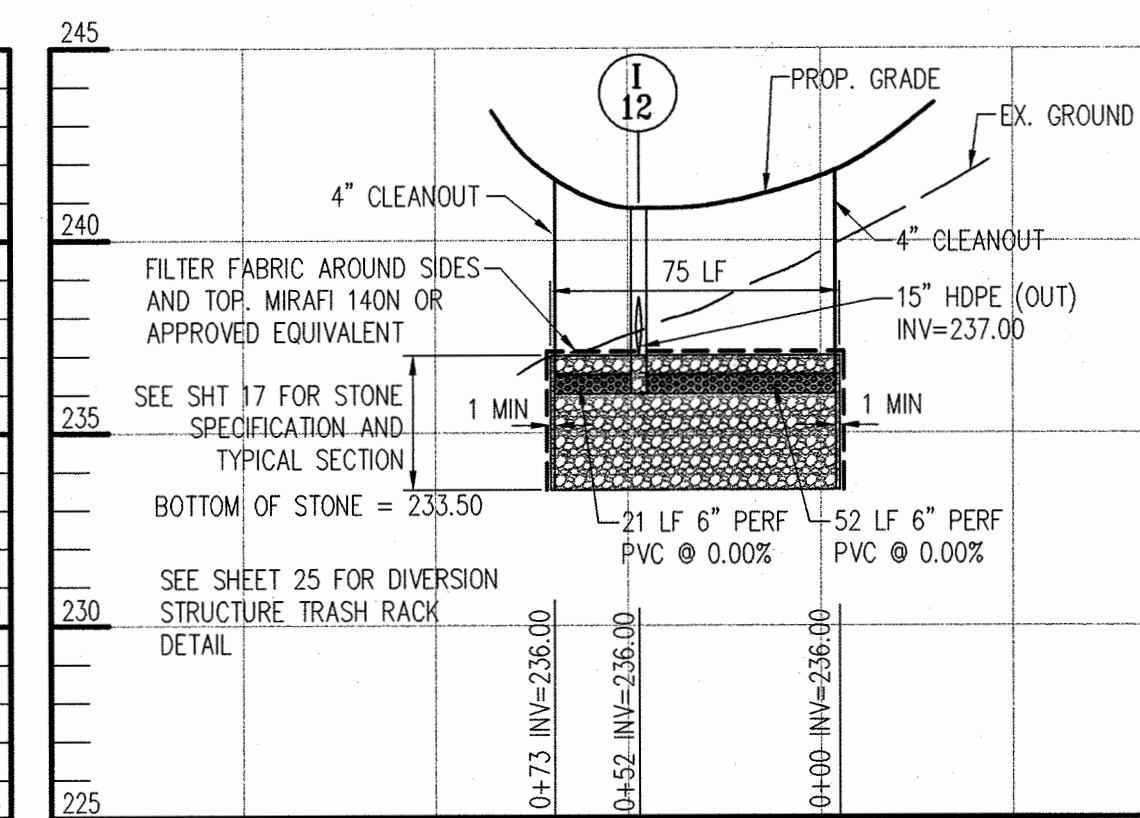
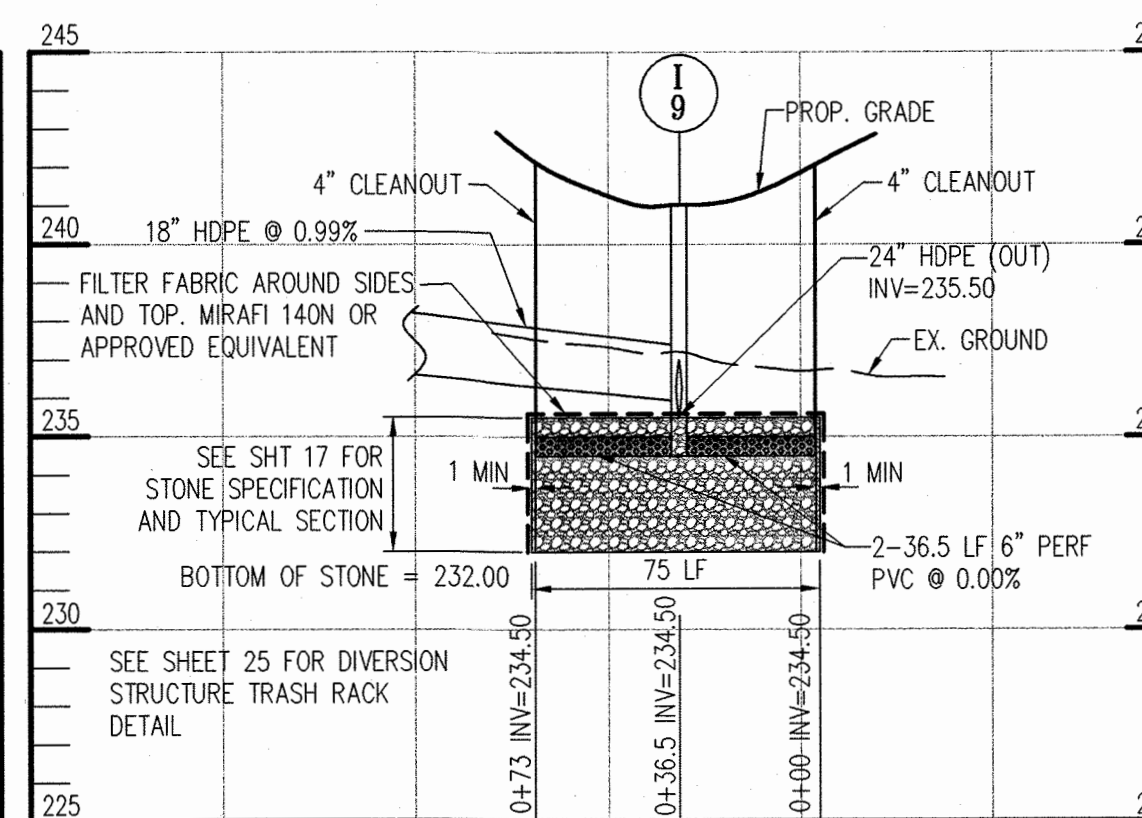
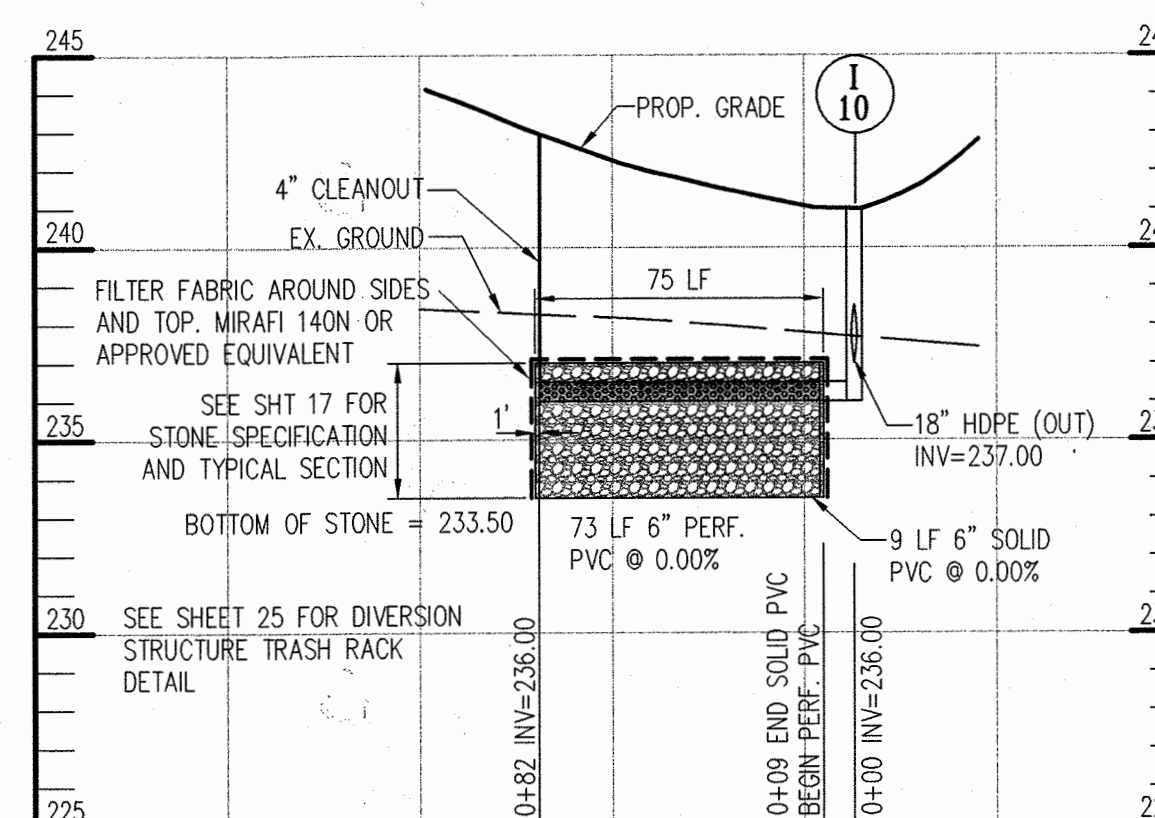
CORRUGATED HIGH-DENSITY POLYETHYLENE STORM DRAIN (HDPE) PIPE FOR ON-SITE DRAINAGE SHALL MEET THE REQUIREMENTS OF AASHTO M294. AASHTO WALL TYPE MAY BE TYPE "S" OR TYPE "D". PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN PE COMPOUNDS AND SHALL CONFORM TO THE APPLICABLE CURRENT EDITION OF THE AASHTO MATERIAL SPECIFICATIONS FOR CELL CLASSIFICATIONS AS DEFINED AND DESCRIBED IN ASTM D3350.

PIPES SHALL BE CONNECTED THROUGH A BELL AND SPIGOT CONNECTION. A RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM F477 SHALL BE SUPPLIED ON THE SPIGOT END. THE PIPE MANUFACTURER SHALL PROVIDE CERTIFICATIONS ON JOINT INTEGRITY.

PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 AND MANUFACTURER'S RECOMMENDATIONS.

ALL PIPES SHALL BE BEDDED ON 4" TO 6" OF (CLASS I FILL (UNDER THE PIPE) AND UP TO 1/2 THE PIPE DIAMETER COMPACTED AT OPTIMUM MOISTURE CONTENT (PLUS OR MINUS 2 PERCENTAGE POINTS), AND TO A MINIMUM OF 95% OF THE MAXIMUM DENSITY AS DETERMINED IN THE LABORATORY BY ASTM TEST METHOD D-1557-78. ALL ADDITIONAL BACKFILL SHALL MEET HOWARD COUNTY SPECIFICATIONS.

CORRUGATED HDPE STORM DRAIN SHALL BE N-12 PRO-LINK WT, AS MANUFACTURED BY ADS, INC., COLUMBUS, OH, OR APPROVED EQUAL.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas E. Suttler* 3/23/09  
DIRECTOR, DEP DATE

*John D. ...* 2/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*...* 2/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

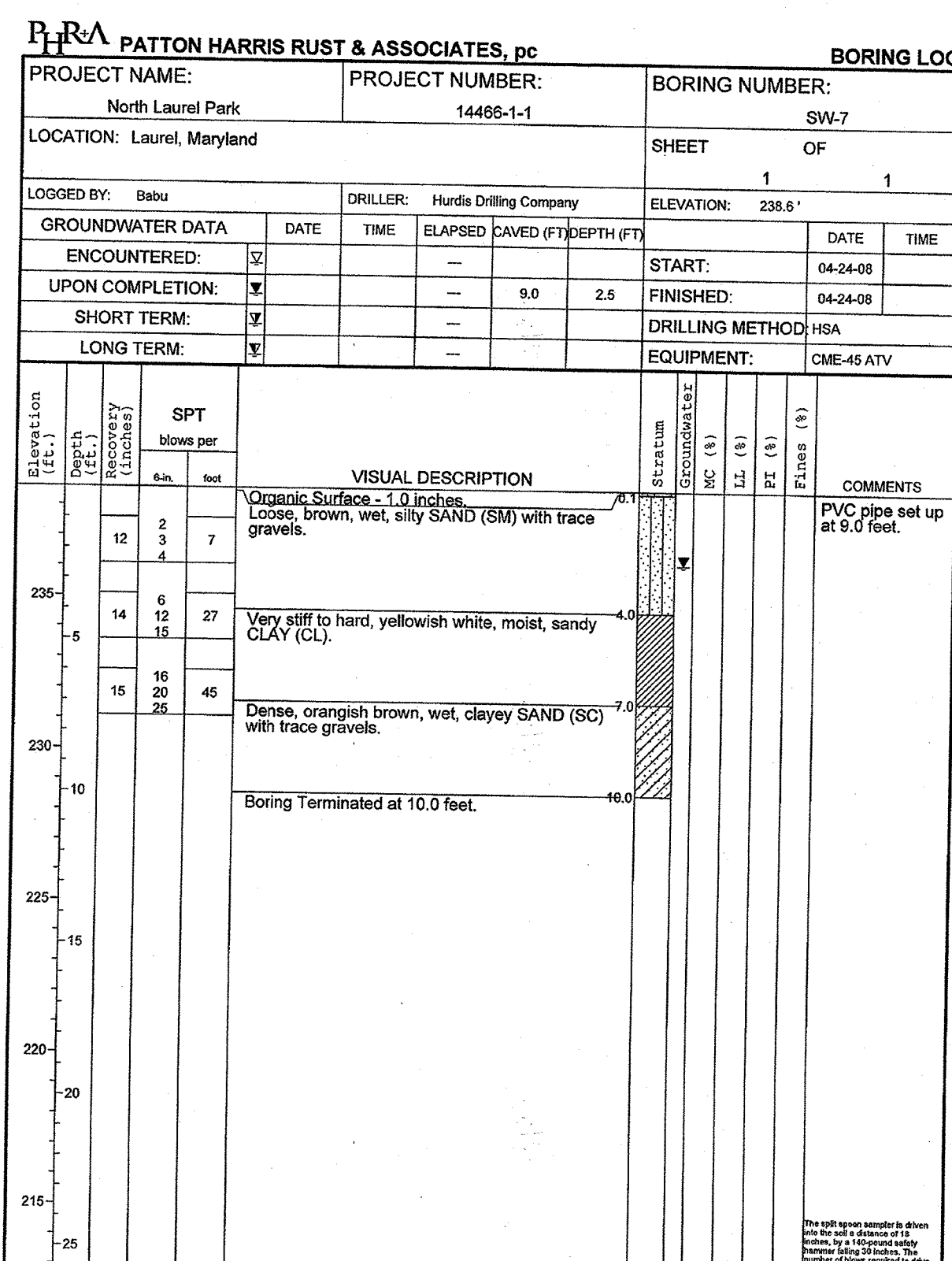
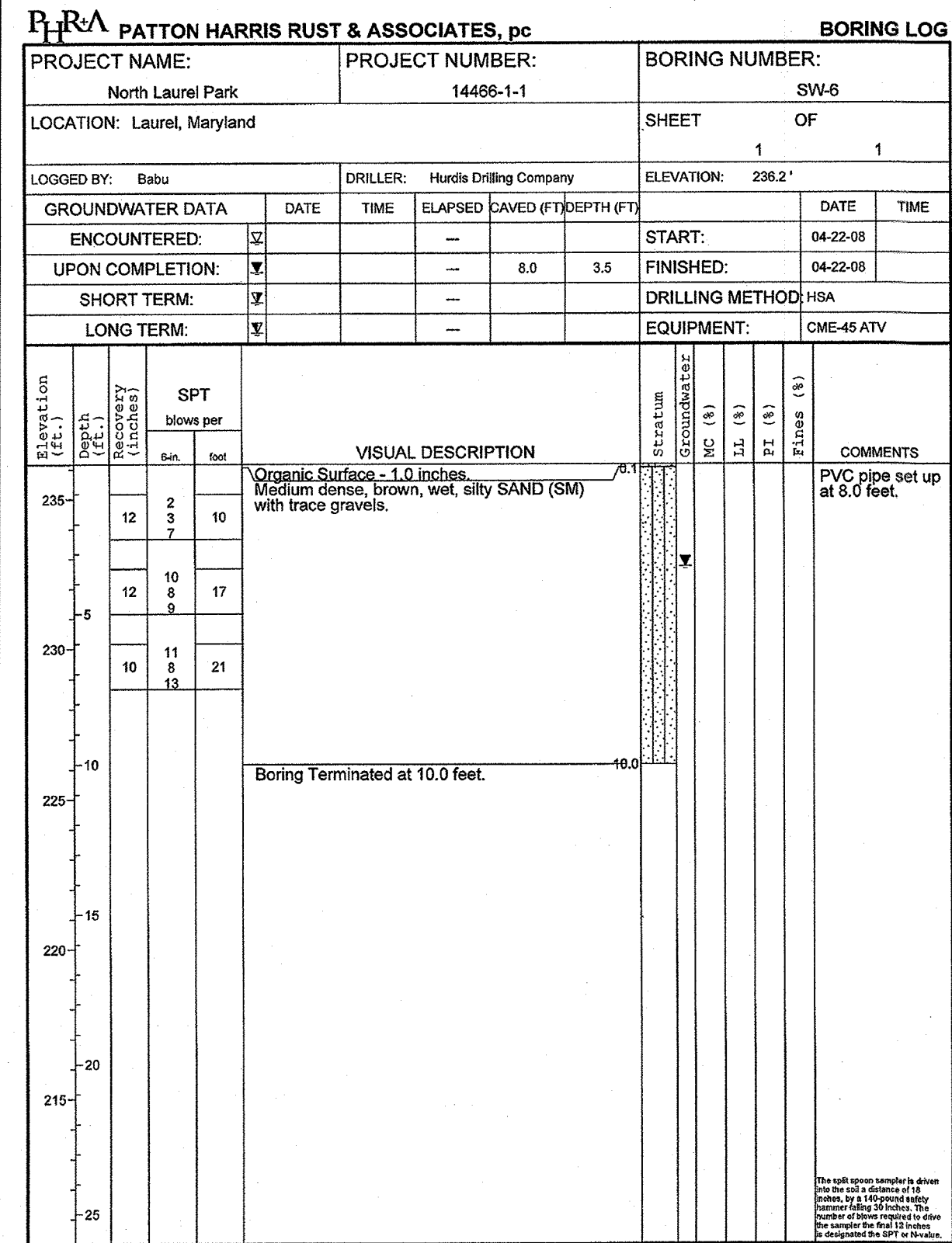
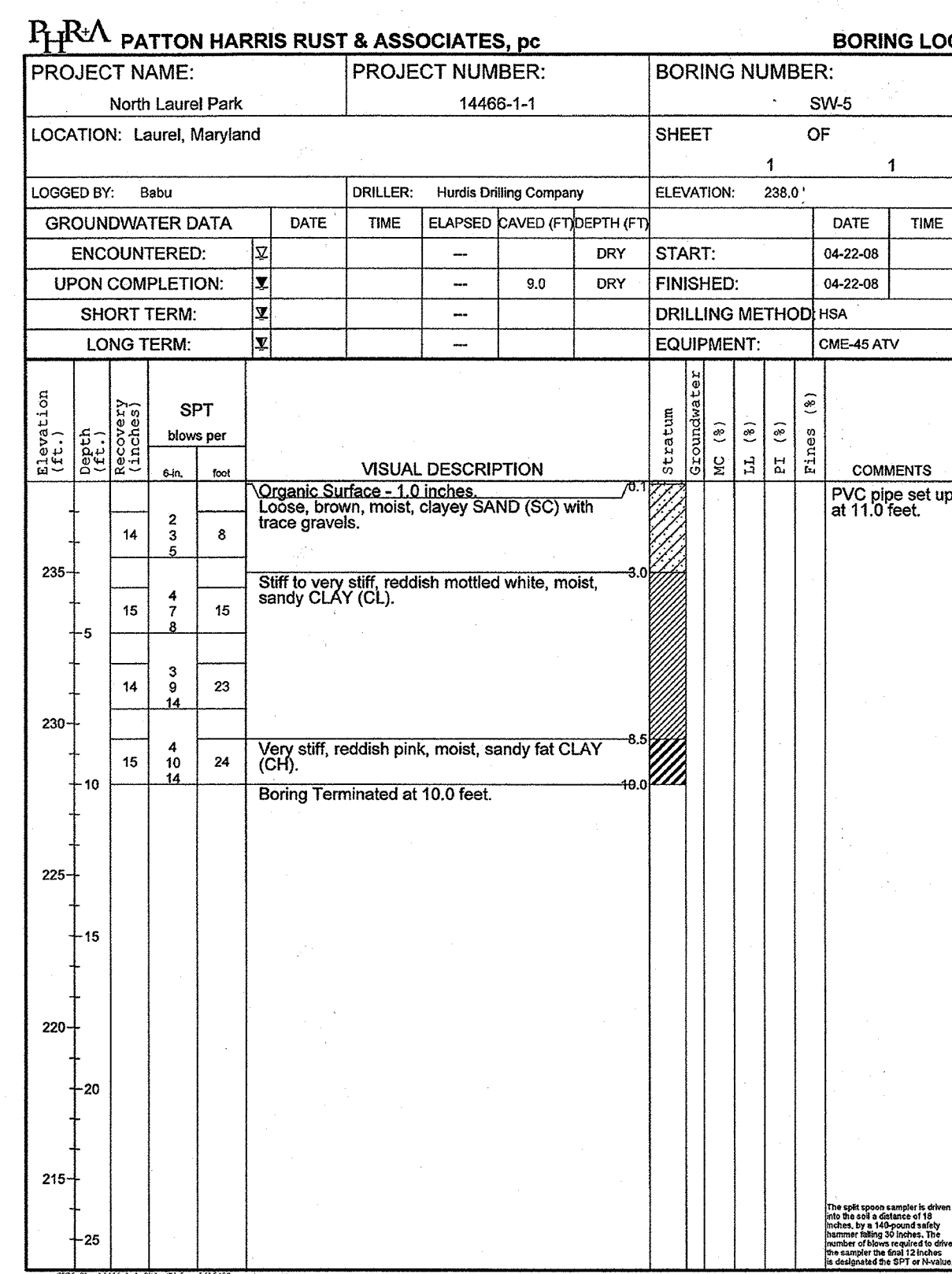
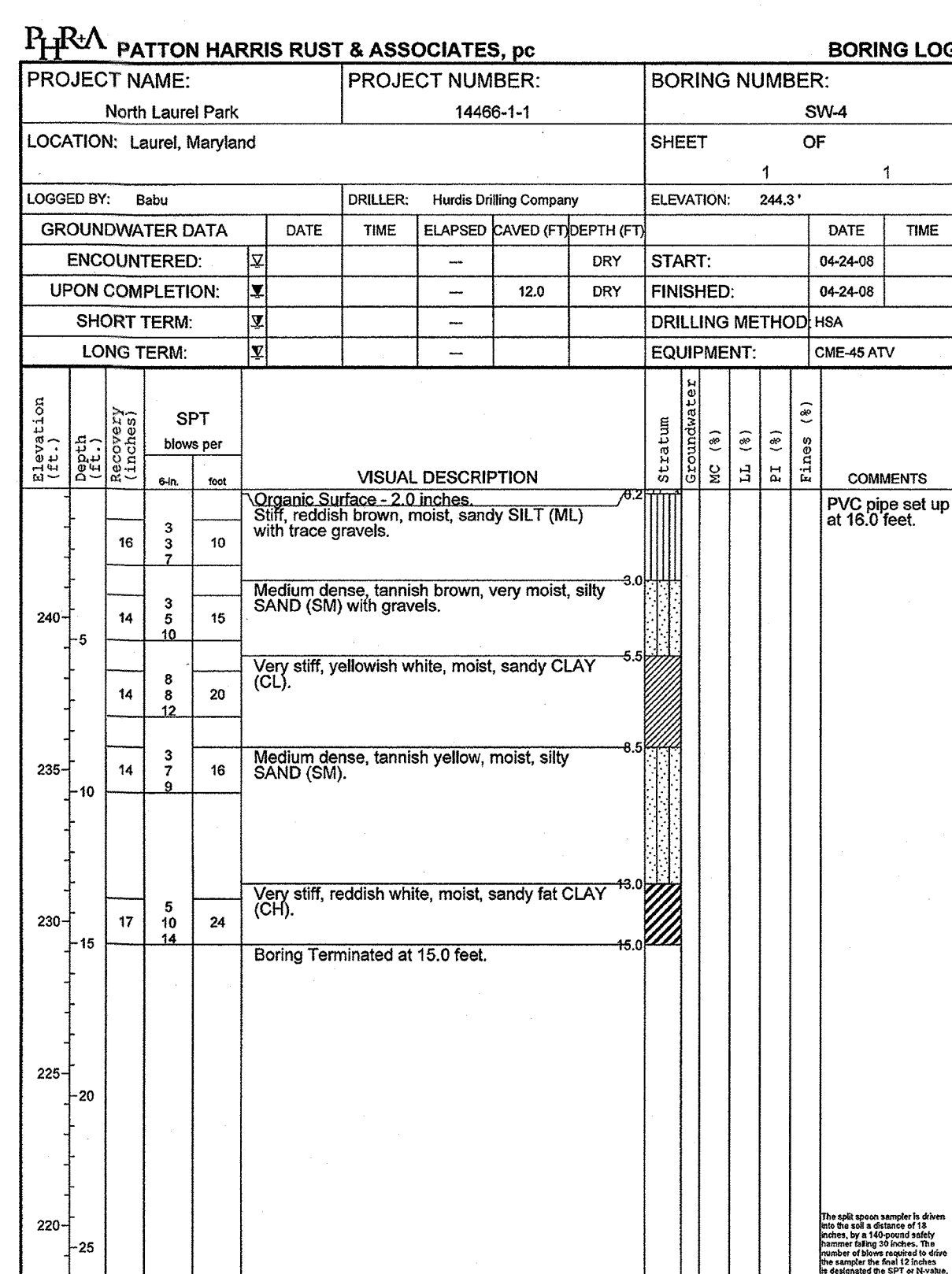
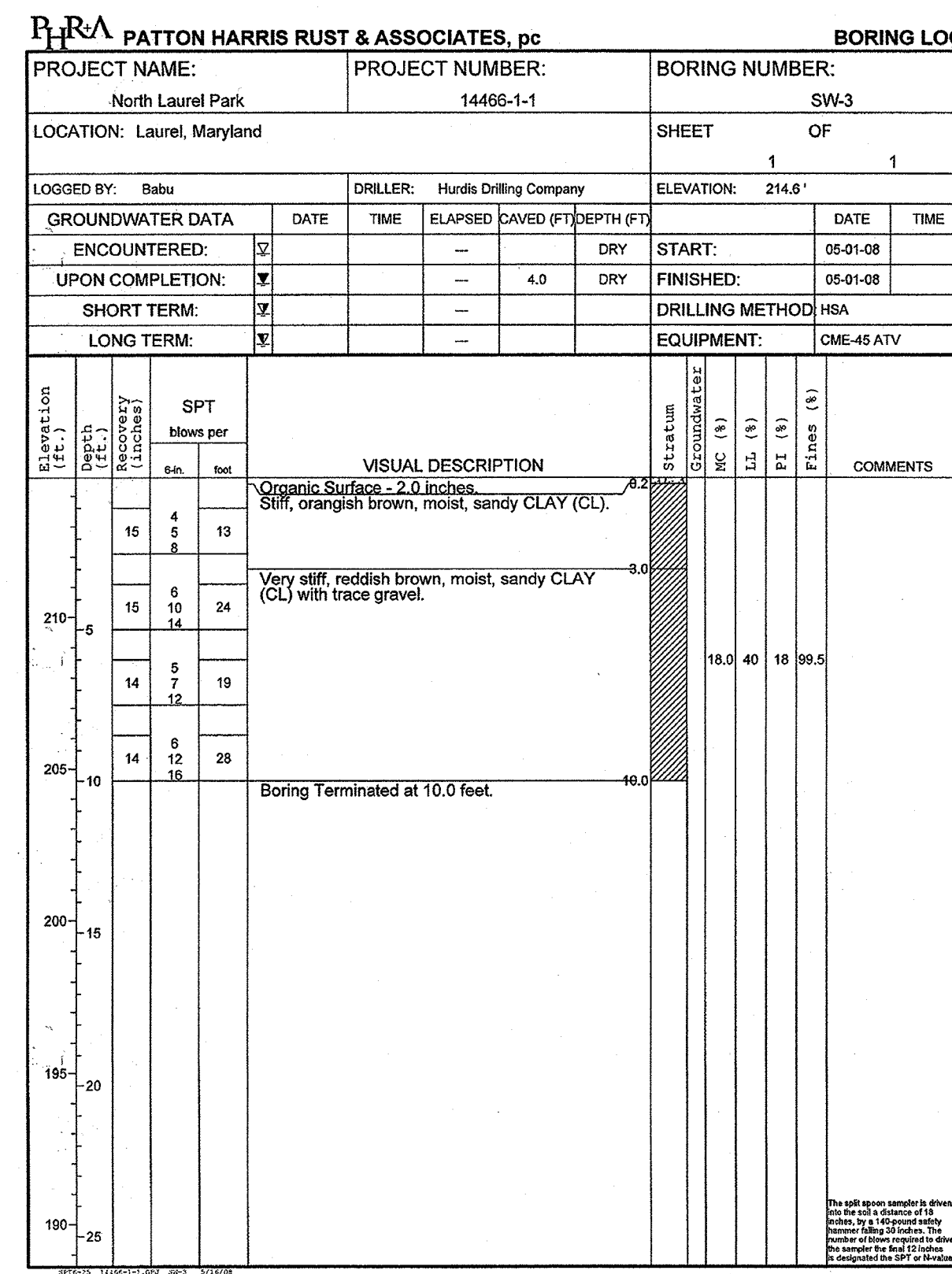
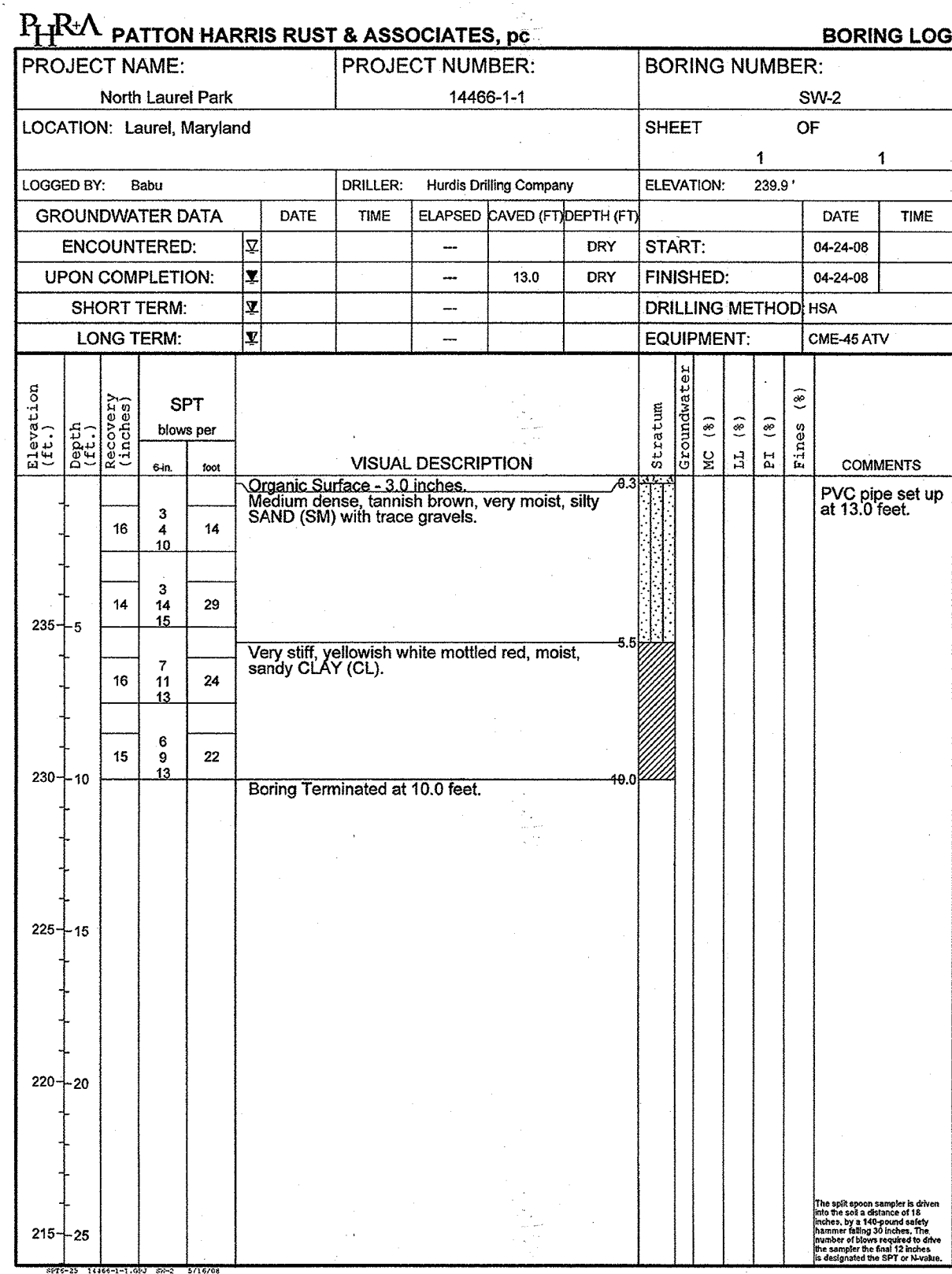
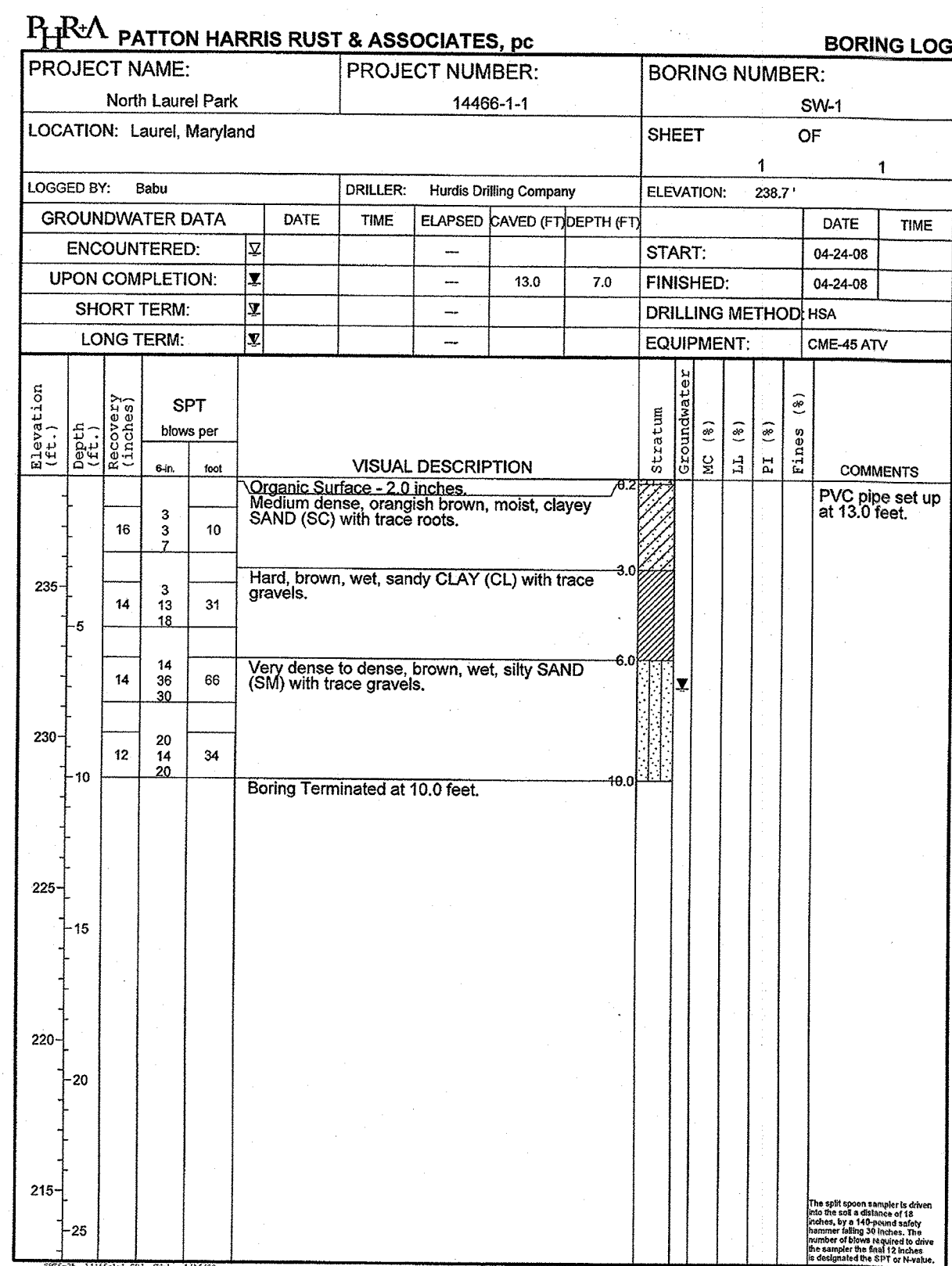
TITLE  
**STRUCTURE AND PIPE SCHEDULES**  
PRIVATE SEWER PROFILE

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

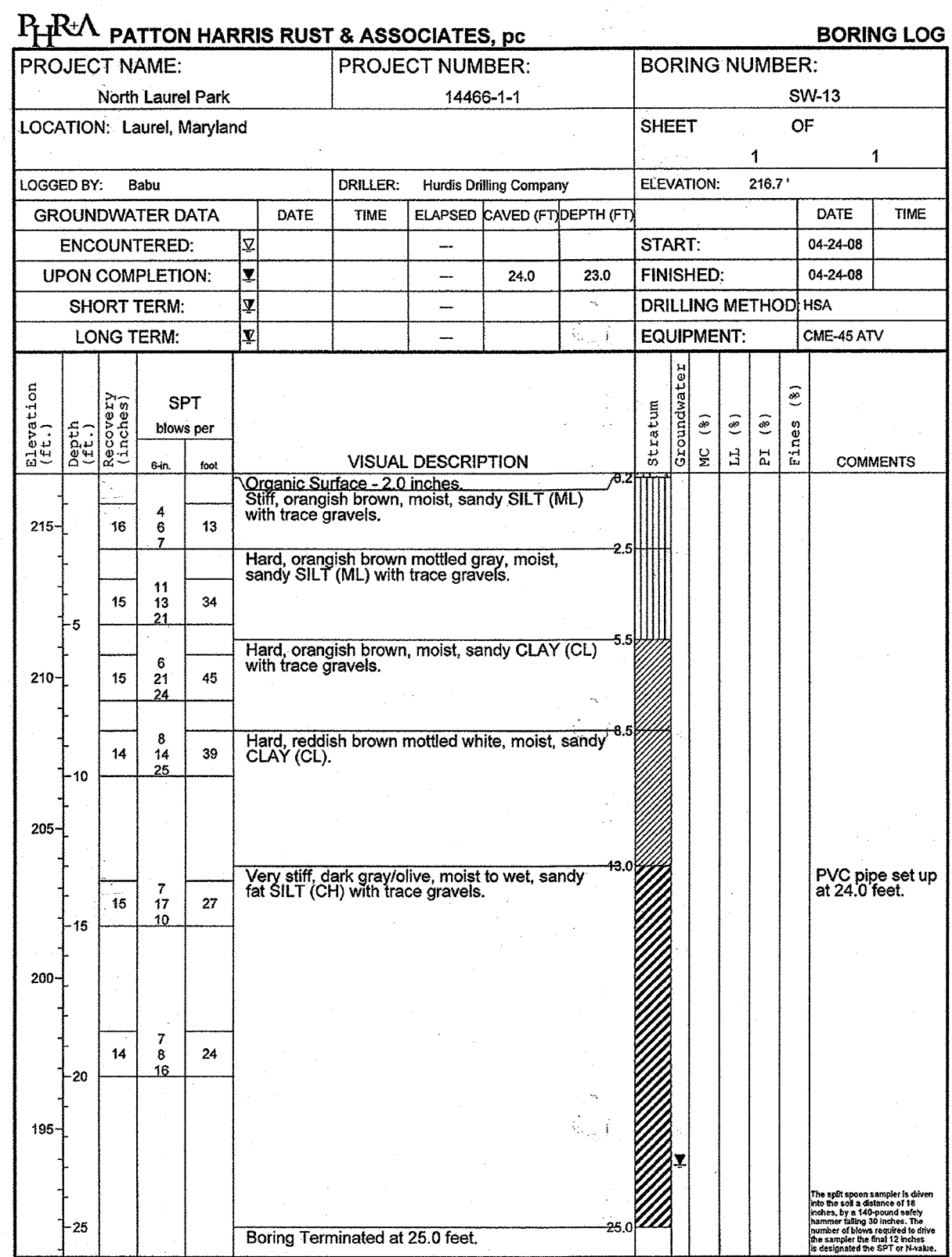
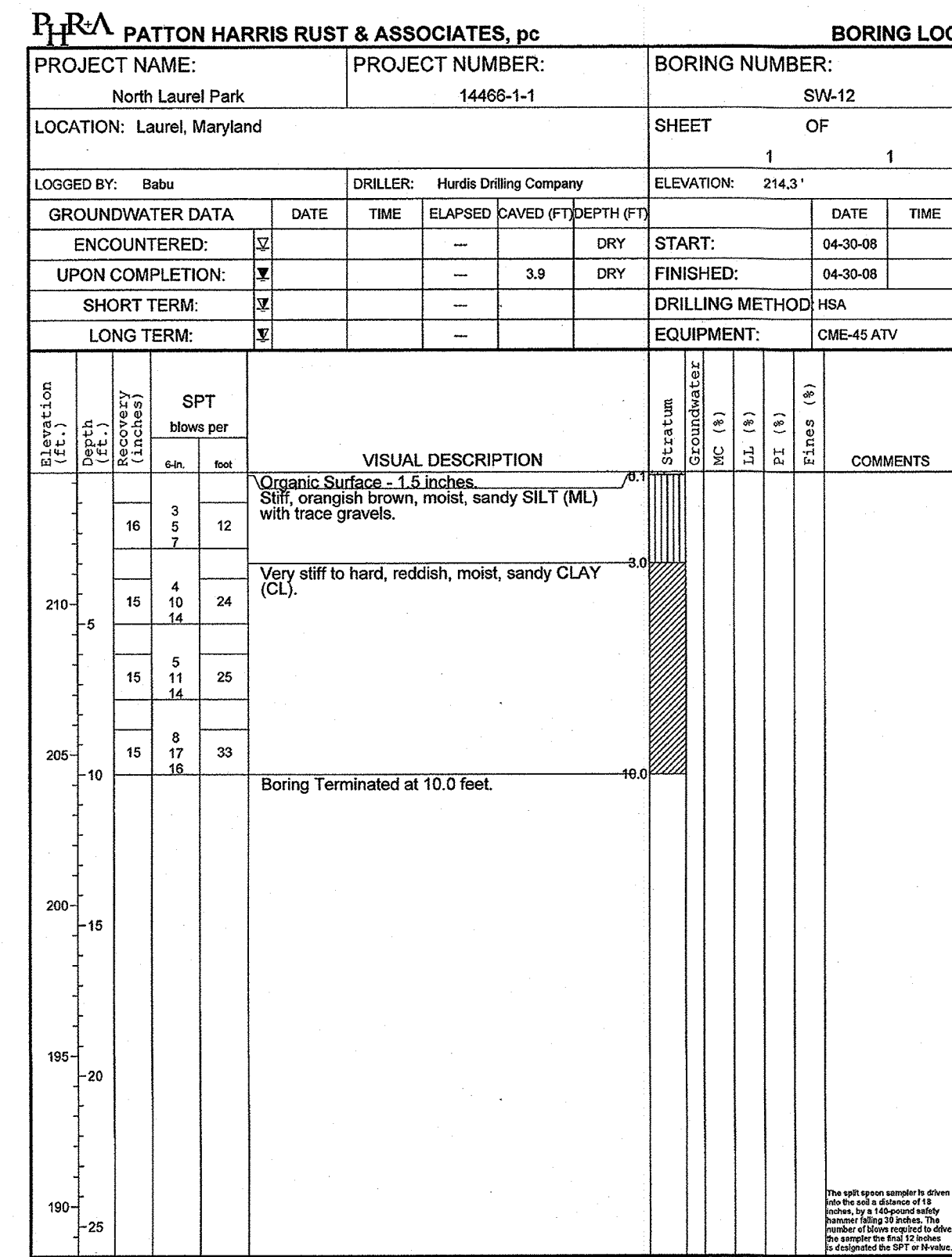
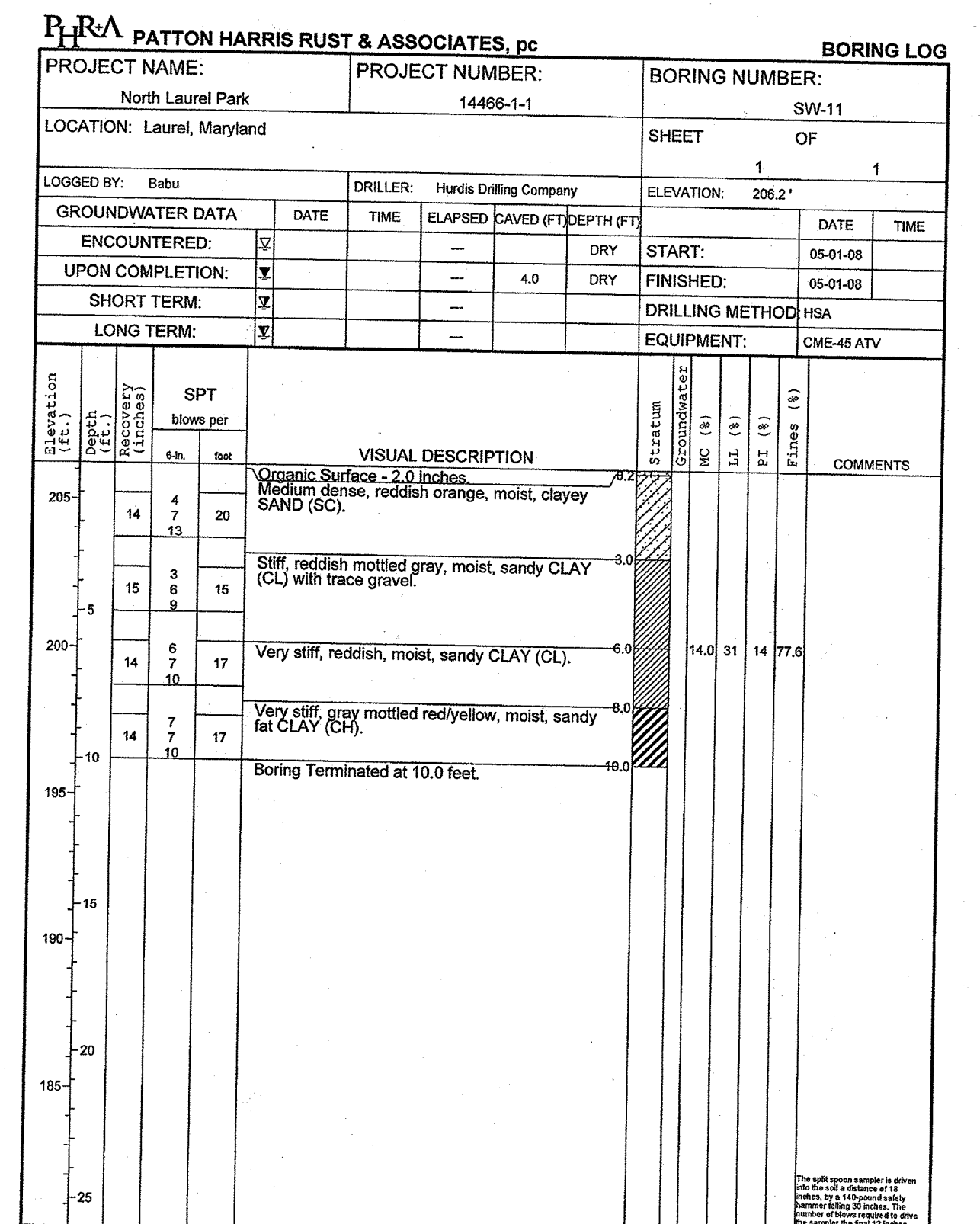
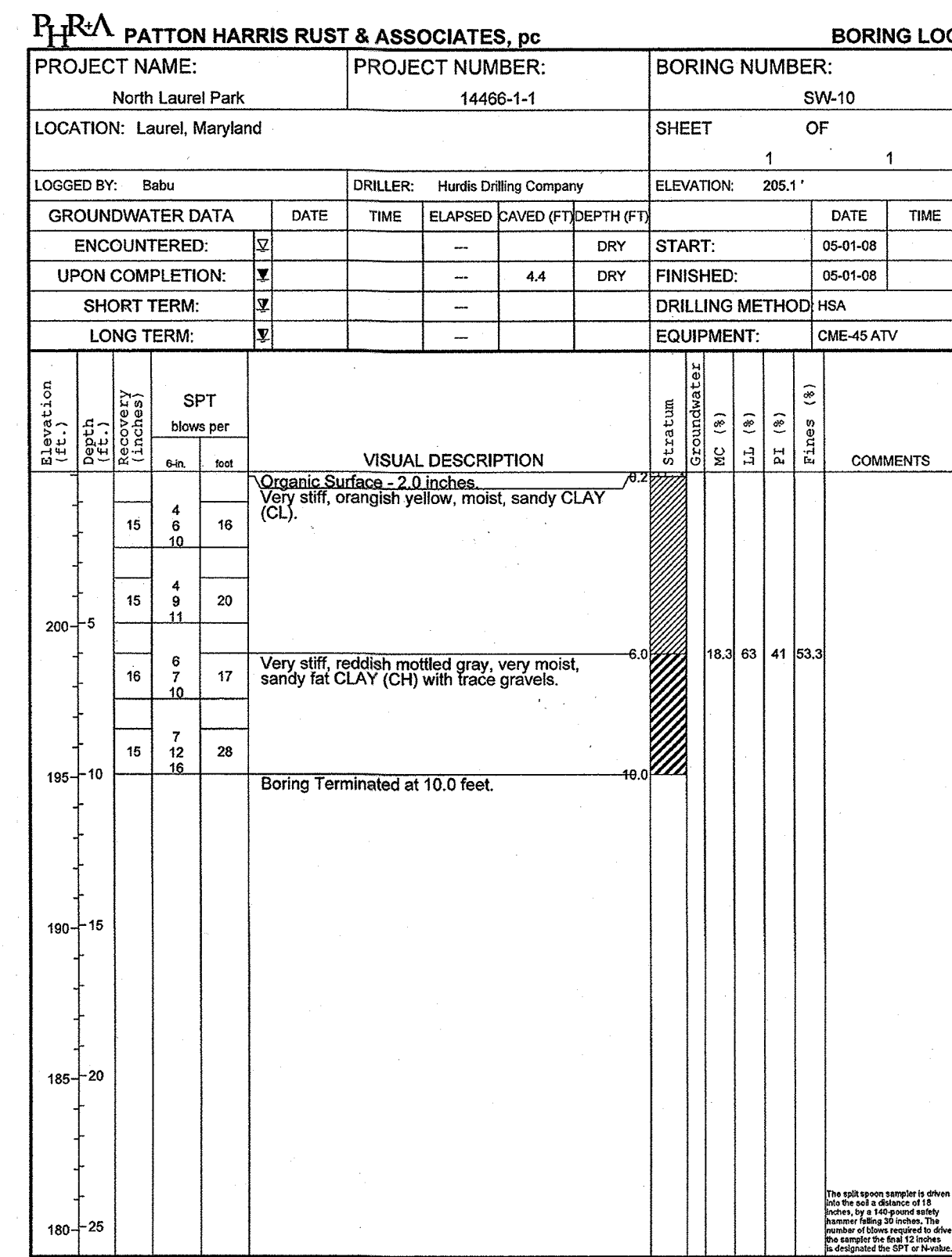
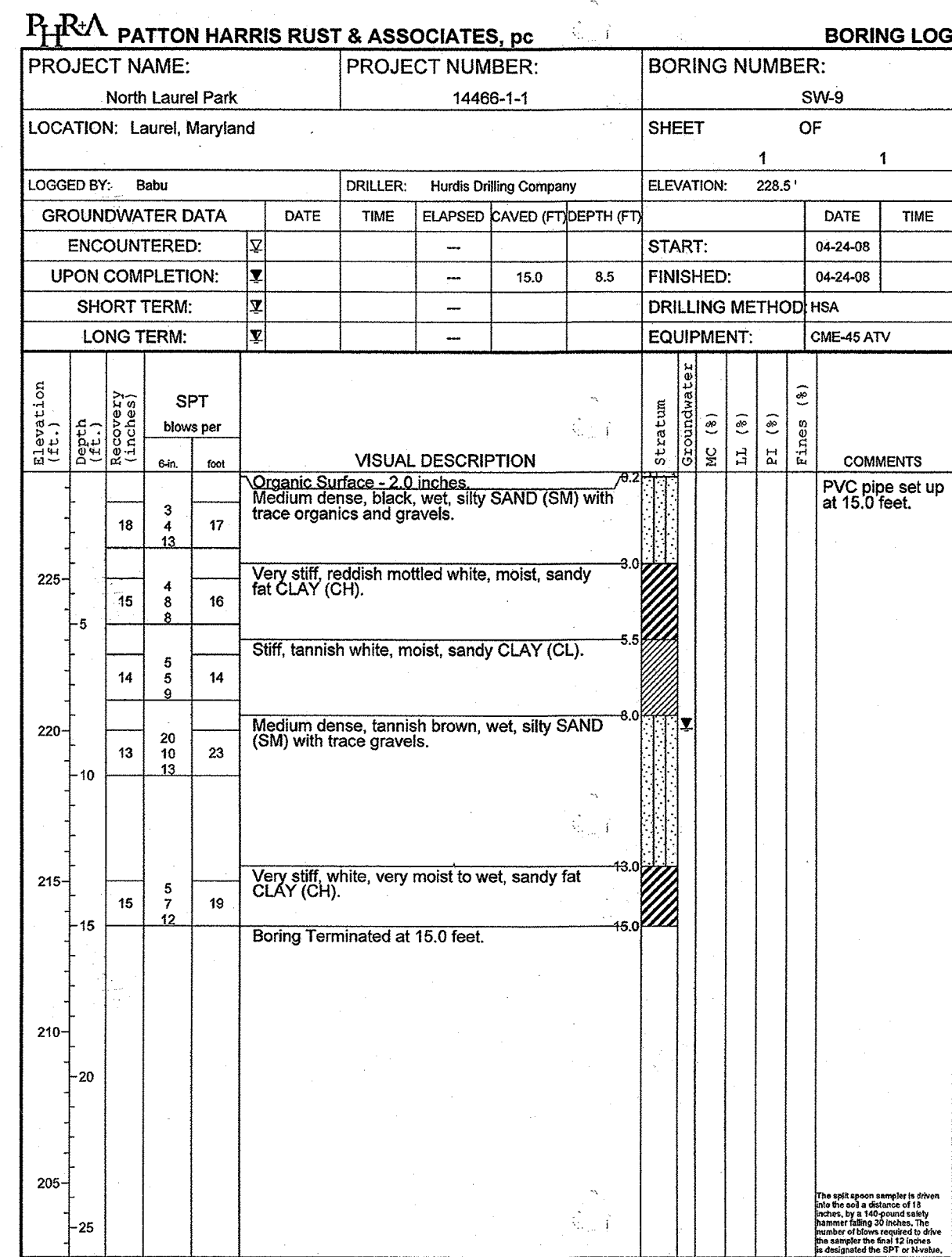
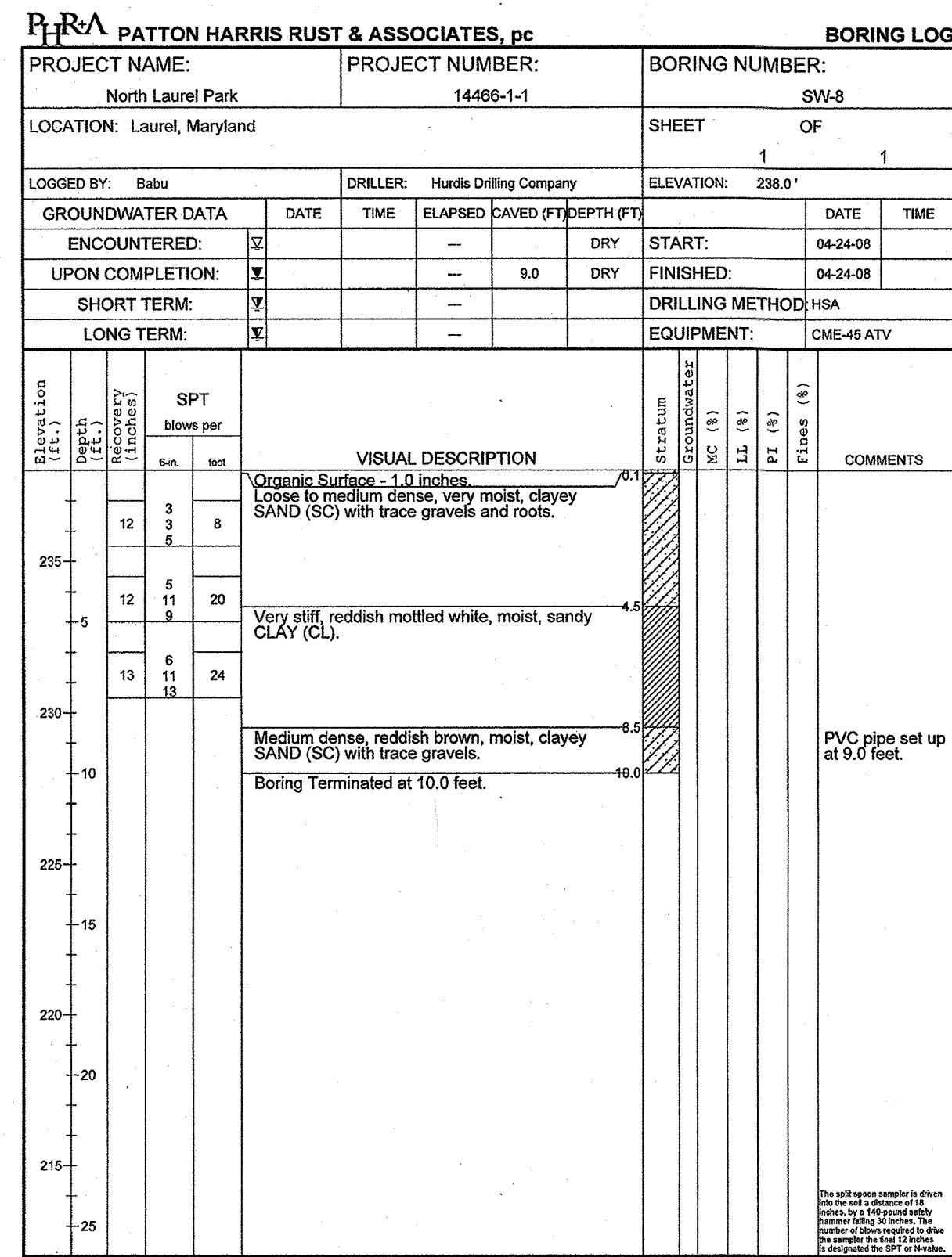
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STATE OF MARYLAND  
3-4-09  
DESIGNED BY: PDS  
DRAWN BY: PDS  
PROJECT NO: 14466-1-0  
C:\400SDP24.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 24 OF 69

BY: *David C. ...*  
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A SELF-EMPLOYED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33854, EXPIRATION DATE: 01-24-11

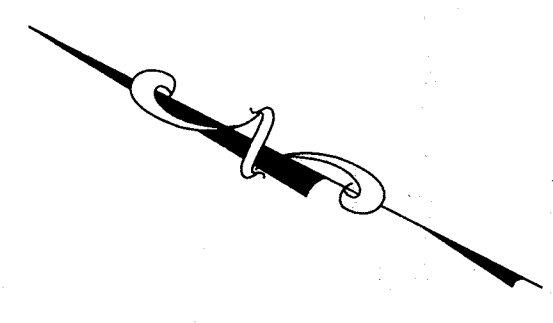
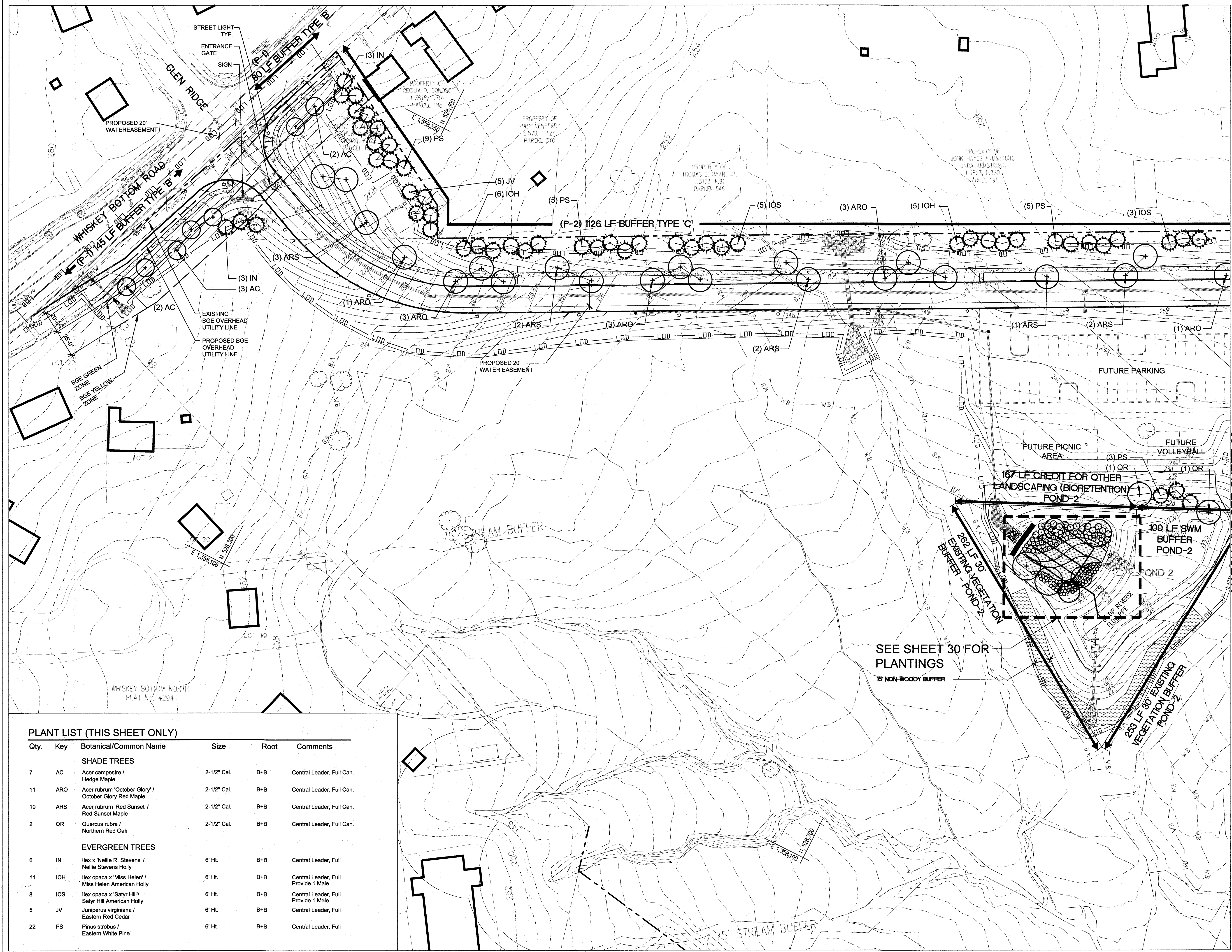












MATCH LINE SEE SHEET 28

**PLANT LIST (THIS SHEET ONLY)**

Qty.	Key	Botanical/Common Name	Size	Root	Comments
<b>SHADE TREES</b>					
7	AC	Acer campestre / Hedge Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
11	ARO	Acer rubrum 'October Glory' / October Glory Red Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
10	ARS	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
2	QR	Quercus rubra / Northern Red Oak	2-1/2" Cal.	B+B	Central Leader, Full Can.
<b>EVERGREEN TREES</b>					
6	IN	Ilex x 'Nellie R. Stevens' / Nellie Stevens Holly	6' HL.	B+B	Central Leader, Full
11	IOH	Ilex opaca x 'Miss Helen' / Miss Helen American Holly	6' HL.	B+B	Central Leader, Full Provide 1 Male
8	IOS	Ilex opaca x 'Satyr Hill' / Satyr Hill American Holly	6' HL.	B+B	Central Leader, Full Provide 1 Male
5	JV	Juniperus virginiana / Eastern Red Cedar	6' HL.	B+B	Central Leader, Full
22	PS	Pinus strobus / Eastern White Pine	6' HL.	B+B	Central Leader, Full

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas E. Suttler* 3/23/09  
DIRECTOR, DEP. DATE

*Chris DeMunn* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION 6 DATE

*Andy Hunt* 3/10/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
LANDSCAPE PLAN

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

DESIGNED BY : CLD

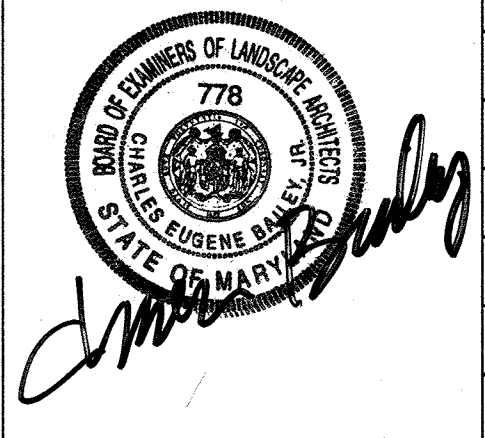
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PROJECT NO : 14466-1-0  
C400SDP03.DWG

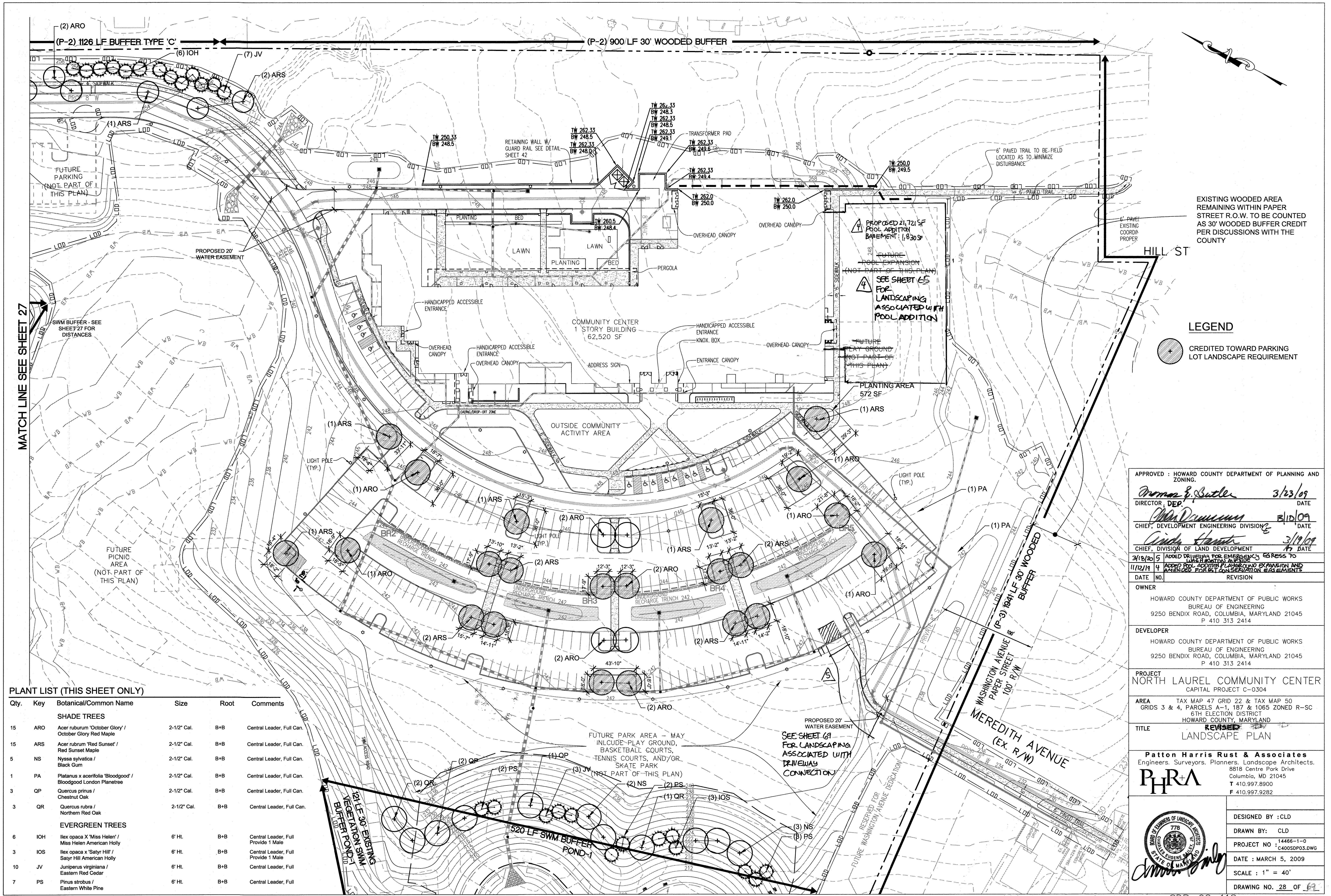
DATE : MARCH 5, 2009

SCALE : 1" = 40'

DRAWING NO. 27 OF 69







EXISTING WOODED AREA REMAINING WITHIN PAPER STREET R.O.W. TO BE COUNTED AS 30' WOODED BUFFER CREDIT PER DISCUSSIONS WITH THE COUNTY

**LEGEND**  
 CREDITED TOWARD PARKING LOT LANDSCAPE REQUIREMENT

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Roman S. Butler* 3/23/09  
 DIRECTOR, DEP. DATE  
*Chris Drummond* 3/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Andy Hantz* 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 3/18/05 ADDED DRIVEWAY FOR EMERGENCY ACCESS TO WASHINGTON AVENUE  
 11/12/19 4 ADDED POOL ADDITION PLAYGROUND EXPANSION AND ADDED FOREST FOR SEPARATION EASEMENTS

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT  
 NORTH LAUREL COMMUNITY CENTER  
 CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
 REVISED  
 LANDSCAPE PLAN

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

DESIGNED BY : CLD  
 DRAWN BY: CLD  
 PROJECT NO : 14466-1-0  
 C:\400SDP03.DWG  
 DATE : MARCH 5, 2009  
 SCALE : 1" = 40'  
 DRAWING NO. 28 OF 69

**PLANT LIST (THIS SHEET ONLY)**

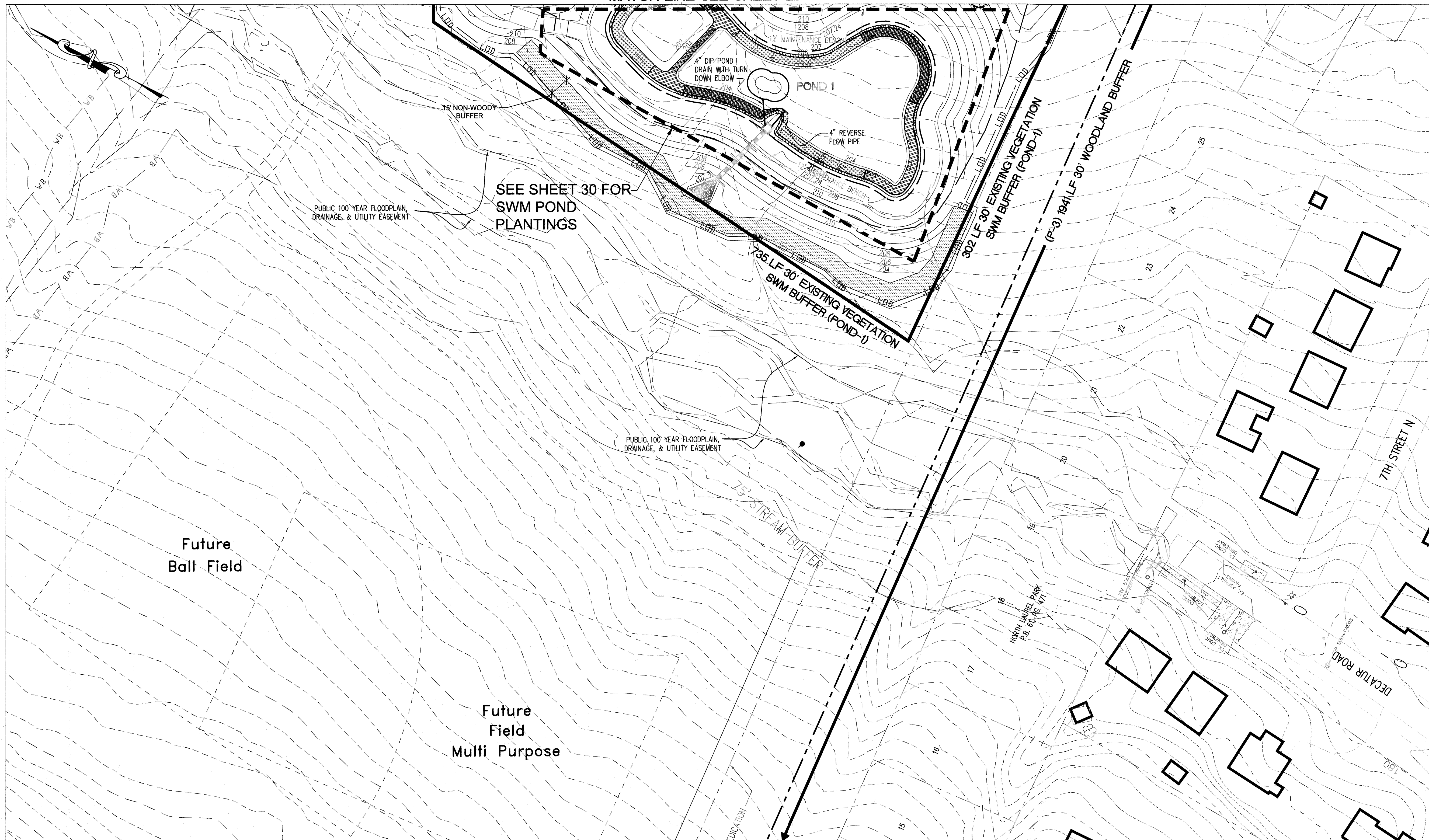
Qty.	Key	Botanical/Common Name	Size	Root	Comments
<b>SHADE TREES</b>					
15	ARO	Acer rubrum 'October Glory' / October Glory Red Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
15	ARS	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B+B	Central Leader, Full Can.
5	NS	Nyssa sylvatica / Black Gum	2-1/2" Cal.	B+B	Central Leader, Full Can.
1	PA	Platanus x acerifolia 'Bloodgood' / Bloodgood London Planetree	2-1/2" Cal.	B+B	Central Leader, Full Can.
3	QP	Quercus prinus / Chestnut Oak	2-1/2" Cal.	B+B	Central Leader, Full Can.
3	QR	Quercus rubra / Northern Red Oak	2-1/2" Cal.	B+B	Central Leader, Full Can.
<b>EVERGREEN TREES</b>					
6	IOH	Ilex opaca X 'Miss Helen' / Miss Helen American Holly	6' Ht.	B+B	Central Leader, Full Provide 1 Male
3	IOS	Ilex opaca X 'Satyr Hill' / Satyr Hill American Holly	6' Ht.	B+B	Central Leader, Full Provide 1 Male
10	JV	Juniperus virginiana / Eastern Red Cedar	6' Ht.	B+B	Central Leader, Full
7	PS	Pinus strobus / Eastern White Pine	6' Ht.	B+B	Central Leader, Full

MATCH LINE SEE SHEET 29

SDP-08-118



MATCH LINE SEE SHEET 28



EXTENDS TO EDGE OF PROPERTY ALONG THIS EDGE (1,941 LF TOTAL)

**NO PLANTINGS ON THIS SHEET**

SEE SHEET 30 FOR SWM POND PLANTINGS

SEE SHEET 28 FOR STORMWATER MANAGEMENT BUFFER PLANTINGS

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Thomas J. Rutten</i> DIRECTOR, DEP.	3/23/09 DATE
<i>William D. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	2/10/09 DATE
<i>Cindy Hamer</i> CHIEF, DIVISION OF LAND DEVELOPMENT	3/9/09 DATE

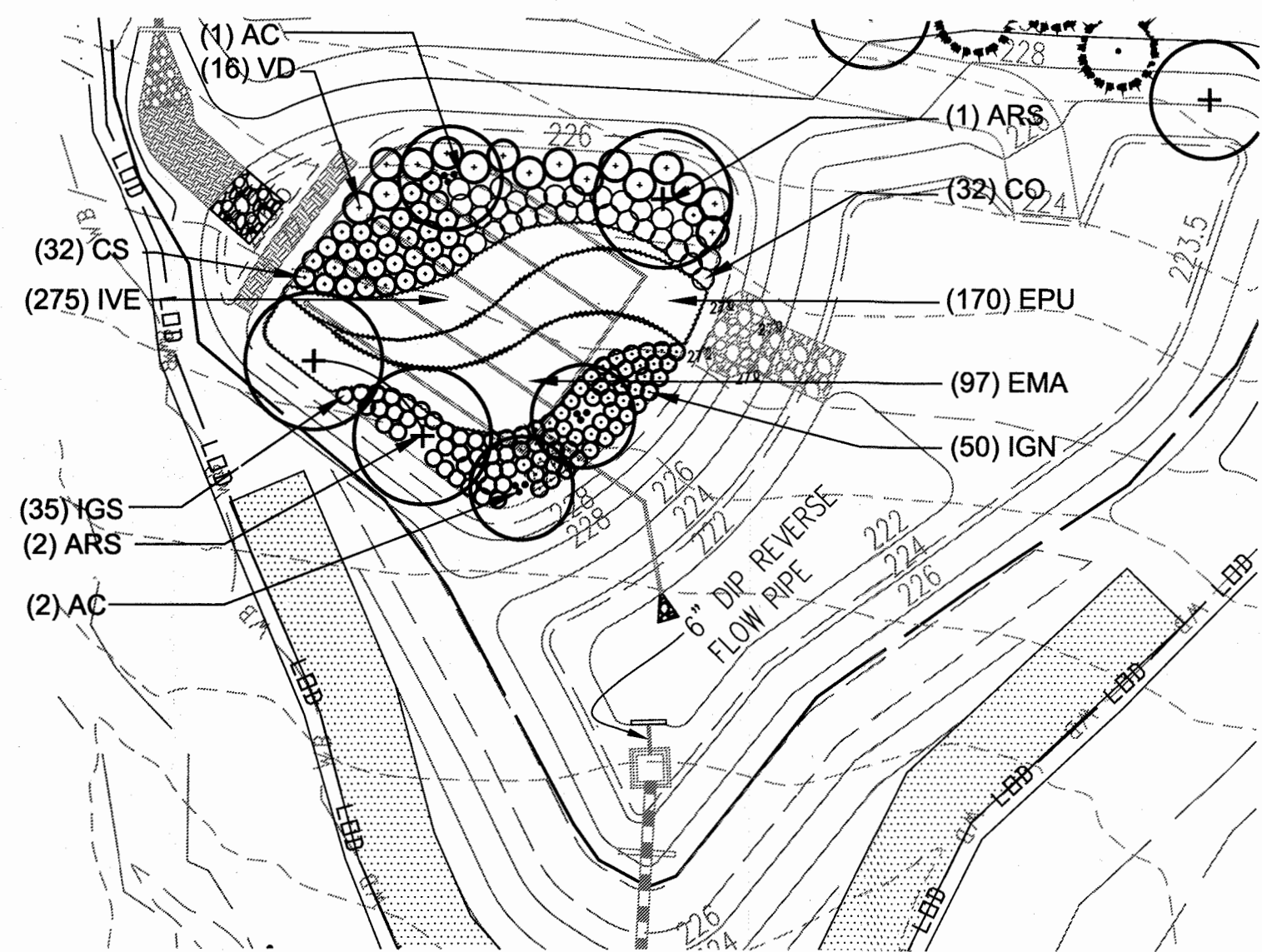
DATE	NO.	REVISION
OWNER		
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414		
DEVELOPER		
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414		
PROJECT		
NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT C-0304		
AREA		
TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 1B7 & 1065 ZONED R-5C 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
LANDSCAPE PLAN		

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

	DESIGNED BY : CLD
	DRAWN BY: CLD
	PROJECT NO : 14486-1-D C400SDPO3.DWG
	DATE : MARCH 5, 2009
	SCALE : 1" = 40'
DRAWING NO. 29 OF 69	

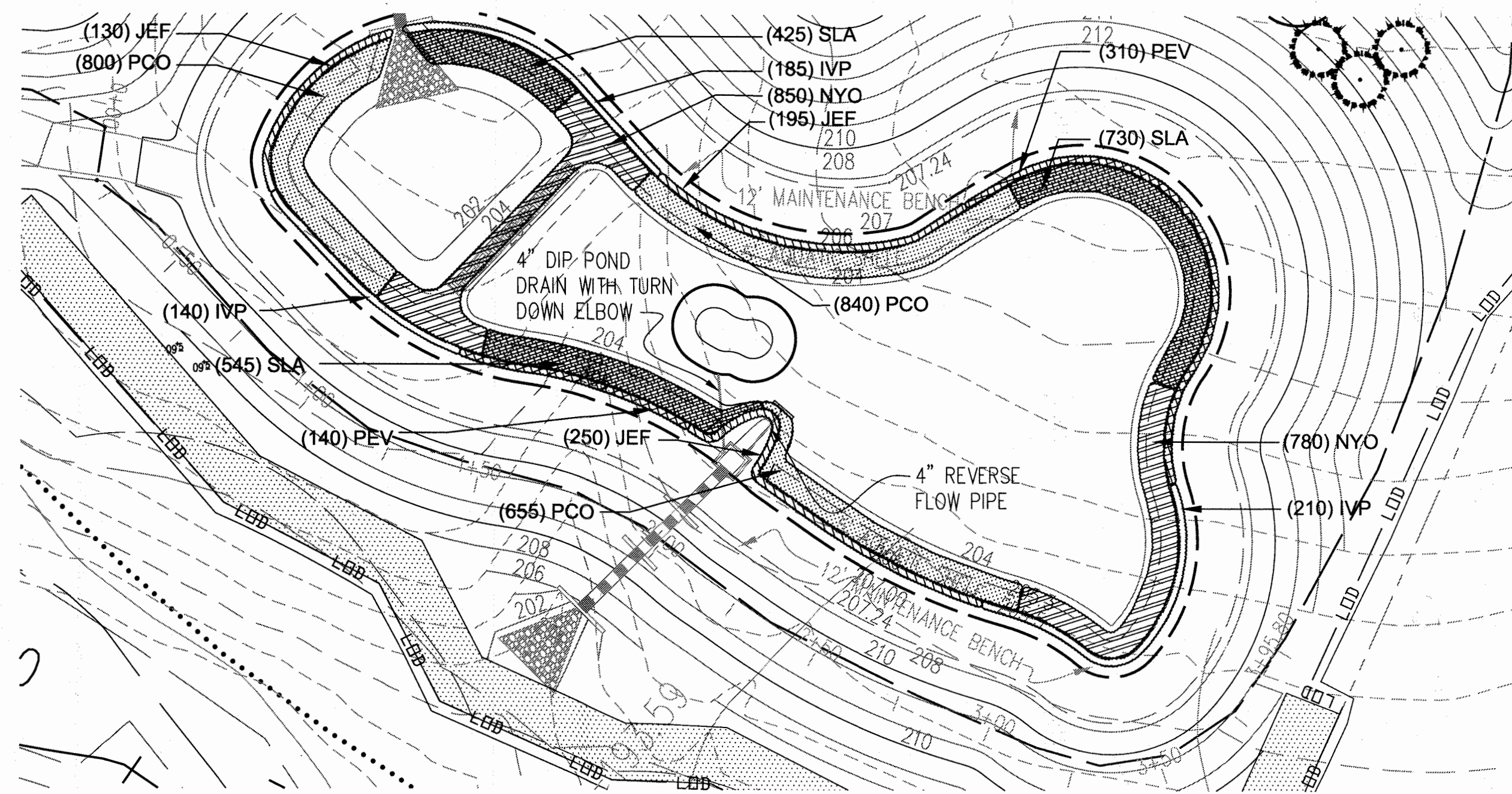
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### 1 Pond 2 and Bioretention Area 1 Plantings

Scale: 1" = 30'



### 2 Pond 1 Plantings

Scale: 1" = 30'

### SWM PLANT LIST

Qty.	Key	Botanical/Common Name	Size	Root	Comments
<b>SHADE TREES</b>					
3	ARS	Acer rubrum 'Red Sunset' / Red Sunset Maple	2-1/2" Cal.	B+B	Central Leader, Full Canopy
<b>UNDERSTORY TREES</b>					
3	AC	Amelanchier canadensis / Serviceberry	8' Ht.	B+B	Clump, 3-5 Canes, Full Canopy
<b>SHRUBS</b>					
32	CO	Cephalanthus occidentalis / Buttonbush	#5	Cont.	30" Ht, Full
32	CS	Cornus sericea 'Isanti' / Isanti Dogwood	#5	Cont.	30" Ht, Full
50	IGN	Ilex glabra 'Nigra' / Nigra Inkberry Holly	#5	Cont.	30" Ht, Full
35	IGS	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	#5	Cont.	30" Ht, Full
16	VD	Viburnum dentatum 'Synnestevedt' / Chicago Lustre Arrowwood Viburnum	#5	Cont.	30" Ht, Full
<b>HERBACEOUS</b>					
170	EPU	Echinacea purpurea / Purple Coneflower	#1	Cont.	24" O.C.
97	EMA	Eupatorium maculatum / Joe Pye Weed	#1	Cont.	36" O.C.
275	IVE	Iris versicolor / Blueflag Iris	#1	Cont.	18" O.C.
535	IVP	Iris versicolor / Blueflag Iris	-	Plug	12" O.C.
575	JEF	Juncus effusus / Soft Rush	-	Plug	12" O.C.
1630	NYO	Nymphaea odorata / American waterlily	-	Plug	12" O.C.
2295	PCO	Pontederia cordata / Pickerel Weed	-	Plug	12" O.C.
450	PEV	Peltandra virginica / Arrow Arum	-	Plug	12" O.C.
1700	SLA	Sagittaria latifolia / Duck Potato	-	Plug	12" O.C.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Morgan S. Butler* 3/23/09  
 DIRECTOR, DEP DATE  
*William J. ...* 3/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Cindy ...* 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT

NORTH LAUREL COMMUNITY CENTER  
 CAPITAL PROJECT C-0304

AREA

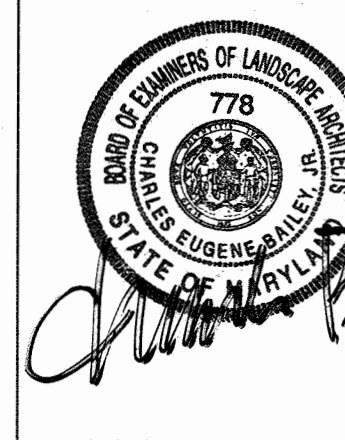
TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE

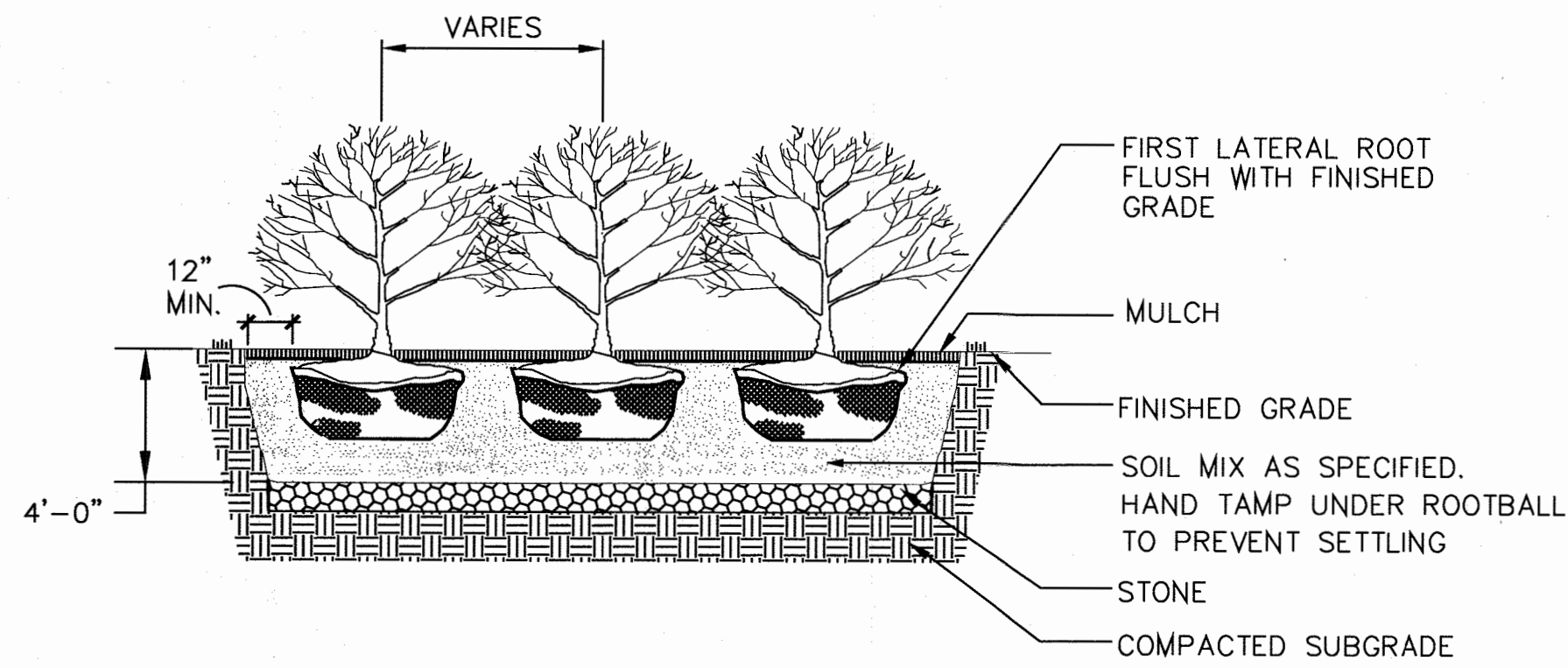
STORMWATER PLANTING PLANS

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

DESIGNED BY : CLD  
 DRAWN BY: CLD  
 PROJECT NO : 14486-1-0  
 C:\400SDP03.DWG  
 DATE : MARCH 5, 2009  
 SCALE : 1" = 40'  
 DRAWING NO. 30 OF 69



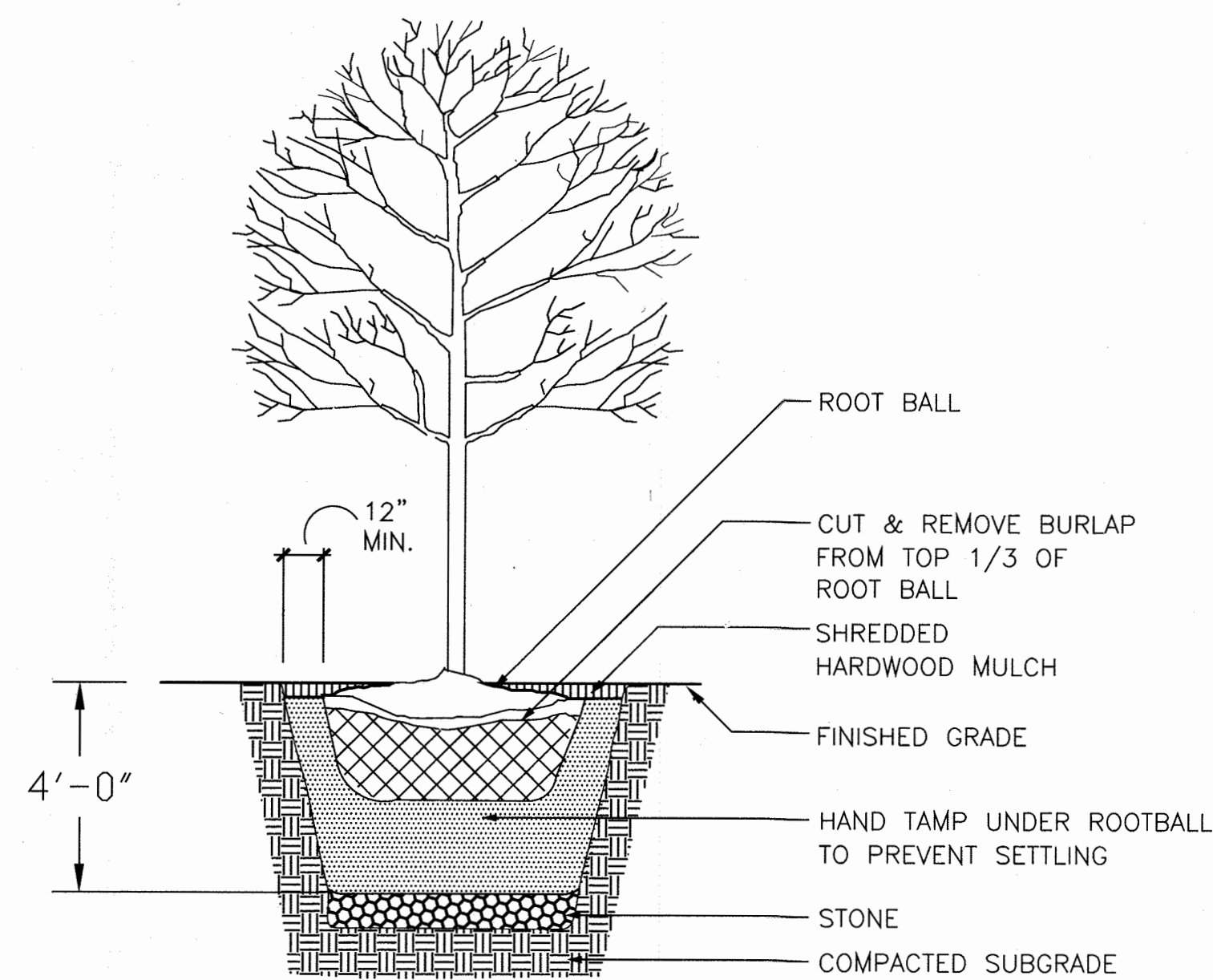




NOTE:  
1. CUT AND REMOVE BURLAP FROM TOP 1/3 OF ROOT BALL AS SHOWN.

## 1 Typical Bioretention Shrub Planting

NTS



## 2 Bioretention Tree Planting

NTS

SCHEDULE A PERIMETER LANDSCAPE EDGE			
CATEGORY	ADJACENT TO PERIMETER AND ROADWAYS		
	P-1	P-2	P-3
Perimeter			
Perimeter/Frontage Designation	B	C	C
Landscape Type			
Linear Feet of Roadway Frontage/Perimeter	225	2026	1941
Credit for Existing Vegetation (Yes, No, Linear Feet Describe below if needed)	No	Yes 900	Yes 1941
Credit for Wall, Fence or Berm (Yes, No, Linear Feet Describe below if needed)	No	No	No
Subtotal (linear feet of perimeter - credits)	225	1126	0
Number of Plants Required			
Shade Trees	1:50=5	1:40=28	-
Evergreen Trees	1:40=6	1:20=56	-
Shrubs	-	-	-
Number of Plants Provided			
Shade Trees	5	28	-
Evergreen Trees	6	56	-
Other Trees (2:1 Substitution)	-	-	-
Shrubs (10:1 Substitution)	-	-	-
Describe Plant Substitution Credits Below if needed)			

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
Number of parking spaces	289
Number of trees required	15
Number of trees provided	
Shade Trees	22
Other Trees (2:1 Substitution)	-

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING		
Stormwater Management Pond	POND 1	POND 2
Linear feet of perimeter	1,307	782
Credit for existing vegetation	YES 787	YES 515
Credit for other landscaping	NO	YES 167
Subtotal (linear feet of perimeter - credits)	520	100
Number of trees required		
Shade Trees (1:50)	11	2
Evergreen Trees (1:40)	13	3
Number of trees provided		
Shade Trees	11	2
Other Trees (2:1 Substitution)	13	3

NOTE:  
PROVIDED PLANT QUANTITIES SHOWN REPRESENT MORE THAN THE REQUIRED PLANTING PER SCHEDULES A, B, & D.

At the time of plant installation, all shrubs and trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from the approved Landscape Plan may result in denial or delay in the final release of the landscape plan until such time as all required materials are planted and/or revisions are made to the applicable plans.

The owner, tenants, and/or their agents shall be responsible for maintenance of the required landscaping including both plant materials and berms, fences and walls. All plant materials 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.

This plan has been prepared in accordance with Section 16.124 of the Howard County Code and Landscape Manual with 75 shade trees, 3 ornamental trees, 78 evergreen trees and 165 shrubs.

### Developer's/Owner's Landscape 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 Landscape Manual. I/we further certify that upon completion 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.

Michael J. D'Amico 3-3-09  
Developer's/Owner's Name



SEES SHEET 65 FOR ADDITIONAL LANDSCAPING ASSOCIATED WITH POOL ADDITION AND PLAYGROUND EXPANSION



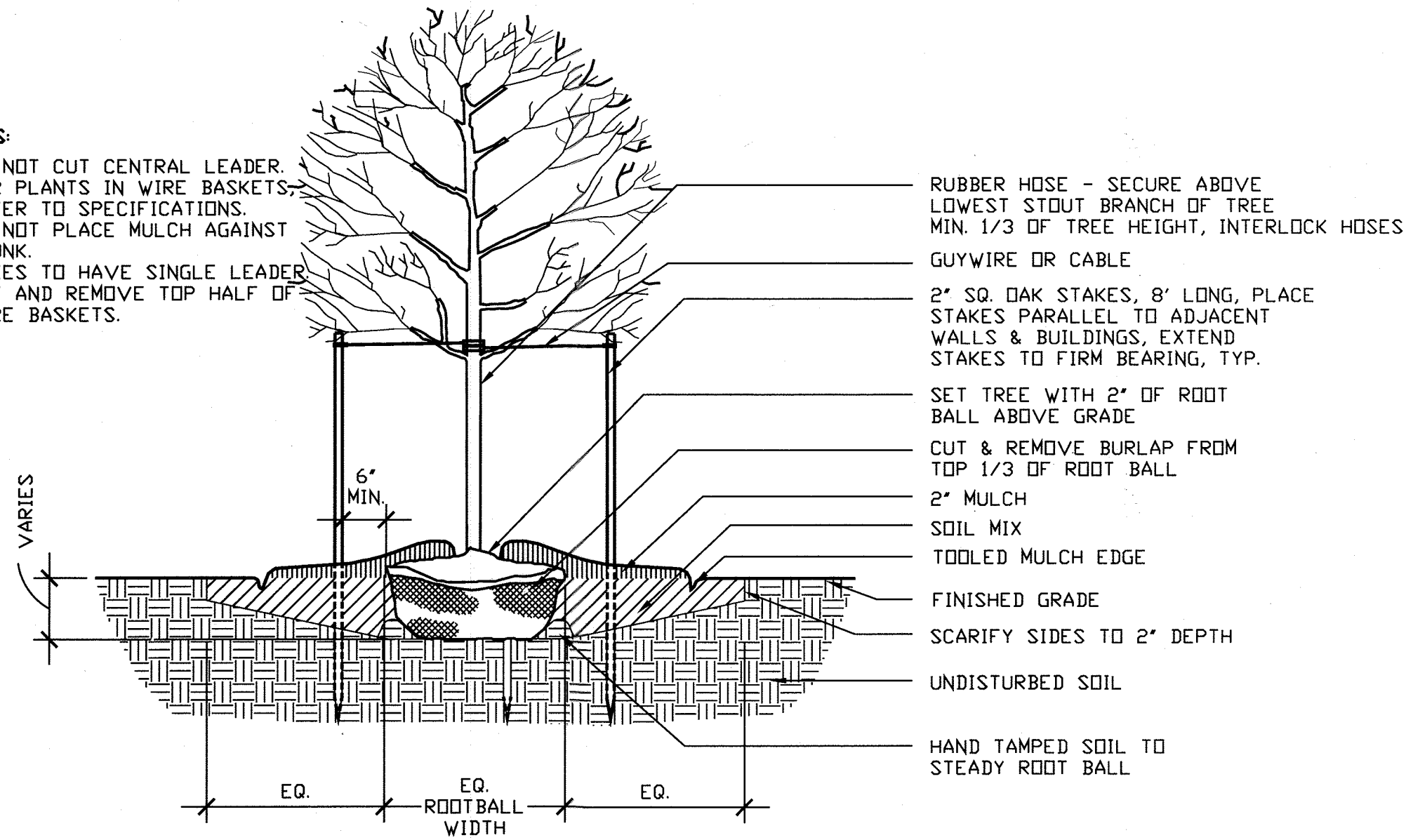
SEE SHEET 69 FOR ADDITIONAL LANDSCAPING ASSOCIATED WITH DRIVEWAY CONNECTION

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<u>William E. Butler</u>	3/23/09
DIRECTOR, DEP.	DATE
<u>Chris Dammann</u>	3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<u>Gina Hanna</u>	3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
3/19/09	ADDED DRIVEWAY FOR EMERGENCY EGRESS TO DRIVEWAY
11/12/19	ADDED POOL, ADDITIONAL PLAYGROUND EXPANSION AND AMENDED TREE CONSERVATION ELEMENTS.
DATE	NO. REVISION
OWNER	
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
DEVELOPER	
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
PROJECT	
NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT C-0304	
AREA	
TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
REVISION PLANTING DETAILS, PLANT LIST & PLANT SCHEDULES	
Patton Harris Rust & Associates Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
DESIGNED BY : CLD	
DRAWN BY: CLD	
PROJECT NO : 14466-1-0 C400SDP03.DWG	
DATE : MARCH 5, 2009	
SCALE : NTS	
DRAWING NO. 31 OF 69	



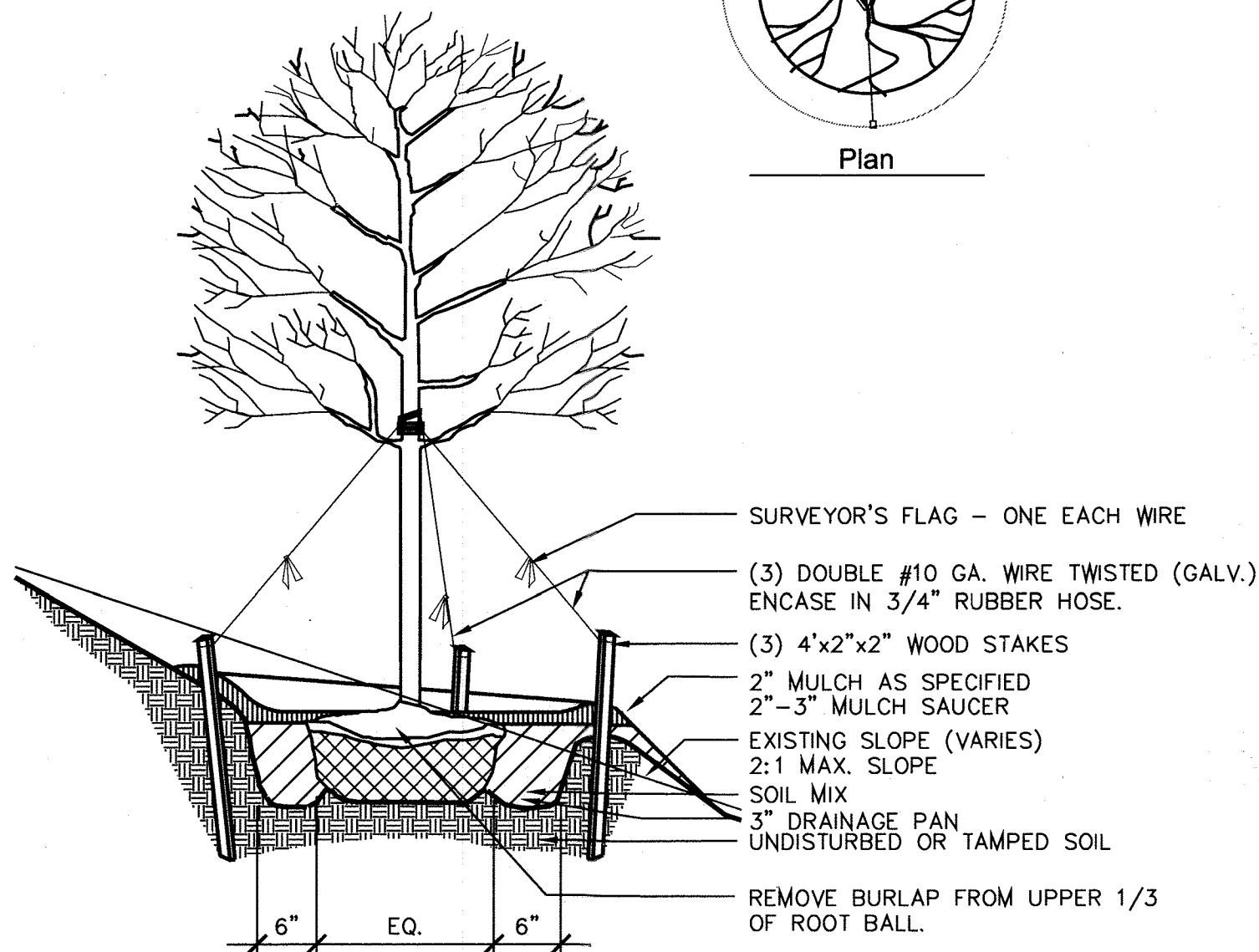
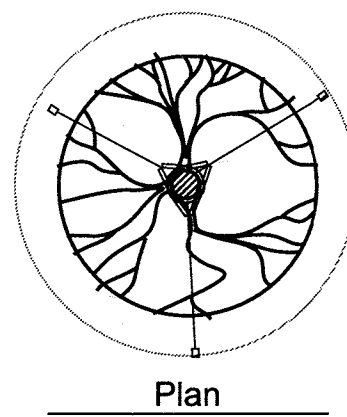
**NOTES:**

1. DO NOT CUT CENTRAL LEADER.
2. FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
3. DO NOT PLACE MULCH AGAINST TRUNK.
4. TREES TO HAVE SINGLE LEADER.
5. CUT AND REMOVE TOP HALF OF WIRE BASKETS.



**1 Typical Deciduous Tree Planting**

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



**NOTES:**

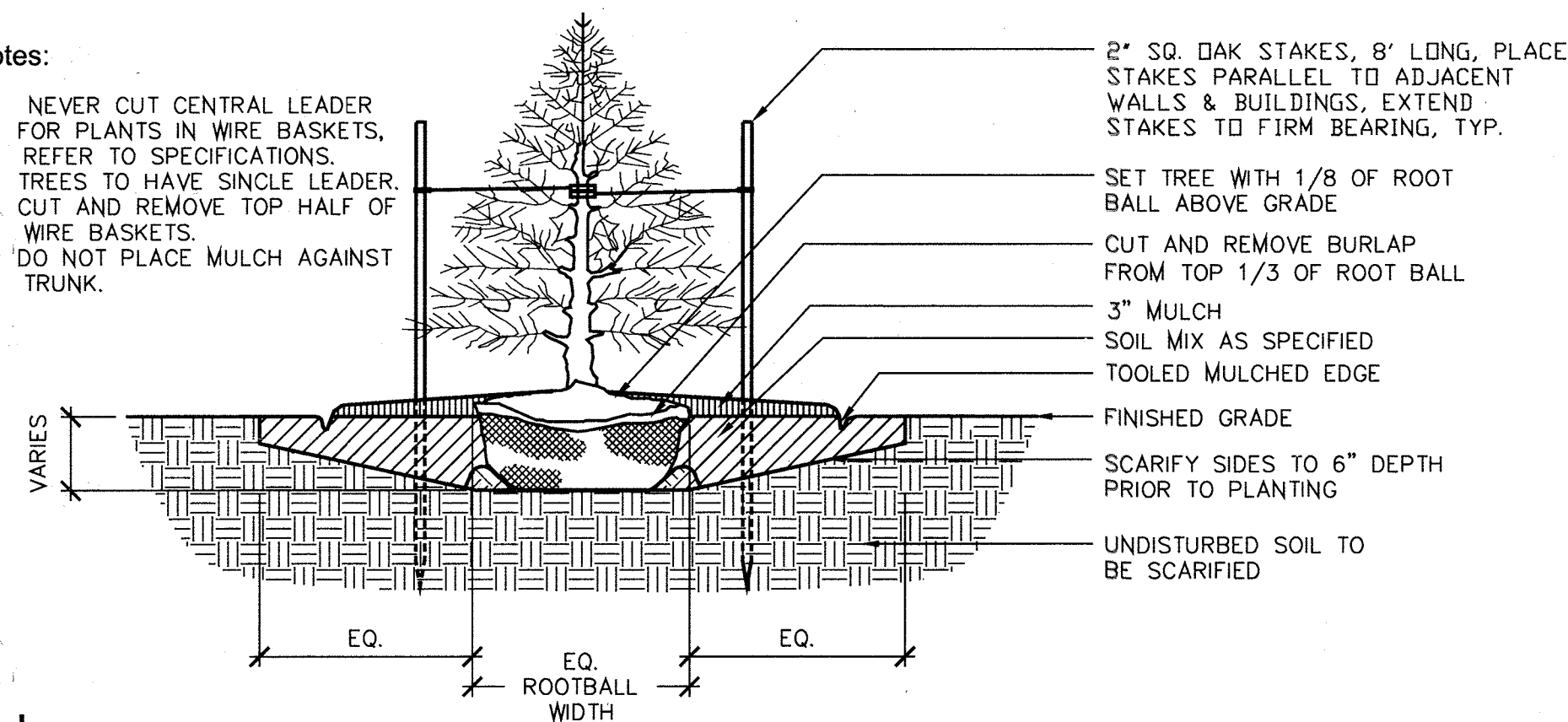
1. NEVER CUT CENTRAL LEADER.
2. NEVER MULCH AGAINST TRUNK.
3. SET TREE WITH 1/8 OF ROOT BALL ABOVE GRADE.
4. STAKES, WIRES, AND HOSES SHALL BE REMOVED AFTER ONE YEAR.
5. SCARIFY SUBSOIL AND SIDES OF TREE PIT TO A MIN. OF 4" DEPTH.
6. TREES UNDER 2-1/2" CAL.: 10' x 2" x 2" STAKES SET VERTICAL, MIN. 2" INTO COMPACTED SUBGRADE.

**6 Typical Deciduous Tree Planting on Slope**

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

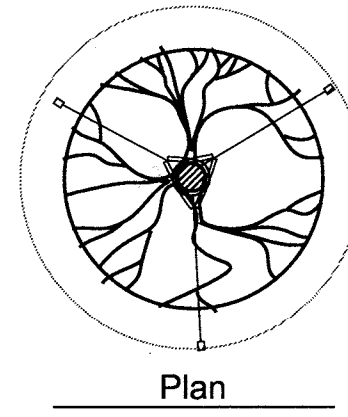
**NOTES:**

1. NEVER CUT CENTRAL LEADER.
2. FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.
3. TREES TO HAVE SINGLE LEADER.
4. CUT AND REMOVE TOP HALF OF WIRE BASKETS.
5. DO NOT PLACE MULCH AGAINST TRUNK.



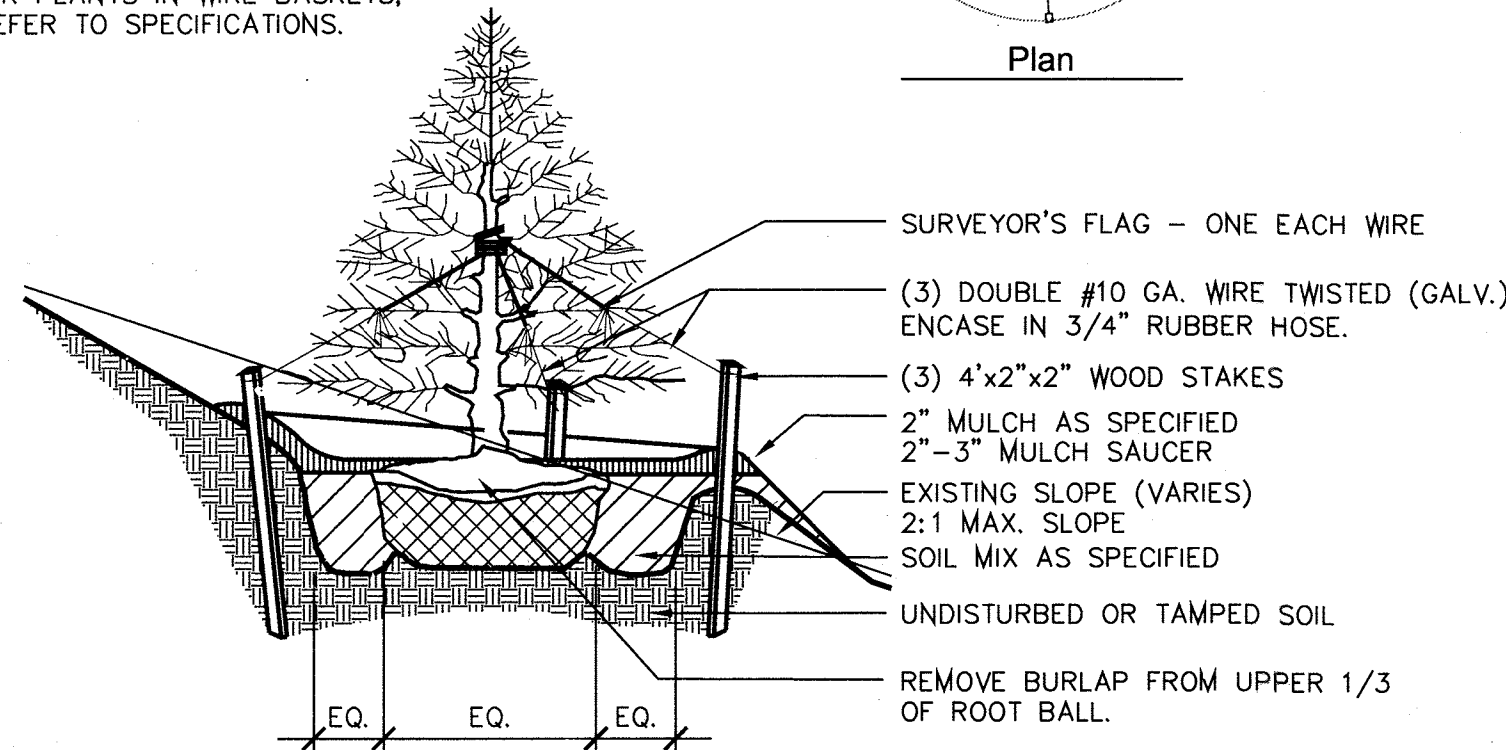
**2 Typical Evergreen Tree Planting**

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



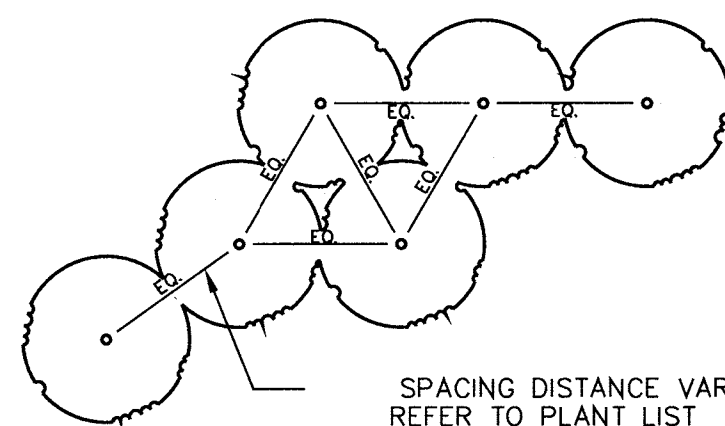
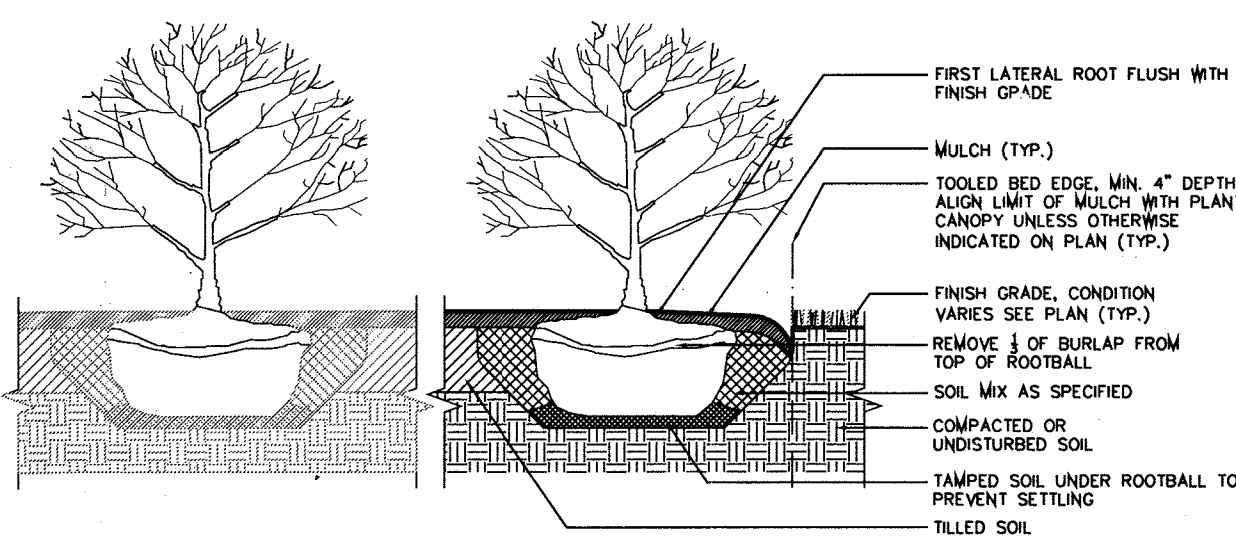
**NOTES:**

1. NEVER CUT CENTRAL LEADER.
2. FOR PLANTS IN WIRE BASKETS, REFER TO SPECIFICATIONS.



**4 Typical Evergreen Tree Planting on Slope**

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

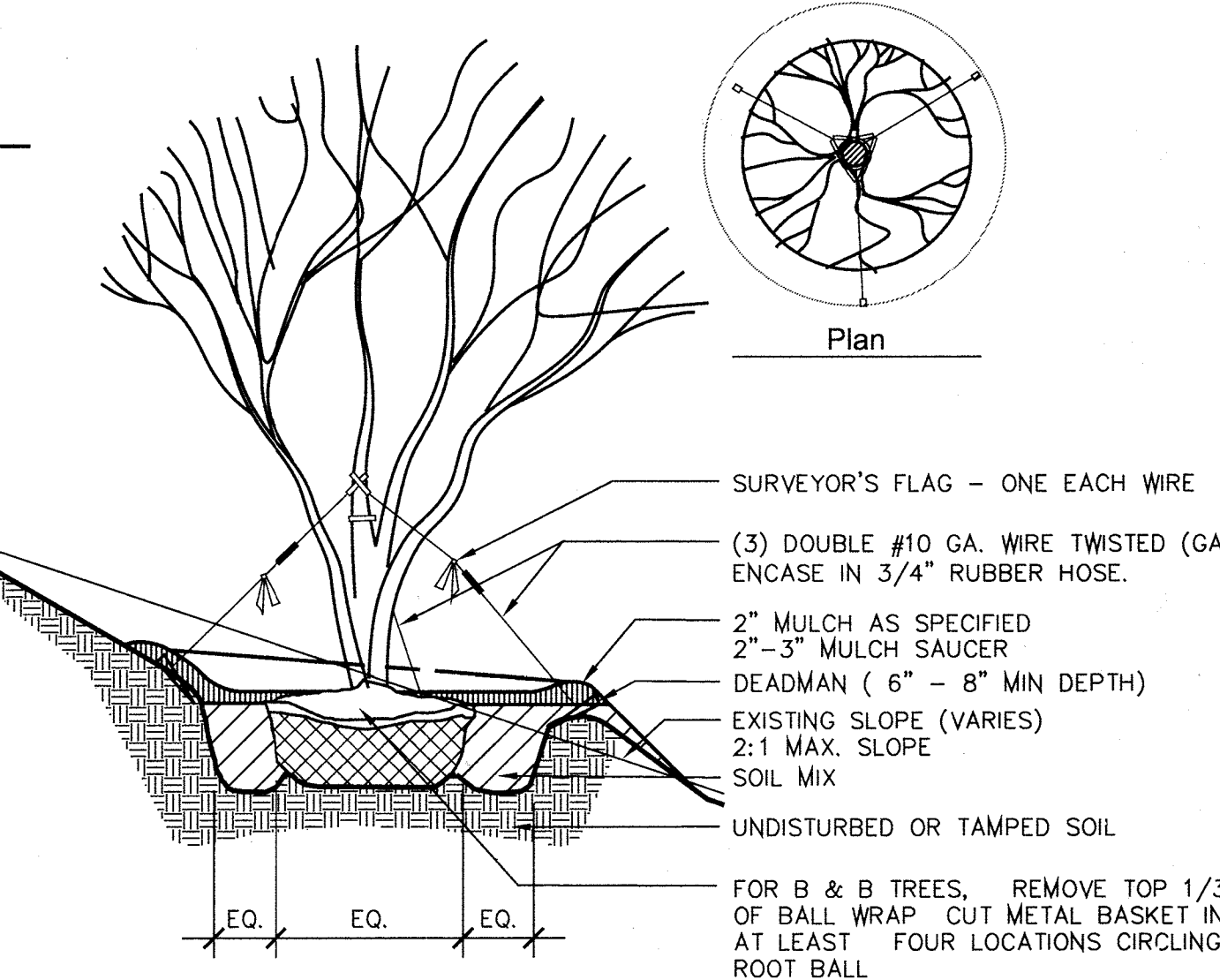
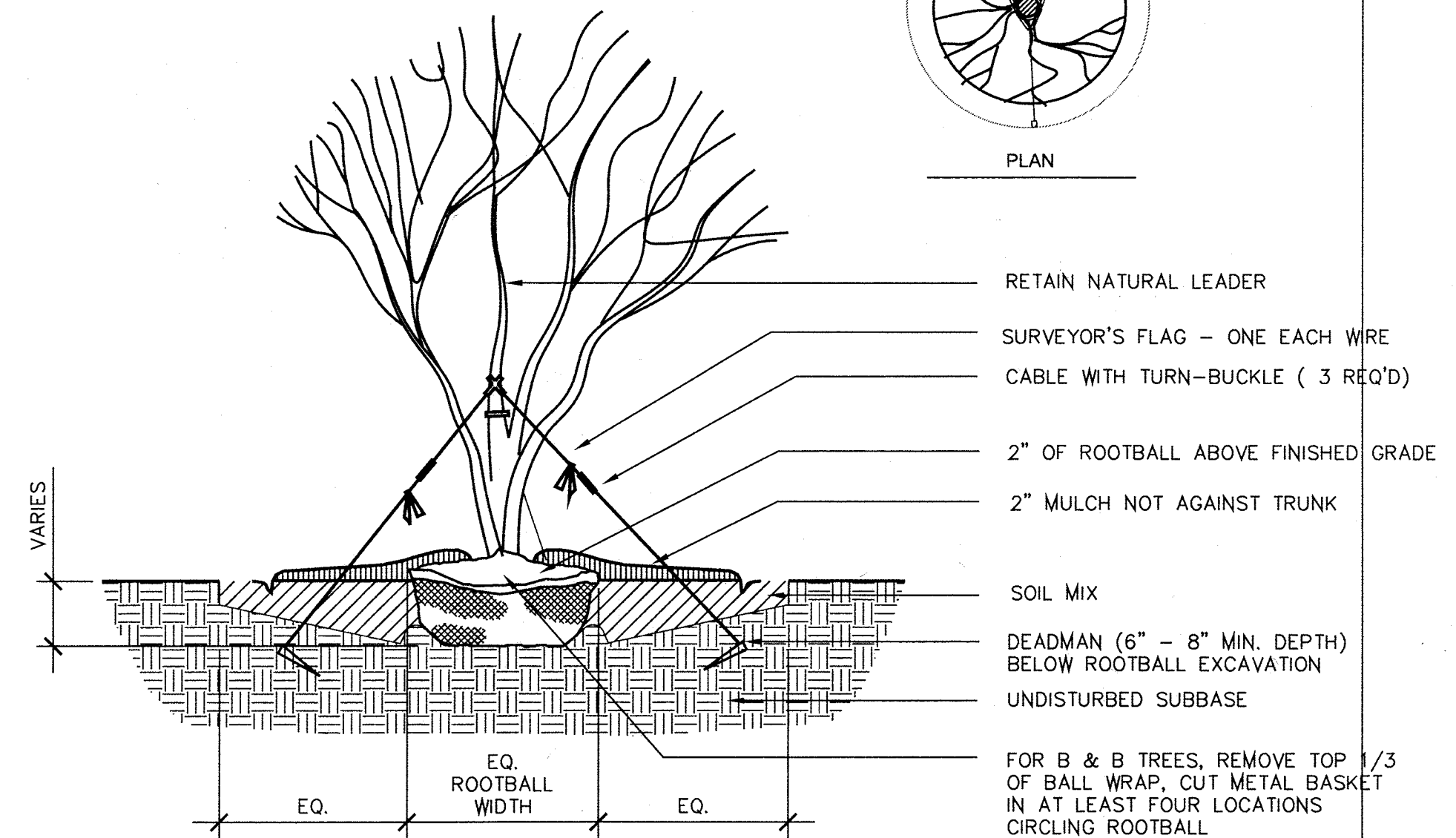


**7 Typical Shrub Planting**

NTS

**3 Typical Multi-Stem Tree Planting**

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



**5 Typical Multi-Stem Tree Planting on Slope**

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

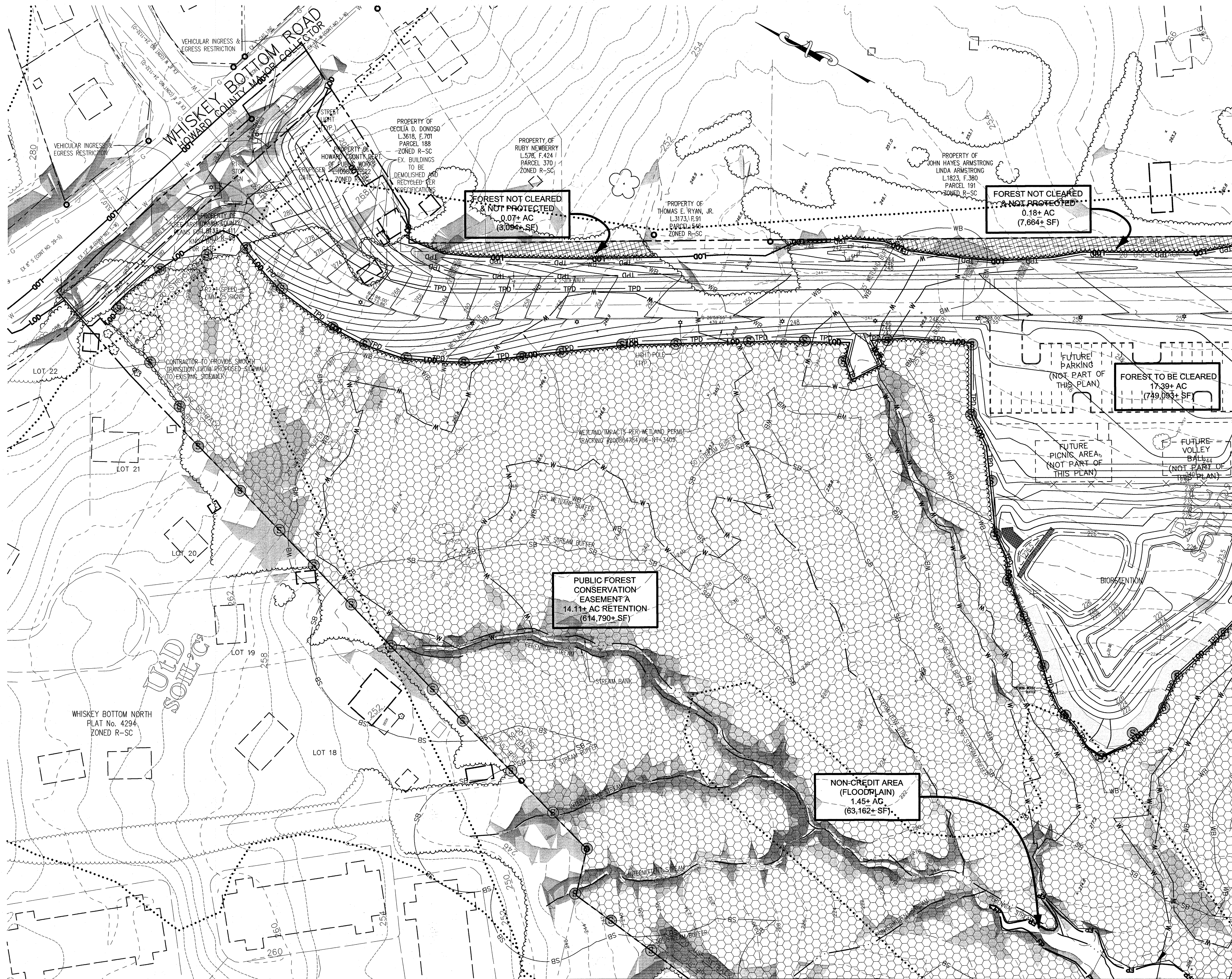
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Thomas J. Butler</i>	3/23/09
DIRECTOR, DEP.	DATE
<i>W. Danman</i>	3/10/09
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cheryl Harris</i>	3/19/09
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
DATE NO.	REVISION
OWNER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
PROJECT NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT C-0304	
AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 1B7 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE PLANTING DETAILS, PLANT LIST & PLANT SCHEDULES	

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

	DESIGNED BY : CLD
<i>Thomas J. Butler</i>	DRAWN BY: CLD
	PROJECT NO : 14466-1-0 C400SDP03.DWG
	DATE : MARCH 5, 2009
	SCALE : NTS
	DRAWING NO. 32 OF 69

P:\Project\14466\1-0\PLANS\C400SDP03.DWG





**LEGEND**

- PROP. BUILDING
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- PROPERTY LINE AND RIGHT OF WAY
- FLOODPLAIN
- EX. TREELINE
- PROP. TREELINE
- FOREST RETENTION AREA
- FOREST NOT CLEARED OR PROTECTED
- FOREST CLEARED UNDER A FUTURE PHASE
- FOREST CONSERVATION EASEMENT SIGNAGE
- SOILS
- 15-25% SLOPES
- >25% SLOPES

**NOTE:**  
 THE FOREST CONSERVATION EASEMENTS SHOWN ON F-10-2017 AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

MATCH LINE SEE SHEET 34

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas J. Sutter* 3/23/09  
 DIRECTOR, DEP. DATE

*William Dammann* 3/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Linda Hanna* 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/25/10 1 ADDED NOTES  
 11/12/19 4 ADDED PROLATION, PLANNING AND ZONING AMENDED FOREST CONSERVATION EASEMENTS

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

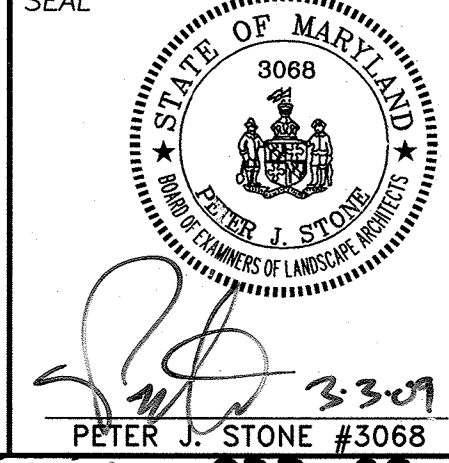
PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**REVISED**  
**FOREST CONSERVATION PLAN**

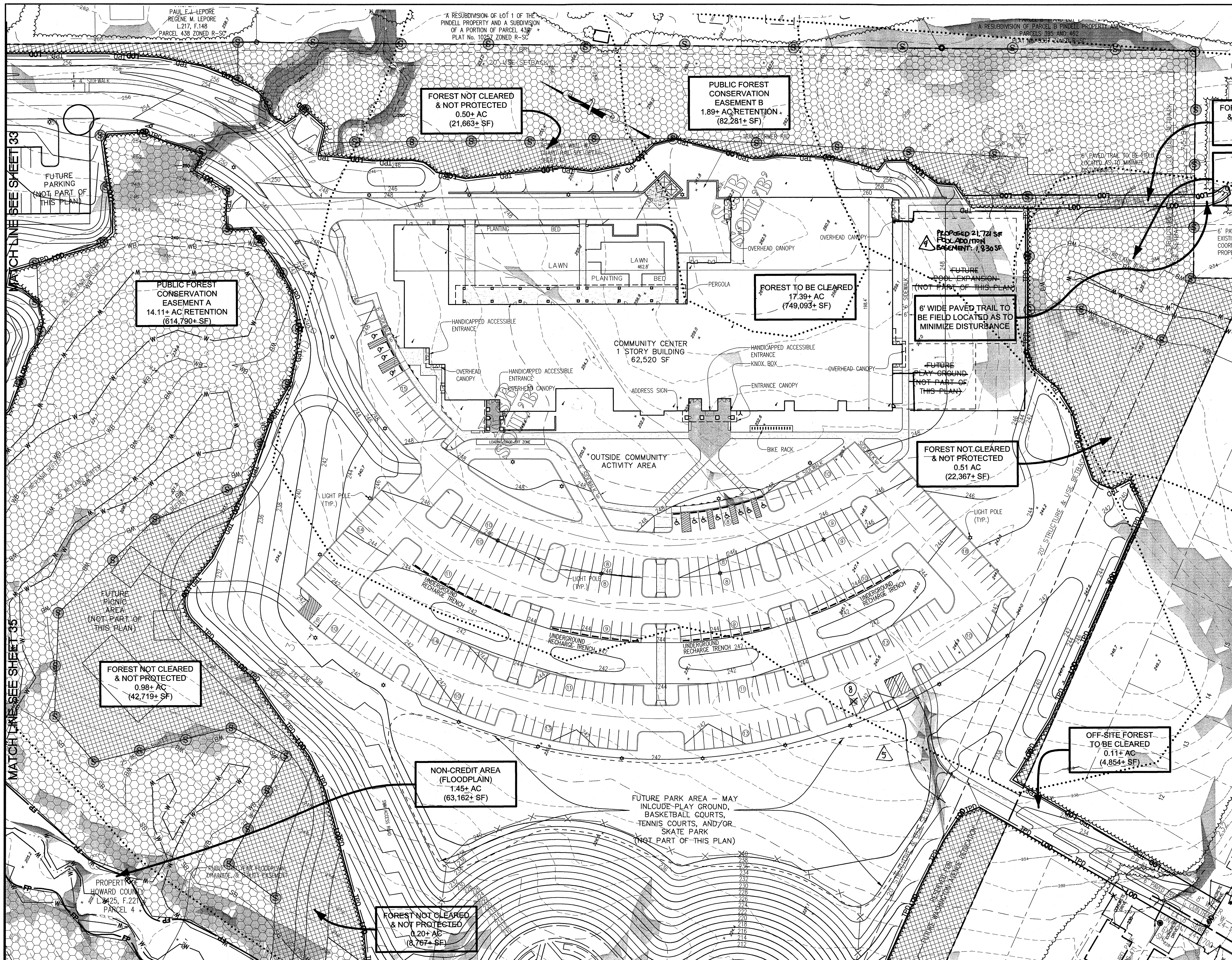
**Patton Harris Rust & Associates**  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

DESIGNED BY : JSN  
 DRAWN BY: JSN  
 PROJECT NO : 14466-1-0  
 C400SDP33.0WG  
 DATE : MARCH 4, 2006  
 SCALE : 1" = 40'  
 DRAWING NO. 33 OF 69



MATCH LINE SEE SHEET 35





**LEGEND**

- PROP. BUILDING
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- PROPERTY LINE AND RIGHT OF WAY
- FLOODPLAIN
- EX. TREELINE
- PROP. TREELINE
- NORTH LAUREL PARK
- FOREST RETENTION AREA
- FOREST NOT CLEARED OR PROTECTED
- FOREST CLEARED UNDER A FUTURE PHASE
- FOREST CONSERVATION EASEMENT SIGNAGE
- SOILS
- 15-25% SLOPES
- >25% SLOPES

**NOTE:**  
 THE FOREST CONSERVATION EASEMENTS SHOWN ON F-... AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

FOREST NOT CLEARED & NOT PROTECTED  
 0.50+ AC  
 (21,663+ SF)

PUBLIC FOREST CONSERVATION EASEMENT B  
 1.89+ AC RETENTION  
 (82,281+ SF)

FOREST NOT CLEARED & NOT PROTECTED  
 0.50+ AC  
 (21,663+ SF)

PUBLIC FOREST CONSERVATION EASEMENT C  
 2.21+ AC RETENTION  
 (12,732+ SF)

PUBLIC FOREST CONSERVATION EASEMENT A  
 14.11+ AC RETENTION  
 (614,790+ SF)

FOREST TO BE CLEARED  
 17.39+ AC  
 (749,093+ SF)

PROPOSED 21,741 SF  
 POOL ADDITION  
 EASEMENT: 1,930 SF

6' WIDE PAVED TRAIL TO BE FIELD LOCATED AS TO MINIMIZE DISTURBANCE

FUTURE PLAY GROUND  
 (NOT PART OF THIS PLAN)

FOREST NOT CLEARED & NOT PROTECTED  
 0.51 AC  
 (22,367+ SF)

FOREST NOT CLEARED & NOT PROTECTED  
 0.98+ AC  
 (42,719+ SF)

NON-CREDIT AREA (FLOODPLAIN)  
 1.45+ AC  
 (63,162+ SF)

OFF-SITE FOREST TO BE CLEARED  
 0.11+ AC  
 (4,854+ SF)

FOREST NOT CLEARED & NOT PROTECTED  
 0.20+ AC  
 (8,767+ SF)

FUTURE PARK AREA - MAY INCLUDE PLAY GROUND, BASKETBALL COURTS, TENNIS COURTS, AND/OR SKATE PARK  
 (NOT PART OF THIS PLAN)

3/18/2015 ADDED DRIVEWAY FOR EMERGENCY EGRESS TO WASHINGTON STREET

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mona E. Rutler* 3/23/09  
 DIRECTOR, DEP. DATE

*John DeMunn* 3/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Chris Hunt* 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/25/11 ADDED NOTES  
 11/2/11 ADDED POOL ADDITION PLAN AND REVISION AND ADDED FOREST CONSERVATION EASEMENTS

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

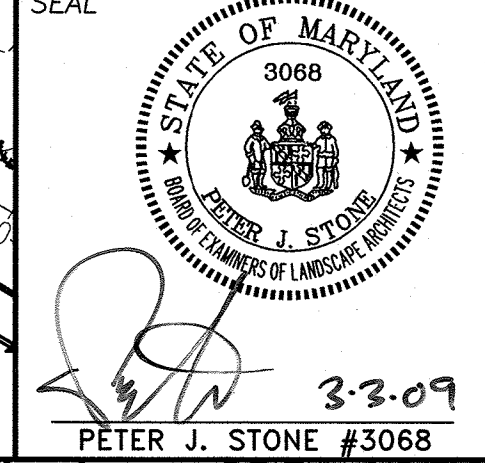
PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT C-0304

AREA  
 TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
**REVISED FOREST CONSERVATION PLAN**

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

DESIGNED BY: JSN  
 DRAWN BY: JSN  
 PROJECT NO: 14466-1-0  
 C4005DP34.DWG  
 DATE: MARCH 4, 2009  
 SCALE: 1" = 40'  
 DRAWING NO. 34 OF 67



MATCH LINE SEE SHEET 36


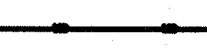



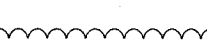

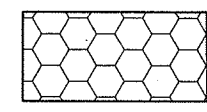
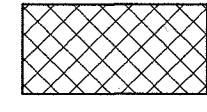
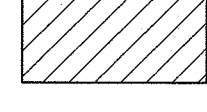




SDP-08-118



MATCH LINE SEE SHEET 34

MATCH LINE SEE SHEET 36

**LEGEND**

- PROP. BUILDING 
- LIMIT OF DISTURBANCE 
- TREE PROTECTION FENCE 
- PROPERTY LINE AND RIGHT OF WAY 
- FLOODPLAIN 
- EX. TREELINE 
- PROP. TREELINE 
- FOREST RETENTION AREA 
- FOREST NOT CLEARED OR PROTECTED 
- FOREST CLEARED UNDER A FUTURE PHASE 
- FOREST CONSERVATION EASEMENT SIGNAGE 
- SOILS 
- 15-25% SLOPES 
- >25% SLOPES 

**NOTE:**  
THE FOREST CONSERVATION EASEMENTS SHOWN ON F- AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-C10 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.



PROPERTY OF SEASONS OF LAUREL  
L.5590 F.68  
PARCEL 884

SECTION FOUR  
WHISKEY BOTTOM APARTMENTS  
P.B. 26, PAGE 19  
ZONED R-A-19

PROPERTY OF HOWARD COUNTY BOARD OF EDUCATION  
L.391, F.419  
PARCEL 762  
ZONED R-SC

NON-CREDIT AREA  
(FLOODPLAIN)  
1.45+ AC  
(63,162+ SF)

FOREST NOT CLEARED & NOT PROTECTED  
0.28+ AC  
(12,172+ SF)

PUBLIC FOREST CONSERVATION EASEMENT A  
14.11+ AC RETENTION  
(614,790+ SF)

PUBLIC FOREST CONSERVATION EASEMENT E  
0.65+ AC RETENTION  
(28,370+ SF)

FOREST TO BE CLEARED UNDER A FUTURE PHASE  
6.94+ AC  
(302,113+ SF)

FOREST NOT CLEARED & NOT PROTECTED  
2.30 AC  
(100,325+ SF)

FOREST NOT CLEARED & NOT PROTECTED  
2.30 AC  
(106,325+ SF)

FOREST NOT CLEARED & NOT PROTECTED  
0.03+ AC  
(1,497+ SF)

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Thomas G. Butler* 3/23/09  
DIRECTOR, DEP. DATE

*Mike Dammann* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hanley* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

9/25/10 1 ADDED NOTES

1/12/19 4 ADDED POOL ADDITIONAL PLAYGROUND EXPANSION AND AMENDED FOREST CONSERVATION EASEMENTS.

DATE NO. REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414


DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**REVISED FOREST CONSERVATION PLAN**

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

SEAL  
  
DESIGNED BY : JSN  
DRAWN BY: JSN  
PROJECT NO : 14466-1-0  
C400SDP35.DWG  
DATE : MARCH 4, 2009  
SCALE : 1" = 40'  
DRAWING NO. 35 OF 67

PETER J. STONE #3068



MATCH LINE SEE SHEET 35  
MATCH LINE SEE SHEET 37



LEGEND

- PROP. BUILDING
- LIMIT OF DISTURBANCE
- TREE PROTECTION FENCE
- PROPERTY LINE AND RIGHT OF WAY
- FLOODPLAIN
- EX. TREELINE
- PROP. TREELINE
- FOREST RETENTION AREA
- FOREST NOT CLEARED OR PROTECTED
- FOREST CLEARED UNDER A FUTURE PHASE
- FOREST CONSERVATION EASEMENT SIGNAGE
- SOILS
- 15-25% SLOPES
- >25% SLOPES

NOTE:  
THE FOREST CONSERVATION EASEMENTS SHOWN ON F- AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-00 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Thomas S. Rutler</i> DIRECTOR, DEP.	3/23/09 DATE
<i>John Pannunzi</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/10/09 DATE
<i>Cindy Huns</i> CHIEF, DIVISION OF LAND DEVELOPMENT	3/19/09 DATE
8/23/01 1 ADDED NOTES	
11/12/19 4 ADDED POOL, DECK, PLANTING EXPANSION AND AMENDED FOREST CONSERVATION EASEMENTS.	
DATE	NO. REVISION
OWNER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 P 410 313 2414	
PROJECT NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT C-0304	
AREA TAX MAP 47 GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE FOREST CONSERVATION PLAN	
Patton Harris Rust & Associates Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
SEAL 	DESIGNED BY : JSN DRAWN BY: JSN PROJECT NO : 14466-1-0 C400SDP36.DWG DATE : MARCH 4, 2009 SCALE : 1" = 40' DRAWING NO. 36 OF 69






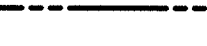



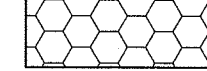

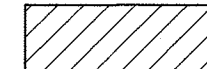




MATCH LINE SEE SHEET 36

PROPERTY OF  
HOWARD COUNTY BOARD OF EDUCATION  
L.391, F.419  
PARCEL 762  
ZONED R-SC

FOREST NOT CLEARED  
& NOT PROTECTED  
2.30 AC  
(100,325+ SF)

FOREST TO BE CLEARED  
UNDER A FUTURE PHASE  
6.94+ AC  
(302,113+ SF)

LEGEND

- PROP. BUILDING 
- LIMIT OF DISTURBANCE 
- TREE PROTECTION FENCE 
- PROPERTY LINE AND RIGHT OF WAY 
- FLOODPLAIN 
- EX. TREELINE 
- PROP. TREELINE 
- FOREST RETENTION AREA 
- FOREST NOT CLEARED OR PROTECTED 
- FOREST CLEARED UNDER A FUTURE PHASE 
- FOREST CONSERVATION EASEMENT SIGNAGE 
- SOILS 
- 15-25% SLOPES 
- >25% SLOPES 

NOTE:  
THE FOREST CONSERVATION EASEMENTS SHOWN ON F- AND THE FOREST CONSERVATION PLANS INCLUDED WITH SDP-10-010 SUPERCEDES THE FOREST CONSERVATION INFORMATION SHOWN ON THIS SHEET.

NO CONSTRUCTION THIS SHEET.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Norma S. Suttle* 3/23/09  
DIRECTOR, DEP. DATE

*John Dammann* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hanna* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

1/12/19 4 POOL ADDITION, PLAYGROUND EXPANSION AND AMENDED FOREST CONSERVATION EASEMENTS  
8/25/10 1 ADDED NOTES

DATE NO. REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

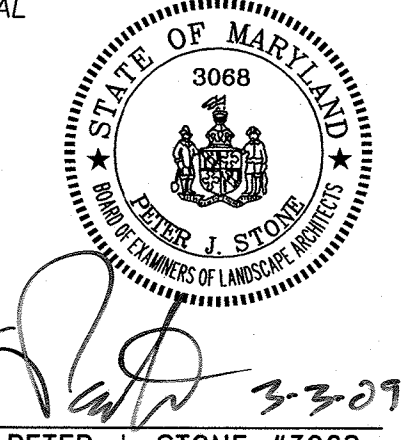
DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
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PROJECT  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE ~~REVISED~~  
FOREST CONSERVATION PLAN

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

SEAL  
  
DESIGNED BY : JSN  
DRAWN BY: JSN  
PROJECT NO : 14466-1-0  
C400SDP37.DWG  
DATE : MARCH 4, 2009  
SCALE : 1" = 40'  
DRAWING NO. 37 OF 69



**SEQUENCE OF OPERATIONS**

- PRE-CONSTRUCTION
1. FIELD STAKE LIMITS OF DISTURBANCE (L.O.D.) AT 25' INTERVALS.
  2. REVIEW L.O.D. IN FIELD AND ADJUST IF PRACTICAL.
  3. INSTALL TREE PROTECTION FENCE AT THE L.O.D. AND IMPLEMENT TREE PROTECTION METHODS AS SHOWN.
  4. CLEAR AND GRUB AS NECESSARY TO FACILITATE ROOT PRUNING TO A DEPTH OF 2-3 FEET WITHIN THE LIMITS OF THE PROPOSED FOREST RETENTION AREA AND AROUND SPECIMEN TREES TO BE SAVED. CLEAR REMAINING TREES IN A WAY THAT "SAVE TREES" ARE NOT DISTURBED. GRIND STUMPS 12" IN DIAMETER AND LARGER THAT ARE WITHIN 25' OF THE L.O.D.
  5. DO NOT ATTEMPT TO SAVE TREES WITHIN 25' FROM THE L.O.D. UNLESS, IN THE OPINION OF THE CONSULTING ARBORIST, THEY HAVE A 75% CHANCE OR BETTER OF SURVIVAL.
  6. PRUNE AND FERTILIZE DESIRABLE "EDGE TREES" AS PER CONSULTING ARBORIST'S RECOMMENDATIONS AND DETAILS PROVIDED ON THIS SHEET.
  7. THERE SHALL BE NO STAGING, STORAGE, OR STOCKPILING OF MATERIALS OUTSIDE OF THE L.O.D.
  8. REMOVE OR TREAT WITH AN ACCEPTABLE METHOD, NOXIOUS PLANT MATERIAL SUCH AS MULTIFLORA ROSE, TEARTHUMB, AND JOHNSON GRASS BEFORE INSTALLING REFORESTATION PLANTS.
  9. INSTALL TREE PROTECTION SIGNAGE.
  10. STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.

**FOREST CONSERVATION SEQUENCE OF OPERATIONS**

1. Prior to beginning any grading operations on this site or on a respective lot, there may be a preconstruction meeting held at the site which is to include the Contractor and representatives from Patton Harris Rust & Associates, Inc. (PHRA). The Howard County Department of Planning and Zoning (DPZ) and the owner will be notified by the Contractor as to the time and place of the field meeting, should they wish to send a representative. The purpose of this meeting will be to review the approved FCP and to field verify the correct Limits of Disturbance (LOD).
2. The Limits of Disturbance (LOD) pertinent to the preservation of wooded areas shall be staked in the field with final adjustments being made as necessary to insure adequate protection of the Critical Root Zone of trees designated for retention. Stakes to be used shall be those specified for the "TREE PROTECTION DEVICE" to which approved protective material will be attached. Alternate means of defining the LOD may be used if approved by the DPZ.
3. All forest retention areas shall be protected by highly visible, well anchored temporary protection devices (see detail), which shall be securely in place prior to any clearing or grading operations.
4. Grading operations or other construction operations which could dislodge or otherwise damage the protective devices shall be avoided along the edges of the LOD lines if possible. Any protective devices which are damaged during site construction operations shall be properly repaired immediately by the Contractor.
5. After site grading, retaining wall, and parking lot have been completed, all trees adjacent to the LOD line shall be inspected for indications of crown die-back (summer indicator), damage within respective critical root zones or any dead wood or other conditions which might be hazardous to pedestrians, buildings, utility lines vehicular access ways or parked vehicles.
6. Should there be evidence of any damage to tree trunks, branches or the critical root zone of trees within the protected areas, or to isolated specimen trees to be preserved, the damage shall be examined within a period of two (2) days from the date of observation by a licensed tree care professional. Exposed roots should be covered immediately to a depth of 6 - 8 inches with soil, preferably mixed with 50% peat moss or leaf mold.
7. Remove damaged, dead or dying trees or limbs only if the trees or limbs pose an immediate safety hazard to buildings, utility lines, vehicles, or access and egress drives or pedestrian areas. Trees designated for pruning or removal shall be pruned or removed using equipment and methods which will not damage or destroy adjacent large trees or understory trees or shrubs designated for retention.
8. All temporary forest protection devices will be carefully removed after all general construction, necessary tree surgery, removal of debris, etc. regrading and reseeded of sediment and erosion control disturbance have been completed and acceptance and approval of the work and site conditions have been given by the DPZ.

**FOREST CONSERVATION PROGRAM**

- I. OBJECTIVE:**  
IT IS THE OBJECTIVE OF THE FOREST CONSERVATION PLAN OF NORTH LAUREL PARK TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING EXISTING WOODED AREAS & REFORESTING AREAS ON SITE.
- II. PRESERVATION:**  
FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.
- III. GENERAL CONSTRUCTION NOTE:**  
THERE WILL BE NO STAGING OR STORING OF EQUIPMENT OUTSIDE THE LIMIT OF DISTURBANCE.
- IV. POST CONSTRUCTION MANAGEMENT PRACTICE:**  
A TWO-YEAR POSTED CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE FOREST HEALTH IS REQUIRED AND INCLUDES THE FOLLOWING:

- 1- MAINTENANCE OF SIGNS, FENCES, AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED REMOVAL AND DAMAGE.
- 2- CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
- 3- ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.
- 4- ROUTINE INSPECTIONS AND MAINTENANCE OF REFORESTATION AREAS.

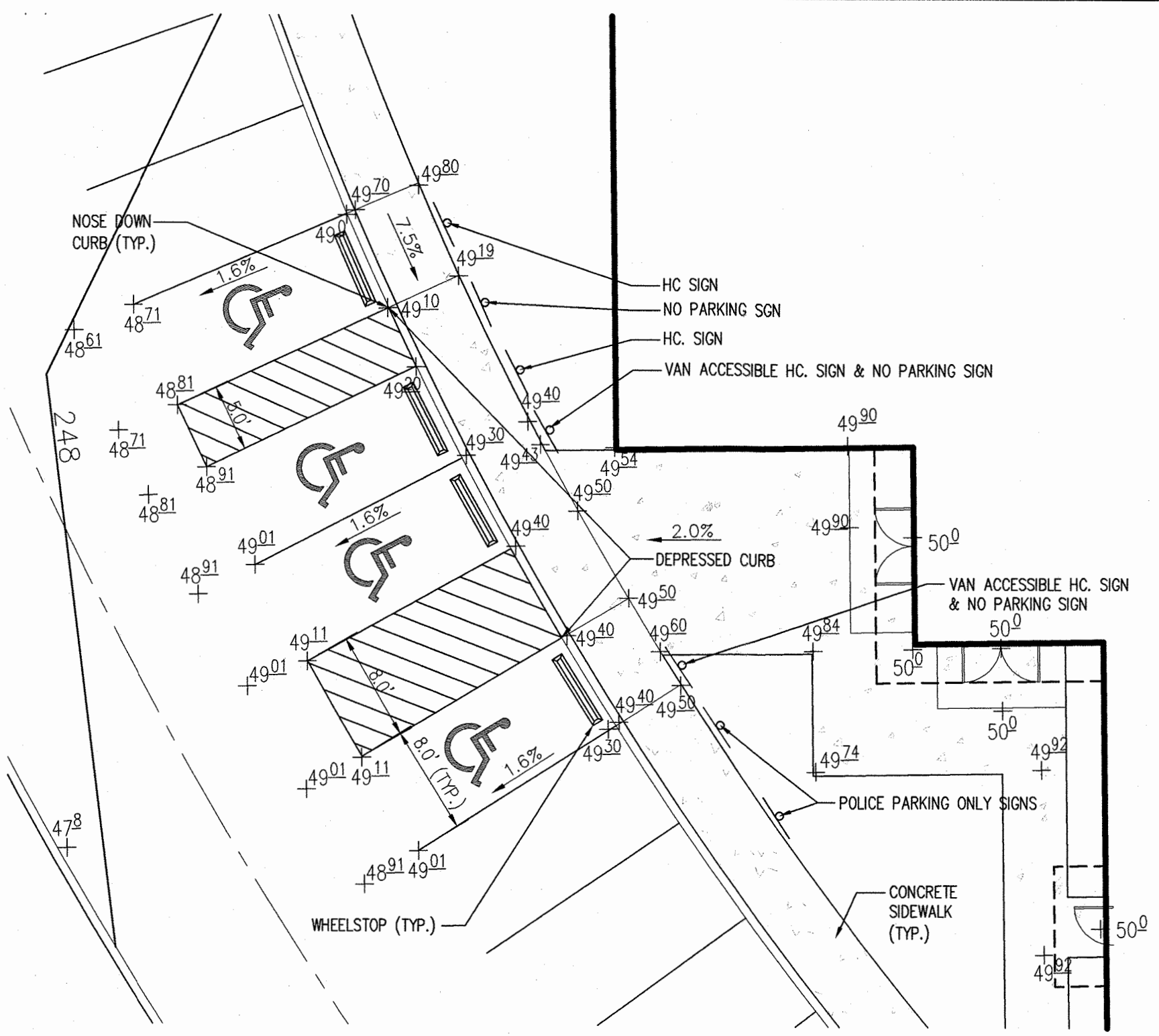
**GENERAL NOTES**

1. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL TOPOGRAPHIC SURVEY PREPARED BY VIRGINIA RESOURCE MAPPING RECORDED MARCH 31, 2006, AND FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED APRIL 24, 2008. BOUNDARY SURVEY WAS PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED DECEMBER 12, 2006.
2. NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
3. NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
4. THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.
5. ONE EXISTING BUILDING IS PRESENT ON THE SITE.
6. THE SOILS ON SITE ARE CHILLUM-RUSSETT LOAMS (2-5% SLOPES) - ChB, CODORUS AND HATBORO SOILS (0-2% SLOPES) - Cp, EVESBORO LOAMY SAND (2-10% SLOPES) - Ebc, FALLSINGTON SANDY LOAM (0-2% SLOPES) - Fa, LEGORE SILT LOAM (8-15% SLOPES) - LeC, RUSSETT FINE SANDY LOAM (2-5% SLOPES) - Rsb, RUSSETT FINE SANDY LOAM (5-10% SLOPES) - Rsc, RUSSETT FINE SANDY LOAM (10-15% SLOPES) - Rsd, RUSSETT AND BELTSVILLE SOILS (2-5% SLOPES) - RuB, SASSAFRAS LOAM (2-5% SLOPES) - SaB, SASSAFRAS AND CROOM SOILS (5-10% SLOPES) - SrC, SASSAFRAS AND CROOM SOILS (15-25% SLOPES) - SrE, URBAN LAND-CHILLUM-BELTSVILLE COMPLEX (0-5% SLOPES) - UcB, URBAN LAND-CHILLUM-BELTSVILLE COMPLEX (5-15% SLOPES) - UcD, URBAN LAND-FALLSINGTON COMPLEX (0-2% SLOPES) - UfA, URBAN LAND-SASSAFRAS-BELTSVILLE COMPLEX (0-5% SLOPES) - UfB, URBAN LAND-UDORTHS COMPLEX (0-15% SLOPES) - Ud, URBAN LAND-WOODSTOWN-SASSAFRAS COMPLEX (5-10% SLOPES) - UwC ACCORDING TO THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.
7. THE FOREST STAND DELINEATION (FSD), DATED JUNE 2005 HAS BEEN PREPARED BY JOHNSON, MIRMIRAN, & THOMPSON.
8. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
9. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PRESERVING 18.51 ACRES OF ON-SITE RETENTION AND BY EXCEEDING THE BREAK-EVEN POINT OF 18.28 ACRES. NO FOREST CONSERVATION SURETY IS REQUIRED FOR THIS PROJECT AS IT IS A COUNTY PROJECT.
10. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
11. THE BOUNDARY OF THE PROPOSED FOREST CONSERVATION EASEMENTS ARE IDENTIFIED ON FINAL PLAT F-08-201 WITH BEARINGS AND DISTANCES UNDER PLAT NO.'S 20461-20466.

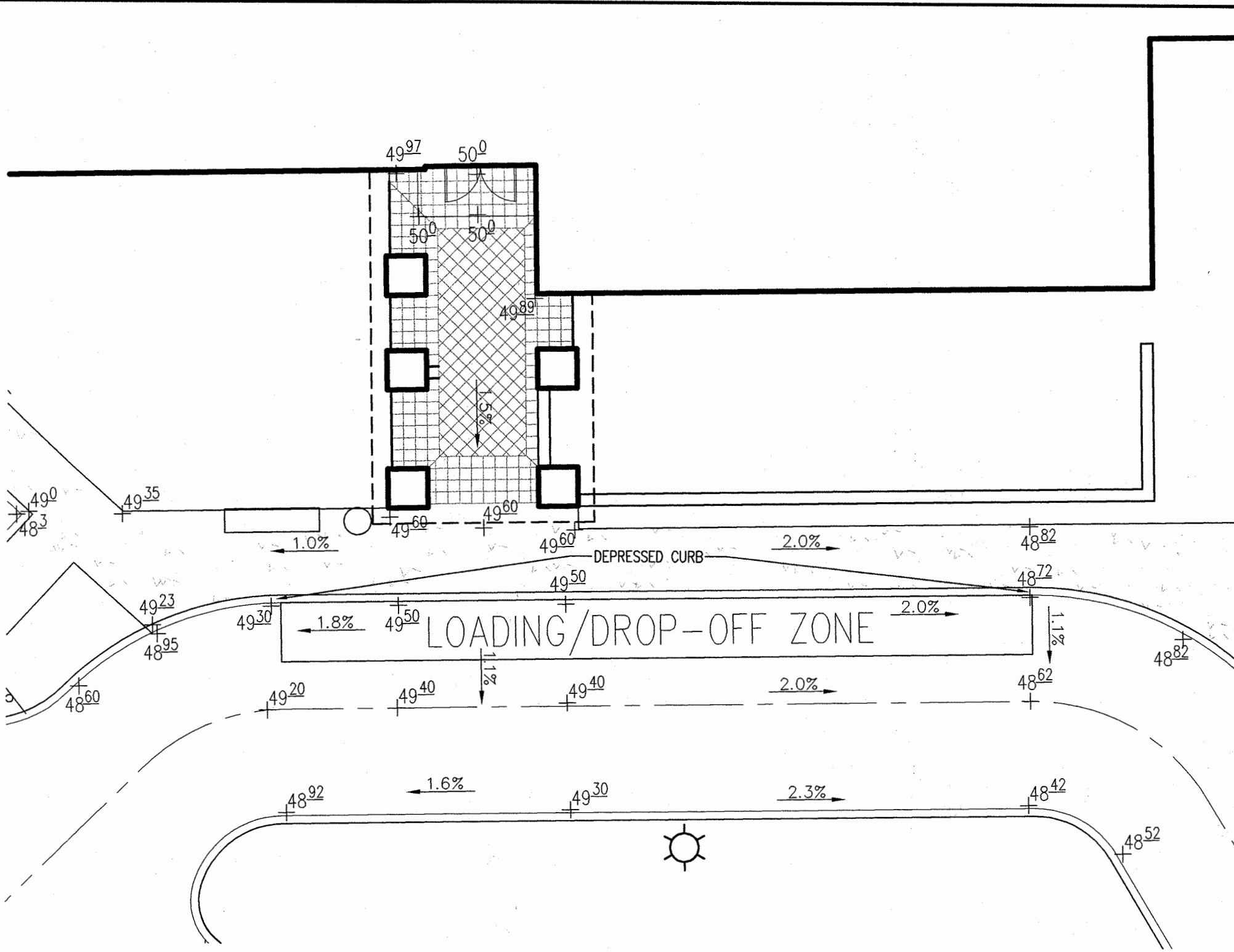
**SOILS CHART**

MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS	EROSION HAZARD	HYDRIC (Yes/No)	SLOPE (%)	
ChB	Chillum-Russett Loams	Dwellings w/ Basements	Not limited	Low	No	2-5
Cp	Codorus and Hatboro Soils	Frequently flooded	Low	Yes	No	0-2
Ebc	Evesboro Loamy Sand	Somewhat limited	Moderate	Low	Yes	0-2
Fa	Fallsington Sandy Loam	Very limited	Moderate	No	Yes	0-2
LeC	Legore Silt Loam	Very limited	Moderate	No	Yes	8-15
Rsb	Russett Fine Sandy Loam	Very limited	Low	No	Yes	2-5
Rsc	Russett Fine Sandy Loam	Very limited	Moderate	No	Yes	5-10
Rsd	Russett Fine Sandy Loam	Very limited	Moderate	No	Yes	10-15
RuB	Russett and Beltsville Soils	Very limited	Low	No	Yes	2-5
SaB	Sassafras Loam	Not limited	Low	No	Yes	2-5
SrC	Sassafras and Croom Soils	Somewhat limited	Moderate	No	Yes	5-10
SrE	Sassafras and Croom Soils	Somewhat limited	Severe	Yes	Yes	15-25
UcB	Urban Land - Chillum - Beltsville Complex	Not rated	Low	No	Yes	0-5
UcD	Urban Land - Chillum - Beltsville Complex	Not rated	Moderate	No	Yes	5-15
UfA	Urban Land - Fallsington Complex	Not rated	Low	Yes	Yes	0-2
UfB	Urban Land - Sassafras - Beltsville Complex	Not rated	Low	No	Yes	0-5
Ud	Urban Land - Udorths Complex	Not rated	Moderate	No	Yes	0-15
UwC	Urban Land - Woodstown - Sassafras Complex	Not rated	Moderate	No	Yes	5-10

SOURCE: SOIL INFORMATION TAKEN FROM THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.



**HC LAYOUT DETAIL**  
SCALE: 1" = 10'



**DROP OFF DETAIL**  
SCALE: 1" = 10'

**HANDICAPPED ACCESSIBILITY NOTES:**

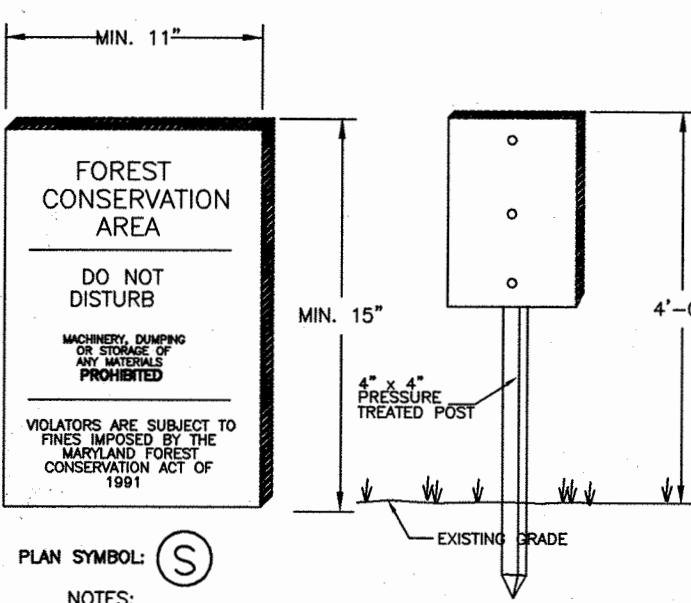
1. AN ACCESSIBLE ROUTE SHALL BE PROVIDED BETWEEN HANDICAPPED PARKING OR PUBLIC RIGHT OF WAYS TO THE MAIN BUILDING ENTRANCE IN ACCORDANCE WITH CURRENT ADA AND LOCAL STANDARDS. ALL HANDICAPPED RAMPS SHALL BE CONSTRUCTED ACCORDING TO CURRENT ADA AND LOCAL STANDARDS. EXCEPT AS SUPERSEDED IN CURRENT ADA AND LOCAL STANDARDS, THE FOLLOWING SHALL APPLY:
  - A) MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%.
  - B) A MINIMUM 5' X 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS, AND BUILDING ENTRY POINTS.
  - C) ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING SPACE.
  - D) AN ACCESS ROUTE THROUGH THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS, REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS.

**Howard County Forest Conservation Worksheet**

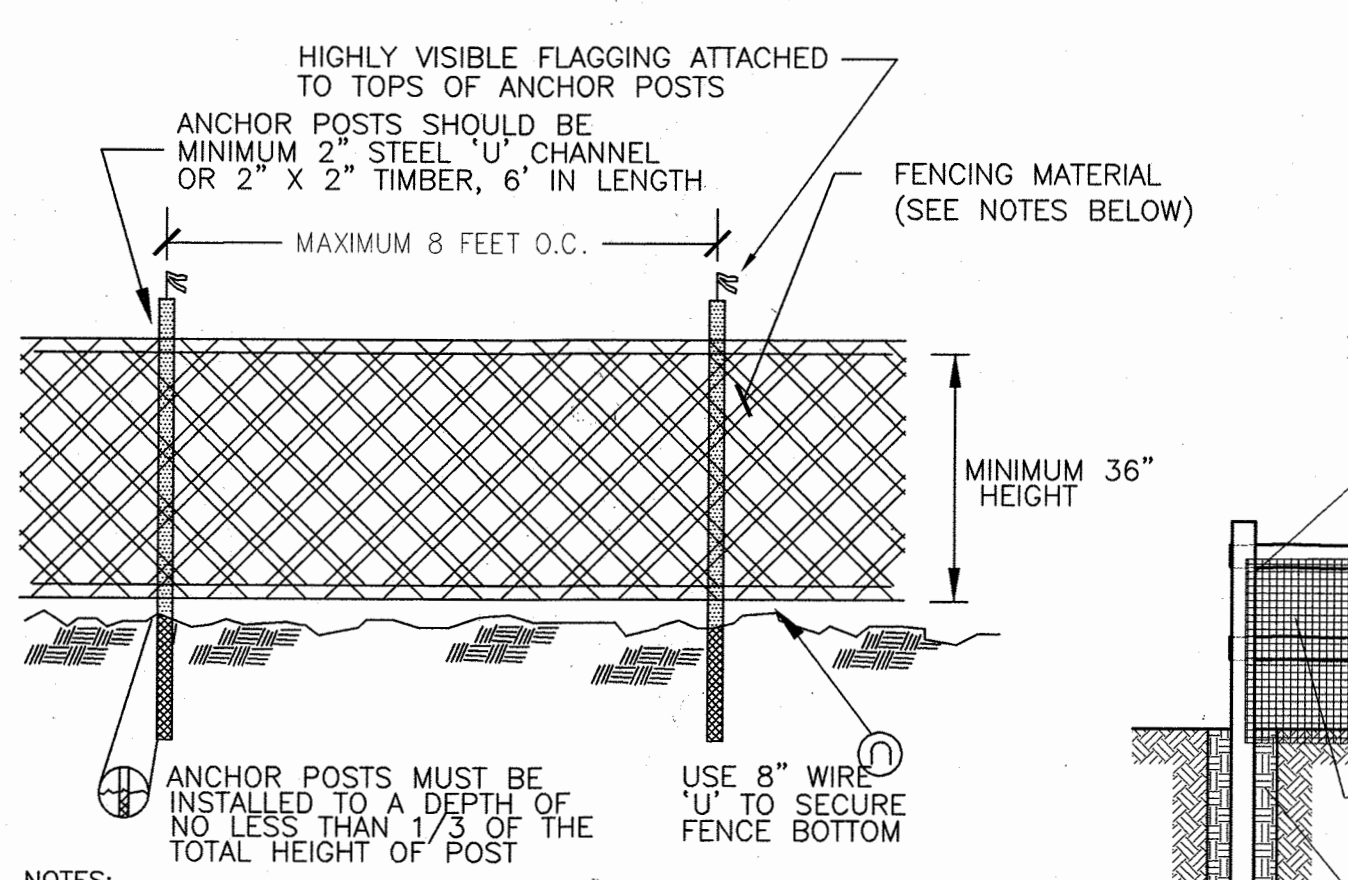
Project Name: North Laurel Community Center  
County File #: SDP-08-118  
Date: March 3, 2009

Net Tract Area	Acres
A. Total Tract Area	52.28
B. Floodplain Area	1.45
C. Net Tract Area (A-B-C)	50.83
D. Afforestation Threshold (Net Tract Area X .15%)	7.62
E. Conservation Threshold (Net Tract Area X .20%)	10.17
F. Existing Forest Cover	50.74
G. Existing Forest Cover within the Net Tract Area	40.57
H. Break Even Point	18.28
I. Total Area of Forest to be Retained	32.48
J. Total Area of Forest to be Cleared	32.23
K. Total Area of Forest to be Retained	18.51
L. Reforestation for Clearing Above the Conservation Threshold	0.00
M. Reforestation for Clearing Below the Conservation Threshold	0.00
N. Credit for Retention Above the Conservation Threshold	8.34
P. Total Reforestation Required P = L + M - N	0.00
Q. Total Afforestation Required	0.00
R. Total Planting Requirement R = P + Q	0.00

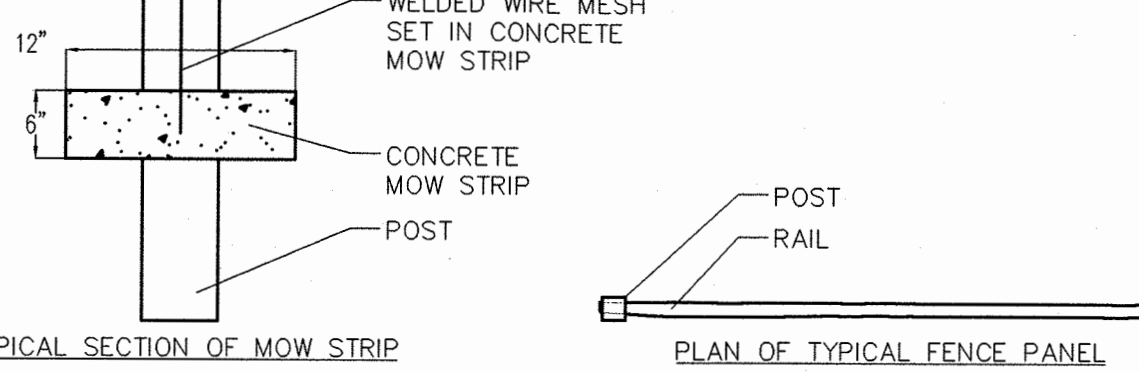
**NOTE:**  
THE FOREST CONSERVATION EASEMENTS SHOWN ON THIS SHEET AND THE FOREST CONSERVATION PLANS INCLUDED WITH SET TO SUPERSEDE THE FOREST CONSERVATION SHOWN ON THIS SHEET.



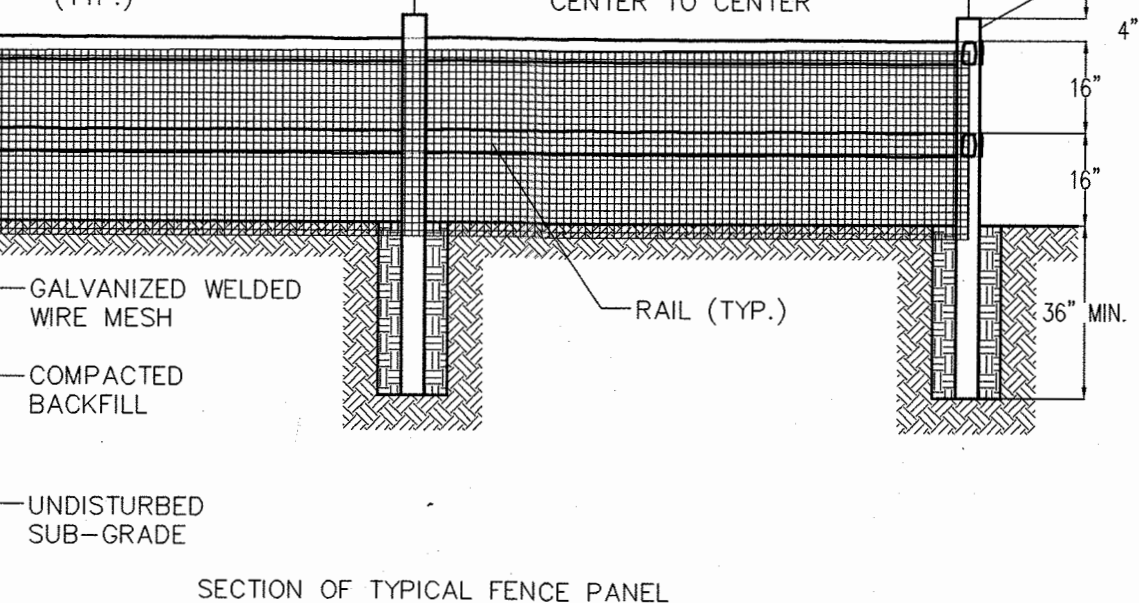
**FOREST CONSERVATION & REFORESTATION SIGN DETAIL**  
SCALE: 1" = 10'



**TREE PROTECTION FENCING**  
NOT TO SCALE



**TYPICAL SECTION OF MOW STRIP**  
SCALE: 1" = 10'



**PLAN OF TYPICAL FENCE PANEL**  
SCALE: 1" = 10'

**SPLIT RAIL FENCE NOTES:**

1. POSTS AND RAILS SHALL BE LOCUST OR OTHER ROT RESISTANT WOOD, OR APPROVED ALTERNATE.
2. WELDED WIRE MESH TO HAVE OPENINGS OF 3" OR LESS.
3. WELDED WIRE MESH TO BE STAPLED SECURELY TO GATES, RAILS, AND POSTS.
4. GATE AND POSTS SHALL MATCH FENCE. GATE OPENING SHALL BE 14' WIDE AND SHALL HAVE DOUBLE GATES. INSTALL PER MANUFACTURER'S SPECIFICATIONS/RECOMMENDATIONS. GATE SHALL BE SPLIT RAIL WITH GALVANIZED STEEL FRAME OR APPROVED EQUAL.
5. PROVIDE MOW STRIP ALONG ENTIRE LENGTH OF SPLIT RAIL FENCE.

**FOREST CONSERVATION EASEMENT TABLE**

CONSERVATION TYPE	AREA	ACRES	SF
1. ON-SITE RETENTION	A	14.11	614,790
	B	1.89	82,281
	C	0.29	12,732
	D	0.67	29,086
	E	0.65	28,370
	F	0.90	39,376
TOTAL ON-SITE RETENTION		18.51	806,635

SEE NOTE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas G. Butler 3/23/09  
DIRECTOR DEP. DATE  
Cindy Hanan 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
Cindy Hanan 3/10/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

11/12/19 4 ADDED POOL, ADDITION PLAYGROUND, EXPANSION AND AMENDED FOREST CONSERVATION EASEMENTS.  
DATE NO. REVISION

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**DEVELOPER**  
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9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
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**PROJECT**  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

**AREA**  
TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A, 187 & 1065 ZONED R-SC  
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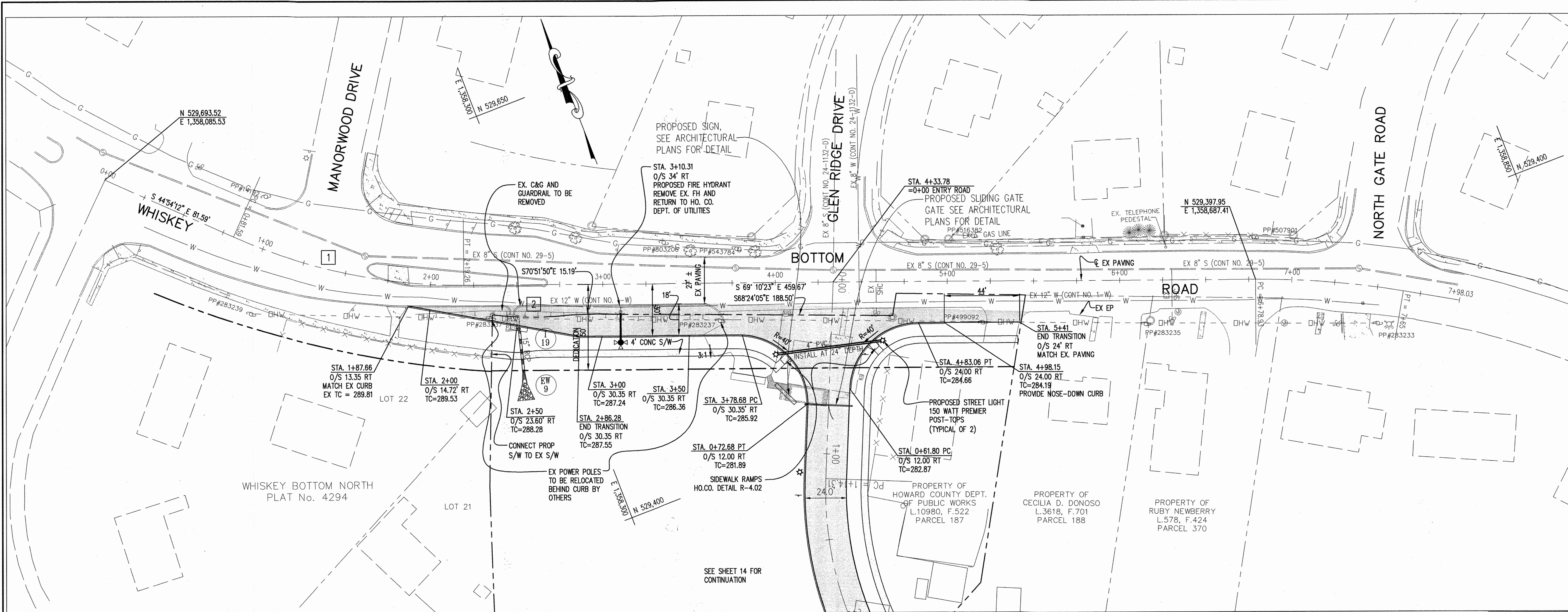
**TITLE FOREST CONSERVATION NOTES & DETAILS AND HC ACCESS DETAILS**

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

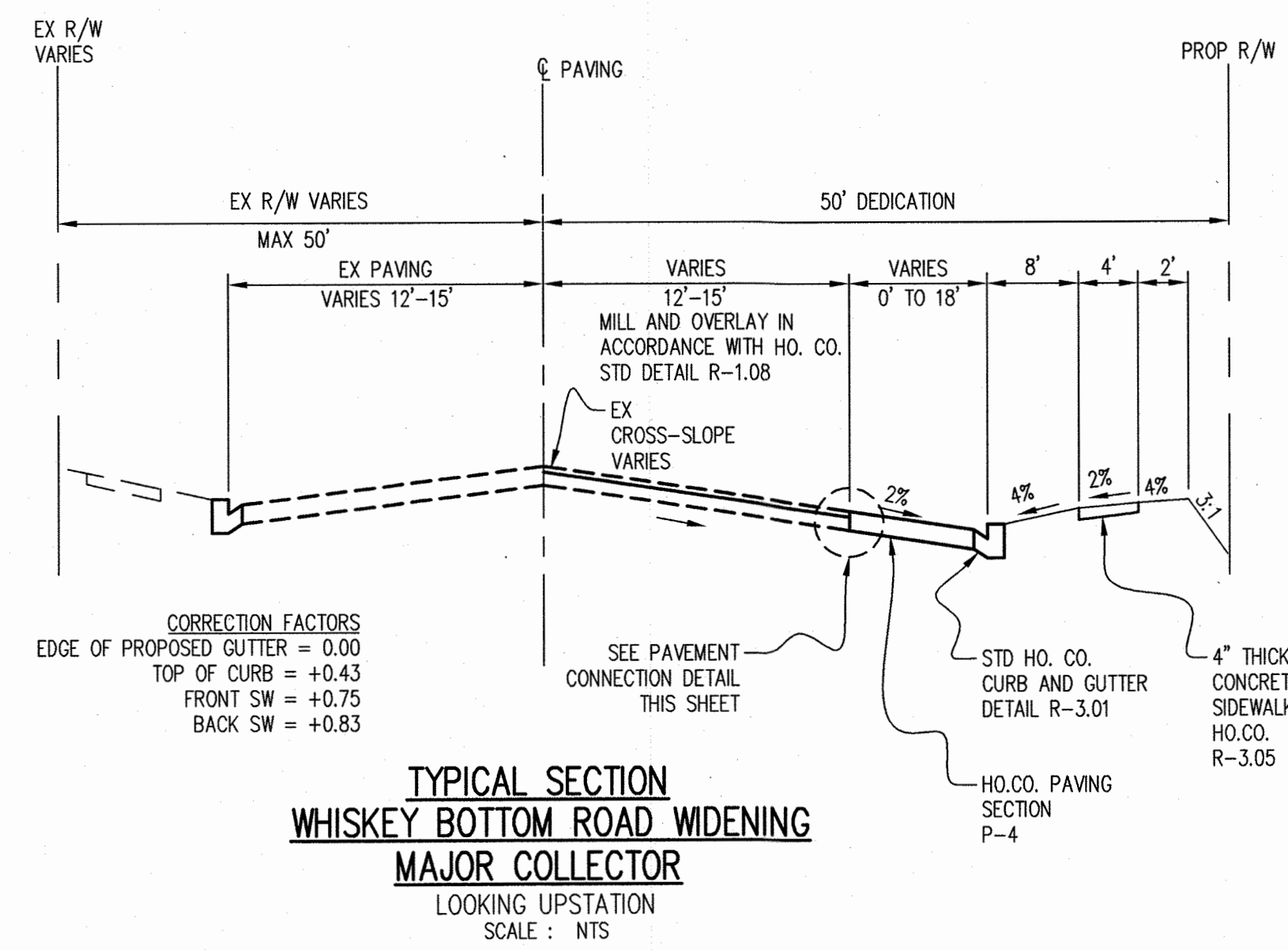
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PETER J. STONE #3068  
SDP-08-118

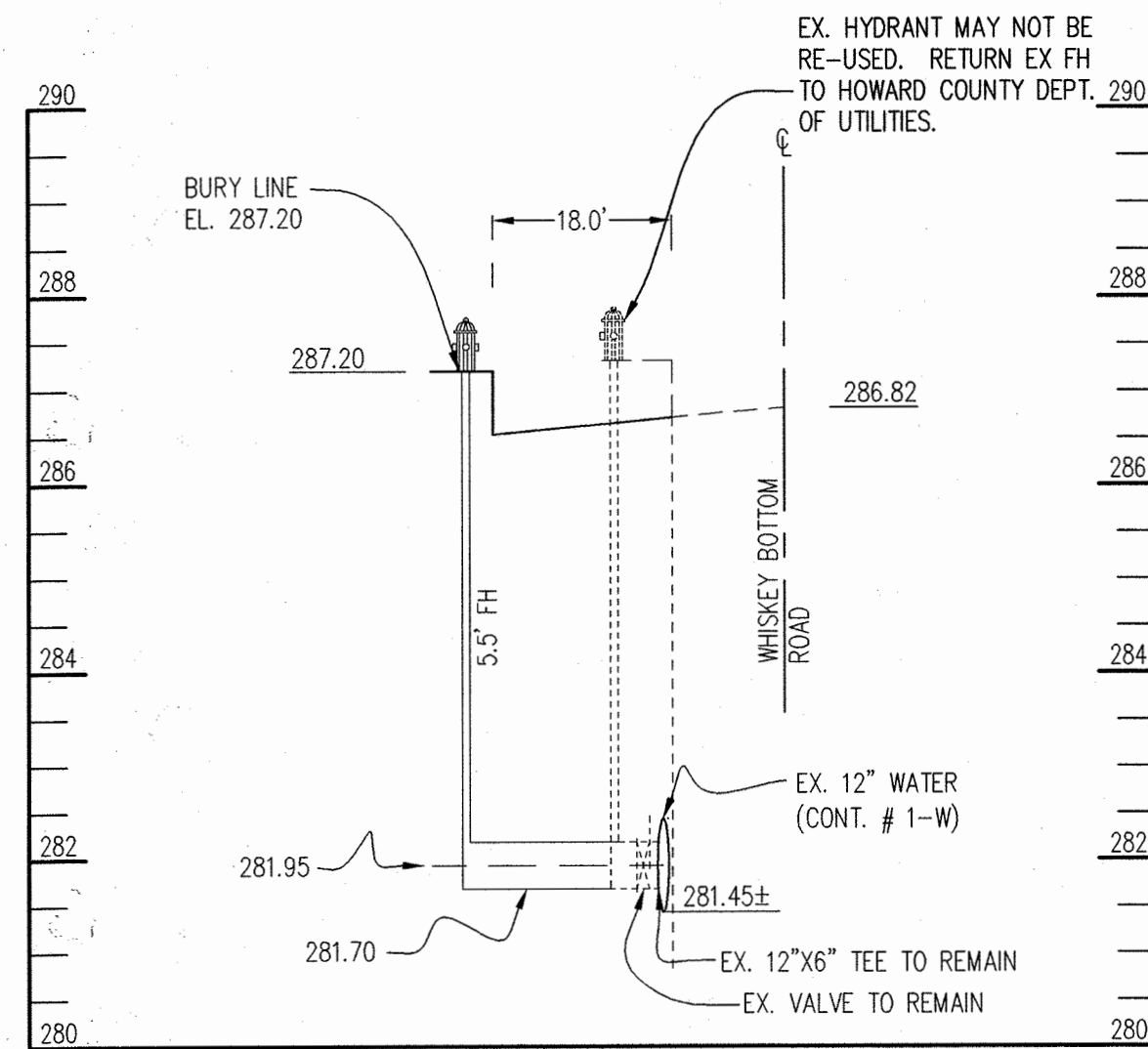




PLAN VIEW  
SCALE: 1" = 30'

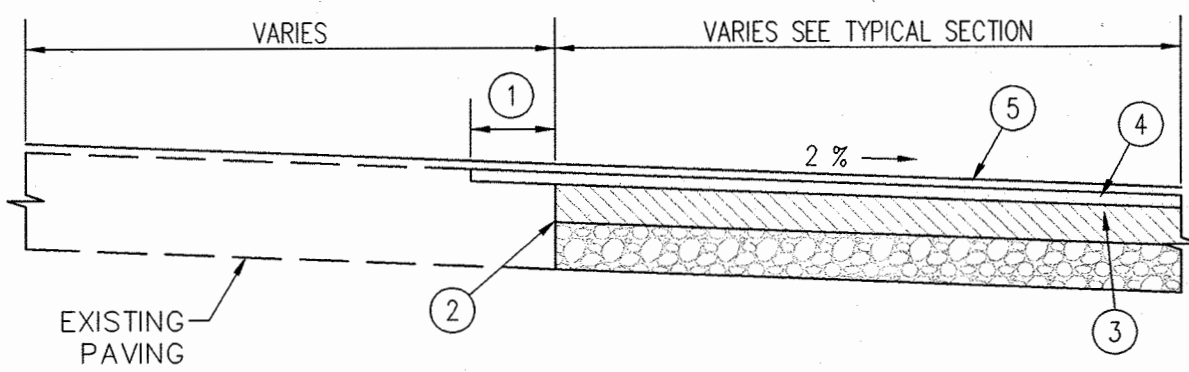


TYPICAL SECTION  
WHISKEY BOTTOM ROAD WIDENING  
MAJOR COLLECTOR  
LOOKING UPSTATION  
SCALE: NTS



FIRE HYDRANT RELOCATION  
WHISKEY BOTTOM ROAD 3+10

CURVE DATA TABLE						
CURVE NO.	DELTA	RADIUS	ARC	TAN	CHD. BRG.	CHD. LEN.
1	24° 16' 10"	325.00	137.66	69.88	S57° 04' 18" E	136.64
2	03° 28' 16"	671.53	40.68	20.35	N04° 27' 43" W	40.68



- 1 MILL A 1" WIDE X 1.5" DEEP STRIP
- 2 SAW-CUT THROUGH FULL DEPTH PAVING
- 3 INSTALL SUB BASE GRAVEL AND BASE PAVEMENT PER THE TYPICAL PAVEMENT SECTION.
- 4 PROVIDE 2" INTERMEDIATE SURFACE COURSE
- 5 PROVIDE 1-1/2" TOP SURFACE COURSE

NOTE: LONGITUDINAL JOINTS FOR THE TOP SURFACE COURSE MUST NOT COINCIDE WITH THE FULL-DEPTH SAW-CUT JOINT

PAVEMENT CONNECTION DETAIL  
NOT TO SCALE

- NOTES:
1. STREET LIGHT PLACEMENT, FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (LATEST EDITION). A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND TREE.
  2. HOWARD COUNTY WILL SUPPLY CONTRACTOR WITH DEVICES TO LOCATE END OF CONDUIT FOR STREET LIGHT CABLE. CONTACT TRAFFIC DIVISION AT 410-313-5752 FOR INFORMATION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Thomas E. Suttler 3/23/09  
 DIRECTOR DEP. DATE  
 Chad Danner 3/10/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
 Cindy Kerner 3/19/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

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PROJECT  
NORTH LAUREL COMMUNITY CENTER  
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AREA  
TAX MAP 47 GRID 22 & TAX MAP 50  
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6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

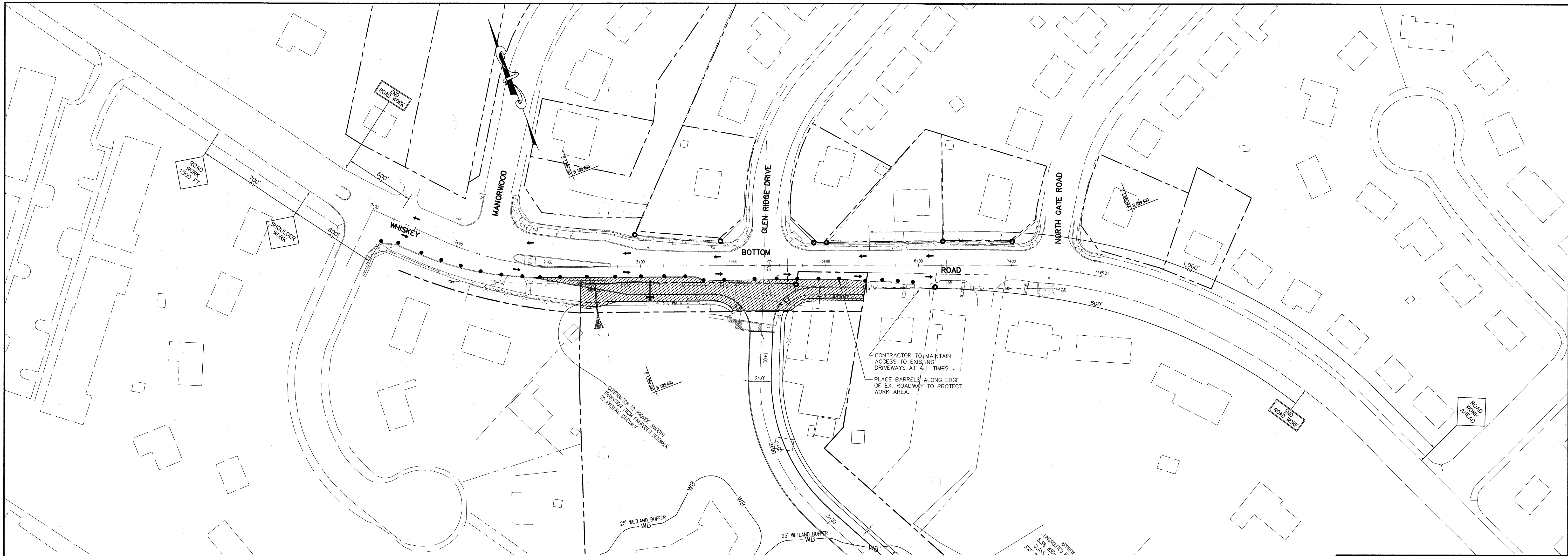
TITLE  
ROAD IMPROVEMENT PLAN  
WHISKEY BOTTOM ROAD

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

SEAL  

 3-4-09  
 DESIGNED BY: SCM  
 DRAWN BY: SCM  
 PROJECT NO.: 14466-1-0  
 C400SDP39.DWG  
 DATE: MARCH 4, 2009  
 SCALE: AS SHOWN  
 DRAWING NO. 39 OF 69





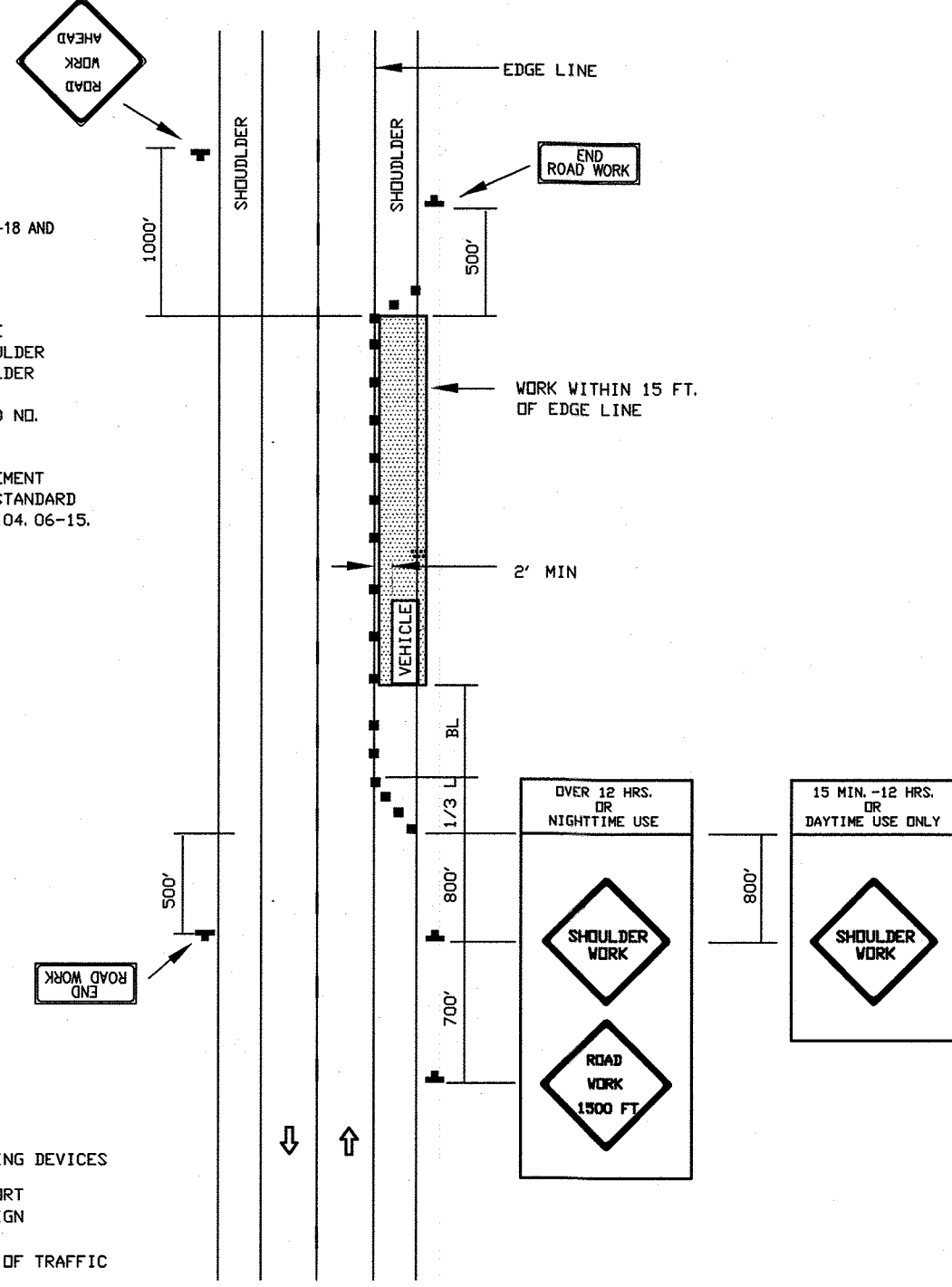
PLAN VIEW  
SCALE: 1" = 50'

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION  
(FOR ALL WORK ON WHISKEY BOTTOM ROAD)

IMPORTANT:  
THIS DRAWING SHALL BE USED IN  
COMBINATION WITH THE GENERAL  
NOTES NO. 104.00-01 - NO. 104.00-18 AND  
STANDARD DETAILS NO. 104.01-01 -  
NO. 104.01-02.

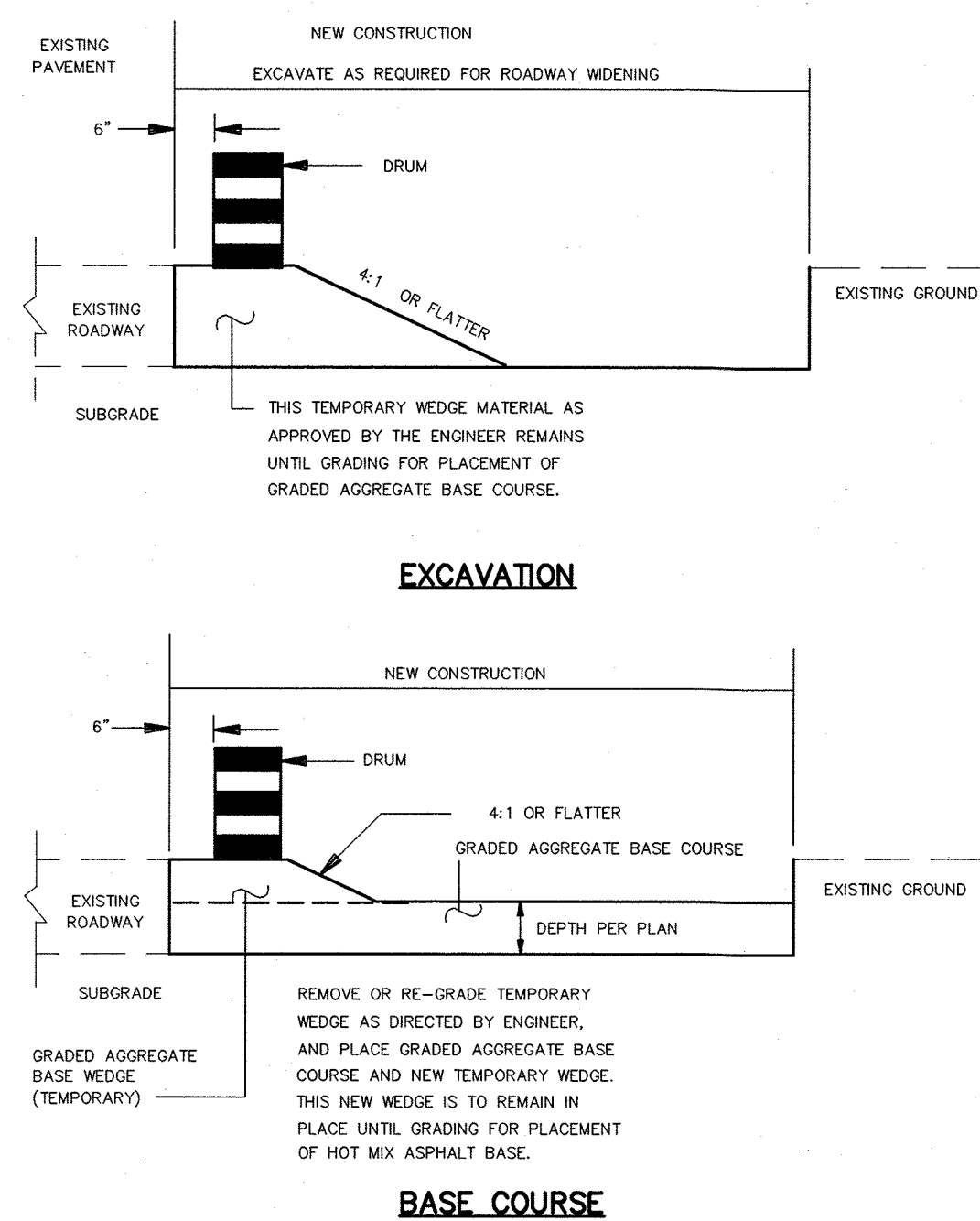
NOTES:  
SHOULDER CLOSED SIGNS ARE  
REQUIRED IN PLACE OF SHOULDER  
WORK SIGNS WHEN THE SHOULDER  
IS CLOSED BY A PHYSICAL  
BARRIER REFER TO STANDARD NO.  
MD 104.06-14.

WHEN WORK INVOLVES A PAVEMENT  
EDGE DROP-OFF, REFER TO STANDARD  
NDS. NO. 104.06-11 TO MD 104.06-15.

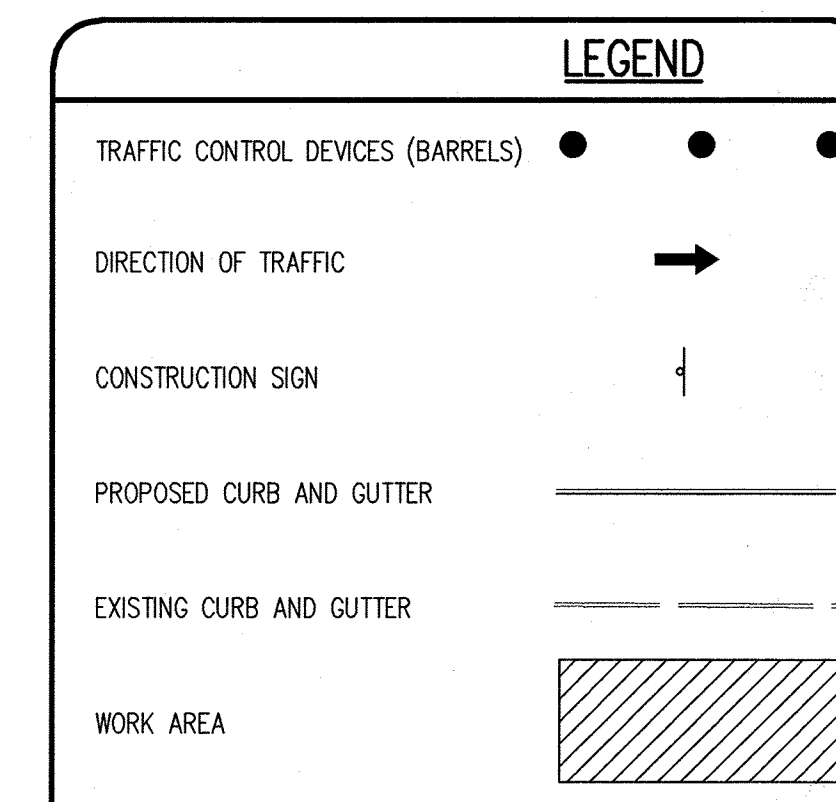


SHOULDER WORK / 2-LANE, 2-WAY  
LESS THAN 40 MPH

MD 104.02-02



TEMPORARY TRAFFIC CONTROL TYPICAL  
APPLICATION  
STAGED ROADWAY CONSTRUCTION  
MD 104.01-28



- NOTES:
1. SHA STANDARD NO. 104.31-02 (FLAGGER OPERATION), WILL BE USED AS NECESSARY DURING PERIODS OF CONSTRUCTION.
  2. CONTRACTOR TO MAINTAIN LESS THAN 2 INCHES OF DROP-OFF DURING PERIODS OF NON-CONSTRUCTION OR CONTRACTOR SHALL USE SHA STANDARD NO. MD 104.01.28 (STAGED ROADWAY CONSTRUCTION WITH 4:1 SLOPE) TO PROVIDE 2 LEFT TURNING LANES INTO DOBBIN SHOPPING CENTER FOR AS LONG AS POSSIBLE.
  3. TEMPORARY TRAFFIC CONTROL DEVICES AND PERMANENT TRAFFIC CONTROL SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL REQUIRED TRAFFIC CONTROL DEVICES ARE TO BE PROVIDED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE BASE BID.
  4. ALL TEMPORARY SIGNAGE IN WORK ZONE TO BE ORANGE WITH BLACK SYMBOLS/LETTERING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Mona G. Suttle* 3/23/09  
DIRECTOR, DEP. DATE  
*John Deane* 3/10/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Cindy Hama* 3/19/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

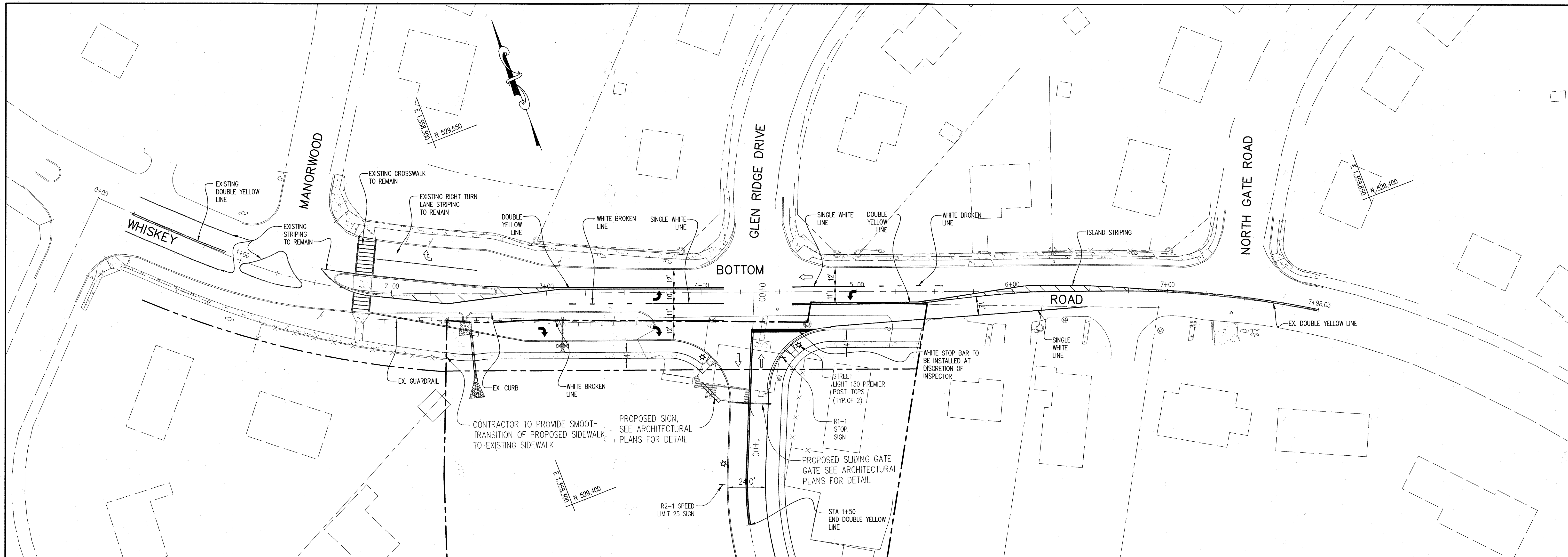
TITLE TRAFFIC CONTROL PLAN  
WHISKEY BOTTOM ROAD

Patton Harris Rust & Associates  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
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F 410.997.9282

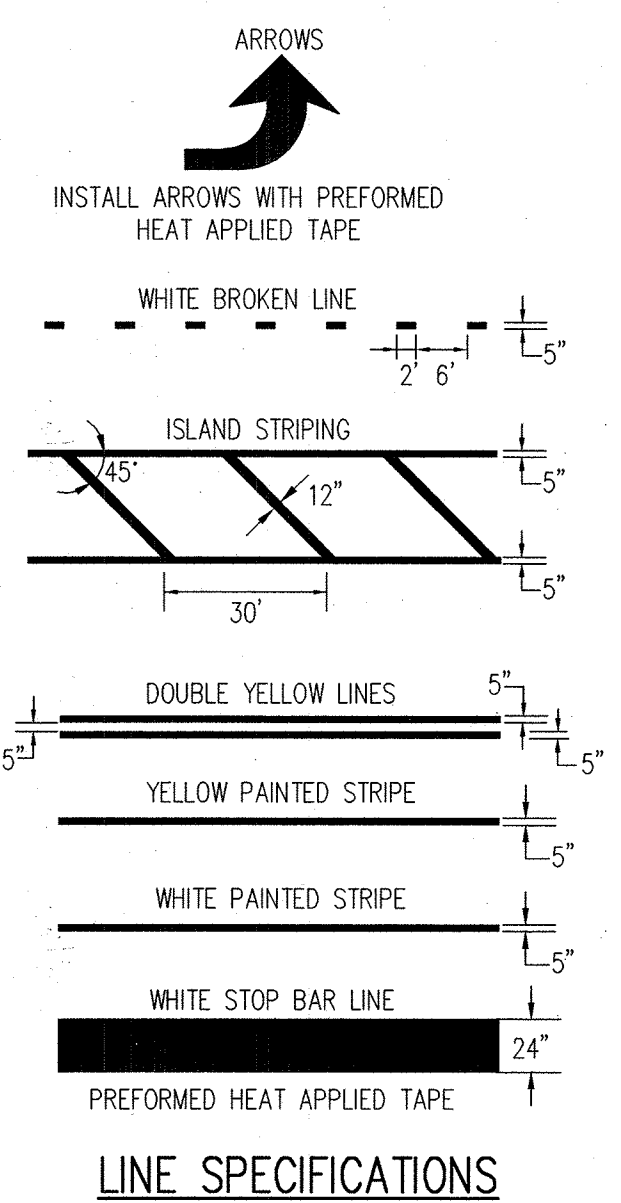
SEAL 3-4-09  
DESIGNED BY: JSN  
DRAWN BY: JSN  
PROJECT NO: 14466-1-0  
C400SDP40.DWG  
DATE: MARCH 4, 2009  
SCALE: AS SHOWN  
DRAWING NO. 40 OF 69

SDP-08-118

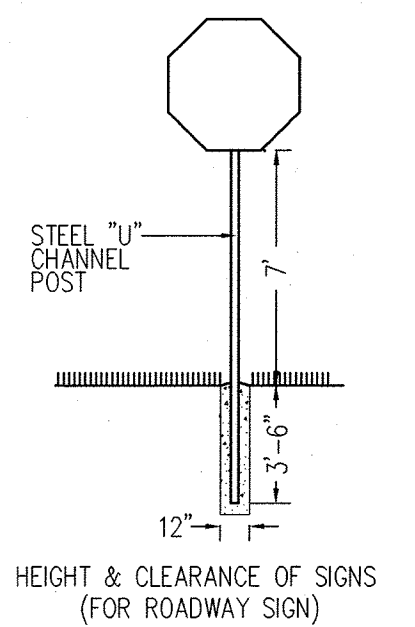




**PLAN VIEW**  
SCALE: 1" = 30'



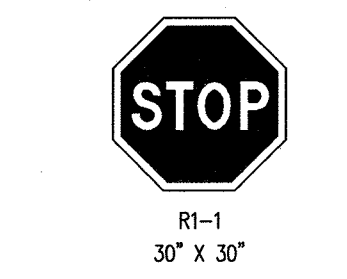
**LINE SPECIFICATIONS**



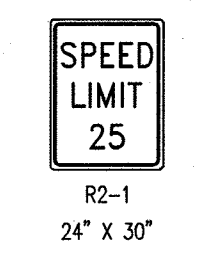
HEIGHT & CLEARANCE OF SIGNS  
(FOR ROADWAY SIGN)

LEGEND	
PROPERTY LINE	---
DIRECTION OF TRAFFIC	→
ROAD SIGN	+
EXISTING CURB AND GUTTER	=====
EXISTING EDGE OF PAVEMENT	=====
PROPOSED CURB AND GUTTER	=====
PROPOSED STRIPING	=====
PROPOSED LIGHTS	*

- NOTES:**
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
  - ALL SIGN LOCATIONS ARE APPROXIMATE. PLEASE CONTACT HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) BEFORE INSTALLING ANY SIGNS.
  - PAVEMENT MARKINGS:
    - PLEASE CONTACT HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) BEFORE INSTALLING OR REMOVING ANY PAVEMENT MARKINGS.
    - ALL PAVEMENT MARKING REMOVALS SHALL BE DONE BY GRINDING.
  - ALL SIGNAGE AND STRIPING SHALL CONFORM TO HOWARD COUNTY AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.



**1 STOP SIGN**  
NOT TO SCALE



**2 SPEED LIMIT 25 SIGN**  
NOT TO SCALE

**3 STRIPING STANDARDS**  
NOT TO SCALE

**4 POST DETAIL**  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Monica E. Butler</i> DIRECTOR, DEP.	3/23/09 DATE
<i>John Dammann</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/10/09 DATE
<i>Cindy Hunt</i> CHIEF, DIVISION OF LAND DEVELOPMENT	3/19/09 DATE

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

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

**PROJECT**  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

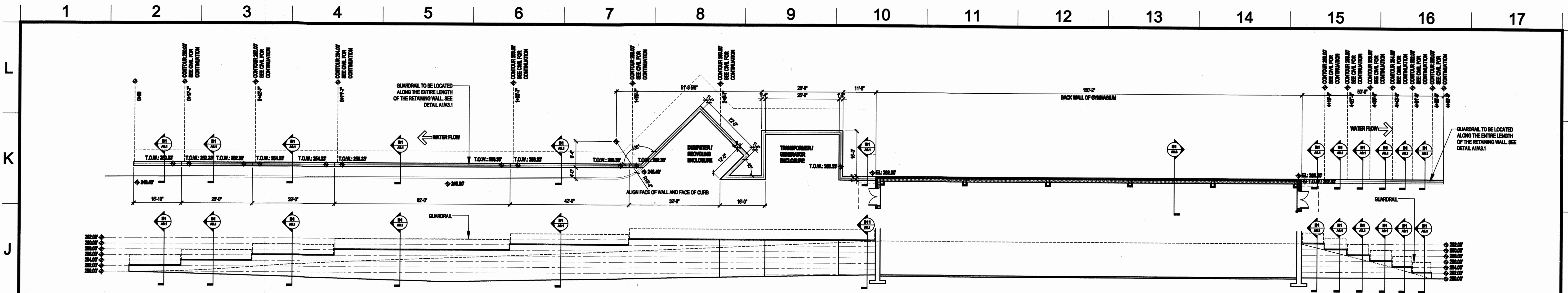
**AREA** TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**TITLE** SIGNAGE & STRIPING PLAN  
WHISKEY BOTTOM ROAD

**Patton Harris Rust & Associates**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
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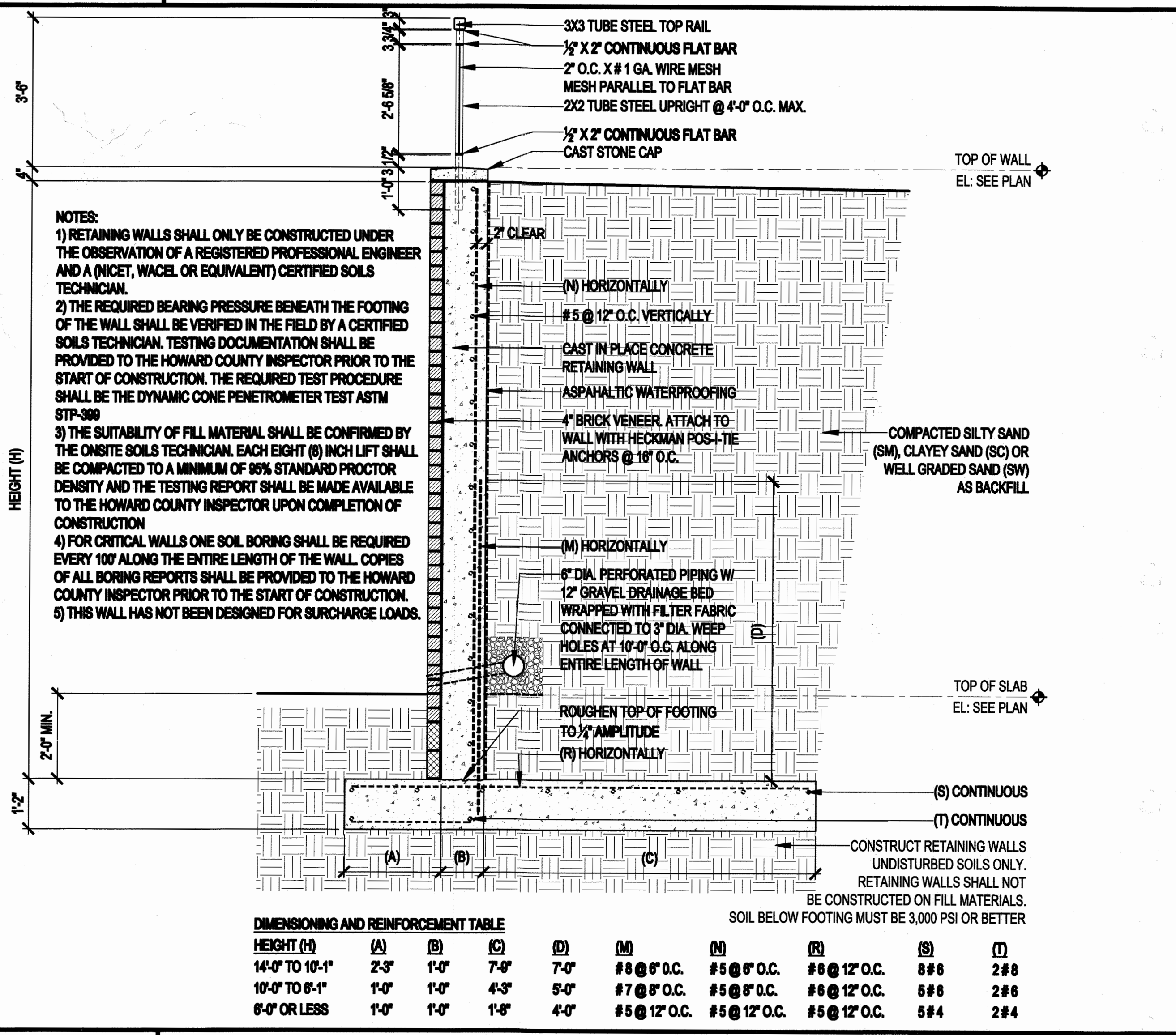
	DESIGNED BY : JSN
	DRAWN BY : JSN
	PROJECT NO : 14466-1-0 C400SDP40.DWG
	DATE : MARCH 4, 2009
	SCALE : AS SHOWN
	DRAWING NO. 41 OF 69





J1 RETAINING WALL PLAN AND ELEVATION

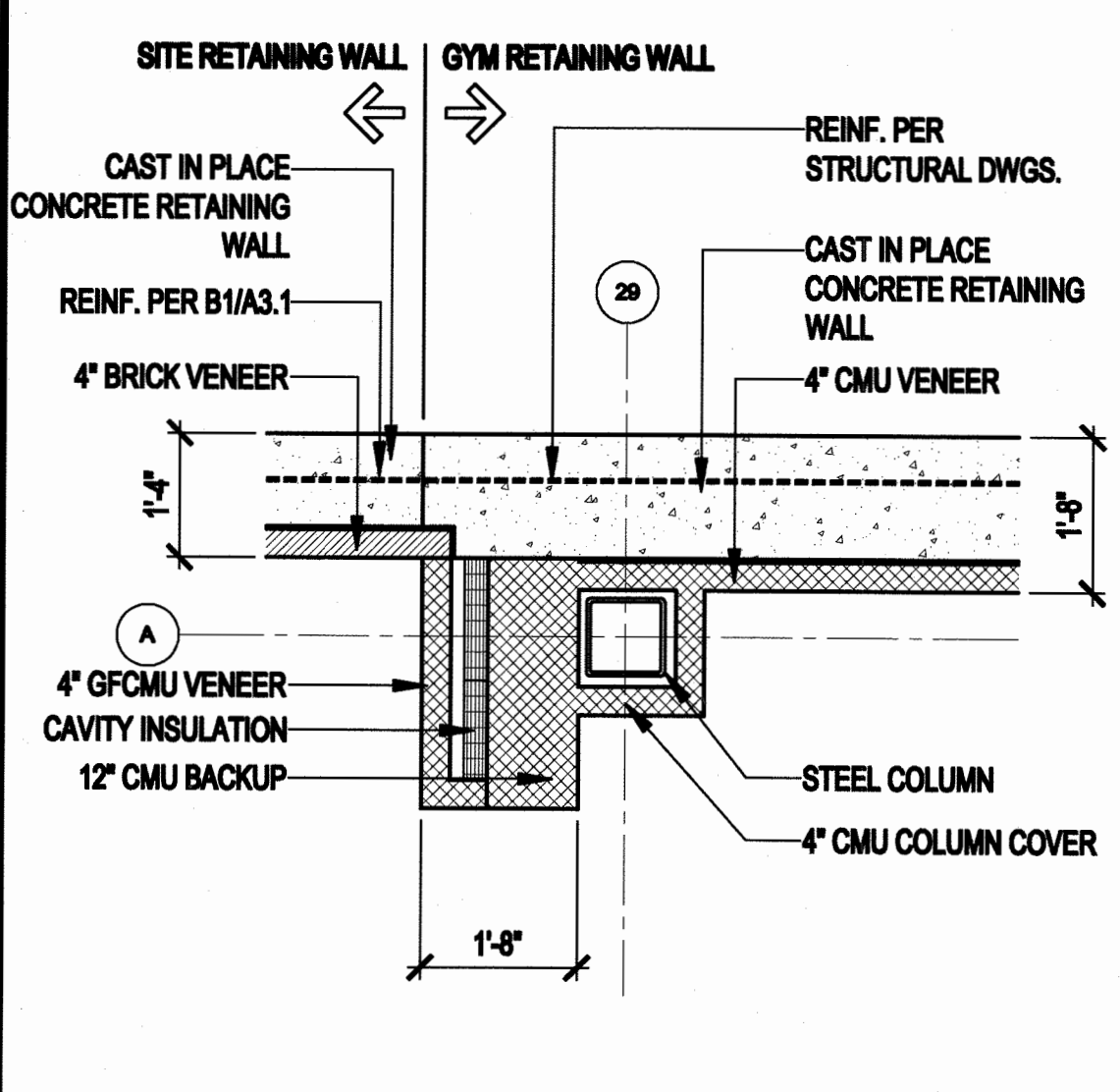
1/16" = 1'-0"



**NOTES:**  
 1) RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.  
 2) THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE THE DYNAMIC CONE PENETROMETER TEST ASTM STP-399.  
 3) THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH EIGHT (8) INCH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.  
 4) FOR CRITICAL WALLS ONE SOIL BORING SHALL BE REQUIRED EVERY 100' ALONG THE ENTIRE LENGTH OF THE WALL. COPIES OF ALL BORING REPORTS SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION.  
 5) THIS WALL HAS NOT BEEN DESIGNED FOR SURCHARGE LOADS.

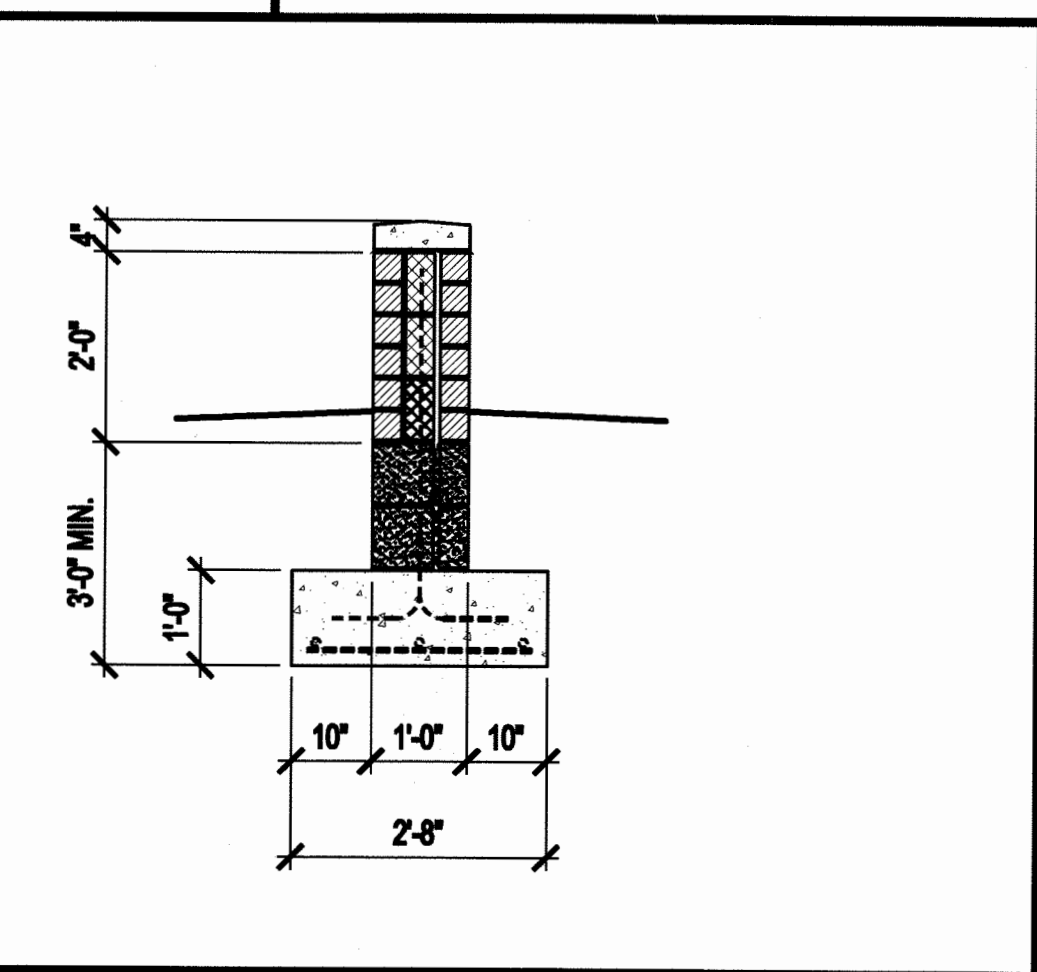
DIMENSIONING AND REINFORCEMENT TABLE

HEIGHT (H)	(A)	(B)	(C)	(D)	(M)	(N)	(R)	(S)	(T)
14'-0" TO 10'-1"	2'-3"	1'-0"	7'-9"	7'-0"	#8 @ 8" O.C.	#5 @ 8" O.C.	#8 @ 12" O.C.	6#6	2#8
10'-0" TO 8'-1"	1'-0"	1'-0"	4'-3"	5'-0"	#7 @ 8" O.C.	#5 @ 8" O.C.	#6 @ 12" O.C.	5#6	2#6
6'-0" OR LESS	1'-0"	1'-0"	1'-6"	4'-0"	#5 @ 12" O.C.	#5 @ 12" O.C.	#5 @ 12" O.C.	5#4	2#4



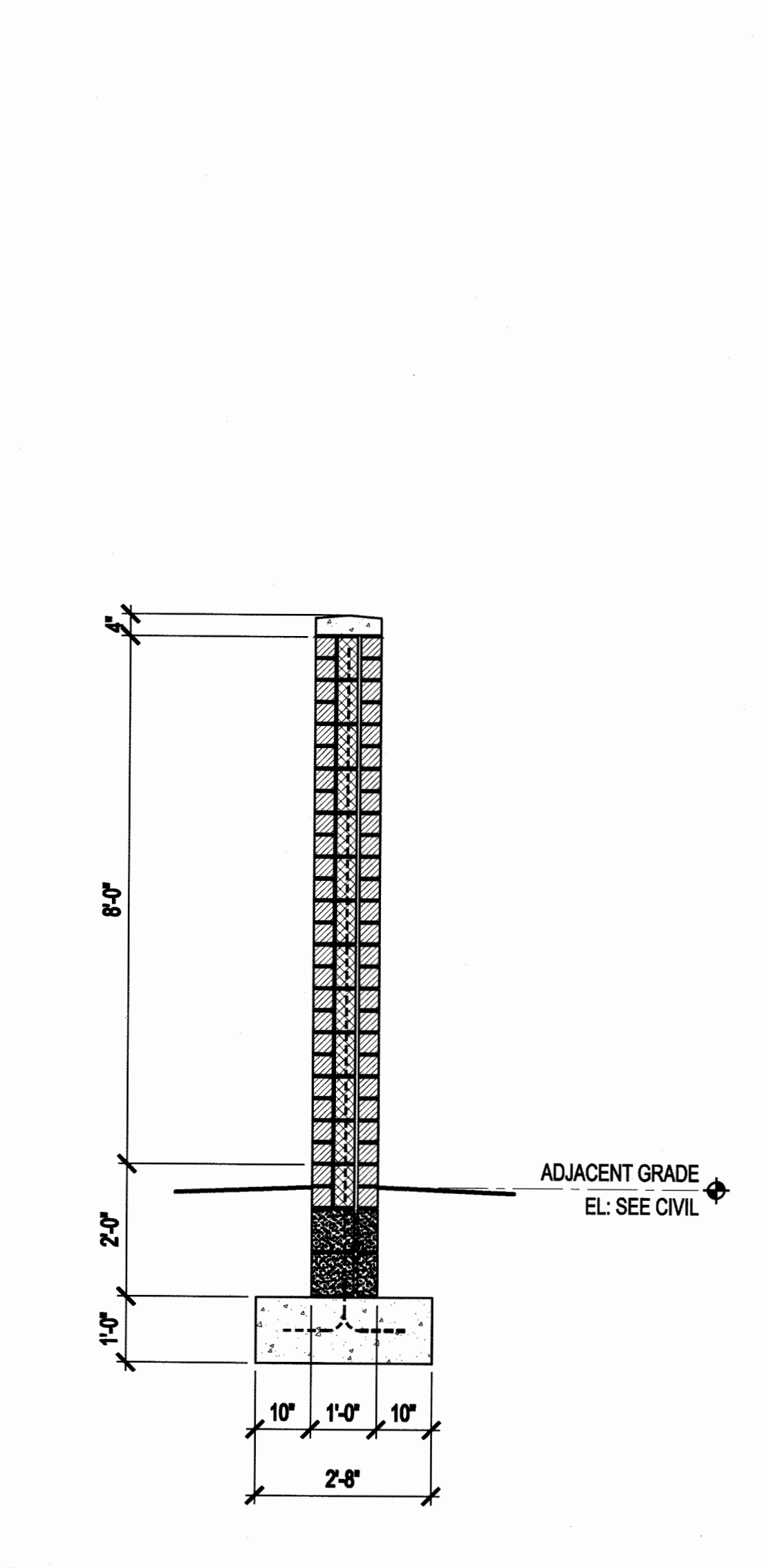
E8 DETAIL - GYM CORNER

1/2" = 1'-0"



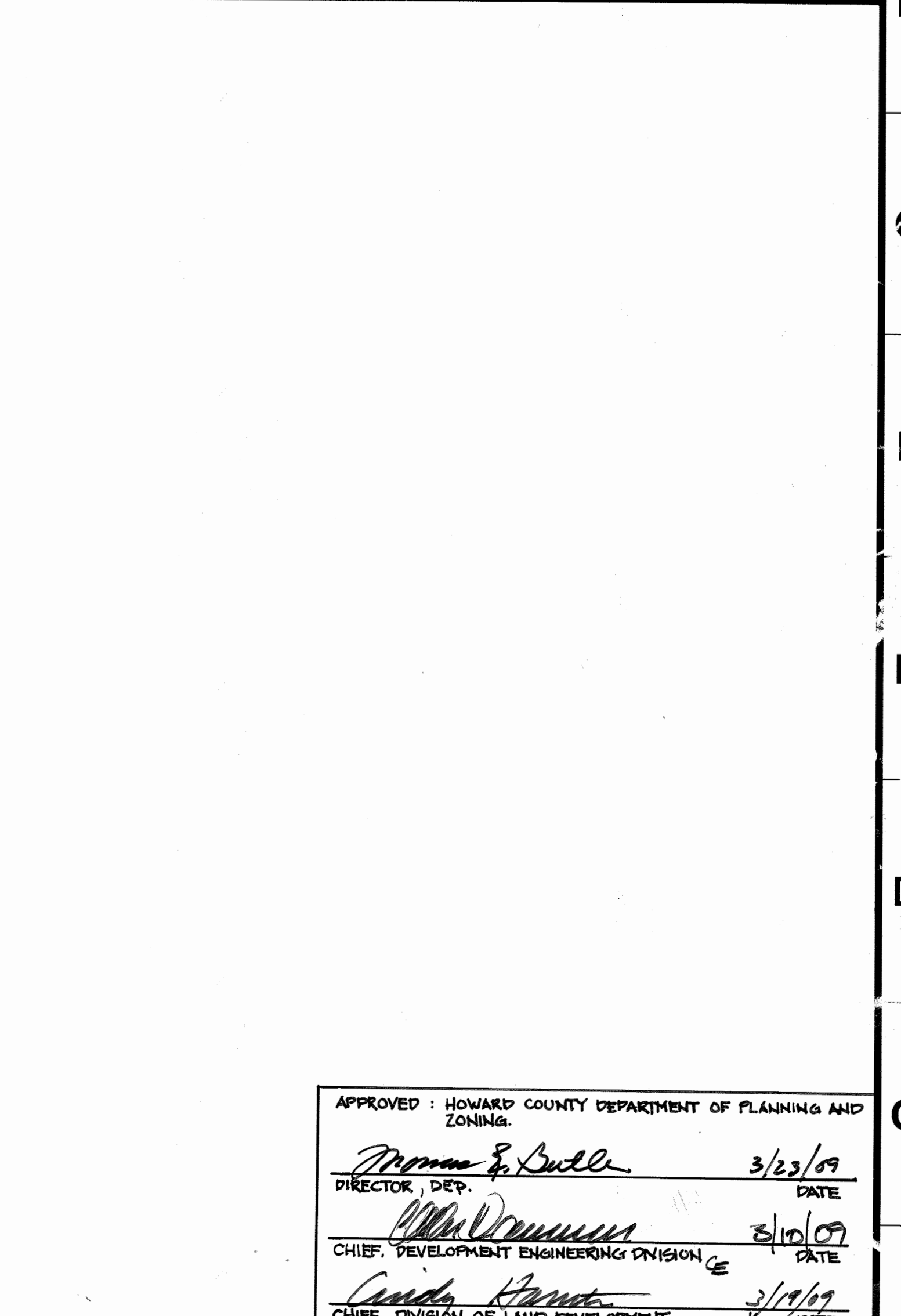
B8 GARDEN WALL

1/2" = 1'-0"



B11 GARDEN WALL

1/2" = 1'-0"



B14 GARDEN WALL WITH FENCE

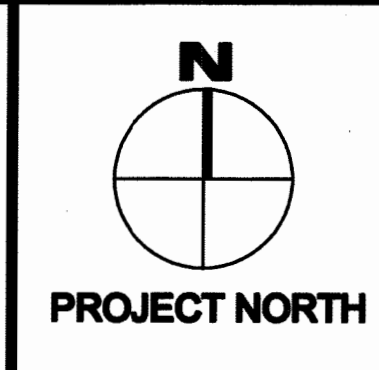
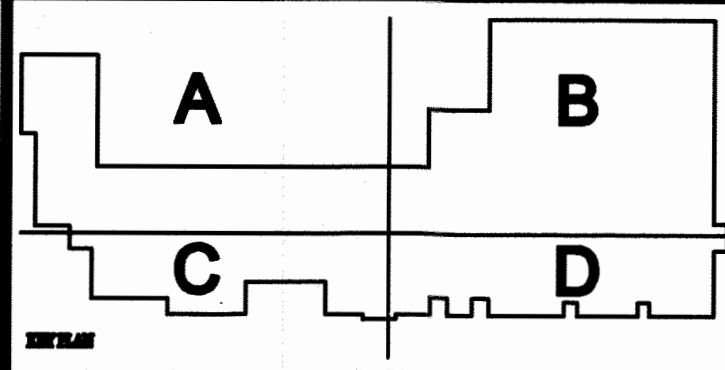
1/2" = 1'-0"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
 Director, DEP. *Mona S. Sudd* 3/23/09 DATE  
 Chief, Development Engineering Division *John D. ...* 3/10/09 DATE  
 Chief, Division of Land Development *Carole ...* 3/19/09 DATE

B1 RETAINING WALL DETAIL AND SCHEDULE

1/2" = 1'-0"

**The Lukmire Partnership**  
 Architecture  
 Planning  
 Interior Design  
 2700 South Quince Street  
 Suite 300  
 Arlington, VA 22206  
 703.598.0101  
 FAX 703.598.7798

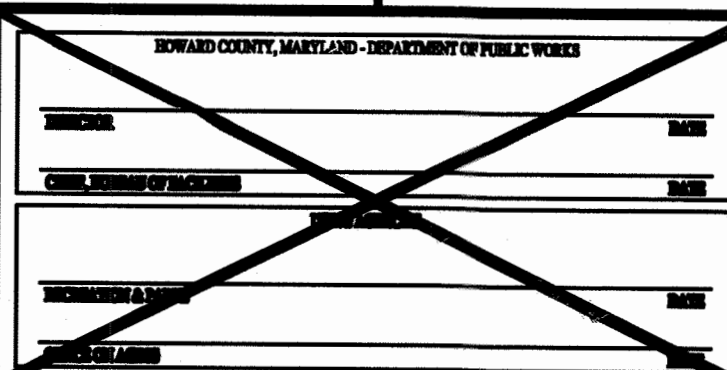


**REVISIONS**

NO.	DESCRIPTION	DATE	APPROVED

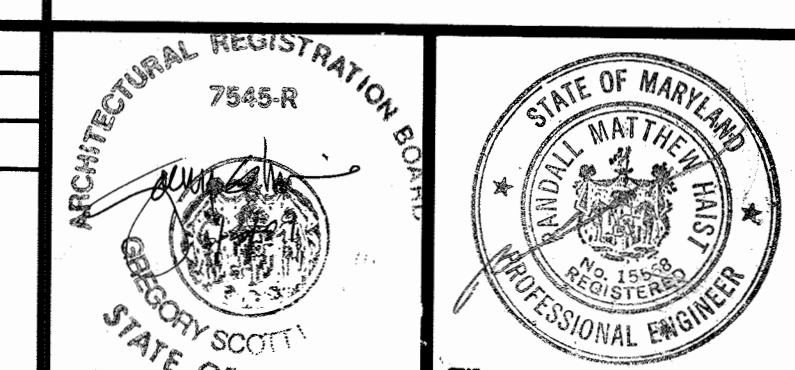
**PROJECT ARCHITECT:** Gregory S. Lukmire, A.I.A.  
**PROJECT ENGINEER (CIVIL):** Sherry Mitchell, PE  
**PROJECT ENGINEER (STRUCTURAL):** Randall M. Hale, P.E.  
**PROJECT ENGINEER (M.P.E.):** Kent Hoffman, PE

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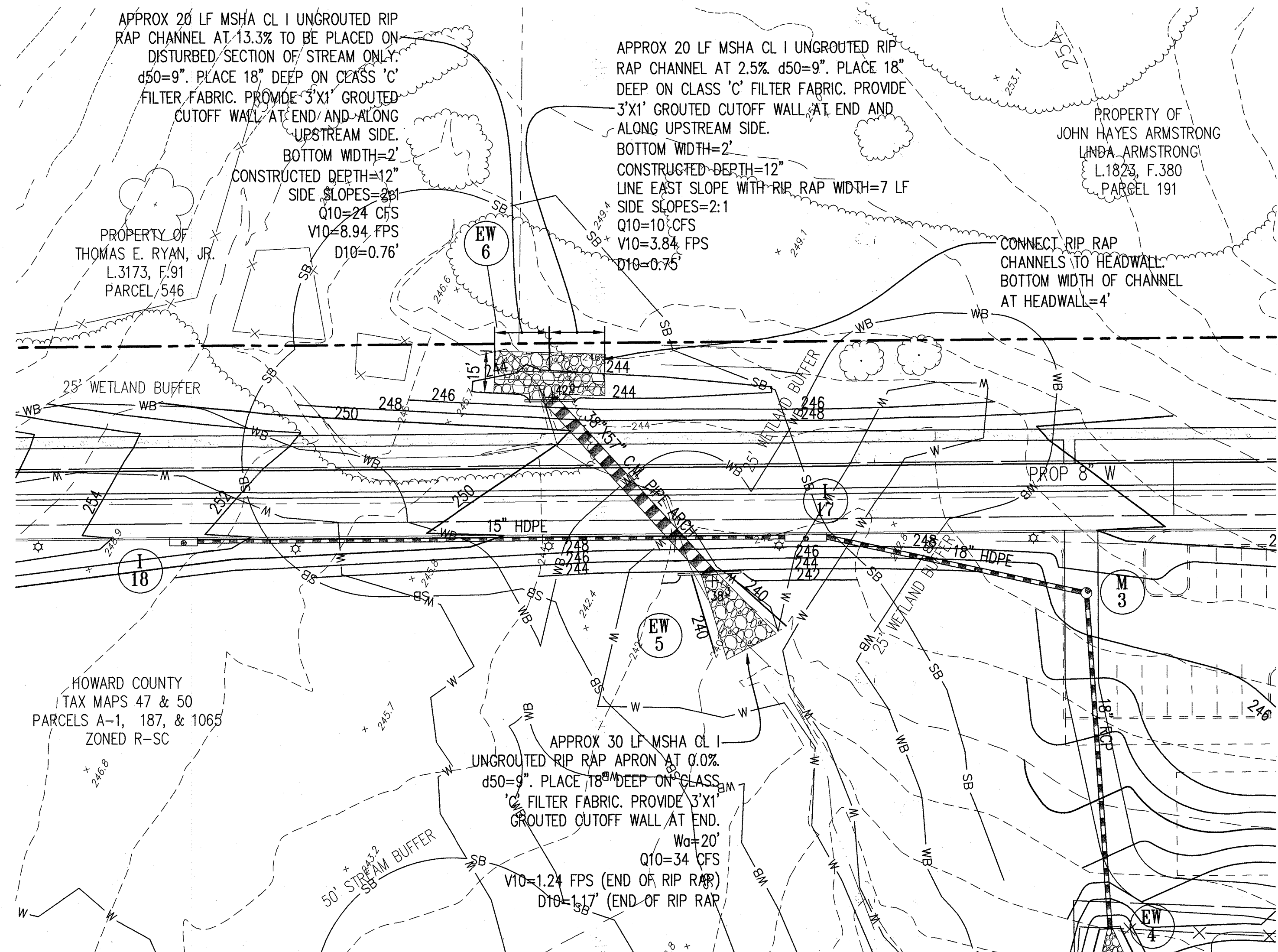


**HOWARD COUNTY, MARYLAND**  
**DEPARTMENT OF PUBLIC WORKS**  
**WALL SECTIONS**

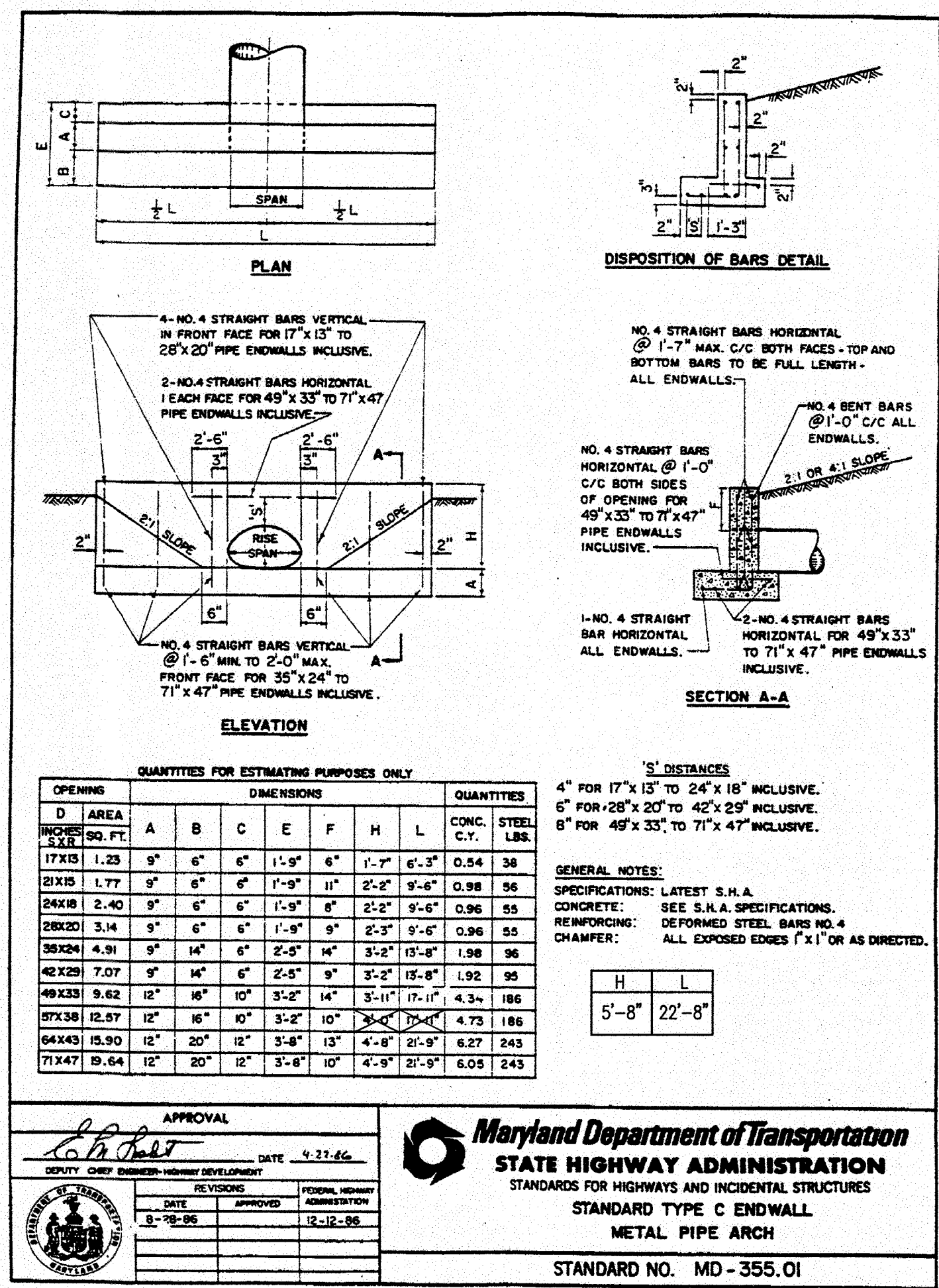
**NORTH LAUREL COMMUNITY CENTER**  
 PERMIT SET  
 2/23/2009



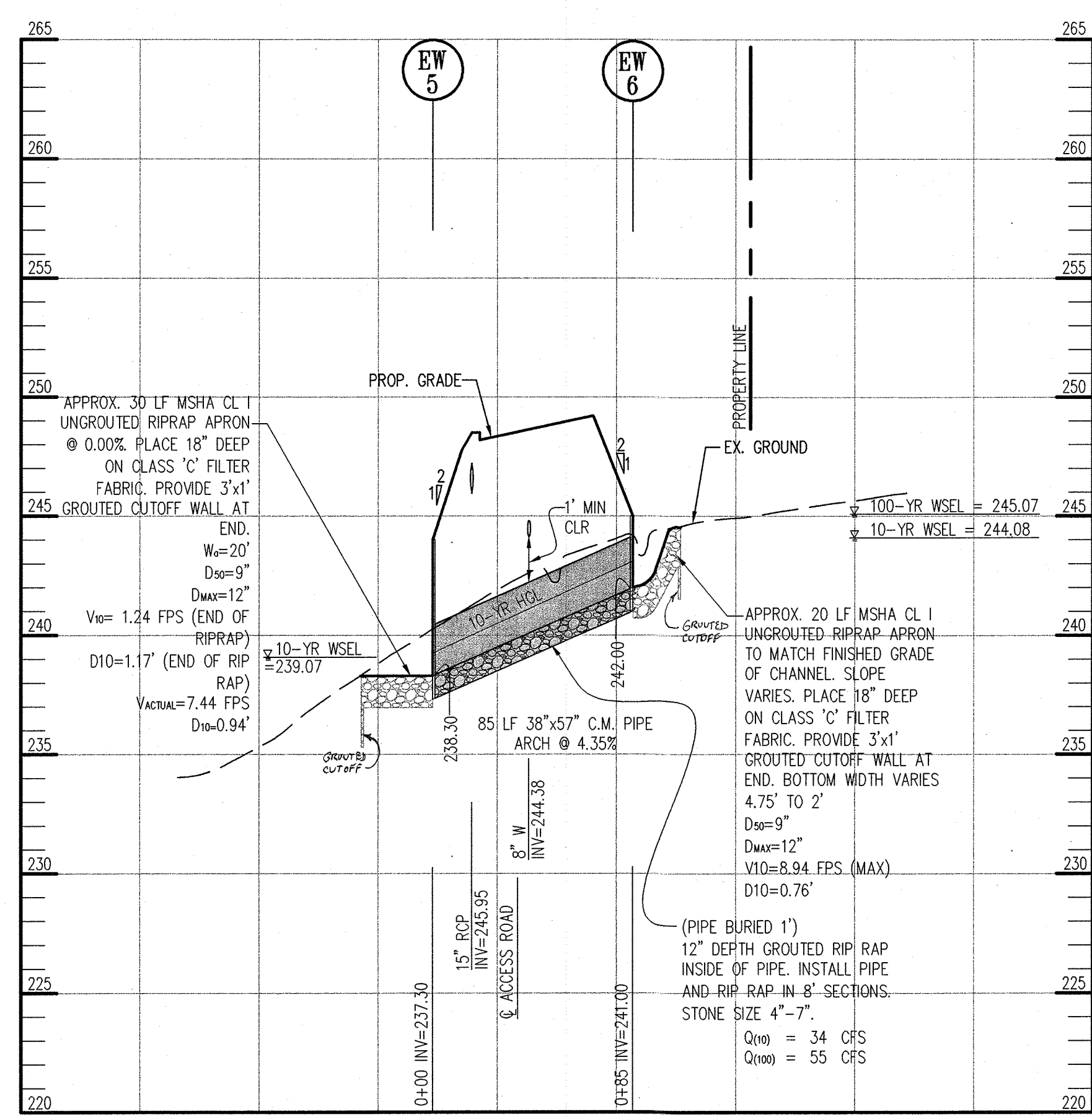




**CULVERT NO. 1 PLAN**  
SCALE: 1"=30'



**MODIFIED STRUCTURE EW5**



**CULVERT NO. 1 PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'

STRUCTURE SCHEDULE						
NUMBER	TYPE	LOCATION		TOP ELEVATION		REMARKS
		STATION	OFFSET	UPPER	LOWER	
EW-5	TYPE 'C' ENDWALL	SEE	PLAN	244.00	*	38"x57" PIPE ARCH MODIFIED MSHA STD No. MD-355.01 SEE DETAIL THIS SHEET
EW-6	TYPE 'C' ENDWALL	SEE	PLAN	245.00	*	38"x57" PIPE ARCH MSHA STD No. MD-355.01

**NOTES**  
1) CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Morgan S. Butler* 9/2/09  
DIRECTOR, DEP. DATE

*Alan Danmann* 9/1/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Cindy Hanna* 9/2/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

8/12/09	1	REVISE CULVERT NO. 1
DATE	NO.	REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE **REVISED CULVERT NO. 1 PLAN**  
**PROFILES AND DETAILS**

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

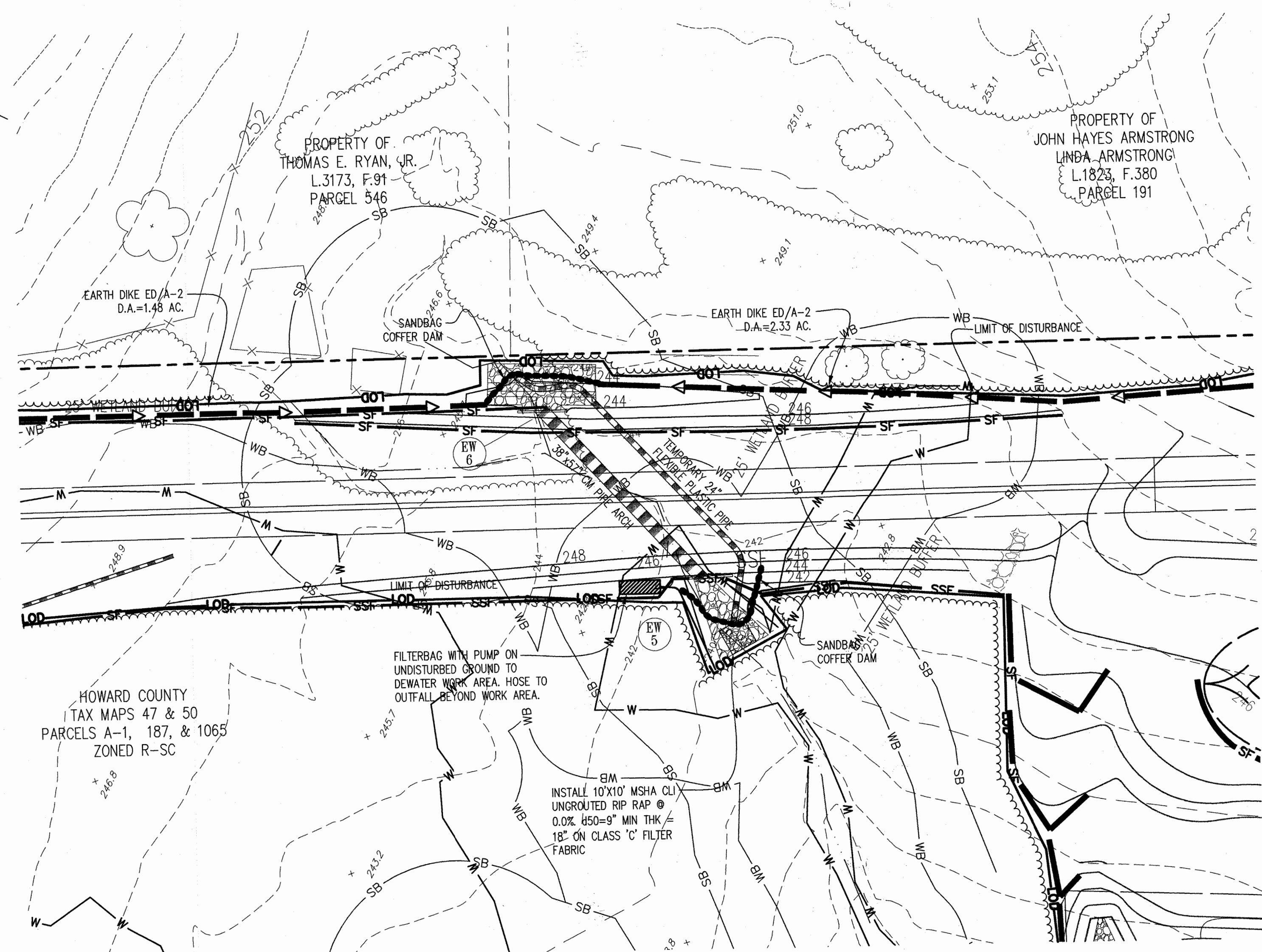
DESIGNED BY: SCM  
DRAWN BY: SGM  
PROJECT NO: 14466-1-0  
C400SDP43.DWG  
DATE: MAY 29, 2009  
SCALE: 1" = 30'  
DRAWING NO. 43 OF 69



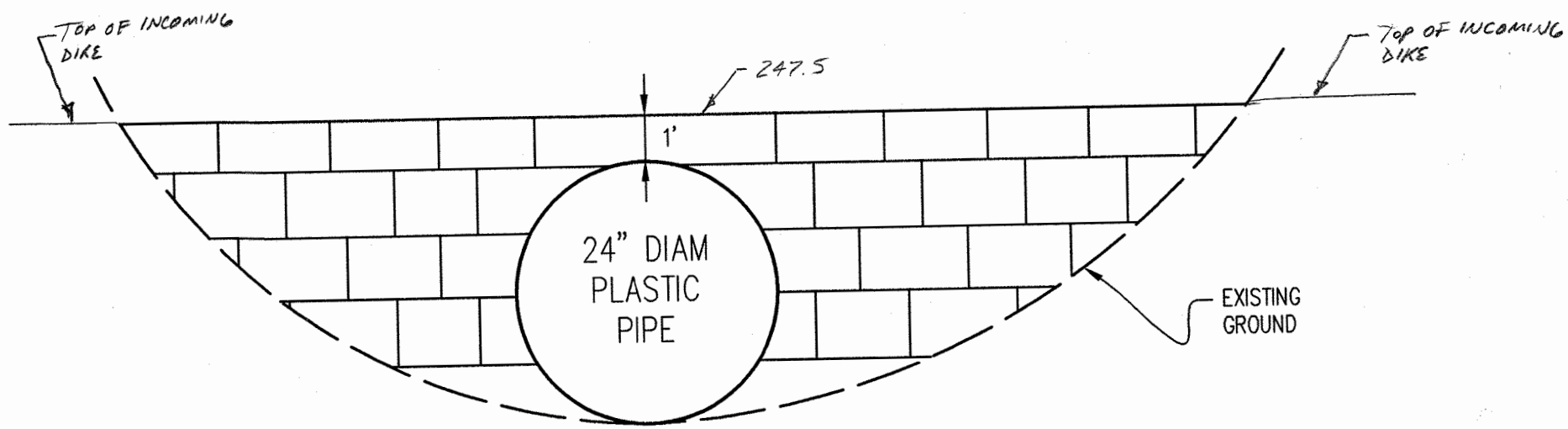
SEE SHEET 46 FOR STEPS 1-13 WHICH DO NOT APPLY TO CULVERT CONSTRUCTION

**CULVERT SEQUENCE OF CONSTRUCTION**

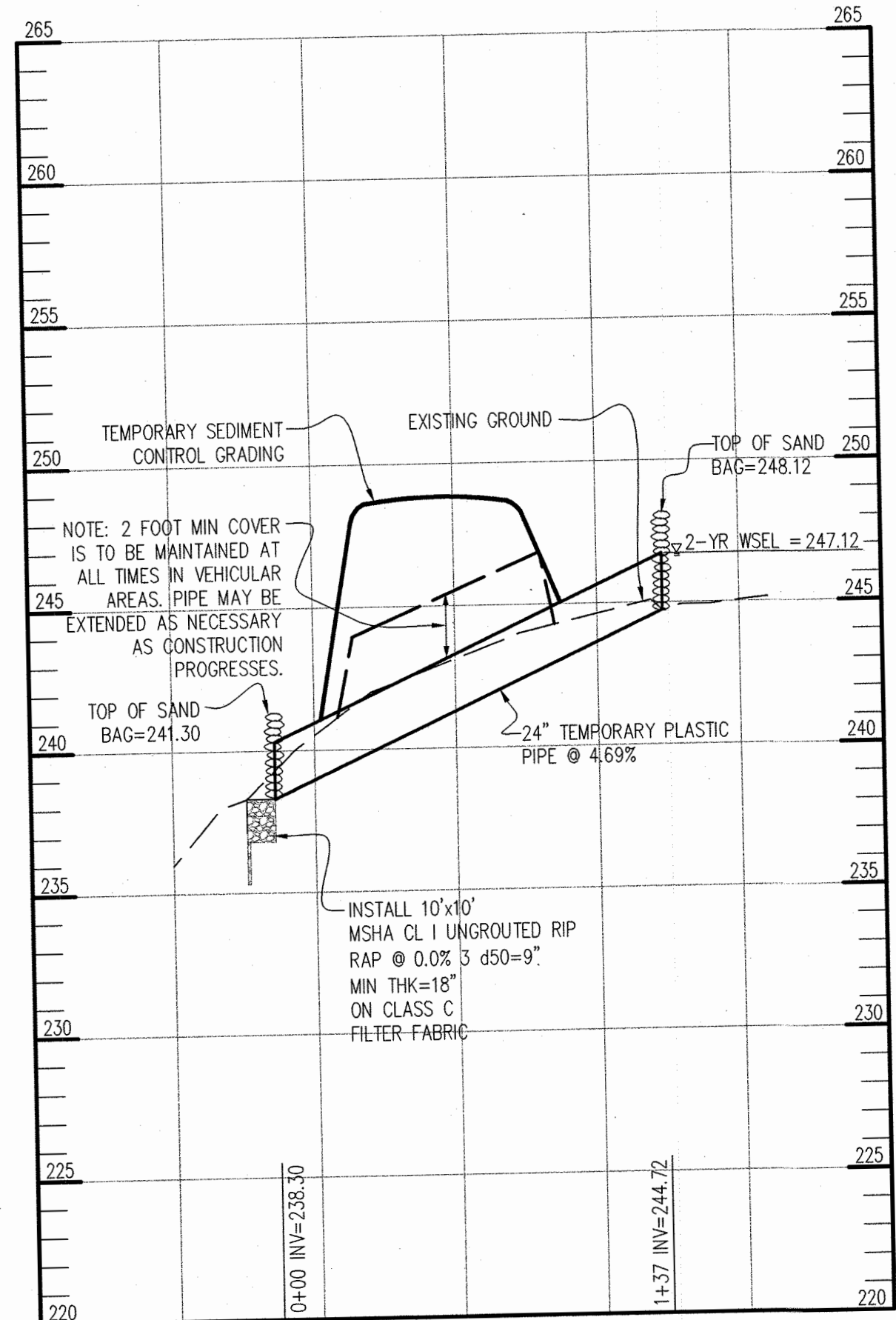
14. OBTAIN GRADING PERMIT AND ALL REQUIRED PERMITS FROM MDE (MDE TRACKING NO. 200864784) FOR WETLAND DISTURBANCE. SCHEDULE AND ATTEND THE PRECONSTRUCTION MEETING. ACCESS WILL BE FROM WHISKEY BOTTOM ROAD. (1 DAY)
  15. INSTALL SEDIMENT CONTROL DEVICES. REMOVE PORTION OF EARTH DIKE AS SHOWN ON SHEET 47 AND INSTALL CLEAN WATER EARTH DIKES ALONG EAST SIDE OF PROPOSED ENTRY ROAD TO DIRECT CLEAN WATER TO CULVERT. INSTALL EROSION CONTROL MATTING AS SHOWN ON SHEET 47. (2 DAYS)
  16. INSTALL SAND BAG COFFER DAMS AND TEMPORARY 24" PLASTIC PIPE FOR STREAM DIVERSION AROUND CULVERT NO. 1. INSTALL EROSION CONTROL MATTING AROUND RIP RAP. FOLLOW MARYLAND WATERWAY CONSTRUCTION GUIDELINES. OBTAIN PERMISSION FROM INSPECTOR AND WHEN A 3-DAY CLEAR WEATHER FORECAST FROM THE NATIONAL WEATHER SERVICE IS PREDICTED, INSTALL CULVERT FROM STRUCTURE EWS TO EWS AND RIP RAP. INSTALLATION IS NOT TO EXCEED 2 WEEKS. IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR. PROVIDE 2 FOOT MINIMUM COVER OVER PERMANENT CULVERT. IMMEDIATELY STABILIZE DITCH UPSTREAM OF CULVERT AND INSTALL EROSION CONTROL MATTING.
  17. ONCE CULVERT IS INSTALLED OBTAIN PERMISSION FROM INSPECTOR AND REMOVE TEMPORARY 24" PLASTIC PIPE AND SANDBAG COFFER DAMS. EARTH DIKES ARE TO BE DIRECTED TO PERMANENT RIP RAP CHANNELS.
  18. SEED AND STABILIZE REMAINING DISTURBED AREAS.
  19. ONCE ENTIRE SITE IS STABILIZED, OBTAIN PERMISSION FROM INSPECTOR AND REMOVE REMAINING SEDIMENT CONTROL DEVICES.
- NOTES:
1. SEE SHEET 47 FOR ADDITIONAL SEDIMENT CONTROL DEVICES AND TREE PROTECTION DEVICES.
  2. CONTRACTOR MUST BE DILIGENT IN MINIMIZING EROSION AND PREVENTING SEDIMENT FROM LEAVING THE SITE.
  3. APPLY TEMPORARY SEEDING TO ALL AREAS LEFT UNDISTURBED FOR MORE THAN TWO WEEKS.
  4. ALL CONSTRUCTION ACTIVITIES ARE TO BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
  5. ALL CONSTRUCTION ACTIVITIES MUST BE WITHIN LIMITS OF DISTURBANCE.



**SEDIMENT CONTROL PLAN**  
SCALE: 1"=30'



**SANDBAG COFFER DAM DETAIL**  
NTS



**TEMPORARY CULVERT PROFILE**  
SCALE: HOR: 1"=50'  
VERT: 1"=5'

**MGWC 1.4: DIVERSION PIPE**

*Temporary measure for dewatering in-channel construction sites*

**DESCRIPTION**  
The work should consist of installing flow diversion pipes in combination with sandbag or stone diversions when construction activities occur within the stream channel.

**EFFECTIVE USES & LIMITATIONS**  
Diversion pipes with an insufficient flow capacity can cause the channel diversion to fail thereby resulting in severe erosion of the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low flow.

**MATERIAL SPECIFICATIONS**  
Materials for stream diversions should meet the following requirements:  

- Riprap: Stone should be washed and have a minimum diameter of 6 inches (15 centimeters).
- Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).
- Sheeting: Sheeting should consist of polyethylene or other material which is impervious and resistant to puncture and tearing.

**INSTALLATION GUIDELINES**  
All erosion and sediment control devices including mandatory dewatering basins should be installed as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during low flow conditions. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.  
Diversion pipes with sandbag or stone barriers should be completed as follows (refer to Detail 1.4):

1. Sandbag/stone barriers should be sized and installed as detailed in MGWC 1.5: Sandbag/Stone Diversion. The materials should be sized to withstand flow velocities.
2. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
3. Sediment-laden water from the construction area should be pumped to a dewatering basin.
4. The diversion pipe should have a minimum capacity sufficient to convey the 2-year flow for projects with a duration of two weeks or greater. For projects of shorter duration, the capacity of the pipe can be reduced accordingly.
5. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.
6. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal.

TEMPORARY INSTREAM CONSTRUCTION MEASURES MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000  
PAGE 1.4-1

**Maryland's Guidelines To Waterway Construction**  
**DETAIL 1.4: DIVERSION PIPE**

**PLAN VIEW**  
Shows a plan view of a diversion pipe with sandbag/stone barriers on either side, creating a 'disturbed area' and a 'design flow level'.

**LONGITUDINAL SECTION VIEW**  
Shows a longitudinal section of the diversion pipe with sandbag/stone barriers, impervious sheeting, and a 'diversion pipe' section. Labels include 'barrier height as defined in the sandbag/stone diversion section', 'top of stream bank', and 'disturbed area'.

TEMPORARY INSTREAM CONSTRUCTION MEASURES REVISED NOVEMBER 2000 PAGE 1.4-2 MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**SECTION**  
Shows a cross-section of a filter bag used as a temporary erosion control measure. It includes a 'CONSTRUCTION FENCE FOR RESTRAINT AND AID IN LIFTING USED BAG' and a 'FILTER FABRIC (GEOTEXTILE P)'. Dimensions include a 2' x 2' area and a 0.5' to 1.0' slope.

**NOTES:**

1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
2. WIDTH AND LENGTH SHALL BE AS SHOWN
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE

CLASS P:	Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
	Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
	Flow Rate	0.3 gal +/- minute (max.)	Test: MSMT 322
	Filtering Efficiency	75% (min.)	Test: MSMT 322

**FILTER BAG**  
TEMPORARY EROSION CONTROL MEASURE (FB)

**BY THE DEVELOPER :**  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER \_\_\_\_\_ DATE \_\_\_\_\_

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

ENGINEER *Shannon C. Mitchell* DATE *8-13-09*

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

HOWARD SOIL CONSERVATION DISTRICT DATE *8/26/09*

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Thomas F. Butler* DATE *9/2/09*  
DIRECTOR, DEP.

*William Deamus* DATE *9/1/09*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Cindy Harris* DATE *9/2/09*  
CHIEF, DIVISION OF LAND DEVELOPMENT

8/12/09	1	REVISE CULVERT NO. 1
DATE NO.		REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

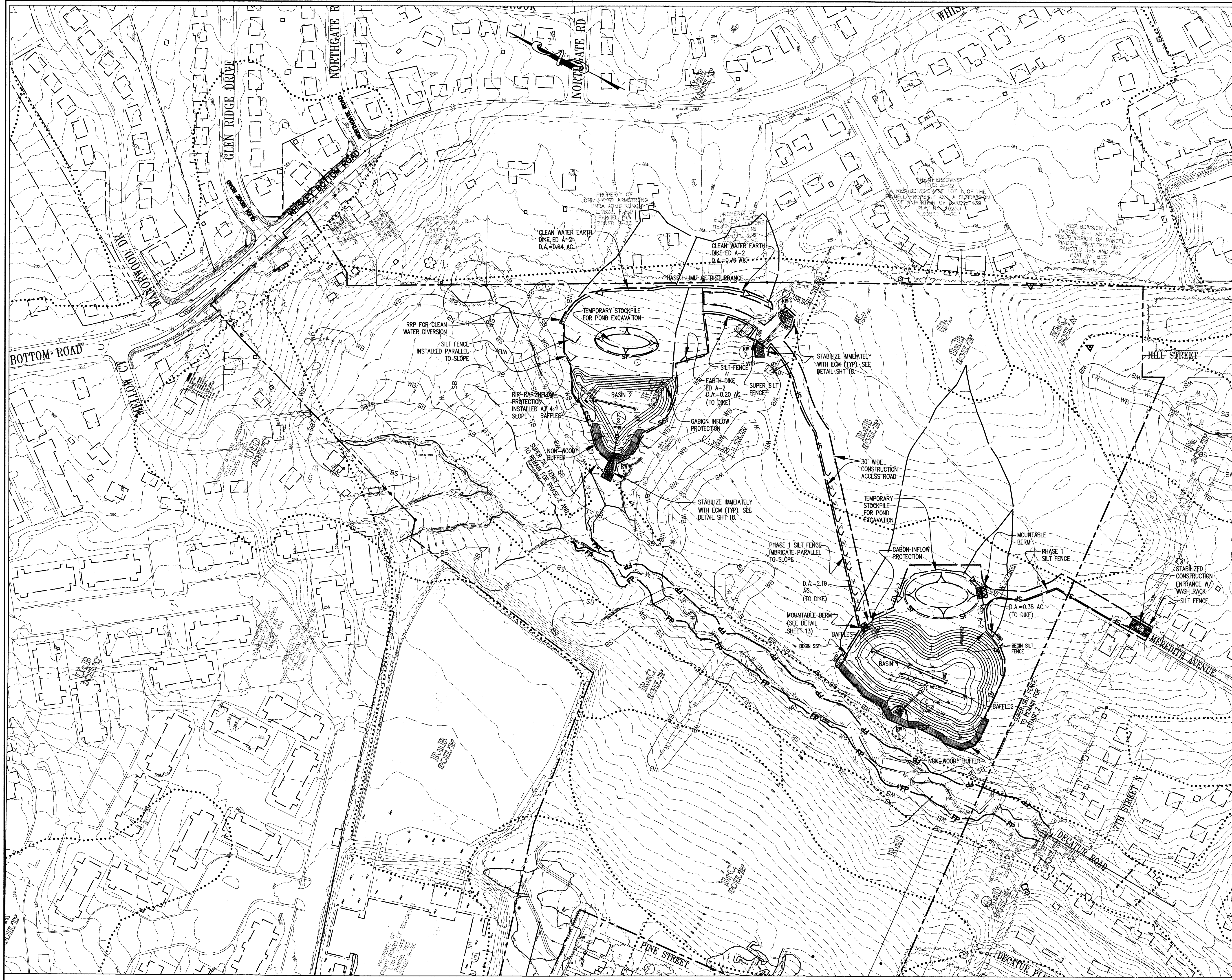
TITLE  
**REVISED CULVERT No. 1**  
**SEDIMENT CONTROL PLAN**

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

SEAL  
*Shannon C. Mitchell* DATE *8-13-09*  
PROFESSIONAL CERTIFICATE IN EROSION CONTROL MEASURES  
AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER  
UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE  
NO. 33564, EXPIRATION DATE: 01-24-11

DESIGNED BY: SCM  
DRAWN BY: SGM  
PROJECT NO: 14466-1-0  
C400SP44.DWG  
DATE: MAY 29, 2009  
SCALE: AS SHOWN  
DRAWING NO. 44 OF 69





NOTE: SEE SHEETS 8 AND 10 FOR BASIN DETAILS, BASIN SCHEDULES AND LEGEND

BY THE DEVELOPER :  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER *[Signature]* DATE

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

ENGINEER *[Signature]* DATE 8-13-09

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

HOWARD SOIL CONSERVATION DISTRICT *[Signature]* DATE 8/25/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. *[Signature]* DATE 9/2/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE 9/1/09

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE 9/2/09

3/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2
DATE NO.		REVISION

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE  
 REVISED GRADING & SEDIMENT CONTROL  
 PLAN PHASE 1

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

SEAL *[Professional Engineer Seal]* 8-13-09

DESIGNED BY : SCM  
 DRAWN BY : SCM  
 PROJECT NO : 14466-1-0  
 C:\4005DP45.DWG  
 DATE : MAY 29, 2009  
 SCALE : 1" = 100'  
 DRAWING NO. 45 OF 69



**SEQUENCE OF CONSTRUCTION**

NOTE: THE GRADING, EROSION & SEDIMENT CONTROL AND CONSTRUCTION OF THIS PROJECT WILL BE DONE IN 3 PHASES. PHASE 1 PRIMARILY INCLUDES CONSTRUCTION OF TWO SEDIMENT BASINS (TO BE CONVERTED TO SWM PONDS). PHASE 2 INVOLVES GRADING AND CONSTRUCTION OF BUILDING AND PARKING LOTS. PHASE 3 INVOLVES ENTRANCE ROAD FROM WHISKEY BOTTOM ROAD.

**PHASE 1:**

- OBTAIN GRADING PERMIT AND ALL REQUIRED PERMITS. SCHEDULE AND ATTEND THE PRECONSTRUCTION MEETING. (1 DAY)
- INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK AT MEREDITH AVENUE FOR ACCESS TO SITE. (5 DAYS)
- INSTALL SILT FENCE AS SHOWN ON SHEET 45 ALONG PHASE 1 LIMIT OF DISTURBANCE FROM MEREDITH AVENUE TO POND #1. CLEAR AND GRUB FOR 15' WIDE CONSTRUCTION ACCESS ROAD. (3 DAYS). (1 WEEK).
- OBTAIN PERMISSION FROM INSPECTOR AND WHEN A 3-DAY CLEAR WEATHER FORECAST FROM THE NWS HAS BEEN PREDICTED, INSTALL CULVERT EW7 TO EW8. PROVIDE 2 FOOT MINIMUM COVER OVER CULVERT PER GRADING ON SHEET 45. IMMEDIATELY STABILIZE DITCH UPSTREAM OF CULVERT. (3 DAYS)
- INSTALL PERIMETER CONTROLS FROM POND 1 TO POND 2. CLEAR AND GRADE FOR REMAINDER OF CONSTRUCTION ACCESS ROAD TO BASIN/POND #2.

- (STEPS 6 AND 7 MAY BE CONCURRENT) BEGIN POND NO. 1 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS POND AND UTILIZED FOR SEDIMENT BASIN NO. 1.
  - INSTALL PHASE 1 EARTH DIKES AND RIP RAP PROTECTION TO DIVERT DRAINAGE AROUND POND AREA. INSTALL SUPER SILT FENCE ALONG DOWNSTREAM TOE OF EMBANKMENT. OBTAIN PERMISSION FROM INSPECTOR BEFORE PROCEEDING. (1 DAY)
  - CLEAR POND AREA AND STRIP TOPSOIL FOR POND AREA AND STOCKPILE OUTSIDE OF THE EMBANKMENT AREA. (2 DAYS)
  - GRADE A SMALL AREA TO BOTTOM ELEVATION OF 200.5 AND INSTALL REMOVABLE PUMPING STATION TO BE USED TO DEWATER THE WORK AREA DURING CONSTRUCTION. DIRECT FLOWS TO PUMPING STATION SUCH THAT WATER MAY BE PUMPED TO DEWATER THE WORK AREA. (1 DAY)
  - CONSTRUCT THE CUT-OFF TRENCH. CUTOFF AND CORE TRENCH BACKFILL MATERIAL IS TO MEET THE PROVISIONS OF MD-378 CRITERIA AS SUPERVISED BY THE GEOTECHNICAL ENGINEER. (2 DAYS)
  - CONSTRUCT RIP RAP OUTFALL, BARREL, CONCRETE CRADLE, ANTI-SEEP COLLARS, AND RISER STRUCTURE. CONCRETE COLLARS ARE TO BE CAST-IN-PLACE. ALL INSTALLATION IS TO BE OBSERVED BY PHRA ENGINEER. (3 DAYS)
  - CONSTRUCT EMBANKMENT IN 8' LIFTS, USING 4' LIFTS WITHIN 5 FEET HORIZONTALLY OF BARREL OR RISER. CONSTRUCT CORE.
  - GRADE CHECK AND PERMANENTLY STABILIZE EMBANKMENT. (1 DAY)
  - INSTALL TEMPORARY DRAINAGE DEVICE AS SHOWN ON DETAIL ON SHEET 13. DELAY THE CONSTRUCTION OF LOW FLOW OPENING UNTIL POND CONVERSION. BLOCK POND DRAIN OPENING AS SHOWN ON SHEET 13. (1 DAY)
  - EXCAVATE POND STORAGE AREA AS SHOWN ON SEDIMENT CONTROL PLAN SHEET 9. (3 DAYS) DO NOT INSTALL FOREBAY WEIR AT THIS TIME. EXCAVATED EARTH TO BE PLACED NORTH AND EAST OF POND #1 IN FILL AREAS.
  - UPON COMPLETION OF BASIN, STABILIZE WITH TEMPORARY SEEDING. (1 DAY)
  - OBTAIN PERMISSION FROM INSPECTOR AND REMOVE PHASE 1 EARTH DIKES AND RIP RAP PROTECTION. (1 DAY)

- (STEPS 6 AND 7 MAY BE CONCURRENT) BEGIN POND NO. 2 CONSTRUCTION. FACILITY IS TO BE CONSTRUCTED INITIALLY AS POND AND UTILIZED FOR SEDIMENT BASIN NO. 2.
  - INSTALL SUPER SILT FENCE ALONG DOWNSTREAM TOE OF EMBANKMENT. INSTALL CLEAN WATER EARTH DIKE AND RRP ABOVE POND 2 AS SHOWN ON SHEET 45. OBTAIN PERMISSION FROM INSPECTOR BEFORE PROCEEDING. (2 DAYS)
  - CLEAR POND AREA AND STRIP TOPSOIL FOR POND AREA AND STOCKPILE OUTSIDE OF THE EMBANKMENT AREA. (2 DAYS)
  - GRADE A SMALL AREA TO BOTTOM ELEVATION OF 220.5 AND INSTALL REMOVABLE PUMPING STATION TO BE USED TO DEWATER THE WORK AREA DURING CONSTRUCTION. DIRECT FLOWS TO PUMPING STATION SUCH THAT WATER MAY BE PUMPED TO DEWATER THE WORK AREA. (1 DAY)
  - CONSTRUCT THE CUT-OFF TRENCH. CUTOFF AND CORE TRENCH BACKFILL MATERIAL IS TO MEET THE PROVISIONS OF MD-378 CRITERIA AS SUPERVISED BY THE GEOTECHNICAL ENGINEER. (2 DAYS)
  - CONSTRUCT RIP RAP OUTFALL, BARREL, CONCRETE CRADLE, ANTI-SEEP COLLARS, AND RISER STRUCTURE. CONCRETE COLLARS ARE TO BE CAST-IN-PLACE. ALL INSTALLATION IS TO BE OBSERVED BY PHRA ENGINEER. (3 DAYS)
  - CONSTRUCT EMBANKMENT IN 8' LIFTS, USING 4' LIFTS WITHIN 5 FEET HORIZONTALLY OF BARREL OR RISER. CONSTRUCT CORE.
  - GRADE CHECK AND PERMANENTLY STABILIZE EMBANKMENT. (1 DAY)
  - INSTALL TEMPORARY DRAINAGE DEVICE. (1 DAY)
  - EXCAVATE SEDIMENT BASIN STORAGE AREA AS SHOWN ON SEDIMENT CONTROL PLAN SHEETS 45 AND 46. (3 DAYS) DO NOT INSTALL BIOTENTION FACILITY AT THIS TIME.
  - UPON COMPLETION OF POND, STABILIZE WITH TEMPORARY SEEDING. (1 DAY)

**PHASE 2:**

- OBTAIN PERMISSION FROM INSPECTOR. BEGIN CLEARING AND GRADING FOR BUILDING AND PARKING LOTS. FOLLOW DUST CONTROL PRACTICES PER MDE DETAIL H-30-1 (SEE SHEET 13) THROUGHOUT THE GRADING AND CONSTRUCTION ACTIVITY ON SITE. (3 MONTHS)
- BEGIN PAVING, CURB AND GUTTER, SIDEWALK AND BUILDING CONSTRUCTION. (2 MONTHS)
- FROM MEREDITH AVENUE BEGIN INSTALLATION OF WATER, SEWER, STORM DRAIN AND RECHARGE TRENCHES. STONE IN RECHARGE TRENCHES IS TO BE KEPT CLEAN. (2 MONTHS)

**PHASE 3:**

- OBTAIN PERMITS FROM MDE (MDE TRACKING NO. 200864784) FOR WETLAND DISTURBANCE. SCHEDULE AND ATTEND PRECONSTRUCTION MEETING. (1 DAY)
- OBTAIN DEMOLITION PERMIT AND DEMOLISH EXISTING HOUSES. USE EXISTING ASPHALT DRIVEWAY FOR STAGING AREA. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK AT WHISKEY BOTTOM ROAD (5 DAYS).
- INSTALL REMAINING PHASE 3 PERIMETER CONTROLS FROM WHISKEY BOTTOM ROAD TO CULVERT NO. 1 (EW 5 AND EW 6). (1 WEEK)

- BEGIN INSTALLATION OF WATER, SEWER AND STORM DRAIN. (2 MONTHS)
- CONSTRUCT TEMPORARY 15" CMP FROM EARTH DIKE (WHICH CONVEYS SEDIMENT LADEN WATER TO STRUCTURE I-18). USE SANDBAGS TO HOLD TEMPORARY 15" CMP IN PLACE. (3 DAYS)
- BEGIN PAVING, CURB AND GUTTER AND SIDEWALK.
- CONSTRUCT ROAD IMPROVEMENTS ALONG WHISKEY BOTTOM ROAD. INSTALL CURB INLET PROTECTION AT STRUCTURE I 19. RELOCATE BGE POWER POLES. (2 MONTHS)
- UPON COMPLETION OF ALL CONSTRUCTION AND STABILIZATION OF ALL GRASSED AREAS WITH PERMANENT SEEDING, APPLY FINAL PAVING SURFACE COURSE AND STABILIZE ANY REMAINING AREAS. (1 WEEK)

- OBTAIN PERMISSION FROM INSPECTOR AND FLUSH STORM DRAIN. (1 DAY)
- SEEK PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE PROCEEDING FURTHER. MUCK OUT AND BEGIN CONVERSION OF SEDIMENT BASINS 1 AND 2 TO PERMANENT STORMWATER MANAGEMENT PONDS 1 AND 2. CONSTRUCT BIOTENTION FACILITY IN POND 2. REMOVE DRAWDOWN DEVICES AND REMOVABLE PUMPING STATIONS. REMOVE STEEL PLATES AND INSTALL LOW FLOW PIPE AND POND DRAIN IN POND 1. INSTALL TRASH RACKS. PERMANENTLY BLOCK OPENING IN RISER FOR POND 1 FOR DRAWDOWN DEVICE USING NON-SHRINK GROUT AND PARING. FINE GRADE POND BOTTOMS. INSTALL FOREBAY WEIR IN POND 1 AND GABION WEIR IN POND 1 AND POND 2 AS SHOWN ON APPROVED SWM PLANS. (3 WEEKS)
- INSTALL LANDSCAPING IN PONDS 1 AND 2. (1 WEEK)
- CONTRACTOR TO LOCATE AND REMOVE ALL OLD AND NEW JUNK, TRASH AND DEBRIS FROM WETLANDS, STREAMS, BUFFERS, FLOODPLAIN, FOREST AND OPEN SPACE.
- WITH PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)
- PROVIDE AS-BUILTS TO COUNTY AND HOWARD SCD.

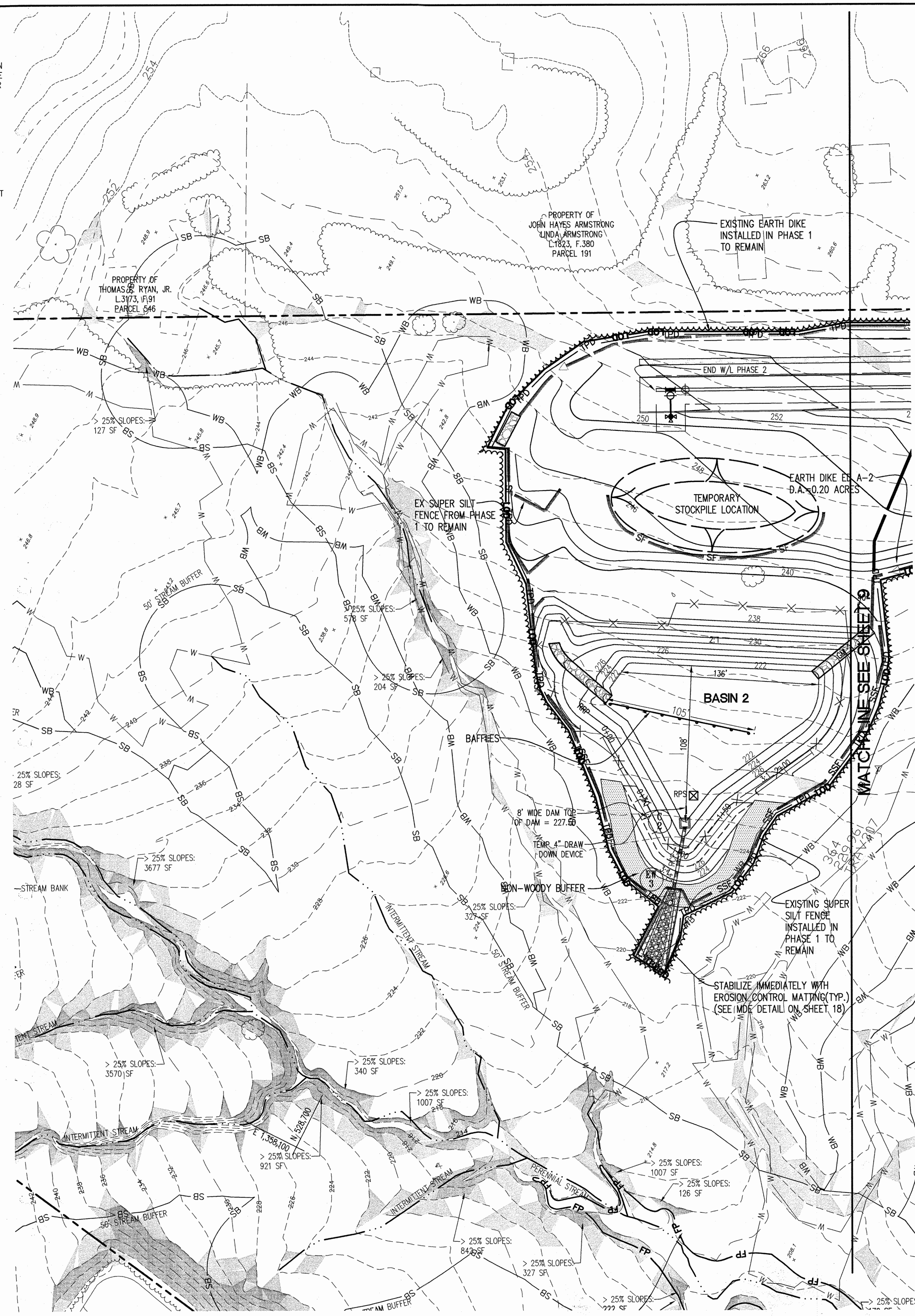
**SEDIMENT BASIN # 2**

NOTE: POND 2 IS TO BE USED AS A SEDIMENT BASIN

EX. DRAINAGE AREA	= 219 AC
INTERIM DRAINAGE AREA	= 316 AC
DEV. DRAINAGE AREA	= 2.74 AC
STORAGE REQUIRED (3,600 cu.ft./Ac.)	
REQUIRED VOLUME WET	= 5,688 CF
REQUIRED VOLUME DRY	= 5,688 CF
TOTAL VOLUME	= 11,376 CF
STORAGE PROVIDED	
PROVIDED VOLUME WET	= 6,392 CF
PROVIDED VOLUME DRY	= 13,248 CF
TOTAL VOLUME	= 19,640 CF
STORAGE DEPTH	= 2.9'
MINIMUM BOTTOM ELEVATION	= 220.50
BOTTOM DIMENSIONS	= 108'x136'
RISER DIAMETER	= 5'x5'
RISER CREST ELEVATION	= 223.40
BARREL DIAMETER	= 24"
BARREL LENGTH	= 42 LF
BARREL INVERTS	
UPSTREAM	= 219.70
DOWNSTREAM	= 219.49
TRASH RACK DIAMETER	= N/A
CLEAN OUT ELEVATION	= 221.30
PERMANENT POOL WSEL	= 222.00
DESIGN TOP OF EMBANKMENT EL.	= 227.50
CONSTRUCTED TOP OF EMBANKMENT EL.	= 227.90
EMERGENCY SPILLWAY CREST EL.	= N/A
EMERGENCY SPILLWAY WIDTH	= N/A
Q1 EXISTING	= 0.2 cfs
Q1 INTERIM	= 0.4 cfs
Q1 DEVELOPED	= < 0.4 cfs

**LEGEND**

EXISTING 2' CONTOUR	302
EXISTING 10' CONTOUR	302
PROPOSED 2' CONTOUR	302
PROPOSED 10' CONTOUR	300
PROPERTY LINE AND RIGHT OF WAY	
EXISTING WETLAND	W
EX. TREELINE	
LIMIT OF CLEARING	
LIMIT OF DISTURBANCE	LOD
STORM DRAIN INLET	
SUPER SILT FENCE	SSF
SILT FENCE	SF
EARTH DIKE	
WETLAND BUFFER	WB
100-YEAR FLOOD PLAIN	FP
15-25% SLOPES	
>25% SLOPES	
DRAINAGE DIVIDE	
STABILIZED CONSTRUCTION ENTRANCE	
EROSION CONTROL MATTING	
RRP	
RIE	
GABION INFLOW PROTECTION	



NOTE: EXISTING EARTH DIKE TO BE CONSTRUCTED BY SITE CONTRACTOR IN PHASE 1.

**BY THE DEVELOPER :**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: \_\_\_\_\_ DATE: \_\_\_\_\_

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

ENGINEER: *Sherry C. Mitchell* DATE: 8-13-09

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 8/25/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR, DEP. *Mona S. Butler* DATE: 9/2/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION *John Damann* DATE: 9/1/09

CHIEF, DIVISION OF LAND DEVELOPMENT *Cindy Hamer* DATE: 9/2/09

8/12/09 1 REVISE PHASING SC PLAN, ADJUST POND 2

DATE NO.	REVISION

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT: **NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT C-0304

AREA: TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

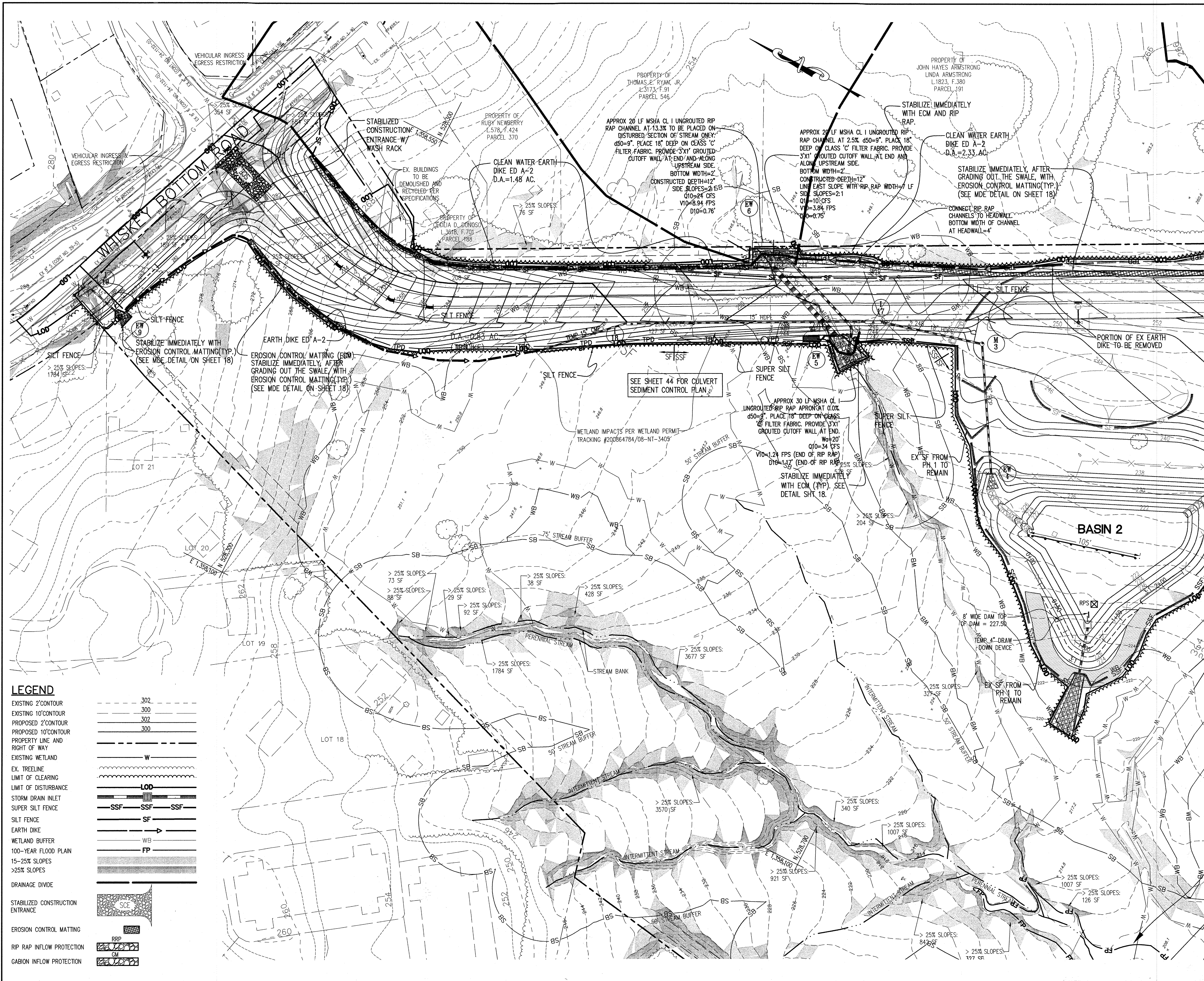
TITLE: **REVISED GRADING & SEDIMENT CONTROL PLAN PHASE 2 AND SEQUENCE OF CONSTRUCTION**

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

SEAL: *Sherry C. Mitchell* 8-13-09

DESIGNED BY : SCM  
 DRAWN BY : SCM  
 PROJECT NO : 14466-1-0  
 C:\005DP46.DWG  
 DATE : MAY 29, 2009  
 SCALE : 1" = 40'  
 DRAWING NO. 46 OF 69





- NOTES:
- EXISTING EARTH DIKE TO BE CONSTRUCTED BY SITE CONTRACTOR IN PHASE 1.
  - SEE SHEET 44 FOR CULVERT SEDIMENT CONTROL PLAN.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER \_\_\_\_\_ DATE \_\_\_\_\_

BY THE ENGINEER :

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

ENGINEER *Shirley C. Mitchell* DATE 8-13-09

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

HOWARD SOIL CONSERVATION DISTRICT DATE 8/25/09

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR *Mona S. Butler* DATE 9/2/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION *John Deane* DATE 9/1/09

CHIEF, DIVISION OF LAND DEVELOPMENT *Cindy Thomas* DATE 9/2/09

8/12/09 1 REVISE PHASING SC PLAN, ADJUST POND 2

DATE NO. REVISION

OWNER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT C-0304

AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

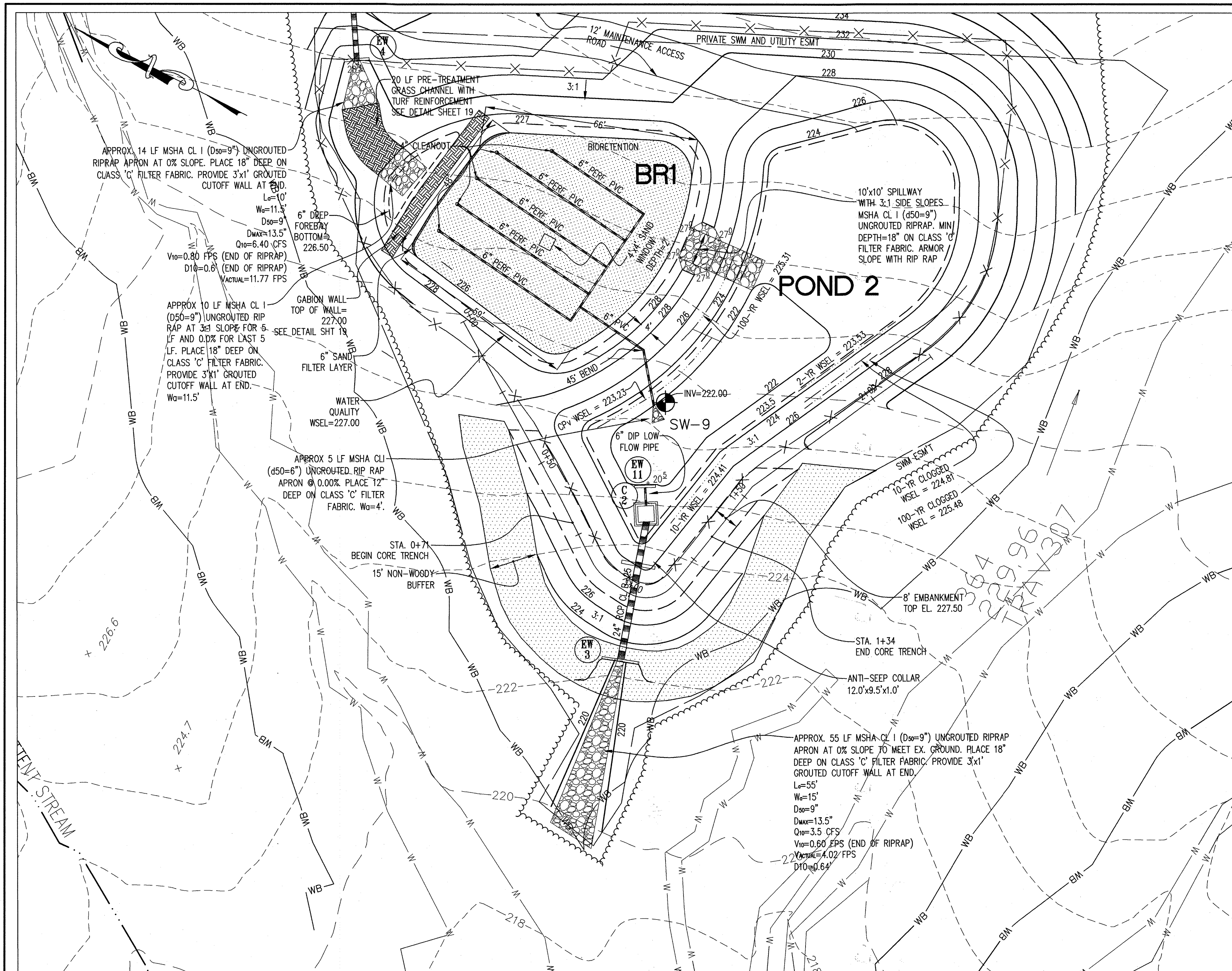
TITLE REVISED GRADING & SEDIMENT CONTROL  
PLAN PHASE 3

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

SEAL OF THE STATE OF MARYLAND  
SHIRLEY C. MITCHELL  
REGISTERED PROFESSIONAL ENGINEER  
NO. 33554, EXPIRATION DATE 01-31-11

DESIGNED BY : SCM  
DRAWN BY : SCM  
PROJECT NO : 14466-1-0  
CA00SDP08.DWG  
DATE : MAY 29, 2009  
SCALE : 1" = 40'  
DRAWING NO. 47 OF 69





**STORMWATER MANAGEMENT POND No. 2 PLAN**  
SCALE : 1" = 20'

BY THE DEVELOPER :  
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]*  
DEVELOPER \_\_\_\_\_ DATE \_\_\_\_\_

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

*[Signature]* 8-13-09  
ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

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

*[Signature]* 8/25/09  
HOWARD SOIL CONSERVATION DISTRICT \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 9/2/09  
DIRECTOR, DEP. \_\_\_\_\_ DATE \_\_\_\_\_

*[Signature]* 9/1/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION \_\_\_\_\_ DATE \_\_\_\_\_

*[Signature]* 9/2/09  
CHIEF, DIVISION OF LAND DEVELOPMENT \_\_\_\_\_ DATE \_\_\_\_\_

8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2
---------	---	---------------------------------------

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

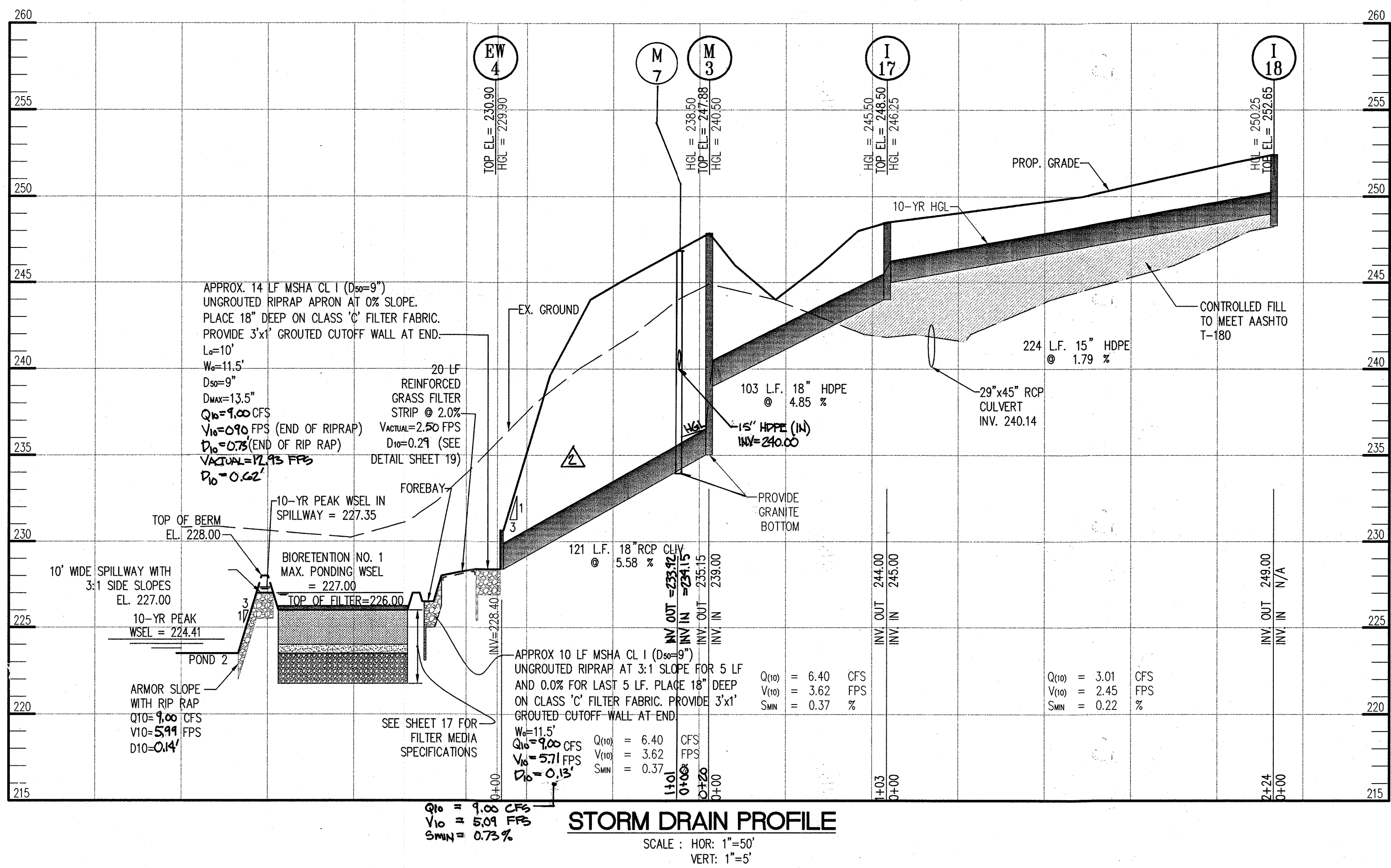
AREA  
TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**STORMWATER MANAGEMENT POND 2 PLAN**

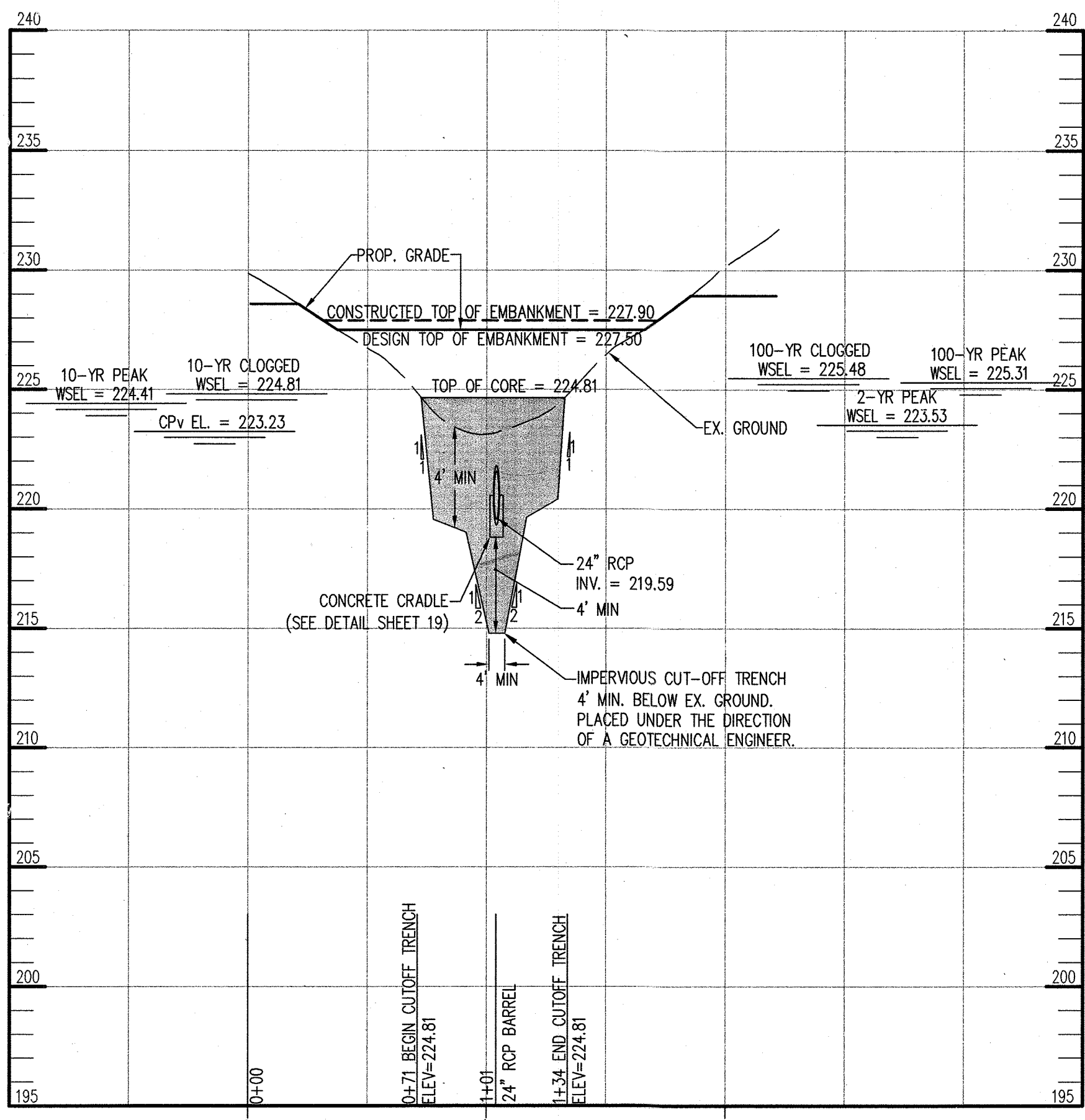
**Patton Harris Rust & Associates**  
Engineers. Surveyors. Planners. Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

SEAL  
  
DESIGNED BY : SCM  
DRAWN BY : SGM  
PROJECT NO : 14466-1-0  
C400SDP48.DWG  
DATE : MAY 29, 2009  
SCALE : AS SHOWN  
DRAWING NO. 48 OF 69

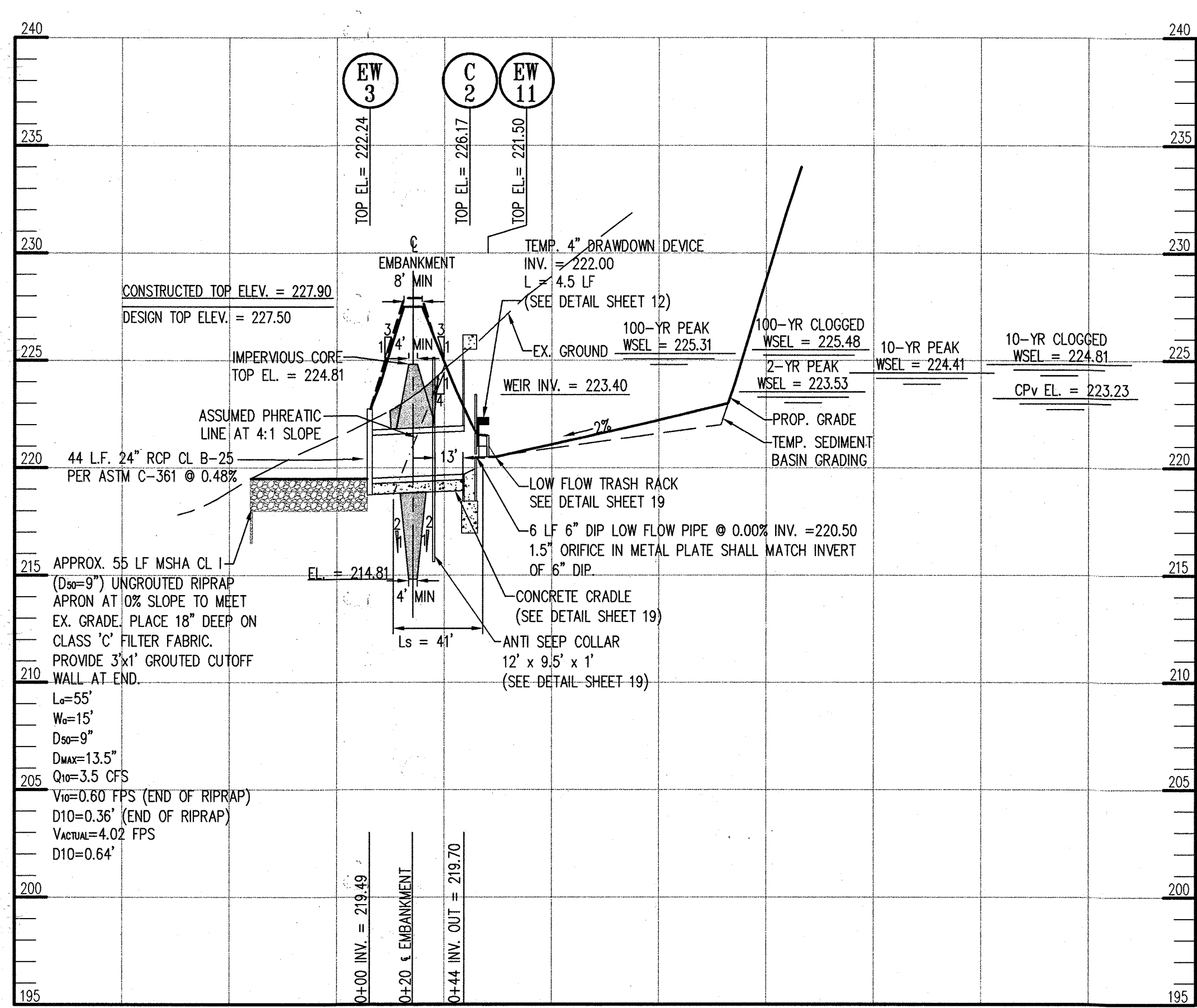




**STORM DRAIN PROFILE**  
 SCALE: HOR: 1"=50'  
 VERT: 1"=5'



**POND 2 EMBANKMENT CENTERLINE PROFILE**  
 SCALE: HOR: 1"=50'  
 VERT: 1"=5'



**POND 2 PRINCIPAL SPILLWAY PROFILE**  
 SCALE: HOR: 1"=50'  
 VERT: 1"=5'

BY THE DEVELOPER:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: [Signature] DATE

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

ENGINEER: [Signature] DATE 8-13-09

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

HOWARD SOIL CONSERVATION DISTRICT: [Signature] DATE 8/25/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: [Signature] DATE 9/2/09

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE 9/1/09

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE 9/2/09

DATE	NO.	REVISION
8/25/09	2	ADDED STORM DRAIN
8/12/09	1	REVISE PHASING SC PLAN, ADJUST POND 2

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT: NORTH LAUREL COMMUNITY CENTER  
 CAPITAL PROJECT C-0304

AREA: TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

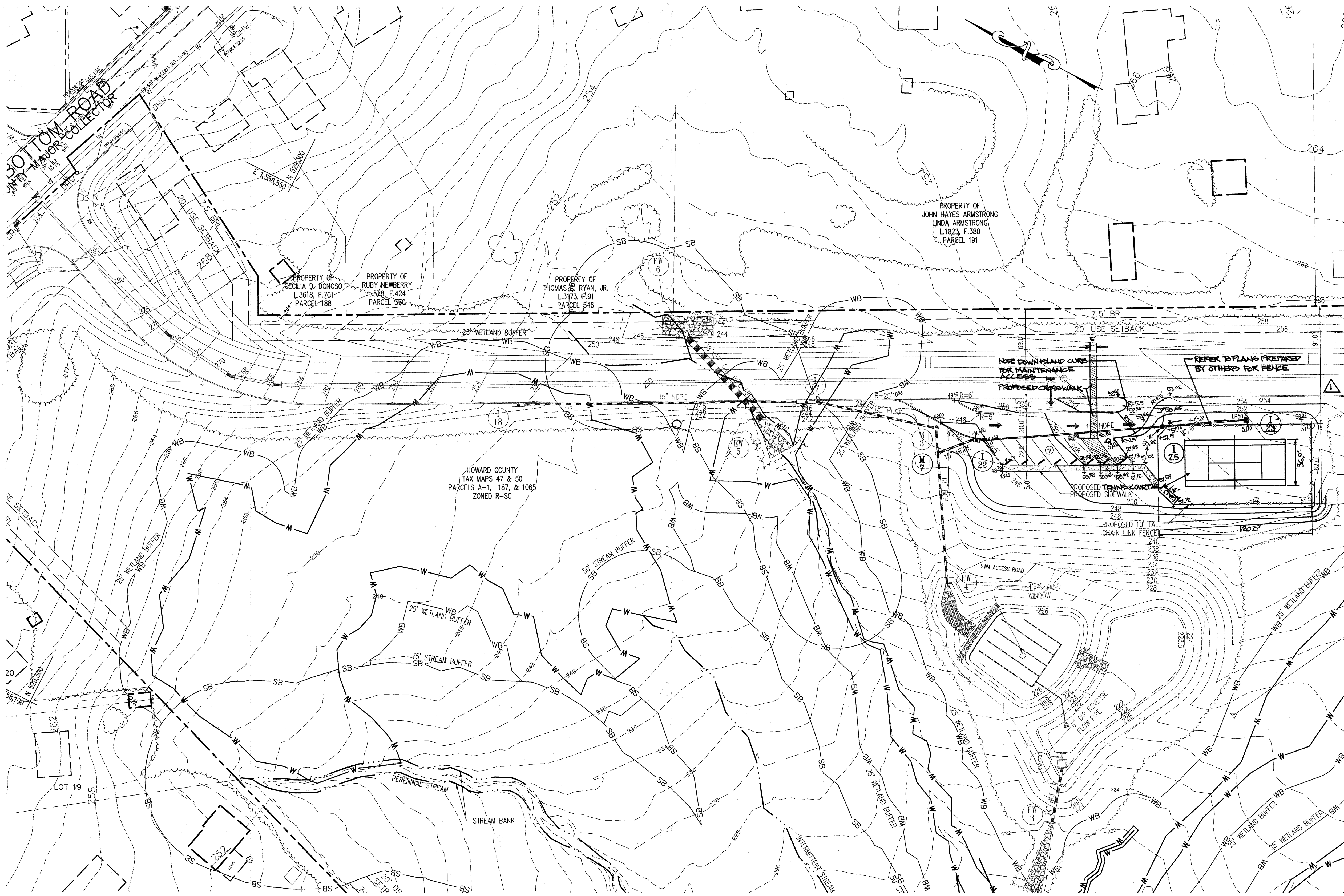
TITLE: REVISED STORMWATER MANAGEMENT  
 POND 2 PROFILES

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

SEAL: [Professional Engineer Seal] 8-13-09

DESIGNED BY: PDS  
 DRAWN BY: PDS  
 PROJECT NO: 14753-1-0  
 C-00SDP49.DWG  
 DATE: MAY 29, 2009  
 SCALE: AS SHOWN  
 DRAWING NO. 49 OF 69





**LEGEND**

---	PROPERTY LINE
---	EXISTING 10' CONTOURS
---	EXISTING 2' CONTOURS
---	PROPOSED 10' CONTOURS
---	PROPOSED 2' CONTOURS
---	EXISTING CURB AND GUTTER
---	PROPOSED CURB & GUTTER
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN
---	SETBACK LINES
---	PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
☆	EXISTING LIGHTING
○	EXISTING TREE
13.2	PROP. SPOT ELEVATION
---	EX. TREELINE
---	PROPOSED TREELINE
---	FLOODPLAIN
---	STREAM BUFFER
---	WETLANDS
---	WETLAND BUFFER
---	TREE PROTECTION FENCE
---	LIMIT OF DISTURBANCE
☆	LIGHT POLE

MATCH LINE SEE SHEET 51

The Purpose of this Revised Sheet is to add site amenities to the Community Center Park.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>Thomas G. Butler</i>	10/13/10
DIRECTOR	DATE
<i>Mike Danner</i>	9/13/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Ken Shalinski</i>	10/13/10
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

6-24-11	1	REVISE TENNIS AND BASKETBALL COURTS
DATE	NO.	REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

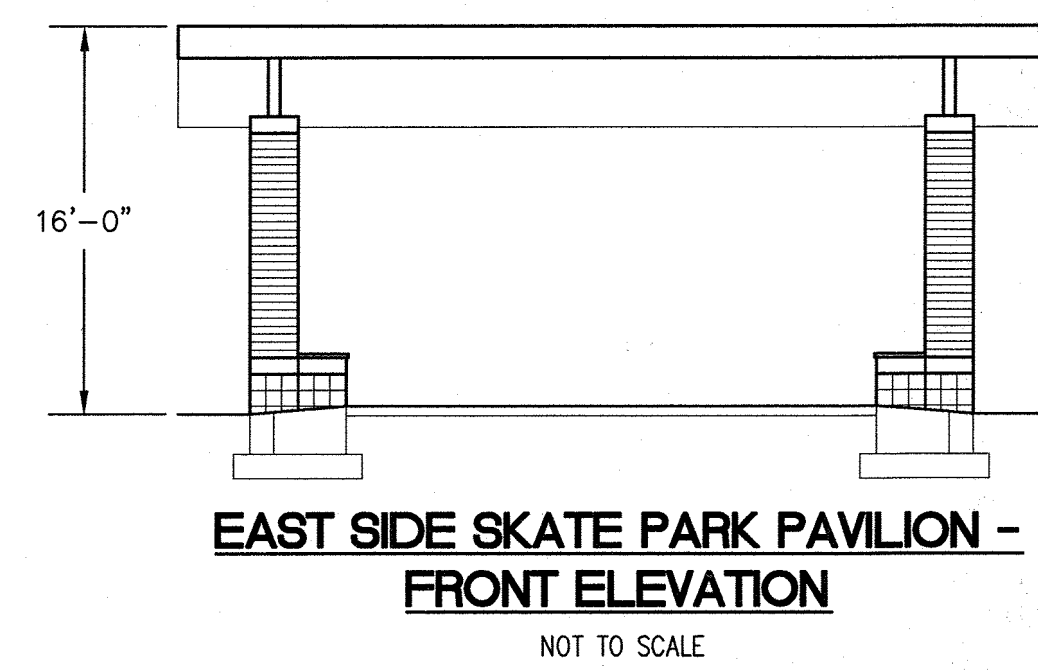
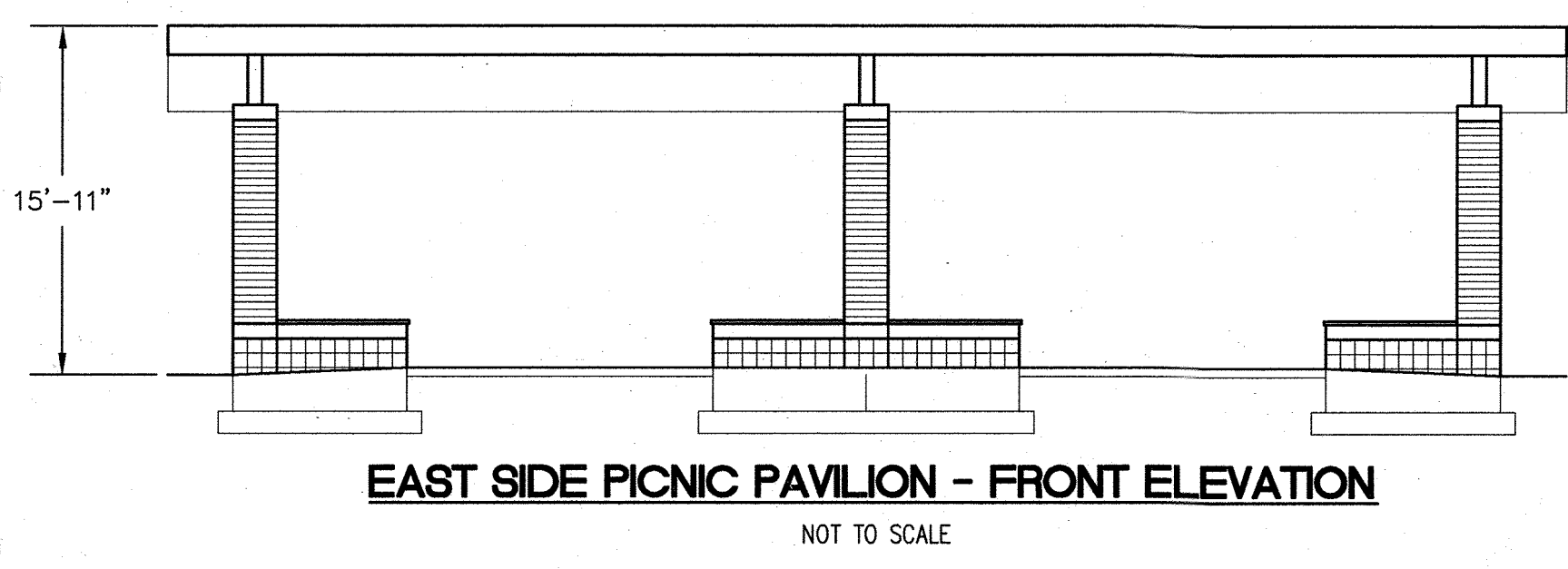
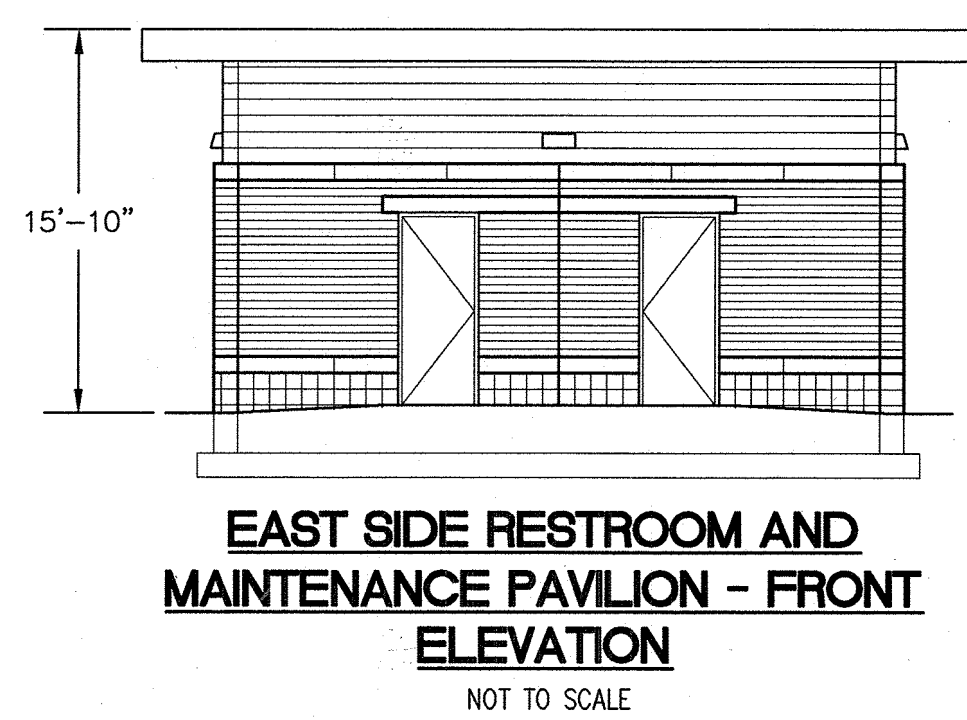
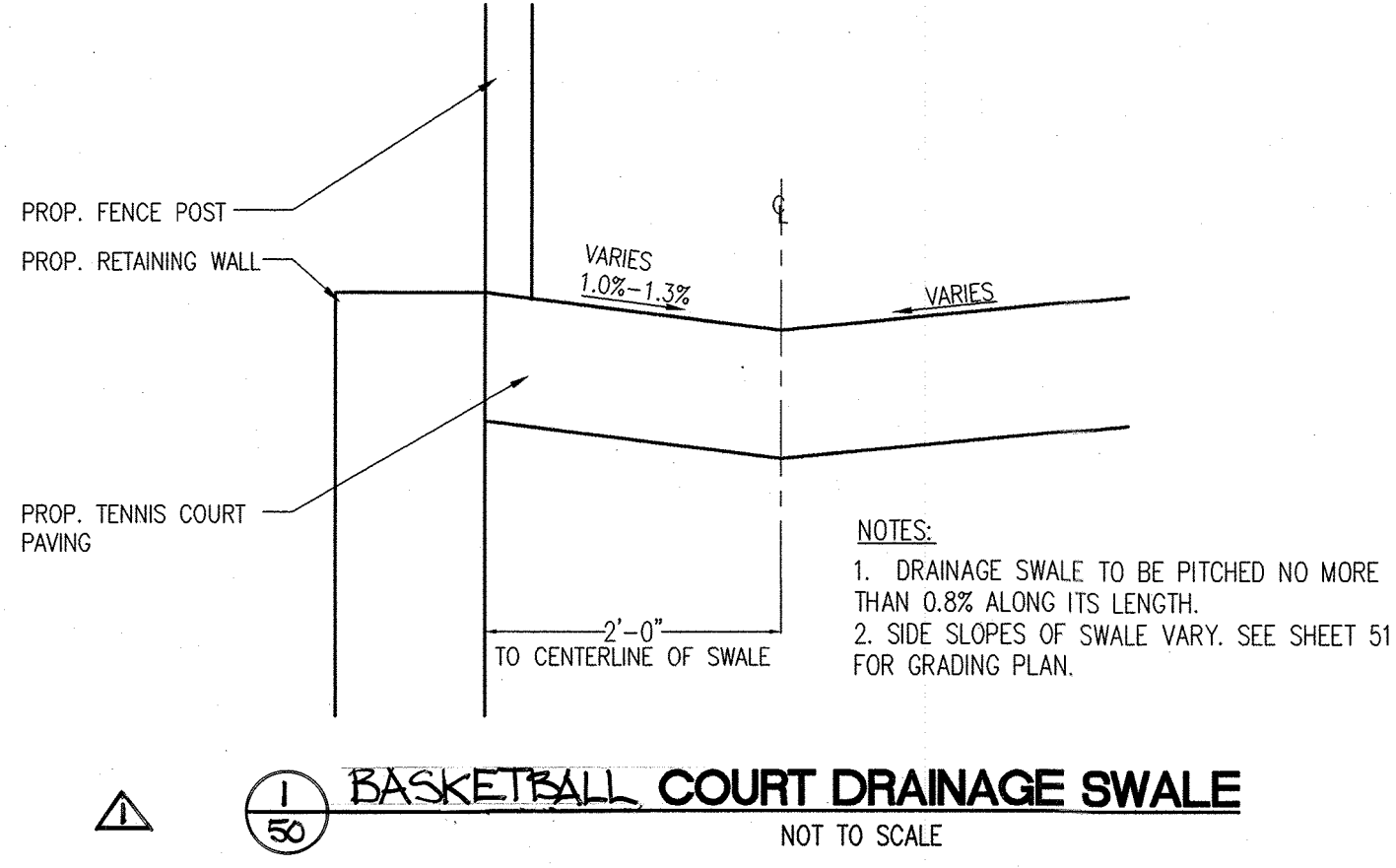
AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
Revised  
**SITE DEVELOPMENT PLAN**

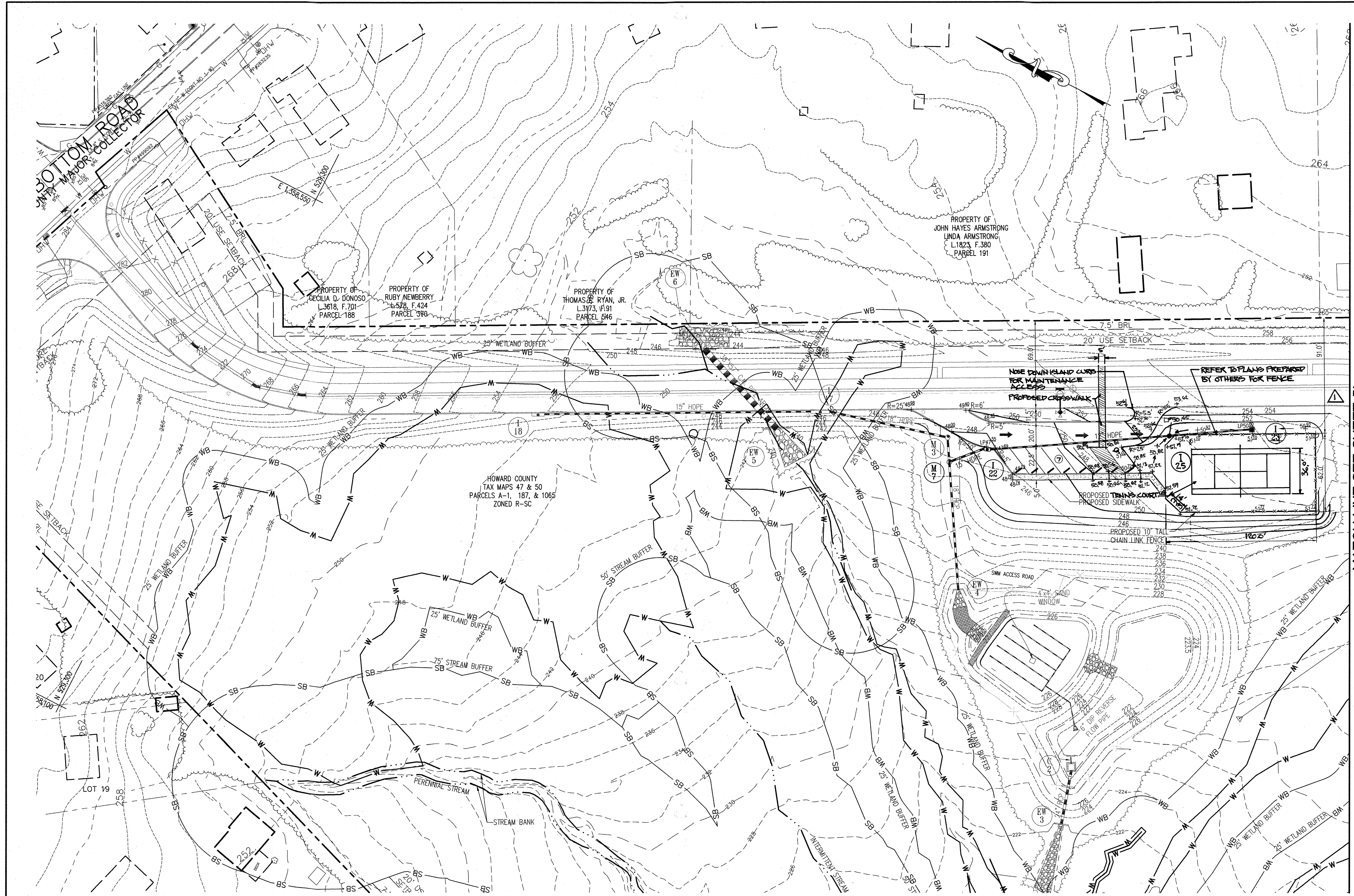
**Patton Harris Rust & Associates**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY : JSN
DRAWN BY : JSN
PROJECT NO : 14468-1-2 C400SDP50.DWG
DATE : SEPTEMBER 7, 2010
SCALE : 1" = 40'
DRAWING NO. 50 OF 69

BY: *Thomas G. Butler*  
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. 3384, EXPIRATION DATE: 01-31-11







**LEGEND**

---	PROPERTY LINE
---	EXISTING 10' CONTOURS
---	EXISTING 2' CONTOURS
---	PROPOSED 10' CONTOURS
---	PROPOSED 2' CONTOURS
---	EXISTING CURB AND GUTTER
---	PROPOSED CURB & GUTTER
---	EX. 48" RCP
---	EXISTING STORM DRAIN
---	PROPOSED STORM DRAIN
---	SETBACK LINES
---	PROPOSED CONCRETE SIDEWALK (HO. CO. DETAIL R-3.05)
*	EXISTING LIGHTING
*	EXISTING TREE
13.2	PROP. SPOT ELEVATION
---	EX. TREELINE
---	PROPOSED TREELINE
---	FLOODPLAIN
---	STREAM BUFFER
---	WETLANDS
---	WETLAND BUFFER
---	TREE PROTECTION FENCE
---	LIMIT OF DISTURBANCE
*	LIGHT POLE

MATCH LINE SEE SHEET 51

The Purpose of this Revised Sheet is to add site amenities to the Community Center Park.

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>Thomas J. Kuller</i>	10/13/10
DIRECTOR	DATE
<i>Michael J. ...</i>	9/13/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Kevin ...</i>	10/13/10
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

6-24-11	1	REVISE TENNIS AND BASKETBALL COURTS
DATE	NO.	REVISION

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
P 410 313 2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT C-0304

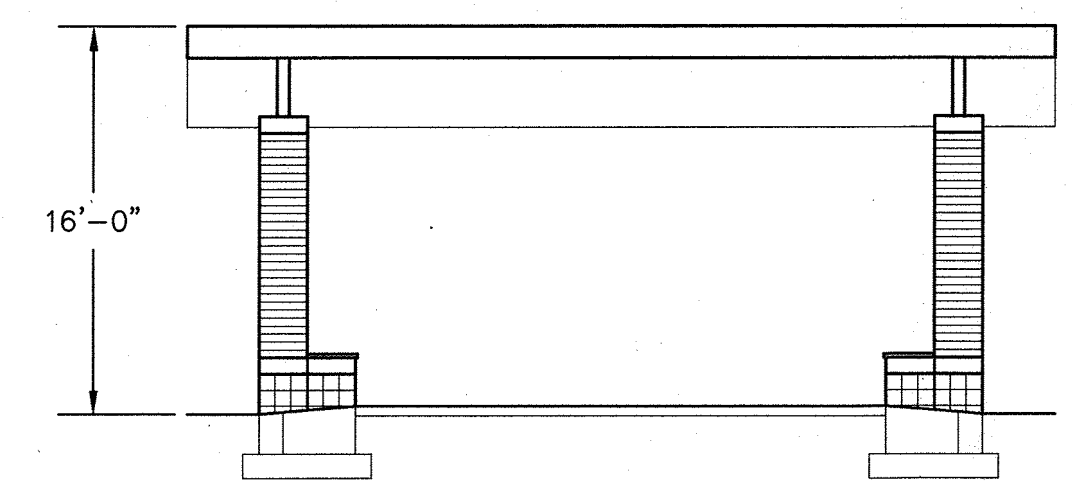
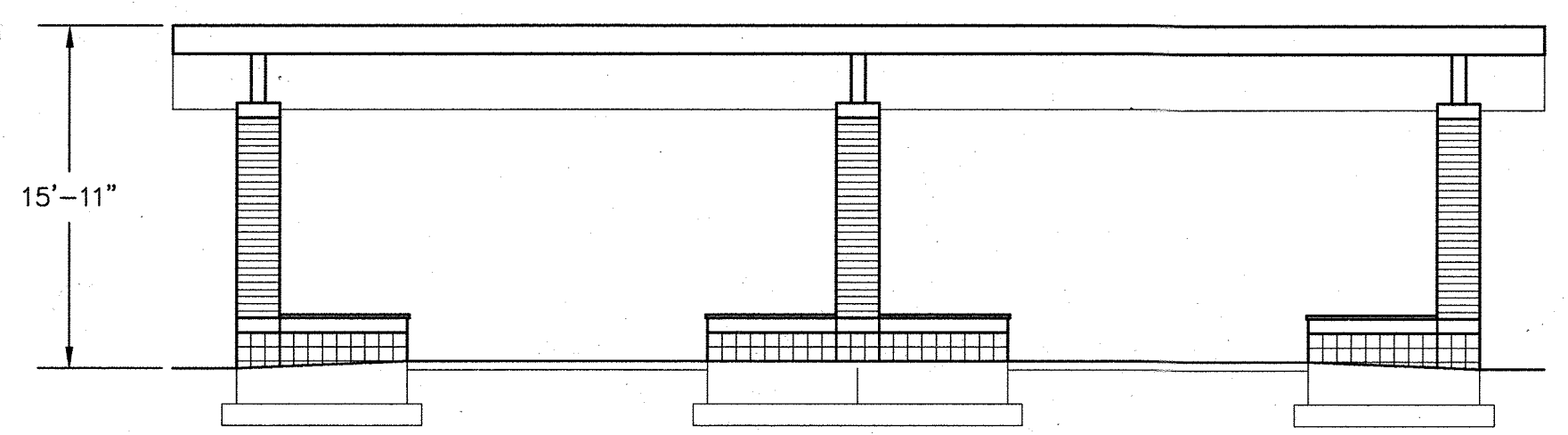
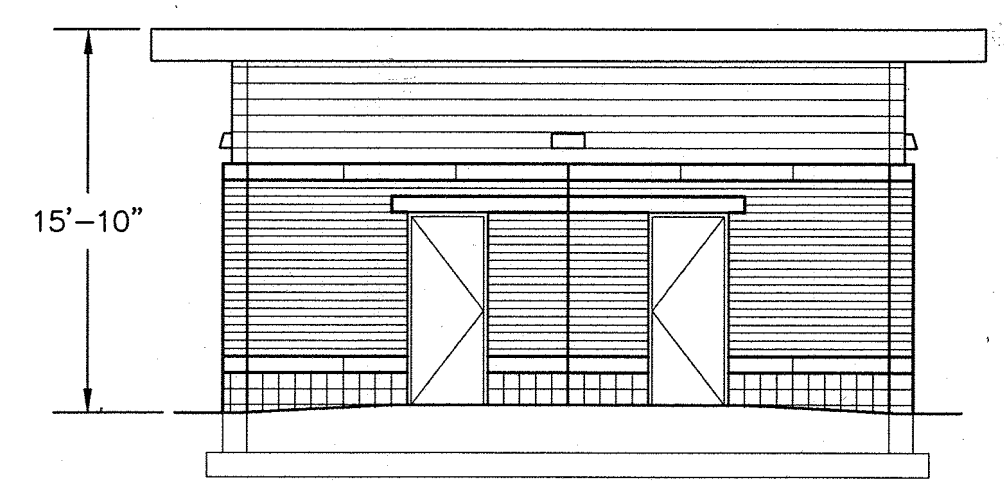
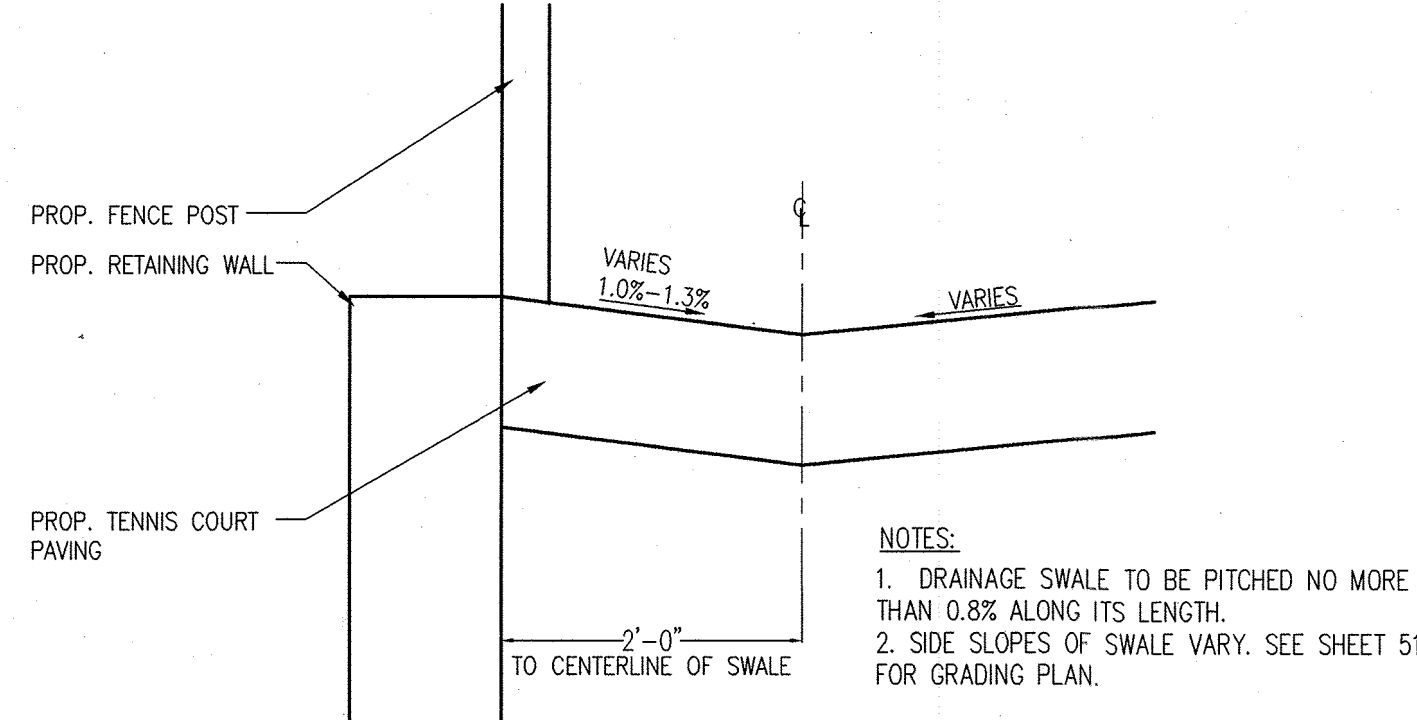
AREA TAX MAP 47 GRID 22 & TAX MAP 50  
GRIDS 3 & 4, PARCELS A-1, 187, & 1065 ZONED R-SC  
6TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
Revised  
**SITE DEVELOPMENT PLAN**

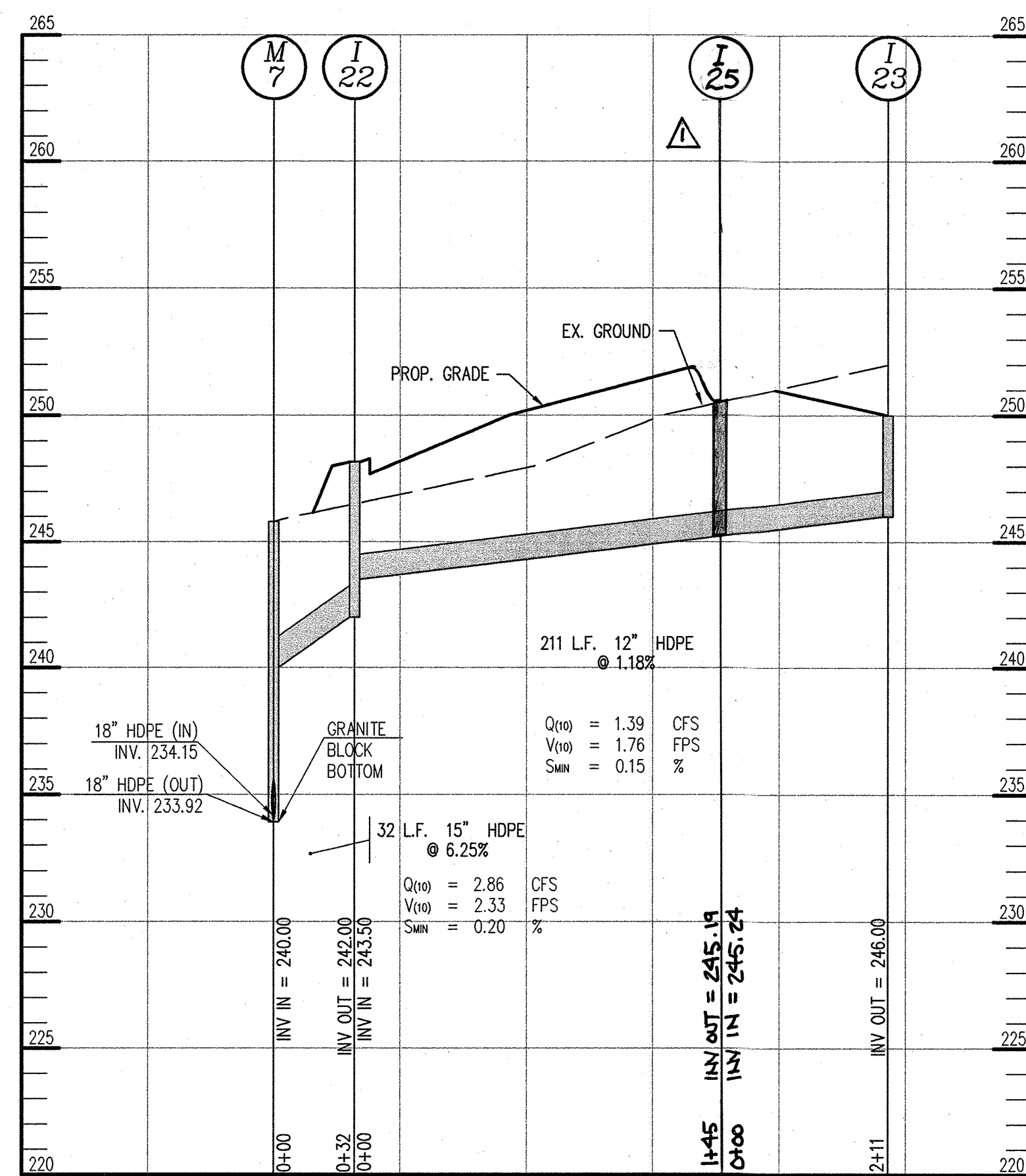
**Patton Harris Rust & Associates**  
Engineers, Surveyors, Planners, Landscape Architects.  
**PHRA**  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DESIGNED BY : JSN  
DRAWN BY : JSN  
PROJECT NO : 14466-1-2  
C400SDP50.DWG  
DATE : SEPTEMBER 7, 2010  
SCALE : 1" = 40'  
DRAWING NO. 50 OF 69

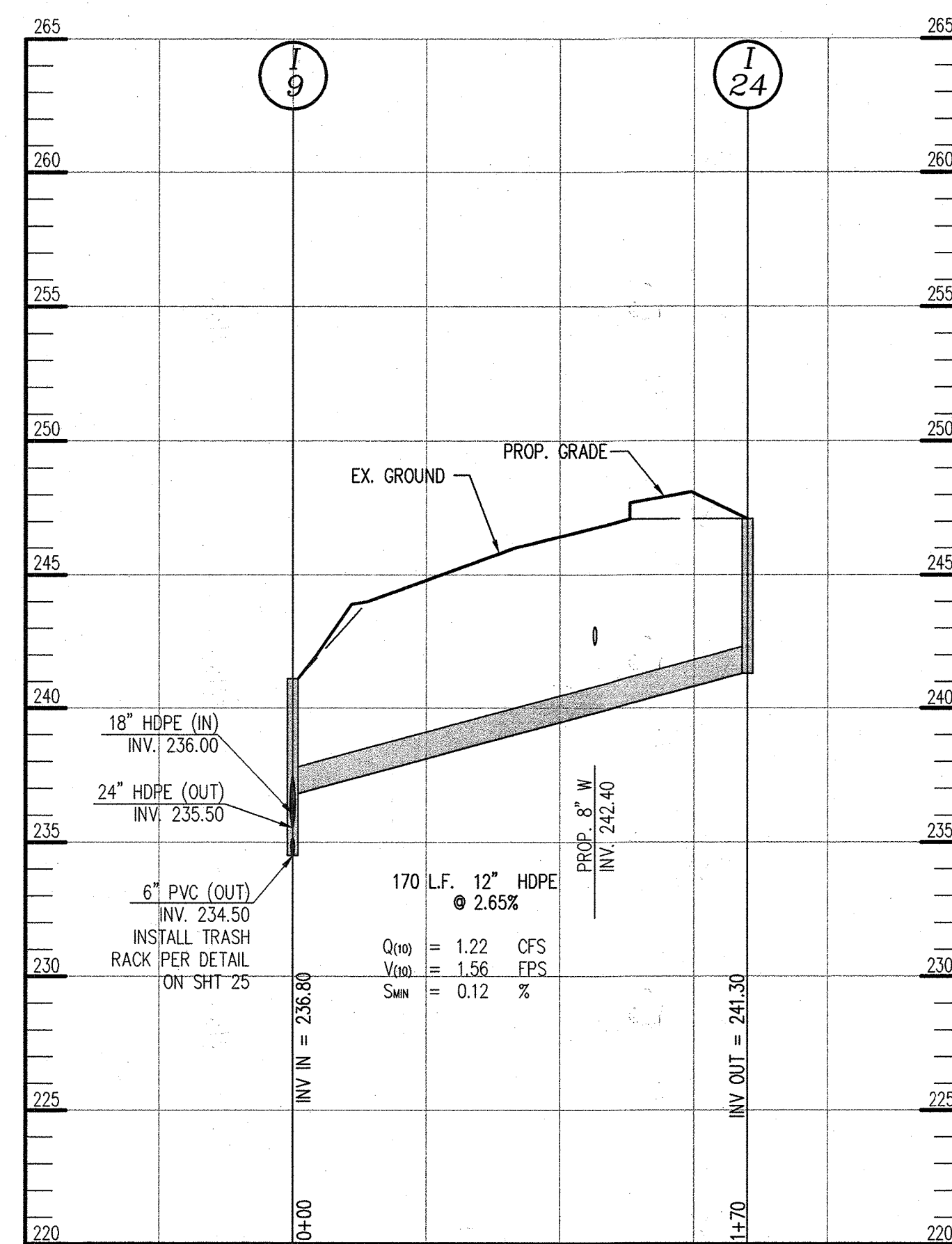
SEAL  
STATE OF MARYLAND  
PROFESSIONAL ENGINEER  
CLARK M. ...  
BY: *Clark M. ...*  
PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33264, EXPIRATION DATE 01-24-11



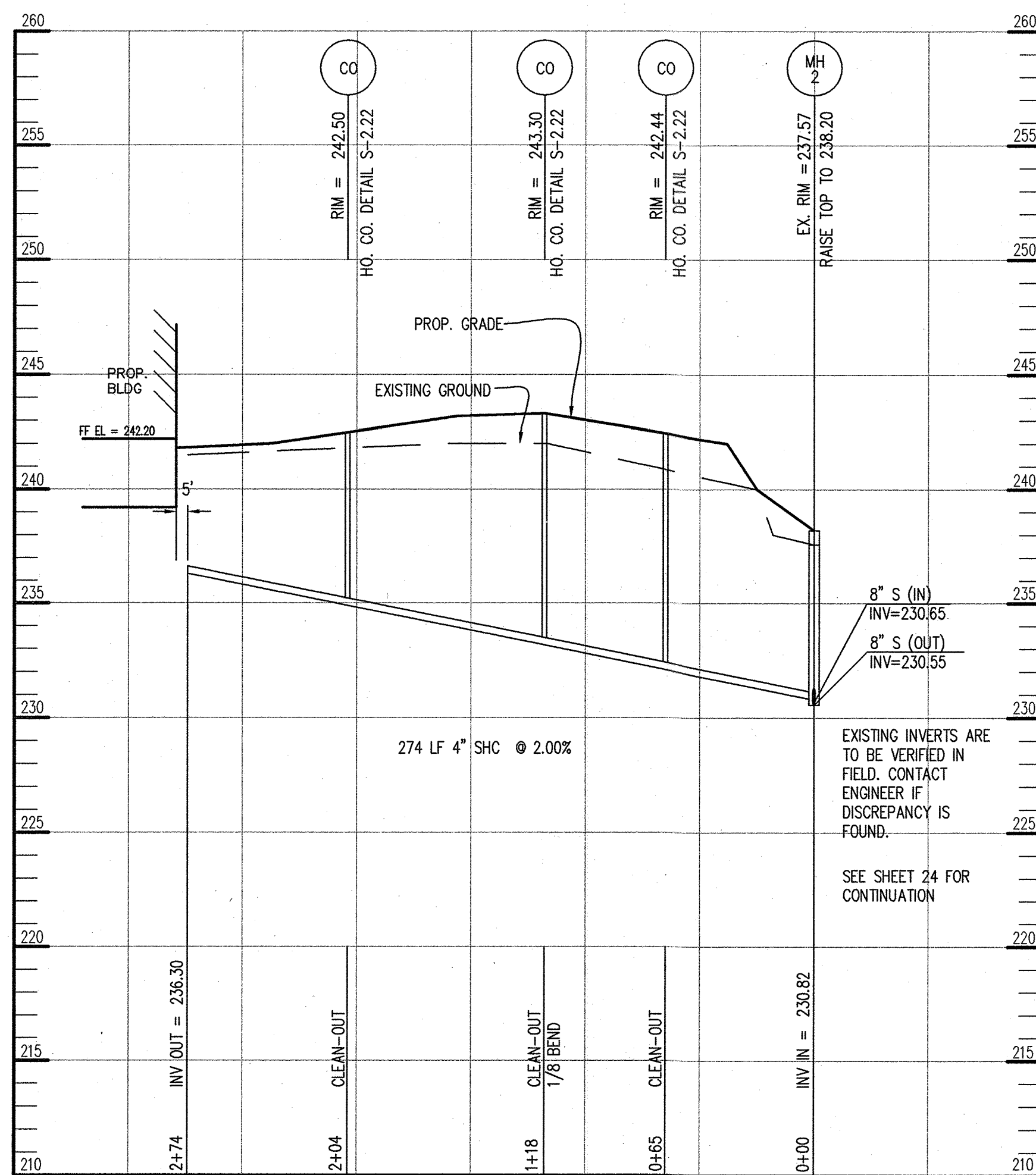




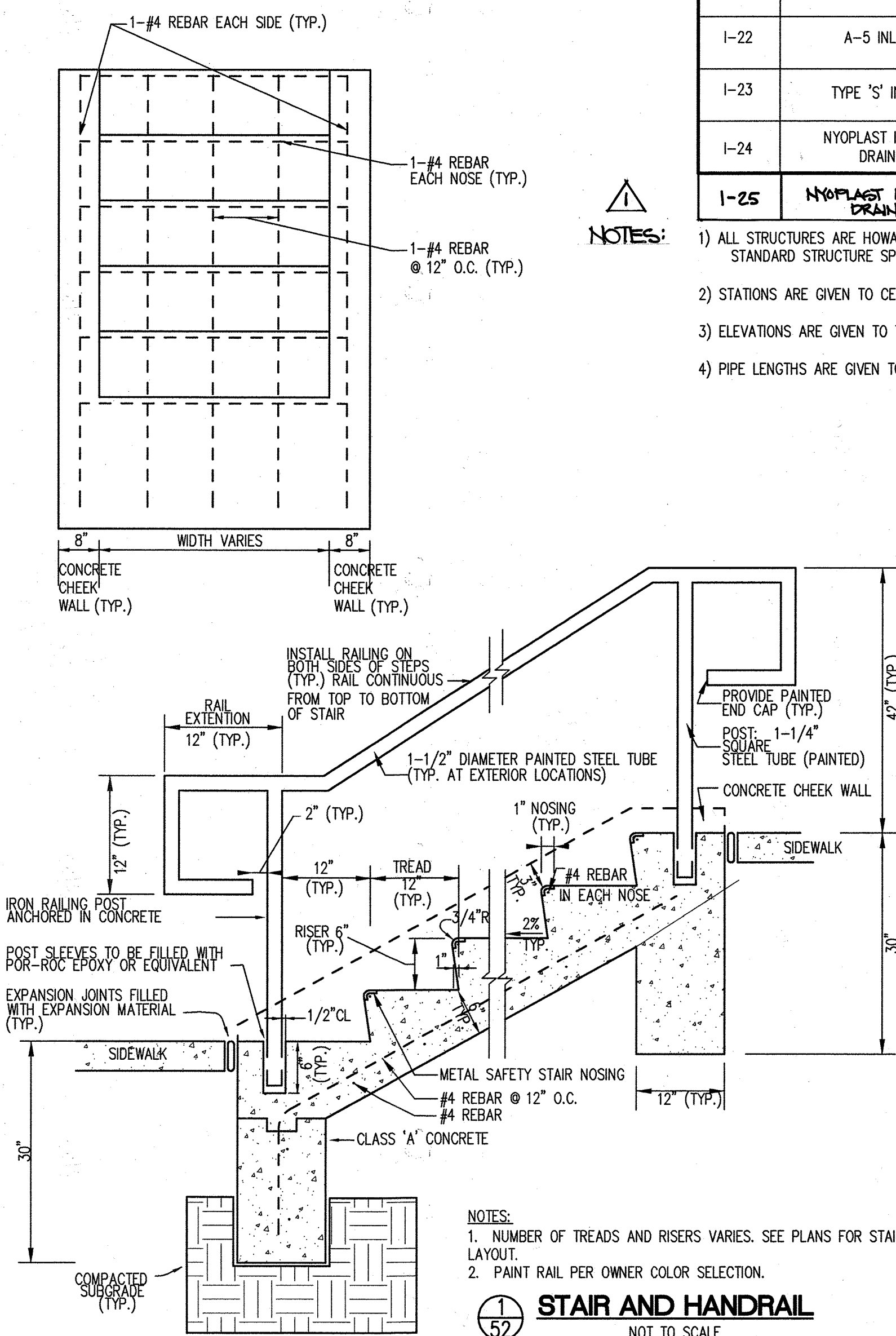
**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50' - VERT: 1"=5'



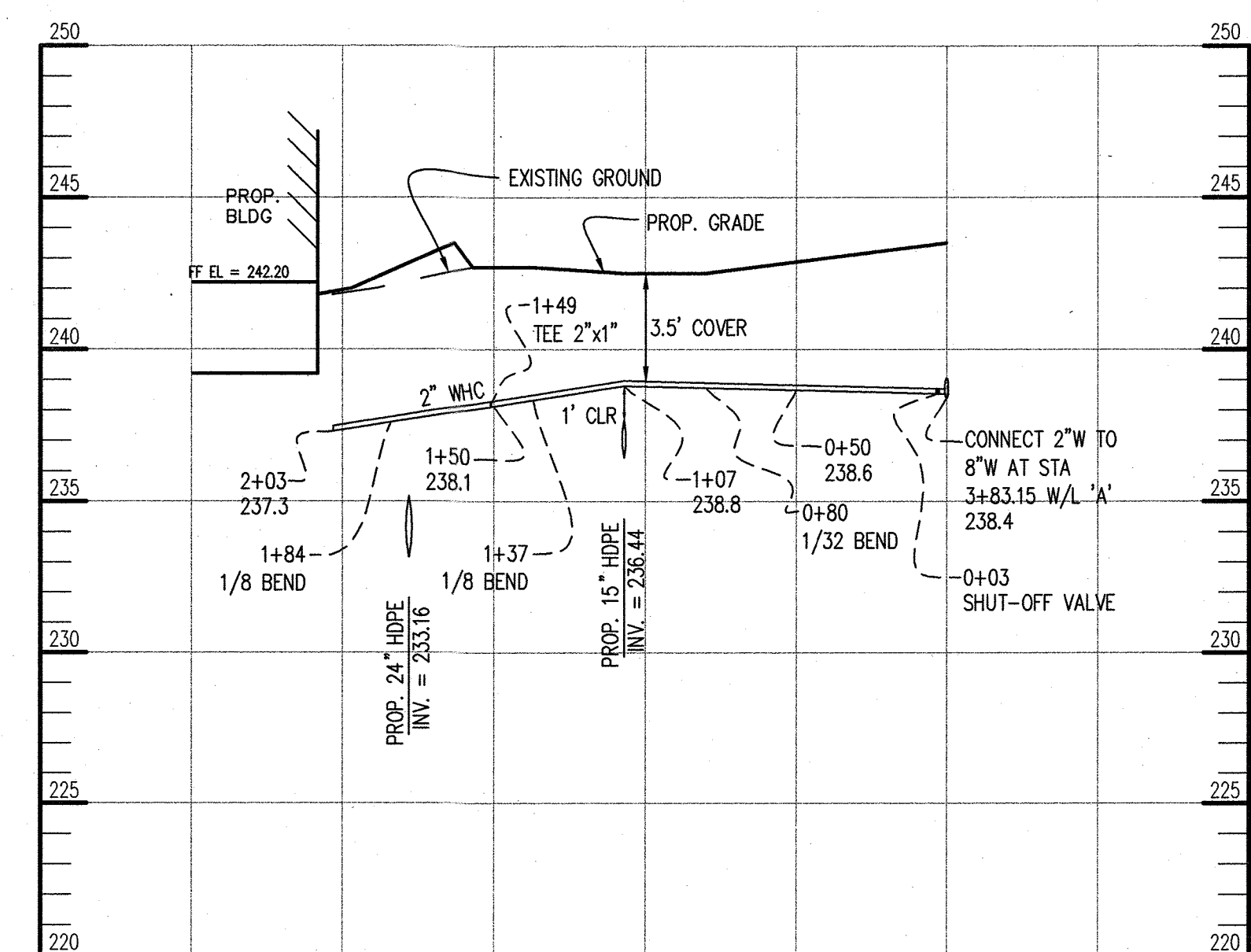
**STORM DRAIN PROFILE**  
SCALE: HOR: 1"=50' - VERT: 1"=5'



**PRIVATE SHC PROFILE**  
SCALE: HOR: 1"=50' - VERT: 1"=5'



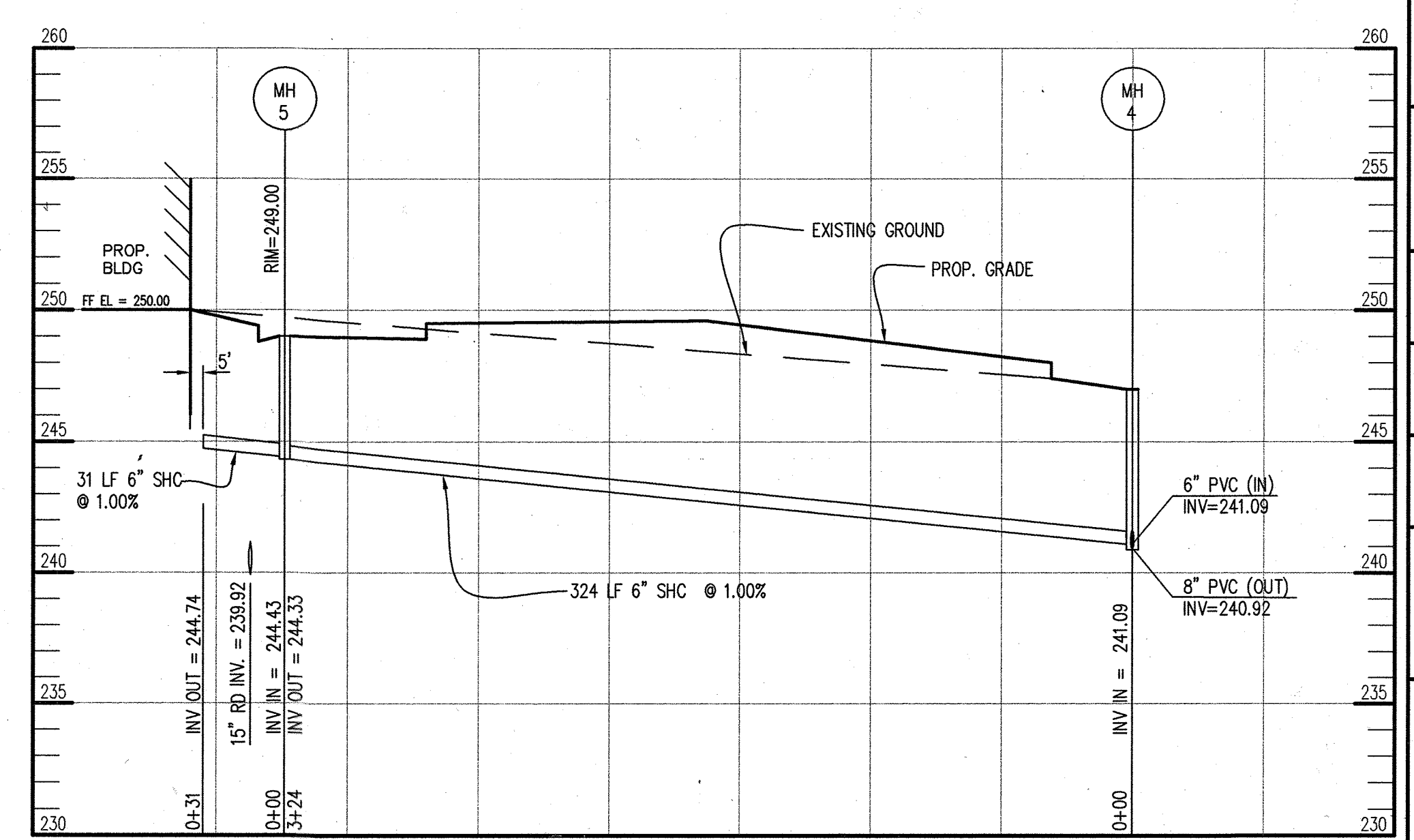
**STAIR AND HANDRAIL**  
NOT TO SCALE



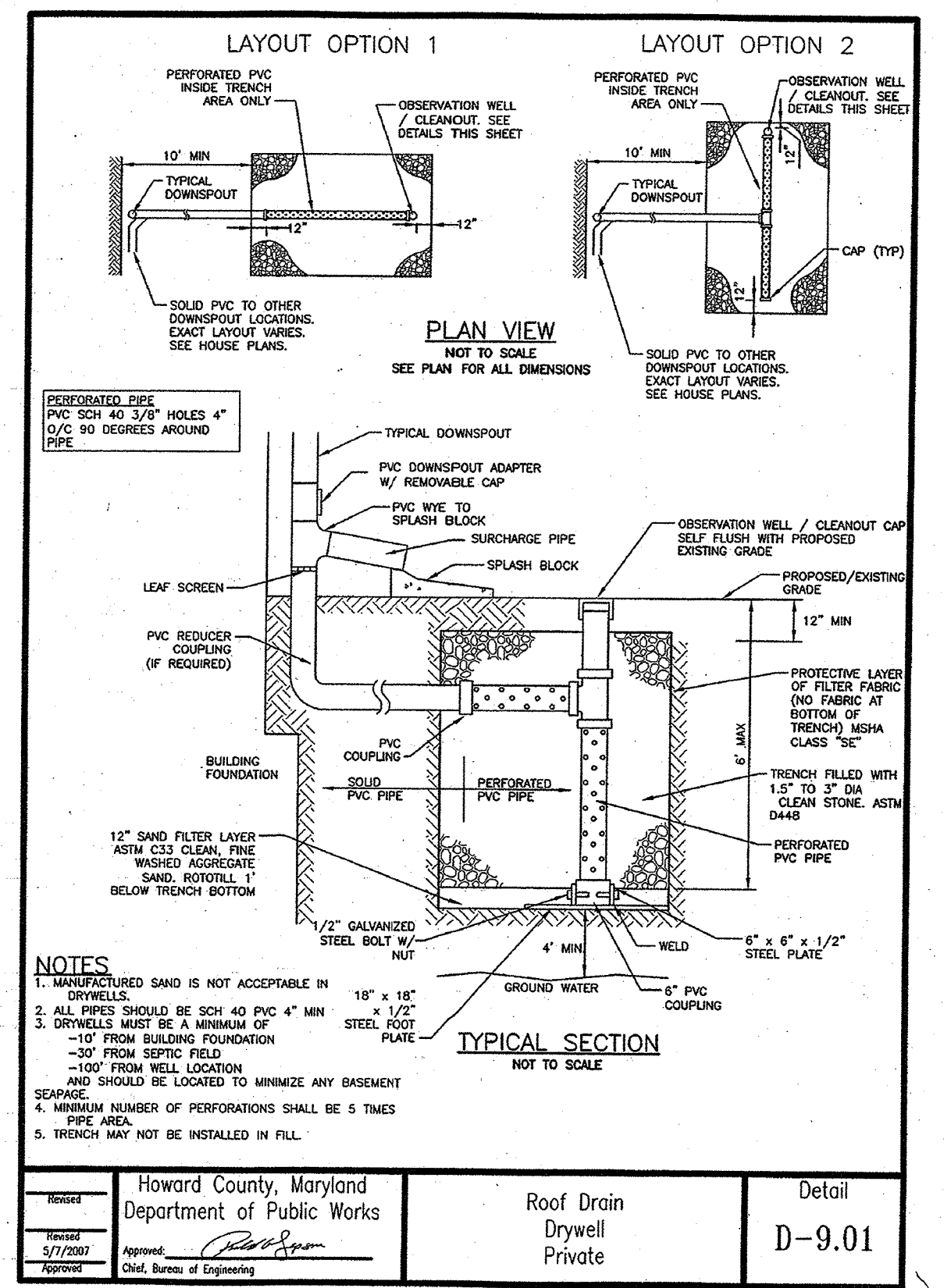
**PRIVATE WHC PROFILE**  
SCALE: HOR: 1"=50' - VERT: 1"=5'

NUMBER	TYPE	LOCATION		TOP ELEVATION		SIZE	REMARKS
		NORTHING	EASTING	UPPER	LOWER		
M-7	4'-0" DOGHOUSE MANHOLE	528,756.6965	1,358,592.4106	245.80	*	DIA = 4' 0"	G-5.14
I-22	A-5 INLET	328,734.3557	1,358,614.7085	248.15	*	T = 5'	D-4.04
I-23	TYPE 'S' INLET	528,554.0805	1,358,724.2333	250.00	*	2'-7"x2'-7" 1/2"	D-4.22
I-24	NYOPLAST INLINE DRAIN	527,904.0051	1,358,691.0853	247.10	*	DIA = 15"	15" STD H25 GRATE
I-25	NYOPLAST INLINE DRAIN	528,610.28	1,358,610.11	250.45	*	DIA = 24"	24" STD H25 GRATE

- NOTES:
- ALL STRUCTURES ARE HOWARD COUNTY STANDARDS UNLESS NOTED OTHERWISE. CONTRACTOR MAY USE PRECAST STRUCTURE WHERE AVAILABLE TO MEET THE STANDARD STRUCTURE SPECIFIED.
  - STATIONS ARE GIVEN TO CENTER OF STRUCTURE AT FACE OF CURB FOR CURB INLETS AND TO CENTER OF STRUCTURE FOR ALL OTHER STRUCTURES.
  - ELEVATIONS ARE GIVEN TO TOP OF CURB FOR CURB INLETS, TOP OF GRATE FOR GRATE INLETS AND TOP OF LID FOR MANHOLES.
  - PIPE LENGTHS ARE GIVEN TO THE CENTER OF THE STRUCTURE. CONTRACTOR SHALL ADJUST LENGTH TO OBTAIN ACTUAL PIPE LENGTHS.



**PRIVATE SHC PROFILE**  
SCALE: HOR: 1"=50' - VERT: 1"=5'



**DRY WELL DETAIL**  
NOT TO SCALE

NOTE:  
USE LAYOUT OPTION 1. DEPTH OF STONE = 5'. SEE SHEET 51 FOR DIMENSIONS

Purpose: Added site amenities to Community Center Park

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Director: *Morgan E. Smith* 10/13/10  
 Chief, Development Engineering Division: *John P. ...* 9/13/10  
 Chief, Division of Land Development: *...* 10/13/10

DATE NO. 6-24-11 | ADD STORM DRAIN  
 REVISION

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 P 410 313 2414

PROJECT: NORTH LAUREL COMMUNITY CENTER  
 CAPITAL PROJECT C-0304

AREA: TAX MAP 47 GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: AMENITY PROFILES, SCHEDULES AND DETAILS

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

DESIGNED BY: SCM  
 DRAWN BY: SCM  
 PROJECT NO: 14466-1-2  
 C400SDP52.DWG  
 DATE: SEPTEMBER 7, 2010  
 SCALE: AS SHOWN  
 DRAWING NO. 52 OF 69



# SPECIFICATIONS

## MODULAR CONCRETE BLOCK RETAINING WALL

### PART 1: GENERAL

- 1.01 Description**
- Work shall consist of furnishing and construction of a Modular Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.
  - Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.
  - Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

### 1.02 Delivery, Storage and Handling

- Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.
- Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

### PART 2: PRODUCTS

- 2.01 Modular Concrete Retaining Wall Units**
- Modular concrete units shall conform to the following architectural requirements:
    - face color - color may be specified by the Owner.
    - face finish - sculptured rock face in angular tri-planer or flat configuration. Other face finishes will not be allowed without written approval of Owner.
    - bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.
    - exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.
  - Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
  - Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
    - compressive strength = 3000 psi minimum;
    - absorption = 8% maximum (8% in northern states) for standard weight aggregates;
    - dimensional tolerances = ± 1/8" from nominal unit dimensions not including rough split face, ± 1/16" unit height - top and bottom planes;
    - unit size - 8" (H) x 18" (W) x 12" (D) minimum;
    - unit weight - 75 lbs/unit minimum for standard weight

- aggregates; inter-unit shear strength - 1000 pcf minimum at 2 psi normal pressure; geogrid/unit peak connection strength - 1000 pcf minimum at 2 psi normal force.
- Modular concrete units shall conform to the following constructability requirements: (if applicable)
    - vertical setback = 1/8" per course (near vertical) or 1" per course per the design;
    - alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
    - maximum horizontal gap between erected units shall be 1/2 inch.

### 2.02 Shear Connectors (if applicable)

- Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-protuded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units. Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.
- Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

### 2.03 Base Leveling Pad Material

- Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

### 2.04 Unit Drainage Fill

- Unit drainage fill shall consist of #57 crushed stone

### 2.05 Reinforced Backfill

- Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the plan:
 

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-60
No. 200	0-40

 Plasticity Index (PI) < 10 and Liquid Limit < 35 per ASTM D-4318.
- Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.

### 2.06 Geogrid Soil Reinforcement

- Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn.

### 2.07 Drainage Pipe

- The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

### PART 3 EXECUTION

#### 3.01 Excavation

- Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

#### 3.02 Base Leveling Pad

- Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6' in front and behind the modular wall unit.
- Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

#### 3.03 Modular Unit Installation

- First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.
- Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
- Install shear/connecting devices per manufacturer's recommendations.
- Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.
- Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.

#### 3.04 Structural Geogrid Installation

- Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
- Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
- The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to

- Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

#### 3.05 Reinforced Backfill Placement

- Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.
- Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.
- Reinforced backfill shall be compacted to 95% of the maximum density as determined by ASTM D698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 3% to - 3% of optimum.
- Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.
- Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
- Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
- At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

#### 3.06 Cap Installation

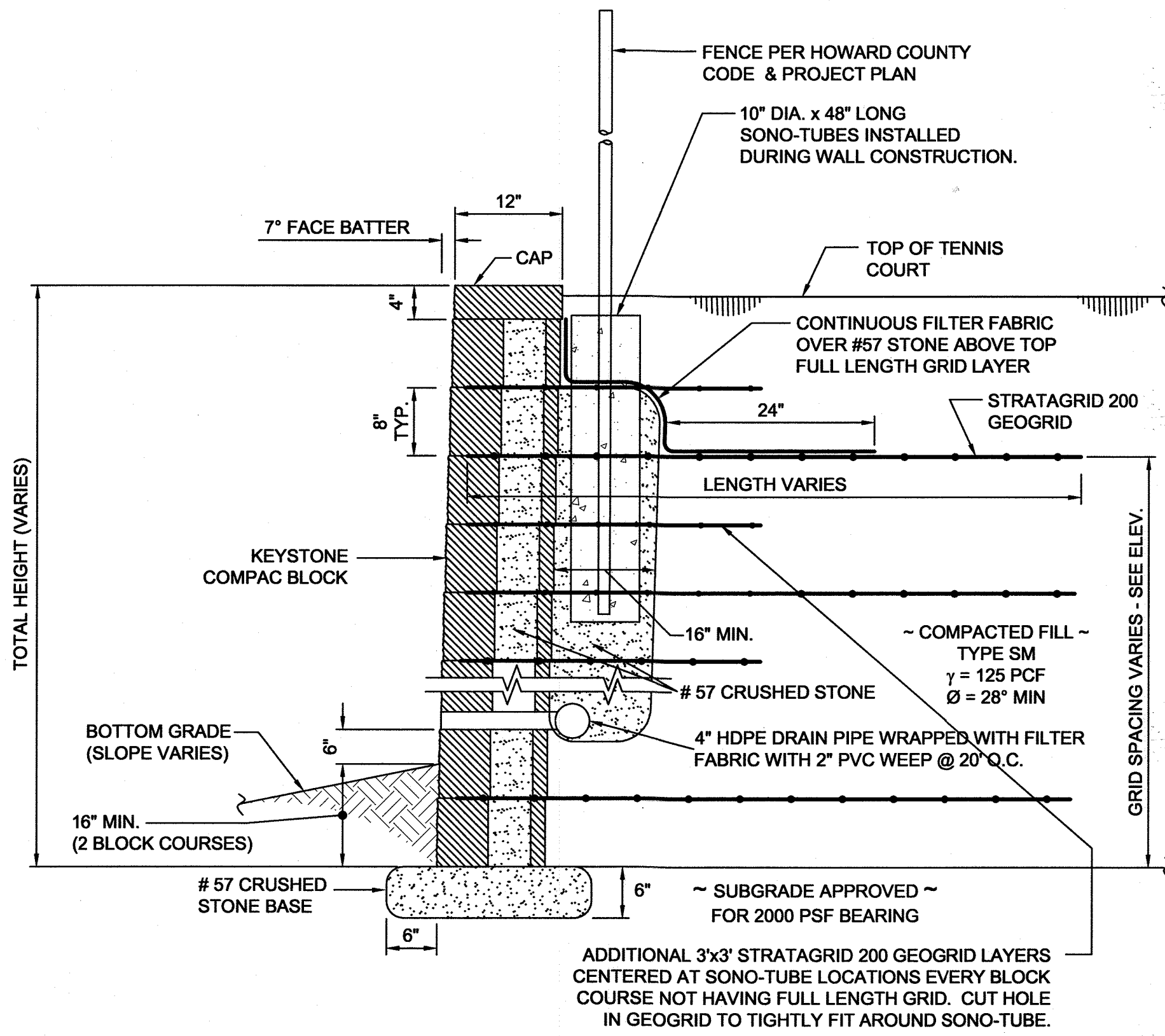
- Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

#### 3.07 Field Quality Control

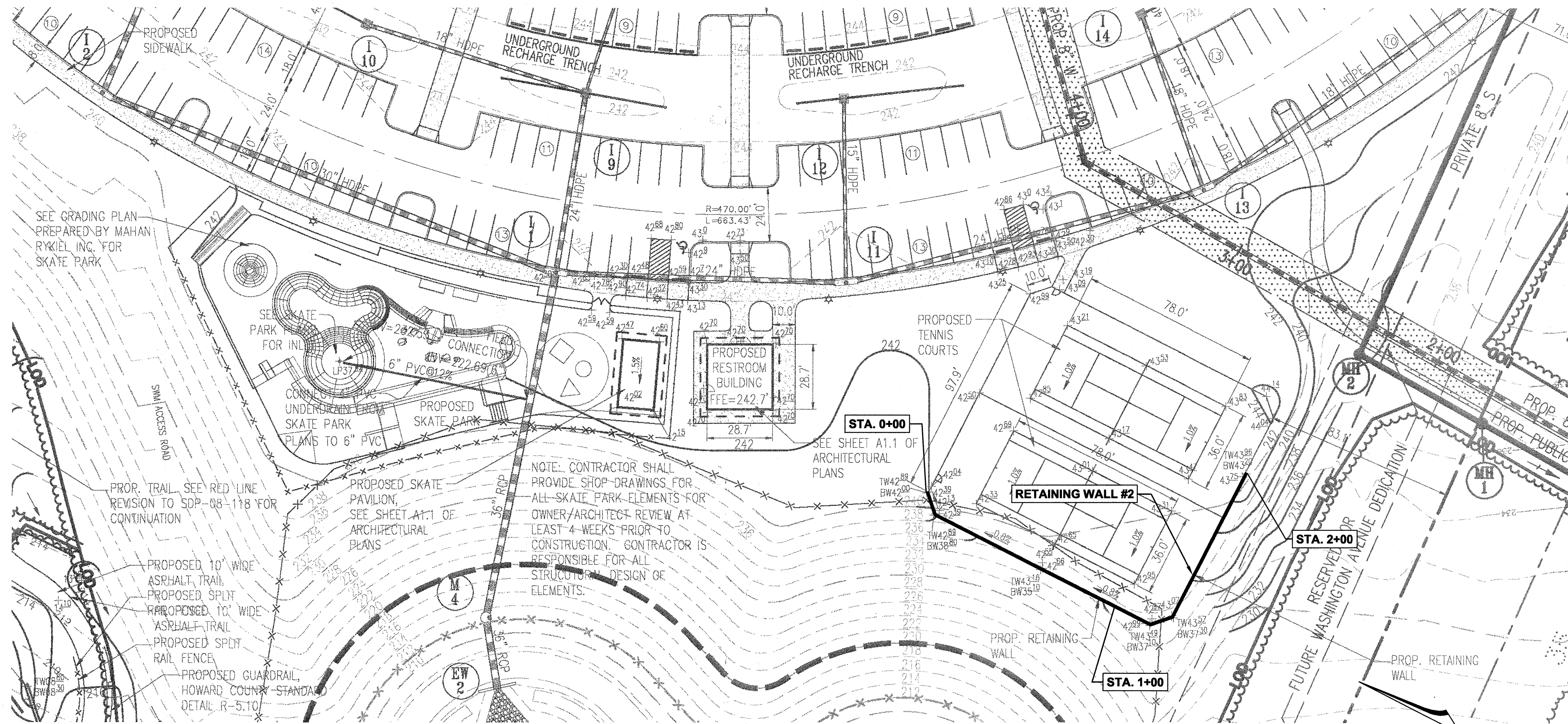
- The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.
- As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.

### NOTES:

- No trees shall be planted within 10 feet of the top of the retaining wall.
- Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
- One soil boring shall be required every one hundred feet along the entire length of the wall. Copies of all boring reports shall be provided to the Howard County Inspector Prior to the start of construction.
- The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
- The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.
- Walls shall not be constructed on uncertified fill materials.
- Walls shall not be constructed within a Howard Co. right-of-way or easement.



TYPICAL WALL SECTION  
N.T.S.



WALL #2 LOCATION PLAN  
1" = 30'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*M. J. Smith* 10/13/10  
DIRECTOR DATE

*John DeWitt* 9/13/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

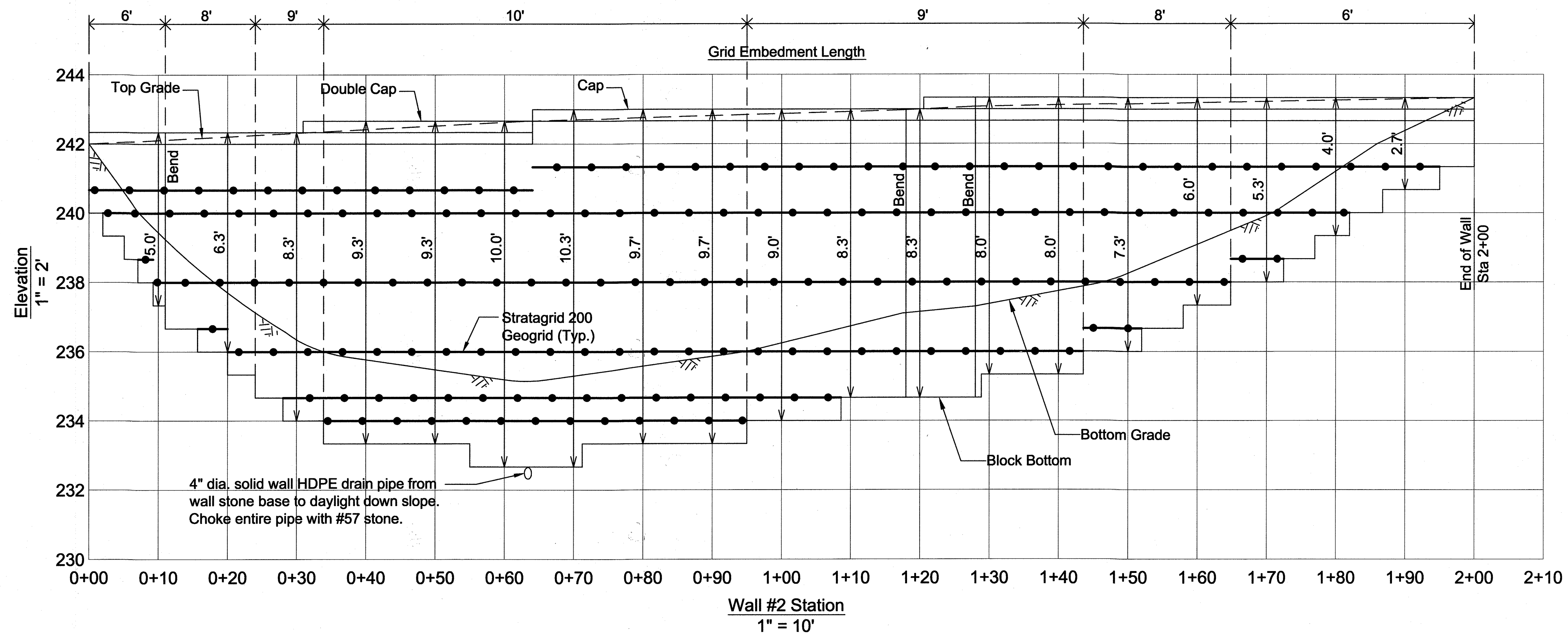
*Kat Schulz* 10/13/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION
OWNER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 PHONE: 410 313 2414		
DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045 PHONE: 410 313 2414		
PROJECT NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT C-0304		
AREA TAX MAP 47, GRID 22 & TAX MAP 50 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE RETAINING WALL #2 PLAN AND DETAILS		

**HILLIS-CARNES**  
ENGINEERING ASSOCIATES  
10975 Guilford Road, Suite A Annapolis Junction, MD  
(410) 880-4788 Fax: (410) 880-4098

DESIGNED BY: RWS  
DRAWN BY: AM  
PROJECT NO: 09059-B  
DATE: AUGUST 19, 2010  
SCALE: AS SHOWN  
DRAWING NO. 53 OF 69





WALL #2 ELEVATION

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Morgan & Butler* 10/13/10  
 DIRECTOR DATE  
*John Decker* 9/13/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*Jeffrey* 10/13/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE NO. REVISION

**OWNER**  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 PHONE: 410 313 2414

**DEVELOPER**  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD, COLUMBIA, MARYLAND 21045  
 PHONE: 410 313 2414

**PROJECT**  
 NORTH LAUREL COMMUNITY CENTER  
 CAPITAL PROJECT C-0304

**AREA**  
 TAX MAP 47, GRID 22 & TAX MAP 50  
 GRIDS 3 & 4, PARCELS A-1, 187 & 1065 ZONED R-SC  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

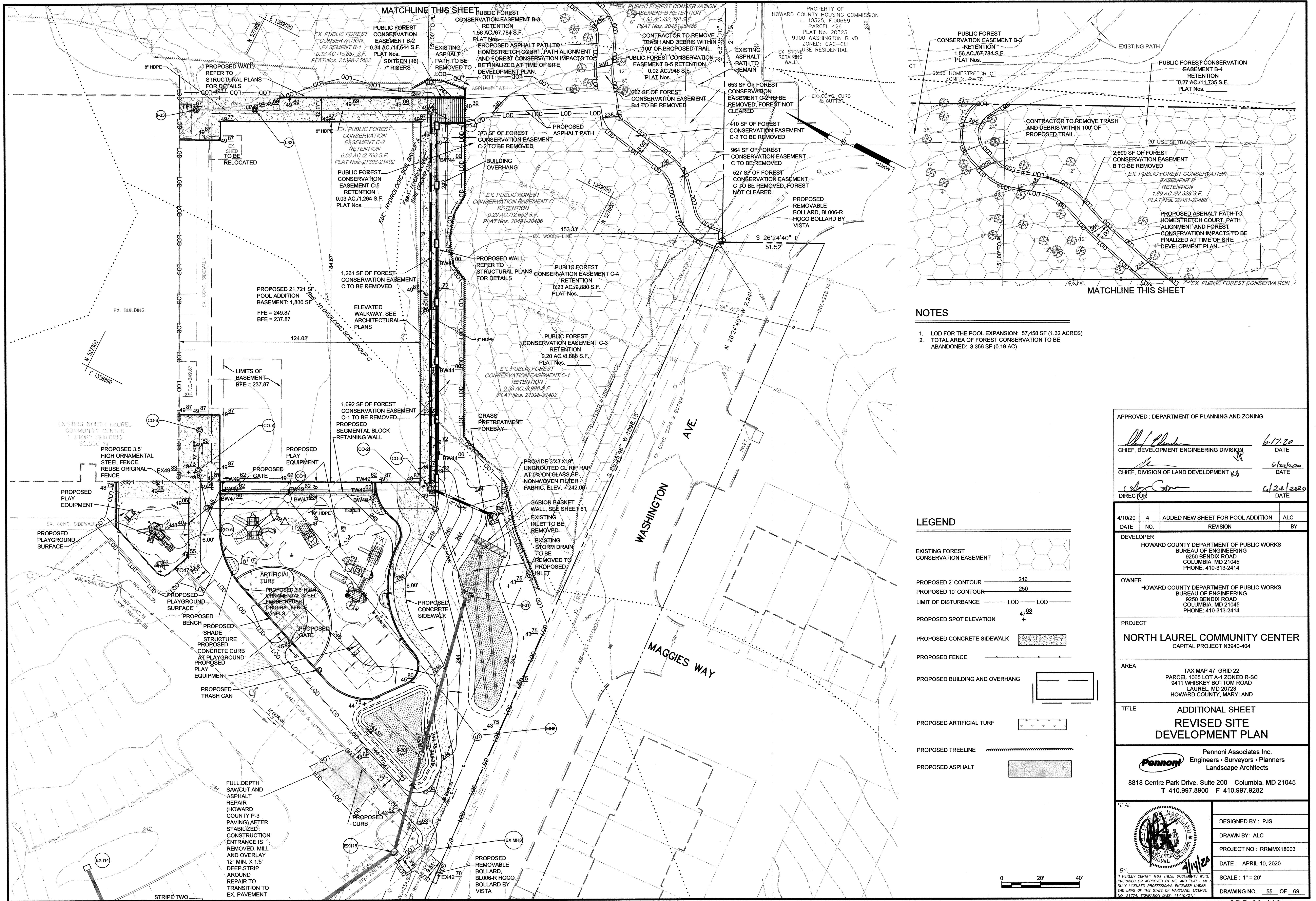
**TITLE**  
 RETAINING WALL #2  
 ELEVATION

**HILLIS-CARNES**  
**ENGINEERING ASSOCIATES**  
 10975 Guilford Road, Suite A Annapolis Junction, MD  
 (410) 880-4788 Fax: (410) 880-4098

SEAL  
 DESIGNED BY : RWS  
 DRAWN BY: AM  
 PROJECT NO : 09059-B  
 DATE : AUGUST 19, 2010  
 SCALE : AS SHOWN  
 DRAWING NO. 54 OF 69

BY:  
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. 14434, EXPIRATION DATE 06/13/2017.

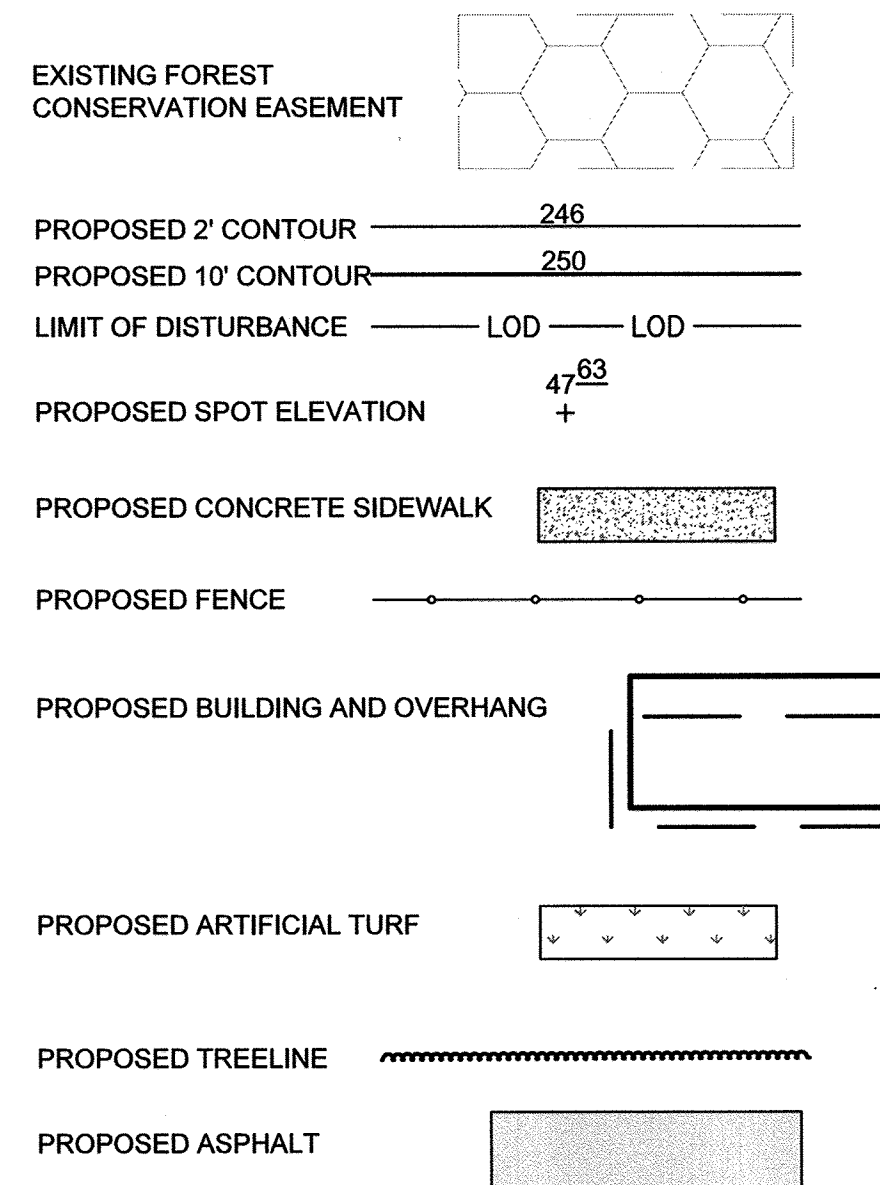




**NOTES**

1. LOD FOR THE POOL EXPANSION: 67,458 SF (1.32 ACRES)
2. TOTAL AREA OF FOREST CONSERVATION TO BE ABANDONED: 8,356 SF (0.19 AC)

**LEGEND**



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division	6/17/20
Chief, Division of Land Development	6/22/20
Director	6/22/2020

4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC
DATE	NO.	REVISION	BY

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT N3940-404

AREA  
TAX MAP 47 GRID 22  
PARCEL 1065 LOT A-1 ZONED R-SC  
9411 WHISKEY BOTTOM ROAD  
LAUREL, MD 20723  
HOWARD COUNTY, MARYLAND

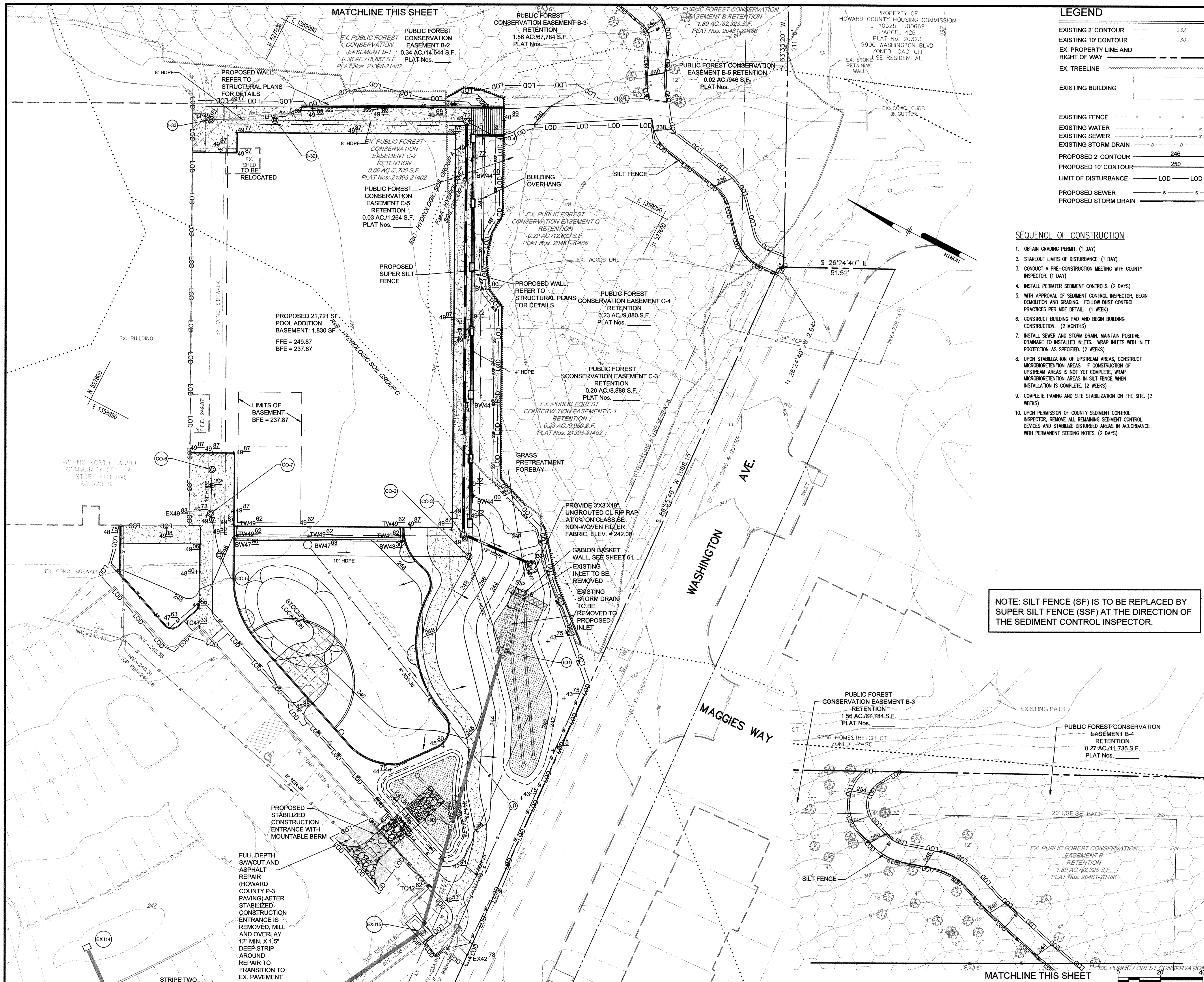
TITLE  
**ADDITIONAL SHEET  
REVISED SITE  
DEVELOPMENT PLAN**

Pennoni Associates Inc.  
Engineers • Surveyors • Planners  
Landscape Architects  
8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

SEAL

DESIGNED BY: PJS
DRAWN BY: ALC
PROJECT NO: RRMXX18003
DATE: APRIL 10, 2020
SCALE: 1" = 20'
DRAWING NO. 55 OF 69





### LEGEND

EXISTING 2' CONTOUR	---
EXISTING 10' CONTOUR	---
EX. PROPERTY LINE AND RIGHT OF WAY	---
EX. TREELINE	---
EXISTING BUILDING	---
EXISTING FENCE	---
EXISTING WATER	---
EXISTING SEWER	---
EXISTING STORM DRAIN	---
PROPOSED 2' CONTOUR	---
PROPOSED 10' CONTOUR	---
LIMIT OF DISTURBANCE	---
PROPOSED SEWER	---
PROPOSED STORM DRAIN	---
PROPOSED STABILIZED CONSTRUCTION ENTRANCE	---
PROPOSED SILT FENCE	---
PROPOSED SUPER SILT FENCE	---
AT-GRADE INLET PROTECTION	AGIP
CURB INLET PROTECTION	CIP
PROPOSED MICRO BIORETENTION	---
PROPOSED TREELINE	---

### SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT. (1 DAY)
- STAKEOUT LIMITS OF DISTURBANCE. (1 DAY)
- CONDUCT A PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (1 DAY)
- INSTALL PERMETER SEDIMENT CONTROLS. (2 DAYS)
- WITH APPROVAL OF SEDIMENT CONTROL INSPECTOR, BEGIN DEMOLITION AND GRADING. FOLLOW DUST CONTROL PRACTICES PER MDE DETAIL. (1 WEEK)
- CONSTRUCT BUILDING PAD AND BEGIN BUILDING CONSTRUCTION. (2 MONTHS)
- INSTALL SEWER AND STORM DRAIN. MAINTAIN POSITIVE DRAINAGE TO INSTALLED INLETS. WRAP INLETS WITH INLET PROTECTION AS SPECIFIED. (2 WEEKS)
- UPON STABILIZATION OF UPSTREAM AREAS, CONSTRUCT MICROBIORETENTION AREAS. IF CONSTRUCTION OF UPSTREAM AREAS IS NOT YET COMPLETE, WRAP MICROBIORETENTION AREAS IN SILT FENCE WHEN INSTALLATION IS COMPLETE. (2 WEEKS)
- COMPLETE PAVING AND SITE STABILIZATION ON THE SITE. (2 WEEKS)
- UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)

**ENGINEER'S CERTIFICATE**  
 I 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 AND REGULATIONS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: *[Signature]* DATE: 4/14/20

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

SIGNATURE OF DEVELOPER: *[Signature]* DATE: 4/30/20  
 NAME: STROJDAHL

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 SIGNATURE: *[Signature]* DATE: 4/3/20

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 6-17-20  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 6/22/2020  
 DIRECTOR: *[Signature]* DATE: 6/22/2020

4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC
DATE	NO.	REVISION	BY

**DEVELOPER**  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD  
 COLUMBIA, MD 21045  
 PHONE: 410-313-2414

**OWNER**  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD  
 COLUMBIA, MD 21045  
 PHONE: 410-313-2414

**PROJECT**  
 NORTH LAUREL COMMUNITY CENTER  
 CAPITAL PROJECT N3940-404

**AREA**  
 TAX MAP 47 GRID 22  
 PARCEL 1065 LOT A-1 ZONED R-SC  
 9411 WHISKEY BOTTOM ROAD  
 LAUREL, MD 20723  
 HOWARD COUNTY, MARYLAND

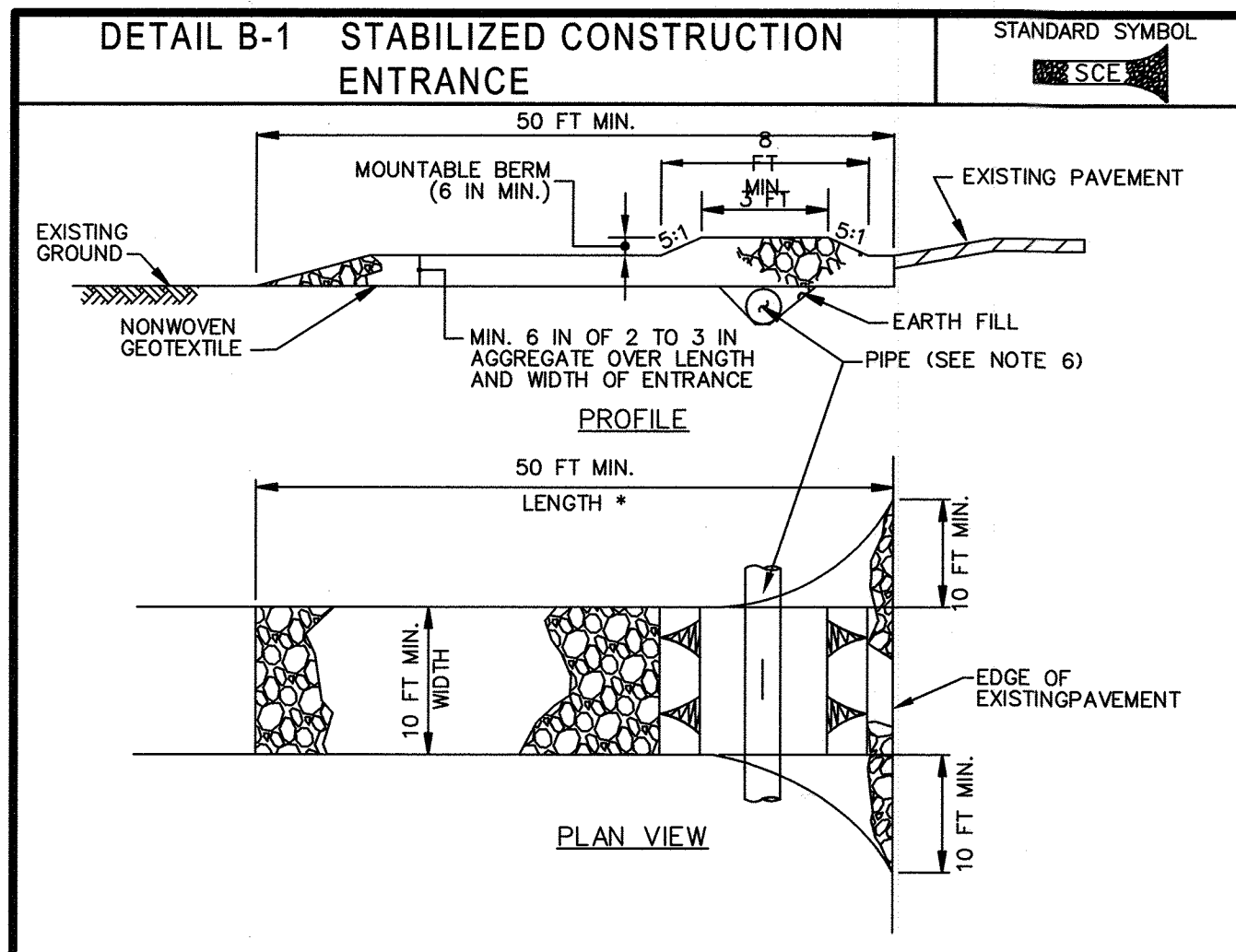
**TITLE**  
 ADDITIONAL SHEET  
 REVISED SEDIMENT CONTROL PLAN

**Pennoni Associates Inc.**  
 Engineers • Surveyors • Planners  
 Landscape Architects  
 8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS  
 DRAWN BY: ALC  
 PROJECT NO: RRMXX18003  
 DATE: APRIL 10, 2020  
 SCALE: 1" = 20'  
 DRAWING NO. 56 OF 69

NOTE: SILT FENCE (SF) IS TO BE REPLACED BY SUPER SILT FENCE (SSF) AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

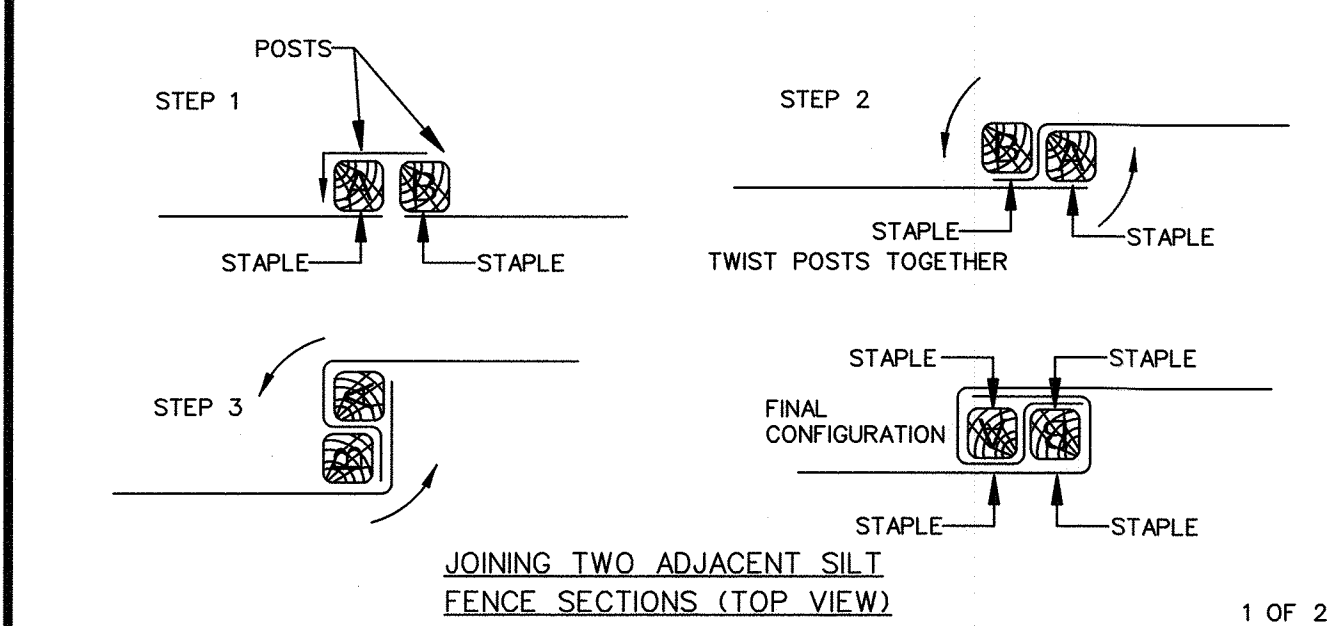
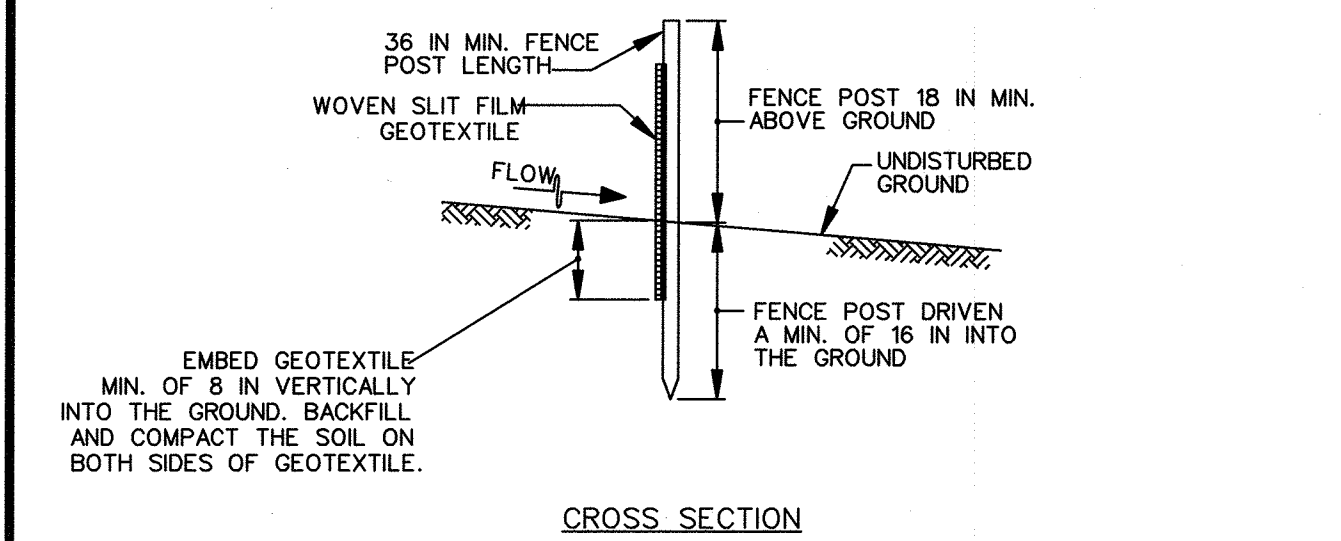
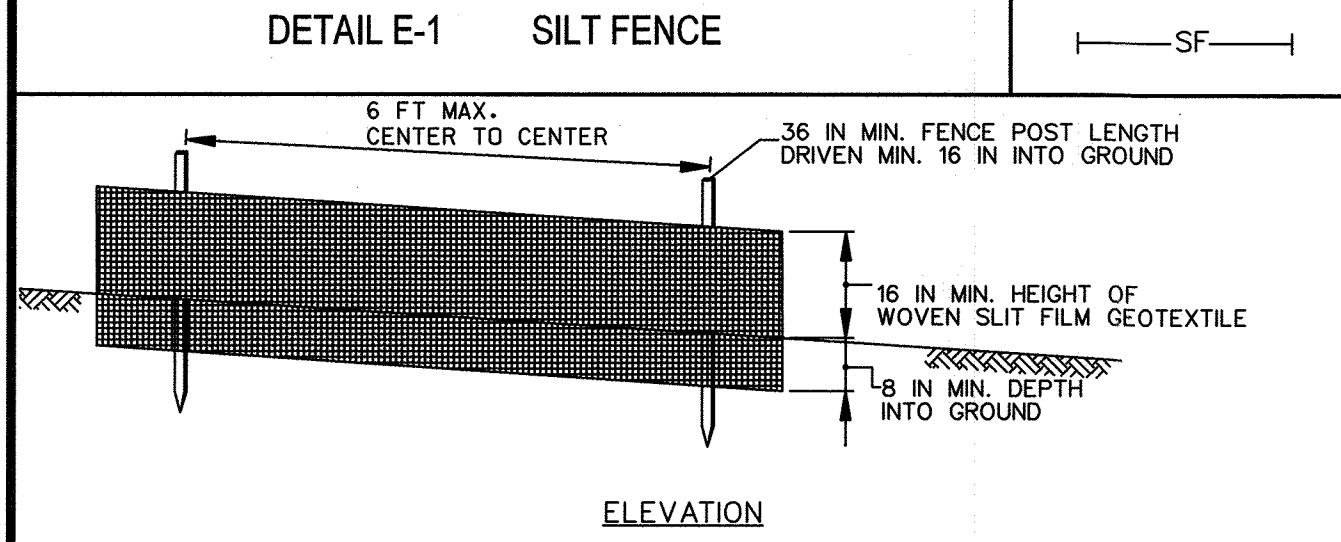




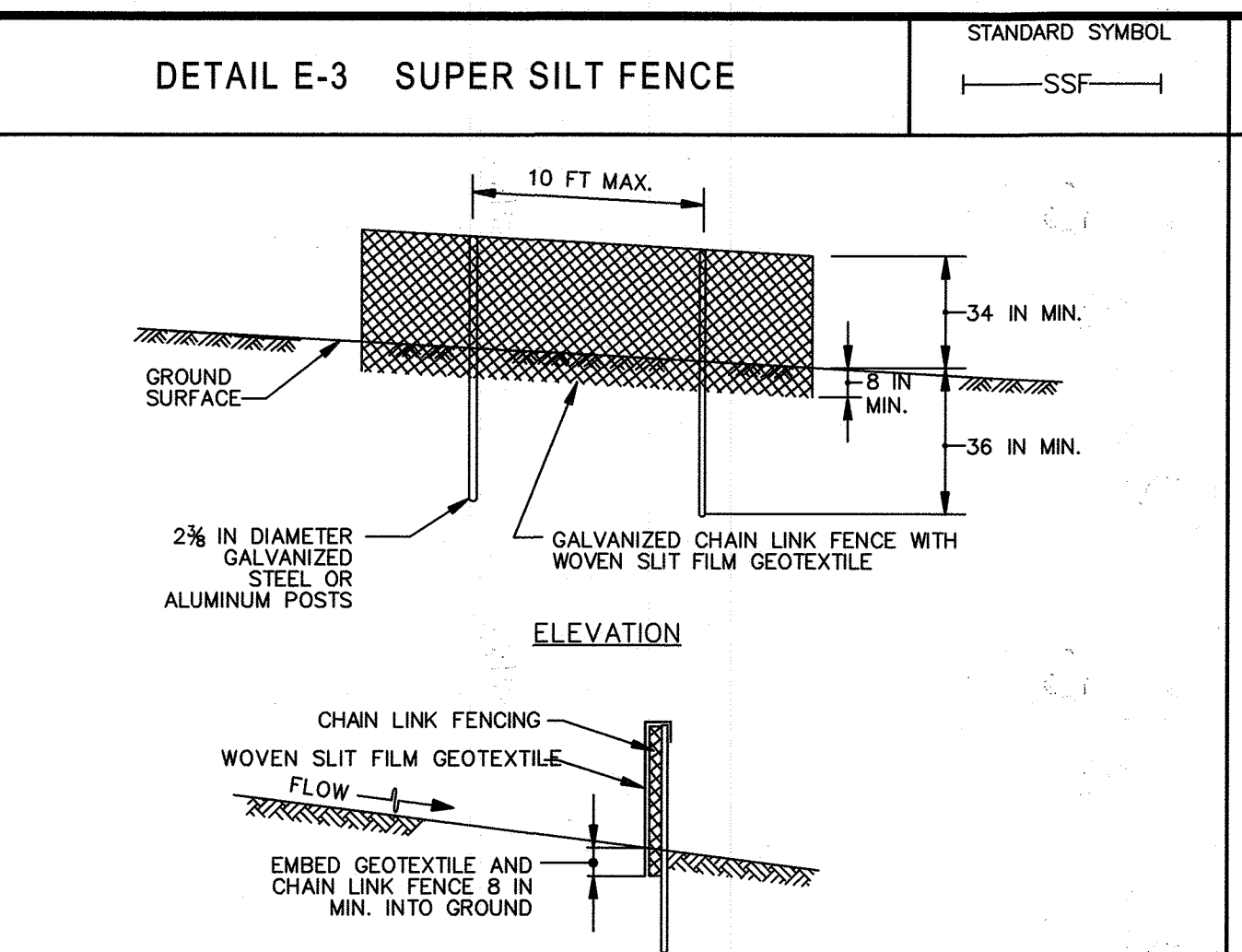
**CONSTRUCTION SPECIFICATIONS**

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (+30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

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	STANDARD SYMBOL



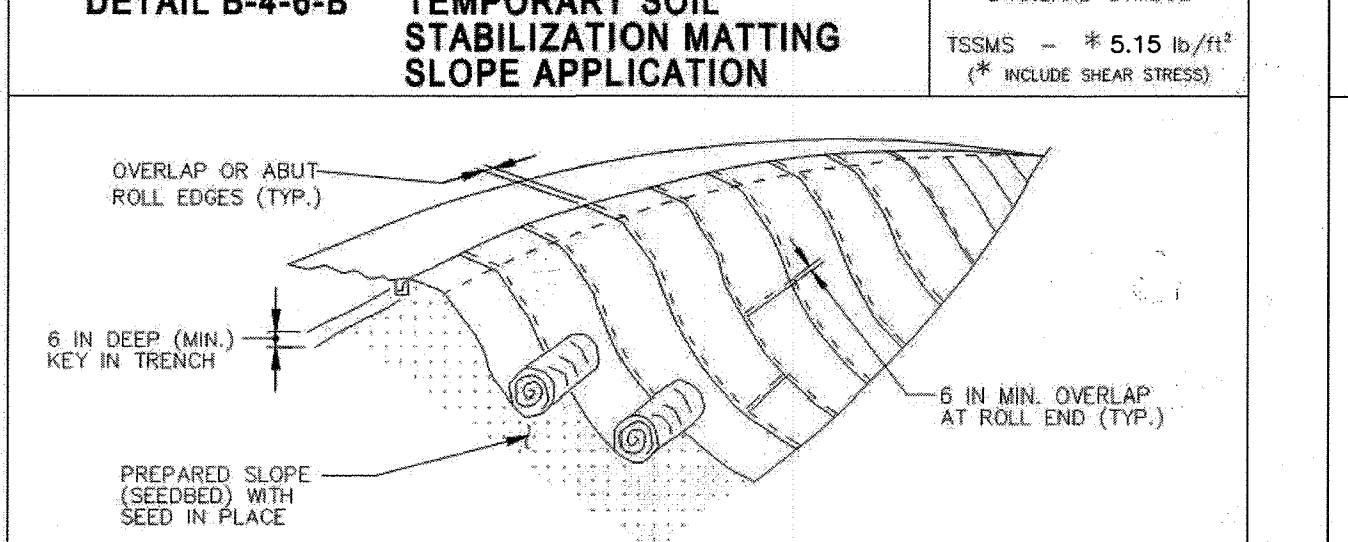
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	STANDARD SYMBOL



**CONSTRUCTION SPECIFICATIONS**

- INSTALL 2 1/2 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.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- 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.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- 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.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- 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.

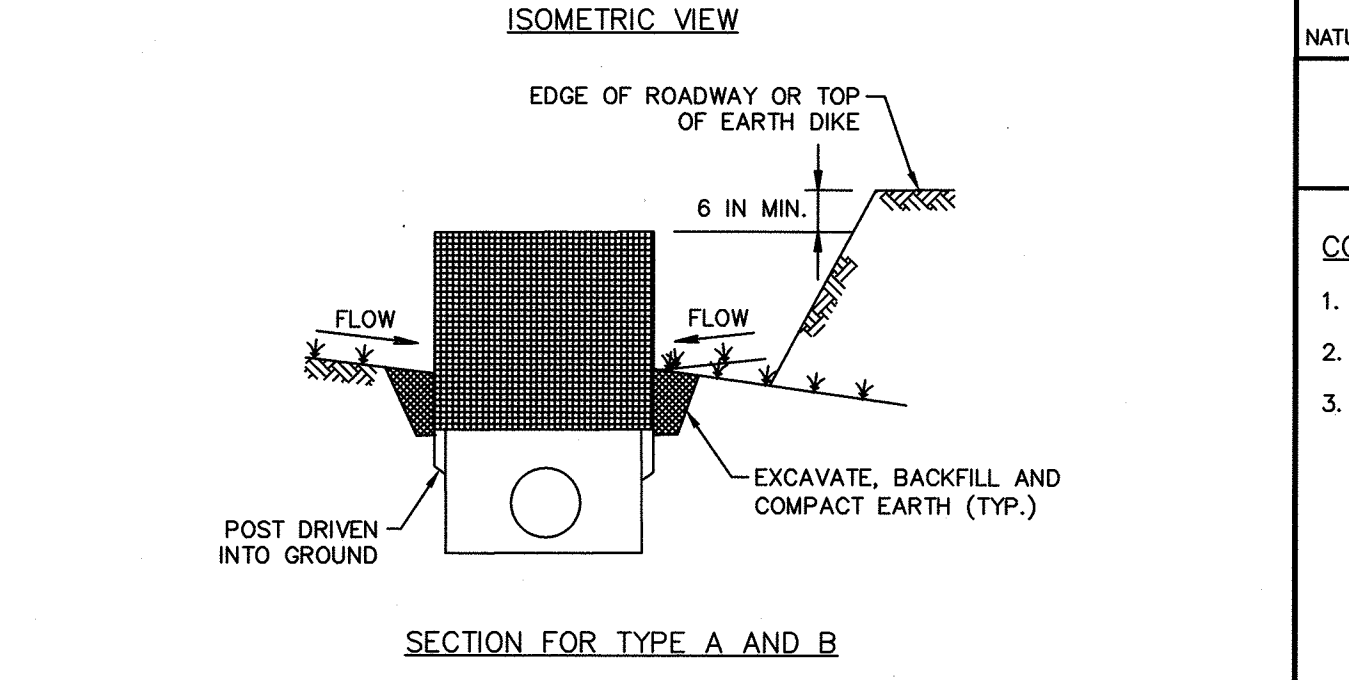
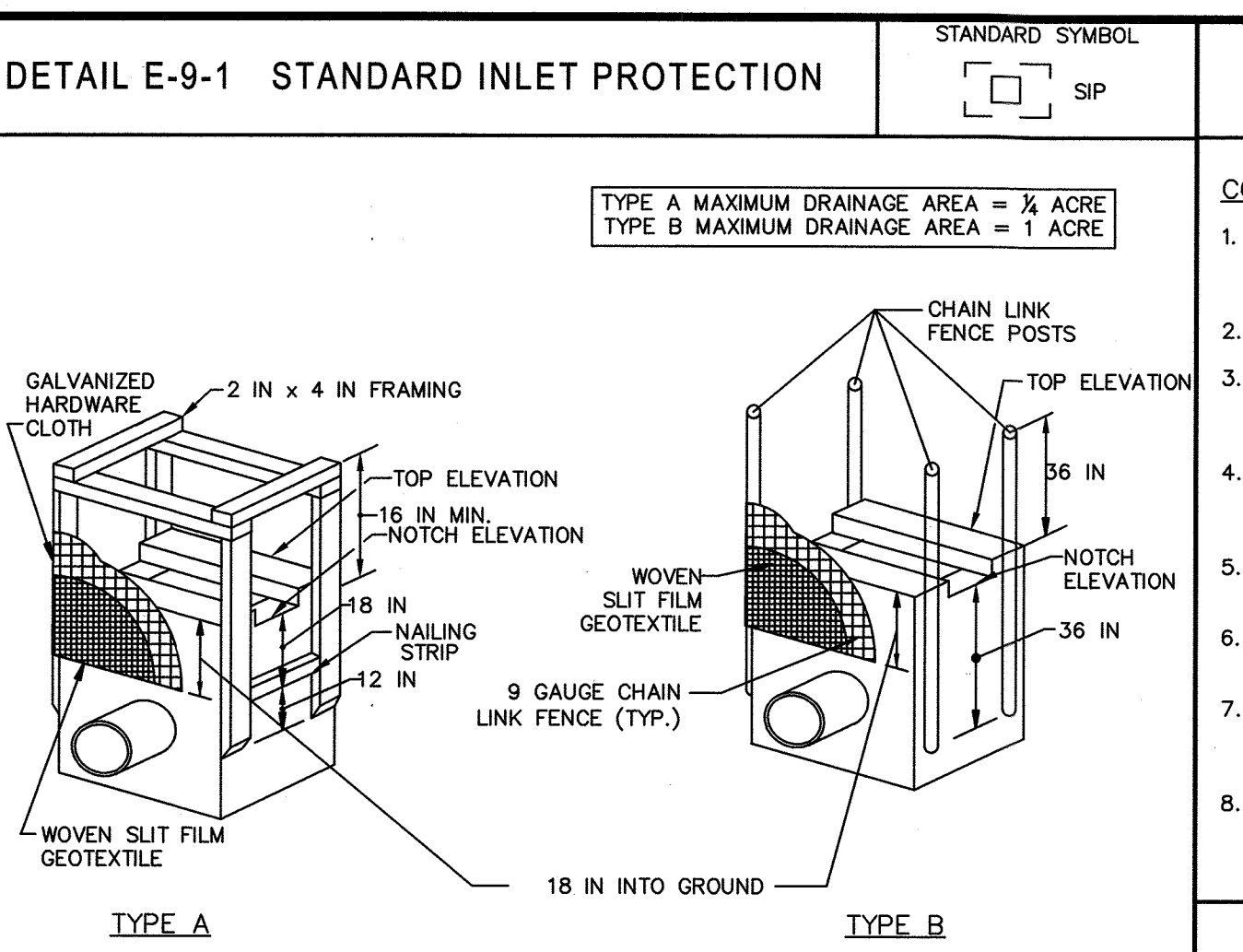
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
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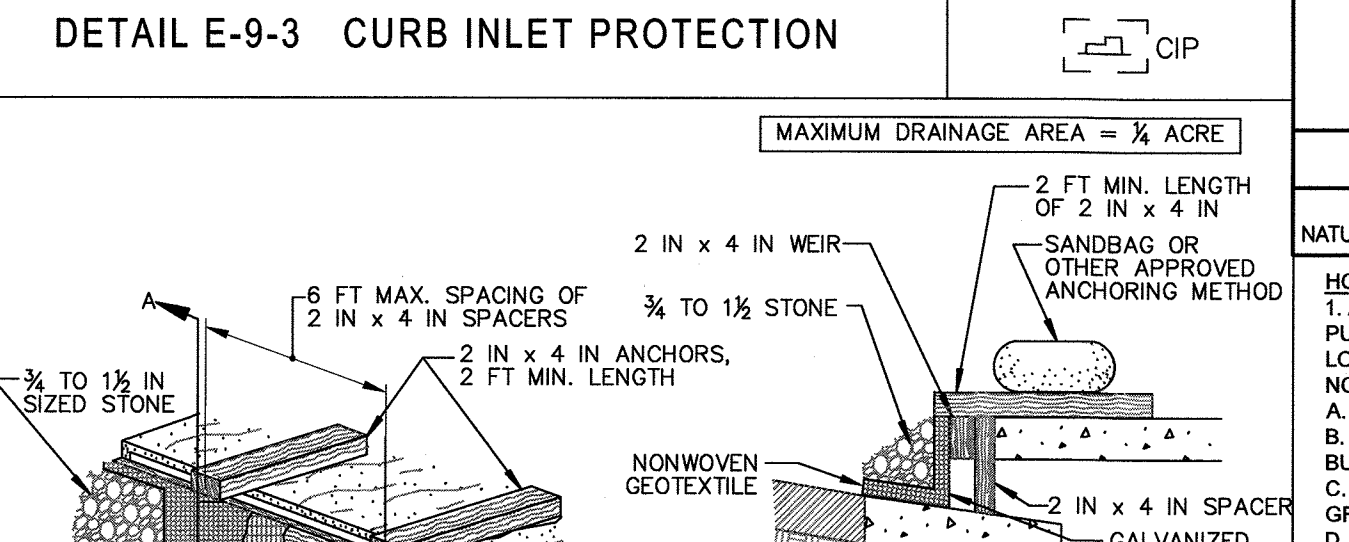
**CONSTRUCTION SPECIFICATIONS**

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOULDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUND-SAWN HARDWOOD, 1 1/2 TO 2 1/2 INCHES IN LENGTH, 1 1/2 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDING PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
- UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDING SURFACE. AVOID STRETCHING THE MATTING.
- OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
- KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

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	STANDARD SYMBOL



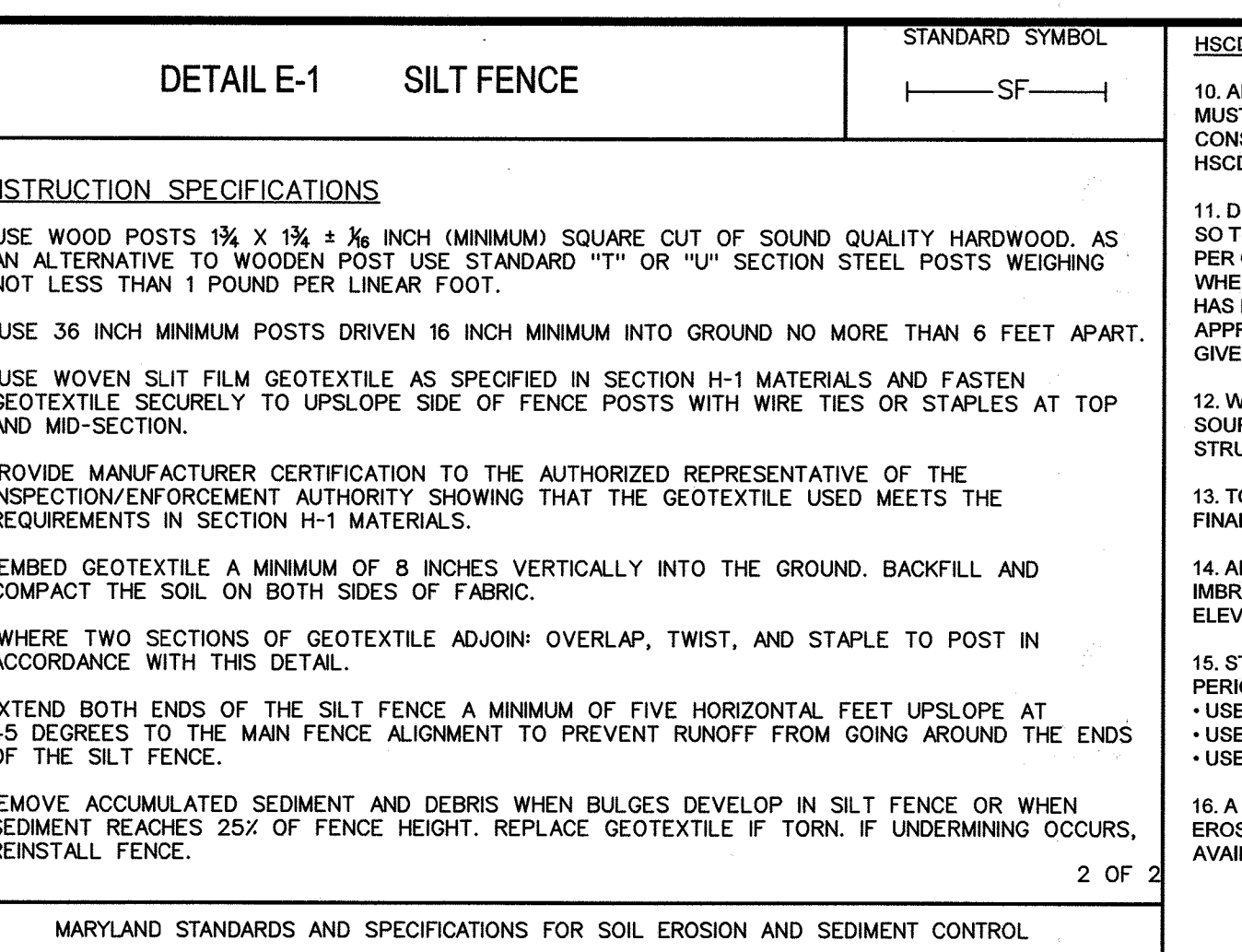
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	STANDARD SYMBOL



**CONSTRUCTION SPECIFICATIONS**

- USE NOMINAL 2 INCH X 4 INCH LUMBER
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
- ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
- PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
- PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
- FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

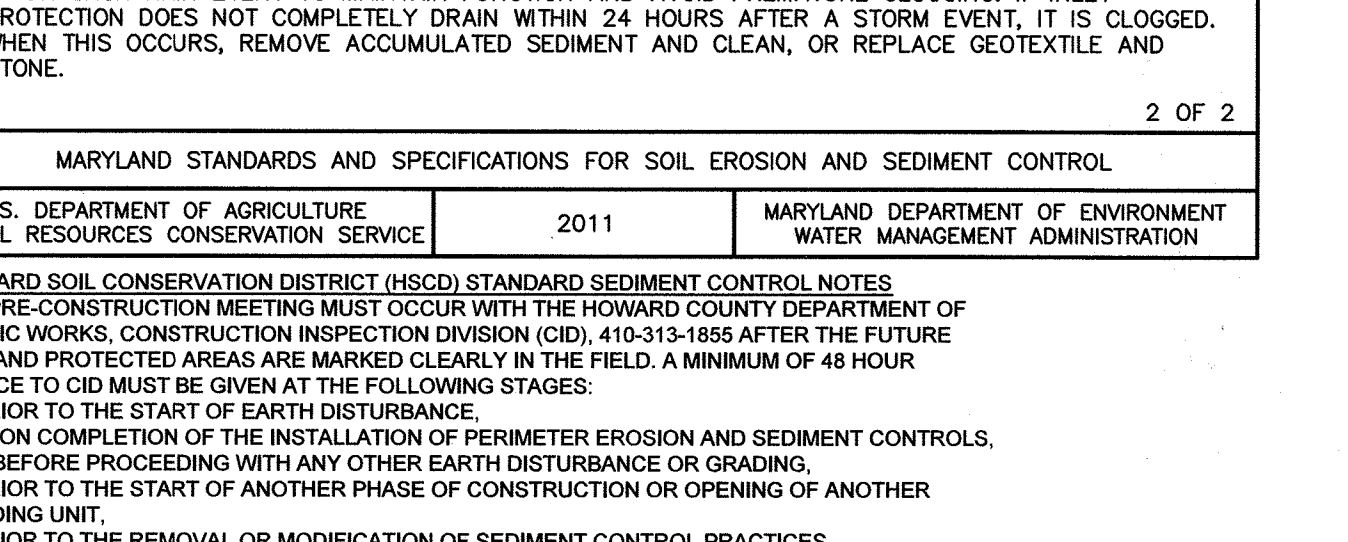
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011
MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	STANDARD SYMBOL



**CONSTRUCTION SPECIFICATIONS**

- USE WOOD POSTS 1 1/2 X 1 1/2 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE 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 SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	
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**CONSTRUCTION SPECIFICATIONS**

- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
- FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2x4 FRAME AS SHOWN. STRETCH 1/2 INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
- FOR TYPE B, USE 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
- BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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**HSCD STANDARD SEDIMENT CONTROL NOTES CONTINUED**

- 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 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 IMBERICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
- STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):  
- USE I AND II MARCH 1 - JUNE 15  
- USE III AND IIII 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.

**ENGINEER'S CERTIFICATE**

I 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.

Signature of Engineer: [Signature] DATE: 4/11/20

**DEVELOPER'S CERTIFICATE**

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

Signature of Developer: [Signature] DATE: 4/30/20

Signature: [Signature] DATE: 6/3/20

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: [Signature] DATE: 6-17-20

Signature: [Signature] DATE: 6/23/2020

Signature: [Signature] DATE: 6/22/2020

DATE	NO.	REVISION	BY
4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC

DEVELOPER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

OWNER: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

PROJECT: NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT N3940-404

AREA: TAX MAP 47 GRID 22  
PARCEL 1065 LOT A-1 ZONED R-SC  
9411 WHISKEY BOTTOM ROAD  
LAUREL, MD 20723  
HOWARD COUNTY, MARYLAND

TITLE: ADDITIONAL SHEET  
REVISED SEDIMENT CONTROL DETAILS

Pennoni Associates Inc.  
Engineers - Surveyors - Planners  
Landscape Architects

8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT NO.: RRMXX18003  
DATE: APRIL 10, 2020  
SCALE: NOT TO SCALE  
DRAWING NO. 57 OF 69



**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**

1. TEMPORARY STABILIZATION

a. 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 LOOSENEED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

i. SOIL PH BETWEEN 6.0 AND 7.0.

ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

iii. 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.

iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE 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 FRAGILE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

**TOPSOILING**

1. 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.

2. 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.

3. 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 CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. 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 ONDERS, 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.

6. TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

b. 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.

c. 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)**

1. 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.

2. 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.

3. 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.

4. 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.

5. 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**

A. SEEDING

1. SPECIFICATIONS

a. 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 USED 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.

b. 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.

c. 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.

d. SOD 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 PHYTO-TOXIC MATERIALS.

2. APPLICATION

i. 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.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDING AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

iii. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

iv. CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

v. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

vi. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

1. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.

ii. 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.

iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

a. 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 MUSTY, MOULDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

i. WCFM 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.

ii. WCFM INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

iii. WCFM MATERIALS ARE TO 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. THE MULCH MATERIAL MUST FORM A FLATTER-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.

iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

v. WCFM 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, ACH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM COVER, DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.

c. 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.

3. ANCHORING

a. 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:

i. 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.

ii. 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.

iii. SYNTHETIC BINDERS SUCH AS ACRYLIC OLR (AGRO-TACK), DCA-70, PROSECT, TERRA TAC II, TERRA TACK 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.

iv. 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 30 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**

1. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS 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.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.1.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

**TEMPORARY SEEDING SUMMARY**

HARDINESS ZONE (FROM FIGURE B.3):		7A		FERTILIZER RATE (10-20-20)	LIME RATE
SEED MIXTURE (FROM TABLE B.1):					
NO.	SPECIES	APPLICATION RATE (lb/acre)	SEEDING DATES	SEEDING DEPTHS	
	ANNUAL RYEGRASS	40	FEB 15 TO APR 30; AUG 15 TO NOV 30	0.5	
	BARLEY	96	FEB 15 TO APR 30; AUG 15 TO NOV 30	1.0	436 lb/acre (10 lb/1000 sq ft)
	OATS	72	FEB 15 TO APR 30; AUG 15 TO NOV 30	1.0	2 tons/acre (90 lb/1000 sq ft)
	PEARL MILLET	20	MAY 1 TO AUG 14	0.5	

1. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS 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.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.1.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

**PERMANENT SEEDING SUMMARY**

HARDINESS ZONE (FROM FIGURE B.3):		7A		FERTILIZER RATE (10-20-20)				LIME RATE
SEED MIXTURE (FROM TABLE B.3):				N	P205	K2O		
NO.	SPECIES	APPLICATION RATE (lb/acre)	SEEDING DATES	SEEDING DEPTHS				
8	TALL FESCUE	100	FEB 15 - APR 30	1/4 - 1/2 IN	45 POUNDS PER ACRE (1.0lb/1000 sq ft)	90 POUNDS PER ACRE (2 lb/1000 sq ft)	2 TONS PER ACRE (90 lb/1000 sq ft)	
9	KENTUCKY BLUEGRASS	60	FEB 15 - APR 30	1/4 - 1/2 IN	45 POUNDS PER ACRE (1.0lb/1000 sq ft)	90 POUNDS PER ACRE (2 lb/1000 sq ft)	2 TONS PER ACRE (90 lb/1000 sq ft)	
11	PERENNIAL RYE	60	AUG 15 - OCT 31	1/4 - 1/2 IN	45 POUNDS PER ACRE (1.0lb/1000 sq ft)	90 POUNDS PER ACRE (2 lb/1000 sq ft)	2 TONS PER ACRE (90 lb/1000 sq ft)	

\* FOR MAY 1 TO AUGUST 14, PLANT WITH NURSE CROP OF PEARL MILLET BASED ON 5% OF THE PERMANENT SEED MIX APPLICATION RATE.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE

THE APPROPRIATE PLANT HARDINESS 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.

b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHROUBS, 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.

c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

d. 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.

2. TURFGRASS MIXTURES

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

b. 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.

i. 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.

ii. 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.

iii. 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.

iv. 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". CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

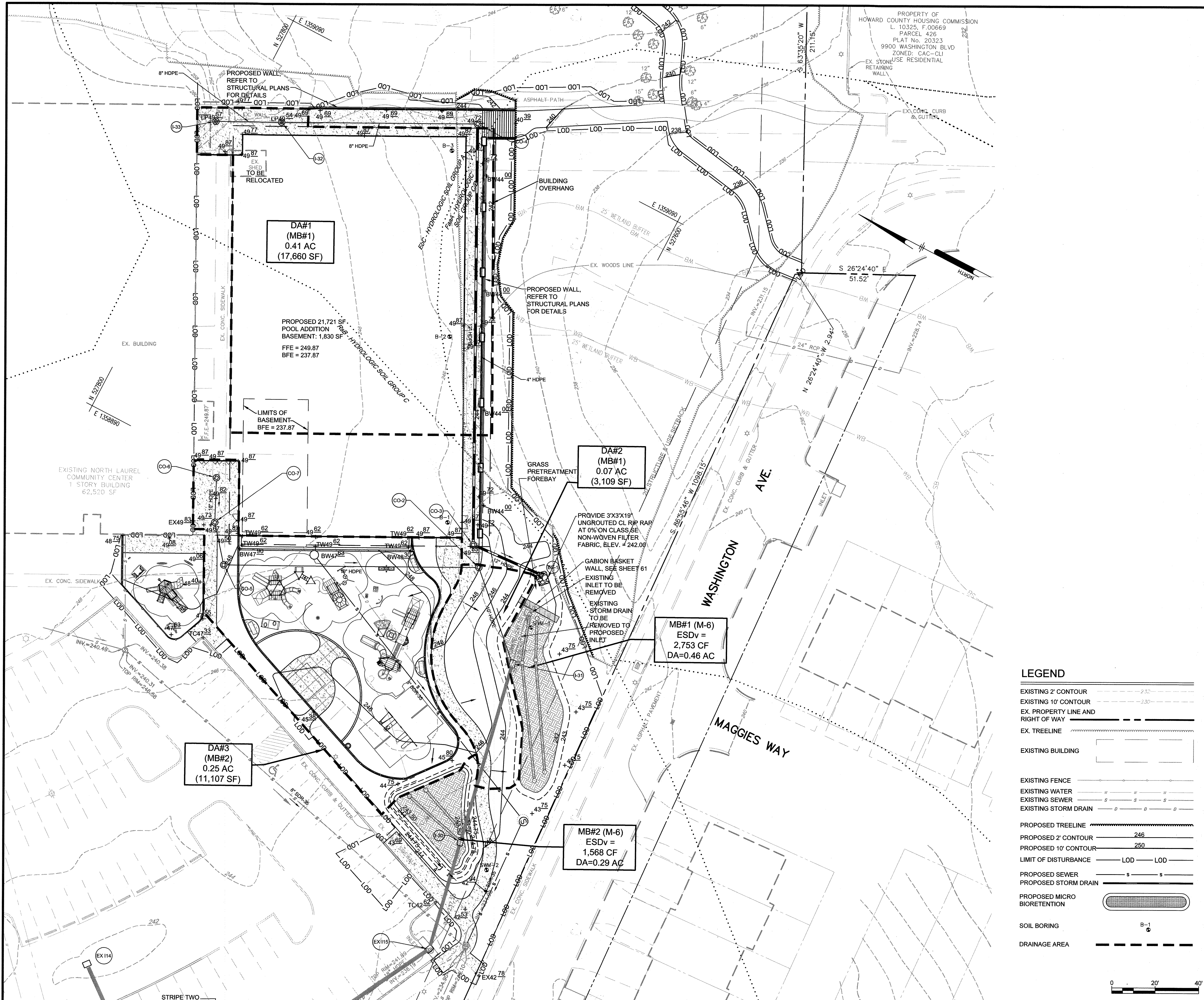
c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

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 ZONE: 6B)

SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)





**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE OF ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 PE # \_\_\_\_\_  
 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. 21774. EXPIRATION DATE: 11/10/21.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division *[Signature]* 6/17/20 DATE  
 Chief, Division of Land Development *[Signature]* 6/22/2020 DATE  
 Director *[Signature]* 6/22/20 DATE

DATE	NO.	REVISION	BY
4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD  
 COLUMBIA, MD 21045  
 PHONE: 410-313-2414

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD  
 COLUMBIA, MD 21045  
 PHONE: 410-313-2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT N3940-404

AREA  
 TAX MAP 47 GRID 22  
 PARCEL 1065 LOT A-1 ZONED R-SC  
 9411 WHISKEY BOTTOM ROAD  
 LAUREL, MD 20723  
 HOWARD COUNTY, MARYLAND

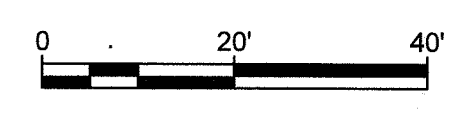
TITLE  
**ADDITIONAL SHEET  
 REVISED STORMWATER  
 MANAGEMENT PLAN**

Pennoni Associates Inc.  
 Engineers • Surveyors • Planners  
 Landscape Architects  
 8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

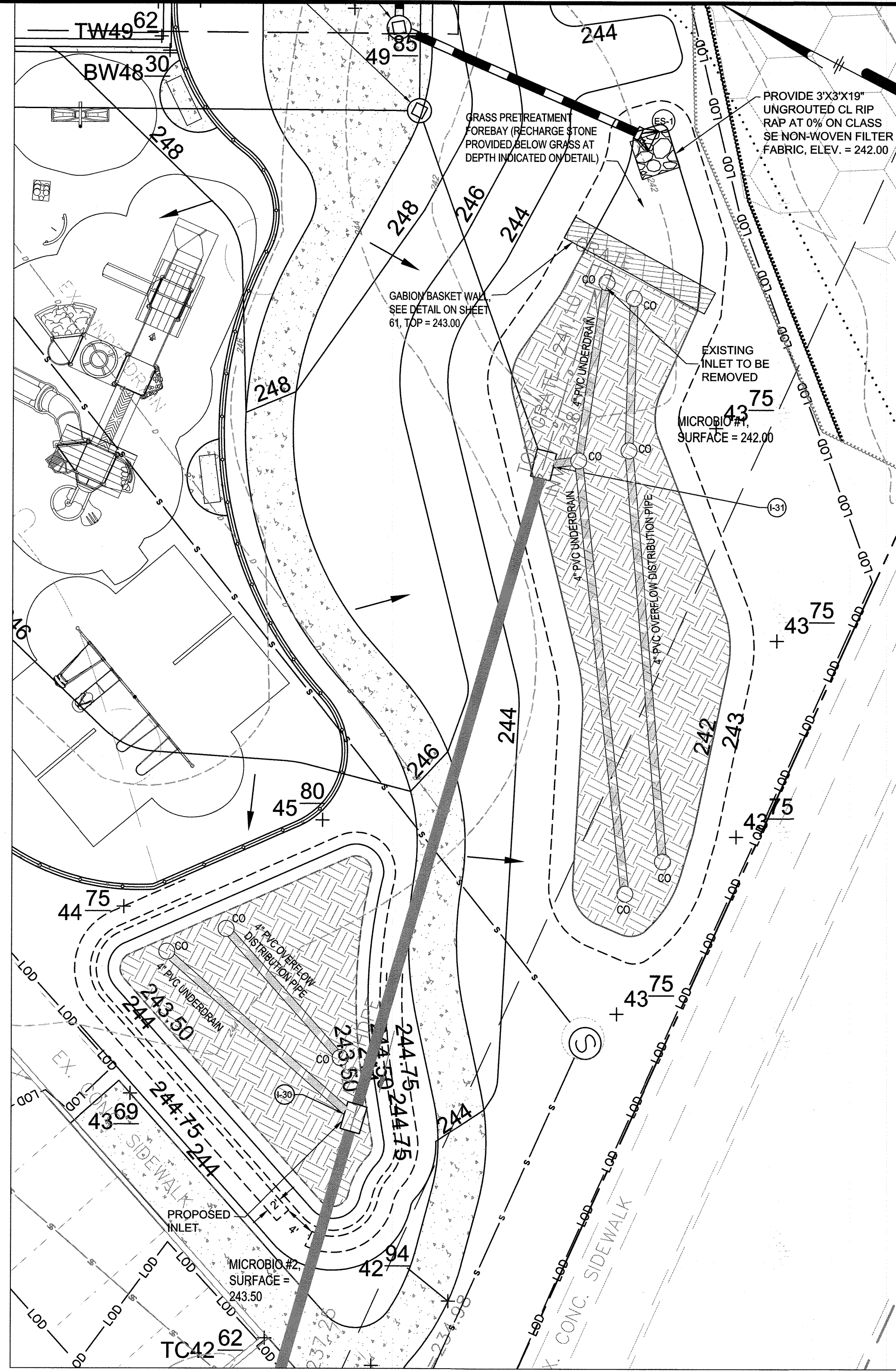
DESIGNED BY: PJS  
 DRAWN BY: ALC  
 PROJECT NO: RRRMX18003  
 DATE: APRIL 10, 2020  
 SCALE: 1" = 20'  
 DRAWING NO. 59 OF 69

**LEGEND**

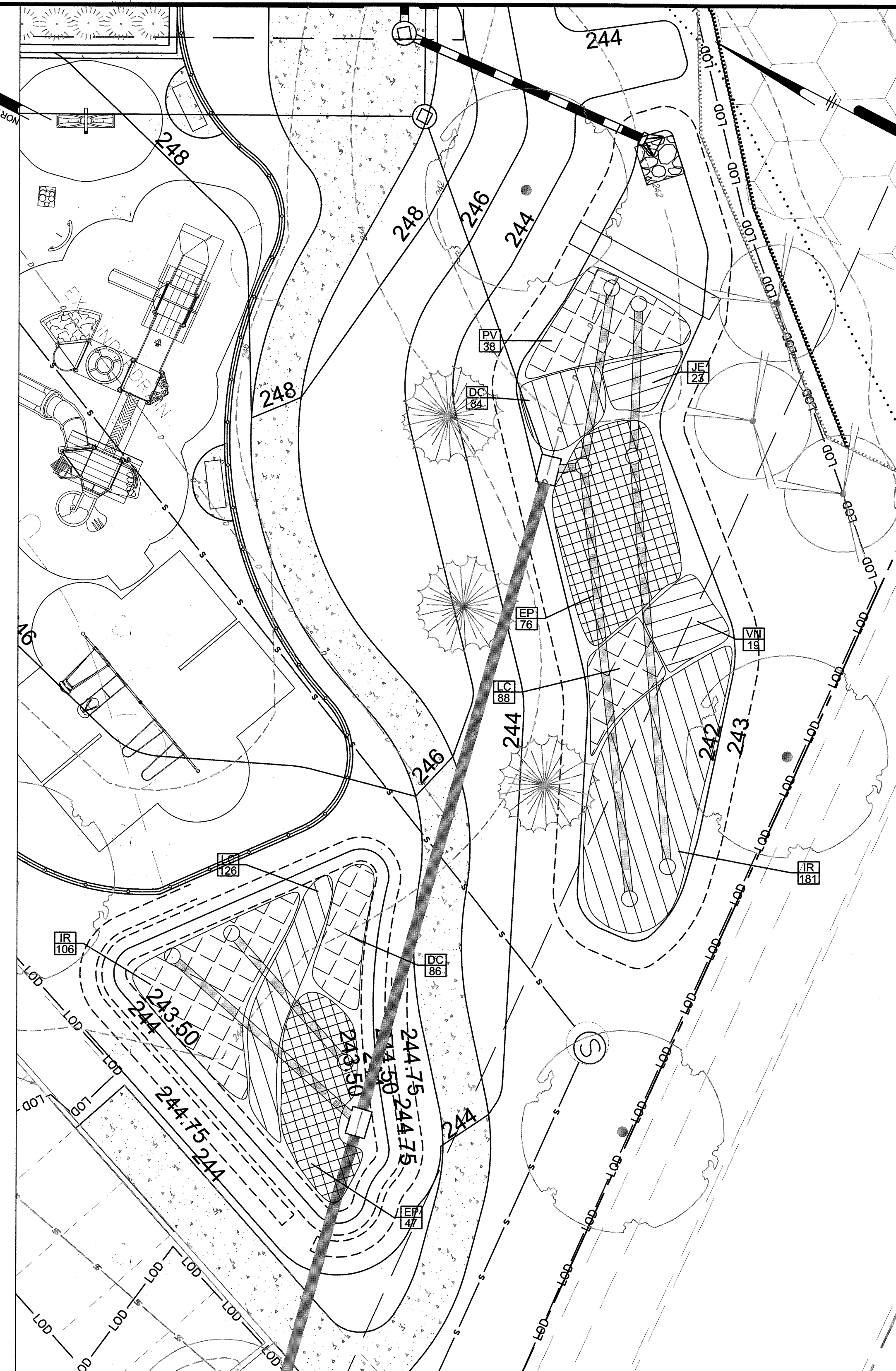
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EX. PROPERTY LINE AND RIGHT OF WAY
- EX. TREELINE
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING WATER
- EXISTING SEWER
- EXISTING STORM DRAIN
- PROPOSED TREELINE
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- LIMIT OF DISTURBANCE
- PROPOSED SEWER
- PROPOSED STORM DRAIN
- PROPOSED MICRO BIORETENTION
- SOIL BORING
- DRAINAGE AREA







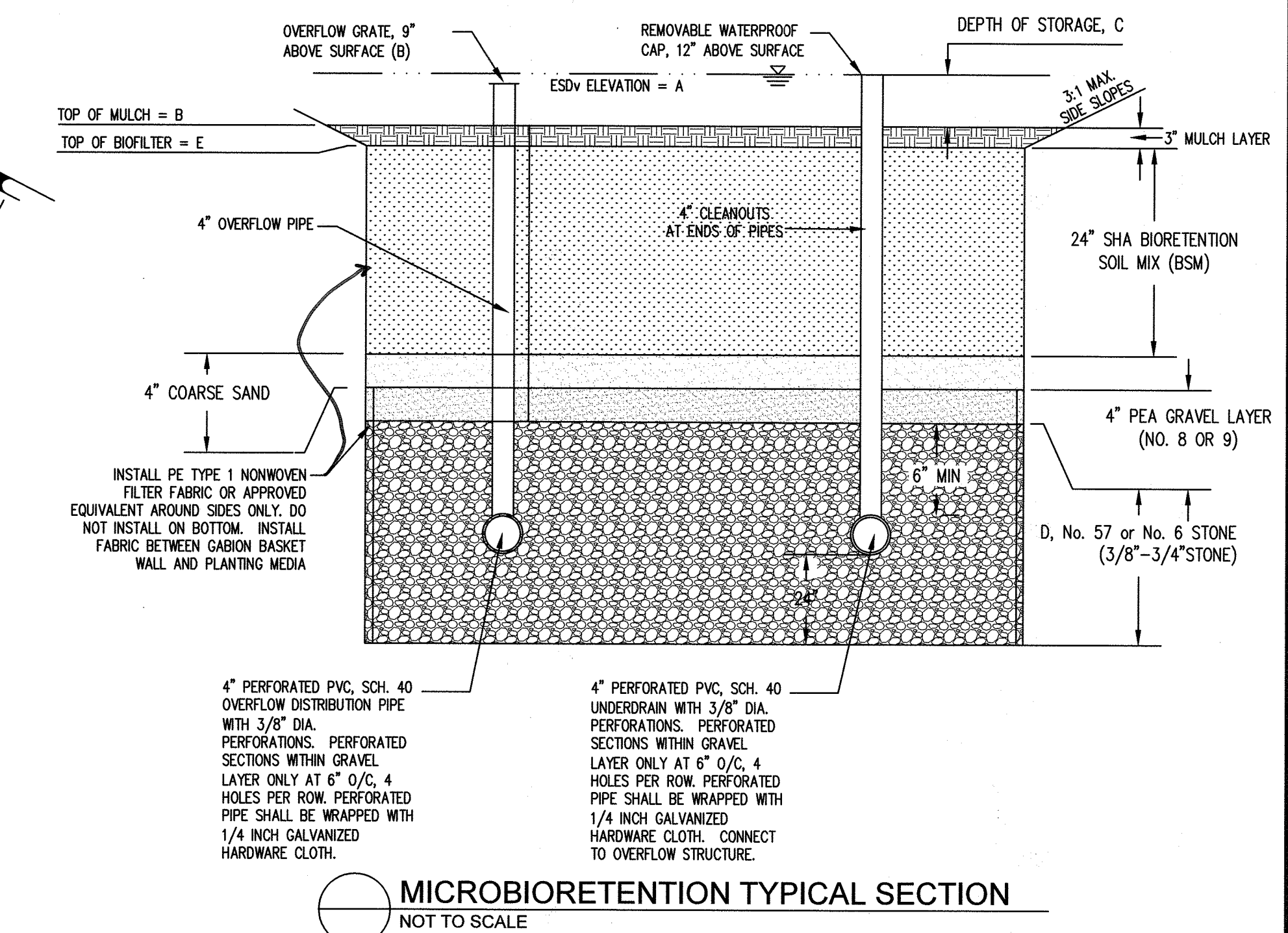
**MICRO-BIORETENTION #1 & #2  
DETAIL PLAN**  
SCALE: 1"=10'



**MICRO-BIORETENTION #1 & #2  
LANDSCAPE PLAN**  
SCALE: 1"=10'

MICRO-BIORETENTION #1 PLANT SCHEDULE					
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
DC	84	DESCHAMPSIA CESPITOSA TUFTED HAIR GRASS	1 GAL.	CONT.	12" ON CENTER
EP	76	EUPATORIUM PURPUREUM 'GATEWAY' GATEWAY JOE PYE WEEED	1 GAL.	CONT.	24" ON CENTER
IR	181	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 GAL.	CONT.	18" ON CENTER
JE	23	JUNCUS EFFUSUS SOFT RUSH	1 GAL.	CONT.	18" ON CENTER
LC	88	LOBELIA CARDINALIS CARDINAL FLOWER	1 GAL.	CONT.	12" ON CENTER
PV	38	PANICUM VIRGATUM 'NORTH WIND' NORTH WIND SWITCH GRASS	1 GAL.	CONT.	24" ON CENTER
VN	19	VERNONIA NOVEBORACENSIS NEW YORK IRONWEED	1 GAL.	CONT.	24" ON CENTER

MICRO-BIORETENTION #2 PLANT SCHEDULE					
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
DC	86	DESCHAMPSIA CESPITOSA TUFTED HAIR GRASS	1 GAL.	CONT.	12" ON CENTER
EP	47	EUPATORIUM PURPUREUM 'GATEWAY' GATEWAY JOE PYE WEEED	1 GAL.	CONT.	24" ON CENTER
IR	106	IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS	1 GAL.	CONT.	18" ON CENTER
LC	126	LOBELIA CARDINALIS CARDINAL FLOWER	1 GAL.	CONT.	12" ON CENTER



**MICROBIORETENTION TYPICAL SECTION**  
NOT TO SCALE

MICRO-BIORETENTION DESIGN DATA				
	#1	#1 AS-BUILT	#2	#2 AS-BUILT
ESDv ELEV. A	243.25		244.50	
ELEV B, TOP OF MULCH	242.25		243.50	
C, DEPTH OF STORAGE	12"		12"	
D, No. 57 or No. 6 STONE (3/8"-3/4" STONE)	2.83'		2.83'	
ELEV E, TOP OF BIOFILTER	242.00		243.25	
SURFACE AREA AT 'E' (SF)	1,360		769	
OVERFLOW STRUCTURE	YES		YES	
OVERFLOW DISTRIBUTION GRATE ELEVATION	243.25		244.50	
STORM DRAIN OVERFLOW ELEVATION	243.00		244.25	
OUTFLOW PIPE INVERT ELEV FROM STRUCTURE	238.32		237.62	
UNDERDRAIN INVERT ELEV AT CLEANOUT	238.50		239.75	
DEPTH OF STONE BELOW UNDERDRAIN	24"		24"	

**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE OF ENGINEER: *[Signature]* DATE: 6-17-20  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 SIGNATURE OF LAND DEVELOPMENT: *[Signature]* DATE: 6/22/20  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 SIGNATURE OF DIRECTOR: *[Signature]* DATE: 6/22/20  
 DIRECTOR

4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC
DATE	NO.	REVISION	BY

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

**OWNER**  
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**PROJECT**  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT N3940-404

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TAX MAP 47 GRID 22  
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**TITLE**  
ADDITIONAL SHEET  
**REVISED STORMWATER  
MANAGEMENT DETAILS**

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8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT NO: RRRMX18003  
DATE: APRIL 10, 2020  
SCALE: AS SHOWN  
DRAWING NO. 60 OF 69



**OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)**

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

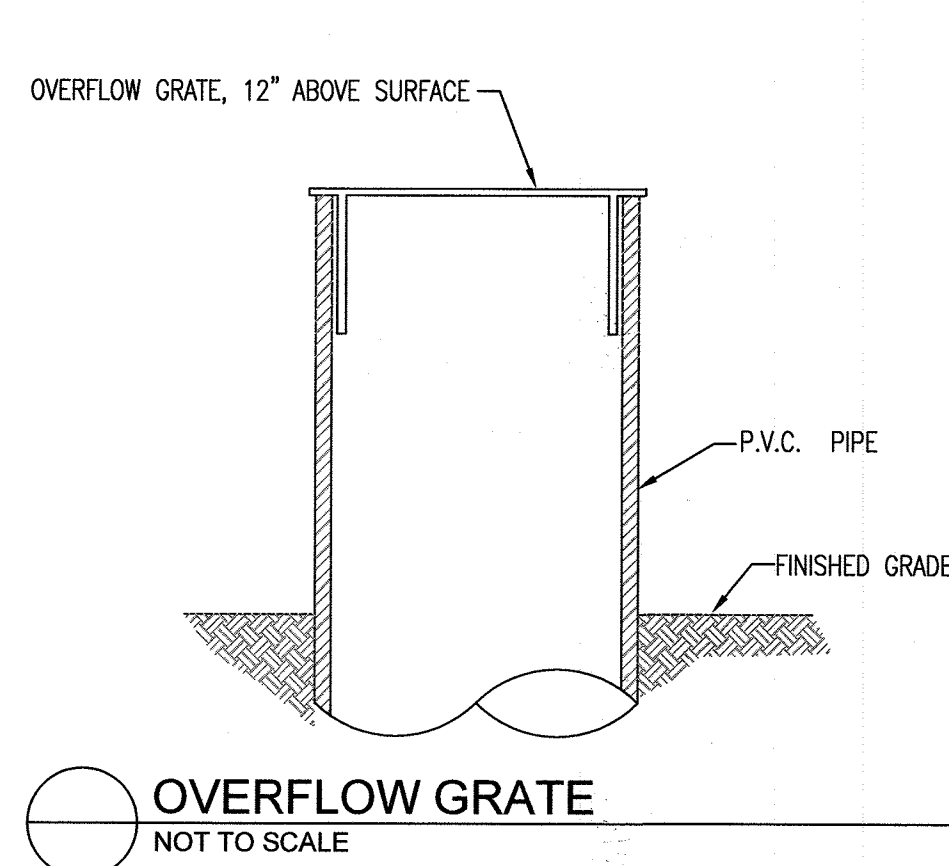
**MICRO-BIORETENTION SEQUENCE OF CONSTRUCTION**

- DO NOT BEGIN BIORETENTION INSTALLATION UNTIL SITE UPSTREAM OF MICRO-BIORETENTION IS STABILIZED AND FINE GRADING HAS BEEN COMPLETED.
- EXCAVATE MICRO-BIORETENTION. CONSTRUCTION SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA. CONCURRENT WITH EXCAVATION, INSTALL GABION BASKET WALL (2 DAYS)
- PLACE STONE AND UNDERDRAINS. (1 DAY)
- PLACE SAND LAYER IN LIFTS OF THREE INCHES. (0.5 DAY)
- PLACE PLANTING SOIL AND OBSERVATION WELLS. (1 DAY)
- PLACE MULCH. (0.5 DAY)
- INSTALL PLANT MATERIAL. (1 DAY)
- STABILIZE MICRO-BIORETENTION AREA. (0.5 DAY)

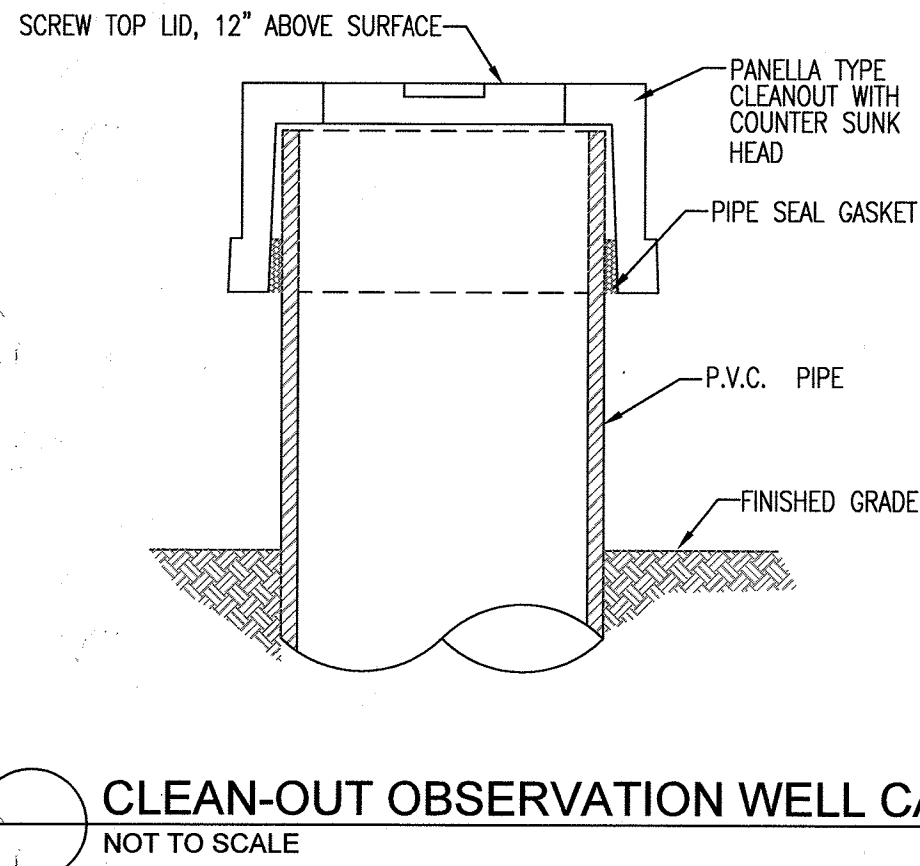
**SAND SPECIFICATIONS**

WASHED ASTM C33 FINE AGGREGATE CONCRETE SAND IS UTILIZED FOR STORMWATER MANAGEMENT APPLICATIONS. IN ADDITION TO THE ASTM C-33 SPECIFICATION, SAND MUST MEET ALL OF THE FOLLOWING CONDITIONS.

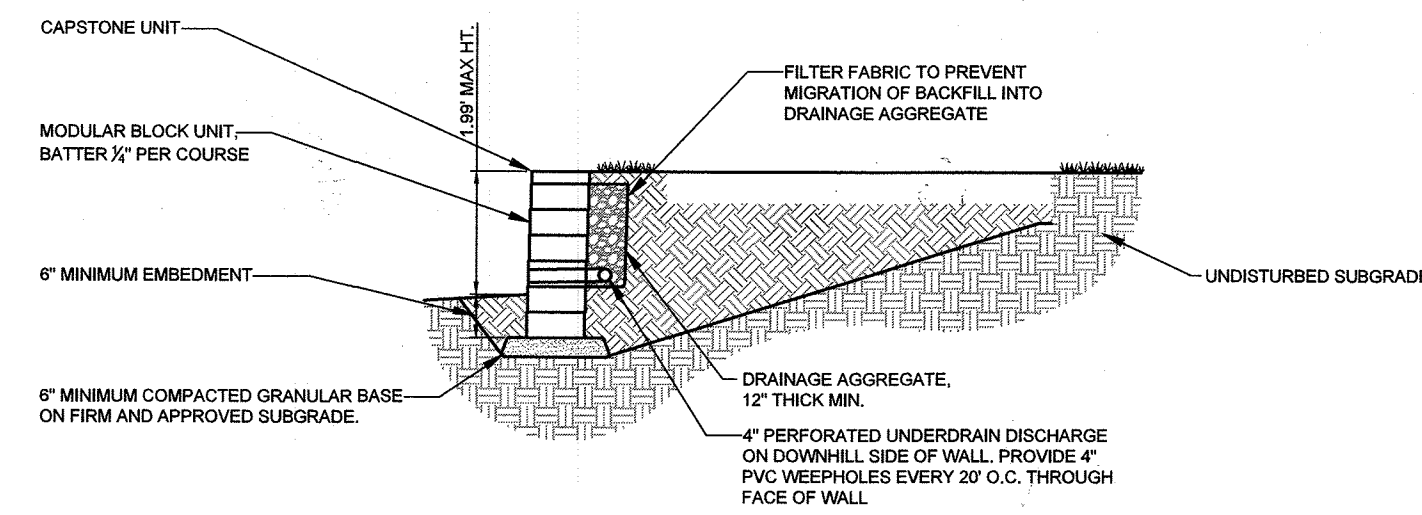
- SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM C-33 FINE AGGREGATE CONCRETE SAND. AASHTO M-6 GRADATION IS ALSO ACCEPTABLE.
- SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
- SAND MUST BE CLEAN, NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
- MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.



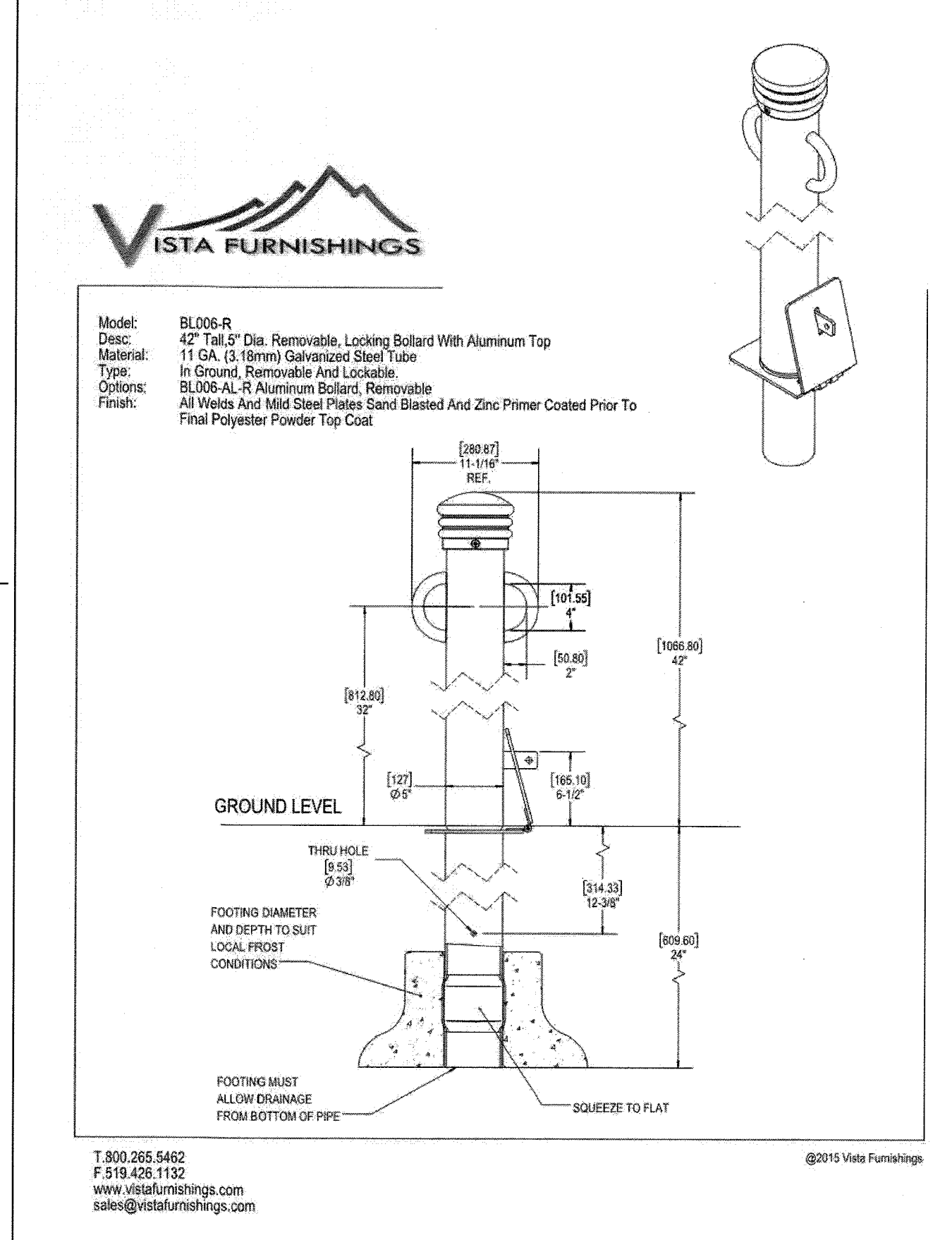
**OVERFLOW GRATE**  
NOT TO SCALE



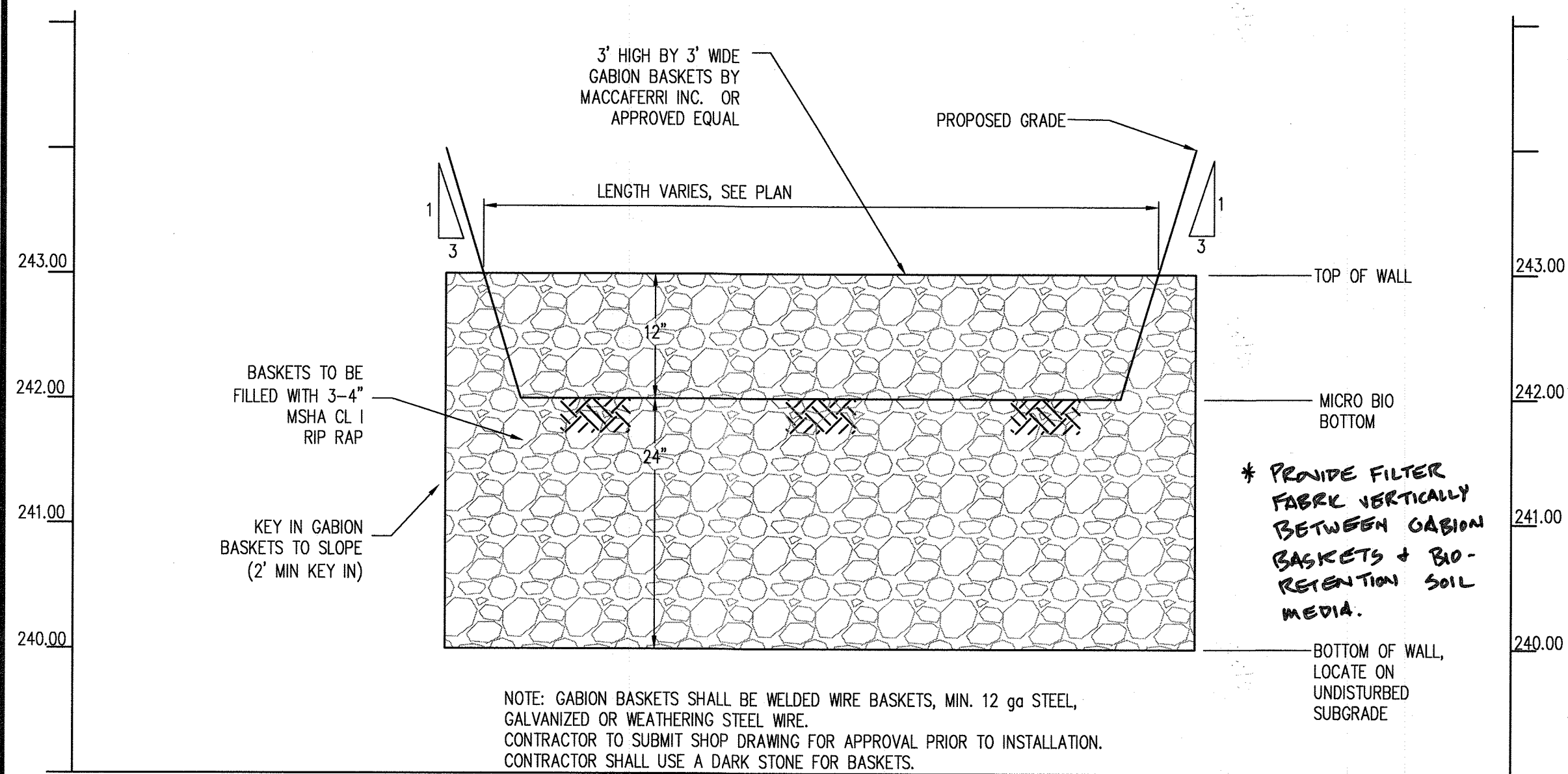
**CLEAN-OUT OBSERVATION WELL CAP**  
NOT TO SCALE



**SEGMENTAL BLOCK RETAINING WALL**  
NOT TO SCALE



**BOLLARD**  
NOT TO SCALE



**MICROBIO GABION WALL DETAIL**

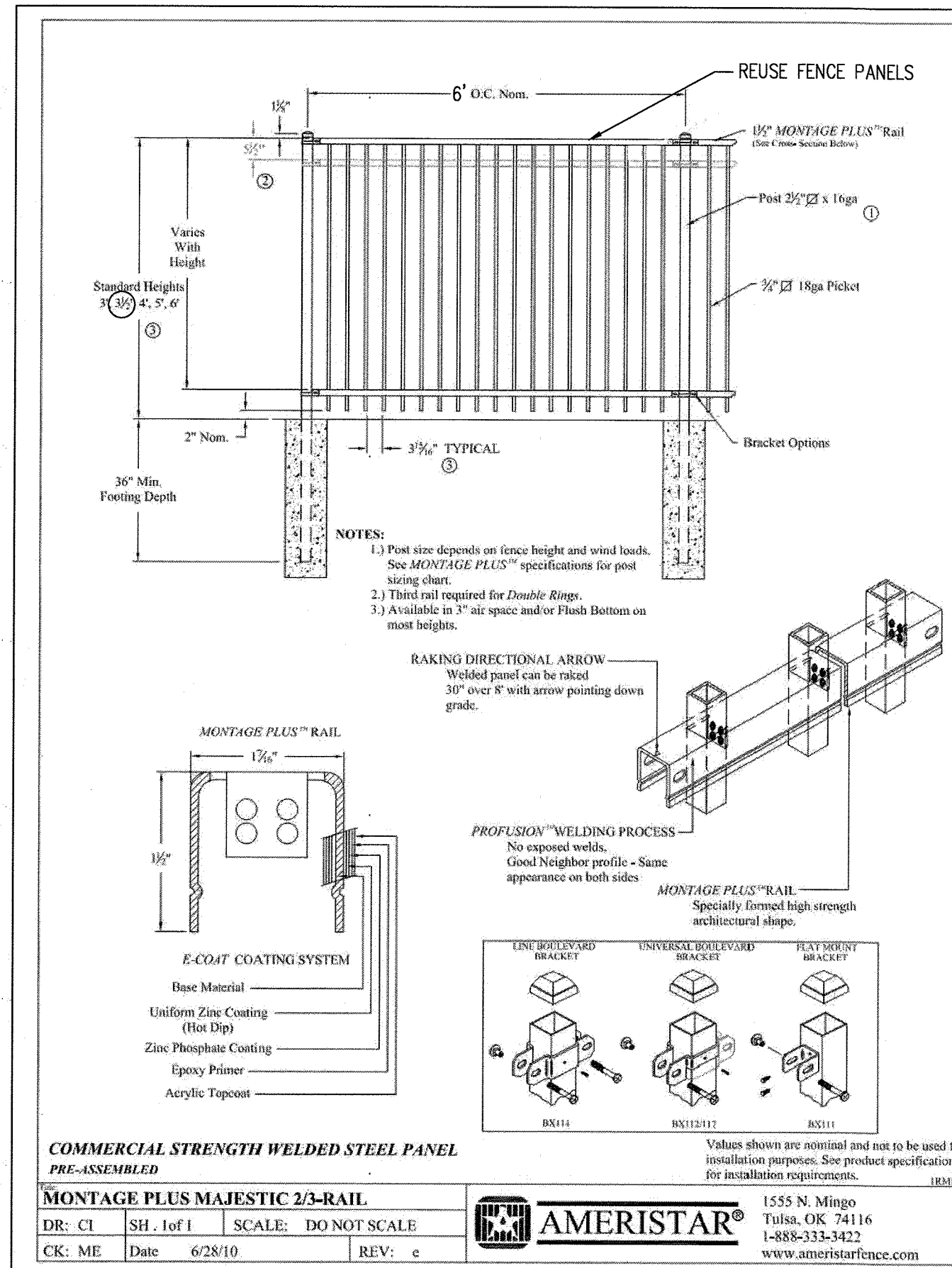
SCALE: HOR: 1"=10'  
VERT: 1"=1'

**MICROBIORETENTION SPECIFICATIONS**

- THE UNDERDRAIN PIPE MUST BE 4-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00% SLOPE. THREE INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6 INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 5 FT. INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE.
- 4" INCH CLEAN-OUTS SHOULD BE USED. CLEANOUTS FOR EACH PIPE SHOULD EXTEND 12 INCHES ABOVE THE TOP OF THE PLANTING MEDIA AND HAVE A REMOVABLE CAP. OVERFLOW PIPES SHALL HAVE A REMOVABLE RATE THAT FITS SNUGLY INSIDE THE PIPE.
- THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPES MUST MEET MSHA SIZE #57 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE, AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED ANYWHERE WITHIN THE FILTER MEDIA (STONE OR SAND).
- A MINIMUM 4-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE SOIL.

FILTER/PLANTING MEDIA. THE SAND MUST BE ASTM C33 FINE AGGREGATE CONCRETE SAND. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.

- A MINIMUM 4-INCH PEA GRAVEL LAYER SHALL BE PROVIDED BETWEEN THE SAND AND THE STONE.
- THE PLANTING MEDIA MIX SHALL MEET SHA BIORETENTION SOIL MIX STANDARDS. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: A HOMOGENEOUS MIXTURE COMPOSED OF 5 PARTS COARSE SAND, 3 PARTS BASE SOIL, AND 2 PARTS FINE BARK. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. A MINIMUM ORGANIC MATTER PERCENTAGE OF 5% SHALL BE PROVIDED. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
- THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED ACED HARDWOOD MULCH. THE MULCH SHOULD BE UNIFORMLY TO A DEPTH OF 3 INCHES. YEARLY REPLENSISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.



**ORNAMENTAL FENCE POSTS**  
NOT TO SCALE

**MONTAGE PLUS 3-RAIL SINGLE SWING GATES**

HEIGHT	OPENING	LEAF WIDTH	ITEM NUMBER	PRICE/FT. @11'	WEIGHT	STOCKING
3' HEIGHT	3.5'	40"	IWS@334-42	7	30 lbs	○
	4'	49.5"	IWS@334-48	9	36 lbs	○
	5'	58.75"	IWS@334-60	11	41 lbs	○
	6'	68"	IWS@334-72	13	47 lbs	○
	7'	76.75"	IWS@334-84	17	57 lbs	○
	8'	85.5"	IWS@334-96	19	62 lbs	○
	9'	105.5"	IWS@334-108	21	100 lbs	○
	10'	114.75"	IWS@334-120	23	123 lbs	○
	11'	133.5"	IWS@334-132	27	138 lbs	○
	12'	143"	IWS@334-144	29	153 lbs	○
	13'	171"	IWS@334-156	31	164 lbs	○
	14'	171"	IWS@334-168	35	178 lbs	○
3.5' HEIGHT	15'	180.25"	IWS@334-180	37	189 lbs	○
	16'	189.5"	IWS@334-192	39	202 lbs	○
	3.5'	40"	IWS@340-42	7	34 lbs	○
	4'	49.5"	IWS@340-48	9	40 lbs	○
	5'	58.75"	IWS@340-60	11	46 lbs	○
	6'	68"	IWS@340-72	13	47 lbs	○
	7'	76.75"	IWS@340-84	17	62 lbs	○
	8'	85.5"	IWS@340-96	19	64 lbs	○
	9'	105.5"	IWS@340-108	21	115 lbs	○
	10'	114.75"	IWS@340-120	23	133 lbs	○
	11'	133.5"	IWS@340-132	27	150 lbs	○
	12'	143"	IWS@340-144	29	167 lbs	○
13'	152.25"	IWS@340-156	31	179 lbs	○	
14'	171"	IWS@340-168	35	191 lbs	○	
15'	180.25"	IWS@340-180	37	204 lbs	○	
16'	189.5"	IWS@340-192	39	217 lbs	○	
4' HEIGHT	3.5'	40"	IWS@346-42	7	41 lbs	○
	4'	49.5"	IWS@346-48	9	44 lbs	○
	5'	58.75"	IWS@346-60	11	54 lbs	○
	6'	68"	IWS@346-72	13	63 lbs	○
	7'	76.75"	IWS@346-84	17	78 lbs	○
	8'	85.5"	IWS@346-96	19	82 lbs	○
9'	105.5"	IWS@346-108	21	130 lbs	○	
10'	114.75"	IWS@346-120	23	143 lbs	○	

ADDITIONAL 4' x 5' & 6' HEIGHTS CONTINUED ON NEXT PAGE

AMERISTAR ASSA ABLBY | TO PLACE YOUR ORDER CALL 888-333-3422 | VISIT AMERISTARFENCE.COM

**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE OF ENGINEER: [Signature] DATE: 6/17/20  
PE # [Blank]

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 6/22/20  
CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 6/22/20  
DIRECTOR: [Signature] DATE: 6/22/20

4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC
DATE	NO.	REVISION	BY

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

**PROJECT**  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT N3940-404

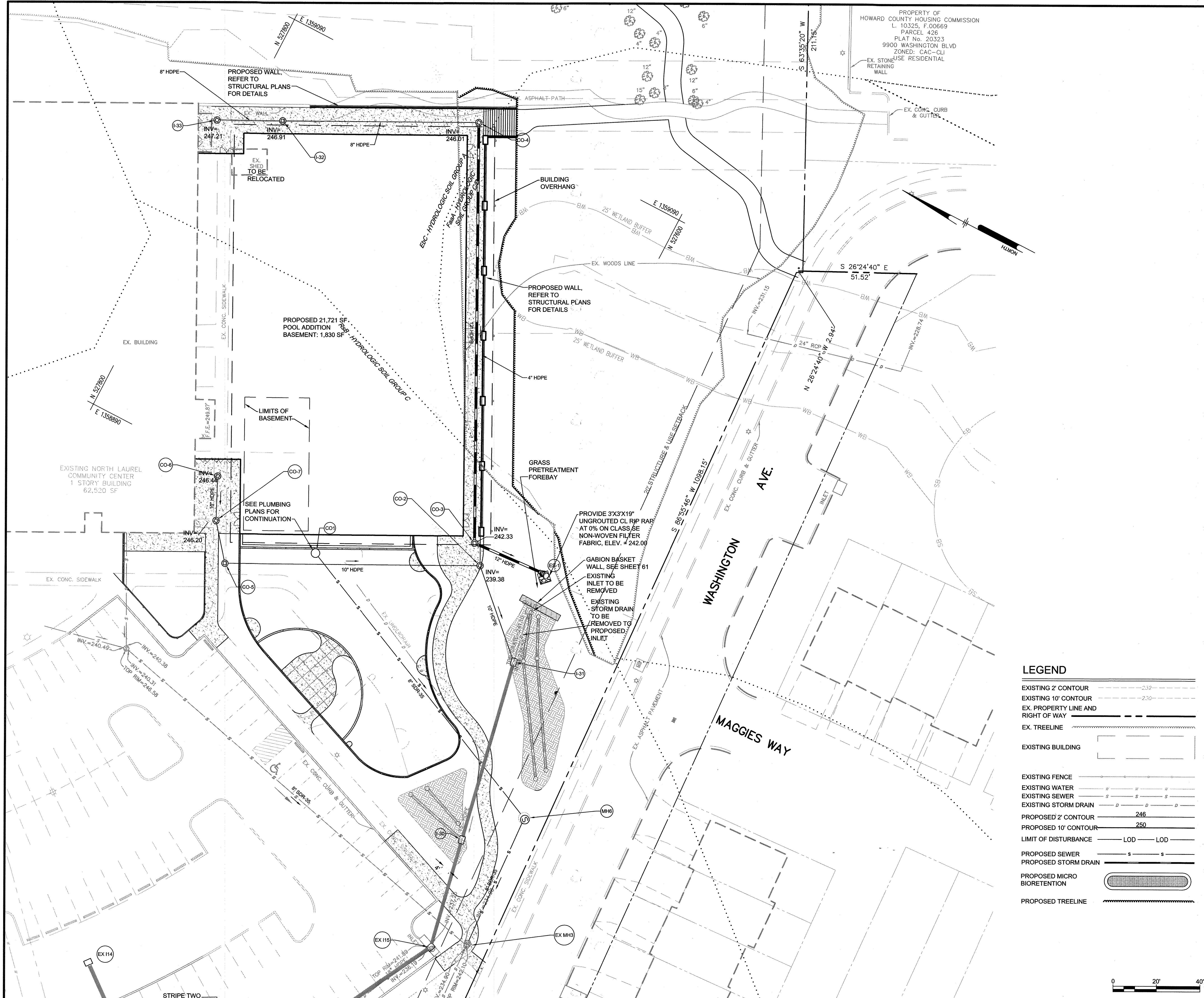
**AREA**  
TAX MAP 47 GRD 22  
PARCEL 1085 LOT A-1 ZONED R-SC  
9411 WHISKEY BOTTOM ROAD  
LAUREL, MD 20723  
HOWARD COUNTY, MARYLAND

**TITLE**  
ADDITIONAL SHEET  
REVISED STORMWATER  
MANAGEMENT AND SITE DETAILS

Pennoni Associates Inc.  
Engineers • Surveyors • Planners  
Landscape Architects  
8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT NO: RRRMM18003  
DATE: APRIL 10, 2020  
SCALE: AS SHOWN  
DRAWING NO. 61 OF 69





PROPERTY OF  
HOWARD COUNTY HOUSING COMMISSION  
L. 10325, F. 00669  
PARCEL 426  
PLAT No. 20323  
9900 WASHINGTON BLVD  
ZONED: CAC-CL  
USE RESIDENTIAL

PROPOSED 21,721 SF  
POOL ADDITION  
BASEMENT: 1,830 SF

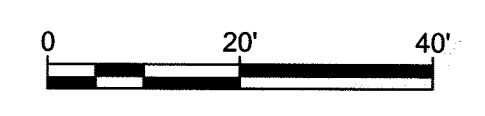
EXISTING NORTH LAUREL  
COMMUNITY CENTER  
1 STORY BUILDING  
62,520 SF

PROVIDE 3'X3'X19"  
UNGRADED CL RIP RAP  
AT 0% ON CLASS SE  
NON-WOVEN FILTER  
FABRIC, ELEV. # 242.08

GABION BASKET  
WALL, SEE SHEET 61  
EXISTING  
INLET TO BE  
REMOVED  
EXISTING  
STORM DRAIN  
TO BE  
REMOVED TO  
PROPOSED  
INLET

**LEGEND**

- EXISTING 2' CONTOUR 232
- EXISTING 10' CONTOUR 230
- EX. PROPERTY LINE AND  
RIGHT OF WAY
- EX. TREELINE
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING WATER
- EXISTING SEWER
- EXISTING STORM DRAIN
- PROPOSED 2' CONTOUR 246
- PROPOSED 10' CONTOUR 250
- LIMIT OF DISTURBANCE LOD LOD
- PROPOSED SEWER
- PROPOSED STORM DRAIN
- PROPOSED MICRO  
BIORETENTION
- PROPOSED TREELINE



**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF  
THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS  
"AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE OF ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
PRINT NAME BELOW SIGNATURE \_\_\_\_\_  
PE # \_\_\_\_\_  
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. 21224, EXPIRATION DATE: 11/20/21.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 \_\_\_\_\_ 6.17.20  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION R DATE  
 \_\_\_\_\_ 6/22/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT VS DATE  
 \_\_\_\_\_ 6/22/20  
 DIRECTOR DATE

DATE	NO.	REVISION	BY
4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT N3940-404

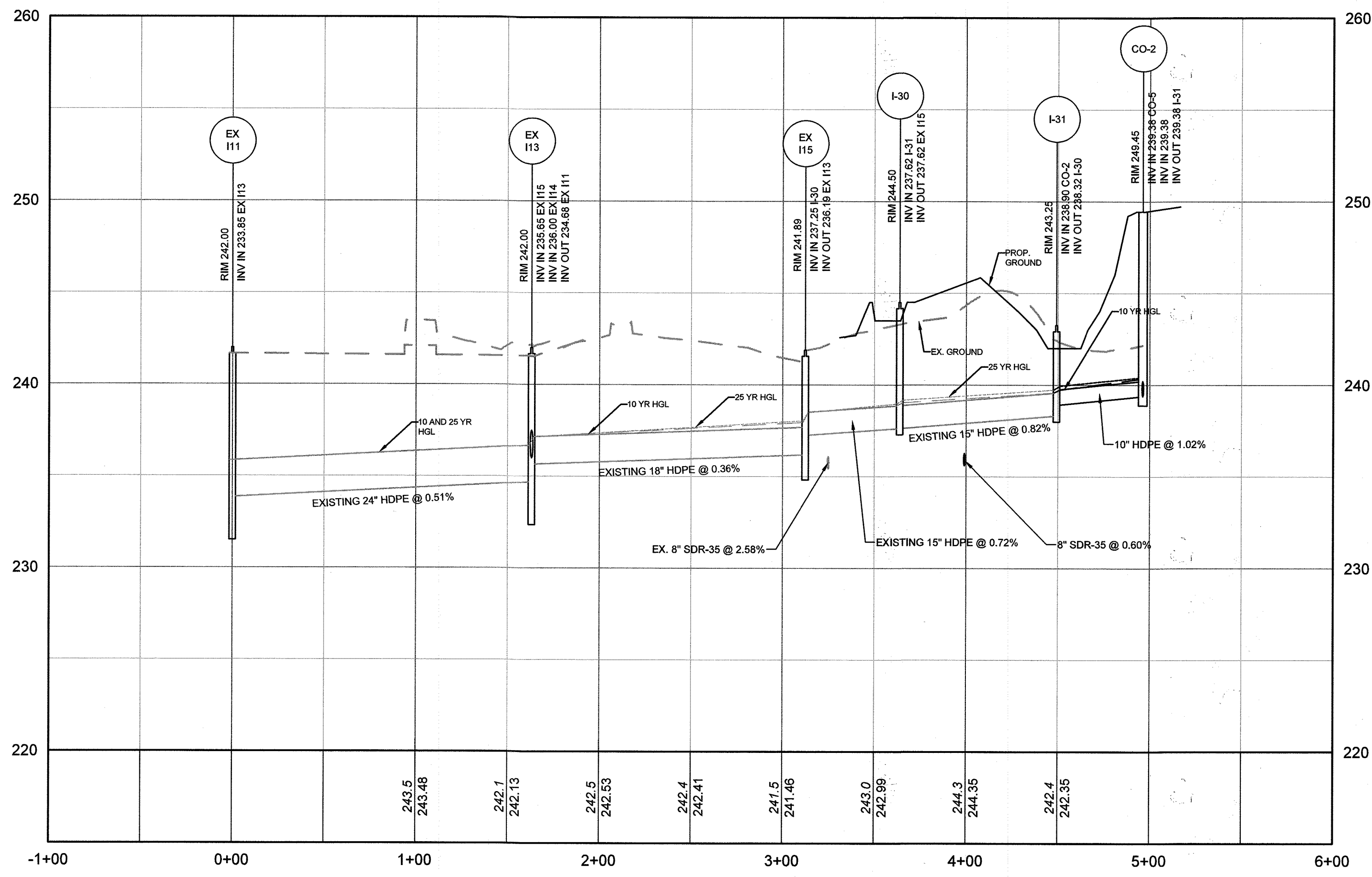
AREA  
TAX MAP 47 GRID 22  
PARCEL 1065 LOT A-1 ZONED R-SC  
9411 WHISKEY BOTTOM ROAD  
LAUREL, MD 20723  
HOWARD COUNTY, MARYLAND

TITLE  
**ADDITIONAL SHEET  
REVISED UTILITY PLAN**

Pennoni Associates Inc.  
Engineers • Surveyors • Planners  
Landscape Architects  
8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

SEAL  
  
DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT NO: RRRMX18003  
DATE: APRIL 10, 2020  
SCALE: 1" = 20'  
DRAWING NO. 62 OF 69





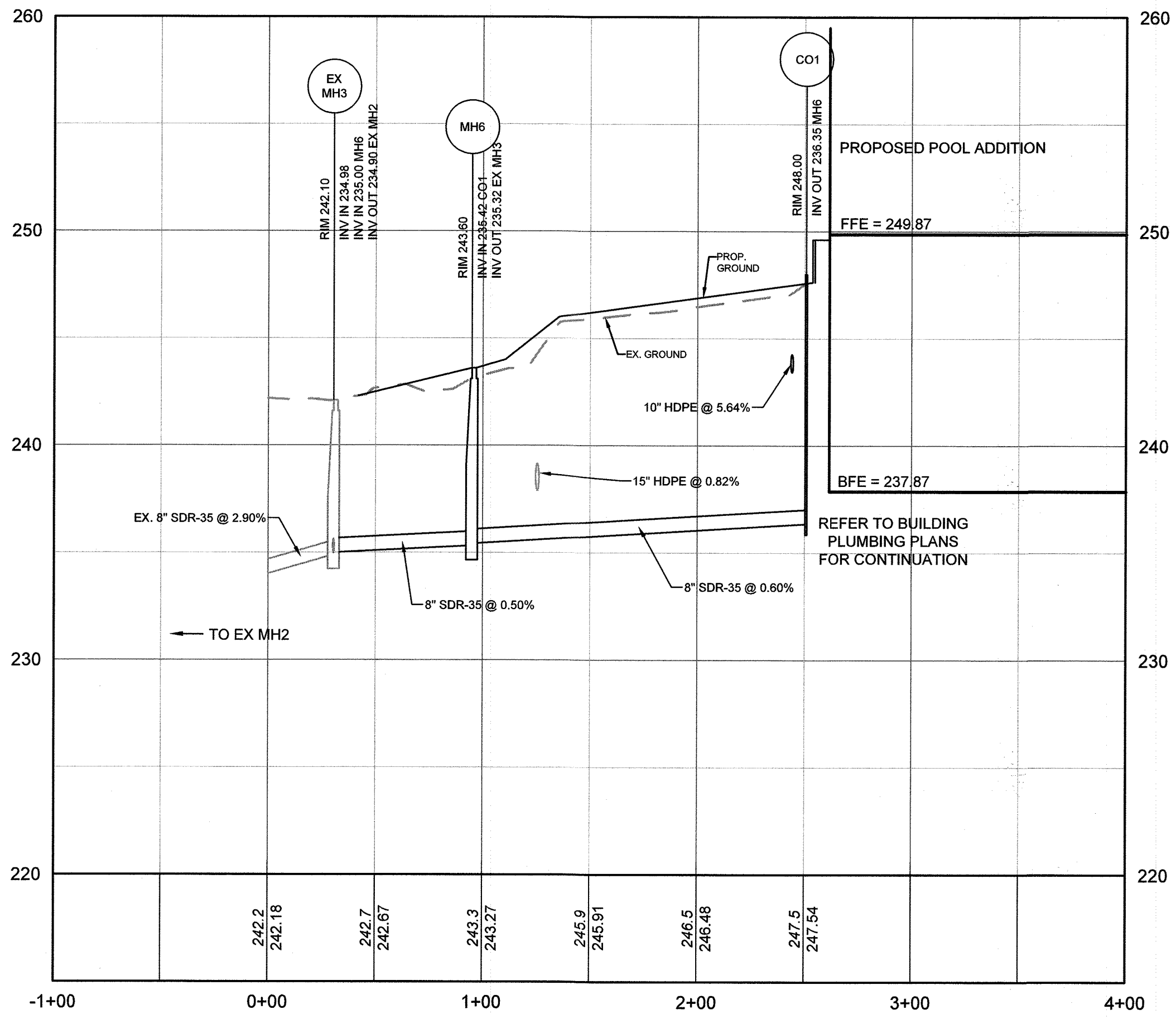
PRIVATE STORM DRAIN  
HORIZONTAL SCALE: 1" = 50'  
VERTICAL SCALE: 1" = 5'

ID	INV OUT	AS-BUILT INV OUT	INV IN	AS-BUILT INV IN	DIAMETER (in)	MATERIAL	LENGTH (ft)	SLOPE
TO CO-2	241.32		239.38		4"	HDPE	194'	1.00%
CO-2 TO I-31	239.38		238.90		10"	HDPE	47'	1.02%
CO-3 TO ES-1	242.33		242.00		12"	HDPE	33'	1.01%
CO-4 TO CO-3	246.01		242.33		12"	HDPE	194'	1.90%
CO-5 TO CO-2	246.01		239.38		10"	HDPE	118'	5.64%
CO-6 TO CO-7	246.87		246.28		10"	HDPE	21'	2.86%
CO-7 TO CO-5	246.28		246.01		10"	HDPE	20'	1.36%
EX 111 TO EX 113	233.85		234.68		24"	HDPE	163'	0.51%
EX 113 TO EX 115	235.65		236.19		18"	HDPE	149'	0.36%
EX 114 TO EX 113	237.00		236.00		18"	HDPE	85'	1.18%
I-30 TO EX 115	237.62		237.25		15"	HDPE	51'	0.72%
I-31 TO I-30	238.32		237.62		15"	HDPE	85'	0.82%
I-32 TO CO-4	246.91		246.01		8"	HDPE	90'	1.00%
I-33 TO I-32	247.21		246.91		8"	HDPE	30'	1.00%

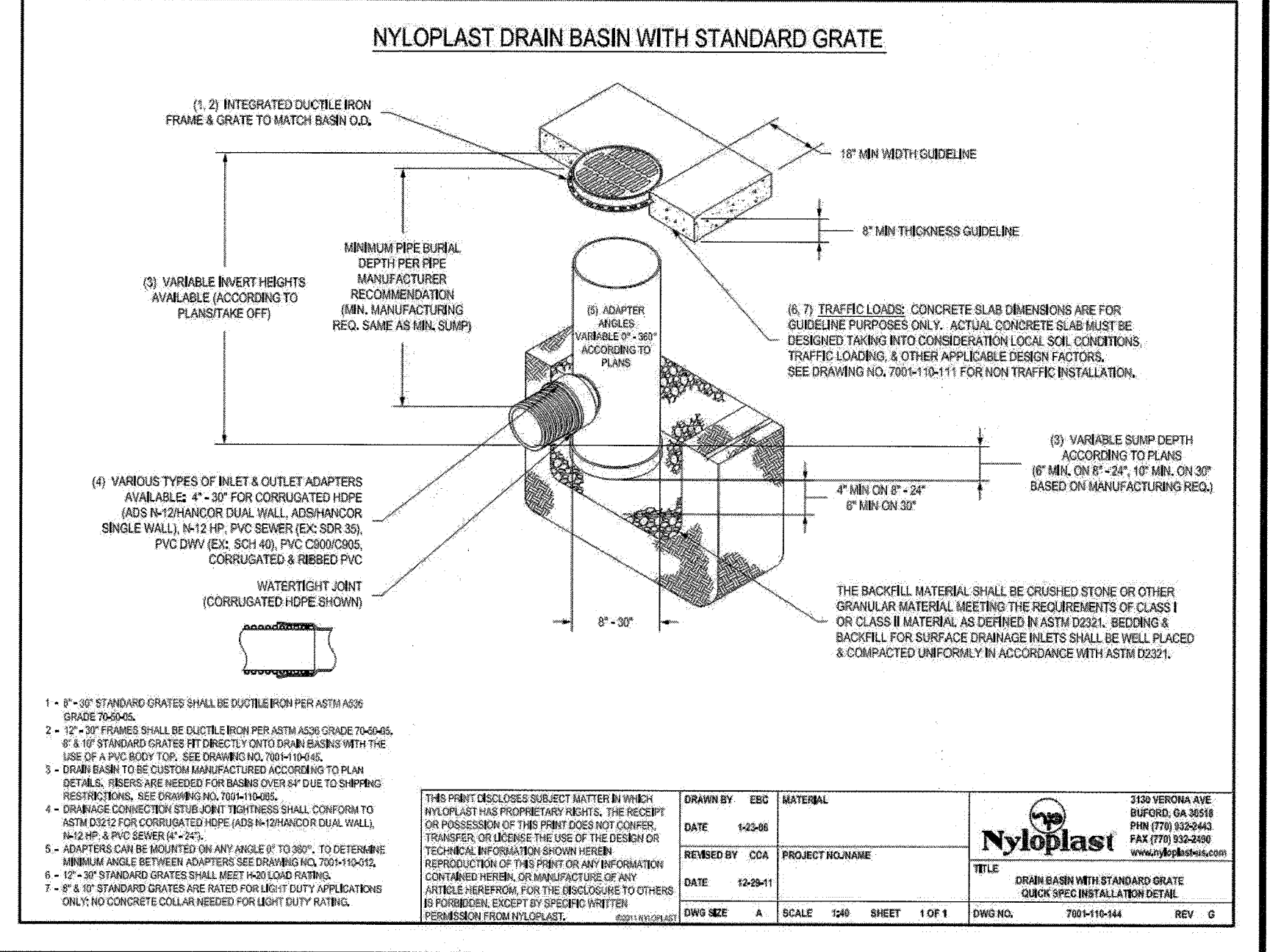
ID	RIM ELEVATION	INV IN (FROM)	AS-BUILT INV IN	INV OUT (TO)	AS-BUILT INV OUT	TYPE	NORTHING	EASTING
CO-2	249.45	239.38 (10" HDPE @ 5.64%) CO-5 239.38 (4" HDPE @ 1.00%)		239.38 (10" HDPE) I-31		CLEANOUT	527607.4671	1358906.4352
CO-3	248.85	242.33 (12" HDPE @ 1.90%) CO-4		242.33 (12" HDPE) ES-1		CLEANOUT	527614.5764	1358914.5093
CO-4	246.81	246.01 (8" HDPE @ 1.00%) I-32		246.01 (12" HDPE) CO-3		CLEANOUT	527702.6141	1359087.2012
CO-5	248.41	246.01 (10" HDPE @ 1.36%) CO-7		246.01 (10" HDPE) CO-2		CLEANOUT	527712.2824	1358853.0008
CO-6	249.77			246.87 (10" HDPE) CO-7		8" NYLOPLAST DRAIN BASIN	527733.8483	1358887.0776
CO-7	249.67	246.28 (10" HDPE @ 2.86%) CO-6		246.28 (10" HDPE) CO-5		8" NYLOPLAST DRAIN BASIN	527725.0212	1358868.5258
ES-1	243.12	242.00 (12" HDPE @ 1.01%) CO-3				15 IN FES	527582.0963	1358916.6626
EX 111	242.00	233.85 (24" HDPE @ 0.51%) EX 113					527741.2103	1358503.3283
EX 113	242.00	235.65 (18" HDPE @ 0.36%) EX 115 236.00 (18" HDPE @ 1.18%) EX 114		234.68 (24" HDPE) EX 111			527616.5742	1358908.4662
EX 114	241.00			237.00 (18" HDPE) EX 113			527682.9378	1358960.8448
EX 115	241.89	237.25 (15" HDPE @ 0.72%) I-30		236.19 (18" HDPE) EX 113			527546.2149	1358740.1584
I-30	244.50	237.62 (15" HDPE @ 0.82%) I-31		237.62 (15" HDPE) EX 115		24" NYLOPLAST DRAIN BASIN	527556.3187	1358790.5081
I-31	243.25	238.90 (10" HDPE @ 1.02%) CO-2		238.32 (15" HDPE) I-30		24" NYLOPLAST DRAIN BASIN	527573.1266	1358874.2663
I-32	249.54	246.91 (8" HDPE @ 1.00%) I-33		246.91 (8" HDPE) CO-4		8" NYLOPLAST DRAIN BASIN	527783.1614	1359046.1385
I-33	249.67			247.21 (8" HDPE) I-32		8" NYLOPLAST DRAIN BASIN	527810.0924	1359032.4092

ID	RIM ELEVATION	INV IN (FROM)	AS-BUILT INV IN	INV OUT (TO)	AS-BUILT INV OUT	TYPE	NORTHING	EASTING
CO1	248.00			236.35 (8" SDR-35) MH6		CLEANOUT (0')	527677.4887	1358876.5076
EX MH2	240.17	229.87 (8" SDR-35 @ 2.90%) EX MH3				48" MH (4')	527522.9523	1358575.0783
EX MH3	242.10	234.98 (8" SDR-35 @ 2.58%) 235.00 (8" SDR-35 @ 0.50%) MH6		234.90 (8" SDR-35) EX MH2		(4')	527531.8062	1358748.3383
MH6	243.60	235.42 (8" SDR-35 @ 0.60%) CO1		235.32 (8" SDR-35) EX MH3		48" MH (4')	527535.4253	1358812.6612

ID	INV OUT	AS-BUILT INV OUT	INV IN	AS-BUILT INV IN	DIAMETER (in)	MATERIAL	LENGTH (ft)	SLOPE
CO1 TO MH6	236.35		235.42		8"	SDR-35	156'	0.60%
EX MH2 TO EX MH3	229.87		234.90		8"	SDR-35	173'	2.90%
EX MH3 TO	234.98		240.31		8"	SDR-35	207'	2.58%
MH6 TO EX MH3	235.32		235.00		8"	SDR-35	64'	0.50%



POOL SANITARY SEWER  
HORIZONTAL SCALE: 1" = 50'  
VERTICAL SCALE: 1" = 5'



**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE OF ENGINEER: \_\_\_\_\_ DATE: \_\_\_\_\_  
PRINT NAME: [Signature]  
PE # \_\_\_\_\_

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. 21278, EXPIRATION DATE: 11/10/21.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: \_\_\_\_\_ DATE: 6/17/20  
CHIEF, DIVISION OF LAND DEVELOPMENT: \_\_\_\_\_ DATE: 6/22/2020  
DIRECTOR: \_\_\_\_\_ DATE: 6/22/2020

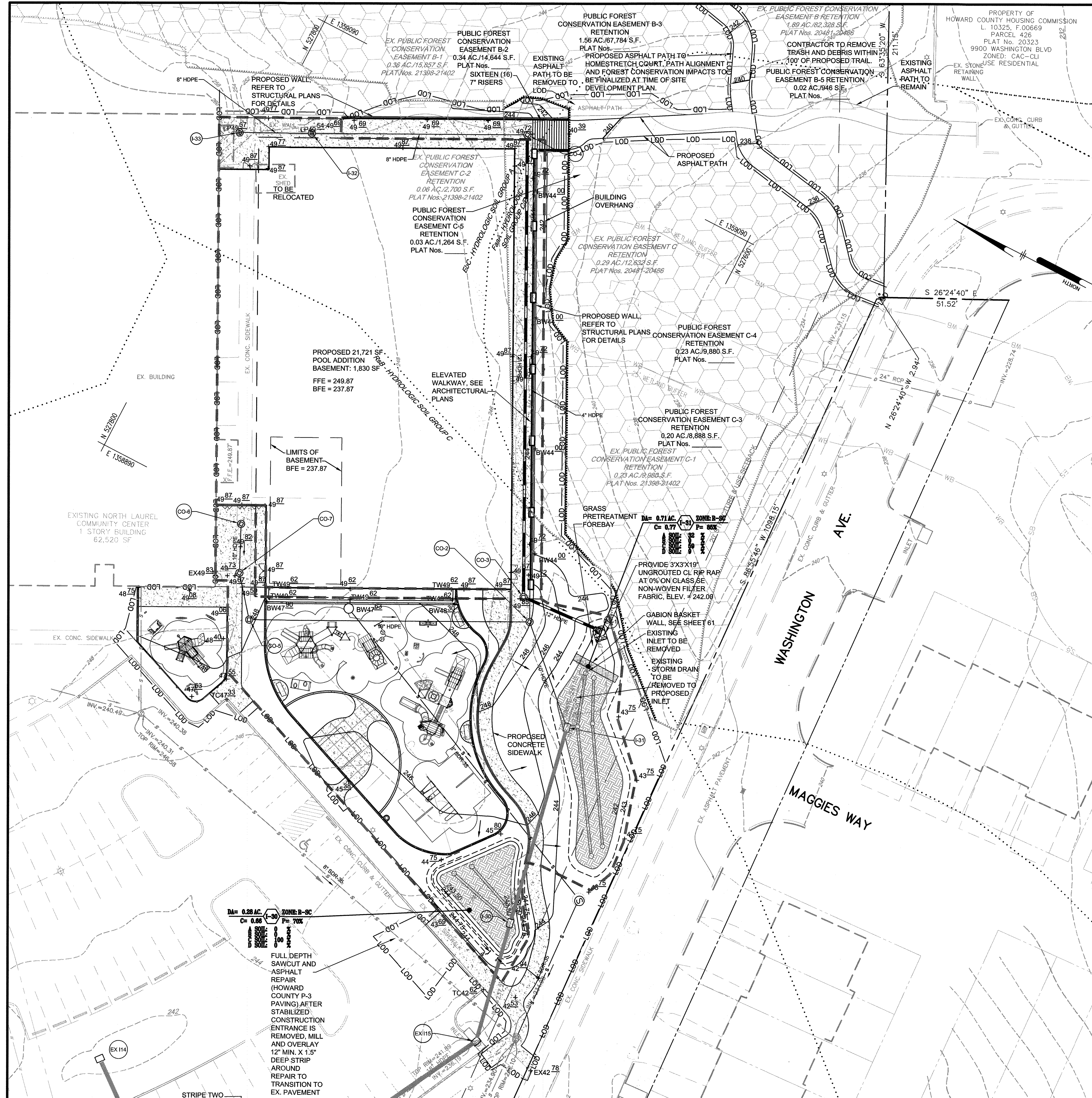
4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC
DATE	NO.	REVISION	BY
DEVELOPER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD COLUMBIA, MD 21045 PHONE: 410-313-2414			
OWNER HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD COLUMBIA, MD 21045 PHONE: 410-313-2414			
PROJECT NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT N3940-404			
AREA TAX MAP 47 GRID 22 PARCEL 1085 LOT A-1 ZONED R-SC 9411 WHISKEY BOTTOM ROAD LAUREL, MD 20723 HOWARD COUNTY, MARYLAND			

TITLE: ADDITIONAL SHEET  
REVISED UTILITY PROFILES

Pennoni Associates Inc.  
Engineers • Surveyors • Planners  
Landscape Architects  
8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT NO: RRRMM18003  
DATE: APRIL 10, 2020  
SCALE: AS SHOWN  
DRAWING NO. 63 OF 69





**LEGEND**

EXISTING 2' CONTOUR	---
EXISTING 10' CONTOUR	---
EX. PROPERTY LINE AND RIGHT OF WAY	---
EX. TREELINE	---
EXISTING BUILDING	[Symbol]
EXISTING FENCE	---
EXISTING WATER	---
EXISTING SEWER	---
EXISTING STORM DRAIN	---
PROPOSED 2' CONTOUR	---
PROPOSED 10' CONTOUR	---
LIMIT OF DISTURBANCE	---
PROPOSED SEWER	---
PROPOSED STORM DRAIN	---
PROPOSED MICRO BIORETENTION	[Symbol]
PROPOSED TREELINE	---
STORM DRAIN DRAINAGE AREA	---

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 6/17/20  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 6/22/20  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 6/22/20  
 DIRECTOR DATE

4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC
DATE	NO.	REVISION	BY

DEVELOPER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD  
 COLUMBIA, MD 21045  
 PHONE: 410-313-2414

OWNER  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF ENGINEERING  
 9250 BENDIX ROAD  
 COLUMBIA, MD 21045  
 PHONE: 410-313-2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
 CAPITAL PROJECT N3940-404

AREA  
 TAX MAP 47 GRID 22  
 PARCEL 106S LOT A-1 ZONED R-SC  
 9411 WHISKEY BOTTOM ROAD  
 LAUREL, MD 20723  
 HOWARD COUNTY, MARYLAND

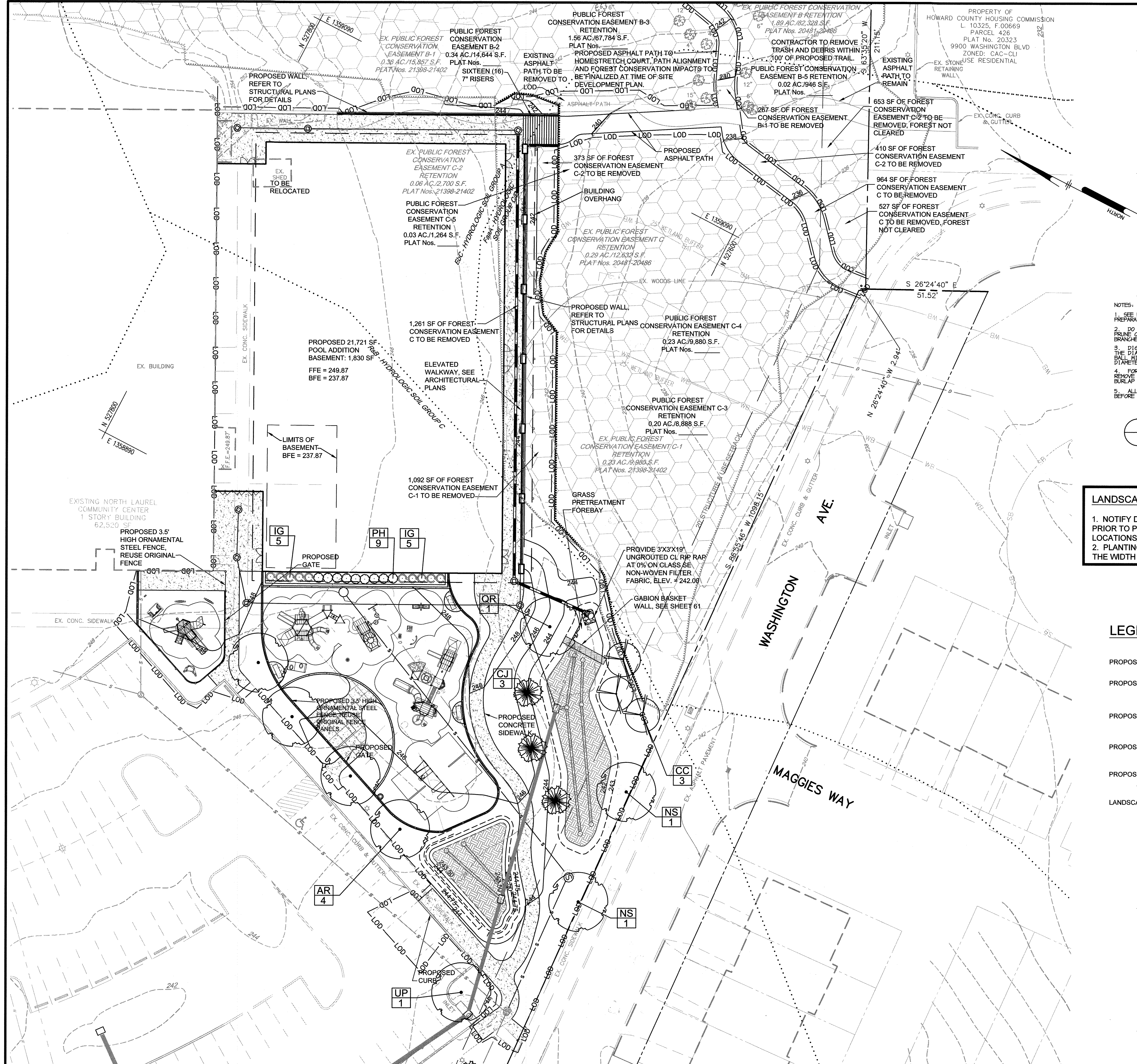
TITLE  
**ADDITIONAL SHEET**  
**REVISED STORM DRAIN**  
**DRAINAGE AREA MAP**

Pennoni Associates Inc.  
 Engineers • Surveyors • Planners  
 Landscape Architects

8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

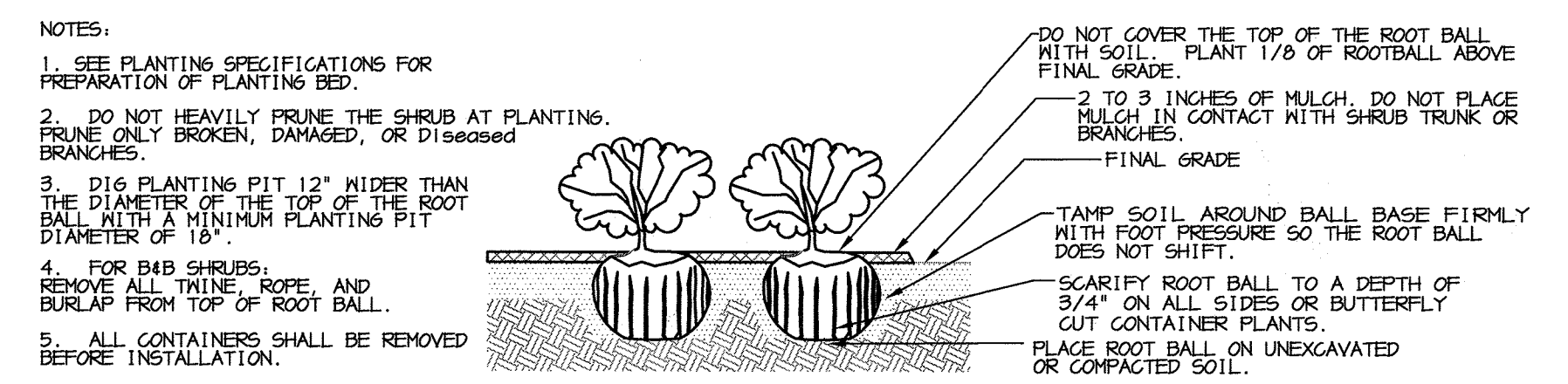
	DESIGNED BY: PJS
	DRAWN BY: ALC
	PROJECT NO: RRRMMX18003
	DATE: APRIL 10, 2020
	SCALE: 1" = 20'
	DRAWING NO: 64 OF 69





PLANT SCHEDULE					
SYMBOL	QTY.	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
<b>SHADE TREES</b>					
AR	4	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE	2.5-3" CAL.	B&B	AS SHOWN
NS	2	NYSSA SYLVATICA 'RED RAGE' RED RAGE BLACK GUM	2.5-3" CAL.	B&B	AS SHOWN
QR	1	QUERCUS RUBRA NORTHERN RED OAK	2.5-3" CAL.	B&B	AS SHOWN
UP	1	ULMUS PARVIFOLIA 'EMER I' ATHENA LACEBARK ELM	2.5-3" CAL.	B&B	AS SHOWN
<b>EVERGREEN TREES</b>					
CJ	3	CRYPTOMERIA JAPONICA 'YOSHINO' YOSHINO JAPANESE CEDAR	6-8' HT.	B&B	AS SHOWN
<b>FLOWERING TREES</b>					
CC	3	CERCIS CANADENSIS EASTERN REDBUD	6-8' HT.	CONT.	AS SHOWN
<b>SHRUBS</b>					
IG	10	NANDINA DOMESTICA 'GULF STREAM' GULF STREAM NANDINA	15-18" HT.	CONT.	SEE NOTE 1
PH	9	PANICUM VIRGATUM 'HEAVY METAL' HEAVY METAL SWITCH GRASS	12-15" HT.	CONT.	AS SHOWN

NOTE:  
1. PLANTS MUST BE NON-FRUITING.



SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS  
NOT TO SCALE

**LANDSCAPE NOTES:**

1. NOTIFY DEPARTMENT OF RECREATION AND PARKS PRIOR TO PLANTING FOR CONFIRMATION OF PLANTING LOCATIONS.
2. PLANTING PITS FOR CRYPTOMERIA TO BE DUG TWICE THE WIDTH OF THE ROOT BALL.

LEGEND	
PROPOSED TREE LINE	
PROPOSED SHADE TREE	
PROPOSED EVERGREEN TREE	
PROPOSED SHRUBS	
PROPOSED GROUNDCOVER	
LANDSCAPE SYMBOL KEY	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 6/17/20  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 6/22/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 6/22/2020  
DIRECTOR DATE

DATE	NO.	REVISION	BY
4/10/20	4	ADDED NEW SHEET FOR POOL ADDITION	ALC

DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT N3940-404

AREA  
TAX MAP 47 GRID 22  
PARCEL 1085 LOT A-1 ZONED R-SC  
9411 WHISKEY BOTTOM ROAD  
LAUREL, MD 20723  
HOWARD COUNTY, MARYLAND

TITLE  
**ADDITIONAL SHEET  
REVISED LANDSCAPE PLAN**

Pennoni Associates Inc.  
Engineers • Surveyors • Planners  
Landscape Architects

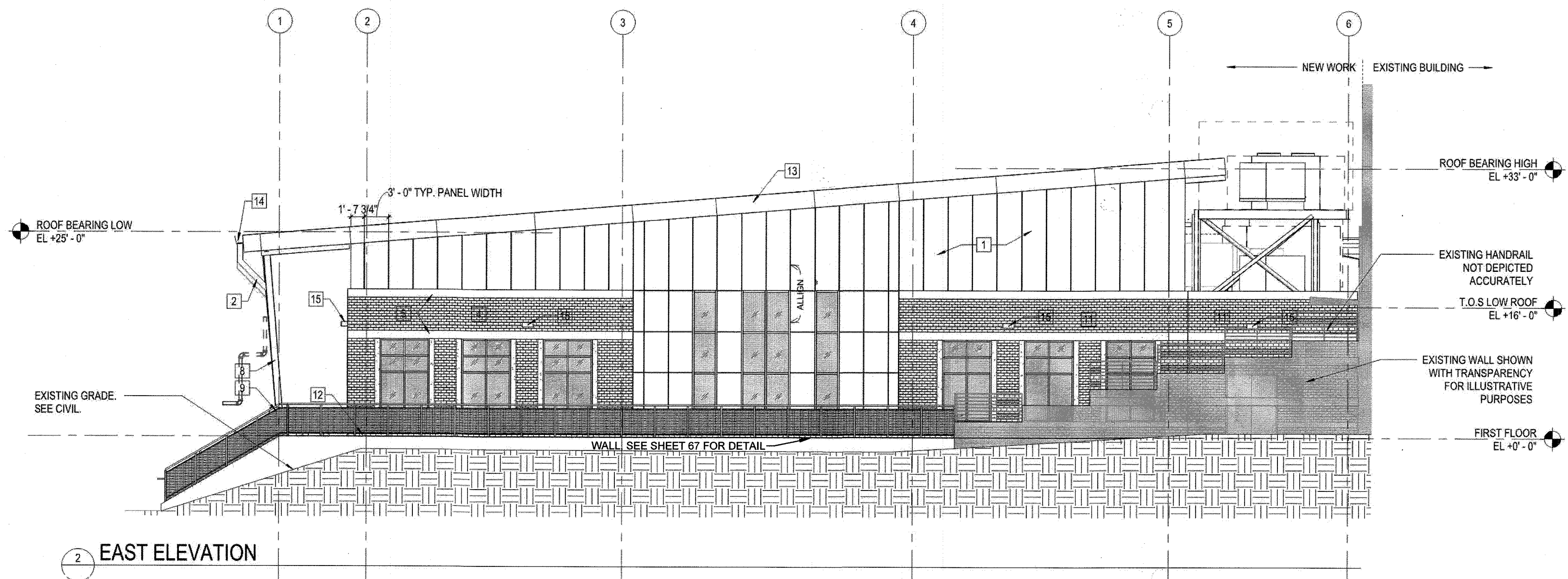
8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT NO: RMMX18003  
DATE: APRIL 10, 2020  
SCALE: 1" = 20'  
DRAWING NO. 65 OF 69

SEAL  
4-10-20  
*[Seal]*  
PETER J. STONE #3068



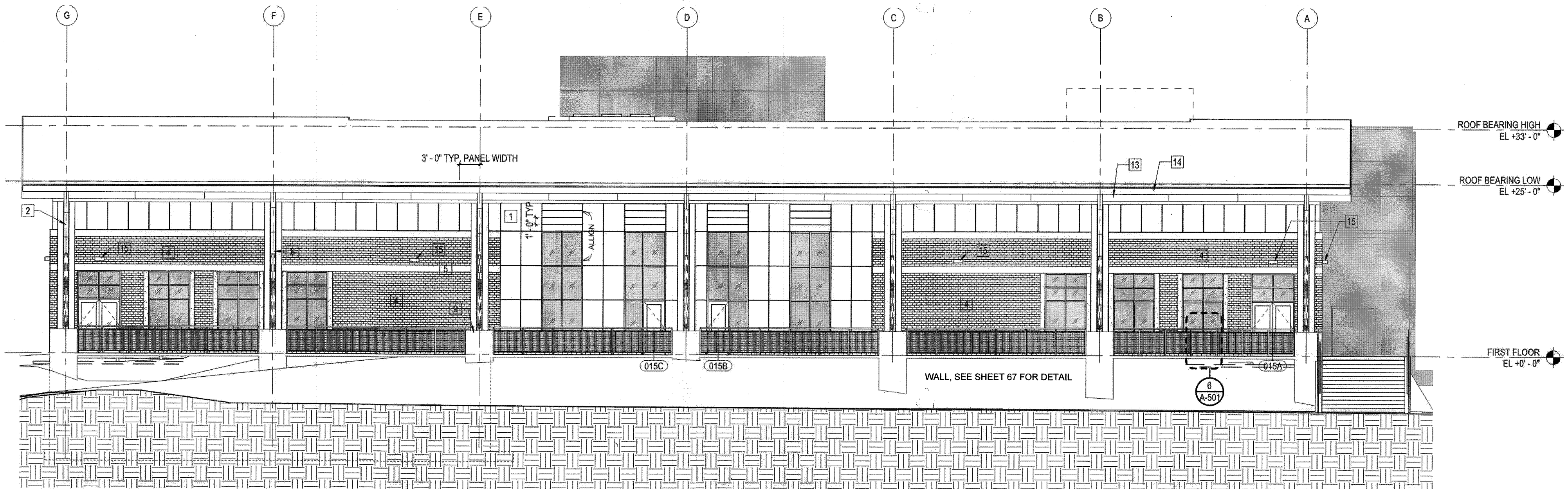




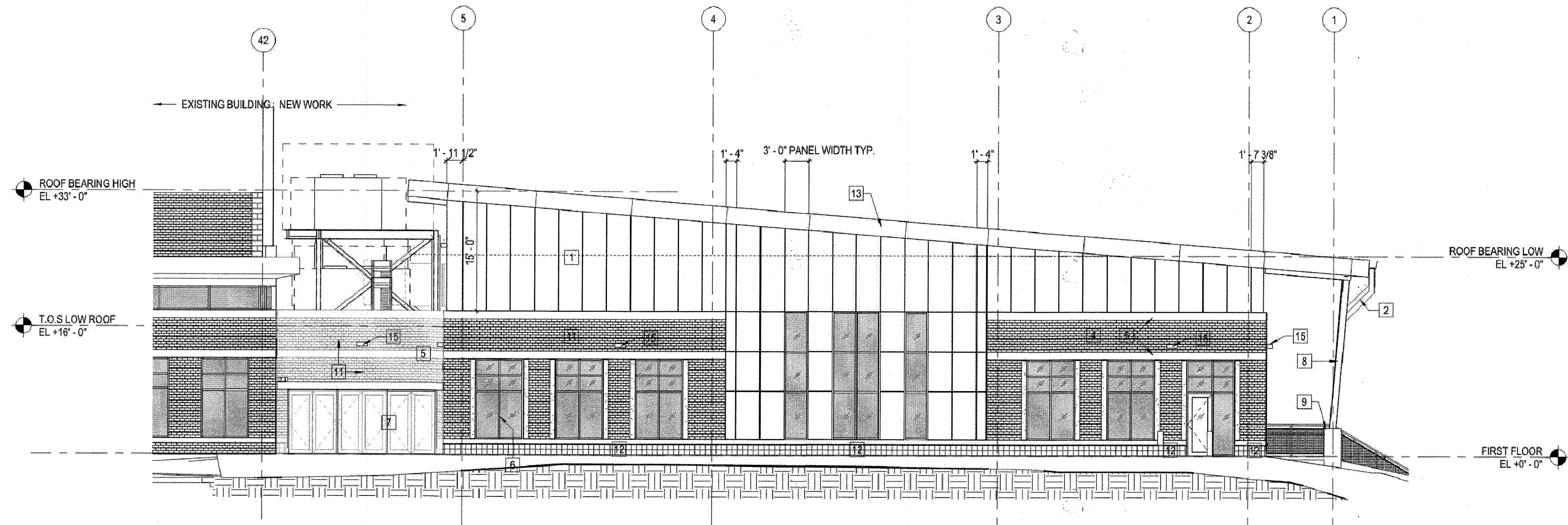
**ELEVATION KEYNOTES**

- 1 INSULATED METAL WALL PANEL
- 2 DOWN SPOUT, TYPICAL
- 3 METAL SOFFIT PANEL. SEE SPEC 074293
- 4 BRICK TYPE 2, CAROLINA CERAMICS BRICK COMPANY. TOPAZ SMOOTH - UTILITY 3 5/8" X 3 5/8" X 11 5/8"
- 5 CAST STONE, TYPICAL
- 6 GLAZED ALUMINUM STOREFRONT
- 7 NOT USED
- 8 STEEL COLUMN, TYPICAL
- 9 CONCRETE PIER, TYPICAL
- 10 NOT USED
- 11 BRICK TYPE 3, CAROLINA CERAMICS BRICK COMPANY. EMPIRE IVORY SMOOTH - UTILITY 3 5/8" X 3 5/8" X 11 5/8"
- 12 BRICK TYPE 5, ENDICOTT CLAY PRODUCTS - MANGANESE IRONSPOT SMOOTH MODULAR 3 5/8" X 7 5/8" X 7 5/8"
- 13 METAL FASCIA PANEL, SEE SPEC 074293
- 14 GUTTER
- 15 EXTERIOR LIGHT. SEE ELECTRICAL

**2 EAST ELEVATION**



**1 SOUTH ELEVATION**

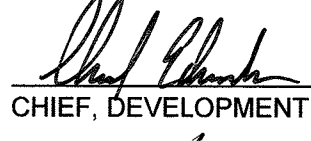


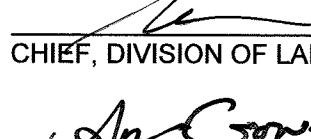
**1 WEST ELEVATION**

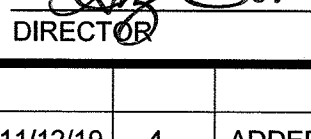
**ELEVATION KEYNOTES**

- 1 INSULATED METAL WALL PANEL
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- 4 BRICK TYPE 2, CAROLINA CERAMICS BRICK COMPANY. TOPAZ SMOOTH - UTILITY 3 5/8" X 3 5/8" X 11 5/8"
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- 13 METAL FASCIA PANEL, SEE SPEC 074293
- 14 GUTTER
- 15 EXTERIOR LIGHT. SEE ELECTRICAL

APPROVED: DEPARTMENT OF PLANNING AND ZONING


6-17-20  
DATE


6/22/2020  
DATE


6/22/2020  
DATE

DATE	NO.	REVISION	BY
11/12/19	4	ADDED NEW SHEET FOR POOL ADDITION	ALC


DEVELOPER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

OWNER  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

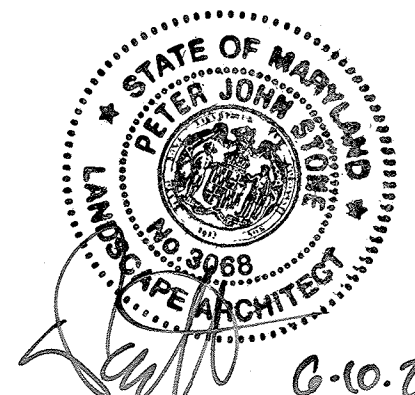
PROJECT  
**NORTH LAUREL COMMUNITY CENTER**  
CAPITAL PROJECT N3940-404

AREA  
TAX MAP 47 GRID 22  
PARCEL 1065 LOT A-1 ZONED R-SC  
9411 WHISKEY BOTTOM ROAD  
LAUREL, MD 20723  
HOWARD COUNTY, MARYLAND

TITLE  
**ADDITIONAL SHEET  
POOL BUILDING  
ELEVATIONS**

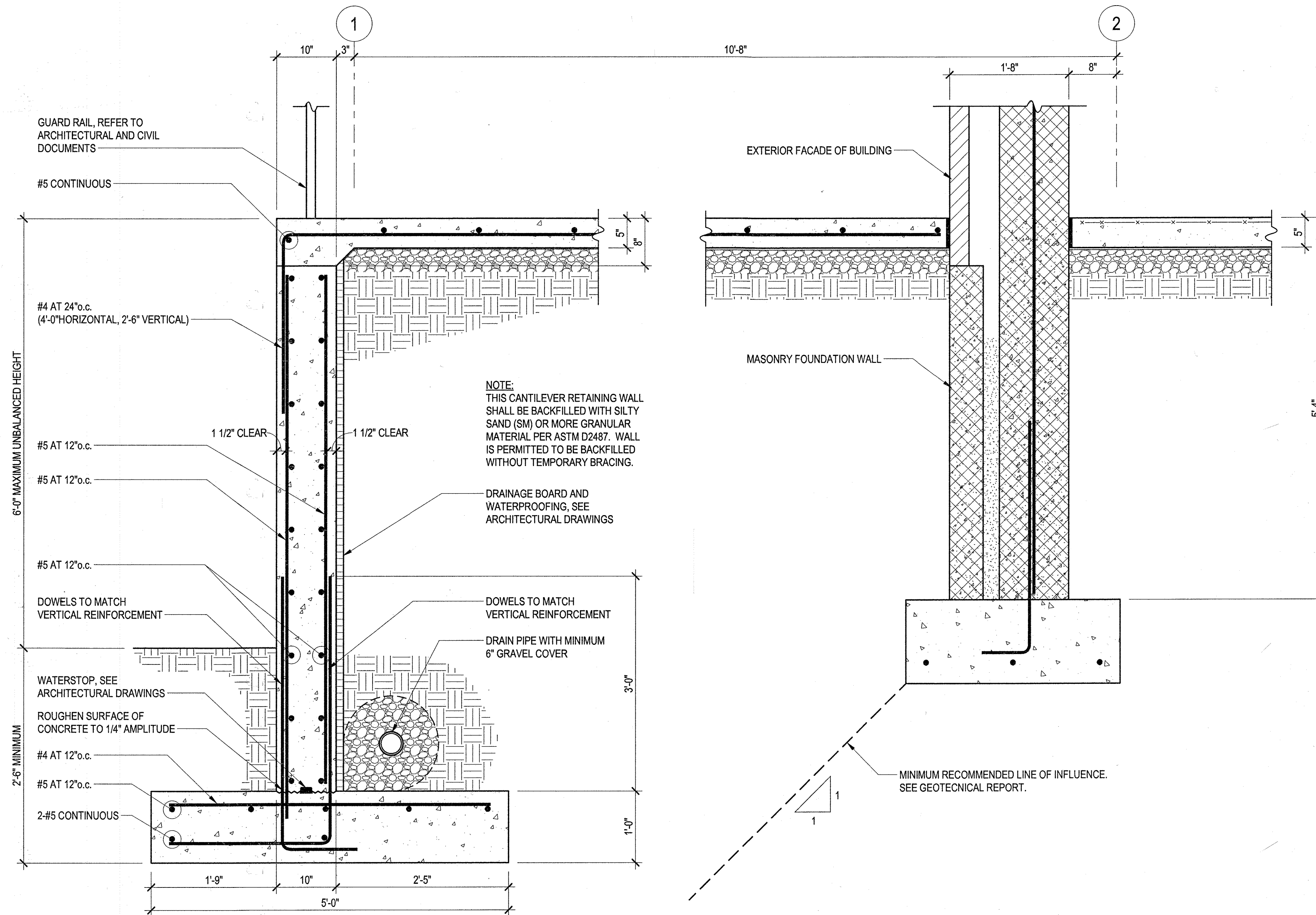

 Pennonni Associates Inc.  
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Landscape Architects  
8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS
DRAWN BY: ALC
PROJECT NO: RRRMX18003
DATE: APRIL 10, 2020
SCALE: NOT TO SCALE
DRAWING NO. 66 OF 69


0-10-20

SDP-08-118

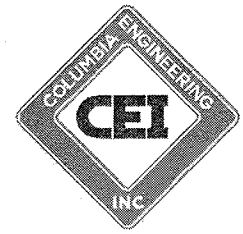





NOTE:  
THIS CANTILEVER RETAINING WALL SHALL BE BACKFILLED WITH SILTY SAND (SM) OR MORE GRANULAR MATERIAL PER ASTM D2497. WALL IS PERMITTED TO BE BACKFILLED WITHOUT TEMPORARY BRACING.

- SITE RETAINING WALL NOTES:**
1. RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE PERSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WALEC, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
  2. THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE SHALL BE DYNAMIC CONE PENETROMETER TEST ASTM STP-399.
  3. THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ONSITE SOILS TECHNICIAN. EACH EIGHT (8) INCH LIFT SHALL BE COMPACTED TO A MINIMUM 95% STANDARD PROCTOR DENSITY AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.

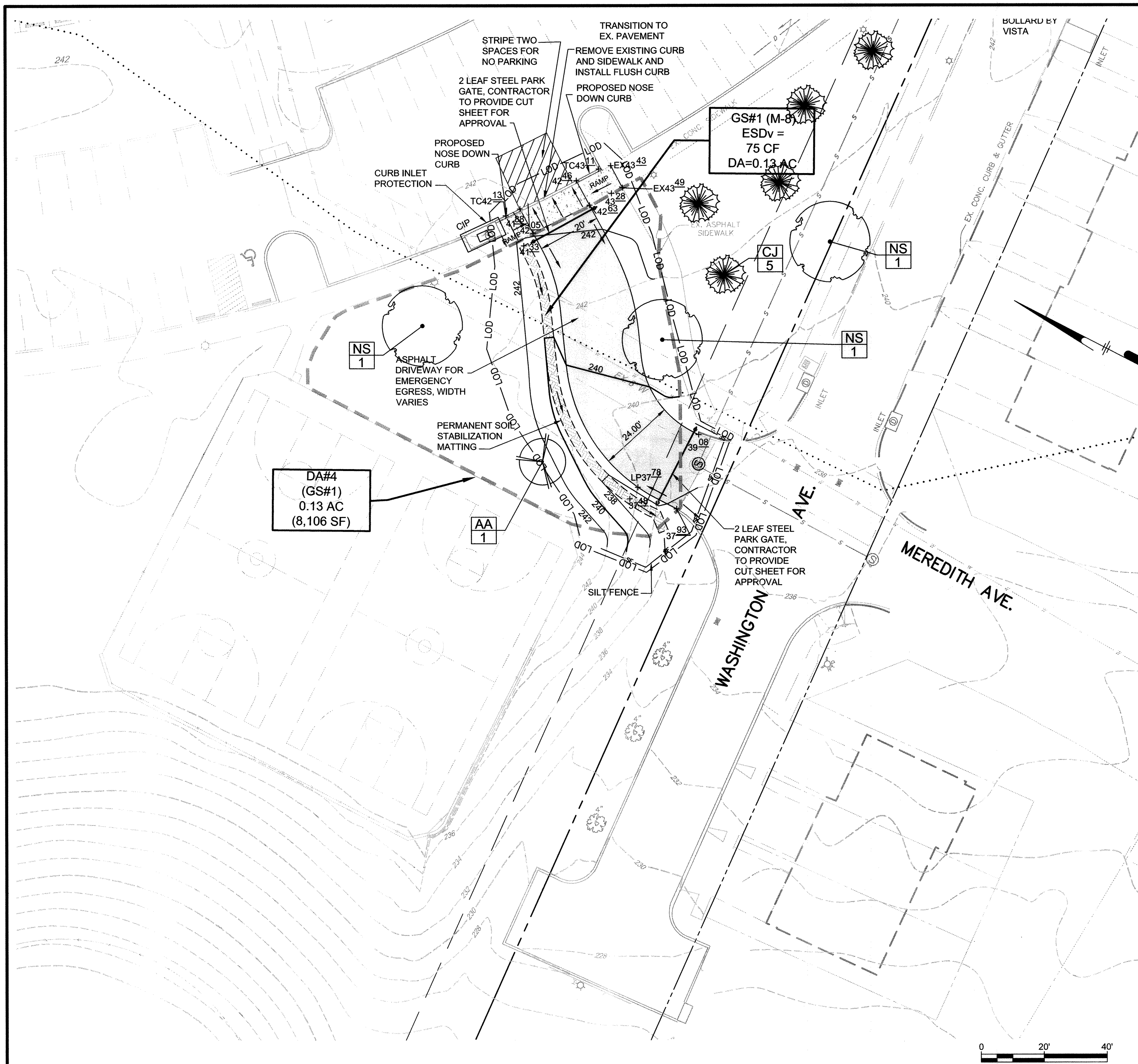
**A SECTION**  
SCALE: 1" = 1'-0"

APPROVED : DEPARTMENT OF PLANNING AND ZONING			
<i>[Signature]</i>		6-17-20	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION			
<i>[Signature]</i>		6/22/2020	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT			
<i>[Signature]</i>		6/22/2020	DATE
DIRECTOR			
DATE	NO.	REVISION	BY
DEVELOPER			
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD COLUMBIA, MD 21045 PHONE: 410-313-2414			
OWNER			
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING 9250 BENDIX ROAD COLUMBIA, MD 21045 PHONE: 410-313-2414			
PROJECT			
NORTH LAUREL COMMUNITY CENTER CAPITAL PROJECT C-0304			
AREA			
TAX MAP 47 GRID 22 PARCEL 1065 LOT A-1 ZONED R-SC 9411 WHISKEY BOTTOM ROAD LAUREL, MD 20723 HOWARD COUNTY, MARYLAND			
TITLE			
SITE RETAINING WALLS			
 <b>COLUMBIA ENGINEERING, INC.</b> STRUCTURAL ENGINEERS 6210 OLD DOBBIN LANE, SUITE 150 COLUMBIA, MARYLAND 21045 410-992-9970 www.columbiaengineering.com			
SEAL		DESIGNED BY : KGM	
		DRAWN BY: KGM	
BY: KEVIN McGRATH 6-10-20		PROJECT NO : RRRM1701	
<small>PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 36745, EXPIRES 12/31/2021.</small>		DATE : AUGUST 8, 2019	
		SCALE : AS NOTED	
		DRAWING NO. 67 OF 69	



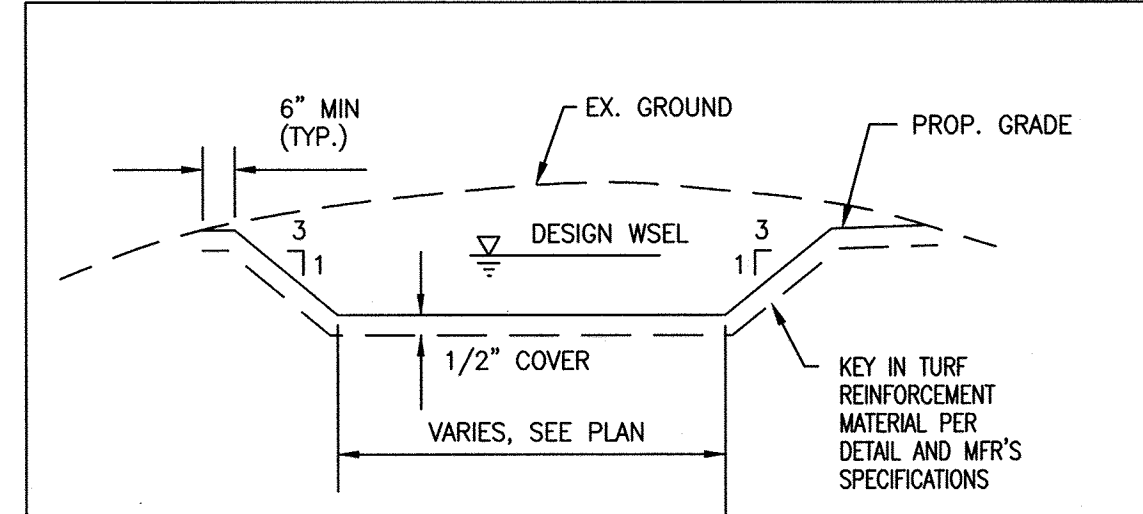
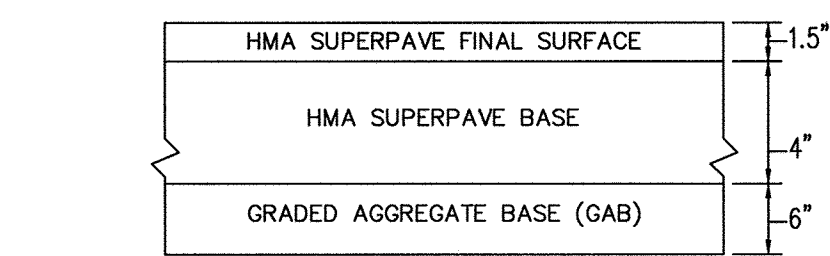




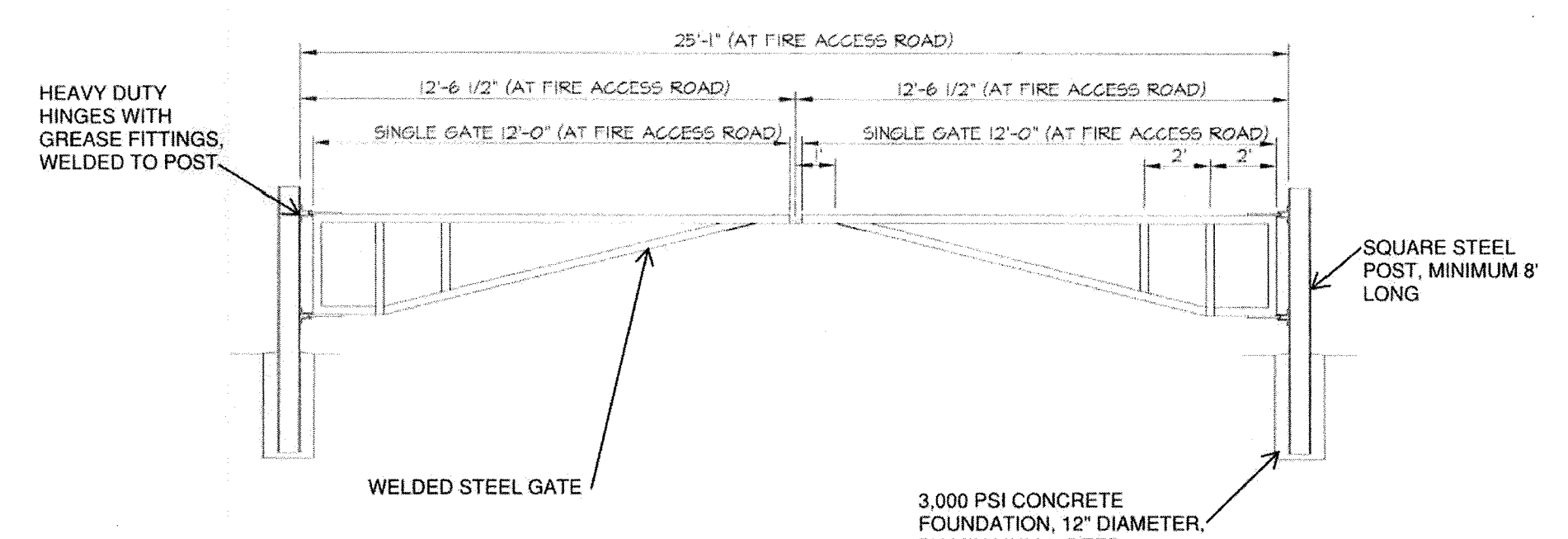


**LEGEND**

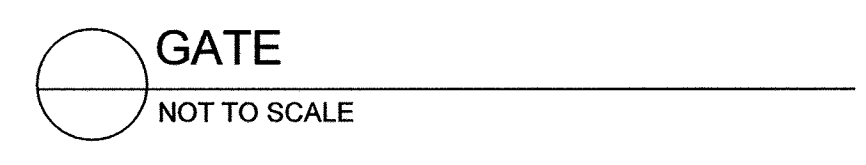
PROPOSED 2' CONTOUR	246
PROPOSED 10' CONTOUR	250
LIMIT OF DISTURBANCE	LOD — LOD
PROPOSED SPOT ELEVATION	47.63 +
PROPOSED CONCRETE SIDEWALK	
PROPOSED ASPHALT	
PROPOSED SILT FENCE	SF — SF
CURB INLET PROTECTION	CIP



- NOTES**
- INSTALL THE MATERIAL PER THE MANUFACTURER'S INSTRUCTIONS INCLUDING SURFACE PREPARATION AND STAPLING. IT IS VERY IMPORTANT THAT THE MATERIAL BE INSTALLED IN GOOD CONTACT WITH THE GROUND WITH NO WRINKLES OR VOID SPACES BELOW THE FABRIC. STAPLES MUST BE PLACED IN A DIAMOND PATTERN APPROXIMATELY 18" APART.
  - FILL VOIDS IN THE MATERIAL WITH TOPSOIL BEFORE SODDING OR SEEDING DO NOT PLACE MORE THAN ONE HALF INCH (1/2") OF TOPSOIL OVER THE MATERIAL. THE MATERIAL MUST BE WITHIN THE ROOT ZONE FOR IT TO FUNCTION PROPERLY.
  - MATERIAL MUST BE ENKAMAT 7010, ENKAMAT 7020, TENSAR TM-3000, PYRAMAT, OR OTHER MDPS APPROVED EQUIVALENT. TO BE CONSIDERED AS AN EQUIVALENT, THE MATERIAL MUST BE A SINGLE BONDED TURF REINFORCEMENT MATERIAL.
  - TURF REINFORCEMENT IS NOT MEANT TO SERVE AS AN EROSION CONTROL MAT. IF NECESSARY, A BIODEGRADABLE MATERIAL SUCH AS EXVELSOR MAY BE PLACE OVER THE PREPARED SEED BED TO HOLD THE SEED IN PLACE. THE PURPOSE OF THE TURF REINFORCEMENT MATERIAL IS TO ADD STRENGTH TO THE ROOT SYSTEM AFTER GERMINATION.
- GRASS SWALE TYPICAL SECTION**  
NOT TO SCALE



- NOTES:**
- CONTRACTOR TO PROVIDE FULLY DIMENSIONED SHOP DRAWING FOR APPROVAL PRIOR TO CONSTRUCTION WITH ALL MATERIALS AND CONSTRUCTION METHODS CLEARLY SPECIFIED.
  - FENCE POSTS AND ASSEMBLY SHALL BE PAINTED YELLOW.
  - CONTRACTOR TO PROVIDE CHAIN AND CLASP FOR CLOSING GATE.
  - ALL CONSTRUCTION SHALL BE HEAVY DUTY WELDED STEEL.
  - RED REFLECTORS WITH ALUMINUM BACKING SHALL BE PROVIDED AT EACH SIDE OF TOP RAIL.



**LANDSCAPE NOTES:**

- NOTIFY DEPARTMENT OF RECREATION AND PARKS PRIOR TO PLANTING FOR CONFIRMATION OF PLANTING LOCATIONS.
- PLANTING PITS FOR CRYPTOMERIA TO BE DUG TWICE THE WIDTH OF THE ROOT BALL.

**LIMIT OF DISTURBANCE:**

THE LIMIT OF DISTURBANCE (LOD) SHOWN ON THIS SHEET IS 6,509 SF.

PLANT SCHEDULE					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
<b>SHADE TREES</b>					
NS	3	NYSSA SYLVATICA "RED RAGE" RED RAGE BLACK GUM	2.5-3" CAL.	B&B	AS SHOWN
<b>EVERGREEN TREES</b>					
CJ	5	CRYPTOMERIA JAPONICA "YOSHINO" YOSHINO JAPANESE CEDAR	6-8' HT.	B&B	AS SHOWN
<b>FLOWERING TREES</b>					
AA	1	AMELANCHIER ARBOREA "AUTUMN BRILLIANCE" AUTUMN BRILLIANCE SERVICEBERRY	6-8' HT.	CONT.	AS SHOWN

**ENGINEER'S CERTIFICATE**  
I 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.

Signature: *[Signature]* DATE: 4/14/20

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

Signature: *[Signature]* DATE: 4/30/20

Signature: *[Signature]* DATE: 6/3/20

Signature: *[Signature]* DATE: 6/17/20

Signature: *[Signature]* DATE: 6/22/2020

Signature: *[Signature]* DATE: 6/22/2020

4/10/20	5	ADDED NEW SHEET FOR DRIVEWAY ADDITION	ALC
---------	---	---------------------------------------	-----

**DEVELOPER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

**OWNER**  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENGINEERING  
9250 BENDIX ROAD  
COLUMBIA, MD 21045  
PHONE: 410-313-2414

**PROJECT**  
NORTH LAUREL COMMUNITY CENTER  
CAPITAL PROJECT N3940-404

**AREA**  
TAX MAP 47 GRID 22  
PARCEL 1065 LOT A-1 ZONED R-SC  
9411 WHISKEY BOTTOM ROAD  
LAUREL, MD 20723  
HOWARD COUNTY, MARYLAND

**TITLE**  
ADDITIONAL SHEET  
WASHINGTON AVENUE  
CONNECTION PLAN

**Pennoni Associates Inc.**  
Engineers • Surveyors • Planners  
Landscape Architects

8818 Centre Park Drive, Suite 200 Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

DESIGNED BY: PJS  
DRAWN BY: ALC  
PROJECT NO: RRRMMX18003  
DATE: APRIL 10, 2020  
SCALE: 1" = 20'

BY: *[Signature]* DATE: 4/14/20

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21724, EXPIRATION DATE: 11/20/21.

SEAL: *[Professional Engineer Seal]*

DRAWING NO. 69 OF 69