INDEX OF SHEETS

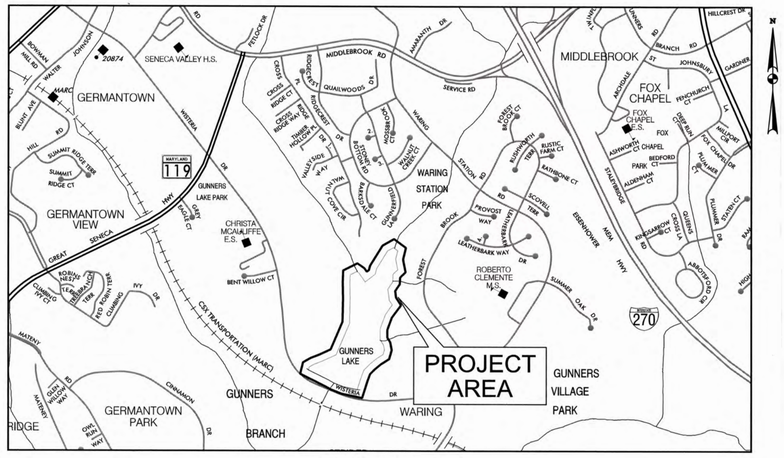
MCPDWT (FULL SET)	
1	TITLE SHEET
2	GENERAL NOTES SHEET
3	BORING LOGS
4	ACCESS PLAN
5–6	EXISTING CONDITIONS PLAN
7–8	DREDGING PLANS
9	SITE RESTORATION PLAN
10	EROSION & SEDIMENT NOTES
11	EROSION & SEDIMENT DETAILS
12–13	EROSION & SEDIMENT CONTROL PLANS
14–16	BATHYMETRIC SURVEY
17–19	CROSS SECTIONS

MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION

GUNNERS LAKE

MAINTENANCE AND HYDRAULIC DREDGING

CONTRACT NO. 0801000108-AD-DD
Task Order 4



VICINITY MAP
SCALE : 1"= 500'

TREE CANOPY REQUIREMENTS TABLE

TO BE COMPLETED BY THE CONSULTANT AND PLACED ON THE FIRST SHEET OF THE SEDIMENT CONTROL / STORMWATER MANAGEMENT PLAN SET FOR ALL PROJECTS.

Exempt: Yes [X] No [ ] If exempt under Section 55–5 of the Code, please list the applicable exemption category below this table

EXEMPTION CATEGORY 55.5–E MAINTENANCE OF EXISTING SWM FACILITY

Total Property Area	Total Disturbed Area
_____ Square Feet	_____ Square Feet
Shade Trees Required	***Shade Trees Proposed**
_____	_____
Fee in Lieu (Trees Required–Trees Proposed) x $250	$ _____

Required Number of Shade Trees

Area (sq. ft.) of Limits of Disturbance FROM	TO	Number of Shade Trees Required
1	6,000	3
6,001	8,000	6
8,001	12,000	9
12,001	14,000	12
14,001	40,000	15

If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:

(Number of Square Feet in Limits of Disturbance/40,000) x 15

*Please list the square footage of each proposed planting area on the first sheet of the plan set

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXCUTIVE REGULATIONS 5–90, 7–02AM AND 36–90, AND MONTGOMERY COUNTY DEPARMENT OF TRANSPORTATION "STORM DRAIN CRITERIA" DATED AUGUST, 1988.

SIGNATURE — DATE: 11-25-14

CHRIS BROOKS PE — 25819
PRINTED NAME — REGISTRATION NUMBER

STATE OF MARYLAND · CHRIS L. BROOKS · No. 25819 · PROFESSIONAL ENGINEER

DPS PERMIT NO. 263035

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
DATE _____
BY _____

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAVE BEEN COMPUTED TO BE 20,000 CUBIC YARDS OF DREDGING AND 640 CUBIC YARDS TEMPORARY EXCAVATION AND TEMPORARY FILL FOR STAGING AREAS, THAT THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE A MAXIMUM OF 78,400 SQUARE FEET OR 1.80 ACRES.

SIGNATURE — DATE: 11-25-14

CHRIS BROOKS PE — 25819
PRINTED NAME — REGISTRATION NUMBER

NOTE: THE EARTHWORK CUT AND FILL QUANTITIES AND THE AREA DISTURBANCE INDICATED IN THIS CERTIFICATE ARE CALCULATED FOR THE PURPOSE OF PLAN APPROVAL AND SHOULD NOT BE USED FOR CONTRACTUAL OBLIGATIONS.

RELATED REQUIRED PERMITS

TO BE COMPLETED BY THE CONSULTANT AND PLACED ON THE FIRST SHEET OF THE SEDIMENT CONTROL / STORMWATER MANAGEMENT PLAN SET FOR ALL PROJECTS.

IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS FLOODPLAIN DISTRICT	X		325727		
WATERWAYS/WETLAND(S):					
A. CORPS OF ENGINEERS	X				
B. MDE	X		14–NT–3052/201460236	08/26/17	
C. MDE WATER QUALITY CERTIFICATION		X			
MDE DAM SAFETY		X			
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED 11/13/14
DNR ROADSIDE TREE PERMIT		X			
OTHERS (PLEASE LIST):					
FOREST CONSERVATION PLAN EXEMPTION	X		42015075E		
MCDPS SEDIMENT CONTROL PERMIT	X		263035		

OWNER'S / DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE OF A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

11/26/14
DATE

Gene Gopenko
GENE GOPENKO P.E.

OWNER/CONTACT/ADDRESS:
DEPARTMENT OF
ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850–4166
240–777–7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	12/9/14 Reviewed Date	12/9/14 Reviewed Date
Reviewed Date	12/9/2014 Approved Date	263035 SEDIMENT CONTROL PERMIT NO.
Approved Date		
S.M.FILE NO.		

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

MODIFY APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

TITLE SHEET
GUNNER'S LAKE
GAITHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	DRAFT	APPROVED	DATE	SCALE
JMH	PNK	CJB	NOV '14	AS SHOWN

SHEET 1 OF 19

FILE: t:\5414 - montgomery county\04 - gunners lake\design\engineering\plansetp\GN-T001_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM

GENERAL NOTES

1. THE CONTRACTOR WILL IMMEDIATELY INFORM THE COUNTY OF ANY DISCREPANCIES FOUND BETWEEN THE PROJECT PLANS AND CONTRACT SPECIFICATIONS.
2. FOR CONSTRUCTION, ALL HORIZONTAL DATUM SHALL BE BASED ON NAD 83, VERTICAL SHALL BE BASED ON NAVD 88 DATUM. BATHYMETRIC SURVEY PERFORMED ON NOV. 2011 AND DEC. 2012 BY CPJ & ASSOCIATES.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES RIGHT OF WAY INSPECTOR.
5. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
6. CLEARING IS TO BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE PLANS.
7. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT THE COUNTY PROJECT ENGINEER, IMMEDIATELY.
8. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
9. DISTURBED AREAS SHALL BE GRADED AND RESTORED TO ORIGINAL CONDITIONS. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
10. THE CONTRACTOR SHALL CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL SHALL BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-699-4420. THE PROPOSED WORK AS SHOWN WILL NOT IMPACT ANY WSSL UTILITIES.
11. ALL UTILITY POLES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS.
12. THE CONTRACTOR SHALL CONTACT WASHINGTON GAS DISPATCH OFFICER AT (703)750-4831 BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING GAS MAIN AND SERVICE LATERALS.

CONVENTIONAL SYMBOLS

EXISTING CONSTRUCTION

100 YEAR FLOODPLAIN
RIGHT OF WAY LINE
PROPERTY LINE
CONCRETE CURB AND GUTTER
EDGE OF WOODED AREAS
TREE (FREE STANDING)
SIGN
FIRE HYDRANT
LIGHT POLE
UTILITY POLE
STORM DRAIN
SANITARY — 8" SAN — 8" SAN
WATER — 24"W —
GAS
ELECTRICAL HAND BOX - SIGNALS — H.B.
ELECTRIC (UNDERGROUND) — E —
WATERS OF THE U.S. — WUS — WUS —
WETLAND
WATERS EDGE

PROPOSED CONSTRUCTION

℄ CONSTRUCTION — 101 +50 102
CURB & GUTTER
TRAVERSE POINT
SIDEWALK
PAVEMENT REMOVAL
APPROXIMATE LIMITS OF CUT AND/OR FILL — C — C — F — F —
LIMIT OF DISTURBANCE — LOD —
STORM DRAIN PIPE
SOIL BORE — B-1
TEST PIT — TP-2
TEMPORARY CONSTRUCTION EASEMENT — TCE — TCE — TCE —
PERPETUAL EASEMENT — PE — PE — PE —
LIMIT OF DISTURBANCE — LOD — LOD — LOD —
ASPHALT SIDEWALK

OWNER/CONTACT/ADDRESS

DEPARTMENT OF
ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management: Maintenance — Reviewed — Date — Approved — Date — S.M.FILE NO.

Sediment Control Technical Requirements: Reviewed 12/9/14 Date — Approved 12/9/2014 Date

Administrative Requirements: Reviewed 12/9/14 Date — 263035 SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

GUNNER'S LAKE
GAITHHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH	APPROVED	C.J.B	DATE	NOV '14	SCALE	NOT TO SCALE
DRAFT	PNK						

SHEET 2 OF 19

FILE: 1:\614 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSet\gGN-N001_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM

LOG OF BOREHOLE B-1

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	2.5 ft of water									
2.5	Dark gray FINE SANDY SILT (ML/OL) with organics and clay (Sediment), sludge	0-0 3-5 N=3	1	SS	24/24 100%	74				LL= 38 PI=10
2.8	Loose brown and gray SILTY FINE SAND (SM) with rock and shell fragments					34				
4.5	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/23/13 FINISHED 8/23/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

LOG OF BOREHOLE B-2

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	3 ft of water									
3.0	Dark gray and brown FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 4" sludge on the top	1-3 5-5 N=8	1	SS	18/24 75%	136				LL=44 PI=11
						88				
		5-4 5-5 N=9	2	SS	20/24 83%	37				
7.0	Loose light brown to gray SILTY FINE SAND (SM) with trace of gravel	4-7 6-7 N=13	3	SS	18/24 75%	42				
9.0	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/26/13 FINISHED 8/26/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

LOG OF BOREHOLE B-3

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	3.5 ft of water									
3.5	Dark gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), sludge	2-1 2-2 N=3	1	SS	18/24 75%	42				LL=28 PI=6
4.4	Medium dense brown and gray CLAY SAND (SC) with trace of gravel					22				
		0-5 7-10 N=12	2	SS	24/24 100%	19				
7.5	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/23/13 FINISHED 8/23/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

LOG OF BOREHOLE B-4

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	1.3 ft of water									
1.3	Dark gray FINE SANDY SILT (ML/OL) with organics with trace of clay (Sediment), 8" sludge on the top	0-0 0-1 N=0	1	SS	18/24 75%	89				LL=40 PI=11
						34				
		1-2 2-3 N=4	2	SS	18/24 75%					
3.8	Loose light brown to gray SILTY FINE SAND (SM) with trace of gravel					25				
5.3	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/26/13 FINISHED 8/26/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

LOG OF BOREHOLE B-5

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	4.5 ft of water									
4.5	Dark gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 4" sludge on the top	2-0 2-4 N=2	1	SS	10/24 42%	51				LL=36 PI=8
		1-1 2-3 N=3	2	SS	20/24 83%	37				
8.5	Brown to reddish brown SITLTY SAND (SM) with gravel and shell fragments	1-1 8-21 N=9	3	SS	18/24 75%	20				
10.5	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/23/13 FINISHED 8/23/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

LOG OF BOREHOLE B-6

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	5.6 ft of water									
5.6	Drak gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 12" sludge on the top	0-0 2-3 N=2	1	SS	24/24 100%	52				LL=35 PI=8
						31				
7.6	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/23/13 FINISHED 8/23/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

LOG OF BOREHOLE B-7

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	6.5 ft of water									
6.5	Drak gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 6" sludge on the top	3-6 6-6 N=12	1	SS	18/24 75%	128				LL=36 PI=9
8.0	Medium dense brown and gray SILTY FINE SAND (SM) with trace of gravel and shell fragments					44				
		5-6 6-7 N=12	2	SS	24/24 100%	17				
10.5	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/23/13 FINISHED 8/23/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

LOG OF BOREHOLE B-8

Project No. 11-261 — Sheet 1 of 1

CLIENT: McCormick Taylor
SITE: Germantown, Maryland
ARCHITECT/ENGINEER:
PROJECT: Gunners Lake EW1

Surface Elev.:

Depth (ft.)	Description	Blows/6" N-Value RQD	Number	Type	In. Driven In. Recovered	Moisture, %	Dry Density PCF	Qu (TSF)	% Passing #200 Sieve	Additional Data
	2.4 ft of water									
2.4	Drak gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 6" sludge on the top	1-4 5-7 N=9	1	SS	24/24 100%	100				LL=39 PI=10
3.9	Medium dense gray CLAYEY FINE SAND (SC) with trace of gravel					39				
4.4	End of Boring									

WATER LEVEL OBSERVATIONS

AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092

STARTED 8/26/13 FINISHED 8/26/13 DRILL CO. ABC DRILL RIG DRILLER ASS'T DRILLER LOGGED BY: APPROVED

BORING LOG 11-261 GUNNERS LAKE EW1 - COPY.GPJ AB_CONS.GDT 9/12/13

ACTUAL FIELD BORING COORDINATES

Boring No.	Easting	Northing
B-1	1239899.835	546162.576
B-2	1239870.646	545863.997
B-3	1240098.398	546194.801
B-4	1240340.276	546510.053
B-5	1240231.535	546150.724
B-6	1240162.512	545801.263
B-7	1240219.483	545895.802
B-8	1240288.332	546183.345

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850–4166
240–777–7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management: Maintenance
Reviewed Date
Approved Date
S.M.FILE NO.

Sediment Control Technical Requirements:
Reviewed 12/9/14 Date
Approved 12/9/2014 Date

Administrative Requirements:
Reviewed 12/9/14 Date
263035
SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

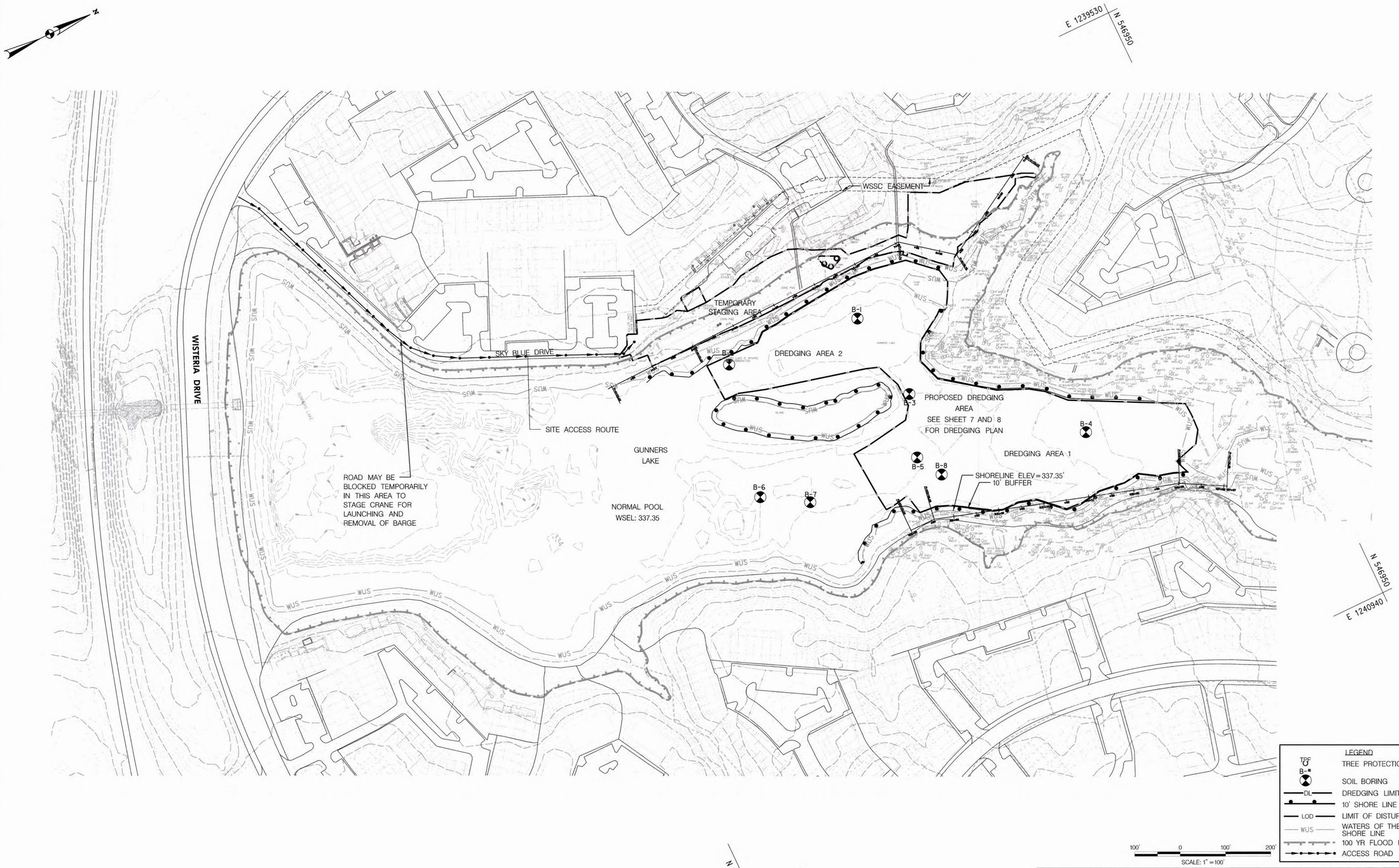
BORING LOGS
GUNNER'S LAKE
GAITHHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN JMH
DRAFT PNK
APPROVED CJB
DATE NOV '14
SCALE NOT TO SCALE

SHEET 3 OF 19

FILE: I:\5414 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSet\pGN-N002_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM



OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

NOTE: CONTRACTOR'S EMPLOYEES ARE NOT ALLOWED TO PARK IN RESIDENTIAL AREAS OR ALONG SKY BLUE DRIVE. EMPLOYEE PARKING IS ALLOWED ALONG WISTERIA DRIVE

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	12/9/14	12/9/14
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	12/9/2014 Approved Date	263035 SEDIMENT CONTROL PERMIT NO.
S.M.FILE NO.		MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EXISTING CONDITIONS ACCESS PLAN

GUNNER'S LAKE

GAITHHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH
DRAFT	PNK
APPROVED	CJB
DATE	NOV '14
SCALE	1"=100'

SHEET 4 OF 19

FILE: I:\5414 - montgomery county\04 - gunners lake\design\engineering\planset\pSR-p001_Gunners site plan.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM

TRAVERSE CONTROL COORDINATES

POINT NO.	NORTHING	EASTING	ELEVATION
1	546605.7704	1239732.3150	348.69
2	546050.0366	1239743.7168	345.20
9	546378.0893	1239735.1446	346.18

BASELINE CONTROL COORDINATES

℄ CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION
GRADING	POT	545609.1634	1239805.0742	0+00.00
	POT	545809.0968	1239799.9132	2+00.00
	PI	546316.5668	1239786.8105	7+07.64
	PI	546420.2864	1239867.0308	8+38.76
	POT	546646.1231	1239735.7051	11+00.00

E 1239350
N 545850

SHORES AT NORTH LAKE HOA INC
C/O PROPERTY MNGMNT PEOPLE INC
82 WORMANS MILL CT STE A
FREDERICK, MD 21701
00000 PORT HAVEN PL, MD
Block: C; Lot

SHORES AT NORTH LAKE HOA INC
C/O PROPERTY MNGMNT PEOPLE INC
82 WORMANS MILL CT STE A
FREDERICK, MD 217013021
00000 CORAL GROVE PL, MD
Block: C; Lot

NORTH LAKE VILLAGE FEDERATION INC
C/O COMMUNITY ASSOCIATIONS PO BOX 1130
GERMANTOWN, MD 20875
00000 MIDDLEBROOK RD, MD
Block: ; Lot

SKY BLUE 12407 LLC
C/O DEMETRI DIAVATIS
4501 SALEM LN NW
WASHINGTON, DC 20007
12407 SKY BLUE DR
GERMANTOWN, MD 20874
Block: C; Lot 542

NORTH LAKE VILLAGE FEDERATION INC
C/O COMMUNITY ASSOCIATIONS PO BOX 1130
GERMANTOWN, MD 20875
00000 MIDDLEBROOK RD, MD
Block: ; Lot

R&C TRAV. PT 1
R&C TRAV. PT 2
TRAV. PT 9
TRAV. PT AB64 60 PENNY
TRAV. PT AB76
B-1
B-2

PI=0+00.00
PI=2+00.00
PI=7+07.64
PI=8+38.76

4' ± MACADAM PATH
8' ± MACADAM PATH

WSSC R/W
WSSC R/W L.5046 F. 387

DREDGING AREA 2
GUNNERS LAKE
FENCE ALONG LAKE IS SPARCE AND DETERIORATED

N 546400
E 1239950
N 545850
E 1239950

MATCHLINE SEE SHEET 6 OF 18

LEGEND

- TPF — TREE PROTECTION FENCE
- B-1 — SOIL BORING
- 10' SHORE LINE BUFFER
- WUS — WATERS OF THE US/ SHORE LINE
- DL — DREDGING LIMITS
- 100 YEAR FLOOD PLAIN
- LOD — LIMIT OF DISTURBANCE
- EXISTING PAVED WALKWAY

SCALE: 1" = 30'

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management: Maintenance
Reviewed Date
Approved Date
S.M.FILE NO.

Sediment Control Technical Requirements:
Reviewed 12/9/14 Date
Approved 12/9/2014 Date

Administrative Requirements:
Reviewed 12/9/14 Date
263035
SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EXISTING CONDITIONS PLAN

GUNNER'S LAKE

GAITHERSBURG (9th) ELECTION DISTRICT

GUNNERS LAKE VILLAGE SUBDIVISION

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH
DRAFT	PNK
APPROVED	CJB
DATE	NOV '14
SCALE	1"=30'

SHEET 5 OF 19

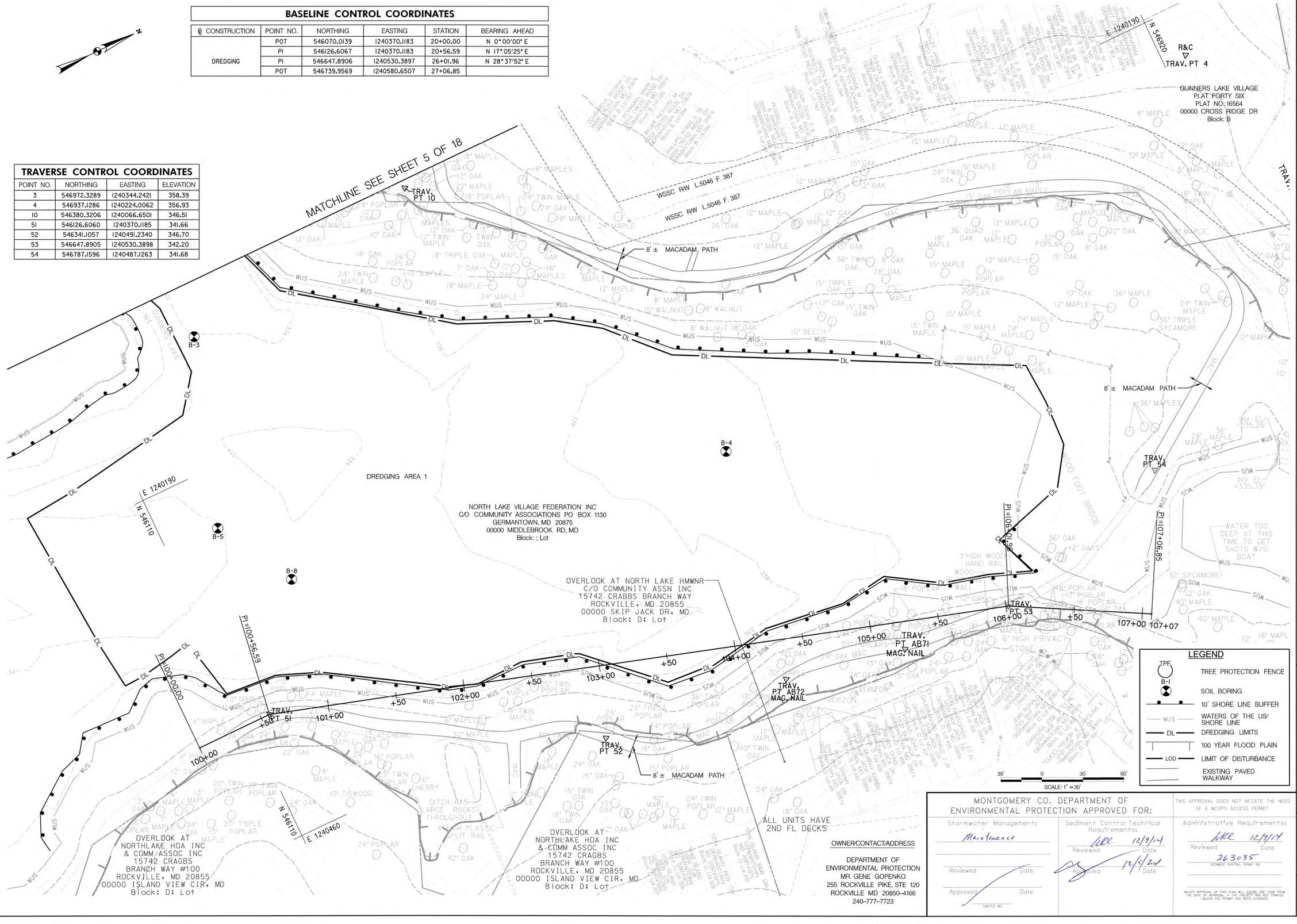
FILE: I:\5414 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSet\pEC-p001_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 At 05:10 PM

BASELINE CONTROL COORDINATES

℄ CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION	BEARING AHEAD
DREDGING	POT	546070.0139	1240370.1183	20+00.00	N 0°00'00" E
	PI	546126.6067	1240370.1183	20+56.59	N 17°05'25" E
	PI	546647.8906	1240530.3897	26+01.96	N 28°37'52" E
	POT	546739.9569	1240580.6507	27+06.85	

TRAVERSE CONTROL COORDINATES

POINT NO.	NORTHING	EASTING	ELEVATION
3	546972.3289	1240344.2421	358.39
4	546937.1286	1240224.0062	356.93
10	546380.3206	1240066.6501	346.51
51	546126.6060	1240370.1185	341.66
52	546341.1057	1240491.2340	346.70
53	546647.8905	1240530.3898	342.20
54	546787.1596	1240487.1263	341.68



LEGEND

- TPF — TREE PROTECTION FENCE
- B-1 — SOIL BORING
- 10' SHORE LINE BUFFER
- WUS — WATERS OF THE US/ SHORE LINE
- DL — DREDGING LIMITS
- 100 YEAR FLOOD PLAIN
- LOD — LIMIT OF DISTURBANCE
- EXISTING PAVED WALKWAY

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	Reviewed 12/9/14 Date	Reviewed 12/9/14 Date
Reviewed Date	Reviewed Date	263035 SEDIMENT CONTROL PERMIT NO.
Approved Date	Approved 12/5/2014 Date	
S.M.FILE NO.		MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EXISTING CONDITIONS PLAN

GUNNER'S LAKE

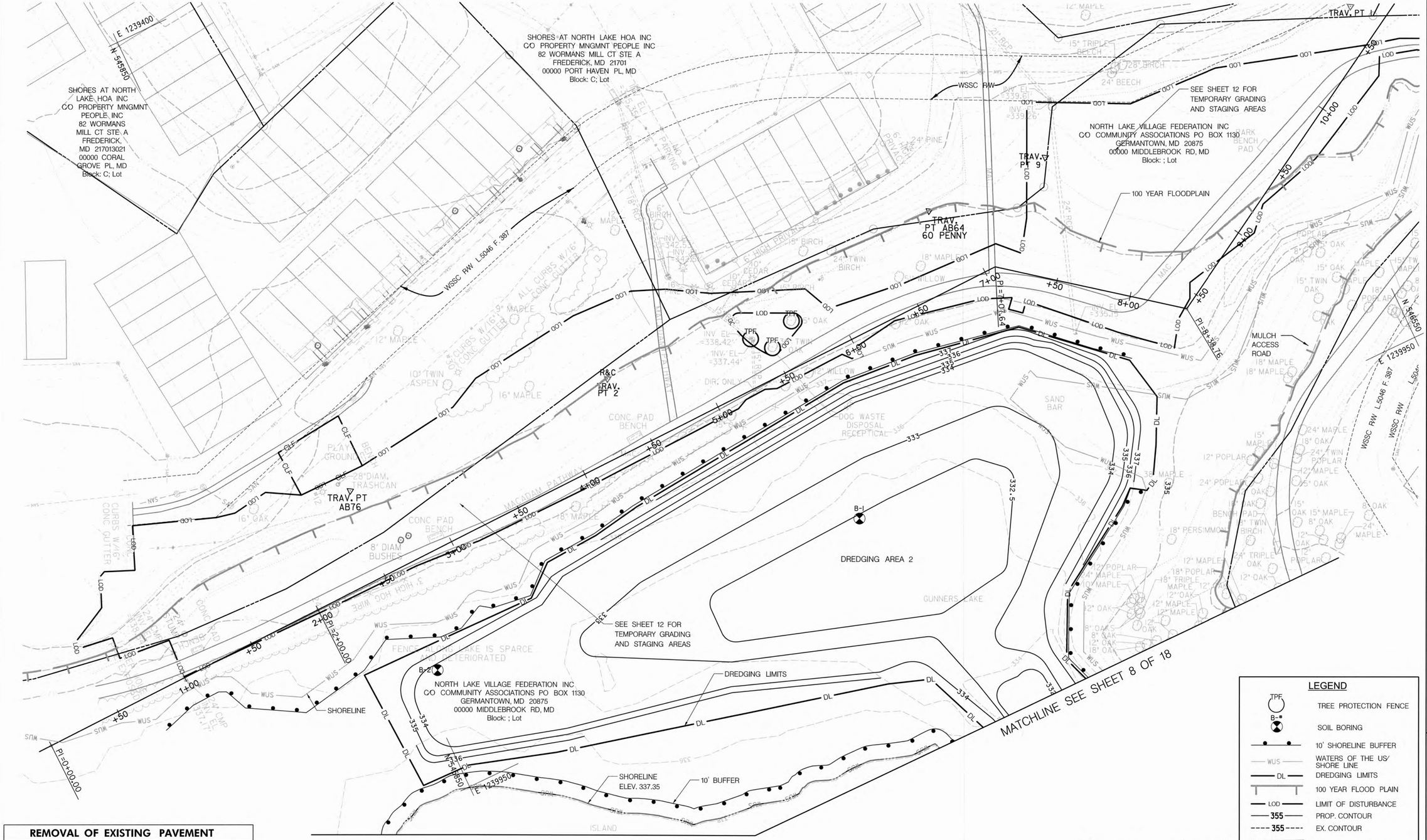
GAITHHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH	APPROVED	CJB
DRAFT	PNK	DATE	NOV '14
		SCALE	1"=30'

SHEET 6 OF 19

FILE: I:\5414 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSet\EC-pb02_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 1:01:0 PM



REMOVAL OF EXISTING PAVEMENT

STATION FROM	STATION TO	QTY (CY)
*	*	1,240

NOTE: QUANTITY BASED ON ASPHALT SIDEWALK WITHIN LOD

NOTE: ALL QUANTITIES REFLECT BOTH PLAN SHEETS

DREDGING EXCAVATION

QTY (CY)
15,500, WITH 4,500 OVER DREDGING ALLOWANCE

ORANGE CONSTRUCTION FENCE

QTY (LF)
2,100

NOTE: CONTRACTOR TO INSTALL OCF ALONG LOD OF STAGING AND STOCK PILE AREA AND AROUND PLAYGROUND AT 2+50 LT (4 SIDES)

LEGEND

- TPF — TREE PROTECTION FENCE
- B-# — SOIL BORING
- 10' SHORELINE BUFFER
- WUS — WATERS OF THE US/ SHORE LINE
- DL — DREDGING LIMITS
- 100 YEAR FLOOD PLAIN
- LOD — LIMIT OF DISTURBANCE
- 355 — PROP. CONTOUR
- 355 — EX. CONTOUR
- EXISTING PAVED WALKWAY

30' 0 30' 60'
SCALE: 1" = 30'

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

NOTE:
CONTRACTOR TO INSTALL SIDEWALK CLOSURES AS SPECIFIED IN STANDARD TCP-107-01

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	Reviewed Date 12/9/14	Reviewed Date 12/9/14
Reviewed Date	Approved Date 12/9/2014	263035 SEDIMENT CONTROL PERMIT NO.
Approved Date		
S.M.FILE NO.		

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

DREDGING PLAN

GUNNER'S LAKE

GAITHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH
DRAFT	PNK
APPROVED	CJB
DATE	NOV '14
SCALE	1"=30'

SHEET 7 OF 19

FILE: I:\5414 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSet\p04-p001_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM

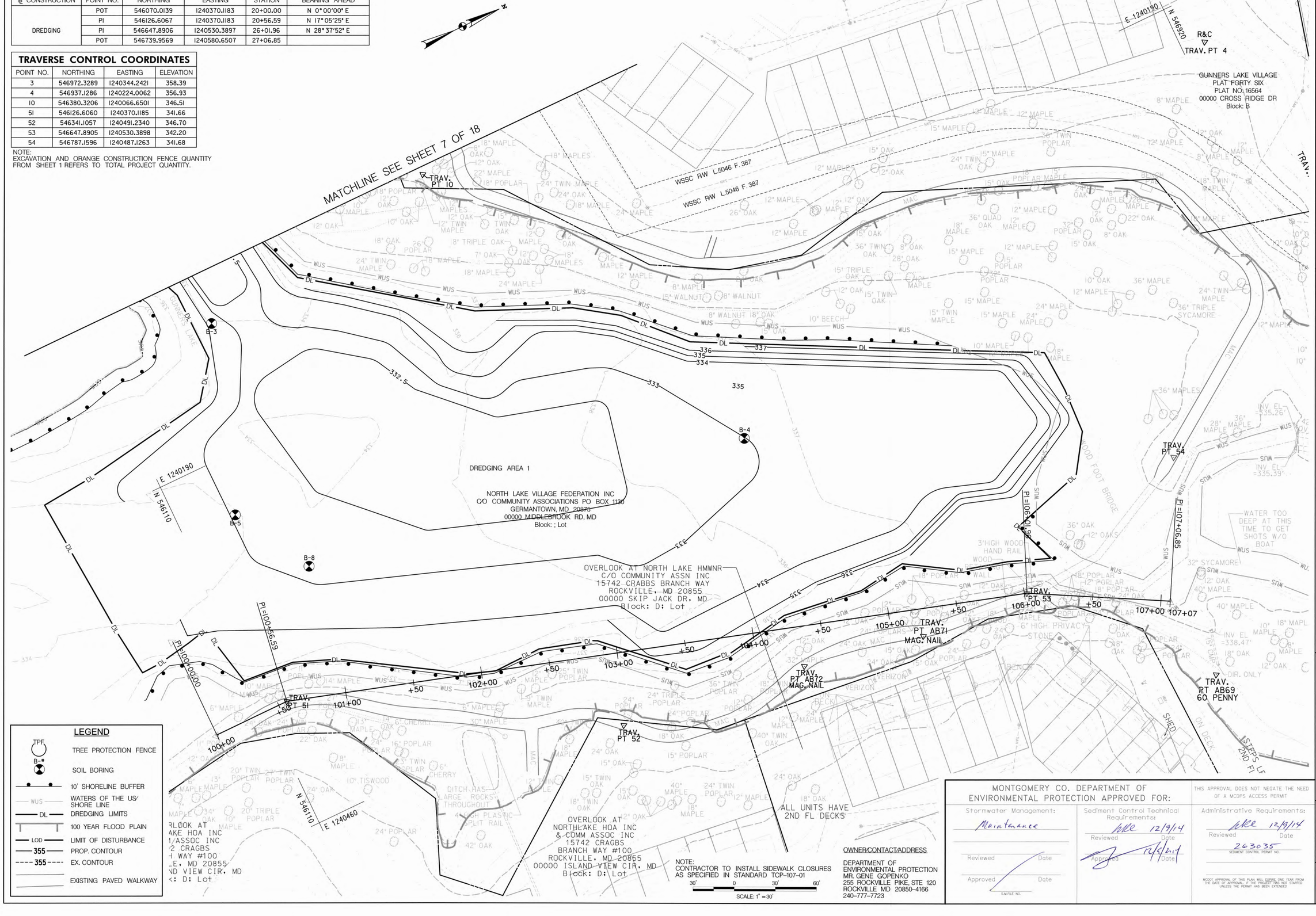
BASELINE CONTROL COORDINATES

℄ CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION	BEARING AHEAD
DREDGING	POT	546070.0139	1240370.1183	20+00.00	N 0°00'00" E
	PI	546126.6067	1240370.1183	20+56.59	N 17°05'25" E
	PI	546647.8906	1240530.3897	26+01.96	N 28°37'52" E
	POT	546739.9569	1240580.6507	27+06.85	

TRAVERSE CONTROL COORDINATES

POINT NO.	NORTHING	EASTING	ELEVATION
3	546972.3289	1240344.2421	358.39
4	546937.1286	1240224.0062	356.93
10	546380.3206	1240066.6501	346.51
51	546126.6060	1240370.1185	341.66
52	546341.1057	1240491.2340	346.70
53	546647.8905	1240530.3898	342.20
54	546787.1596	1240487.1263	341.68

NOTE:
EXCAVATION AND ORANGE CONSTRUCTION FENCE QUANTITY FROM SHEET 1 REFERS TO TOTAL PROJECT QUANTITY.



LEGEND

- TPF — TREE PROTECTION FENCE
- B-# — SOIL BORING
- 10' SHORELINE BUFFER
- WUS — WATERS OF THE US/ SHORE LINE
- DL — DREDGING LIMITS
- 100 YEAR FLOOD PLAIN
- LOD — LIMIT OF DISTURBANCE
- 355 — PROP. CONTOUR
- 355 — EX. CONTOUR
- EXISTING PAVED WALKWAY

NOTE:
CONTRACTOR TO INSTALL SIDEWALK CLOSURES AS SPECIFIED IN STANDARD TCP-107-01

30' 0 30' 60'
SCALE: 1" = 30'

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	MKE 12/9/14	MKE 12/9/14
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	Approved 12/5/2014 Date	263035
S.M.FILE NO.		SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

DREDGING PLAN

GUNNER'S LAKE

GAITHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH	APPROVED	CJB	DATE	NOV '14	SCALE	1"=30'
DRAFT	PNK						

SHEET 8 OF 19

PLOTTED: Tuesday, November 25, 2014 AT 01:01 PM
FILE: 1:\614 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSets\SA-p002_Gunners.dgn

LEGEND

TPF	TREE PROTECTION FENCE
	REPLACE TREE IF IMPACTED MATCH SPECIES, 4" CALIPER
	10' SHORELINE BUFFER
WUS	WATERS OF THE US/ SHORE LINE
	100 YEAR FLOOD PLAIN
LOD	LIMIT OF DISTURBANCE
355	PROP. CONTOUR
355	EX. CONTOUR
	PROPOSED MACADM PATH RESTORATION
	EXISTING PAVED WALKWAY

REMOVE AND RESET BENCHES

STATION	QTY (EA)
1+16, 13' LT	1
2+93, 7' LT	1
4+42, 8' LT	1
9+57, 19' LT	1

STAINED AND STAMPED CONCRETE PAD

STATION	QTY (SF)
1+16, 13' LT	30
2+93, 7' LT	30
4+42, 8' LT	30
9+57, 19' LT	30

COMB. CONCRETE CURB AND GUTTER–TYPE A

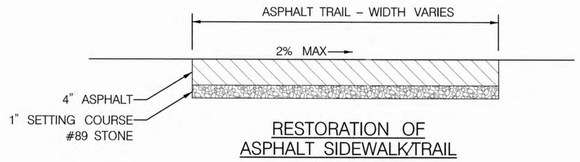
STATION FROM	STATION TO	QTY (LF)
0+47.75, 55.60' LT	0+83.85, 87.75' LT	55

MATCH EXISTING CURB ELEVATIONS AND LOCATION

HOT MIX ASPHALT SIDEWALK

STATION FROM	STATION TO	QTY (SF)
*	*	8,350

*NOTE: QUANTITY INCLUDES MATERIAL NECESSARY TO RECONSTRUCT SIDEWALK WITHIN LOD



RESTORATION OF ASPHALT SIDEWALK/TRAIL

NOT TO SCALE

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management: Maintenance
Reviewed Date
Approved Date
S.M.FILE NO.

Sediment Control Technical Requirements: 12/9/14
Reviewed Date
12/9/2014
Approved Date

Administrative Requirements: 12/9/14
Reviewed Date
263035
SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

SITE RESTORATION PLAN
GUNNER'S LAKE
GAITHHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH
DRAFT	PNK
APPROVED	CJB
DATE	NOV '14
SCALE	1"=30'

SHEET 9 OF 19

FILE: I:\5414 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSet\pSR-p002_Gunners site plan.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM

MONTGOMERY COUNTY GOVERNMENT

STANDARD EROSION AND SEDIMENT CONTROL NOTES (REV. May 2013)

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY–EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE–CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE, THEIR ENGINEER AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.

2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
   A. AT THE REQUIRED PRE–CONSTRUCTION MEETING.
   B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
   C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
   D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   E. PRIOR TO FINAL ACCEPTANCE.

3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE DEPARTMENT.

4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.

5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION, ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.

6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
   A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
   B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

7. THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.

9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SC/SM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWN SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.

12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON– MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW–MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.

15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY–FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY–EIGHT (48) HOURS AFTER THE END OF A RAINFALL.

16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.

17. ALL INLETS IN NON–SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.

18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.

19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.

20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

21. SEDIMENT TRAP(S)/BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE–HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST–III) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

22. SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.

23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

24. NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1–800–257–7777, 48 HOURS PRIOR TO THE START OF WORK.

25. OFF–SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:
   A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON–SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR
   B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON–EROSIVE OUTLET; OR
   C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON–WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

25. OFF–SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:
   A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON–SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR
   B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON–EROSIVE OUTLET; OR
   C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON–WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.

28. TOPSOIL MUST BE APPLIED TO ALL PERVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE *STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS*.

TEMPORARY SEEDING SPECIFICATIONS

1. TEMPORARY SEEDING: SHALL BE DONE BETWEEN MARCH 1 – MAY 15 AND AUGUST 15 – OCTOBER 15. ALL OTHER DISTURBED AREAS REQUIRING STABILIZATION NOT WITHIN THE SEEDING DATES SHALL BE MULCHED.

2. ALL TEMPORARY SEEDED AREAS SHALL BE MULCHED IMMEDIATELY AFTER SEEDING. MULCH MATERIALS SHOULD BE UNWEATHERED, UNCHOPPED, SMALL GRAIN STRAW SPREAD AT A RATE OF 2 TONS PER ACRE. THE MULCH SHALL BE ANCHORED IMMEDIATELY AFTER PLACEMENT WITH ASPHALT, PEG AND TWINE, PLASTIC NETTINGS OR BY A MULCH ANCHORING TOOL.

3. LIME AND FERTILIZER SHALL BE REQUIRED FOR TEMPORARY SEEDING IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:
   1. PULVERIZED DOLOMITIC LIMESTONE IS TO BE APPLIED AT THE RATE OF 90 LBS. PER 1,000 SQ. FT.
   2. FERTILIZER SHALL BE 10–20–20 OR EQUIVALENT AND APPLIED AT THE RATE OF 10 LBS. PER 1,000 SQ. FT.

PERMANENT SEEDING AND SODDING SPECIFICATIONS

1. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED.

2. SOIL PREPARATION: WEEDS AND UNDESIRABLE GRASSES GROWING ON EXISTING GRADE THAT IS TO BE SEEDED AND/OR SODDED MUST BE CUT AND REMOVED BEFORE SOIL PREPARATION BEGINS. BEFORE SEEDING OR SODDING ALL SOILS SHALL BE LOOSENED BY MEANS OF FILLING AND/OR DISCING. ALL TRASH, DEBRIS, ROOTS, BRUSH, WIRE, ROCKS, STONE AND OTHER FOREIGN DEBRIS OVER ONE INCH IN DIAMETER SHALL BE REMOVED PRIOR TO SEEDING AND/OR SODDING, TO A DEPTH OF FOUR (4) INCHES.

3. TOPSOIL: THE MINIMUM ORGANIC CONTENT IN THE MSHA SPECIFICATION REFERENCED SHALL BE INCREASED TO 10%. ORGANIC MATTER SHALL BE ADDED USING COMPOST MATERIAL MEETING THE STANDARD REQUIREMENTS IN THE SPECS.

4. SEEDED PREPARATION: THE TOP LAYER OF SOIL SHALL BE LOOSENED BY DISCLING OR RAKING (SHALL BE DONE ON CONTOUR) AT A DEPTH OF AT LEAST 3", BEFORE SEEDING OCCURS. APPLY 100LBS PER 1,000 SQ.FT. OF LIME AND 15 LB. PER 1,000 SQ.FT. OF 10–10–10 FERTILIZER OR EQUIVALENT. THOROUGHLY MIX INTO SOIL TO A MINIMUM OF 3".

5. SEEDING: USE 40% KENTUCKY BLUEGRASS, 10% ANNUAL RYE AND 25% RED FESCUE AT THE RATE OF 250 LB. PER ACRE.

6. MULCHING: USE CLEAN, UNWEATHERED, UNCHOPPING SMALL GRAIN STRAW AT THE RATE OF 1.5 TO 2 TONS PER ACRE ANCHORED DOWN WITH CUTBACK ASPHALT AT THE RATE OF 5–8 GALLONS PER 1000 SQ. FT.

7. DISCING AND HARROWING SHALL BE DONE ON CONTOUR.

8. SOD SHALL BE STATE APPROVED SOD INSPECTED AND APPROVED BY MD. DEPT. OF AGRICULTURE. ALL SOD SHALL BE LAID ON SITE NO MORE THAN 36 HOURS AFTER HARVEST, AND SHALL BE A MIXTURE OF 60% (MIN.) TALL FESCUE AND 40% (MIN.) KENTUCKY BLUEGRASS.

9. SOD PEGS OR STAKES BE UNTREATED WOOD PEGS DRIVEN THROUGH, AND FLUSH WITH SOD. ALL SLOPES WITH A GRADE 3 TO 1 OR STEEPER SHALL BE PEGGED AT A MINIMUM OF 4 PEGS PER SQUARE YARD OF SOD.

10. SODDING, SEEDING AND MULCHING MAY BE DONE IMMEDIATELY AFTER FINAL GRADING, PROVIDED THAT THE BED HAS REMAINED IN GOOD, FRIABLE CONDITION AND HAS NOT BECOME MUDDY OR HARD. IF IT HAS BECOME HARD, IT SHALL BE FILLED TO FRIABLE CONDITION AGAIN.

11. SEED SHALL BE WORKED INTO THE TOP 3" OF SOIL BY MEANS OF RAKING, WIRE DRAG OR OTHER APPROVED EQUIPMENT. DURING PERIODS OF HIGH TEMPERATURE AND/OR DROUGHT. THE SOIL SHALL BE WATERED IMMEDIATELY PRIOR TO LAYING THE SOD. ALL SOD SHALL BE LAID AT RIGHT ANGLES TO SLOPES. NO SOD SHALL BE APPLIED TO FROZEN GROUND AND NO FROZEN SOD IS TO BE LAID. WATERING SHALL COMMENCE IMMEDIATELY DURING OR AFTER THE LAYING OPERATION, AND SHALL BE SUFFICIENT TO THOROUGHLY WET THE SOD ROOTS AND THE SOIL BELOW.

12. PERMANENT SEEDING: SHALL BE DONE MARCH 1 – MAY 15 AND AUGUST 15 – OCTOBER 15. IRRIGATION FOR PERMANENT SEEDING SHALL BE DONE BETWEEN MAY 15 AND AUGUST 14.

13. SEDIMENT CONTROL DEVICES (DITCHES, DIKES, TRAPS, ETC.) ARE TO REMAIN IN PLACE UNTIL CONTRIBUTING WATERSHED HAS BEEN STABILIZED. MAINTENANCE TO SEDIMENT CONTROL DEVICES DURING THE UNDER GOING GRADING, CONSTRUCTION AND DEVELOPMENT SHOULD BE DONE AS NECESSARY. REMOVAL OF THESE DEVICES SHALL BE WITH THE APPROVAL OF THE MONTGOMERY COUNTY SEDIMENT CONTROL INSPECTOR.

STANDARDS AND SPECIFICATIONS FOR TOPSOIL

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 FOR 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 PLANTS 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 CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 4 INCHES IN DIAMETER.
   B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SLEDGE, 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 COMPACTED 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.

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850–4166
240–777–7723

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 ANALYSIS.

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 LIMESTOME (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.

CONSTRUCTION AND MATERIAL SPECIFICATIONS
WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4–8 TONS/ACRE (200–400 LBS PER 1000 SQ FT) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL.

TOPSOIL SHALL BE TESTED AND AMENDED AS PER SOIL TEST RECOMMENDATIONS.

TOPSOIL APPLICATION.

1. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES.
2. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4–8 INCH LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4 INCHES. 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.
3. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL 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.

SEQUENCE OF CONSTRUCTION

1. PRIOR TO CLEARING OF TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON–SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240) 777–6300, M–NCPPC FOREST CONSERVATION INSPECTION (301) 495–4712 (48 HOURS NOTICE), REPRESENTATIVE OF PARK AND PLANNING, THE OWNER'S REPRESENTATIVE AND THE SITE ENGINEER.

2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES. THE ACCESS PATH FROM WISTERIA DRIVE TO STAGING AREA SHALL BE PHOTO DOCUMENTED PRIOR TO MOBILIZING EQUIPMENT TO SITE. OBTAIN SITE APPROVAL FROM THE M–NCPPC REPRESENTATIVE PRIOR TO BEGINNING PHASE 1.

PHASE 1 – STAGING AND TEMPORARY STOCK PILE AREA

1. CLEAR AND GRADE FOR INSTALLATION OF SEDIMENT CONTROL DEVICES, ONLY DISTURBING THE AREA NEEDED FOR INSTALLATION OF THE SEDIMENT CONTROL DEVICES. TRIM TREES AS NEEDED, WITH PRIOR APPROVAL BY THE ENGINEER.

2. INSTALL SEDIMENT CONTROL DEVICES INCLUDING CONSTRUCTION ENTRANCE, SUPER SILT FENCE, TREE PROTECTION FENCING, DIVERSION FENCES, EARTH DIKES, AND TEMPORARY PIPES. IMMEDIATELY STABILIZE ANY DISTURBANCE CAUSED BY THIS.

3. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING OR GRADING WITHIN THE STAGING AND STOCK PILE AREA.

4. WITH APPROVAL OF THE ENGINEER BEGIN TEMPORARY EXCAVATION AND GRADING OF STAGING AREA AND ACCESS ROAD. UPON REACHING PROPOSED GRADE AND PLACEMENT OF STONE, STABILIZE ALL DISTURBED AREAS WITH TEMPORARY SEED AND MULCH. SLOPES OF 3:1 OR STEEPER SHALL UTILIZE TYPE A MATTING INSTEAD OF MULCH. COMMENCE PLACEMENT OF DEWATERING EQUIPMENT AND SUPPORT UNITS.

5. DISTURBED AREAS WITHIN THE PROJECT LIMITS NOT DRAINING TO A SEDIMENT CONTROL DEVICE SHALL HAVE EITHER PERMANENT OR TEMPORARY STABILIZATION AT THE END OF EACH WORK DAY.

PHASE 2 – DREDGING

1. UPON COMPLETION OF THE PHASE 1 WORK AND WITH APPROVAL OF THE PROJECT ENGINEER COMMENCE DREDGING OPERATIONS. MAINTAIN ALL PERIMETER CONTROLS DURING THE DREDGING OPERATION.

2. STABILIZE DISTURBED AREAS ALONG THE SHORE LINE AS NEEDED TO PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE LAKE.

3. CONTRACTOR TO DISPOSE OF MATERIAL OFFSITE AT AN APPROVED FACILITY WITH ALL APPLICABLE PERMITS.

PHASE 3 – RESTORATION

1. UPON COMPLETION OF THE DREDGING OPERATION, REMOVE STONE ACCESS ROAD AND STAGING AREA. RESTORE SITE TO PRE–EXISTING CONDITIONS AND GRADE AS SHOWN ON SHEET 9, SITE RESTORATION PLAN. PERMANENTLY STABILIZE ALL DISTURBED AREAS.

2. RECONSTRUCT AND PAVED PATHS, RECONSTRUCT CONCRETE BENCH PADS, REPLACE BENCHES, AND REPAIR PAVING, CURB & GUTTER AS NEEDED AS SHOWN ON SHEET 9, SITE RESTORATION PLAN UTILIZING SAME DAY STABILIZATION.

3. THE CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM MCDPS INSPECTOR, PRIOR TO THE REMOVAL OF ANY SEDIMENT CONTROL DEVICE. ANY AREAS DISTURBED DURING THE REMOVAL OF E&S CONTROLS SHALL BE IMMEDIATELY STABILIZED.

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	[signature] 12/9/14 Reviewed Date	[signature] 12/9/14 Reviewed Date
Reviewed Date	[signature] 12/9/2014 Approved Date	263035 SEDIMENT CONTROL PERMIT NO.
Approved Date		MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.
S.M.FILE NO.		

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL NOTES

GUNNER'S LAKE

GAITHHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH
DRAFT	PNK
APPROVED	CJB
DATE	NOV '14
SCALE	NOT TO SCALE

FILE: I:\5414 - montgomery county\04 - gunners lake\design\engineering\planset\pES-N001_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE

CONSTRUCTION SPECIFICATIONS

1. 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.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING 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.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. 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.
5. 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	201 1	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF

CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-1 EARTH DIKE

STANDARD SYMBOL: A-1 — PLACE DESIGNATION (e.g. A-1) ON FLOW CHANNEL SIDE OF DIKE.

DIKE TYPE	A	B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: FB

CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15–0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-3 PERIMETER DIKE/SWALE

STANDARD SYMBOL: PDS-1 — PLACE DESIGNATION (PDS-1 OR 2) ON FLOW CHANNEL SIDE OF DIKE-SWALE.

FLOW CHANNEL STABILIZATION

PDS-1 SEED AND MULCH AND TACK (DRAINING < 1 ACRE) (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

PDS-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD (DRAINING BETWEEN 1 AND 2 ACRES)

NOTE: THE MAXIMUM DRAINAGE AREA FOR THIS PRACTICE IS 2 ACRES.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF DIKE/SWALE.
2. EXCAVATE OR SHAPE DIKE/SWALE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT DIKE/SWALE ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE DIKE/SWALE WITHIN 3 DAYS OF INSTALLATION. STABILIZE DIKE/SWALES USED FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP PERIMETER DIKE/SWALE AND POINT OF DISCHARGE FREE OF EROSION AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF DIKE/SWALE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL: DF

MAXIMUM DRAINAGE AREA = 2 ACRES

CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-2 WASH RACK OPTION

STANDARD SYMBOL: WR

CONSTRUCTION SPECIFICATIONS

1. USE A WASH RACK DESIGNED AND CONSTRUCTED/MANUFACTURED FOR THE ANTICIPATED TRAFFIC LOADS. CONCRETE, STEEL, OR OTHER MATERIALS ARE ACCEPTABLE. PRE-FABRICATED UNITS SUCH AS CATTLE GUARDS ARE ACCEPTABLE. USE MINIMUM DIMENSION OF 6 FEET x 10 FEET. ORIENT DIRECTION OF RIBS AS SHOWN ON THE DETAIL.
2. INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE SCE.
3. DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
4. KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT. IF DAMAGED, REPAIR OR REPLACE WASH RACK.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-8 MOUNTABLE BERM

STANDARD SYMBOL: MB

CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

CROSS SECTION A–A – STAGING AREA

SCALE: HORIZ. 1" = 20'
VERT. 1" = 10'

OWNER/CONTACT/ADDRESS

DEPARTMENT OF
ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	[signature] 12/9/14	[signature] 12/9/14
Reviewed Date	Reviewed Date	Reviewed Date
Approved Date	[signature] 12/4/2014	263035
S.M.FILE NO.	Approved Date	SEDIMENT CONTROL PERMIT NO.

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EROSION AND SEDIMENT CONTROL DETAILS
GUNNER'S LAKE
GAITHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH
DRAFT	PNK
APPROVED	CJB
DATE	NOV '14
SCALE	NOT TO SCALE

SHEET 11 OF 19

FILE: I:\5414 - montgomery county\04 - gunners lake\design\engineering\planset\pES-N002_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:10 PM

SUPER SILT FENCE (SSF)

STATION FROM	STATION TO	QTY (LF)	REMARKS
5+25, 3.30' RT	5+95, 4.30' RT	68	SSF-1
6+00, 4.00' RT	7+25, 15.40' RT	114	SSF-2
7+32, 14.50' RT	8+30, 8.00' RT	116	SSF-3
8+15, 7.50' RT	8+50, 10.00' RT	40	SSF-4
8+47, 21.50' LT	9+04,0.00' LT	80	SSF-5
9+07, 12.80' LT	9+72,7.70' RT	80	SSF-6
9+70, 0.00' RT	10+44,13.40' RT	84	SSF-7
0+68, 36.70' LT	1+07,30.20' LT	46	SSF-8
0+45, 53.40' LT	0+72, 48.30' LT	37	SSF-9
1+04, 28.40' LT	5+30, 2.00' RT	480	SSF-10

DIVERSION FENCE (DF)

STATION FROM	STATION TO	QTY (LF)	REMARKS
2+02, 84' LT	3+64, 77' LT	170	DF-1, 0.85 ACRES
5+95, 20' LT	7+12, 10' LT	120	DF-2, 0.61 ACRES
7+12, 10' LT	7+25, 5' LT	21	DF-3, 0.57 ACRES
7+31, 5' LT	7+12, 112' LT	110	DF-4, 0.50 ACRES
7+12, 112' LT	10+78, 44' RT	280	DF-5, 0.37 ACRES

CLASS 1 RIPRAP OUTFALL PROTECTION

REMARKS	QTY (SY)
STA. 5+95 LT	5
STA. 5+95 RT	3
STA. 7+28 LT	5
STA. 7+28 RT	3
STA. 10+78 RT	3

PDS-1 PERIMETER DIKE SWALE (PDS)

STATION FROM	STATION TO	QTY (LF)	REMARKS
3+64, 78'LT	5+23, 66' LT	165	PDS-2, 2.34 ACRES

A-1 EARTH DIKE (ED)

STATION FROM	STATION TO	QTY (LF)	REMARKS
5+22, 66'LT	5+87, 19' LT	85	ED-2, 2.43 ACRES

NOTE: THE CONTRACTOR MAY USE TEMPORARY PAVEMENT OR COMPACTED GRAVEL IN LIEU OF STONE FOR LEVEL STAGING AREA. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS CHANGE.

STONE ACCESS ROAD*

REMARKS	QTY (SY)
ACCESS AND STAGING AREA	1605

* TO BE CONSTRUCTED FOLLOWING THE SCE DETAIL

TEMPORARY EXCAVATION

REMARKS	QTY (CY)
FOR STAGING / SUMP AREA	640

TEMPORARY PIPE (TP)

REMARKS	QTY (LF)
TP-1 18" CMP STA. 7+28, 0.57 ACRES	28
TP-2 18" CMP STA. 5+95, 3.04 ACRES	28

2.95 ACRES DRAIN INTO LOD / 1.96 SQMILES DRAIN INTO PROJECT LIMITS

E 1239450
N 545850

TREES TO BE PROTECTED			
TREE	STATION	OFFSET*	PROTECTION
18" MAPLE	3+85	16.33' RT	M, F, P
30" TWIN OAK	5+51	35.95' LT	M, F, P, R
15" OAK	5+74	26.16' LT	M, F, P, R
24" BIRCH	6+15	59.28' LT	M
51" WILLOW	6+44	27.81' LT	M, F, P
18" MAPLE	6+60	31.20' LT	M, F, P
24" BEECH	9+41	130.36' LT	M, R
28" BIRCH	9+49	127.56' LT	M, R

* DENOTES DIRECTION WHILE FACING NORTH

NOTES: 1. F DESIGNATES FENCING
2. M DESIGNATES MULCH
3. P DESIGNATES PLANKING
4. R DESIGNATES ROOT PRUNING

CONSTRUCT PERIMETER DIKE SWALE TO PROVIDE POSITIVE CONVEYANCE OF CLEARWATER

ENCLOSE PLAYGROUND WITH 6' HIGH CHAIN LINK FENCE PER MSHA STD MD-690.01

CONTRACTOR MAY PROVIDE ADDITIONAL FILL ALONG SCE WITHIN LOD AREA

STAGING AREA

ACCESS PATH TYP. WIDTH 12' TO 15'

R&C TRAV. PT 2

TRAV. PT AB76

TRAV. PT AB64 60 PENNY

TRAV. PT 9

R&C TRAV. PT 1

18" TEMP. CMP PIPE WITH MOUNTABLE BERM

CONTRACTOR SHALL PLACE STEEL PLATE OR WOOD CONSTRUCTION MAT OVER STORM DRAIN CROSSING

EX. BENCH TO BE REMOVED

EX. ASPHALT PATH TO BE REMOVED AND RECONSTRUCTED AFTER CONSTRUCTION

DREDGING AREA 2

MATCHLINE SEE SHEET 12 OF 18

NOTES:
1. THE DEWATERING PAD ON WHICH DEWATERING OPERATIONS WILL BE CONDUCTED MUST CONSIST OF AN IMPERVIOUS SURFACE CONTAINMENT TO PROHIBIT THE RELEASE OF WATER TO THE IMMEDIATE VICINITY. THE TEMPORARY PAD MUST HAVE ADEQUATE SEDIMENT AND EROSION CONTROL MEASURES TO CONTAIN RUNOFF FROM THE PAD. LIQUID COLLECTED FROM THE PAD MUST BE TREATED ON SITE SIMILAR TO SEDIMENT COMING FROM DREDGING OPERATIONS AND BEFORE RELEASE BACK INTO THE LAKE.
2. TREE REMOVAL SHOWN ON PLAN IS WORST CASE SCENARIO. CONTRACTOR SHOULD ARRANGE THE EQUIPMENT IN A WAY TO MINIMIZE THE REMOVAL OF TREES.

CRITICAL ROOT ZONE PROTECTION		
Symbol	Protection	Quantity
	12" Thick Mulch	639 (SY)
	Root Pruning	119 (LF)

SIGNIFICANT TREE TO BE REMOVED TABLE			
Tree	Species	DBH (in)	Condition
1	Maple	16"	Good
2	Bushes	8'	Good
3	Oak	16"	Good

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

LEGEND

- 10' SHORE LINE BUFFER
- WUS — WATERS OF THE US/ SHORE LINE
- DL — DREDGING LIMITS
- 100 YEAR FLOOD PLAIN
- LOD — LIMIT OF DISTURBANCE
- DF — DIVERSION FENCE
- SSF — SUPER SILT FENCE
- A-1 TEMPORARY SWALE
- A-1 EARTH DIKE
- PDS-1 PERIMETER DIKE SWALE
- MIP — MEDIAN INLET PROTECTION
- STONE ACCESS ROAD
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- TGOS — TEMPORARY STONE GABION STR.
- TPF — TREE PROTECTION FENCE
- DRAINAGE BOUNDARY
- CLF — 6' CHAINLINK FENCE
- X — TREE TO BE REMOVED
- FOREST LINE
- MULCHED TREE PROTECTION AREAS IN CRZ
- RP — ROOT PRUNING
- CRZ — CRITICAL ROOT ZONE

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	Reviewed 12/9/14 Date	Reviewed 12/9/14 Date
Reviewed Date	Approved 12/5/2014 Date	263035 SEDIMENT CONTROL PERMIT NO.
Approved Date		MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED
S.M.F.I.E. NO.		

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

SITE PREPARATION AND EROSION AND SEDIMENT CONTROL PLAN

GUNNER'S LAKE

GAITHHERSBURG (9th) ELECTION DISTRICT

GUNNERS LAKE VILLAGE SUBDIVISION

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH	APPROVED	CJB	DATE	NOV '14	SCALE	1"=30'
DRAFT	PNK						

SHEET 12 OF 19

FILE: 15414 - montgomery county\04 - gunners lake\design\engineering\plansets\ps5-p001_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:11 PM

2.95 ACRES DRAIN INTO LOD / 1.96 SQMILES DRAIN INTO PROJECT LIMITS

MATCHLINE SEE SHEET 11 OF 18

N

DREDGING AREA 1

E 1240220
N 546240

E 1240220
N 546840

TRAV. PT 10

TRAV. PT 4

TRAV. PT 54

TRAV. PT 53

TRAV. PT 52

TRAV. PT 51

TRAV. PT AB71 MAG. NAIL

TRAV. PT AB72 MAG. NAIL

PI=100+56.59

PI=106+01.98

100+00

101+00

102+00

103+00

104+00

105+00

106+00

ALL UNITS HAVE 2ND FL DECKS

NOTE:
CONTRACTOR TO INSTALL OCF ALONG LOD OF STAGING AND STOCK PILE AREA

30' 0 30' 60'
SCALE: 1" = 30'

LEGEND

- 10' SHORE LINE BUFFER
- WUS — WATERS OF THE US/ SHORE LINE
- DL — DREDGING LIMITS
- 100 YEAR FLOOD PLAIN
- LOD — LIMIT OF DISTURBANCE
- DF — DIVERSION FENCE
- SSF — SUPER SILT FENCE
- A-1 TEMPORARY SWALE
- A-1 EARTH DIKE
- PDS-1 PERIMETER DIKE SWALE
- MIP — MEDIAN INLET PROTECTION
- STONE ACCESS ROAD
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- TGOS — TEMPORARY STONE GABION STR.
- TPF — TREE PROTECTION FENCE

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. GENE GOPENKO
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7723

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Maintenance	Reviewed Date 12/8/14	Reviewed Date 12/9/14
Reviewed Date	Approved Date 12/9/2014	263035 SEDIMENT CONTROL PERMIT NO.
Approved Date		
S.M.FILE NO.		

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

SITE PREPARATION AND EROSION AND SEDIMENT CONTROL PLAN

GUNNER'S LAKE

GAITHHERSBURG (9th) ELECTION DISTRICT

GUNNERS LAKE VILLAGE SUBDIVISION

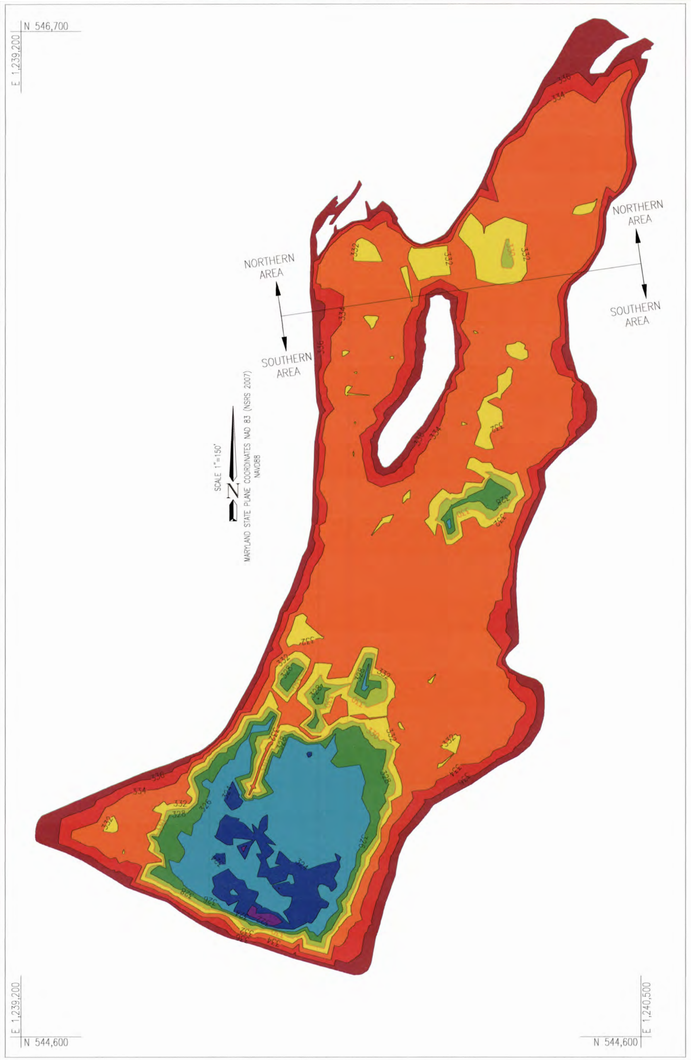
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. GENE GOPENKO P.E.
(240) 777-7723

DESIGN	JMH	DATE	NOV '14
DRAFT	PNK	SCALE	1"=30'
APPROVED	CJB		

SHEET 13 OF 19

FILE: I:\5414 - montgomery county\04 - gunners lake\design\engineering\planset\pES-pv02_Gunners.dgn
PLOTTED: Tuesday, November 25, 2014 AT 03:11 PM



BOTTOM OF LAKE

ELEVATION – STORAGE TABLE
BOTTOM OF LAKE TO WSEL

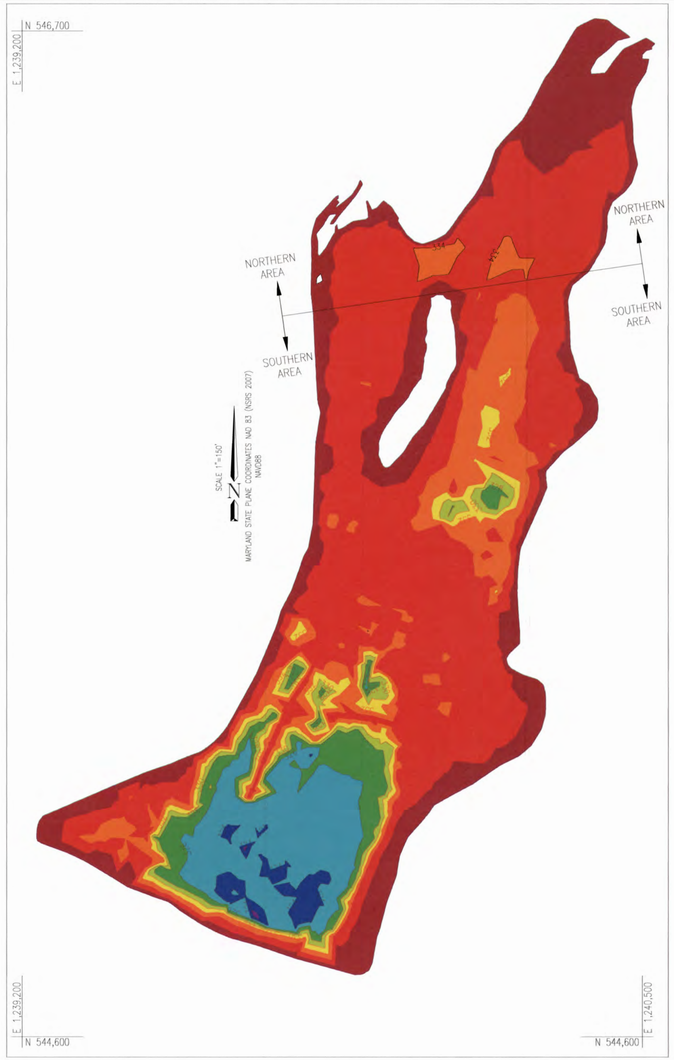
ELEVATION Feet	PLAN. Sq. Inch	AREA SF	AV. AREA SF	DIF. ELV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acre-Ft.	ELEVATION Feet
321.01	0.00	0.00	0.00	0.00	0.00	0	0.0000	321.01
322.00	1,290.00	1,290.00	645.00	0.99	638.55	639	0.0147	322.00
324.00	28,408.00	28,408.00	14,849.00	2.00	29,698.00	30,337	0.6964	324.00
326.00	114,781.00	114,781.00	71,594.50	2.00	143,189.00	173,526	3.9836	326.00
328.00	155,392.00	155,392.00	135,086.50	2.00	270,173.00	443,699	10.1859	328.00
330.00	186,985.00	186,985.00	171,188.50	2.00	342,377.00	786,076	18.0458	330.00
332.00	262,235.00	262,235.00	224,610.00	2.00	449,220.00	1,235,296	28.3585	332.00
334.00	742,083.00	742,083.00	502,159.00	2.00	1,004,318.00	2,239,614	51.4145	334.00
336.00	848,443.00	848,443.00	795,263.00	2.00	1,590,526.00	3,830,140	87.9279	336.00
337.41	938,016.00	938,016.00	893,229.50	1.41	1,259,453.60	5,089,593	116.8410	337.41

ELEVATION – STORAGE TABLE
TOP OF SEDIMENT TO WSEL

ELEVATION Feet	PLAN. Sq. Inch	AREA SF	AV. AREA SF	DIF. ELV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acre-Ft.	ELEVATION Feet
321.11	0.00	0.00	0.00	0.00	0.00	0	0.0000	321.11
322.00	153.00	153.00	76.50	0.89	68.08	68	0.0016	322.00
324.00	14,045.00	14,045.00	7,099.00	2.00	14,198.00	14,266	0.3275	324.00
326.00	101,228.00	101,228.00	57,636.50	2.00	115,273.00	129,539	2.9738	326.00
328.00	142,438.00	142,438.00	121,833.00	2.00	243,666.00	373,205	8.5676	328.00
330.00	167,818.00	167,818.00	155,128.00	2.00	310,256.00	683,461	15.6901	330.00
332.00	201,571.00	201,571.00	184,694.50	2.00	369,389.00	1,052,850	24.1701	332.00
334.00	316,900.00	316,900.00	259,235.50	2.00	518,471.00	1,571,321	36.0726	334.00
336.00	746,223.00	746,223.00	531,561.50	2.00	1,063,123.00	2,634,444	60.4785	336.00
337.41	938,016.00	938,016.00	842,119.50	1.41	1,187,388.50	3,821,833	87.7372	337.41

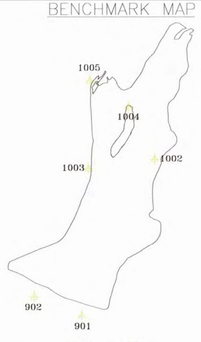
LOSS OF TOTAL STORAGE (VOLUME) TABLE

ELEVATION Feet	Design Volume in Pond CF	Ex. Volume in Pond CF	Loss CF	Loss %
321.01	0	0	0.00	0.00%
322.00	639	68	570.47	89.34%
324.00	30,337	14,266	16,070.47	52.97%
326.00	173,526	129,539	43,986.47	25.35%
328.00	443,699	373,205	70,493.47	15.89%
330.00	786,076	683,461	102,614.47	13.05%
332.00	1,235,296	1,052,850	182,445.47	14.77%
334.00	2,239,614	1,571,321	668,292.47	29.84%
336.00	3,830,140	2,634,444	1,195,695.47	31.22%
337.41	5,089,593	3,821,833	1,267,760.57	24.91%



TOP OF SEDIMENT

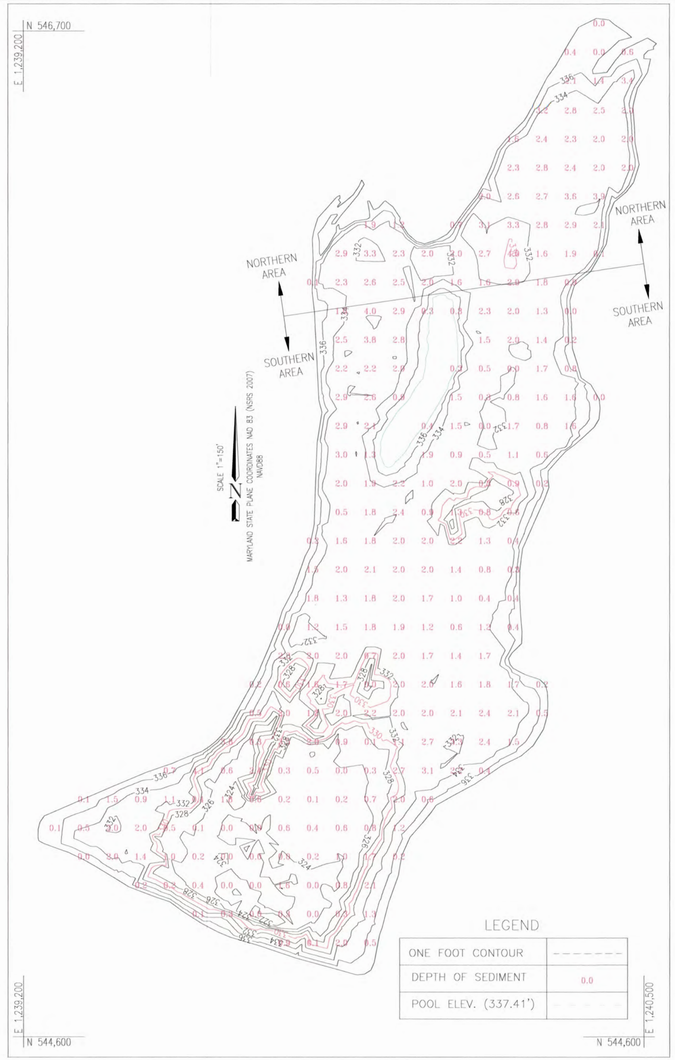
BENCHMARK MAP



SCALE: 1"=500'

BENCH MARK TABLE

BM.#	NORTHING	EASTING	ELEVATION	
901	N:544682.07	E:1239745.00	ELEV:353.49	RE-BAR & CAP SET
902	N:544815.39	E:1239413.49	ELEV:353.08	RE-BAR & CAP SET
1002	N:545774.42	E:1240255.31	ELEV:340.38	SCREW IN DOCK
1003	N:545707.54	E:1239791.56	ELEV:339.49	PK NAIL SET IN PATH
1004	N:546137.34	N:1240071.18	ELEV:338.04	RE-BAR & CAP SET
1005	N:546320.39	N:1239802.60	ELEV:341.61	PK NAIL SET IN PATH



LEGEND

ONE FOOT CONTOUR	
DEPTH OF SEDIMENT	0.0
POOL ELEV. (337.41')	

DEPTH OF SEDIMENT

Gunners Lake Bathymetric Survey

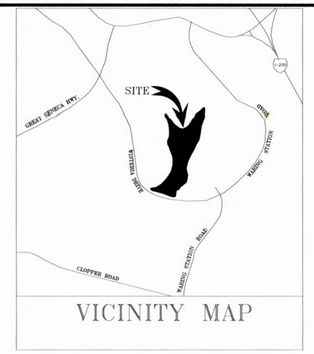
Purpose
Charles P. Johnson & Associates, Inc. (CPJ) was requested to complete a bathymetric survey of Gunners Lake located in Germantown, Maryland in order to determine the quantity of water in the lake and determine the quantity of sediment in the lake.

Data Acquisition
Due to the large size of the survey area, CPJ used a dual frequency sonar transducer device by Odom Hydrographic Systems augmented with HYPACK data processing software to complete the bathymetric survey for the southern area of the lake defined as south of the north end on the island. Due to the shallow depth of water in the northern area of the lake, CPJ used conventional measurement techniques for the depth of water and depth of sediment. In these shallow areas CPJ also used a GeoXH portable GPS data collection device by Trimble with elevation data collected using a standard survey range pole. All measurements were collected and are displayed in the Maryland State Plane Coordinates NAD 83 /NSRS 2007 horizontal datum and NAVD 1988 vertical datum established using GPS methods and using NGS CORS network.

Topographic information was collected by the transducer at regular intervals over the extent of the survey area. At each survey location, two elevations were recorded: one elevation reflecting the elevation of the top of sediment layer and one elevation reflecting the bottom of the lake (beneath the sediment layer). In addition, survey information was collected for the location and elevation of the edge of water.

Bathymetric Analysis
After the bathymetric survey data was post-processed using the HYPACK software to remove any anomalies, the data was input into Land Desktop, a software add-on to Autodesk's AutoCAD 2009 program. Two surfaces were generated: one reflecting the topography of the top of sediment and one reflecting the topography of the bottom of the lake. Using Land Desktop, the two surfaces were compared. Their volumetric difference represents the volume of sediment that is in the lake. Topographic contours were generated from the collected survey information using Land Desktop. These contours were produced on two (2) foot intervals and an elevation versus storage table was computed for both surfaces. A comparison of the two tables shows that sedimentation of the pond has caused an approximate 25% loss in storage or approximately 47,000 CY of sediment. This confirmed the results of the surface comparison.

Survey Exhibits
After completing post-processing of all survey data and computing the sedimentation values in the basin, CPJ prepared exhibits showing topography, water depths (via color chart), and sedimentation depths in the lake.



VICINITY MAP

LEGEND

WATER DEPTH RANGE	ELEVATION RANGE	COLOR
0'–1.41'	337.41'–336'	
1.41'–3.41'	336'–334'	
3.41–5.41'	334'–332'	
5.41'–7.41'	332'–330'	
7.41'–9.41'	330'–328'	
9.41'–11.41'	328'–326'	
11.41'–13.41'	326'–324'	
13.41'–15.41'	324'–322'	
15.41'–16.40'	330'–321.01'	

WATER SURFACE ELEVATION (WSEL) = 337.41'

SHEET INDEX

SHEET NO.	SHEET TITLE
1	OVERALL
2	SOUTHERN AREA
3	NORTHERN AREA
4	OVERALL SEDIMENT DEPTH

UPDATES/REVISIONS :
1 - REVISION TO INCLUDE SHEET 4 WITH SEDIMENT DEPTH AND SHEET INDEX ON SHEET 1 - 11/14/2012 - ADG

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 NUMBER: 32457

EXPIRATION DATE: 06-20-2014

OVERALL BATHYMETRIC SURVEY
GUNNERS LAKE
GERMANTOWN (2nd) ELECTION DISTRICT
MONTGOMERY COUNTY, MARYLAND

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Administrative Requirements:
Reviewed 12/9/14 Date
263035 SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management: Maintenance
Reviewed Date
Approved Date
S.M.F.E. NO.

Sediment Control Technical Requirements:
Reviewed 12/9/14 Date
Approved 12/5/2014 Date

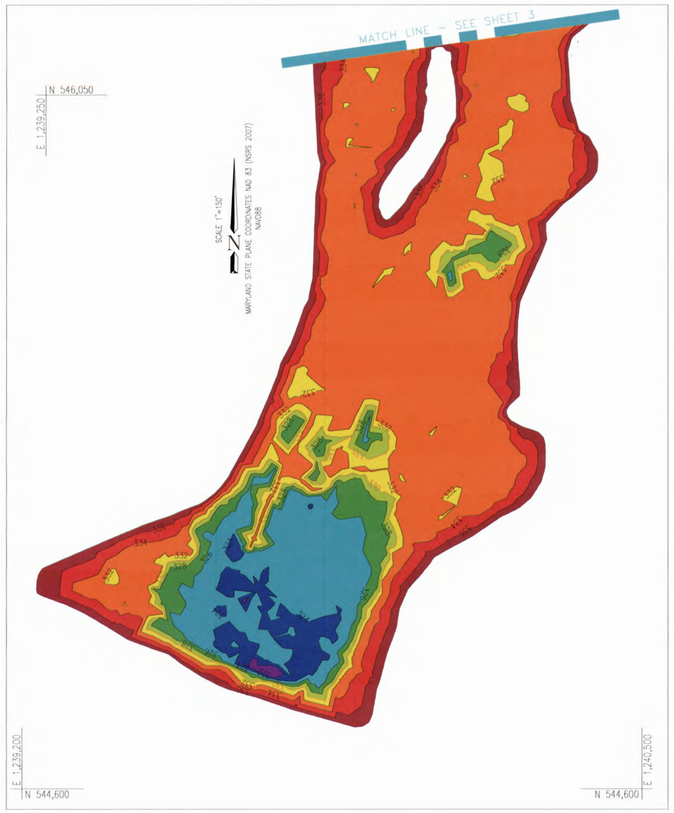
CPJ Associates
Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
www.cpja.com • Silver Spring, MD • Gaithersburg, MD • Frederick, MD • Fairfax, VA

CLIENT : Montgomery County
Dept. of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, MD 20850
Telephone: (240) 777-7723
Contact: Gene Coparsko

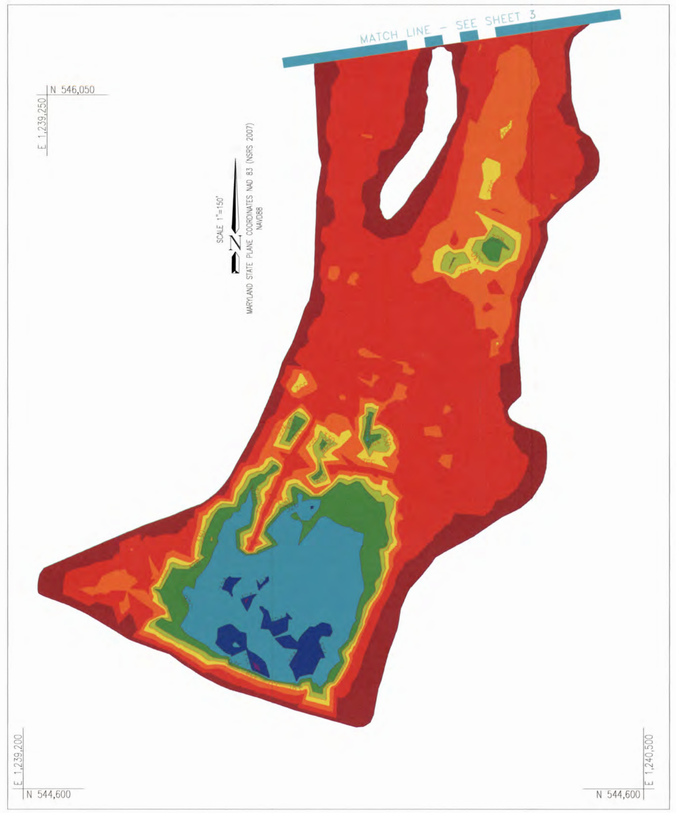
COPYRIGHT© LATEST DATE HEREON CHARLES P. JOHNSON & ASSOCIATES, INC. ALL RIGHTS RESERVED, UNAUTHORIZED USE OR REPRODUCTION IS PROHIBITED.

PRELIMINARY PLAN NO: N/A	SITE PLAN NO: N/A
DESIGN ADG	SHEET 14 OF 19
DRAFT ADG	
DATE NOV., 2012	FILE NO : 35-575-30.4
SCALE AS-SHOWN	

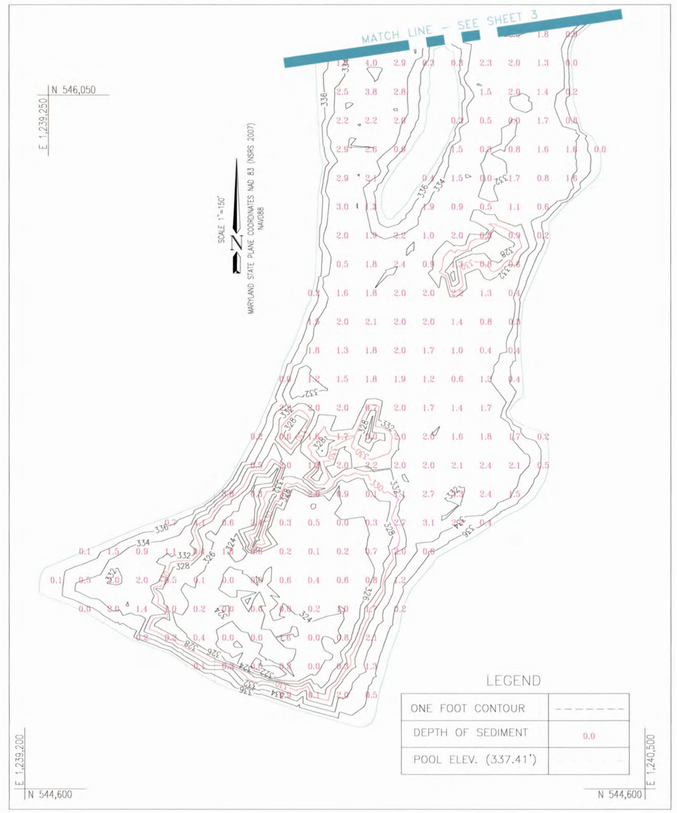
Attached Xrefs:



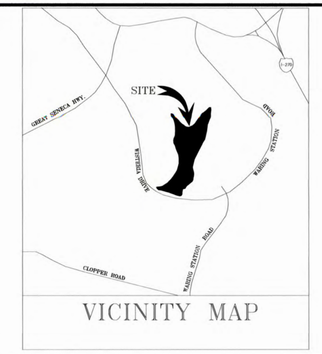
BOTTOM OF LAKE



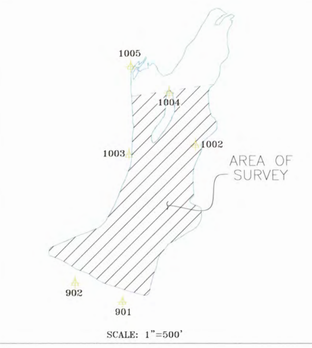
TOP OF SEDIMENT



DEPTH OF SEDIMENT



VICINITY MAP



LEGEND

WATER DEPTH RANGE	ELEVATION RANGE	COLOR
0'–1.41'	337.41'–336'	
1.41'–3.41'	336'–334'	
3.41–5.41'	334'–332'	
5.41'–7.41'	332'–330'	
7.41'–9.41'	330'–328'	
9.41'–11.41'	328'–326'	
11.41'–13.41'	326'–324'	
13.41'–15.41'	324'–322'	
15.41'–16.40'	330'–321.01'	

WATER SURFACE ELEVATION (WSEL) = 337.41'

ELEVATION – STORAGE TABLE
BOTTOM OF LAKE TO WSEL

ELEVATION Feet	PLAN Sq. Inch	AREA SF	AV. AREA SF	DIF. ELV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acre-Ft.	ELEVATION Feet
321.01	0.00	0.00	0.00	0.00	0.00	0	0.0000	**321.01**
322.00	1,290.00	1,290.00	645.00	0.99	638.55	639	0.0147	**322.00**
324.00	28,408.00	28,408.00	14,849.00	2.00	29,698.00	30,337	0.6964	**324.00**
326.00	114,781.00	114,781.00	71,594.50	2.00	143,189.00	173,526	3.9836	**326.00**
328.00	155,392.00	155,392.00	135,086.50	2.00	270,173.00	443,699	10.1859	**328.00**
330.00	185,922.00	185,922.00	170,657.00	2.00	341,314.00	785,013	18.0214	**330.00**
332.00	238,631.00	238,631.00	212,276.50	2.00	424,553.00	1,209,566	27.7678	**332.00**
334.00	608,287.00	608,287.00	423,459.00	2.00	846,918.00	2,056,484	47.2104	**334.00**
336.00	693,106.00	693,106.00	650,696.50	2.00	1,301,393.00	3,357,877	77.0862	**336.00**
337.41	754,678.00	754,678.00	723,892.00	1.41	1,020,687.72	4,378,564	100.5180	**337.41**

ELEVATION – STORAGE TABLE
TOP OF SEDIMENT TO WSEL

ELEVATION Feet	PLAN Sq. Inch	AREA SF	AV. AREA SF	DIF. ELV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acre-Ft.	ELEVATION Feet
321.11	0.00	0.00	0.00	0.00	0.00	0	0.0000	**321.11**
322.00	153.00	153.00	76.50	0.89	68.08	68	0.0016	**322.00**
324.00	14,045.00	14,045.00	7,099.00	2.00	14,198.00	14,266	0.3275	**324.00**
326.00	101,228.00	101,228.00	57,636.50	2.00	115,273.00	129,539	2.9738	**326.00**
328.00	142,438.00	142,438.00	121,833.00	2.00	243,666.00	373,205	8.5676	**328.00**
330.00	167,818.00	167,818.00	155,128.00	2.00	310,256.00	683,461	15.6901	**330.00**
332.00	201,571.00	201,571.00	184,694.50	2.00	369,389.00	1,052,850	24.1701	**332.00**
334.00	307,381.00	307,381.00	254,476.00	2.00	508,952.00	1,561,802	35.8540	**334.00**
336.00	634,829.00	634,829.00	471,105.00	2.00	942,210.00	2,504,012	57.4842	**336.00**
337.41	754,678.00	754,678.00	694,753.50	1.41	979,602.44	3,483,615	79.9728	**337.41**

LOSS OF TOTAL STORAGE (VOLUME) TABLE

ELEVATION Feet	Design Volume in Pond CF	Ex. Volume in Pond CF	Loss CF	Loss %
321.01	0	0	0.00	0.00%
322.00	639	68	570.47	89.34%
324.00	30,337	14,266	16,070.47	52.97%
326.00	173,526	129,539	43,986.47	25.35%
328.00	443,699	373,205	70,493.47	15.89%
330.00	785,013	683,461	101,551.47	12.94%
332.00	1,209,566	1,052,850	156,715.47	12.96%
334.00	2,056,484	1,561,802	494,681.47	24.05%
336.00	3,357,877	2,504,012	853,864.47	25.43%
337.41	4,378,564	3,483,615	894,949.75	20.44%

Southern Area of Gunners Lake Bathymetric Survey

Purpose
Charles P. Johnson & Associates, Inc. (CPJ) was requested to complete a bathymetric survey of the lower reaches (approximately 17.3 acres) of Gunners Lake located in Germantown, Maryland in order to determine the quantity of water in the lake and determine the quantity of sediment in the lake.

Data Acquisition
Due to the large size of the survey area, CPJ used a dual frequency sonar transducer device by Odom Hydrographic Systems augmented with HYPACK data processing software to complete the bathymetric survey for the southern area of the lake defined as south of the north end of the island. All measurements were collected and are displayed in the Maryland State Plane Coordinates NAD 83 /NSRS 2007 horizontal datum and NAVD 1988 vertical datum established using GPS methods and using NGS CORS network.

Topographic information was collected by the transducer at regular intervals over the extent of the survey area. At each survey location, two elevations were recorded: one elevation reflecting the elevation of the top of sediment layer and one elevation reflecting the bottom of the lake (beneath the sediment layer). In addition, survey information was collected for the location and elevation of the edge of water.

Bathymetric Analysis
After the bathymetric survey data was post-processed using the HYPACK software to remove any anomalies, the data was input into Land Desktop, a software add-on to Autodesk's AutoCAD 2009 program. Two surfaces were generated: one reflecting the topography of the top of sediment and one reflecting the topography of the bottom of the lake. Using Land Desktop, the two surfaces were compared. Their volumetric difference represents the volume of sediment that is in the lake. Topographic contours were generated from the collected survey information using Land Desktop. These contours were produced on two (2) foot intervals and an elevation versus storage table was computed for both surfaces. A comparison of the two tables shows that sedimentation of the pond has caused an approximate 20% loss in storage or approximately 33,200 CY of sediment. This confirmed the results of the surface comparison.

Survey Exhibits
After completing post-processing of all survey data and computing the sedimentation values in the basin, CPJ prepared exhibits showing topography, water depths (via color chart), and sedimentation depths in the lake.

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 NUMBER: 32457

EXPIRATION DATE: 06-20-2014

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Administrative Requirements:

Reviewed 12/9/14 Date

263035 SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management: Maintenance

Reviewed Date

Approved Date

S.M.FILE NO.

Sediment Control Technical Requirements:

Reviewed 12/9/14 Date

Approved 12/9/14 Date

SOUTHERN AREA
BATHYMETRIC SURVEY

GUNNERS LAKE

GERMANTOWN (2nd) ELECTION DISTRICT
MONTGOMERY COUNTY, MARYLAND

CPJ Associates
Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
www.cpja.com • Silver Spring, MD • Gaithersburg, MD • Frederick, MD • Fairfax, VA

CLIENT: Montgomery County
Dept. of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, MD 20850
Telephone: (240) 777-7723
Contact: Gene Gopenko

PRELIMINARY PLAN NO:	N/A
SITE PLAN NO:	N/A
DESIGN	ADG
DRAFT	ADG
DATE	NOV., 2012
SCALE	AS-SHOWN
SHEET	15 OF 19
FILE NO :	35-575-30.4

COPYRIGHT© LATEST DATE HEREON CHARLES P. JOHNSON & ASSOCIATES, INC. ALL RIGHTS RESERVED, UNAUTHORIZED USE OR REPRODUCTION IS PROHIBITED.

Attached Xrefs:

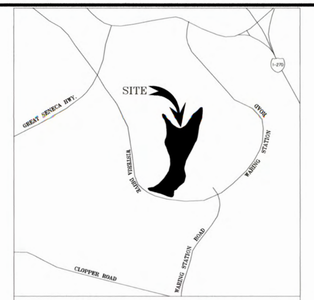
N 546,700
E 1,239,200

SCALE 1"=100'
N
MARYLAND STATE PLANE COORDINATES NAD 83 (NSRS 2007)
NAVD88

E 1,239,200
N 544,600

N 544,600
E 1,240,500

DEPTH OF SEDIMENT



VICINITY MAP

LEGEND

SEDIMENT DEPTH RANGE	SEDIMENT DEPTH AREA (sf)	COLOR
0'–1'	382,905	
1'–2'	347,848	
2'–3'	167,769	
3'–4'	54,040	
4'–5'	1,656	
5'–6'	360	
6'–7'	140	

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 NUMBER: 32457

EXPIRATION DATE: 06-20-2014

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Administrative Requirements:

12/9/14
Reviewed Date

263035
SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management:

Maintenance

Reviewed Date

Approved Date

S.M.FILE NO.

Sediment Control Technical Requirements:

12/9/14
Reviewed Date

12/5/2014
Approved Date

OVERALL SEDIMENT DEPTH BATHYMETRIC SURVEY

GUNNERS LAKE

GERMANTOWN (2nd) ELECTION DISTRICT
MONTGOMERY COUNTY, MARYLAND

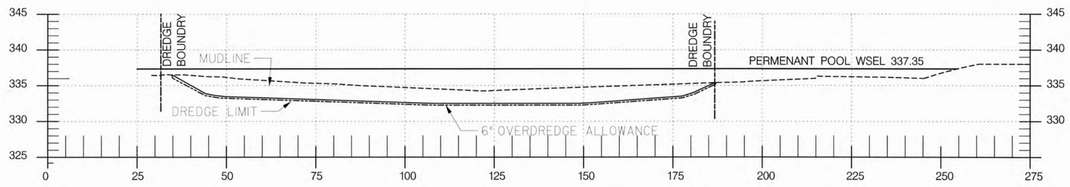
CPJ Associates
Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
www.cpja.com • Silver Spring, MD • Gaithersburg, MD • Frederick, MD • Fairfax, VA

CLIENT : Montgomery County
Dept. of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, MD 20850
Telephone: (240) 777-7723
Contact: Gene Goperiko

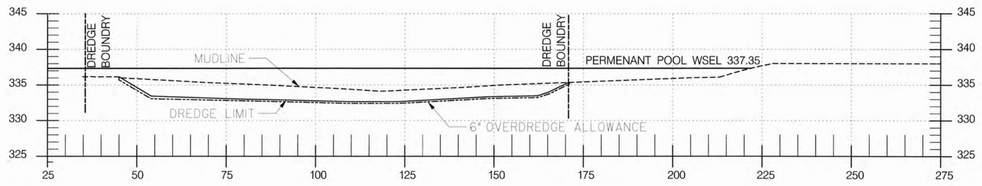
COPYRIGHT© LATEST DATE HEREON CHARLES P. JOHNSON & ASSOCIATES, INC. ALL RIGHTS RESERVED, UNAUTHORIZED USE OR REPRODUCTION IS PROHIBITED.

PRELIMINARY PLAN NO:	N/A
SITE PLAN NO:	N/A
DESIGN	ADG
DRAFT	ADG
DATE	NOV., 2012
SCALE	1"=100'
SHEET	16 OF 19
FILE NO :	35-575-30.4

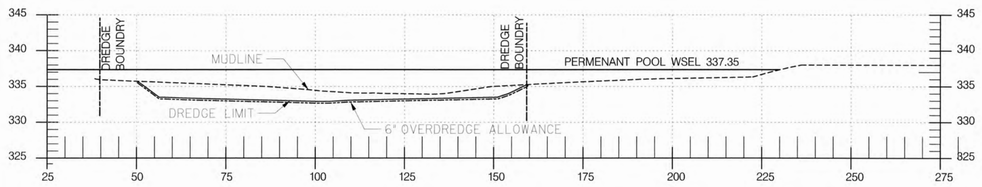
Attached Area: [illegible]



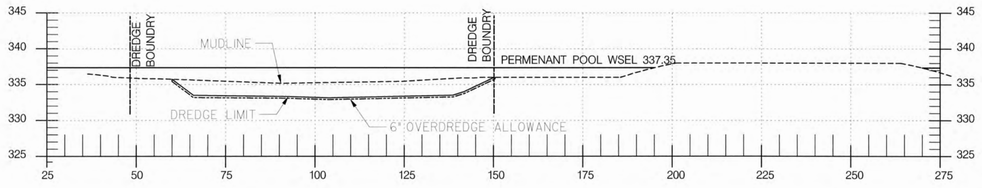
STATION 4+50



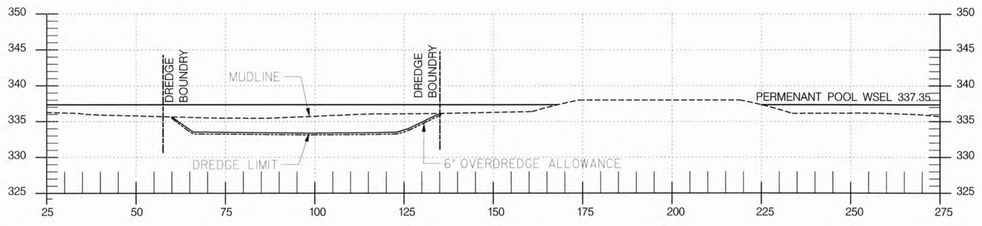
STATION 4+00



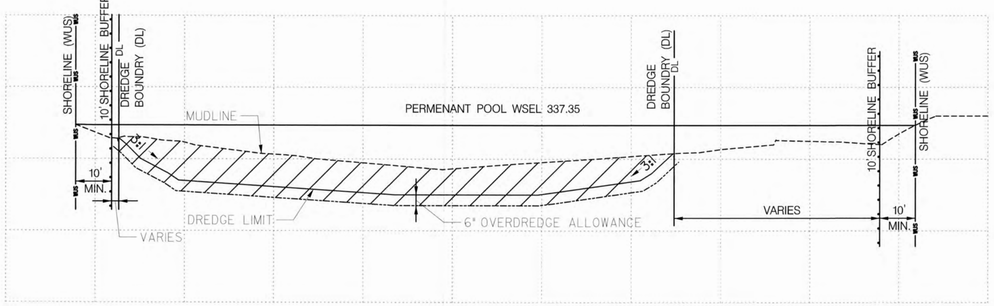
STATION 3+50



STATION 3+00



STATION 2+50



TYPICAL SECTION
NOT TO SCALE

TYPICAL SECTION
NOT TO SCALE

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management: Maintenance

Reviewed Date

Approved Date

S.M.FILE NO.

Sediment Control Technical Requirements:

Reviewed 12/9/14 Date

Approved 12/9/14 Date

Administrative Requirements:

Reviewed 12/9/14 Date

263035
SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

CROSS SECTION SHEET

ROAD _____ STATION STA. 2+50 TO STATION STA. 4+50

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

GUNNERS LAKE
HYDRAULIC DREDGING

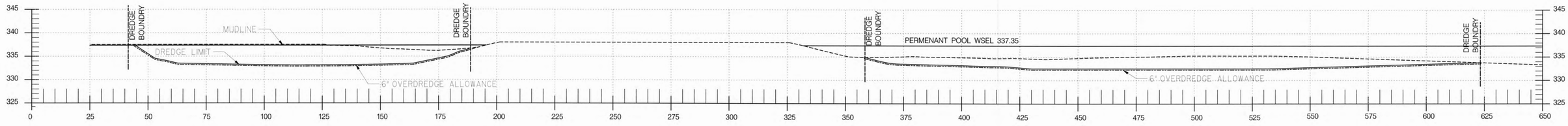
DESIGNED BY JMH
DRAWN BY PNK
CHECKED BY CJB
F.A.P. NO.

COUNTY MONTGOMERY COUNTY
CONTRACT NO. 0801000108
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'

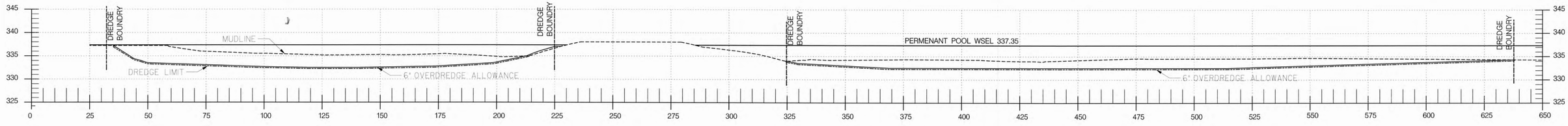
DRAWING NO. CS – 01 OF CS – 03 SHEET NO. 17 OF 19

PLOTTED: Tuesday, November 25, 2014 AT 03:11 PM
FILE: I:\6414 – Montgomery County\04 – Gunners Lake\Design\Engineering\PlanSet\pHC-X001_Gunners.dgn

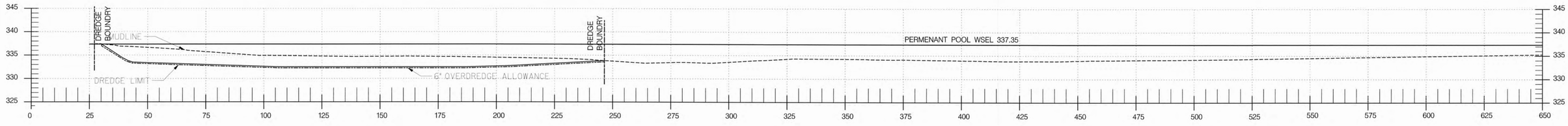
BY: MERaffle –



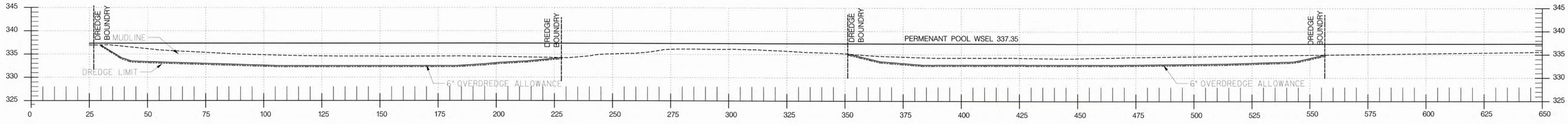
STATION 7+00



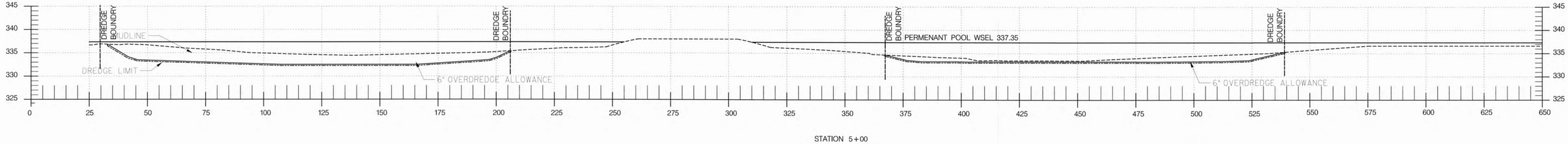
STATION 6+50



STATION 6+00



STATION 5+50



STATION 5+00

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management: Maintenance

Reviewed Date

Approved Date

S.M.FILE NO.

Sediment Control Technical Requirements:

Reviewed 12/9/14 Date

Approved 12/5/2014 Date

Administrative Requirements:

Reviewed 12/9/14 Date

263035
SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

CROSS SECTION SHEET

ROAD _____ STATION STA. 7+00 TO STATION STA. 5+00

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

GUNNERS LAKE
HYDRAULIC DREDGING

DESIGNED BY JMH
DRAWN BY PNK
CHECKED BY CJB
F.A.P. NO. _____

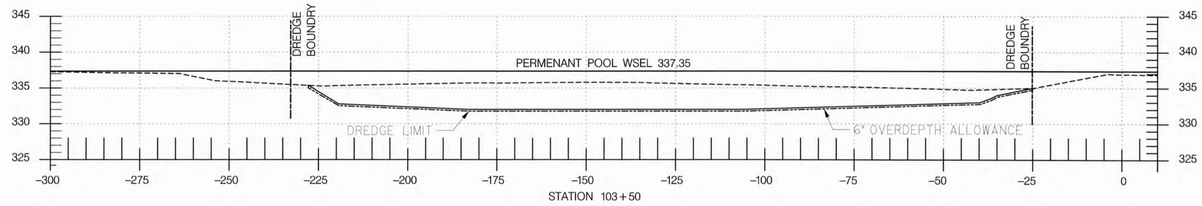
COUNTY MONTGOMERY COUNTY
CONTRACT NO. 0801000108
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'

DRAWING NO. CS -02 OF CS - 03

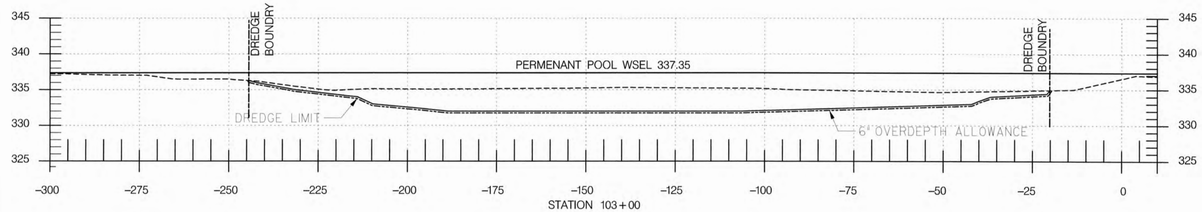
SHEET NO. 18 OF 19

PLOTTED: Tuesday, November 25, 2014 AT 03:11 PM
FILE: I:\5414 - Montgomery County\04 - Gunners Lake\Design\Engineering\PlanSet\pHC-X002_Gunners.dgn

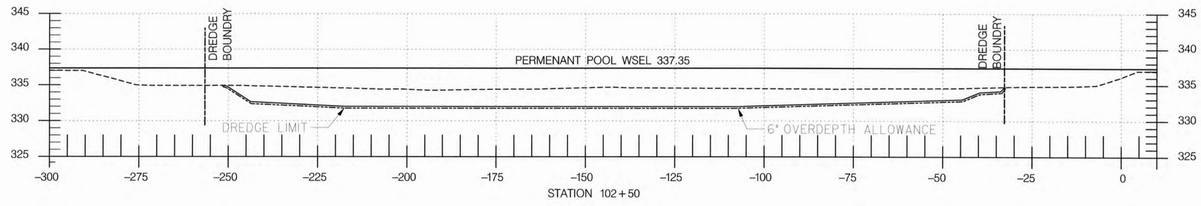
BY: MERaffle -



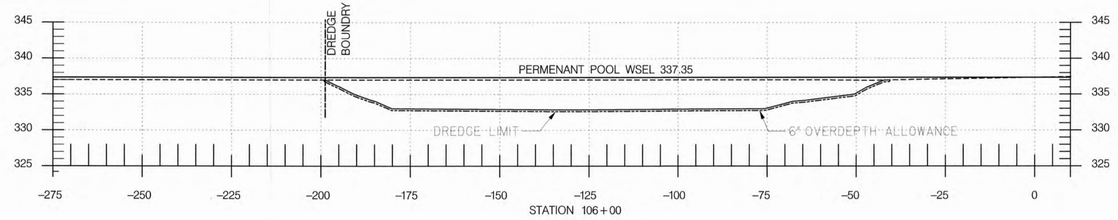
STATION 103+50



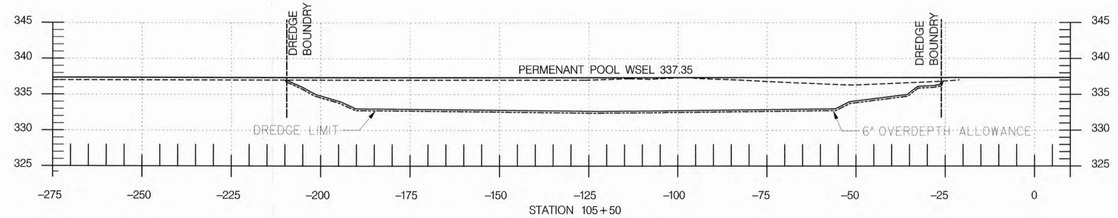
STATION 103+00



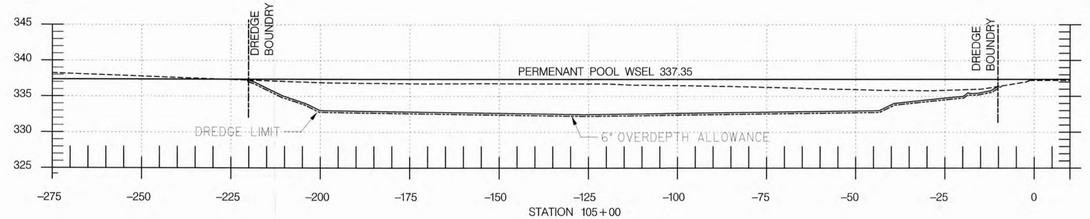
STATION 102+50



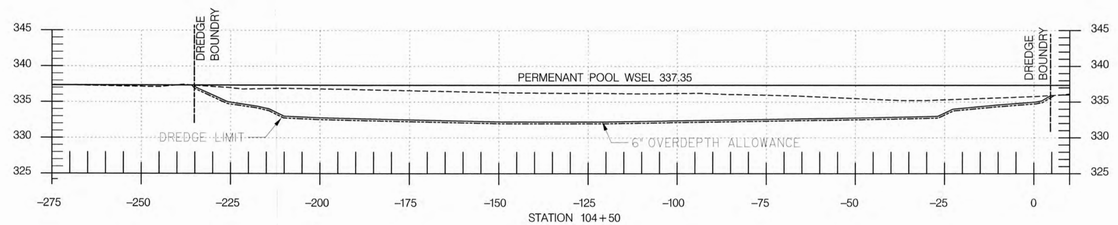
STATION 106+00



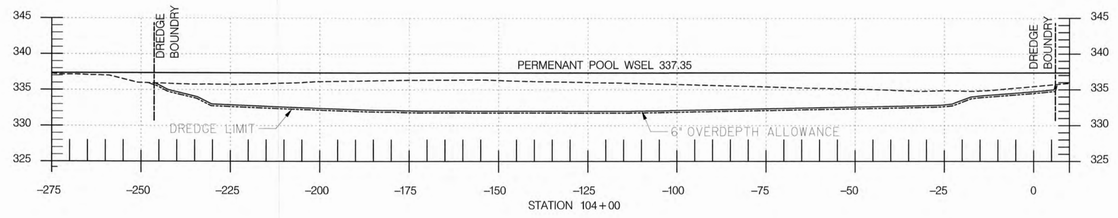
STATION 105+50



STATION 105+00



STATION 104+50



STATION 104+00

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT

Stormwater Management:
Maintenance
Reviewed Date
Approved Date
S.M.FILE NO.

Sediment Control Technical Requirements:
Reviewed 12/9/14 Date
Approved 12/4/2014 Date

Administrative Requirements:
Reviewed 12/9/14 Date
263035
SEDIMENT CONTROL PERMIT NO.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL, IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

CROSS SECTION SHEET

ROAD _____ STATION STA. 7+08 TO STATION STA. 8+39

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
HIGHWAY DESIGN DIVISION

GUNNERS LAKE
HYDRAULIC DREDGING

DESIGNED BY JMH
DRAWN BY PNK
CHECKED BY CJB
F.A.P. NO. _____

COUNTY MONTGOMERY COUNTY
CONTRACT NO. 0801000108
HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 10'

DRAWING NO. CS -03 OF CS - 03
SHEET NO. 19 OF 19

PLOTTED: Tuesday, November 25, 2014 AT 03:11 PM
FILE: I:\5414 – Montgomery County\04 – Gunners Lake\Design\Engineering\PlanSet\pHC-X003_Gunners.dgn

BY: MERaffle –