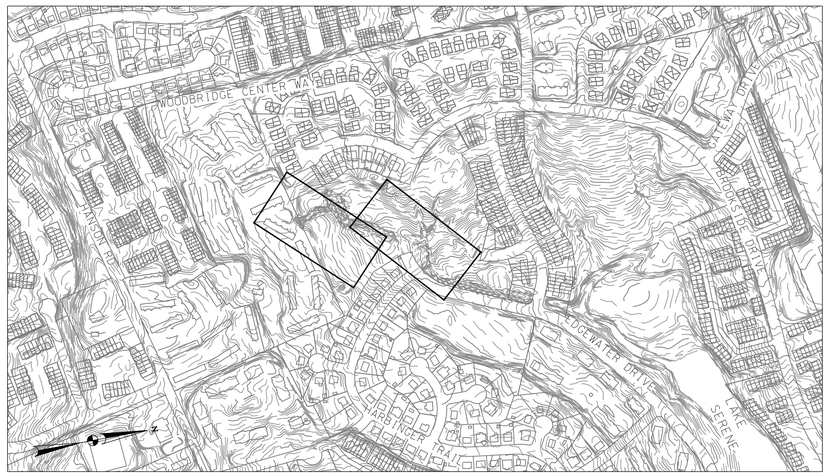
INDEX OF SHEETS

EDGEWATER VILLAGE PARK STREAM RESTORATION

WATERSHED PROTECTION AND RESTORATION OFFICE
HARFORD COUNTY, MARYLAND
BID NO. : TBD



LOCATION MAP

SCALE 1" = 400'
400' 0 400' 800'

PROJECT SUMMARY

TOTAL LENGTH OF STREAM RESTORED:1,181 LINEAR FEET
STREAM USE CLASS: DESIGNATED USE CLASS I
STREAM CLOSURE PERIOD: MARCH 1 THROUGH JUNE 15
LOAD REDUCTIONS:

REACH	TSS REDUCTION	TN REDUCTION	TP REDUCTION	IMPERVIOUS ACRES CREDITS
MAINSTEM	132.19 TONS/YR	160.54 LBS/YR	21.07 LBS/YR	14.59
RT-1	5.7 TONS/YR	6.4 LBS/YR	1.3 LBS/YR	0.79
LT-1	9.9 TONS/YR	12.6 LBS/YR	2.1 LBS/YR	1.4
LT-2	9.63 TONS/YR	12.13 LBS/YR	2.02 LBS/YR	1.3

*SEDIMENT AND NUTRIENT LOAD REDUCTIONS WERE DETERMINED IN ACCORDANCE WITH THE MDE APPROVED EXPERT PANEL DOCUMENT RECOMMENDATIONS OF THE EXPERT PANEL TO DEFINE REMOVAL RATES FOR INDIVIDUAL STREAM RESTORATION PROJECTS (BERG ET AL., 2014) AND SUPPORTING DOCUMENTS.
**SUPPORTED DOCUMENTS CONSULTED INCLUDE "CONCENSUS RECOMMENDATIONS FOR IMPROVING THE APPLICATION OF THE PREVENTED SEDIMENT PROTOCOL FOR STREAM RESTORATION PROJECTS BUILT FOR POLLUTANT REMOVAL CREDIT" DATED SEPTEMBER 2019."CONSENSUS RECOMMENDATIONS TO IMPROVE PROTOCOLS 2 AND 3 FOR DEFINING STREAM RESTORATION POLLUTANT REMOVAL CREDITS" DATED OCTOBER 2020. AND "RECOMMENDATIONS FOR CREDITING OUTFALL AND GULLY STABILIZATION PROJECTS IN THE CHESAPEAKE BAY WATERSHED" DATED OCTOBER 2019.
***TMDL CALCULATIONS SHOWN ABOVE ARE PRELIMINARY AND INCLUDED FOR REFERENCE ONLY. FINAL LOAD REDUCTIONS WILL BE UPDATED AND RECALCULATED AS DESIGN PROGRESSES.

Client:
HARFORD COUNTY
DEPARTMENT OF PUBLIC WORKS
WATERSHED PROTECTION AND
RESTORATION OFFICE
212 S. BOND STREET
BEL AIR, MD 21014
410-638-3217

Prepared By : AECOM
12420 MILESTONE CENTER DRIVE
SUITE 150
GERMANTOWN, MARYLAND 20876
301-820-3000

TIER II IMPACTS
PROJECT FOOTPRINT: 3.12 ACRES
DISTURBED AREA: 3.12 ACRES
IMPACT TO 100 FOOT STREAM BUFFER: 2.83 ACRES
NET FOREST LOSS: TBD

GENERAL NOTES

1. SPECIFICATIONS: ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH MARYLAND STATE HIGHWAY ADMINISTRATIONS STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2024 AND THE MOST RECENT REVISIONS THEREOF AND ADDITIONS THERETO.

2. UTILITIES: UTILITY LOCATIONS SHOWN ON THE PLANS ARE BASED ON LIMITED INFORMATION AVAILABLE. HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF THIS INFORMATION. THE COST OF REPAIR OR REPLACEMENT OF ANY SUCH FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE BORNE BY HIM.

   CONTACT "MISS UTILITY" PHONE 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THERE SHOULD BE NO EXCAVATION UNTIL THE LOCATIONS OF UNDERGROUND UTILITIES HAVE BEEN DETERMINED.

3. STANDARD DETAILS: REFERENCE MADE TO STANDARDS ARE TAKEN FROM THE HARFORD COUNTY ROAD CODE "BOOK OF STANDARD DETAILS" AND FROM "THE MARYLAND STATE HIGHWAY ADMINISTRATION'S BOOK OF STANDARDS-HIGHWAY AND INCIDENTAL STRUCTURES", IT WILL BE THE CONTRACTOR'S RESPONSIBILITY THAT THE STANDARD DRAWINGS IN HIS POSSESSION ARE THE LATEST REVISED STANDARDS UP TO AND INCLUDING THE DATE OF THE ADVERTISEMENT OF THIS CONTRACT.

4. RIGHT-OF-WAY LINES: RIGHT-OF-WAY LINES SHOWN ON THESE PLANS DO NOT INCLUDE EASEMENTS. THEY ARE FOR ASSISTANCE IN INTERPRETING THE PLANS ONLY. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL FEE RIGHT-OF-WAY AND EASEMENT INFORMATION, SEE THE APPROPRIATE RIGHT-OF-WAY PLATS.

5. SOIL CONSERVATION: THE CONTRACTOR SHALL NOT DISTURB THE EXISTING VEGETATION OUTSIDE THE LIMITS OF DISTURBANCE. IF NECESSARY, A TEMPORARY STOCKPILE SHALL BE PROVIDED WITHIN THE LIMITS OF DISTURBANCE, THE STOCKPILE SHALL BE LOCATED SUCH THAT ANY RUNOFF WILL DRAIN TO AN EXISTING SEDIMENT CONTROL DEVICE (I.E., SUPER SILT FENCE). THE STOCKPILE MAY NOT PROTRUDE UPON NOR ALTER DRAINAGE DIVIDES TO THE SEDIMENT CONTROL DEVICE AT ANY TIME. SOIL STABILIZATION WILL CONFORM TO 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. THE CONTRACTOR WILL OBTAIN APPROVAL OF THE HARFORD COUNTY SOIL CONSERVATION DISTRICT FOR HIS PLANS IN CONTROLLING SEDIMENT EROSION FOR THE BORROW AREA AND DISPOSING OF ANY WASTE EXCAVATION.

6. EXISTING MAILBOXES AND EXISTING SIGNS: ALL EXISTING MAILBOXES, SIGNS AND PAPER BOXES DISTURBED DURING CONSTRUCTION SHALL BE TEMPORARILY RESET IMMEDIATELY AND PERMANENTLY RESET AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE INCIDENTAL TO ALL OTHER ITEMS IN THE CONTRACT.

7. SURVEYS:

   HORIZONTAL CONTROL - COORDINATES SHOWN ON THE PLANS ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM (NAD83) IN U.S. SURVEY FEET.

   VERTICAL CONTROL - ELEVATIONS SHOWN ON THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

   ONLY THOSE CONTROL POINTS SHOWN ON THESE PLANS ARE TO BE USED FOR THE CONSTRUCTION OF THIS PROJECT.

NOT FOR CONSTRUCTION: 60% DESIGN REVIEW

S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	
SIGN AND SEAL	

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
TITLE SHEET

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. GN-01 of GN-02

Scale : AS SHOWN
Date : FEBRUARY 2025
Sheet No. 01 of 40

BID No.:
HCG DWG ID No.:
SCALE: 1 inch

GENERAL CONSTRUCTION NOTES

PROJECT DESCRIPTION
THE HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS, WATERSHED PROTECTION AND RESTORATION DIVISION IS PURSUING THE EDGEWATER VILLAGE STREAM RESTORATION PROJECT. THE PROJECT INCLUDES 1,181 LINEAR FEET OF STREAM RESTORATION, 0.05 ACRES OF WETLAND RESTORATION/ENHANCEMENT, AND 245 LINEAR FEET OF SEWER REPLACEMENT. THE GOAL OF THE PROJECT IS TO REPLACE THE EXISTING EXPOSED SANITARY SEWER LINE AND TO PROVIDE STREAM STABILIZATION AND CHANNEL RESTORATION DESIGNS THAT ARE LOW-MAINTENANCE AND COST-EFFECTIVE. ADDITIONALLY, THESE IMPROVEMENTS WILL SUPPORT THE COUNTY IN MEETING TOTAL MAXIMUM DAILY LOAD (TMDL) RESTORATION GOALS FOR THE CHESAPEAKE BAY WATERSHED.

EXISTING SITE CONDITIONS
THE SITE IS LOCATED IN A SUBURBAN AREA WITHIN THE UNINCORPORATED COMMUNITY OF EDGEWOOD, MARYLAND. THE AREA SURROUNDING THE PROJECT AREA INCLUDES RESIDENTIAL NEIGHBORHOODS, ATHLETIC FIELDS, OPEN SPACE, AND FORESTED BUFFERS. THE SITE IS LOCATED WITHIN THE LOWER WINTERS RUN (MDE 8 DIGIT WATERSHED NUMBER: 02130702) WATERSHED. AREAS LOCATED OUTSIDE THE LOD WILL NOT BE DISTURBED DURING CONSTRUCTION.

CRITICAL EROSION AREAS
EARLY ESTABLISHMENT AND PROPER MAINTENANCE OF PERIMETER CONTROLS WILL PROVIDE SEDIMENTATION CONTROL. STABILIZE AND MAINTAIN CUT AND FILL SLOPES THROUGHOUT PROJECT CONSTRUCTION TO CONTROL EROSION. AREAS THAT MAY HAVE HIGH EROSION POTENTIAL DURING CONSTRUCTION INCLUDE THE STREAMBANKS AND AREAS OF HIGHLY ERODIBLE SOIL. PORTIONS OF THE STREAMBANK WITH SLOPES EXCEEDING 5% LOCATED WITHIN AREAS OF HIGHLY ERODIBLE SOIL (K VALUE GREATER THAN 0.4) WILL BE CONSIDERED CRITICAL AREAS AND WILL BE TREATED WITH EROSION CONTROL MATTING TO ENSURE ADEQUATE STABILIZATION.

ADEQUATE CHANNEL PROTECTION
WATERWAYS DOWNSTREAM OF THE PROJECT SITE WILL BE PROTECTED FROM SEDIMENT DEPOSITION AND INCREASES FROM VOLUME, VELOCITY AND PEAK-FLOW THROUGH USE OF SEDIMENT CONTROL MEASURES DURING CONSTRUCTION, INCLUDING SANDBAG DIKES, COFFERDAMS, PUMPS, AND FILTER BAGS.

SPATIAL DATA
SOURCES FOR ELEVATION DATA INCLUDE THE FOLLOWING:

1) SURVEY PERFORMED BY AECOM IN MAY 2024.

2) GIS TOPOGRAPHY AVAILABLE FROM THE HARFORD COUNTY GIS DATA DOWNLOAD PORTAL.

PROPOSED WORK
A. COMPLETE ALL PROPOSED WORK CAREFULLY TO MINIMIZE DISTURBANCE TO ADJACENT AREAS.

B. RESTORE ANY AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL OR PROPOSED CONDITION TO THE SATISFACTION OF THE OWNER AND THE ENGINEER.

C. IF WORK IS NOT AS ANTICIPATED OR INVOLVES DESIGN MODIFICATION CONSIDERATIONS, NOTIFY ENGINEER PRIOR TO PROCEEDING.

GENERAL CONSTRUCTION NOTES:
A. THE ENGINEER USED NORMAL STANDARD OF CARE IN LOCATING, IDENTIFYING AND SURVEYING EXISTING UTILITIES. NO SPECIALIZED SUBSURFACE UTILITY ENGINEERING WAS CONDUCTED. ALL EXISTING UTILITIES FOUND DURING SURVEY ARE SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES WITHIN THE CONSTRUCTION LIMITS AND VERIFYING THE LOCATION AND DEPTHS OF BURIED UTILITIES PRIOR TO CONSTRUCTION. IF A CONFLICT IS DISCOVERED BETWEEN THE PLANS AND THE EXISTING UTILITIES, THE CONTRACTOR IS TO NOTIFY THE ENGINEER TO ADDRESS THE CONFLICT PRIOR TO BEGINNING CONSTRUCTION.

B. CONTRACTOR SHALL PROVIDE TEMPORARY STABILIZATION OF ALL UTILITIES DURING CONSTRUCTION INCLUDING ABOVE GROUND UTILITIES SUCH AS POWER POLES.

C. VERIFY ALL FIELD CONDITIONS PRIOR TO CONSTRUCTION AND/OR DEMOLITION AND REPORT ANY DIFFERENCE IN SITE CONDITIONS FROM THE DRAWINGS TO THE ENGINEER IMMEDIATELY.

D. PROMPTLY INFORM THE ENGINEER OF ANY ERROR OR DISCREPANCY DISCOVERED IN THESE DRAWINGS OR SPECIFICATIONS OR CONFLICT BETWEEN THE DRAWINGS AND THE SPECIFICATIONS.

DEMOLITION NOTES:
A. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND DEMOLITION OF ANY ELEMENTS WHICH ARE IN CONFLICT WITH PROPOSED NEW CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO FENCES, TREES, DRAINAGE STRUCTURES, POLES, PAVEMENTS, VEGETATION, SIGNS AND OTHER MISCELLANEOUS SITE ELEMENTS.

B. ALL DEMOLITION DEBRIS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS AND SPECIFICATIONS, LATEST REVISION.

C. CONTRACTOR SHALL STRIP TOPSOIL AND STOCKPILE IT FOR LATER USE.

D. EXISTING UTILITIES SUCH AS WATER, SEWER, GAS, ELECTRICAL, FIBER, CABLE, ETC. MAY BE PRESENT IN THE AREA. THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED PRIOR TO CONSTRUCTION. ANY AND ALL DAMAGES RESULTING FROM THE FAILURE TO DO SO SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER. CONTACT ANY APPLICABLE LOCAL AND REGIONAL UTILITIES COMPANIES AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.

LEGEND

	PROPERTY BOUNDARY
	EXISTING MAJOR CONTOURS
	EXISTING MINOR CONTOURS
WET WET	EXISTING WETLAND
LOS	LIMITS OF SURVEY
	EXISTING STREAMLINE
// //	SOIL BOUNDARY
SD SD	EXISTING STORM DRAIN
SS	EXISTING SANITARY SEWER
SS SD	EXISTING MANHOLE
	EXISTING CONCRETE DEBRIS
	EXISTING RIP RAP
	SPECIMEN TREE (30"+)
	SIGNIFICANT TREE (24"-29")
	TREES LESS THAN 24"
	CRITICAL ROOT ZONE
	TREE TO BE REMOVED
	PROPOSED STREAM CENTERLINE
	PROPOSED BANKFULL
LOD	PROPOSED LIMIT OF DISTURBANCE
	LOG CROSS VANE
	ROCK CROSS VANE
	LOG STEP
WET WET WET WET	WETLAND RESTORATION AREA
	PROPOSED RIPRAP
	PROPOSED STREAM SUBSTRATE
WUS	WATERS OF THE US
	TREE LINE
	CONSTRUCTION ACCESS ROAD
	STOCKPILE/STAGING AREA
SF SF SF	SILT FENCE
SCE	STABILIZED CONSTRUCTION ENTRANCE
HVF	HIGH VISIBILITY SAFETY FENCE
	TEMPORARY SANDBAG DIVERSION
	PUMP AROUND DIVERSION
FB	FILTER BAG
TP TP	TREE PLANKING
	UTILITY CROSSING
SB SB	STREAM BUFFER (100')
EPH EPH	EPHEMERAL STREAM
WUS	WATERS OF THE U.S.
RP RP	ROOT PRUNING

DEVELOPER'S/LANDOWNER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN ON THESE CONSTRUCTION DRAWING(S) WILL BE ACCOMPLISHED PURSUANT TO THESE PLANS. I/WE ALSO UNDERSTAND THAT IT IS MY/OUR RESPONSIBILITY TO HAVE THE CONSTRUCTION SUPERVISED AND CERTIFIED, INCLUDING THE SUBMITTAL OF "AS-BUILT" PLANS WITHIN 30 DAYS OF COMPLETION, BY A REGISTERED PROFESSIONAL ENGINEER.

SIGNED: _____
PRINT NAME: _____
DATE: _____

ENGINEER'S CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED BY ME, OR UNDER MY SUPERVISION, AND MEETS THE MINIMUM STANDARDS OF THE HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS AND/OR THE UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, AND/OR THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

SIGNED: _____
PRINT NAME: _____
DATE: _____
P.E. NO.: _____

AS-BUILT CERTIFICATION

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

SIGNED: _____
PRINT NAME: _____
DATE: _____
P.E. NO.: _____

FIELD VERIFICATION CERTIFICATION

I HEREBY CERTIFY THAT I COMPLETED A FIELD VERIFICATION TO THE INFORMATION SHOWN ON THE PLANS ON _____ AND THAT THE INFORMATION SHOWN ON THE PLANS IS IN AGREEMENT WITH THE ACTUAL FIELD CONDITIONS.

SIGNED: _____
PRINT NAME: _____
DATE: _____

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

SIGN AND SEAL

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
GENERAL CONSTRUCTION NOTES

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : NTS
Date : FEBRUARY 2025

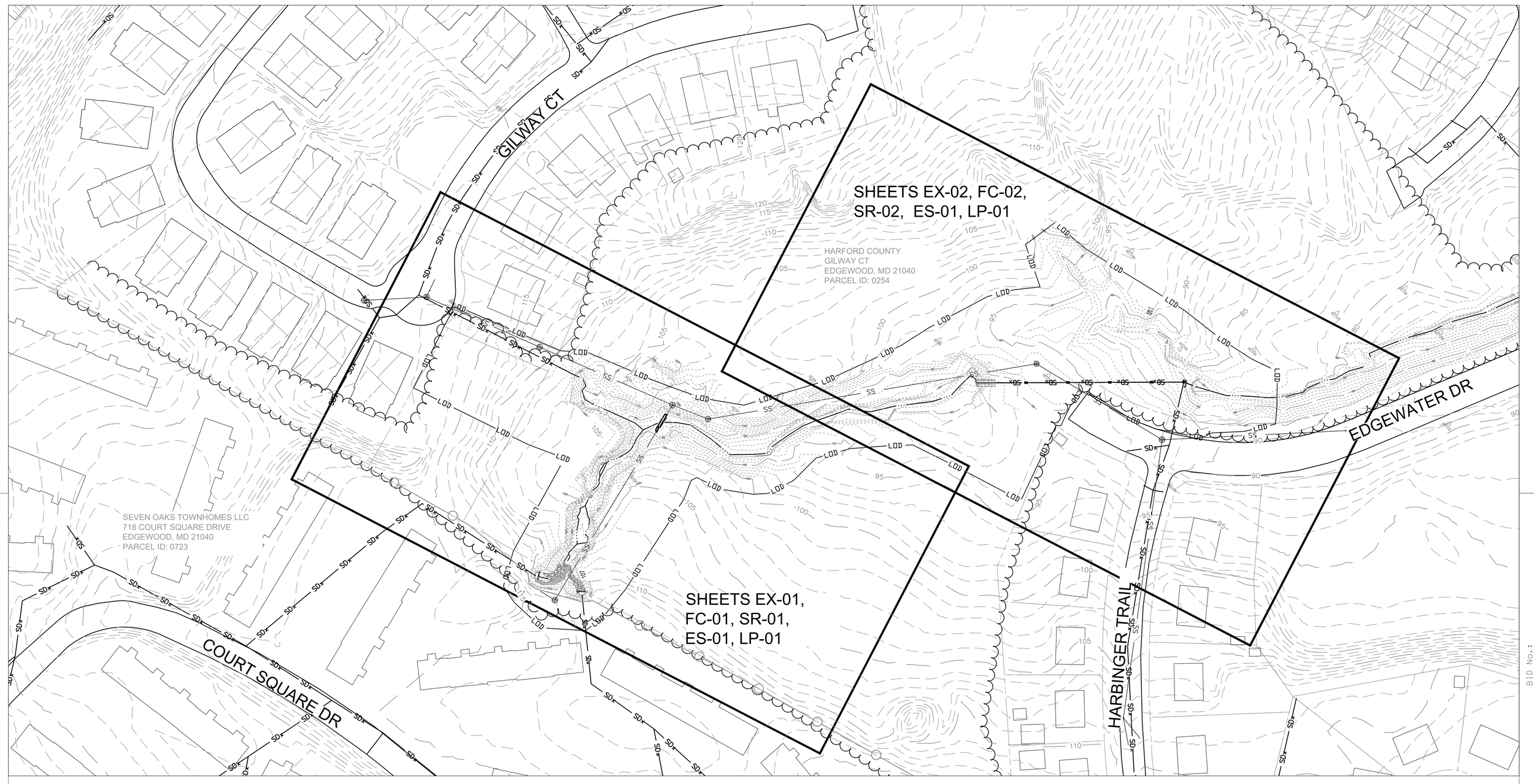
Drawing No. GN-02 of GN-02

Sheet No. 02 of 40

BID No.:

HCG DWG ID No.:

SCALE 1" = 1'-0"



N

50 0 50 100

SCALE IN FEET 1" = 50'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SITE PLAN

Drawn By : CA	Scale : 1" = 50'
Designed By : CA	Date : FEBRUARY 2025
Reviewed By : BWA	
Drawing No. SP-01 of SP-01	Sheet No. 03 of 40

BID No.:

HCG DWG ID No.:

SCALE 1" = 1 inch

MATCHLINE SEE SHEET EX-02

BURRIS BERNADETTE
811 GILWAY COURT
EDGEWOOD, MD 21040
PARCEL ID: 0998

HARRIS TANIA
809 GILWAY COURT
EDGEWOOD, MD 21040
PARCEL ID: 0998

HARFORD COUNTY
DRAINAGE AND
UTILITY EASEMENT
PARCEL ID: 0998

SUNRISE CONDO
800-A WINDSTREAM WAY
EDGEWOOD, MD 21040
PARCEL ID: 0989

HARFORD COUNTY
GILWAY CT
EDGEWOOD, MD 21040
PARCEL ID: 0254

HARFORD COUNTY
ROUTE 40
EDGEWOOD, MD 21040
PARCEL ID: 0254

SEVEN OAKS TOWNHOMES LLC
COURT SQUARE DR
EDGEWOOD, MD 21040
PARCEL ID: 0723

DEMOLISH AND REMOVE EXPOSED SEWER ENCASEMENT
REFER TO EDGEWATER VILLAGE SEWER REPLACEMENT
PLANS FOR DETAILS

DEMOLISH AND REMOVE
CONCRETE DEBRIS

48" RCP INV ELEV 101.36

SSMH-02
TOP=102.37'
8" SW INV IN ELEV=92.52'
8" NE INV OUT ELEV=92.42'
8" SE INV IN ELEV=92.67'
N:641863.7436
E:1504847.2667

SSMH-03
TOP=100.40'
8" INV IN ELEV=90.50'
8" INV OUT ELEV=90.40'
N:641879.4447
E:1504885.3471

SSMH
TOP=118.06'
SW INV IN ELEV=101.46'
NW INV IN ELEV=101.46'
NE INV OUT ELEV=101.26'
N:641763.3073
E:1504576.2606

SSMH
TOP=115.03'
INV IN ELEV=101.28'
INV OUT ELEV=101.13'
N:641809.3026
E:1504701.1588

RIPRAP TO BE REMOVED AND
STOCKPILED ON SITE FOR REUSE

CONCRETE HEADWALL

48" CMP INV EL: 104.02'

245 LINEAR FEET OF SEWER TO BE DEMOLISHED AND REPLACED
REFER TO EDGEWATER VILLAGE SEWER REPLACEMENT
PLANS FOR DETAILS

CONCRETE HEADWALL

30" CMP INV EL: 105.70'

SSMH 01
TOP=113.65'
INV IN ELEV=100.05'
8" INV OUT ELEV=99.95'
N:641624.9622
E:1504901.9990

DEMOLISH 121 LINEAR FEET OF FENCE INSIDE OF LOD
REPLACE IN KIND AFTER CONSTRUCTION IS COMPLETE

SHOWN FOR DIRECTION ONLY

SOILS TABLE

SOIL SYMBOL	SOIL NAME	PERCENT SLOPE	KF VALUE	HYDRIC (Y/N)	HIGHLY ERODIBLE SOILS	HSG
BeB	BELTSVILLE SILT LOAM	2%-5%	0.3700	N	NO	C
BeC	BELTSVILLE SILT LOAM	5%-10%	0.4300	N	YES	C
Sa	SAND AND GRAVEL PITS	N/A	N/A	N/A	N/A	N/A

N

20 0 20 40

SCALE IN FEET 1" = 20'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
EXISTING CONDITIONS

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : 1" = 20'
Date : FEBRUARY 2025

Drawing No. EX-01 of EX-02

Sheet No. 04 of 40

BID No.:

HCG DWG ID No.:

SSMH-04
TOP=98.29'
SW 8" INV IN ELEV=80.34'
NE 8" INV OUT
ELEV=80.30'
N:642167.5153
E:1505098.0555

HARFORD COUNTY
ROUTE 40
EDGEWOOD, MD 21040
PARCEL ID: 0254

REFER TO EDGEWATER VILLAGE SEWER REPLACEMENT PLANS FOR MANHOLE MODIFICATIONS

60" RCP INV EL: 85.69'

TOP=86.59'
MANHOLE LID IS
WELDED SHUT

EDGEWATER DR

SSMH
TOP=91.69'
SW 8" INV IN ELEV=79.09'
NE 8" INV OUT ELEV=78.89'
SE 8" INV IN ELEV=79.89'
N:642202.6640
E:1505252.0035

HARBINGER TRAIL

BROWN JAMES A JR
1701 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

MITCHELL JERMAINE P
1700 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

DEMOLISH AND REMOVE 20 LF OF STORM DRAIN

60' RCP INV EL=85.69'

MATCHLINE SEE SHEET EX-01

SOILS TABLE

SOIL SYMBOL	SOIL NAME	PERCENT SLOPE	KF VALUE	HYDRIC (Y/N)	HIGHLY ERODIBLE SOILS	HSG
BeB	BELTSVILLE SILT LOAM	2%-5%	0.3700	N	NO	C
BeC	BELTSVILLE SILT LOAM	5%-10%	0.4300	N	YES	C
Sa	SAND AND GRAVEL PITS	N/A	N/A	N/A	N/A	N/A

N

20 0 20 40

SCALE IN FEET 1" = 20'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
EXISTING CONDITIONS

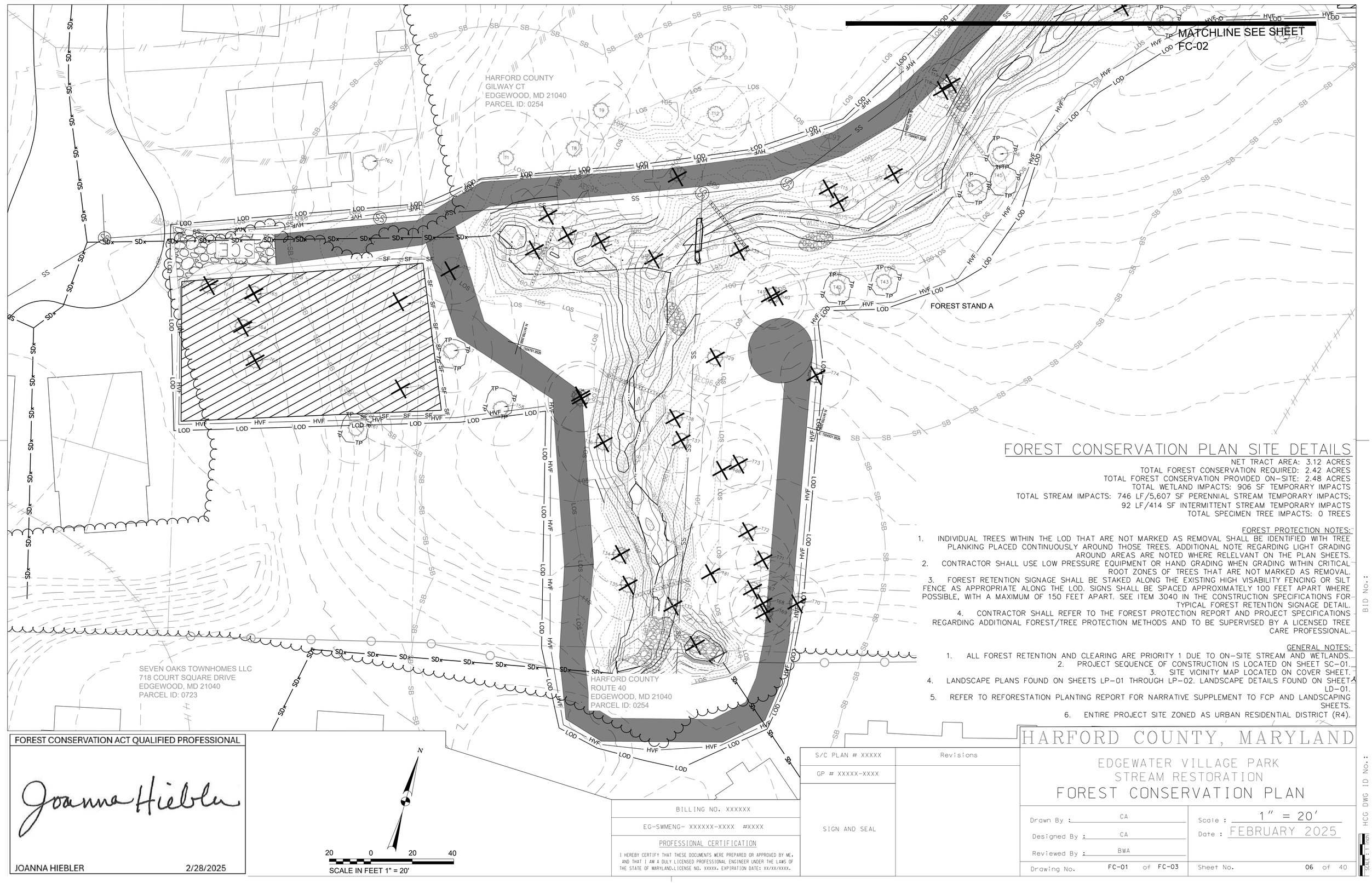
Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. EX-02 of EX-02

Scale : 1" = 20'
Date : FEBRUARY 2025
Sheet No. 05 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1 inch



FOREST CONSERVATION PLAN SITE DETAILS

NET TRACT AREA: 3.12 ACRES
TOTAL FOREST CONSERVATION REQUIRED: 2.42 ACRES
TOTAL FOREST CONSERVATION PROVIDED ON-SITE: 2.48 ACRES
TOTAL WETLAND IMPACTS: 906 SF TEMPORARY IMPACTS
TOTAL STREAM IMPACTS: 746 LF/5,607 SF PERENNIAL STREAM TEMPORARY IMPACTS;
92 LF/414 SF INTERMITTENT STREAM TEMPORARY IMPACTS
TOTAL SPECIMEN TREE IMPACTS: 0 TREES

FOREST PROTECTION NOTES:

1. INDIVIDUAL TREES WITHIN THE LOD THAT ARE NOT MARKED AS REMOVAL SHALL BE IDENTIFIED WITH TREE PLANKING PLACED CONTINUOUSLY AROUND THOSE TREES. ADDITIONAL NOTE REGARDING LIGHT GRADING AROUND AREAS ARE NOTED WHERE RELELVANT ON THE PLAN SHEETS.
2. CONTRACTOR SHALL USE LOW PRESSURE EQUIPMENT OR HAND GRADING WHEN GRADING WITHIN CRITICAL ROOT ZONES OF TREES THAT ARE NOT MARKED AS REMOVAL.
3. FOREST RETENTION SIGNAGE SHALL BE STAKED ALONG THE EXISTING HIGH VISABILITY FENCING OR SILT FENCE AS APPROPRIATE ALONG THE LOD. SIGNS SHALL BE SPACED APPROXIMATELY 100 FEET APART WHERE POSSIBLE, WITH A MAXIMUM OF 150 FEET APART. SEE ITEM 3040 IN THE CONSTRUCTION SPECIFICATIONS FOR TYPICAL FOREST RETENTION SIGNAGE DETAIL.
4. CONTRACTOR SHALL REFER TO THE FOREST PROTECTION REPORT AND PROJECT SPECIFICATIONS REGARDING ADDITIONAL FOREST/TREE PROTECTION METHODS AND TO BE SUPERVISED BY A LICENSED TREE CARE PROFESSIONAL.

GENERAL NOTES:

1. ALL FOREST RETENTION AND CLEARING ARE PRIORITY 1 DUE TO ON-SITE STREAM AND WETLANDS.
2. PROJECT SEQUENCE OF CONSTRUCTION IS LOCATED ON SHEET SC-01.
3. SITE VICINITY MAP LOCATED ON COVER SHEET.
4. LANDSCAPE PLANS FOUND ON SHEETS LP-01 THROUGH LP-02. LANDSCAPE DETAILS FOUND ON SHEET LD-01.
5. REFER TO REFORESTATION PLANTING REPORT FOR NARRATIVE SUPPLEMENT TO FCP AND LANDSCAPING SHEETS.
6. ENTIRE PROJECT SITE ZONED AS URBAN RESIDENTIAL DISTRICT (R4).

FOREST CONSERVATION ACT QUALIFIED PROFESSIONAL

Joanna Hiebler

JOANNA HIEBLER 2/28/2025

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
FOREST CONSERVATION PLAN

Drawn By : CA	Scale : 1" = 20'
Designed By : CA	Date : FEBRUARY 2025
Reviewed By : BWA	
Drawing No. FC-01 of FC-03	Sheet No. 06 of 40

BID No.:

HCG DWG ID No.:

FOREST CONSERVATION ACT QUALIFIED PROFESSIONAL

Joanna Hiebler

JOANNA HIEBLER 2/28/2025

N

20 0 20 40

SCALE IN FEET 1" = 20'

S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	
SIGN AND SEAL	

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
FOREST CONSERVATION PLAN

Drawn By : CA	Scale : 1" = 20'
Designed By : CA	Date : FEBRUARY 2025
Reviewed By : BWA	
Drawing No. FC-02 of FC-03	Sheet No. 07 of 40

BID No.:

HCG DWG ID No.:

Tree ID	Common Name	Scientific Name	DBH (in)	Appraisal	Suitable for Re-use (Y/N)	Specimen Tree	Within LOD (Y/N)	To be Removed
1	American sycamore	*Platanus occidentalis*	23	Good	N	N	N	N
2	Tulip poplar	*Liriodendron Tulipifera*	15	Good	Y	N	Y	Y
3	Red maple	*Acer rubrum*	14	Good	Y	N	Y	Y
4	Red maple	*Acer rubrum*	12	Good	N	N	Y	Y
5	Tulip poplar	*Liriodendron Tulipifera*	16	Good	Y	N	Y	Y
6	Red maple	*Acer rubrum*	16	Good	Y	N	Y	Y
7	Tulip poplar	*Liriodendron Tulipifera*	12	Good	N	N	Y	Y
8	Pitch pine	*Pinus Rigida*	15	Poor	N	N	N	N
9	Red maple	*Acer rubrum*	14	Good	N	N	N	N
10	Tulip poplar	*Liriodendron Tulipifera*	17	Good	Y	N	Y	Y
11	Chestnut oak	*Quercus prinus*	24	Poor	N	N	Y	Y
12	Tulip poplar	*Liriodendron Tulipifera*	16.5	Good	N	N	N	N
13	Red maple	*Acer rubrum*	36	Poor	N	Y	N	N
14	Red maple	*Acer rubrum*	14	Fair	N	N	N	N
15	Tulip poplar	*Liriodendron Tulipifera*	12	Good	N	N	Y	Y
16	Tulip poplar	*Liriodendron Tulipifera*	13	Good	Y	N	Y	Y
17	Tulip poplar	*Liriodendron Tulipifera*	12	Fair	N	N	Y	Y
18	Red maple	*Acer rubrum*	13	Good	Y	N	Y	Y
19	Silver maple	*Acer Saccharinum*	12	Good	N	N	Y	Y
20	Red maple	*Acer rubrum*	15	Good	Y	N	Y	Y
21	Tulip poplar	*Liriodendron Tulipifera*	19	Good	Y	N	Y	Y
22	Red maple	*Acer rubrum*	13	Good	Y	N	Y	Y
23	Red maple	*Acer rubrum*	17	Good	Y	N	Y	Y
24	Black gum	*Nyssa sylvatica*	12	Good	N	N	Y	Y
25	Red maple	*Acer rubrum*	14	Good	Y	N	Y	Y
26	Red maple	*Acer rubrum*	18	Good	Y	N	Y	Y
27	Black locust	*Robinia Pseudoacacie*	12	Fair	N	N	Y	Y
28	Black locust	*Robinia Pseudoacacie*	17	Fair	N	N	Y	Y
29	Chestnut oak	*Quercus prinus*	18	Good	Y	N	Y	Y
30	Chestnut oak	*Quercus prinus*	24	Poor	N	N	Y	Y
31	Scarlet oak	*Quercus coccinea*	24	Good	Y	N	Y	Y
32	Tulip poplar	*Liriodendron Tulipifera*	13	Good	Y	N	Y	Y
33	Tulip poplar	*Liriodendron Tulipifera*	15	Good	Y	N	Y	Y
34	American beech	*Fagus grandifolia*	14	Good	Y	N	Y	Y
35	Tulip poplar	*Liriodendron Tulipifera*	17	Good	Y	N	Y	Y
36	Tulip poplar	*Liriodendron Tulipifera*	22	Good	Y	N	Y	Y
37	Tulip poplar	*Liriodendron Tulipifera*	15	Good	Y	N	Y	Y
38	Chestnut oak	*Quercus prinus*	14	Good	Y	N	Y	Y
39	Pitch pine	*Pinus Rigida*	15	Good	Y	N	Y	Y
40	Chestnut oak	*Quercus prinus*	16	Good	Y	N	Y	Y
41	Chestnut oak	*Quercus prinus*	15	Good	Y	N	Y	Y
42	Scarlet oak	*Quercus coccinea*	15	Good	N	N	Y	N
43	Chestnut oak	*Quercus prinus*	22	Good	N	N	Y	N
44	Swamp white oak	*Quercus bicolor*	15	Good	N	N	Y	N
45	White oak	*Quercus alba*	25	Good	N	N	Y	Y
46	Chestnut oak	*Quercus prinus*	20	Good	Y	N	Y	N
47	Tulip poplar	*Liriodendron Tulipifera*	12	Good	N	N	Y	Y
48	Chestnut oak	*Quercus prinus*	16	Good	N	N	Y	N
49	Chestnut oak	*Quercus prinus*	24	Good	Y	N	Y	Y
50	Tulip poplar	*Liriodendron Tulipifera*	14	Good	Y	N	Y	Y
51	Chestnut oak	*Quercus prinus*	13	Good	Y	N	Y	Y
52	Tulip poplar	*Liriodendron Tulipifera*	12	Good	N	N	Y	Y
53	White oak	*Quercus alba*	26	Good	N	N	Y	N
54	Red maple	*Acer rubrum*	16	Fair	N	N	Y	Y
55	Tulip poplar	*Liriodendron Tulipifera*	22	Good	Y	N	Y	Y
56	Black gum	*Nyssa sylvatica*	28	Fair	N	N	Y	Y
57	Black gum	*Nyssa sylvatica*	20	Fair	N	N	Y	N
58	Black gum	*Nyssa sylvatica*	18	Good	N	N	Y	N
59	Chestnut oak	*Quercus prinus*	16	Good	Y	N	Y	Y
60	Chestnut oak	*Quercus prinus*	17	Good	Y	N	Y	Y
61	White oak	*Quercus alba*	17	Poor	N	N	N	N
62	Red maple	*Acer rubrum*	15	Poor	N	N	N	N
63	Chinese elm	*Ulmus parvifolia*	12	Good	N	N	Y	Y
64	Chinese elm	*Ulmus parvifolia*	12	Poor	N	N	Y	Y
65	Chinese elm	*Ulmus parvifolia*	14	Poor	N	N	Y	Y
66	Chinese elm	*Ulmus parvifolia*	12	Poor	N	N	Y	Y
67	Chestnut oak	*Quercus prinus*	22	Fair	N	N	Y	Y
68	Black cherry	*Prunus serotina*	16	Fair	N	N	Y	Y
69	Japanese elm	*Ulmus davidiana*	16	Fair	N	N	Y	Y
70	Red maple	*Acer rubrum*	14	Fair	N	N	Y	Y
71	Chestnut oak	*Quercus prinus*	13	Fair	N	N	Y	Y
72	Chestnut oak	*Quercus prinus*	23	Fair	N	N	Y	Y
73	Chestnut oak	*Quercus prinus*	12	Good	N	N	Y	Y
74	Chestnut oak	*Quercus prinus*	17	Fair	N	N	Y	Y
75	Chestnut oak	*Quercus prinus*	16	Good	N	N	Y	N
76	Chestnut oak	*Quercus prinus*	18	Good	N	N	N	N
77	White oak	*Ulmus davidiana*	17	Fair	N	N	N	N
78	Red maple	*Acer rubrum*	12	Fair	N	N	Y	Y
79	Loblolly pine	*Pinus taeda*	17	Fair	N	N	Y	Y
80	Virginia Pine	*Pinus virginiana*	12	Fair	N	N	Y	N
81	Virginia Pine	*Pinus virginiana*	13	Fair	N	N	Y	N
82	Red maple	*Acer rubrum*	13	Poor	N	N	Y	N
83	Tulip poplar	*Liriodendron tulipifera*	14	Poor	N	N	Y	N
84	Black cherry	*Prunus serotina*	23	Poor	N	N	Y	Y
85	Virginia pine	*Pinus virginiana*	16	Good	N	N	Y	N
86	Black cherry	*Prunus serotina*	13	Poor	N	N	Y	Y
87	Virginia pine	*Pinus virginiana*	12	Fair	N	N	N	N
88	Red maple	*Acer rubrum*	13	Fair	N	N	Y	N
89	Red maple	*Acer rubrum*	16.5	Fair	N	N	Y	Y
90	Loblolly pine	*Pinus taeda*	16	Fair	N	N	N	N
91	Loblolly pine	*Pinus taeda*	12.5	Fair	N	N	Y	N
92	Virginia pine	*Pinus virginiana*	13.5	Fair	N	N	Y	N
93	Loblolly pine	*Pinus taeda*	13.5	Fair	N	N	N	N
94	Loblolly pine	*Pinus taeda*	16	Fair	N	N	Y	N
95	Loblolly pine	*Pinus taeda*	18	Fair	N	N	N	N
96	American sycamore	*Platanus occidentalis*	16	Fair	N	N	N	N
97	American sycamore	*Platanus occidentalis*	18	Fair	N	N	N	N
98	Red maple	*Acer rubrum*	16	Fair	N	N	Y	Y
99	Sweet gum	*Liquidambar styraciflua*	13.5	Fair	N	N	Y	Y
100	Red maple	*Acer rubrum*	16	Fair	N	N	Y	Y
101	American sycamore	*Platanus occidentalis*	17.5	Fair	N	N	Y	Y
102	Loblolly pine	*Pinus taeda*	16	Fair	N	N	Y	Y
103	Virginia pine	*Pinus virginiana*	17	Fair	N	N	Y	Y
104	Loblolly pine	*Pinus taeda*	17	Fair	N	N	Y	Y
105	Loblolly pine	*Pinus taeda*	14	Poor	N	N	Y	Y
106	Bradford pear	*Pyrus calleryana*	18	Fair	N	N	Y	Y
107	Red maple	*Acer rubrum*	14	Good	N	N	Y	N
108	Red maple	*Acer rubrum*	14	Fair	N	N	Y	N
109	Red maple	*Acer rubrum*	12	Fair	N	N	Y	N
110	Red maple	*Acer rubrum*	20	Fair	N	N	Y	N
111	Red maple	*Acer rubrum*	26	Fair	N	N	Y	N
112	Bradford pear	*Pyrus calleryana*	15	Poor	N	N	Y	Y

FOREST CONSERVATION ACT QUALIFIED PROFESSIONAL

Joanna Hiebler

JOANNA HIEBLER 2/28/2025

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

FOREST CONSERVATION PLAN TABLE

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale : NA

Date : FEBRUARY 2025

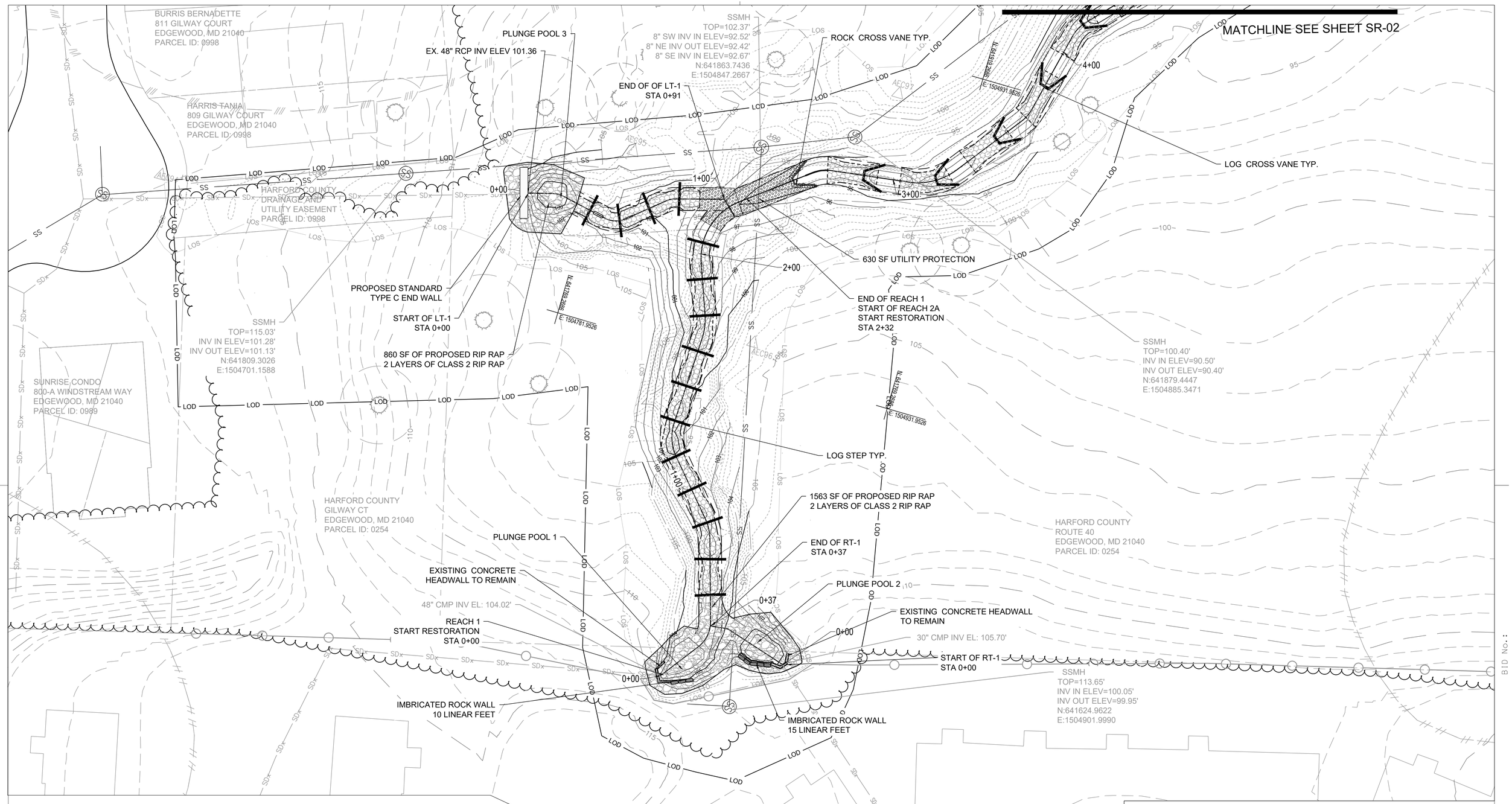
Drawing No. FC-03 of FC-03

Sheet No. 08 of 40

BID No.:

HCG DWG ID No.:

SCALE 1" = 1'



PLUNGE POOL DIMENSIONS

	DEPTH	LENGTH	MAX WIDTH	MDE TYPE	RIPRAP CLASS	THICKNESS
PLUNGE POOL 1	2'	24'	20'	1	II	2.66'
PLUNGE POOL 2	2.5'	22.5	32'	2	II	2.66'
PLUNGE POOL 3	2'	24'	20'	1	II	2.66'

N

20 0 20 40

SCALE IN FEET 1" = 20'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROPOSED CONDITIONS

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. SR-01 of SR-02

Scale : 1" = 20'

Date : FEBRUARY 2025

Sheet No. 09 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1 inch

START RESTORATION OF LT-2
STA 0+63

END OF LT-2
STA 1+39

LOG CROSS VANE TYP.

END OF REACH 2B
END OF RESTORATION
9+76

LOG STEP TYP.

REFER TO EDGEWATER VILLAGE SEWER REPLACEMENT PLANS FOR MANHOLE MODIFICATIONS

ROCK CROSS VANE TYP.

UTILITY PROTECTION
700 SF

END OF REACH 2A
START OF REACH 2B
STA 5+64

ROCK CROSS VANE TYP.

LOG CROSS VANE TYP.

IMBRICATED ROCK WALL
24 LINEAR FEET

EDGEWATER DR

530 SF PROPOSED RIP RAP PLACEMENT
2 LAYERS OF CLASS 2 RIP RAP

PLUNGE POOL 4

PROPOSED WETLAND
RESTORATION AREA
WETLAND GRADING TO BE
COMPLETED IN NEXT SUBMISSION

HARBINGER TRAIL

CAP AND ABANDON IN PLACE THE STORM DRAIN AT BOTH ENDS
USING FLOWABLE FILL

HARFORD COUNTY
ROUTE 40
EDGEWOOD, MD 21040
PARCEL ID: 0254

MITCHELL JERMAINE P
1700 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

BROWN JAMES A JR
1701 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

0+01
1+00
6+00
7+00
8+00
9+00
9+85

MATCHLINE SEE SHEET SR-01

PLUNGE POOL DIMENSIONS						
	DEPTH	LENGTH	MAX WIDTH	MDE TYPE	RIPRAP CLASS	THICKNESS
PLUNGE POOL 4	2'	24'	20'	1	II	2.66'

N

20 0 20 40

SCALE IN FEET 1" = 20'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROPOSED CONDITIONS

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : 1" = 20'
Date : FEBRUARY 2025

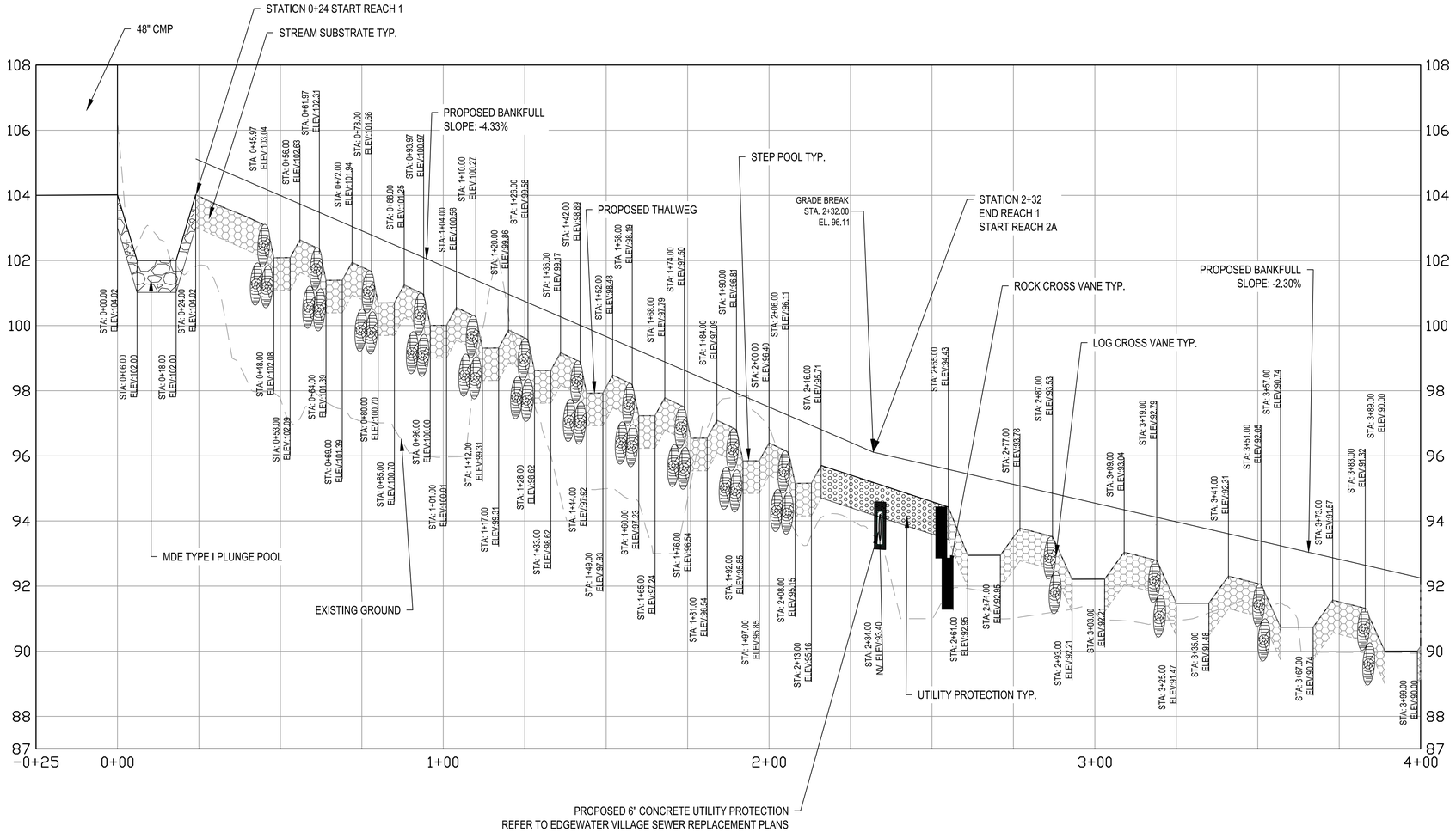
Drawing No. SR-02 of SR-02

Sheet No. 10 of 40

BID No.:

HCC DWG ID No.:

SCALE: 1" = 20'



1 REACH 1 & 2A PROFILE STA 0+00-4+00

SCALE: HORIZONTAL 1" = 20'; VERTICAL 1" = 2'

HORIZONTAL 20 0 20 40
SCALE IN FEET 1" = 20'

VERTICAL 2 0 2 4
SCALE IN FEET 1" = 2'

S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	
SIGN AND SEAL	

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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HARFORD COUNTY, MARYLAND

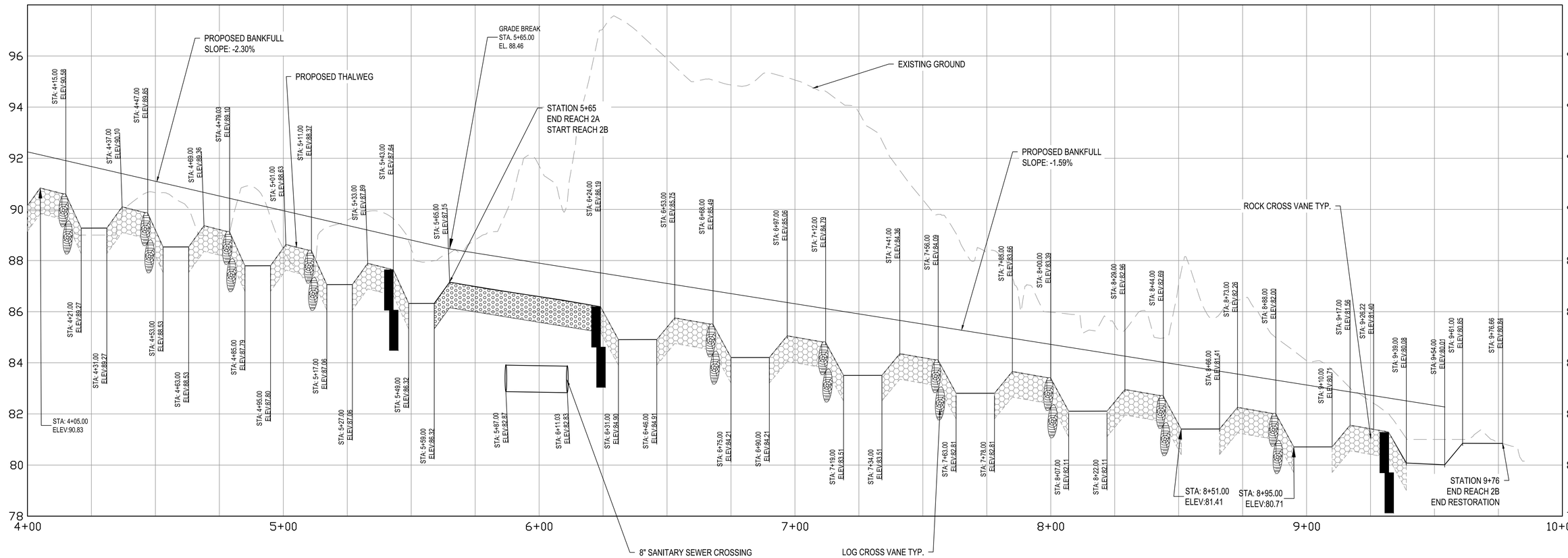
EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA	Scale : AS SHOWN
Designed By : CA	Date : FEBRUARY 2025
Reviewed By : BWA	
Drawing No. PR-01 of PR-04	Sheet No. 11 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1inch



1 REACH 2A & 2B PROFILE STA 4+00-10+00

SCALE: HORIZONTAL 1" = 20'; VERTICAL 1" = 2'

HORIZONTAL 20 0 20 40

SCALE IN FEET 1" = 20'

VERTICAL 2 0 2 4

SCALE IN FEET 1" = 2'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. PR-02 of PR-04

Scale : AS SHOWN

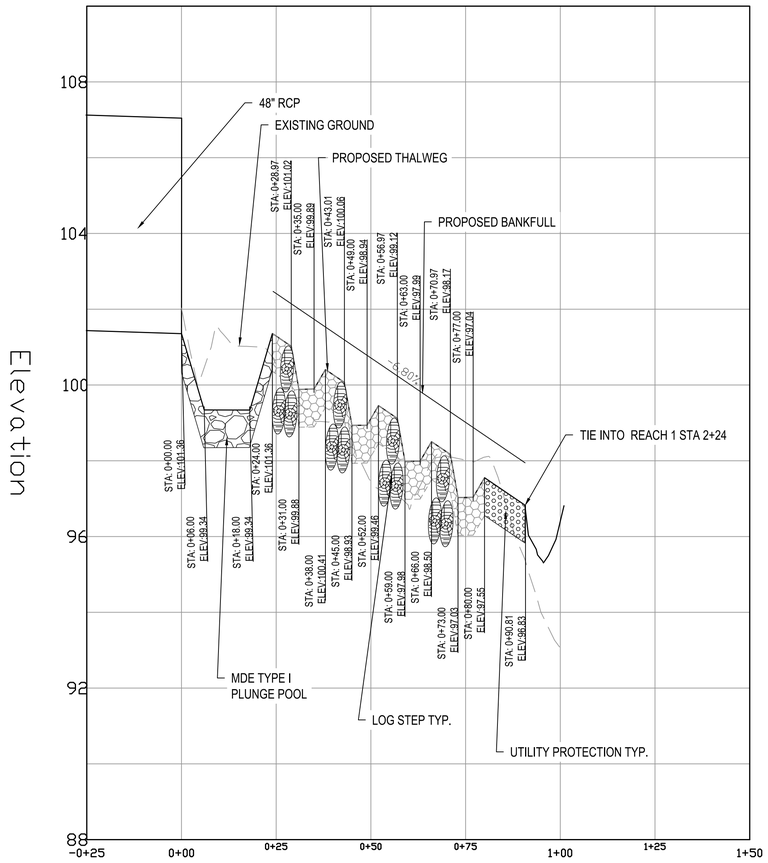
Date : FEBRUARY 2025

Sheet No. 12 of 40

BID No.:

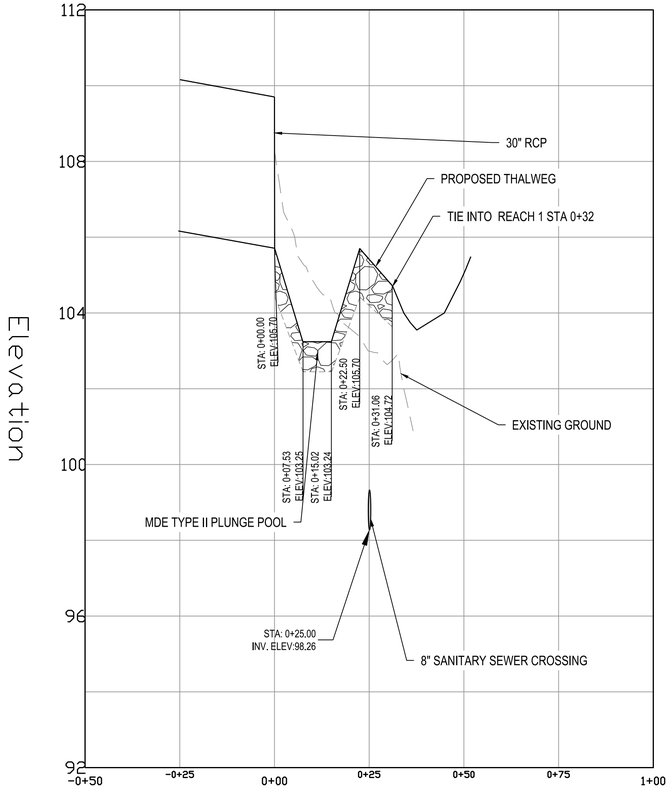
HGG DWG ID No.:

SCALE: 1" = 20'



1 LT-1 PROFILE STA 0+00-1+00

SCALE: HORIZONTAL 1" = 20'; VERTICAL 1" = 2'



2 RT-1 PROFILESTA 0+00 TO 0+52

SCALE: HORIZONTAL 1" = 20'; VERTICAL 1" = 2'

HORIZONTAL 20 0 20 40
SCALE IN FEET 1" = 20'

VERTICAL 2 0 2 4
SCALE IN FEET 1" = 2'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA
Designed By : CA
Reviewed By : BWA

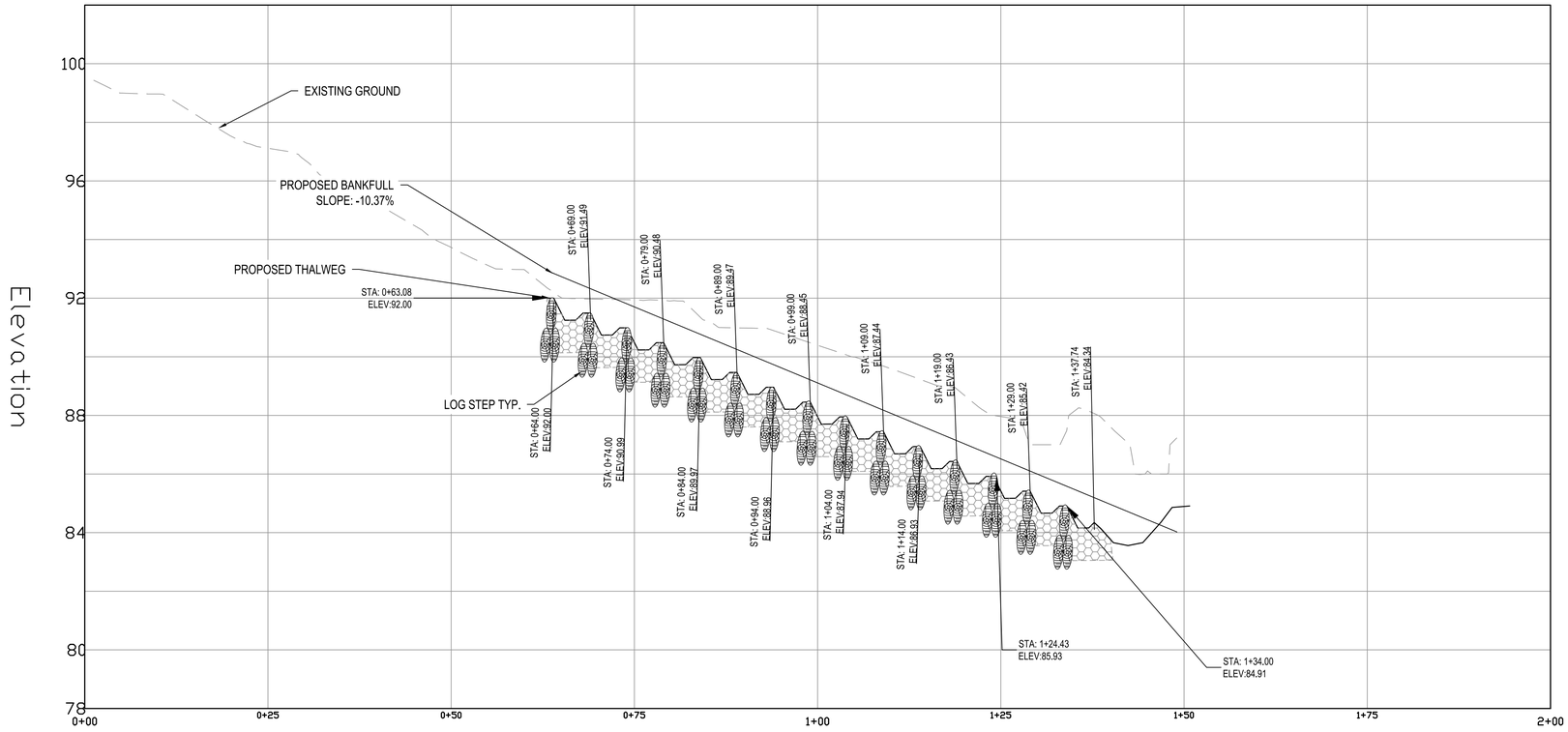
Scale : AS SHOWN
Date : FEBRUARY 2025

Drawing No. PR-03 of PR-04

Sheet No. 13 of 40

BID No.:

HCG DWG ID No.:



1 LT-2 PROFILE STA 0+63-1+36

SCALE: HORIZONTAL 1" = 20'; VERTICAL 1" = 2'

Typical Dimensions				
	Riffle Length (Feet)	Pool Length (Feet)	Structure Distance (Feet)	Structure Fall (Feet)
LT-2	1	1	5	0.51

HORIZONTAL 20 0 20 40
SCALE IN FEET 1" = 20'

VERTICAL 2 0 2 4
SCALE IN FEET 1" = 2'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA
Designed By : CA
Reviewed By : BWA

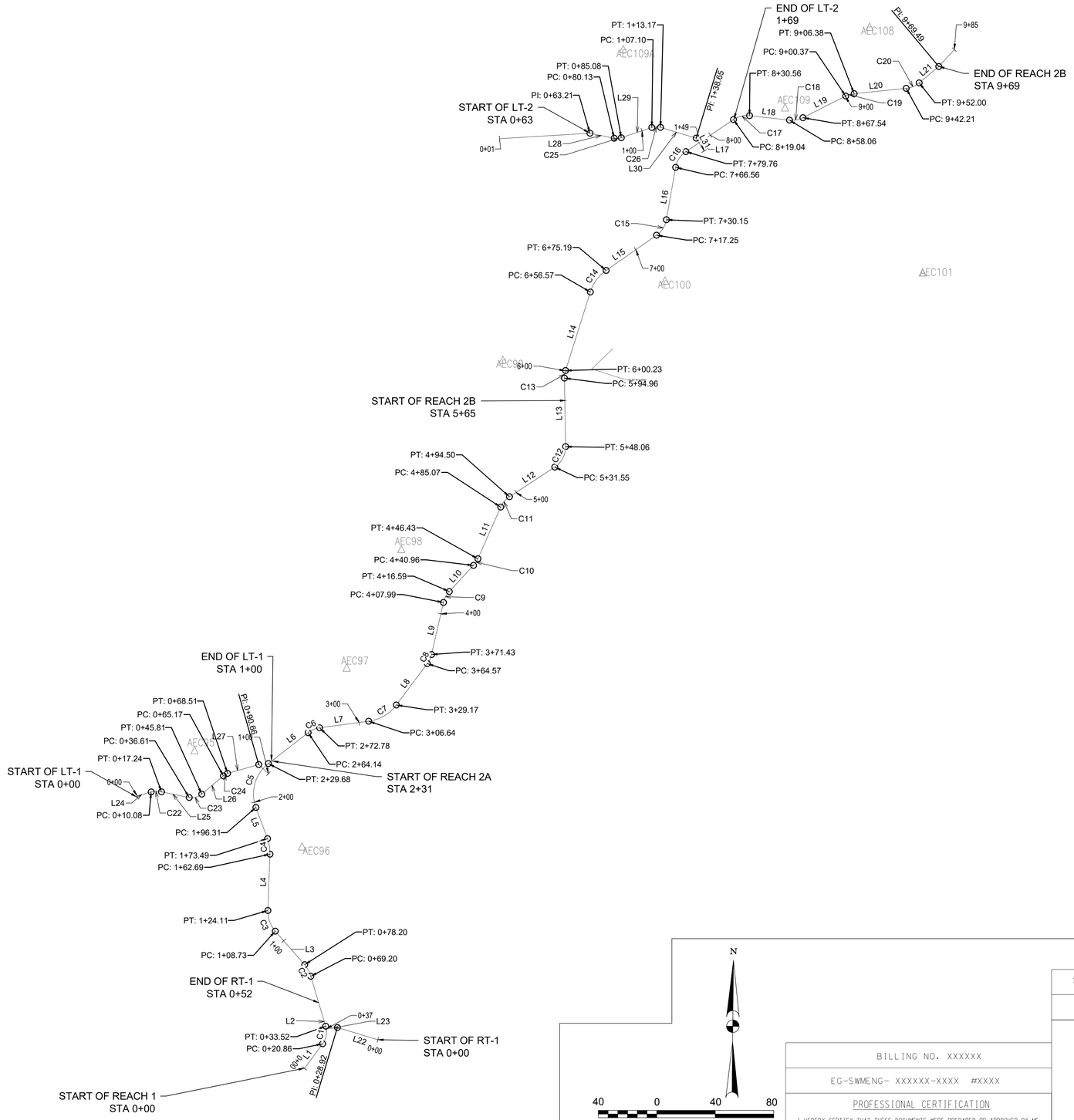
Scale : AS SHOWN
Date : FEBRUARY 2025

Drawing No. PR-04 of PR-04

Sheet No. 14 of 40

BID No.:

HCG DWG ID No.:



Point	Northing	Easting	Elevation (Ft)	Description
AEC93	641963.0724	1504491.7144	122.26	TRAV AEC RC
AEC94	641778.6737	1504598.3940	117.75	TRAV AEC RC
AEC94A	641809.5039	1504673.0127	114.61	TRAV NAIL
AEC95	641846.3349	1504794.0337	104.03	TRAV AEC RC
AEC95A	641870.8298	1504859.2547	99.60	TRAV NAIL
AEC96	641780.5190	1504867.6594	102.78	TRAV AEC RC
AEC96A	641672.8914	1504898.1070	107.50	TRAV NAIL
AEC97	641902.8799	1504898.1706	103.97	TRAV AEC RC
AEC98	641984.1210	1504935.5933	103.63	TRAV AEC RC
AEC99	642113.6808	1505005.0040	98.84	TRAV AEC RC
AEC100	642167.8419	1505115.9660	96.43	TRAV AEC RC
AEC101	642173.3505	1505292.3155	93.54	TRAV AEC RC
AEC102	642429.6745	1505462.2930	89.05	TRAV AEC RC
AEC103	642814.5840	1505567.1340	79.96	TRAV AEC RC
AEC104	642731.3702	1505457.0425	77.47	TRAV AEC RC
AEC105	642608.8160	1505390.9511	76.69	TRAV AEC RC
AEC106	642501.7264	1505326.6980	80.38	TRAV AEC RC
AEC106A	642494.2963	1505387.6249	77.05	TRAV AEC RC
AEC107	642431.6481	1505292.6801	82.33	TRAV AEC RC
AEC108	642341.5568	1505255.9200	83.11	TRAV AEC RC
AEC109	642286.2888	1505198.1170	89.11	TRAV AEC RC
AEC109A	642326.1978	1505087.4054	94.18	TRAV NAIL

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

GEOMETRIC LAYOUT

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. GS-01 of GS-02

Scale : 1" = 40'

Date : FEBRUARY 2025

Sheet No. 15 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1mm

Line Table: Reach 1, 2A & 2B

Line #	Length	Direction	Start Point	End Point
L1	20.86	N36° 24' 59.47"E	(1504869.31,641629.39)	(1504881.69,641646.18)
L2	35.68	N16° 37' 57.35"W	(1504883.79,641658.21)	(1504873.58,641692.39)
L3	30.53	N41° 19' 12.71"W	(1504869.44,641700.33)	(1504849.28,641723.26)
L4	38.58	N2° 07' 09.23"E	(1504844.24,641737.40)	(1504845.67,641775.96)
L5	22.83	N20° 21' 00.01"W	(1504843.97,641786.55)	(1504836.03,641807.95)
L6	34.47	N52° 07' 59.53"E	(1504844.57,641837.94)	(1504871.78,641859.10)
L7	33.87	N82° 17' 09.49"E	(1504879.65,641862.40)	(1504913.21,641866.95)
L8	35.40	N36° 51' 03.54"E	(1504932.12,641878.06)	(1504953.36,641906.39)
L9	36.56	N12° 53' 01.15"E	(1504956.22,641912.57)	(1504964.37,641948.21)
L10	24.37	N42° 55' 28.73"E	(1504968.35,641955.72)	(1504984.95,641973.57)
L11	38.64	N23° 48' 15.94"E	(1504987.94,641978.12)	(1505003.54,642013.47)
L12	37.05	N56° 45' 33.36"E	(1505009.55,642020.56)	(1505040.54,642040.87)
L13	46.89	N0° 55' 36.10"W	(1505047.95,642054.85)	(1505047.19,642101.74)
L14	56.35	N17° 29' 04.86"E	(1505047.94,642106.93)	(1505064.87,642160.68)
L15	42.06	N55° 02' 42.64"E	(1505075.69,642175.42)	(1505110.17,642199.52)
L16	36.41	N9° 59' 23.15"E	(1505116.92,642210.12)	(1505123.24,642245.98)
L17	39.28	N56° 05' 09.34"E	(1505130.24,642256.74)	(1505162.84,642278.66)
L18	27.50	S83° 39' 15.13"E	(1505173.80,642281.35)	(1505201.13,642278.31)
L19	32.82	N63° 13' 24.23"E	(1505210.33,642279.97)	(1505239.64,642294.76)
L20	35.83	N84° 13' 43.20"E	(1505245.38,642296.43)	(1505281.03,642300.03)
L21	17.49	N50° 03' 06.86"E	(1505289.91,642303.78)	(1505303.32,642315.01)

Line Table: RT-1

Line #	Length	Direction	Start Point	End Point
L22	28.92	N73° 11' 09.53"W	(1504919.49,641648.96)	(1504891.80,641657.33)
L23	7.66	S82° 59' 24.01"W	(1504891.80,641657.33)	(1504884.20,641656.39)

Line Table: LT-1

Line #	Length	Direction	Start Point	End Point
L24	10.08	N74° 33' 10.71"E	(1504754.66,641815.86)	(1504764.38,641818.54)
L25	19.37	S78° 23' 34.73"E	(1504771.45,641818.61)	(1504790.42,641814.72)
L26	19.37	N49° 58' 37.55"E	(1504799.00,641817.05)	(1504813.83,641829.51)
L27	22.15	N74° 08' 11.52"E	(1504816.66,641831.23)	(1504837.97,641837.29)

Line Table: LT-2

Line #	Length	Direction	Start Point	End Point
L28	16.92	S78° 24' 04.95"E	(1505064.63,642269.33)	(1505081.20,642265.93)
L29	22.02	N71° 20' 18.44"E	(1505086.08,642266.23)	(1505106.95,642273.28)
L30	25.48	S73° 06' 16.99"E	(1505112.92,642273.37)	(1505137.30,642265.97)
L31	10.35	S31° 22' 14.87"E	(1505137.30,642265.97)	(1505142.69,642257.12)

Curve Table: Reach 1, 2A & 2B

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C1	13.67	12.66	N9° 53' 31.06"E	(1504881.69,641646.18)	(1504883.79,641658.21)
C2	23.67	9.01	N27° 31' 58.83"W	(1504873.58,641692.39)	(1504869.44,641700.33)
C3	20.28	15.37	N19° 36' 01.74"W	(1504849.28,641723.26)	(1504844.24,641737.40)
C4	27.53	10.80	N9° 06' 55.39"W	(1504845.67,641775.96)	(1504843.97,641786.55)
C5	26.37	33.36	N15° 53' 29.76"E	(1504836.03,641807.95)	(1504844.57,641837.94)
C6	16.40	8.63	N67° 12' 34.51"E	(1504871.78,641859.10)	(1504879.65,641862.40)
C7	28.40	22.52	N59° 34' 06.51"E	(1504913.21,641866.95)	(1504932.12,641878.06)
C8	16.40	6.86	N24° 52' 02.34"E	(1504953.36,641906.39)	(1504956.22,641912.57)
C9	16.40	8.60	N27° 54' 14.94"E	(1504964.37,641948.21)	(1504968.35,641955.72)
C10	16.40	5.47	N33° 21' 52.33"E	(1504984.95,641973.57)	(1504987.94,641978.12)
C11	16.40	9.43	N40° 16' 54.65"E	(1505003.54,642013.47)	(1505009.55,642020.56)
C12	16.40	16.51	N27° 54' 58.63"E	(1505040.54,642040.87)	(1505047.95,642054.85)
C13	16.40	5.27	N8° 16' 44.38"E	(1505047.19,642101.74)	(1505047.94,642106.93)
C14	28.40	18.62	N36° 15' 53.75"E	(1505064.87,642160.68)	(1505075.69,642175.42)
C15	16.40	12.90	N32° 31' 02.90"E	(1505110.17,642199.52)	(1505116.92,642210.12)
C16	16.40	13.19	N33° 02' 16.25"E	(1505123.24,642245.98)	(1505130.24,642256.74)
C17	16.40	11.52	N76° 12' 57.11"E	(1505162.84,642278.66)	(1505173.80,642281.35)
C18	16.40	9.48	N79° 47' 04.55"E	(1505201.13,642278.31)	(1505210.33,642279.97)
C19	16.40	6.01	N73° 43' 33.72"E	(1505239.64,642294.76)	(1505245.38,642296.43)
C20	16.40	9.78	N67° 08' 25.03"E	(1505281.03,642300.03)	(1505289.91,642303.78)

Curve Table: RT-1

Curve #	Radius	Length	Chord Direction	Start Point	End Point

Curve Table: LT-1

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C22	13.57	7.15	N89° 24' 22.58"E	(1504764.38,641818.54)	(1504771.45,641818.61)
C23	10.14	9.20	N74° 45' 29.12"E	(1504790.42,641814.72)	(1504799.00,641817.05)
C24	9.93	3.33	N58° 39' 13.77"E	(1504813.83,641829.51)	(1504816.66,641831.23)

Curve Table: LT-2

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C25	9.37	4.95	N86° 28' 06.75"E	(1505081.20,642265.93)	(1505086.08,642266.23)
C26	9.78	6.07	N89° 07' 00.72"E	(1505106.95,642273.28)	(1505112.92,642273.37)

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

LINE AND CURVE TABLES

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale :

Date : FEBRUARY 2025

Drawing No. GS-02 of GS-02

Sheet No. 16 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1" = 100'

Reach 1 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
0+45 STEP					
1	641669.21	1504880.49	103.11		Step
0+61 STEP					
1	641684.55	1504875.94	102.42		Step
0+77 STEP					
1	641699.40	1504870.21	101.73		Step
0+93 STEP					
1	641711.37	1504859.59	101.03		Step
1+09 STEP					
1	641723.44	1504849.08	100.34		Step
1+25 STEP					
1	641738.29	1504844.32	99.65		Step
1+41 STEP					
1	641754.28	1504844.87	98.95		Step
1+57 STEP					
1	641770.27	1504845.43	98.26		Step
1+73 STEP					
1	641786.09	1504844.14	97.57		Step
1+89 STEP					
1	641801.09	1504838.58	96.88		Step
2+05 STEP					
1	641816.44	1504834.38	96.18		Step

Reach 2A & 2B Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
2+55 GCV					
1	641863.49	1504867.66	94.81	4.0%	Arm Tie
2	641855.03	1504863.36	94.43		Arm Tip
3	641853.52	1504864.54	94.43		Center
4	641852.27	1504865.45	94.43		Arm Tip
5	641854.01	1504875.02	94.82	4.0%	Arm Tie
2+87 GCV					
1	641871.41	1504901.43	93.90	4.0%	Arm Tie
2	641866.29	1504893.45	93.53		Arm Tip
3	641864.33	1504893.74	93.53		Center
4	641862.35	1504894.01	93.53		Arm Tip
5	641859.52	1504903.04	93.90	4.0%	Arm Tie
3+19 GCV					
1	641881.60	1504927.27	93.17	4.0%	Arm Tie
2	641872.86	1504923.64	92.79		Arm Tip
3	641871.16	1504924.73	92.79		Center
4	641869.50	1504925.79	92.79		Arm Tip
5	641872.07	1504934.90	93.17	4.0%	Arm Tie
3+51 GCV					
1	641905.99	1504945.56	92.43	4.0%	Arm Tie
2	641896.72	1504943.63	92.05		Arm Tip
3	641895.54	1504945.21	92.05		Center
4	641894.33	1504946.82	92.05		Arm Tip
5	641898.80	1504955.17	92.43	4.0%	Arm Tie
3+83 GCV					
1	641933.54	1504954.86	91.70	4.0%	Arm Tie
2	641924.29	1504956.85	91.32		Arm Tip
3	641923.86	1504958.74	91.32		Center
4	641923.39	1504960.75	91.32		Arm Tip
5	641930.87	1504966.56	91.70	4.0%	Arm Tie
4+15 GCV					
1	641964.75	1504968.56	90.96	4.0%	Arm Tie
2	641955.73	1504965.72	90.58		Arm Tip
3	641954.51	1504967.33	90.58		Center
4	641953.32	1504968.88	90.58		Arm Tip
5	641956.92	1504977.66	90.96	4.0%	Arm Tie
4+47 GCV					
1	641988.91	1504986.15	90.23	4.0%	Arm Tie
2	641979.42	1504986.33	89.85		Arm Tip
3	641978.67	1504988.10	89.85		Center
4	641977.84	1504989.99	89.85		Arm Tip
5	641984.05	1504997.12	90.22	4.0%	Arm Tie
4+79 GCV					
1	642018.18	1504999.26	89.49	4.0%	Arm Tie
2	642008.66	1504999.23	89.11		Arm Tip
3	642007.89	1505001.13	89.11		Center
4	642007.10	1505002.94	89.11		Arm Tip
5	642013.08	1505010.26	89.49	4.0%	Arm Tie
5+11 GCV					
1	642039.32	1505027.23	88.75	4.0%	Arm Tie
2	642031.27	1505022.26	88.37		Arm Tip
3	642029.59	1505023.36	88.37		Center
4	642027.93	1505024.45	88.37		Arm Tip
5	642029.28	1505033.80	88.75	4.0%	Arm Tie
5+43 GCV					
1	642059.21	1505041.88	88.02	4.0%	Arm Tie
2	642050.43	1505045.36	87.64		Arm Tip
3	642049.85	1505047.27	87.64		Center
4	642049.29	1505049.16	87.64		Arm Tip
5	642057.49	1505053.91	88.02	4.0%	Arm Tie
6+24 GCV					
1	642139.59	1505051.94	86.50	4.0%	Arm Tie
2	642130.19	1505053.17	86.12		Arm Tip
3	642129.58	1505055.08	86.12		Center
4	642129.01	1505057.00	86.12		Arm Tip
5	642135.98	1505063.39	86.50	4.0%	Arm Tie
6+68 GCV					
1	642180.59	1505072.61	85.87	4.0%	Arm Tie
2	642171.91	1505068.86	85.49		Arm Tip
3	642170.62	1505070.36	85.49		Center
4	642169.30	1505071.89	85.49		Arm Tip
5	642171.82	1505081.02	85.87	4.0%	Arm Tie

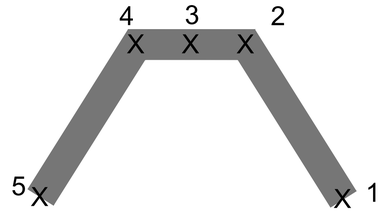
Reach 2A & 2B Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
7+12 GCV					
1	642206.60	1505108.96	85.17	4.0%	Arm Tie
2	642198.14	1505104.72	84.79		Arm Tip
3	642196.50	1505105.87	84.79		Center
4	642194.89	1505106.99	84.79		Arm Tip
5	642196.87	1505116.25	85.17	4.0%	Arm Tie
7+56 GCV					
1	642245.06	1505116.98	84.47	4.0%	Arm Tie
2	642235.94	1505119.34	84.09		Arm Tip
3	642235.58	1505121.38	84.09		Center
4	642235.20	1505123.37	84.09		Arm Tip
5	642242.98	1505128.80	84.47	4.0%	Arm Tie
8+00 GCV					
1	642278.35	1505149.75	83.77	4.0%	Arm Tie
2	642269.69	1505145.92	83.39		Arm Tip
3	642268.03	1505147.03	83.39		Center
4	642266.38	1505148.15	83.39		Arm Tip
5	642267.85	1505157.52	83.77	4.0%	Arm Tie
8+44 GCV					
1	642284.87	1505196.39	83.08	4.0%	Arm Tie
2	642281.85	1505187.37	82.69		Arm Tip
3	642279.89	1505187.16	82.69		Center
4	642277.94	1505186.94	82.69		Arm Tip
5	642272.95	1505195.01	83.07	4.0%	Arm Tie
8+88 GCV					
1	642298.40	1505233.55	82.37	4.0%	Arm Tie
2	642290.96	1505227.69	82.00		Arm Tip
3	642289.18	1505228.60	82.00		Center
4	642287.41	1505229.49	82.00		Arm Tip
5	642287.69	1505238.95	82.37	4.0%	Arm Tie

LT-1 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
0+29 GCV					
1	641816.25	1504782.97	101.02		Step
0+43 GCV					
1	641815.52	1504796.66	100.07		Step
0+57 GCV					
1	641824.26	1504807.56	99.12		Step
0+71 GCV					
1	641831.89	1504819.07	98.16		Step

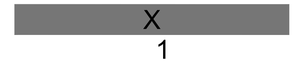
LT-2 Structures (Thalweg Station)	Northing:	Easting:	El.	Description
0+64 GCV				
1	642269.17	1505065.40	92.00	Step
0+69 GCV				
1	642268.16	1505070.30	91.49	Step
0+74 GCV				
1	642267.12	1505075.19	90.99	Step
0+79 GCV				
1	642266.16	1505080.10	90.48	Step
0+84 GCV				
1	642265.91	1505085.05	89.97	Step
0+89 GCV				
1	642267.47	1505089.81	89.47	Step
0+94 GCV				
1	642269.06	1505094.55	88.96	Step
0+99 GCV				
1	642270.67	1505099.28	88.45	Step
1+04 GCV				
1	642272.29	1505104.01	87.95	Step
1+09 STEP				
1	642273.72	1505108.80	87.44	Step
1+14 GCV				
1	642273.13	1505113.72	86.94	Step
1+19 GCV				
1	642271.64	1505118.49	86.43	Step
1+24 GCV				
1	642270.18	1505123.27	85.92	Step
1+29 GCV				
1	642268.74	1505128.06	85.42	Step
1+34 GCV				
1	642267.34	1505132.86	84.91	Step

POINT GUIDE FOR CONTROL POINTS

CROSS VANE



LOG STEP



NOTE: LOOKING DOWNSTREAM GRADE CONTROL VANE STRUCTURE IDS INCREASE FROM LEFT BANK SIDE TO RIGHT BANK SIDE

W-WEIR	Northing:	Easting:	El.	Arm Grade	Description
9+32 GCV					
1	642306.67	1505277.30	81.92	4.0%	Arm Tie
2	642300.48	1505270.67	81.56		Arm Tip
3	642296.83	1505271.14	81.56		Center
4	642296.83	1505271.14	81.56		Arm Tip
5	642294.75	1505278.99	81.88	4.0%	Arm Tie
9+35 GCV					
1	642294.75	1505278.99	81.88	2.1%	Arm Tie
2	642287.45	1505274.86	81.70		Arm Tip
3	642286.20	1505275.38	81.70		Center
4	642284.34	1505276.43	81.70		Arm Tip
5	642285.07	1505286.53	82.11	4.0%	Arm Tie

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

STRUCTURE TABLES

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. ST-01 of ST-01

Scale :

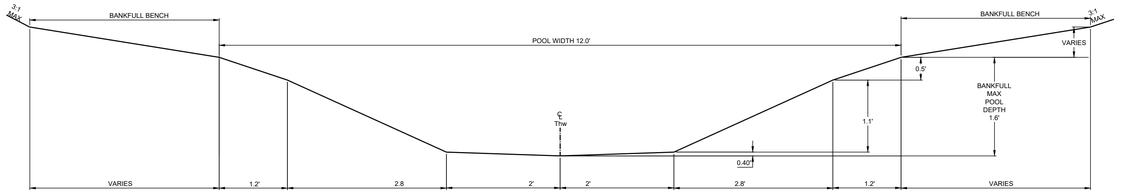
Date : FEBRUARY 2025

Sheet No. 17 of 40

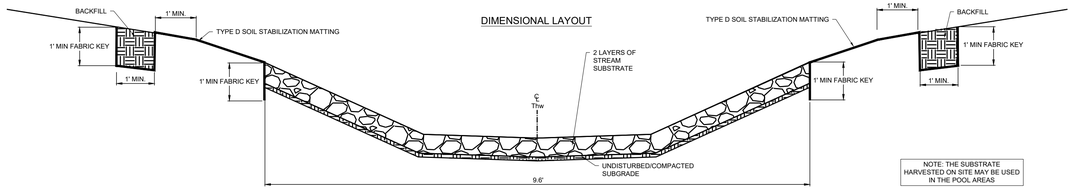
BID No.:

HCG DWG ID No.:

SCALE: 1 inch



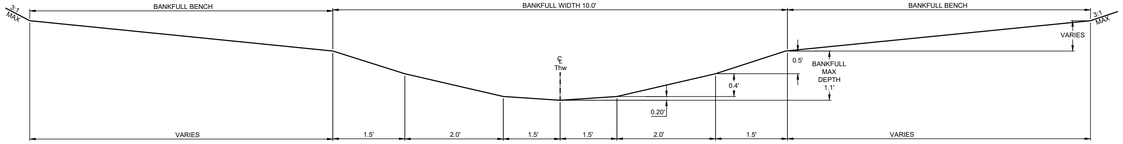
DIMENSIONAL LAYOUT



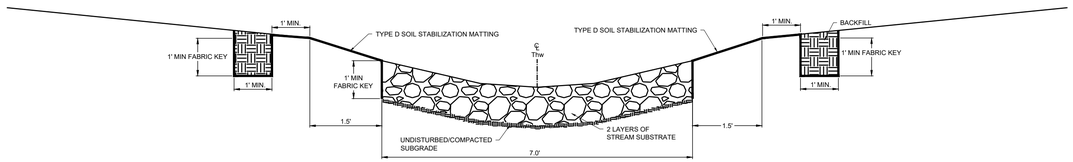
SUBSTRATE AND COIR MATTING LAYOUT

1 TYPICALREACH 1 CROSS SECTION LAYOUT - POOL

NOT TO SCALE



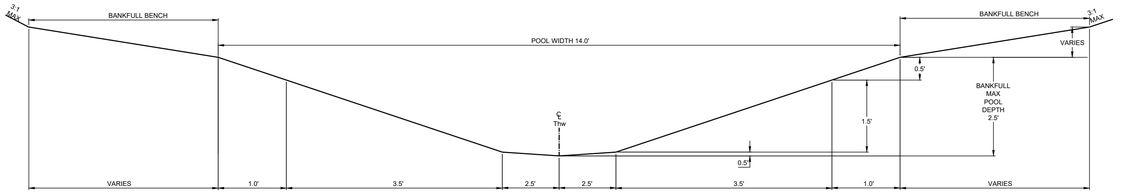
DIMENSIONAL LAYOUT



SUBSTRATE AND COIR MATTING LAYOUT

2 TYPICAL REACH 1 CROSS SECTION LAYOUT - RIFFLE

NOT TO SCALE



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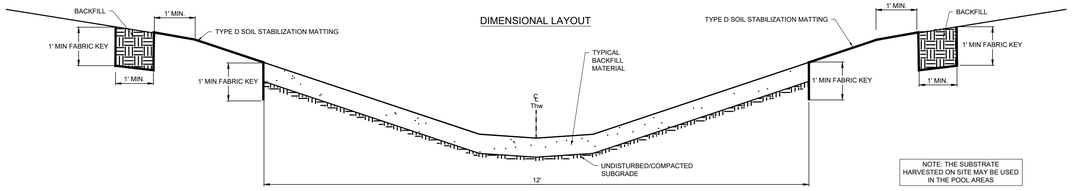
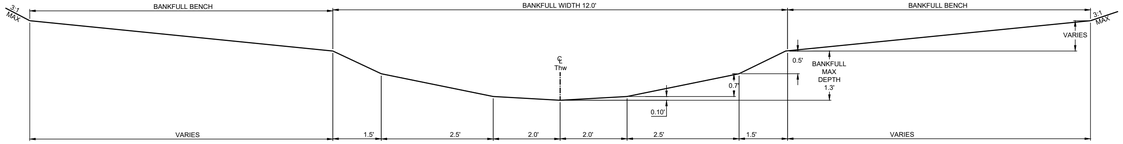


SUBSTRATE AND COIR MATTING LAYOUT

1 TYPICALREACH 2A & 2B CROSS SECTION LAYOUT - POOL

NOT TO SCALE



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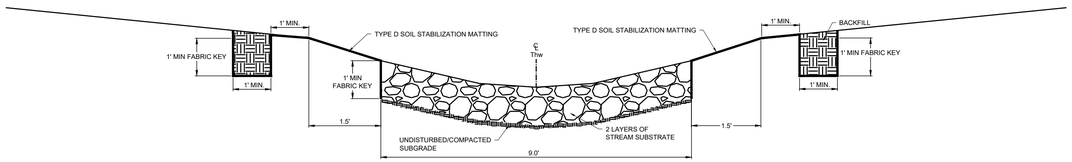

SUBSTRATE AND COIR MATTING LAYOUT

2 TYPICAL REACH 2A & 2B CROSS SECTION LAYOUT - RIFFLE

NOT TO SCALE

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	
SIGN AND SEAL	

HARFORD COUNTY, MARYLAND

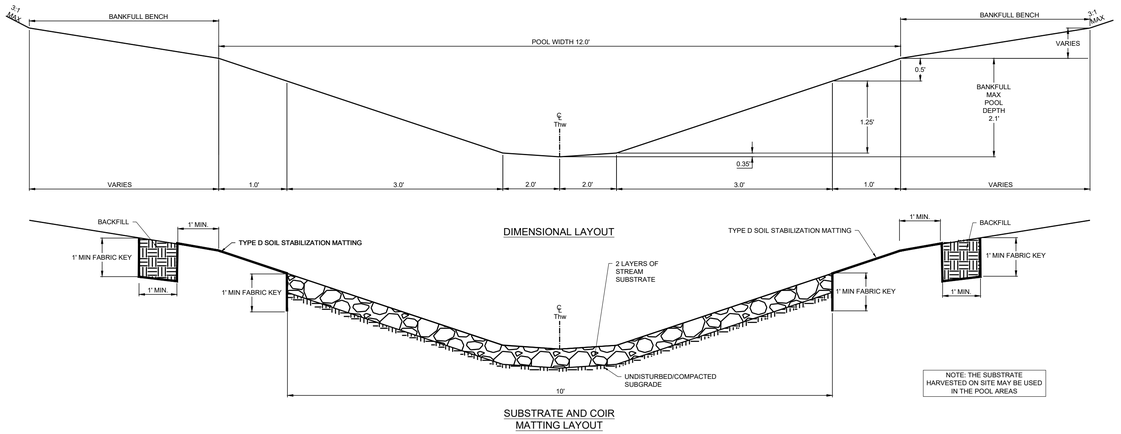
EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM CROSS SECTIONS

Drawn By : CA	Scale : AS NOTED
Designed By : CA	Date : FEBRUARY 2025
Reviewed By : BWA	
Drawing No. XS-01 of XS-02	Sheet No. 18 of 40

BID No.:

HCG DWG ID No.:

SCALE 1" = 1'-0"

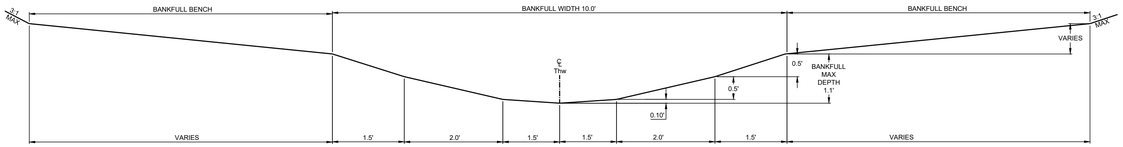


DIMENSIONAL LAYOUT

SUBSTRATE AND COIR MATTING LAYOUT

1 TYPICALREACH RT1 & LT1 CROSS SECTION LAYOUT - POOL

NOT TO SCALE



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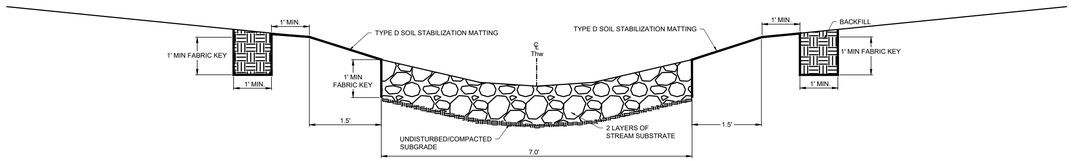
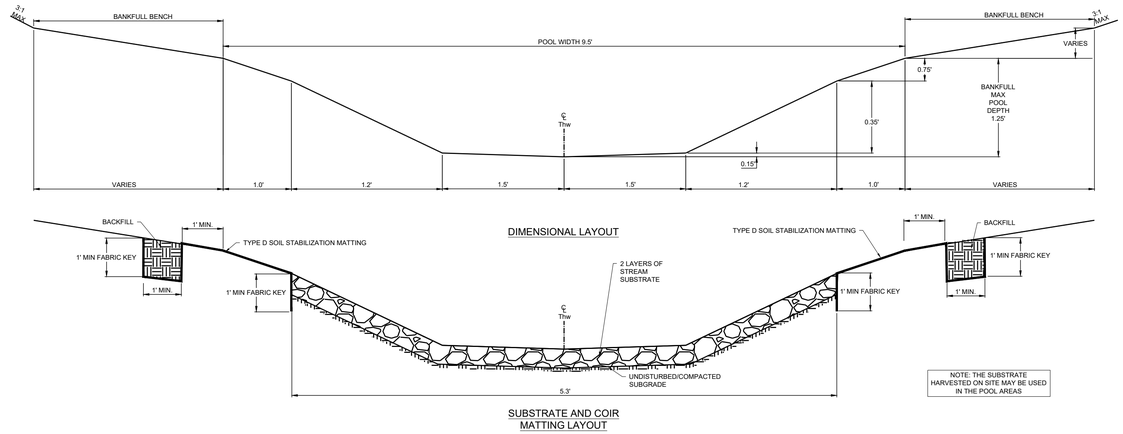


SUBSTRATE AND COIR MATTING LAYOUT

2 TYPICAL REACH RT1 & LT1 CROSS SECTION LAYOUT - RIFFLE

NOT TO SCALE

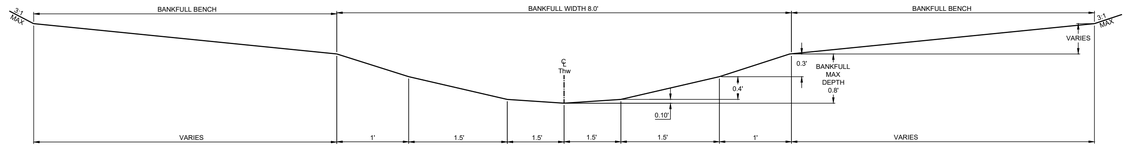


DIMENSIONAL LAYOUT

SUBSTRATE AND COIR MATTING LAYOUT

1 TYPICALREACH LT2 CROSS SECTION LAYOUT - POOL

NOT TO SCALE



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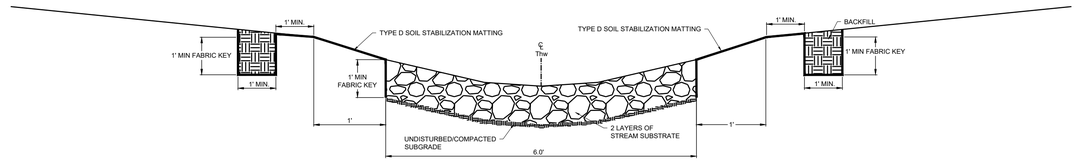

SUBSTRATE AND COIR MATTING LAYOUT

2 TYPICAL REACH LT2 CROSS SECTION LAYOUT - RIFFLE

NOT TO SCALE

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM CROSS SECTIONS

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : AS NOTED
Date : FEBRUARY 2025

Drawing No. XS-02 of XS-02

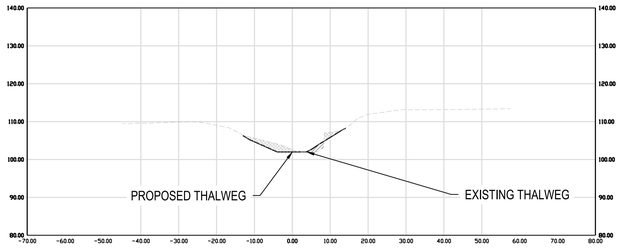
Sheet No. 19 of 40

BID No.:

HCG DWG ID No.:

SCALE 1" = 1'

0+13.75



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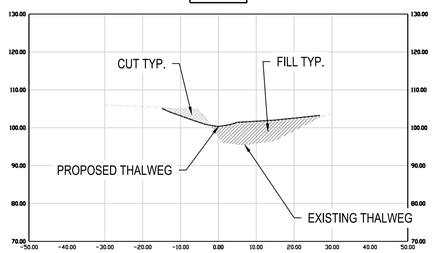

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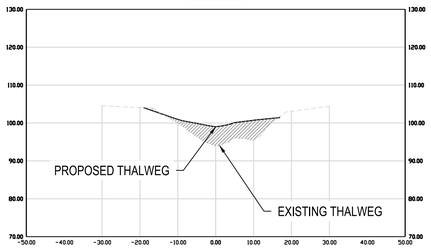

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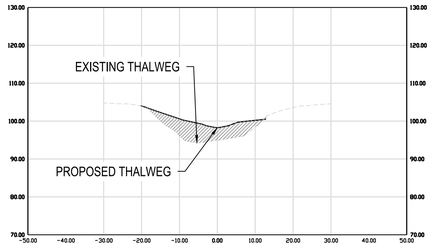

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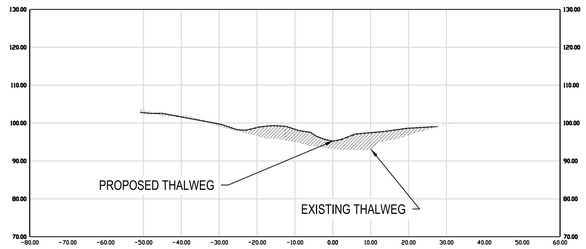

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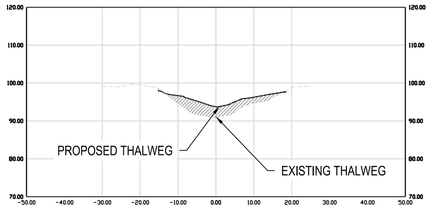

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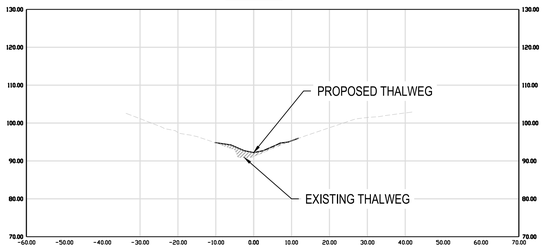

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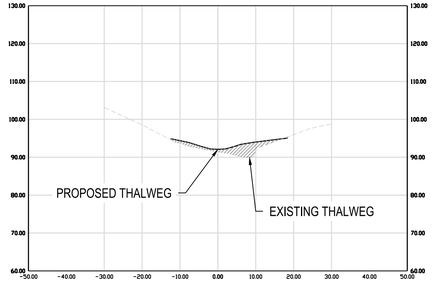

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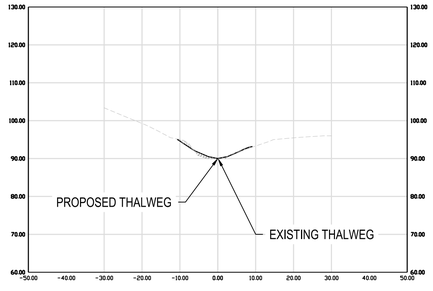

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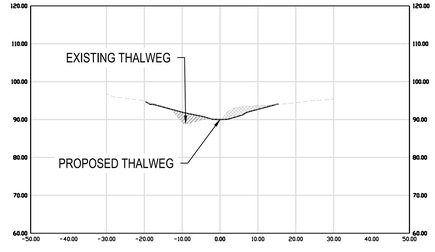

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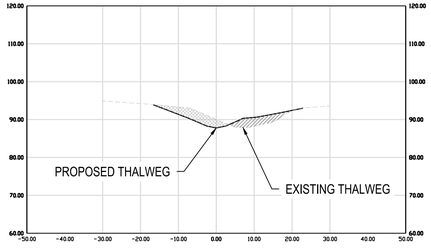

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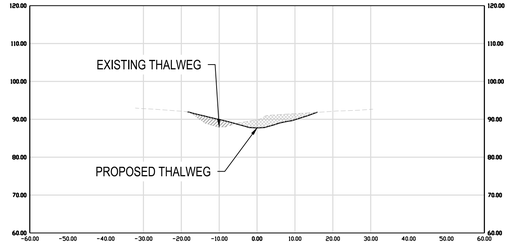

1 REACH 1 AND REACH 2A SECTION VIEWS

SCALE: 1" = 20'

20 0 20 40

SCALE IN FEET 1" = 20'

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

SIGN AND SEAL

PROFESSIONAL CERTIFICATION

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HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale : AS SHOWN

Date : FEBRUARY 2025

Drawing No. SE-01 of SE-03

Sheet No. 20 of 40

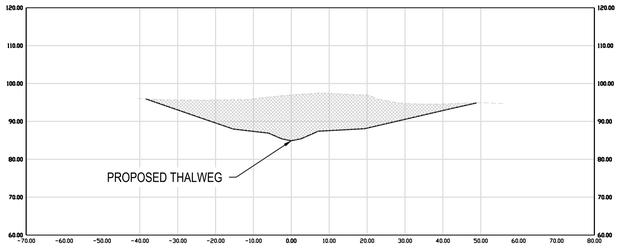
BID No.:

HCG DWG ID No.:

SCALE 1" = 1'

5+99.42

6+37.97



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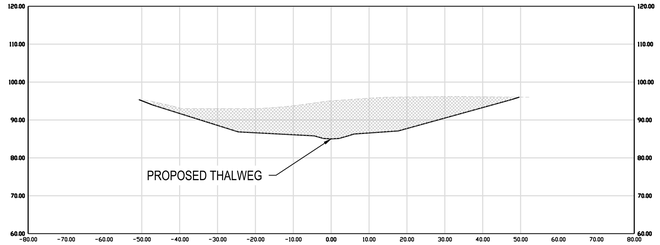

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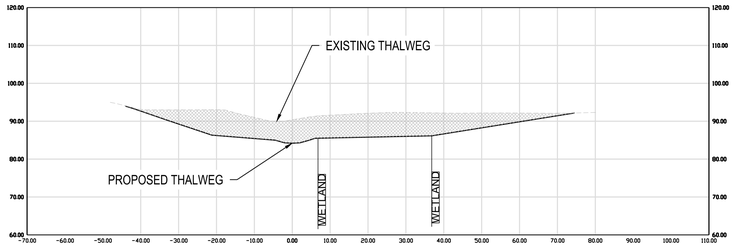

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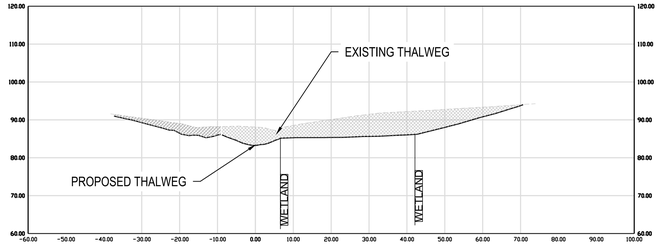

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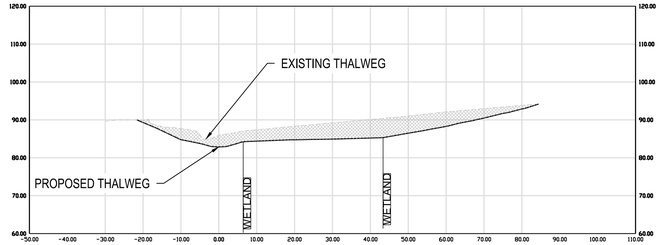

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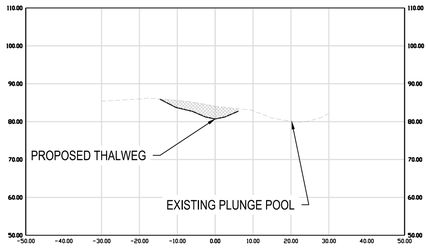

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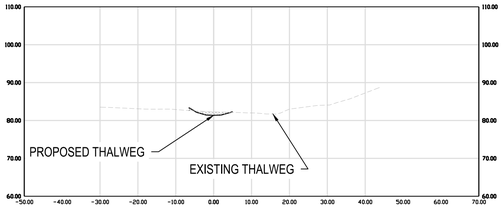

1 REACH 2B SECTION VIEWS

SCALE: 1" = 20'

20 0 20 40

SCALE IN FEET 1" = 20'

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale : AS SHOWN

Date : FEBRUARY 2025

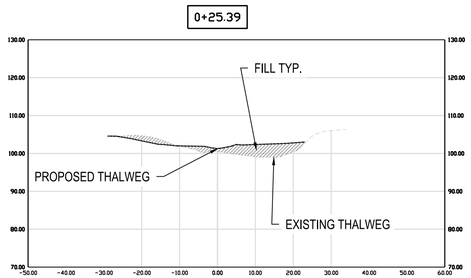
Drawing No. SE-02 of SE-03

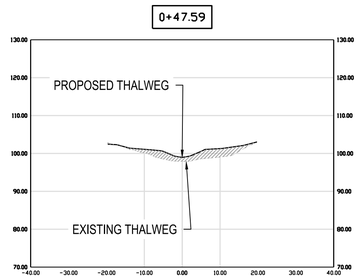
Sheet No. 21 of 40

BID No.:

HCG DWG ID No.:

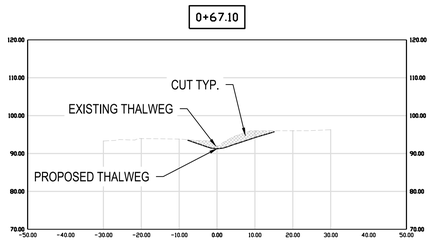
SCALE: 1" = 1' PLOT

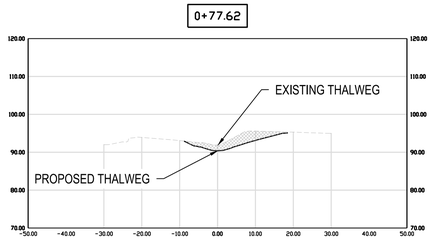




1 LT-1 SECTION VIEW

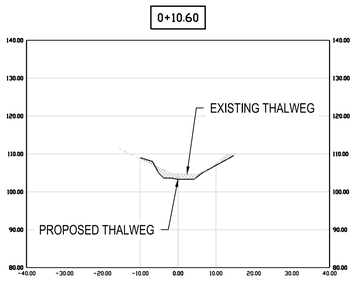
SCALE: 1" = 20'





1 LT-2 SECTION VIEW

SCALE: 1" = 20'



1 RT-1 SECTION VIEW

SCALE: 1" = 20'

20 0 20 40

SCALE IN FEET 1" = 20'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. SE-03 of SE-03

Scale : AS SHOWN

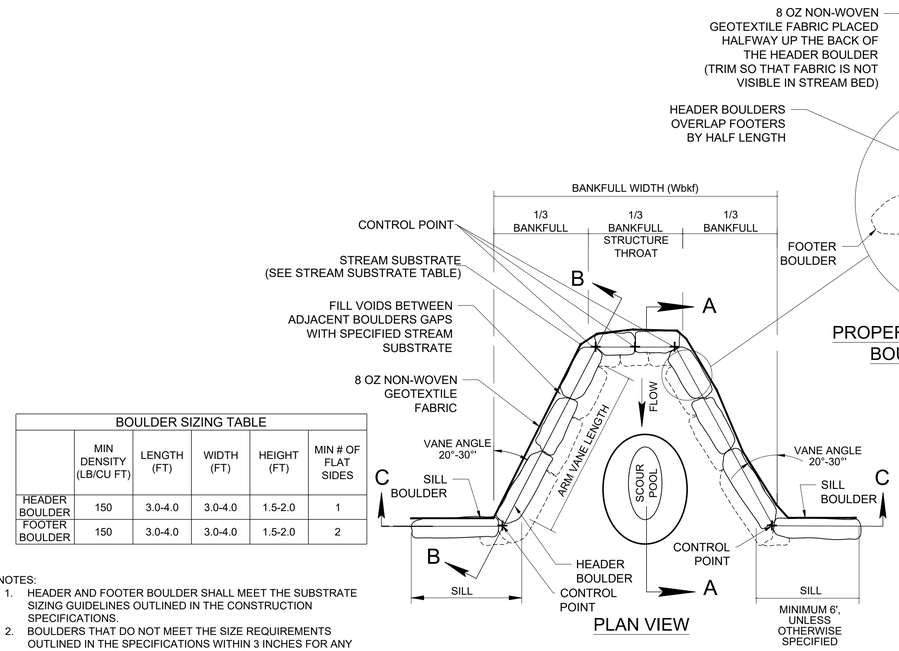
Date : FEBRUARY 2025

Sheet No. 22 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1" = 1'



PROPER HEADER AND FOOTER BOULDER PLACEMENT

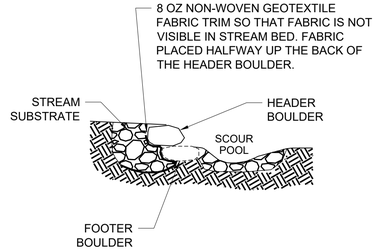
PLAN VIEW

BOULDER SIZING TABLE					
	MIN DENSITY (LB/CU FT)	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)	MIN # OF FLAT SIDES
HEADER BOULDER	150	3.0-4.0	3.0-4.0	1.5-2.0	1
FOOTER BOULDER	150	3.0-4.0	3.0-4.0	1.5-2.0	2

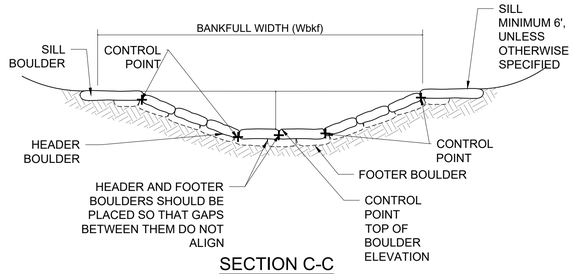
NOTES:
1. HEADER AND FOOTER BOULDER SHALL MEET THE SUBSTRATE SIZING GUIDELINES OUTLINED IN THE CONSTRUCTION SPECIFICATIONS.
2. BOULDERS THAT DO NOT MEET THE SIZE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS WITHIN 3 INCHES FOR ANY PARAMETER MUST BE APPROVED FOR USE BY THE PROJECT ENGINEER.
3. CONTROL POINT ELEVATIONS ARE MEASURED AT THE TOP OF BOULDERS. GRADE CONTROL VANE CONTROL POINT IDS INCREASE FROM LEFT BANK SIDE TO RIGHT BANK SIDE WHEN LOOKING DOWNSTREAM. SEE SHEET ST-01 FOR DETAILS.

2 / DE-01 ROCK CROSS VANE

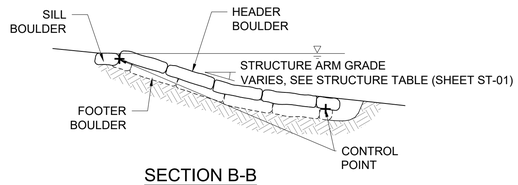
NOT TO SCALE



SECTION A-A



SECTION C-C



SECTION B-B

STREAM SUBSTRATE SIZING CALCULATIONS

IN TYPICAL NATURAL CHANNEL DESIGNS WHERE THE STREAM HAS A RELIABLE SEDIMENT SUPPLY, ENTRAINMENT OF THE D_{84} PARTICLE IS EXPECTED DURING A BANKFULL EVENT (APPROXIMATELY A 1-2 YEAR STORM) WHERE THE FLOW DEPTH EQUALS THE MEAN BANKFULL DEPTH (d_{BKF}). HOWEVER, AT THIS PROJECT SITE THE CONTRIBUTING WATERSHED IS HEAVILY DEVELOPED AND DOES NOT HAVE A SUFFICIENT SEDIMENT SUPPLY TO ALLOW THE EXISTING STREAM SYSTEMS TO MAINTAIN EQUILIBRIUM.

TO ADDRESS THE LACK OF SEDIMENT INPUT, THE PROPOSED STREAM SUBSTRATE IS DESIGNED SO THAT ENTRAINMENT DOES NOT OCCUR UNTIL THE FLOW DEPTH EQUALS THE MAXIMUM BANKFULL DEPTH (d_{MAX}). AN ANALYSIS WAS ALSO CONDUCTED OF THE SUBSTRATE SIZE REQUIRED TO RESIST ENTRAINMENT DURING THE 100-YEAR, 24-HOUR STORM EVENT CALCULATED USING HEC-RAS.

TO ACHIEVE THE DESIRED THRESHOLD CONDITION, THE SIZE (D_{50}) OF THE SUBSTRATE WAS DETERMINED BY FIRST CALCULATING THE BOUNDARY SHEAR STRESS (I.E., SHIELD'S EQUATION) FOR THE PROPOSED CHANNEL USING THE HYDRAULIC RADIUS. THE BOUNDARY SHEAR STRESS VALUE IS THEN INSERTED INTO A REGRESSION EQUATION TO DETERMINE THE PARTICLE SIZE D_{50} NEEDED TO ACHIEVE A STABLE STREAM BED (EQUATION 2) (ROSGEN 2006, LEOPOLD ET. AL. 1964).

A FACTOR OF SAFETY OF 1.0 WAS DESIRED FOR ALL THE CONDITIONS ANALYZED. INCLUDING FLOWS AT THE MEAN BANKFULL DEPTH, MAXIMUM BANKFULL DEPTH, AND IN THE 100-YEAR HEC-RAS CONDITIONS AS PRESENTED IN THE "SUBSTRATE SIZING VARIABLES" CHARTS BELOW.

STREAM SUBSTRATE CALCULATIONS

PROPOSED CHANNEL PARAMETERS

A_{BKF}= BANKFULL AREA (SF)
WP = WETTED PERIMETER (FT)
d_{BKF} = BANKFULL MEAN DEPTH (A_{BKF}/W_{BKF}) (FT)
W_{BKF} = BANKFULL WIDTH (FT)

EQUATION 1: BOUNDARY SHEAR STRESS

$T_0 = Y_f * R * S$

T_0 = BOUNDARY SHEAR STRESS (PSF)
Y_f = SPECIFIC WEIGHT OF WATER (62.4 PCF)
R = HYDRAULIC RADIUS (A_{BKF}/WP) (FT)
S = MAXIMUM RIFFLE SLOPE (FT/FT)

EQUATION 2: D_{84} ROCK PARTICLE SIZE

FROM ROSGEN DATA - COLORADO POWER TRENDLINE EQUATION:

$D_{84} = 5.98 * T_0^{.6755}$

T_0= MEAN DEPTH BOUNDARY SHEAR STRESS (FROM EQ. 1)

D_{84} = (IN.) STABLE MEAN DIAMETER OF THE STREAM SUBSTRATE

EQUATION 3: FACTOR OF SAFETY

$FS = D_{84DESIGN} / D_{84REQUIRED}$

FS = FACTOR OF SAFETY

$D_{84DESIGN}$ = STABLE MEAN DIAMETER OF THE PROPOSED STREAM SUBSTRATE MIX

$D_{84REQUIRED}$ = STABLE MEAN DIAMETER BASED ON THE RELEVANT SHEAR STRESS (FROM EQ. 2)

$D_{50DESIGN}$ = MEAN DIAMETER OF THE STREAM SUBSTRATE ESTIMATED FROM THE $D_{84DESIGN}$

STREAM SUBSTRATE NOTES

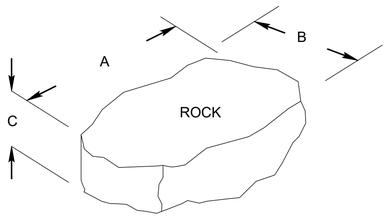
STREAM SUBSTRATE UTILIZED IN THE BED OF THE STREAM WITHIN THE RIFFLE/RUN/GLIDE TRANSITIONS TO PROVIDE A STABLE SUBSTRATE OR FILL AREA. REACHES CLASSIFIED AS STEP-POOLS WILL RECEIVE THE STREAM SUBSTRATE BED IN THE RIFFLE/RUN/POOL/GLIDE TRANSITIONS TO PROVIDE A STABLE SUBSTRATE OR FILL AREA.

THE STREAM SUBSTRATE MUST MEET THE MATERIAL SPECIFICATIONS PROVIDED IN THE TABLE.

NOTES:
1. STREAM SUBSTRATE FOR EACH STREAM REACH SHALL CONTAIN THE PERCENTAGE BY VOLUME OF THE MATERIALS SPECIFIED IN THE TABLES.
2. STREAM SUBSTRATE WILL BE NATURAL IN COLOR (WHITE, BROWN, YELLOW, TAN OR GRAY).
3. STREAM SUBSTRATE SHALL BE FREE OF IMPURITIES AND CONTAMINANTS.
4. STREAM SUBSTRATE SHALL BE NATURAL AND FREE OF SLAG.
5. SIZING IS BASED ON THE INTERMEDIATE B-AXIS OF THE ROCK.
6. FOR MIN. THICKNESS DEPTHS GREATER THAN 1.5 FEET THE BED SHOULD BE PLACED IN LIFTS NO GREATER THAN 12 INCHES. THE CONTRACTOR SHALL INSPECT THE INSTALLATION OF STREAM SUBSTRATE TO ENSURE THE PLACEMENT IS INSTALLED AS HOMOGENEOUS AS POSSIBLE AND VISUALLY FREE OF LARGE VOIDS.
7. ADDITIONAL AVAILABLE ON SITE SALVAGEABLE STREAM BED MATERIAL SHOULD BE BLENDED INTO THE PROPOSED STREAM SUBSTRATE TO FILL VOIDS.
8. REFER TO THE GRADING PLAN AND PROFILE FOR THE LIMITS OF PLACEMENT OF THE STREAM SUBSTRATE.

SUBSTRATE SIZING VARIABLES																			
		PROPOSED CHANNEL PARAMETERS						MEAN BANKFULL DEPTH ANALYSIS			MAX BANKFULL DEPTH ANALYSIS				PROPOSED 100-YEAR HEC-RAS ANALYSIS			DESIGN	
REACH	DESIGN STATIONS	A_{BKF} (SF)	WP (FT)	d_{BKF} (FT)	W_{BKF} (FT)	R (FT)	S (FT/FT)	T_0 (PSF)	D_{84} (IN.)	FS_{MEAN}	d_{MAX} (FT)	T_{0MAX} (PSF)	D_{84MAX} (IN.)	FS_{MAX}	T_{0HEC} (PSF)	D_{84HEC} (IN.)	FS_{HEC}	$D_{84DESIGN}$ (IN.)	$D_{50DESIGN}$ (IN.)
1	0+24 - 2+32	6.55	10.27	0.66	10.00	0.64	0.04	1.73	8.90	2.20	2.00	5.40	20.70	1.00	3.47	14.90	1.30	19.70	11.70
2A	2+32 - 5+64	10	12.36	0.80	12.00	0.81	0.02	1.16	6.70	2.90	2.50	3.59	15.30	1.30	4.30	17.50	1.10	19.70	11.70
2B	5+64-9+76	10	12.36	0.80	12.00	0.81	0.02	0.80	5.10	3.90	2.50	2.48	11.70	1.70	4.30	17.50	1.10	19.70	11.70
RT1	0+22-0+32	6.55	10.27	0.66	10.00	0.64	0.11	4.41	17.80	1.20	2.00	13.78	41.20	0.50	3.10	13.70	1.60	21.40	12.80
LT1	0+24-0+96	6.9	10.29	0.70	10.00	0.67	0.07	2.84	12.90	1.70	2.10	8.91	29.90	0.70	5.01	19.60	1.10	21.40	12.80
LT2	0+63 - 1+34	4.1	8.2	0.50	8.00	0.49	0.10	3.17	14.00	1.50	1.30	8.41	28.60	0.70	2.30	11.00	1.90	21.40	12.80

STREAM SUBSTRATE SPECIFICATIONS					
REACH	D50 (IN.)	% CLASS 0 RIPRAP	% CLASS 1 RIPRAP	% CLASS 2 RIPRAP	PLACEMENT DEPTH (FT)
MAINSTEM (REACH 1, 2A, 2B)	11.7	10%	50%	40%	2.0
TRIBUTARIES (RT1, LT1, LT2)	12.8	0%	50%	50%	2.0



2 / DE-01 STREAM SUBSTRATE SPECIFICATIONS

NOT TO SCALE

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

STREAM RESTORATION DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : AS NOTED
Date : FEBRUARY 2025

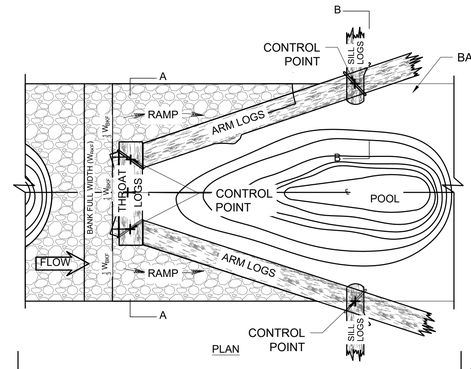
Drawing No. DE-01 of DE-03

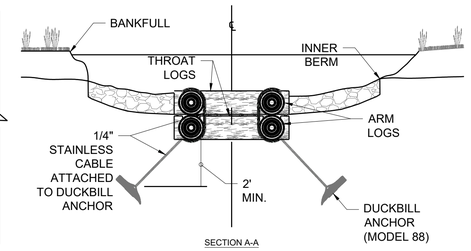
Sheet No. 23 of 40

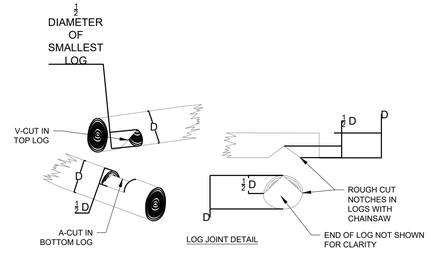
BID No.:

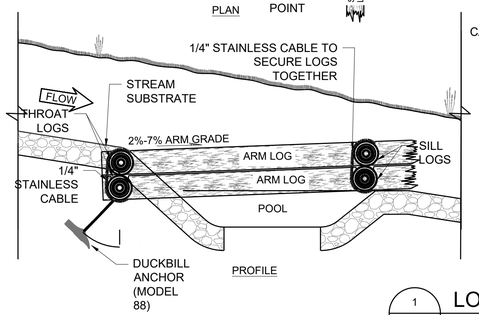
HCG DWG ID No.:

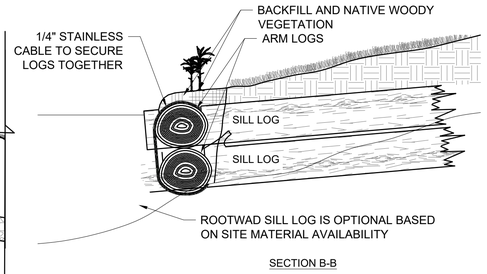
SCALE: 1" = 1"







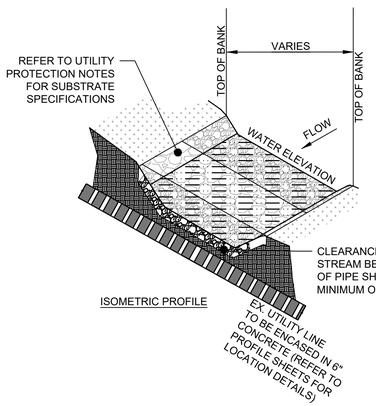


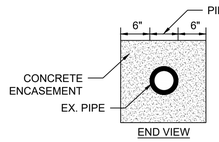


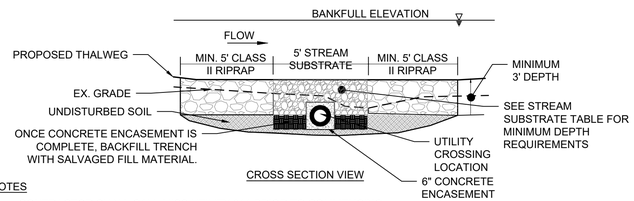
NOTE:
1. TREES SALVAGED DURING CLEARING ACTIVITIES FROM THE PROJECT MAY BE UTILIZED FOR LOG CROSS VANES MATERIAL ON APPROVAL BY THE ENGINEER OF RECORD. SEE SALVAGED LOGS SPECIFICATIONS FOR MINIMUM SIZE AND ACCEPTABLE TREE CHARACTERISTICS.
2. NOTCHES ARE CUT IN THROAT LOGS AND SILL LOGS TO ACCOMMODATE ARM ALONG AS DESCRIBED IN THE SPECIFICATIONS. CONSULT PROJECT ENGINEER IF GUIDANCE IS REQUIRED FOR PROPER LOG JOINING TECHNIQUE.
3. SEE STREAM SUBSTRATE TABLE ON SHEET DE-04 FOR SUBSTRATE SPECIFICATIONS.
4. CONTROL POINT ELEVATIONS ARE MEASURED AT THE TOP OF LOGS. LOG CROSS VANE CONTROL POINT IDS INCREASE FROM LEFT BANK SIDE TO RIGHT BANK SIDE WHEN LOOKING DOWNSTREAM. SEE SHEET ST-01 FOR DETAILS.

1 DE-02 **LOG CROSS VANE**

NOT TO SCALE



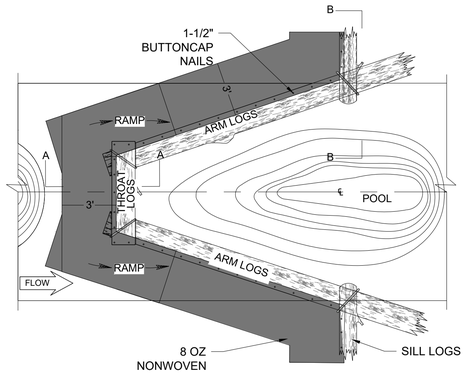




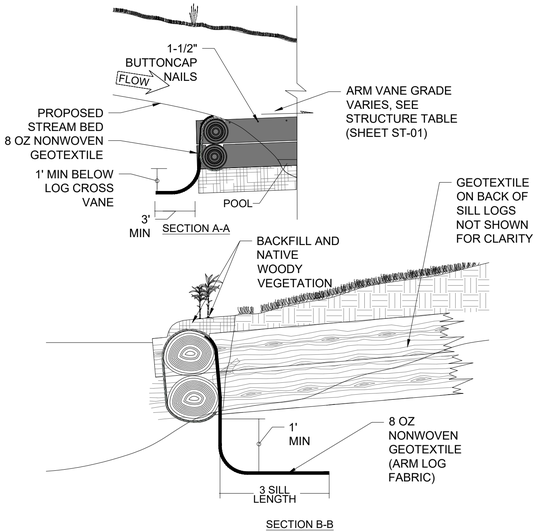
NOTES
1. CONTRACTOR SHALL CALL MISS UTILITY 811 PRIOR TO COMMENCING ANY WORK.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR COST OF ANY DAMAGES TO UTILITIES CAUSED BY THE CONSTRUCTION, AND WILL BE REQUIRED TO PERFORM REPAIRS AT THE COUNTY'S REQUEST.
3. STREAM SUBSTRATE SHALL BE USED AS FILL MATERIAL TO RAISE THE EXISTING GRADE TO THE ELEVATION SPECIFIED IN PROFILE SHEETS.
4. CLASS II RIPRAP SHALL BE PLACED TO A MINIMUM DEPTH OF THREE (3) FEET.
5. CONCRETE ENCASEMENT SHALL EXTEND A MINIMUM OF 5 FEET BEYOND THE TOP OF BANK ON THE LEFT AND RIGHT.
6. CONCRETE USED FOR THE ENCASEMENT SHALL BE 3000 P.S.I. OR GREATER.

2 DE-02 **UTILITY PROTECTION DETAIL**

NOT TO SCALE



NOTES:
1. 8 OZ NONWOVEN GEOTEXTILE SHOULD BE INSTALLED ON THE UPSTREAM SIDE OF THE LOGS USING 1-1/2" BUTTONCAP NAILS ANY EXCESS FABRIC SHALL BE TRIMMED. GEOTEXTILE SHALL SECURE TO HEADER LOG APPROXIMATELY HALFWAY UP LOG BACKSIDE.
2. UPSTREAM FABRIC SHALL OVERLAP WITH FABRIC PLACED ALONG ARM LOGS IN ORDER TO PREVENT PUMPING OF FINES BY A MINIMUM OF 3 FEET.



3 DE-02 **LOG CROSS VANE GEOTEXTILE DETAILS**

NOT TO SCALE

BILLING NO. XXXXXX

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

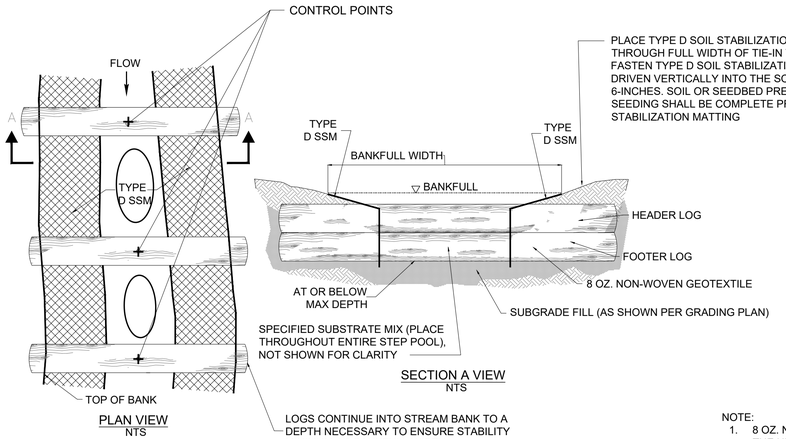
EDGEWATER VILLAGE PARK
STREAM RESTORATION

STREAM RESTORATION DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. DE-02 of DE-03

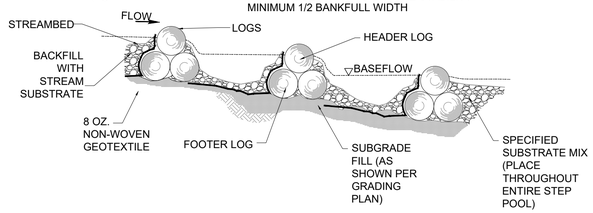
Scale : AS NOTED
Date : FEBRUARY 2025
Sheet No. 24 of 40

BID No.:
HCG DWG ID No.:
SCALE: 1" = 1mm



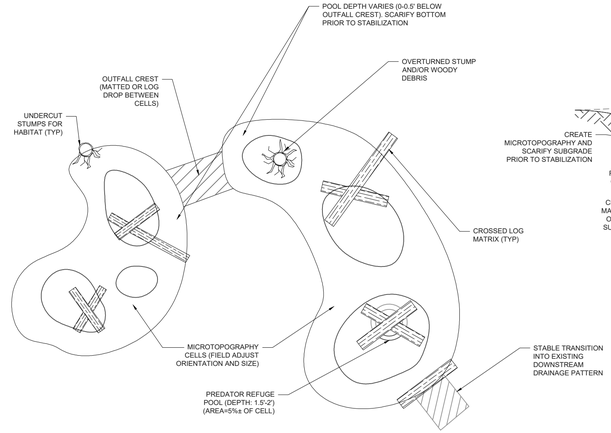
PLAN VIEW
NTS

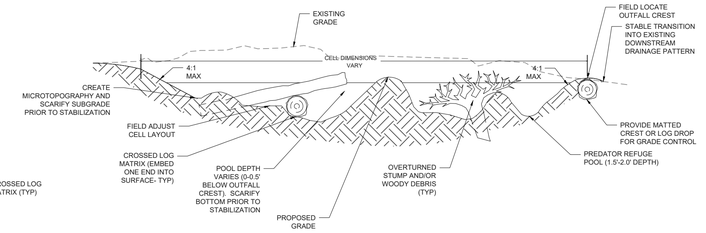
SECTION A VIEW
NTS



1 / DE-03 LOG STEP
NOT TO SCALE

NOTE:
1. 8 OZ. NONWOVEN GEOTEXTILE SHOULD BE INSTALLED ON THE UPSTREAM SIDE OF THE LOGS USING 1-1/2" BUTTONCAP NAILS AND EXCESS FABRIC SHALL BE TRIMMED. GEOTEXTILE SHALL SECURE TO HEADER LOG APPROXIMATELY HALFWAY UP LOG BACKSIDE
2. SEE STRUCTURE TABLE ON SHEET ST-01 FOR LOCATION OF CONTROL POINTS. CONTROL POINT ELEVATIONS ARE MEASURED AT THE TOP OF THE HEADER LOG.





NOTES:

1. CONTRACTOR SHALL COORDINATE WITH COUNTY OR ITS REPRESENTATIVE TO LAY OUT CRITICAL POINTS OF STRUCTURE PRIOR TO CONSTRUCTION. ALL DIMENSIONS AND ELEVATIONS MAY BE FIELD ADJUSTED IN COORDINATION WITH THE COUNTY OR ITS REPRESENTATIVE TO ENSURE PROPER DIMENSIONS, STABLE INSTALLATION, MINIMIZATION OF NATURAL RESOURCE IMPACTS, AND SMOOTH TIE-INS TO ADJACENT FEATURES.
2. UTILIZE ON-SITE WOODY MATERIAL PLACEMENT TO ENHANCE HABITAT VALUE AS AVAILABLE ONSITE.
3. LOCATE PREDATOR REFUGE POOL AS FAR FROM ACTIVE USE AREAS AS FEASIBLE.
4. WHEN ROCKS (LARGER THAN 6" ACROSS) ARE AVAILABLE ONSITE, INCORPORATE INTO SURFACE IN SMALL PILES.

2 / DE-03 WETLAND MICROTOPOGRAPHY
NOT TO SCALE

BID No.:

HCG DWG ID No.:

SCALE 1" = [illegible]

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

SIGN AND SEAL

PROFESSIONAL CERTIFICATION

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HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

STREAM RESTORATION DETAILS

Drawn By : CA

Designed By : CA

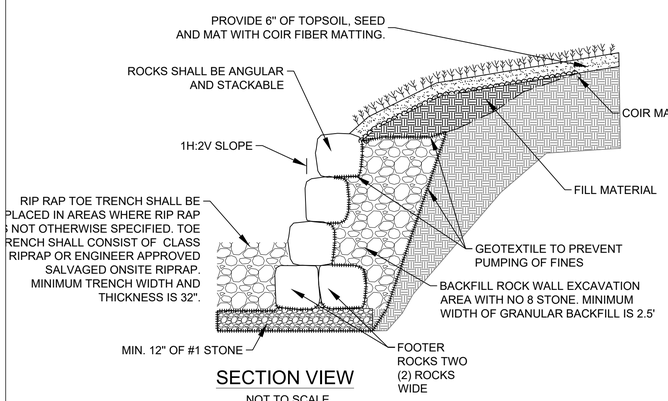
Reviewed By : BWA

Scale : AS NOTED

Date : FEBRUARY 2025

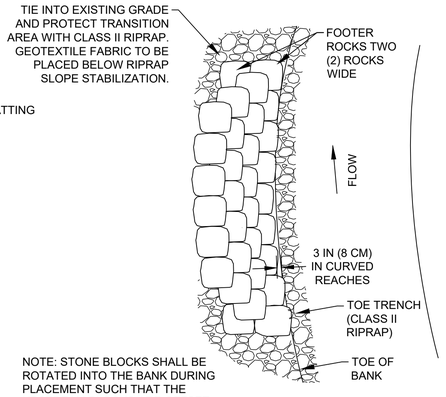
Drawing No. DE-03 of DE-03

Sheet No. 25 of 40



SECTION VIEW

NOT TO SCALE



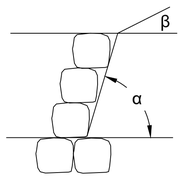
NOTE: STONE BLOCKS SHALL BE ROTATED INTO THE BANK DURING PLACEMENT SUCH THAT THE UPSTREAM BLOCKS ARE OFFSET FROM THE DOWNSTREAM BLOCK BY A MINIMUM OF 3 INCHES (8 CM)

PLAN VIEW

NOT TO SCALE

ROCK SIZING				
STRUCTURE	MINIMUM DENSITY (LB/CU FT)	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)
IMBRICATED ROCK	150	2.75 - 3.25	2.75 - 3.25	1.5-2.5

NOTE: PRECAST CONCRETE BLOCKS MAY BE SUBSTITUTED FOR IMBRICATED ROCK IF PRECAST CONCRETE BLOCKS ARE OF SIMILAR SIZE AND SHAPE.



β = BACKFILL SLOPE ANGLE (2H:1V OR FLATTER BUT GREATER THAN 0°)

α = INCLINATION OF WALL FROM HORIZONTAL (1H:6V TO 1H:3V)

ADAPTED FROM MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION

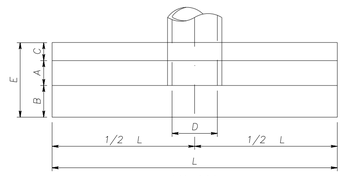
NOTES:

1. ALL EXCAVATION SHOULD BE MADE IN REASONABLY CLOSE CONFORMITY WITH THE EXISTING STREAM SLOPE AND BED. THE SLOPE OF THE CUT FACE SHOULD BE IN THE RANGE OF 1H:6V TO 2H:6V.
2. COIR MATTING IS TO BE KEYED IN A MINIMUM OF 6" AT ENDS AND STAKED PER MANUFACTURER RECOMMENDATIONS.
3. GEOTEXTILE IS TO BE PLACED BEHIND IMBRICATED ROCK WALL, ON THE FACE OF THE CUT SLOPE, BETWEEN GRANULAR BACKFILL MATERIAL AND IMPORTED SOIL, AND BELOW RIPRAP SLOPE STABILIZATION TO PREVENT PUMPING OF FINES. FABRIC SHALL BE SECURED IN PLACE BY STAKES OR PINS AS SPECIFIED BY MANUFACTURER INSTALLATION INSTRUCTIONS.
4. AFTER GRANULAR BACKFILL MATERIAL (NO. 8 STONE) IS PLACED, IT SHOULD BE COVERED WITH A GEOTEXTILE FILTER LAYER AND THE REMAINING BANK SHALL BE FILLED AT A 2:1 MAX SLOPE WITH IMPORTED FILL MATERIAL UNTIL SPECIFIED SUBGRADE IS ACHIEVED. IMPORTED FILL MATERIAL SHALL CONSIST OF SUITABLE FILL, DESIGNATED AS MEETING THE REQUIREMENTS OF THE UNIFIED SOIL CLASSIFICATION SYSTEM TYPES SW, GW, GC, SC, SM, ML, CL, OR AS DESIGNATED IN THE CONSTRUCTION SPECIFICATIONS. FILL MATERIAL SHALL BE FREE OF ROOTS, PLANTS, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIAL.
5. #1 STONE BASE IS NOT PLACED IF BEDROCK IS ENCOUNTERED.
6. NUMBER OF STONES IN IMBRICATED ROCK WALL IS VARIABLE AND NOT DRAWN TO SCALE. ACTUAL NUMBER OF ROCKS TO ACHIEVE GRADE MAY VARY DEPENDING ON SIZE.
7. ANY LOCALIZED SOFT OR UNSUITABLE EXISTING FILL MATERIAL AT THE FOOTING SUBGRADES SHOULD BE REMOVED AND REPLACED WITH NEW COMPACTED STRUCTURAL FILL, CRUSHED STONE, OR CONCRETE. BRIDGING OVER SOFT AND YIELDING SOILS WITH GEOTEXTILE AND CRUSHED STONE MAY ALSO BE NECESSARY IN SOME AREAS OF THE SITE. THE UNDERCUT DEPTH AND CRUSHED STONE THICKNESS WILL DEPEND ON THE SOIL CONDITIONS ENCOUNTERED, AND SHOULD BE VERIFIED AND APPROVED BY THE PROJECT ENGINEER AND/OR CITY DURING CONSTRUCTION.
8. SEE TECHNICAL SPECIFICATIONS FOR PRODUCT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.

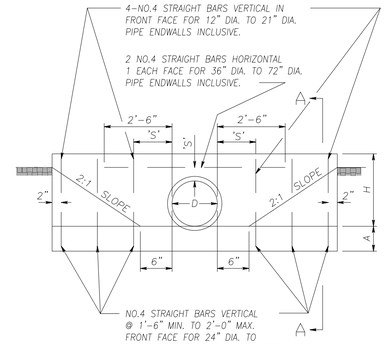
1 IMBRICATED RIP RAP WALL

DE-04

NOT TO SCALE



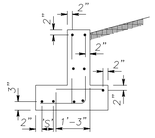
PLAN



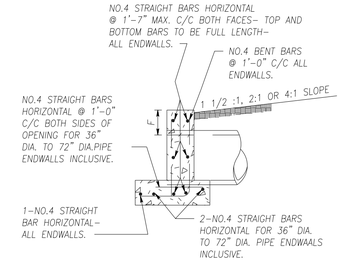
ELEVATION

QUANTITIES FOR ESTIMATING PURPOSES ONLY

OPENING		DIMENSIONS							QUANTITIES	
D	AREA	A	B	C	E	F	H	L	CONC.	STEEL
INCHES	SQ.FT.								C.Y.	LBS.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-6"	0.61	41
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-9"	0.77	47
18	1.77	9"	6"	6"	1'-9"	9"	2'-3"	9'-0"	0.95	54
21	2.40	9"	6"	6"	1'-9"	9"	2'-6"	10'-3"	1.14	70
24	3.14	9"	14"	6"	2'-5"	9"	2'-9"	11'-6"	1.56	80
27	3.98	9"	14"	6"	2'-5"	9"	3'-0"	12'-10"	1.82	88
30	4.91	9"	14"	6"	2'-5"	12"	3'-6"	14'-2"	2.22	98
33	5.94	9"	14"	6"	2'-5"	12"	3'-9"	15'-5"	2.48	105
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.16	182
42	9.62	12"	16"	10"	3'-2"	12"	4'-6"	19'-2"	5.07	206
48	12.57	12"	16"	10"	3'-2"	12"	5'-0"	21'-8"	6.09	244
54	15.90	12"	20"	12"	3'-8"	12"	5'-6"	24'-2"	7.62	275
60	19.64	12"	20"	12"	3'-8"	12"	6'-0"	26'-8"	8.82	304
72	28.27	12"	20"	12"	3'-8"	12"	7'-0"	31'-8"	11.46	377



DISPOSITION OF BARS DETAIL



SECTION A-A

'S' DISTANCES

4" FOR 12" DIA. TO 21" DIA. PIPES INCLUSIVE.
6" FOR 24" DIA. TO 36" DIA. PIPES INCUSIVE.
8" FOR 42" DIA. TO 72" DIA. PIPES INCLUSIVE.

GENERAL NOTES

SPECIFICATIONS: LATEST S.H.A.
CONCRETE SHALL BE MIX NO.2
REINFORCING: DEFORMED STEEL BARS-NO.4
CHAMFER: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED

STANDARD TYPE C ENDWALL
METAL OR CONCRETE ROUND PIPE

STANDARD NO. MD 354.01

2 TYPE C ENDWALL

DE-04

NOT TO SCALE

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM RESTORATION DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : AS NOTED
Date : FEBRUARY 2025

Drawing No. DE-04 of DE-04

Sheet No. 26 of 40

BID No.:

HCG DWG ID No.:

SHEET ITEM

SEQUENCE OF CONSTRUCTION

PROJECT INITIATION

1. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FROM THE COUNTY AND CONDUCT REQUIRED PRE-CONSTRUCTION MEETINGS AS OUTLINED IN THE CONSTRUCTION SPECIFICATIONS PRIOR TO COMMENCING CONSTRUCTION.
2. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER A MINIMUM OF ONE (1) WEEK PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES FOR VERIFICATION THEY ARE IN ACCORDANCE WITH THE APPROVED PERMITS.
3. CONTRACTOR TO FIELD MARK LIMIT OF DISTURBANCE AND TREE PROTECTION FENCING PRIOR TO ANY CLEARING, GRADING, SETTING UP OF STAGING AREA, MARKING STOCKPILE, OR ANY SEDIMENT CONTROL MEASURE INSTALLATION. ONCE ALL TREE PROTECTION DEVICES HAVE BEEN INSTALLED, THE APPLICANT SHALL CONTACT THE COUNTY AND SCHEDULE AN INSPECTION OF THE FOREST PROTECTION DEVICES. A STAFF MEMBER OF THE COUNTY SHALL INSPECT AND APPROVE THE INSTALLATION OF ALL PROTECTION DEVICES BEFORE ANY GRADING ACTIVITIES SHALL BE PERMITTED.
4. PLACE CONSTRUCTION CLOSURE AND MAINTENANCE OF TRAFFIC SIGNS AS INDICATED ON THE PLANS TO PREVENT SITE ACCESS DURING ACTIVE CONSTRUCTION.
5. THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL MEASURES AND NOTIFY THE PROJECT ENGINEER OF THE COMPLETED INSTALLATION. LIMITED CONSTRUCTION ACCESS ROUTES ARE SPECIFIED ON THE CONSTRUCTION DRAWINGS. ALTERNATIVES OR DEVIATIONS SHALL BE APPROVED BY THE PROJECT ENGINEER AND OWNER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CONTRACTOR PROPOSED ALTERNATIVES WITH DELINEATION OF ENTRANCE LOCATIONS AND ACCESS PATHS SHALL BE INCLUDED IN THE PROPOSED WORKFLOW PLAN. DEVIATIONS FROM THE PROVIDED ACCESS ROUTES WILL REQUIRE WRITTEN AGREEMENT WITH THE PROPERTY OWNER.
6. THE PROJECT ENGINEER SHALL PROVIDE THE NPDES INSPECTOR 48-HOUR NOTIFICATION TO SCHEDULE AN ONSITE PRE-CONSTRUCTION MEETING TO INSPECT THE INSTALLATION OF EROSION AND SEDIMENT MEASURES, PRIOR TO LAND DISTURBANCE.

BEGIN PHASE 1

7. BEGIN CLEARING AND GRUBBING WITHIN THE LOD NECESSARY TO BEGIN CONSTRUCTION OF THE PROJECT AREA FOR TEMPORARY ACCESS ROADS AND STABILIZED CONSTRUCTION ENTRANCES AND STOCKPILE LOCATIONS. ALL TREES THAT MEET THE SPECIFICATIONS FOR IN-STREAM STRUCTURE SALVAGED LOGS SHALL BE STORED OFF THE GROUND TO BE USED FOR FUTURE STREAM RESTORATION STRUCTURES. ALL RIP RAP THAT MEETS SPECIFICATIONS FOR IN STREAM USE SHALL BE STORED ON SITE FOR REUSE.
8. CONSTRUCT NEW SANITARY SEWER PER EDGEWATER VILLAGE SANITARY SEWER REPLACEMENT PLANS.
9. PROPERLY ENCASE THE SEWER IN CONCRETE PER THE UTILITY PROTECTION DETAIL.
10. TEMPORARILY STABILIZE AREA IMPACTED BY SEWER REPLACEMENT.

BEGIN PHASE 2

11. PHASE 2 WORK CAN BEGIN IN CONJUNCTION WITH PHASE 1
12. HARVEST AND STOCKPILE SUITABLE FILL MATERIAL AS NEEDED FROM STATION 6+50 - 8+00. TEMPORARILY STABILIZE AREA. ANY TEMPORARY SITE SHALL BE STABILIZED AT A MAXIMUM 3H:1V SLOPE.
13. THE CONTRACTOR SHALL CONSTRUCT THE STREAM IN MAXIMUM 150-FOOT DAILY WORK ZONES TO MINIMIZE THE POTENTIAL OF UNNECESSARY OPEN AND UNSTABLE GROUND AT ANY POINT DURING CONSTRUCTION.
14. BASED ON A 3-DAY DRY WEATHER FORECAST, PLACE TEMPORARY SANDBAG DIVERSION AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE WORK AREA, AS INDICATED ON THE PLANS. WHERE INDICATED, STREAM FLOW SHOULD BE PUMPED AROUND THE WORK AREA AND THE PUMP SHOULD BE DISCHARGED ONTO A STABLE VELOCITY DISSIPATOR MADE OF RIPRAP OR SANDBAGS.
15. INSTALL DEWATERING PUMP AROUND PRACTICE FOR THE DAILY WORK ZONE AS SHOWN IN THE EROSION & SEDIMENT CONTROL PLANS.
16. WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING DEVICE, SUCH AS A DEWATERING BASIN, FILTER BAG, OR OTHER APPROVED SOURCE. THE MEASURE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS INTO THE EXISTING CHANNEL. APPROXIMATE LOCATIONS FOR DEWATERING MEASURES ARE INDICATED ON THE PLANS AND THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE LOCATION AS NEEDED TO ENSURE THE WORK AREA IS MAINTAINED IN DRY CONDITION.
17. THE CONTRACTOR STAKEOUT SHALL INCLUDE AT MINIMUM PROPOSED CENTERLINE, POINT OF CURVATURE (PC), POINT OF TANGENCY (PT), IN-STREAM STRUCTURE LOCATIONS, AND LOCATIONS OF INVERTS FOR RIFFLE, RUN, POOL, AND GLIDE FEATURES AS APPROPRIATE.
18. THE CONTRACTOR SHALL BEGIN ALL INSTREAM STREAM RESTORATION WORK STARTING UPSTREAM AND PROCEED DOWNSTREAM, UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE PROJECT ENGINEER.
19. COMMENCE ROUGH CHANNEL GRADING UNTIL EITHER THE STATION OF A PROPOSED IN-STREAM STRUCTURE (AS NOTED ON THE STRUCTURE TABLES IN THE PLANS) OR THE LIMITS OF THE DAILY WORK ZONE ARE REACHED. PROCEED WITH INSTALLATION OF THE IN-STREAM STRUCTURE PER THE STRUCTURE SPECIFICATIONS AND AS SHOWN IN THE PLAN DETAILS.
20. FINALIZE THE FLOODPLAIN GRADING WITHIN THE MAXIMUM 150-FOOT DAILY WORK ZONES. AT NO TIME MAY THE STREAM OR FLOODPLAIN CONSTRUCTION OR STABILIZATION BE MORE THAN 2 DAILY WORK ZONES BEHIND SYNC.
21. FINALIZE GRADING, EXCAVATE TRENCH, AND PROPERLY INSTALL COIR MATTING ON STREAM BANK TOE OF SLOPE. ADD SPECIFIED STREAM SUBSTRATE MIX FOR CHANNEL BOTTOM TO SPECIFIED DEPTH FOR ALL ROUGH GRADED AREAS TO BRING THE CHANNEL TO FINAL GRADE.
22. ONCE FINAL GRADING HAS BEEN ACHIEVED, APPLY TEMPORARY SEEDING, PERMANENT SEEDING, AND MULCH PRIOR TO FINALIZING INSTALLATION OF COIR MATTING BY SECURING WITH STAKES AND KEYING IN FABRIC PER MANUFACTURER RECOMMENDATIONS AND AS SHOWN IN THE PLANS.
23. CONTINUE STREAM GRADING AND STRUCTURE INSTALLATION UNTIL ALL GRADING AND IN-STREAM STRUCTURES ARE INSTALLED. IF BEDROCK CONDITIONS ARE ENCOUNTERED WITHIN THE WORK AREA DURING CONSTRUCTION, CONSULT THE OWNER AND PROJECT ENGINEER FOR INVERT ELEVATION ADJUSTMENTS.
24. CONSTRUCTION SHALL PROCEED AS FOLLOWS:
    - I. MAINSTEM STA 0+00 - 0+32
    - II. RT-1 STA 0+00-0+39
    - III. MAINSTEM STA 0+32-2+10
    - IV. INSTALL UTILITY PROTECTION
    - V. LT-1 HEADWALL - INSTALL FORMWORK, REBAR, AND POUR CONCRETE FOR PROPOSED HEADWALL AS SHOWN ON THE PLANS
    - VI. LT-1 STA 0+00 - 0+92
    - VII. MAINSTEM STATION 2+50 - 8+00
    - VIII. DEMOLISH AND REMOVE 20 LINEAR FEET OF STORM DRAIN AT APPROXIMATELY STA 6+00.
    - IX. CAP UPSTREAM AND DOWNSTREAM END OF REMAINING STORM DRAIN.
    - X. LT-2 STA 0+63- 1+39.
    - XI. MAINSTEM STA 8+00 - 8+50
    - XII. WETLAND MICROTOPOGRAPHY GRADING
    - XIII. MAINSTEM STA 8+50-9+70
    - XIV. PLACE RIP RAP AT EXISTING OUTFALL

PROJECT CLOSEOUT

25. AS THE WORK FOR EACH REACH COMPLETED, E&SC MEASURES CAN BE REMOVED WITH APPROVAL FROM PROJECT OWNER, ENGINEER, AND THE EROSION AND SEDIMENT CONTROL INSPECTOR.
26. ONCE CONSTRUCTION OF PROJECT AREA HAS BEEN COMPLETED, THE CONSTRACTOR SHALL PROCEED WITH ARRANGEMENT OF COMPOSING APPROVED RECORD DRAWINGS. CONTRACTOR SHALL FIELD SURVEY ALL INSTALLED WORK. FORWARD THE ELECTRONIC SURVEY TO THE PROJECT ENGINEER FOR VERIFICATION THAT THE PROJECT HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLAN. ELECTRONIC COPY OF THE SURVEY MUST BE ACCOMPANIED BY A HARD COPY OF RECORD DRAWINGS SIGNED AND SEALED BY A MARYLAND REGISTERED LAND SURVEYOR.
27. ONCE CONSTRUCTION OF ALL PROJECT AREAS AT THE PROJECT SITE HAVE BEEN COMPLETED, MAINTENANCE OF TRAFFIC DEVICES SHALL BE REMOVED.
28. CONTRACTOR SHALL ARRANGE FOR AND OBTAIN ANY REQUIRED FINAL SITE INSPECTIONS AND CERTIFICATIONS FOR PROJECT CLOSEOUT.

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SEQUENCE OF CONSTRUCTION

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : AS NOTED
Date : FEBRUARY 2025

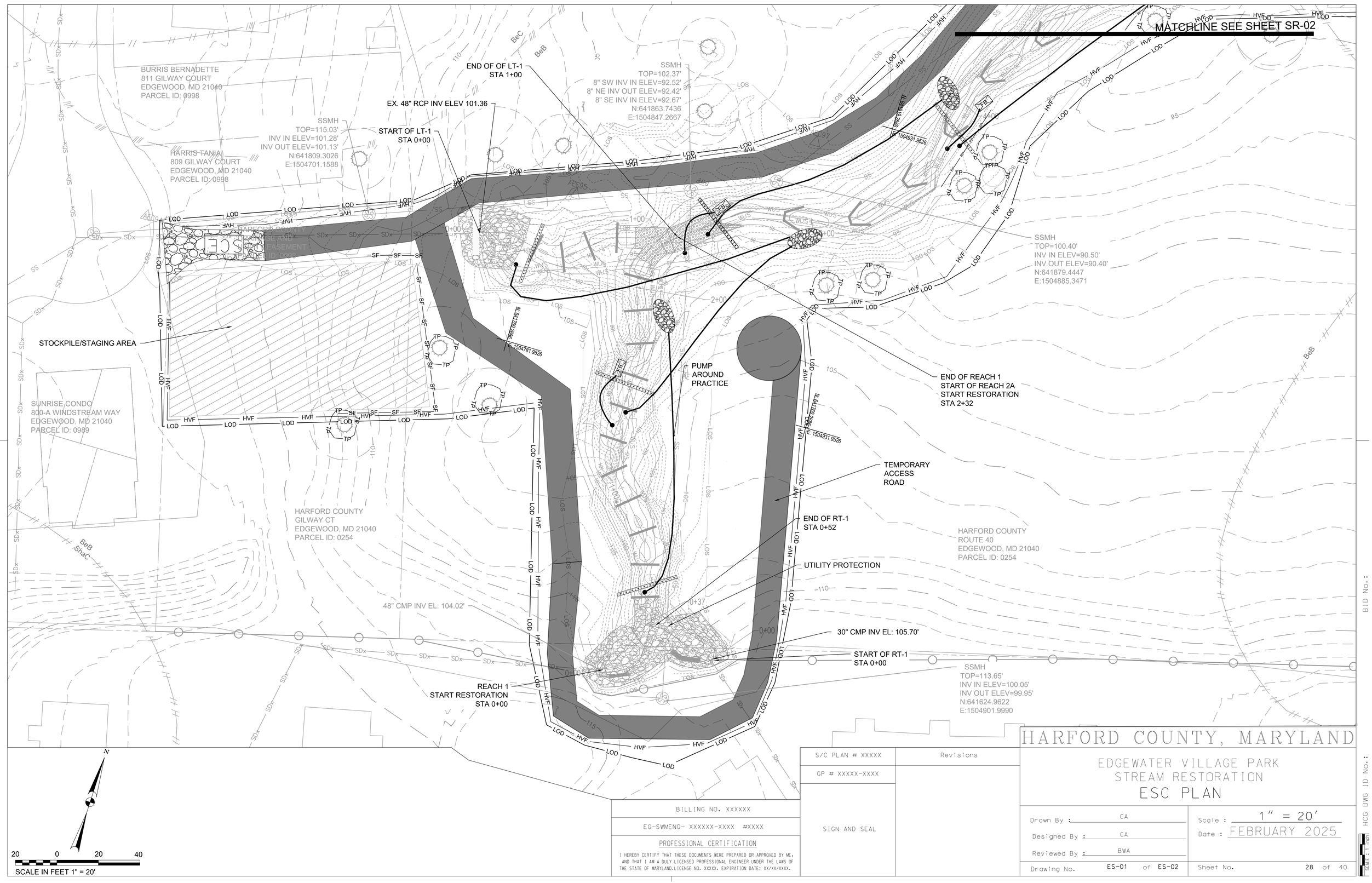
Drawing No. SC-01 of SC-01

Sheet No. 27 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1 inch



S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	
SIGN AND SEAL	

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
ESC PLAN

Drawn By : CA	Scale : 1" = 20'
Designed By : CA	Date : FEBRUARY 2025
Reviewed By : BWA	
Drawing No. ES-01 of ES-02	Sheet No. 28 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1" mm

START RESTORATION OF LT-2
STA 0+63

END OF LT-2
STA 1+68

END OF REACH 2B
END OF RESTORATION
STA 9+50

TEMPORARY ACCESS CULVERT

HARFORD COUNTY
ROUTE 40
EDGEWOOD, MD 21040
PARCEL ID: 0254

END OF REACH 2A
START OF REACH 2B
STA 5+64

EDGEWATER DR

HARBINGER TRAIL

TEMPORARY STAGING AREA

MITCHELL JERMAINE P
1700 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

BROWN JAMES A JR
1701 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

MATCHLINE SEE SHEET SR-01

N

20 0 20 40

SCALE IN FEET 1" = 20'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
ESC PLAN

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. ES-02 of ES-02

Scale : 1" = 20'

Date : FEBRUARY 2025

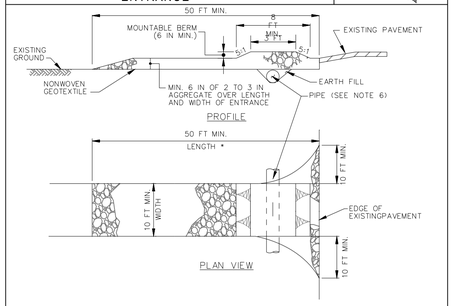
Sheet No. 28 of 40

BID No.:

HCG DWG ID No.:

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.

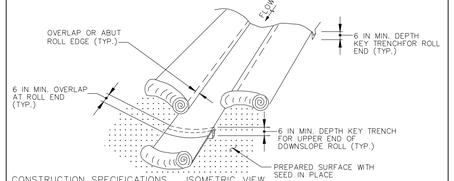
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

1 ED-01 **STABILIZED CONSTRUCTION ENTRANCE** NOT TO SCALE

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: TSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS ISOMETRIC VIEW

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

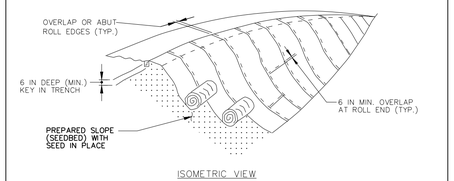
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

2 ED-01 **TEMPORARY SOIL STABILIZATION MATTING - CHANNEL** NOT TO SCALE

DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: TSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

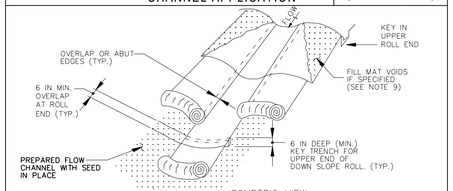
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

3 ED-01 **TEMPORARY SOIL STABILIZATION MATTING - SLOPE** NOT TO SCALE

DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: PSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS ISOMETRIC VIEW

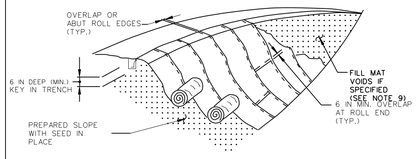
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
7. **KEY IN** THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. CONTROL

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

4 ED-01 **PERMANENT SOIL STABILIZATION MATTING - CHANNEL** NOT TO SCALE

DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: PSSMS – * lb/ft² (* INCLUDE SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

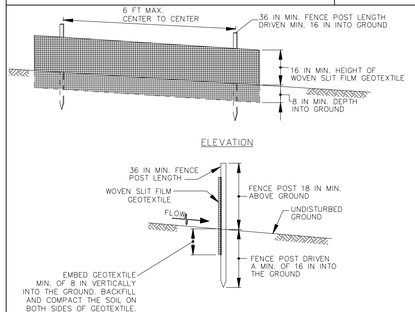
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

5 ED-01 **PERMANENT SOIL STABILIZATION MATTING - SLOPE** NOT TO SCALE

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

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

6 ED-01 **SILT FENCE** NOT TO SCALE

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

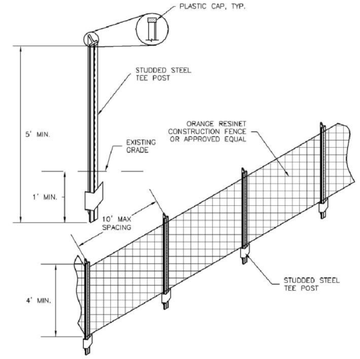
CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¼ X 1¼ ± ⅛ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

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



CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

6 ED-01 **HIGH VISIBILITY FENCE** NOT TO SCALE

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK STREAM RESTORATION

ESC DETAILS

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale : AS NOTED

Date : FEBRUARY 2025

Drawing No. ED-01 of ED-03

Sheet No. 30 of 40

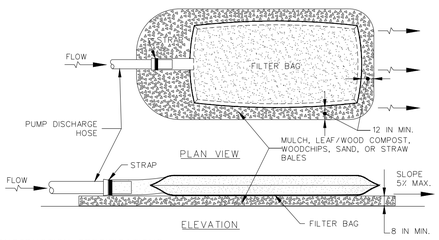
BID NO.:

HCG DWG ID NO.:

SCALE 1" = [illegible]

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

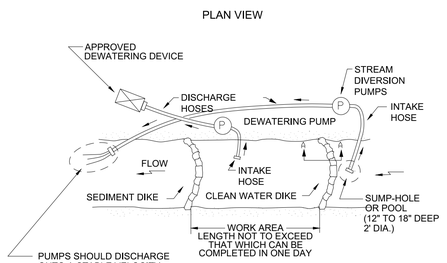
6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

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

1 ED-02 **FILTER BAG** NOT TO SCALE

DETAIL 1.2: PUMP-AROUND PRACTICE

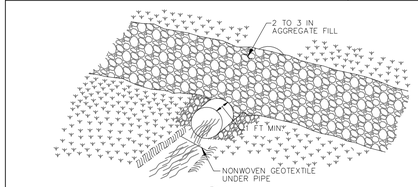


REVISED NOVEMBER 2000
PAGE 1.2 - 3

2 ED-02 **PUMP AROUND PRACTICE** NOT TO SCALE

DETAIL H-4-2 TEMPORARY ACCESS CULVERT

STANDARD SYMBOL



1 OF 2

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

3 ED-02 **TEMPORARY ACCESS CULVERT** NOT TO SCALE

DETAIL H-4-2 TEMPORARY ACCESS CULVERT

STANDARD SYMBOL

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCTION OR REMOVAL OF A TEMPORARY ACCESS CULVERT WILL NOT BE PERMITTED DURING THE FOLLOWING PERIODS:

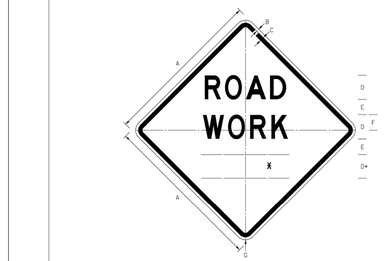
USE I AND IP	MARCH 1 - JUNE 15
USE II	JUNE 1 - SEPTEMBER 30 AND DECEMBER 16 - MARCH 14
USE III AND IIIP	OCTOBER 1 - APRIL 30
USE IV	MARCH 1 - MAY 31
SAV• (ALL FLOWING STREAMS)	APRIL 15 - OCTOBER 15
•SUBMERGED AQUATIC VEGETATION	

2. EXTEND THE CULVERT(S) A MINIMUM OF ONE FOOT BEYOND THE UPSTREAM AND DOWNSTREAM TOE OF THE AGGREGATE PLACED AROUND THE CULVERT.
3. PLACE NONWOVEN GEOTEXTILE ON THE STREAM BED AND STREAM BANKS PRIOR TO PLACEMENT OF THE PIPE CULVERT(S) AND AGGREGATE. COVER THE STREAM BED WITH THE GEOTEXTILE AND EXTEND IT A MINIMUM SIX INCHES AND A MAXIMUM OF ONE FOOT BEYOND THE END OF THE CULVERT AND BEDDING MATERIAL. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. GEOTEXTILE REDUCES SETTLEMENT AND IMPROVES CROSSING STABILITY.
4. PLACE CULVERT(S) ON THE NATURAL STREAM BED GRADE TO MINIMIZE INTERFERENCE WITH FISH PASSAGE.
5. COVER THE CULVERT WITH A MINIMUM OF ONE FOOT OF WASHED AGGREGATE. FOR MULTIPLE CULVERTS PROVIDE AT LEAST 12 INCHES OF COMPACTED AGGREGATE FILL BETWEEN CULVERTS.
6. STABILIZE ALL AREAS DISTURBED DURING CULVERT INSTALLATION WITHIN 24 HOURS OF THE DISTURBANCE IN ACCORDANCE WITH STANDARDS FOR PERMANENT STABILIZATION, SECTION B-4-5, OR TEMPORARY STABILIZATION, SECTION B-4-4, AS APPLICABLE.
7. STABILIZE APPROACH TO CROSSING AND KEEP FREE OF EROSION. REPLACE DISPLACED STONE, AND MAINTAIN HIGH FLOW AREAS. REMOVE DEBRIS TRAPPED BY CULVERT. REPLACE DAMAGED PIPE(S). MAINTAIN AREAS ADJACENT TO CROSSING TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. AFTER THE TEMPORARY CROSSING IS NO LONGER NEEDED, REMOVE IT WITHIN 14 CALENDAR DAYS. IF SUBJECT TO THE USE DESIGNATION CLOSURE, REMOVE AT THE END OF CLOSURE PERIOD. PROTECT STREAM BANKS DURING CULVERT REMOVAL AND STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MATTING. ACCOMPLISH REMOVAL OF THE CULVERT AND CLEAN UP OF THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. STORE ALL REMOVED MATERIALS IN AN APPROVED STAGING AREA.

2 OF 2

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



* REFER TO DISTANCE DETAILS IN WORK AREA SECTION FOR LINE 3 MESSAGE AND DIMENSIONS

SIGN SIZE	DIMENSIONS (INCHES)						
	A	B	C	D	E	F	G
MIN	36	5/8	7/8	50	3-1/2	3-1/4	2-1/4
STD	48	3/4	1-1/4	70	4-3/4	4-1/2	3
EXPWY	60	3/4	1-1/4	90	6	5	3

REFERENCES
MdMUTCD SECTION - 6F.17

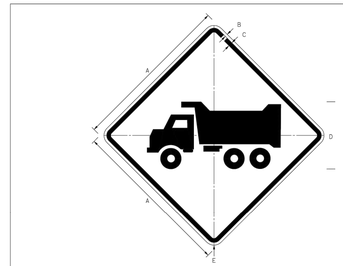
COLORS
LEGEND - BLACK
BACKGROUND - FLUORESCENT ORANGE

APPROVED Tom Hicks (signature on file)
DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

APPROVAL ▲ SHA REVISIONS	APPROVAL ▲ FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 03/03/2009	APPROVAL
REVISED	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
MARYLAND STANDARD HIGHWAY SIGNS
ROAD WORK _____
SIGN NUMBER W20-1(1)

4 ED-02 **ROAD WORK SIGN** NOT TO SCALE



NOTE: FOR SYMBOL DESIGN CONTACT SHA SIGN SHOP.

SIGN SIZE	DIMENSIONS (INCHES)				
	A	B	C	D	E
STD	48	3/4	1-1/4	20	3

REFERENCES
MdMUTCD SECTION - 6F.34

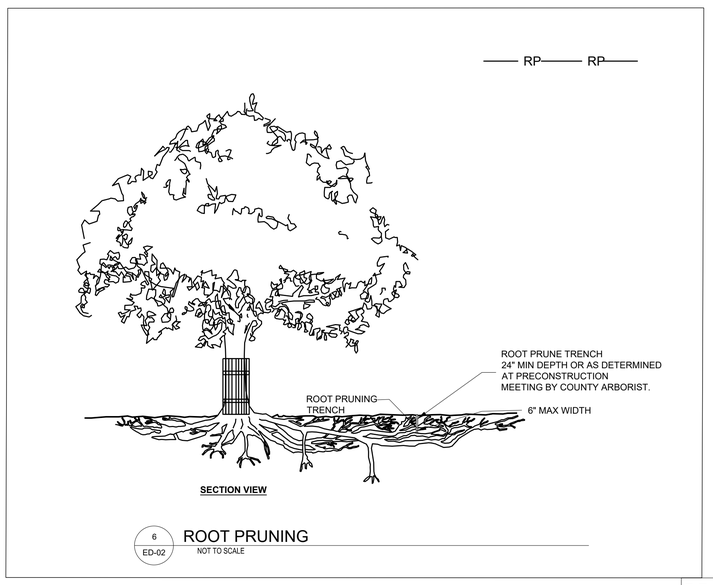
COLORS
LEGEND - BLACK
BACKGROUND - FLUORESCENT ORANGE

APPROVED Tom Hicks (signature on file)
DIRECTOR - OFFICE OF TRAFFIC AND SAFETY

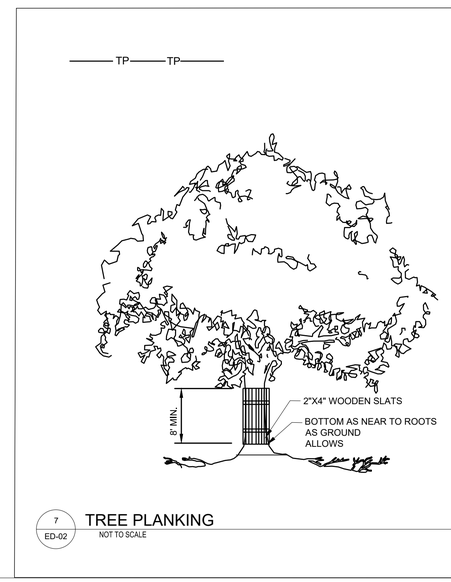
APPROVAL ▲ SHA REVISIONS	APPROVAL ▲ FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 03-01-2007	APPROVAL
REVISED	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
MARYLAND STANDARD HIGHWAY SIGNS
TRUCK CROSSING (SYMBOL)
SIGN NUMBER W11-10(1)

5 ED-02 **TRUCK CROSSING SIGN** NOT TO SCALE



6 ED-02 **ROOT PRUNING** NOT TO SCALE



7 ED-02 **TREE PLANKING** NOT TO SCALE

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
ESC DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. ED-02 of ED-03

Scale : AS NOTED
Date : FEBRUARY 2025
Sheet No. 31 of 40

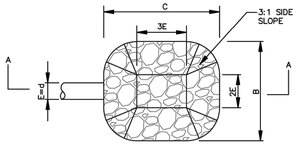
BID No.:

HCG DWG ID No.:

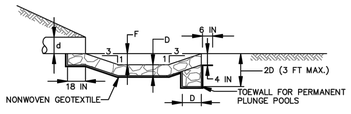
SCALE 1 inch

DETAIL D-4-2 PLUNGE POOL

STANDARD SYMBOL: PP



PLAN VIEW



SECTION A–A

CONSTRUCTION SPECIFICATIONS

1. USE SPECIFIED CLASS OF RIPRAP.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS. AND PROTECT FROM PUNCHING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE.
3. PREPARE THE SUBGRADE FOR THE PLUNGE POOL TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE EDGE OF THE SCOUR HOLE.
5. STONE FOR THE PLUNGE POOL MAY BE PLACED BY EQUIPMENT. CONSTRUCT TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. DELIVER AND PLACE THE STONE FOR THE PLUNGE POOL IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE STONE FOR THE PLUNGE POOL IN A MANNER TO PREVENT DAMAGE TO THE GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. AT THE PLUNGE POOL OUTLET, PLACE THE STONE SO THAT IT MEETS THE EXISTING GRADE.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

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

D.25

1 ED-03 PLUNGE POOL
NOT TO SCALE

HARFORD COUNTY SEDIMENT CONTROL NOTES

1. The contractor/owner is responsible for obtaining all necessary permits. Further, no construction activity shall take place until all required permits have been obtained.
2. The limits of disturbance shall be clearly delineated in the field prior to grading of the site to ensure compliance with approved plans. All Forest Retention areas will be delineated with Blaze Orange Fence as well as any SWM infiltration practice prior to any clearing. Work beyond the limits of disturbance and in any area inside the Forest Retention and SWM infiltration area is considered to be a violation of this plan.
3. All sediment control practices must be installed prior to any construction activity. Upon completion of the installation of perimeter sediment control practices the site must be inspected by the Department of Public Works (DPW). No additional construction activity will be authorized without the approval from DPW.
4. All points of ingress and egress shall be protected to prevent tracking of mud into public ways. During construction, every means will be taken to control soil erosion and siltation. If necessary a wash rack may need to be established.
5. Earth dikes, sediment traps, etc. will be located as shown on these drawings. Field changes and minor adjustments are permissible as long as the installation functions and conforms to specifications. The site inspector prior to installation must approve all such changes. Major changes to the approved plan will require re-approval by the Harford Soil Conservation District.
6. Following initial soil disturbance or re-disturbance permanent or temporary stabilization shall be completed within:
   a) Three calendar days on slopes greater than 3:1, all waterways and to the surface of all perimeter controls.
   b) Seven calendar days as to all other disturbed or graded areas of the project site.
7. Dust Control must be managed as part of all Sediment Control plans. Failure to do so is a violation of this plan.
8. Sediment basins must be built to design specifications shown on the plan. If the basin is to be used as a future SWM facility, the basin will be built in accordance with the latest MD-378 standards and specifications. Specified materials must be used. No changes or modifications will be made without written authorization of the Harford Soil Conservation District.
9. Temporary fencing shall be placed around all sediment basins, traps, and ponds during construction and site grading.
10. At the end of each working day all sediment control practices will be inspected and left operational. A weekly log will be kept in accordance with NOI/NPDES regulations. A copy of the approved sediment control plans shall be available at the site at all times.
11. Ensure positive drainage to all road inlets during all phases of road construction to ensure positive flow to traps and or basins.
12. Cut and/or fill shall be done in conformance with 2011 Erosion and Sediment Control Standards and Specifications for land grading.
13. Surface flows over cut and fill slopes shall be controlled by either redirecting flows from traversing the slopes or by installing mechanical devices to safely convey water down slopes without causing erosion.
14. Off-site waste or borrow areas shall have an approved erosion and sediment control plan prior to the import or export of material to/from the project site.
15. All material originating from the development of the property and deposited on the public right-of-way shall be immediately removed.
16. Storm drain inlets and outlets shall be protected per 2011 Erosion and Sediment Control standards and specifications.
17. Topsoil, liming, fertilizing, seeding, mulching, sod, etc. are all essential parts of the sediment control plan and must be completed along with all other practices.
18. Traps to be removed shall be dewatered as per the 2011 Erosion and Sediment Control standards and specifications.
19. Prior to removal of traps or conversion of sediment basins to SWM facilities, the storm drains will be flushed
20. Sediment control practices will be maintained until all disturbed areas for which the practices were installed have been stabilized. Sediment control practices may be removed only with the authorization of the DPW inspector. All disturbed areas resulting from the removal of sediment control devices shall be stabilized immediately. Removal prior to inspector's approval constitutes a violation.

Revised July 2019

2 ED-03 SEDIMENT CONTROL NOTES
NOT TO SCALE

PERMANENT VEGETATIVE STABILIZATION NOTES

ALL DISTURBED AREAS, WHICH ARE NOT TO BE PAVED, SHALL BE PERMANENTLY STABILIZED AS FOLLOWS:

A) SEEDBED PREPARATION:
Loosen a minimum of three inches along upper soil by raking, discing, or other acceptable means after spreading four inches of topsoil.

B) SOIL AMENDMENTS:
Incorporate 225 lbs. per acre of 10-20-20 fertilizer and two tons per acre of lime by discing or other acceptable means.

C) SEEDING: *
FOR PERIODS OF MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15: Seed with 60 lbs. per acre of Tall Fescue, 40 lbs. per acre of Kentucky Bluegrass, and 20 lbs. per acre of Perennial Ryegrass.

FOR PERIOD OF MAY 16 TO AUGUST 14: Seed with 100 lbs. per acre of Tall Fescue and 3 lbs. per acre of Weeping Lovegrass or 5 lbs. of Pearl or Foxtail Millet.

FOR PERIOD OF OCTOBER 16 TO FEBRUARY 28:
Option 1: Protect the site by applying two (2) tons per acre of well anchored straw mulch and seed as soon as possible in the spring.

Option 2: Use sod, provided the ground is suitable and thawed; comply with the **2011 MARYLAND STANDARD AND SPECIFICATION**[1] addressing **"SOD"** (pages B.23 & B.24).

D) MULCHING SPECIFICATIONS:
Mulch shall be applied to all seeded areas immediately after seeding.

Apply two (2) tons per acre of straw over all seeded areas. If a mulch anchoring tool is to be used, the rate shall be increased to 2.5 tons per acre. **

Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind and water. The type of mulch anchoring used must comply with the **2011 MARYLAND STANDARD AND SPECIFICATIONS**.

* IF OTHER SEED MIXES ARE TO BE SUBSTITUTED, THEY MUST COMPLY WITH THE **2011 MARYLAND STANDARD AND SPECIFICATIONS, B-4-5: "PERMANENT SEEDING", TABLE B-3** (PAGES B.26 TO B.31)

** IF A DIFFERENT TYPE OF MULCH IS TO BE USED, IT MUST COMPLY WITH THE **2011 MARYLAND STANDARD AND SPECIFICATION, B-4-3: "SEEDING AND MULCHING"** (PAGES B.15 – B.17)

Revised: 9/27/22

[1] 2011 Maryland Standard and Specification

3 ED-03 PERMANENT STABILIZATION NOTES
NOT TO SCALE

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, AND 100 YEAR FLOODPLAINS

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIALS FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.)AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
   - 9.1. USE I WATERS (WITHOUT YELLOW PERCH): IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.
   - 9.2. USE I WATERS (WITH YELLOW PERCH): IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD FEBRUARY 15 THROUGH JUNE 15, INCLUSIVE DURING ANY YEAR.
   - 9.3. USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THORUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
   - 9.4. USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

4 ED-03 STANDARD NOTES FOR WORKING IN FLOODPLAIN
NOT TO SCALE

TEMPORARY VEGETATION STABILIZATION NOTES

A) SEEDBED PREPARATION:
Loosen a minimum of three inches along upper soil by discing, raking or other acceptable means.

B) SOIL AMENDMENTS:
Incorporate 436 lbs. per acre of 10-20-20 fertilizer and two (2) tons per acre of lime by discing or other acceptable means.

C) SEEDING: *
FOR PERIODS OF MARCH 1 TO APRIL 30 AND AUGUST 15 TO NOVEMBER 15: Seed with 2.5 bu. per acre of Cereal Rye or 40 lbs. per acre of Annual Ryegrass.

FOR PERIOD OF MAY 1 TO AUGUST 14: Seed with 3 lbs. per acre of Weeping Lovegrass or 30 lbs. per acre of Pearl or Foxtail Millet.

FOR THE PERIOD OF NOVEMBER 16 TO FEBRUARY 28: Protect the site by applying two (2) tons per acre of well anchored straw mulch and seed as soon as possible in the spring.

D) MULCHING SPECIFICATIONS:
Mulch shall be applied to all seeded areas immediately after seeding.

Apply two (2) tons per acre of straw over all seeded areas. If a mulch anchoring tool is to be used, the rate shall be increased to 2.5 tons per acre.**

Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind and water. The type of mulch anchoring used must comply with the **2011 MARYLAND STANDARD AND SPECIFICATIONS**.[1]

* IF OTHER SEED MIXES ARE TO BE SUBSTITUTED, THEY MUST COMPLY WITH THE **2011 MARYLAND STANDARD AND SPECIFICATIONS, B-4-4: "TEMPORARY SEEDING", TABLE B-1** (PAGE B.20).

** IF A DIFFERENT TYPE OF MULCH IS TO BE USED, IT MUST COMPLY WITH THE **2011 MARYLAND STANDARD AND SPECIFICATION, B-4-3: "SEEDING AND MULCHING"** (PAGES B.15 – B.17).

Revised: 9/27/22

[1] 2011 Maryland Standard and Specifications

5 ED-03 TEMPORARY VEGETATION STABILIZATION
NOT TO SCALE

ENGINEER'S CERTIFICATION

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE 1994 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

ENGINEER DATE

OWNER'S CERTIFICATION

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ONSITE INSPECTION BY THE HARFORD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, OR AS DEEMED NECESSARY.

OWNER DATE

SITE ANALYSIS

TOTAL SITE AREA:	3.12 ACRES
TOTAL DISTURBED AREA:	3.12 ACRES
TOTAL AREA TO BE PAVED:	0.0 ACRES
AREA TO BE STABILIZED:	3.09 ACRES
TOTAL CUT:	4215 CU YD
TOTAL FILL:	1144 CU YD

NPDES I.D. POINT N: 641669.2051' E: 1504880.4859'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
ESC DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : AS NOTED
Date : FEBRUARY 2025

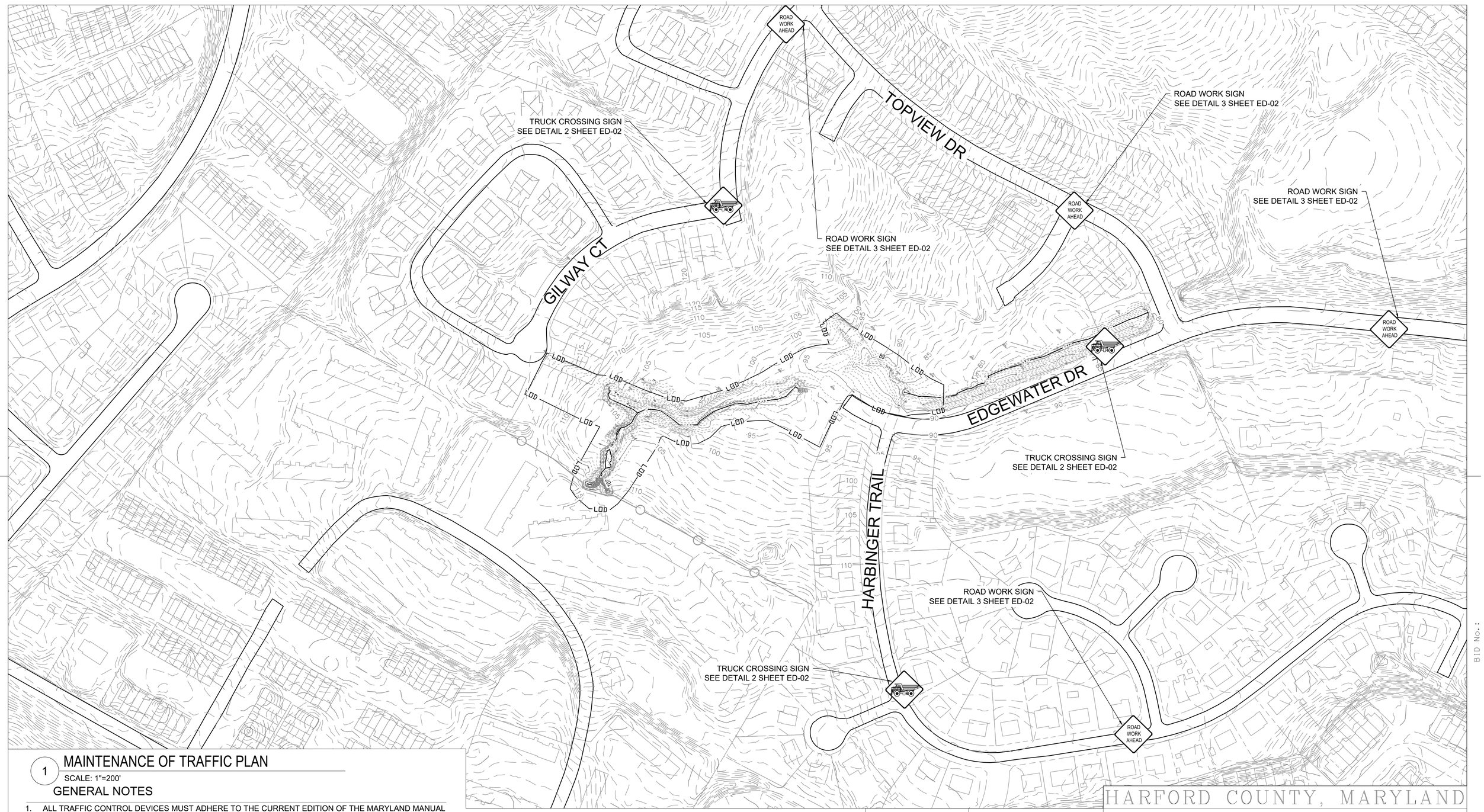
Drawing No. ED-03 of ED-03

Sheet No. 32 of 40

BID No.:

HCG DWG ID No.:

SCALE 1" = 1"



1 MAINTENANCE OF TRAFFIC PLAN

SCALE: 1"=200'

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES MUST ADHERE TO THE CURRENT EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MD MUTCD) AND SHA BOOK OF STANDARDS.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY, INSTALL & MAINTAIN ALL TEMPORARY TRAFFIC CONTROL EQUIPMENT FOR THE DURATION OF THE CONTRACT. ALL MAINTENANCE OF TRAFFIC DEVICES AND INSTALLATION OF THE DEVICES WILL BE INSPECTED ON A ROUTINE BASIS BY THE CONTRACTOR'S CERTIFIED TRAFFIC MANAGER. ANY DEFICIENCIES SHALL BE CORRECTED PROMPTLY BY THE CONTRACTOR.
3. DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A SAFE INGRESS/EGRESS TO ALL ADJACENT PROPERTIES, ROADWAYS, AND DRIVEWAYS.
4. ALL EXISTING SIGNAGE AND PAVEMENT MARKINGS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION.

N

100 0 100 200

SCALE IN FEET 1" = 100'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
MAINTENENCE OF TRAFFIC

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. MT-01 of MT-01

Scale : 1" = 100'

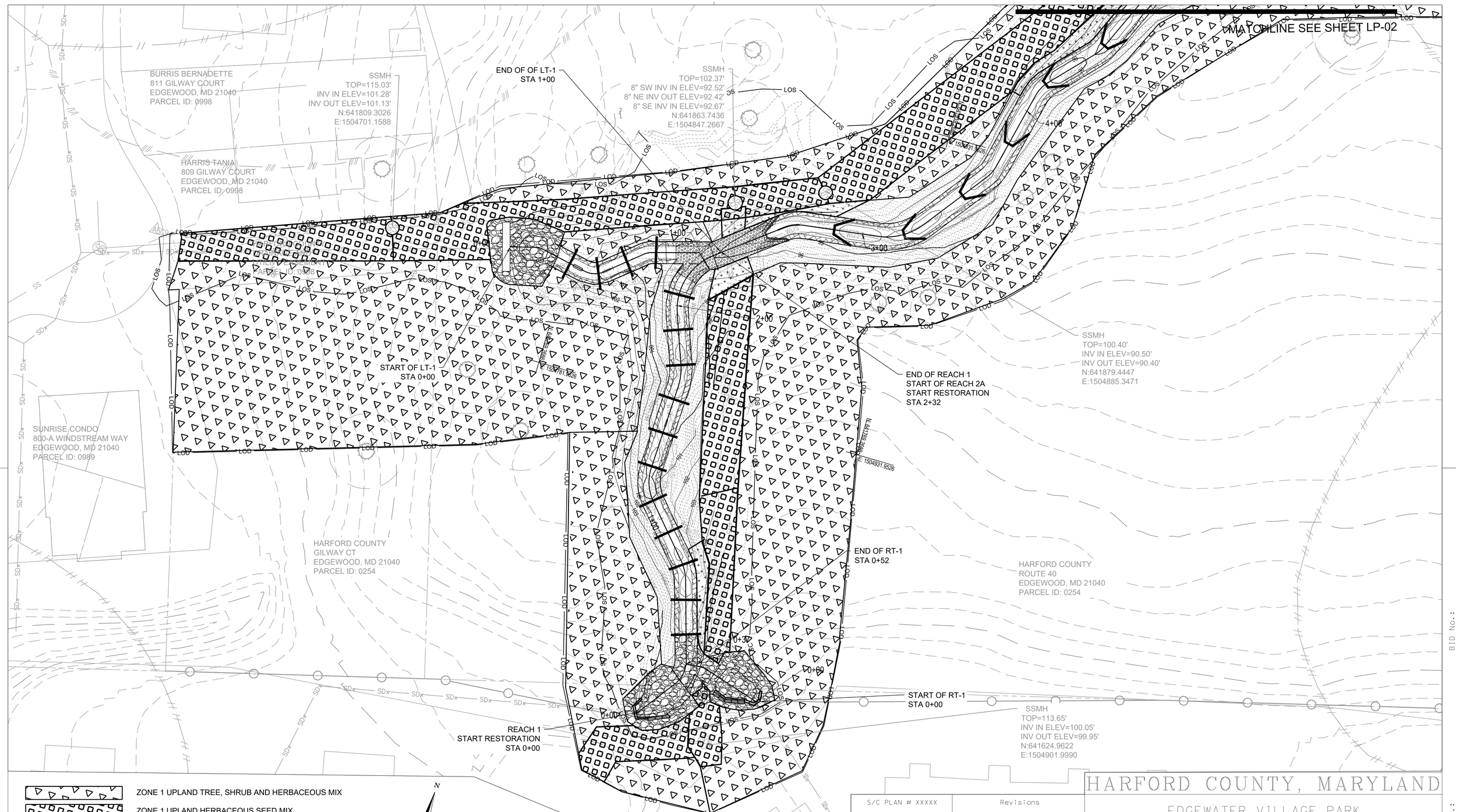
Date : FEBRUARY 2025

Sheet No. 33 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1 inch



S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

SIGN AND SEAL

PROFESSIONAL CERTIFICATION

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

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
LANDSCAPING PLAN

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale : 1" = 20'

Date : FEBRUARY 2025

Drawing No. LP-01 of LP-02

Sheet No. 34 of 40

BID No.:

HCG DWG ID No.:

SCALE: 1 inch

START RESTORATION OF LT-2
STA 0+63

END OF LT-2
STA 1+52

END OF REACH 2B
END OF RESTORATION
STA 9+50

END OF REACH 2A
START OF REACH 2B
STA 5+64

0+00
1+00
6+00
7+00
8+00
9+00
1+49
0+85

EDGEWATER DR

HARBINGER TRAIL

HARFORD COUNTY
ROUTE 40
EDGEWOOD, MD 21040
PARCEL ID: 0254

MITCHELL JERMAINE P
1700 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

BROWN JAMES A JR
1701 HARBINGER TRAIL
EDGEWOOD, MD 21040
PARCEL ID: 0961

MATCHLINE SEE SHEET LP-01

- ZONE 1 UPLAND TREE, SHRUB AND HERBACEOUS MIX
- ZONE 1 UPLAND HERBACEOUS SEED MIX
- ZONE 2 RIPARIAN TREE, SHRUB AND HERBACEOUS MIX
- ZONE 2 RIPARIAN SEED MIX
- ZONE 3 RIPARIAN HERBACEOUS MIX AND STREAM BANK LIVE STAKES
- ZONE 4 WETLAND TREE, SHRUB AND SEED MIX
- ZONE 4 WETLAND SEED MIX

N

20 0 20 40
SCALE IN FEET 1" = 20'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
LANDSCAPING PLAN

Drawn By : CA
Designed By : CA
Reviewed By : BWA

Scale : 1" = 20'
Date : FEBRUARY 2025

Drawing No. LP-02 of LP-02

Sheet No. 35 of 40

BID No.:

HCG DWG ID No.:

ZONE 1: UPLAND SEED MIX - 2.32 ACRES
ERNMX-731 OR APPROVED EQUAL

SCIENTIFIC NAME	COMMON NAME	TYPE	%TOTAL COMPOSITION
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	HERB	65.90%
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	HERB	17.00%
RUDBECKIA HIRTA	BLACKEYED SUSAN	HERB	3.00%
LESPEDEZA VIRGINICA	SLENDER LESPEDEZA	HERB	2.50%
ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	HERB	2.00%
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	HERB	1.50%
SENNA HEBECARPA	WILD SENNA	HERB	1.50%
ASTER PILOSUS	HEATH ASTER	HERB	1.20%
PYCNANTHEMUM TENUIFOLIUM	NARROWLEAF MOUNTAINMINT	HERB	1.20%
AQUILEGIA CANDENSIS	EASTERN COLUMBINE	HERB	1.00%
GEUM CANADENSE	WHITE AVENS	HERB	1.00%
CHAMAECRISTA NICTITANS	SENSITIVE PEA	HERB	0.50%
SISYRINCHIUM ANGUSTIFOLIUM	NARROWLEAF BLUE EYED GRASS	HERB	0.50%
OENOTHERA FRUTICOSA	SUNDROPS	HERB	0.30%
SOLIDAGO BICOLOR	WHITE GOLDENROD	HERB	0.30%
SOLIDAGO NEMORALIS	GRAY GOLDENROD	HERB	0.30%
ASTER LATERIFLORUS	CALICO ASTER	HERB	0.20%
SOLIDAGO JUNCEA	EARLY GOLDENROD	HERB	0.10%

ZONE 1: UPLAND TREE AND SHRUB MIX - 1.94 ACRES

SCIENTIFIC NAME	COMMON NAME	TYPE	1"-2" CALIPER/#7 CONTAINER	1" CALIPER/#5 CONTAINER	1.5-2"CALIPER/ #2 CONTAINER
QUERCUS ALBA	WHITE OAK	SINGLE STEM TREE	29	15	0
POPULUS GRANDIDENTATA	BIG TOOTH ASPEN	SINGLE STEM TREE	17	12	0
LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	SINGLE STEM TREE	15	12	0
QUERCUS RUBRA	RED OAK	SINGLE STEM TREE	30	17	0
QUERCUS PALUSTRIS	PIN OAK	SINGLE STEM TREE	30	17	0
FAGUS GRANDIFOLIA	AMERICAN BEECH	SINGLE STEM TREE	30	17	0
LIRIODENDRON TULIPIFERA	TULIP TREE	SINGLE STEM TREE	28	15	0
ACER RUBRUM	RED MAPLE	SINGLE STEM TREE	42	12	0
VIBURNUM ACERIFOLIUM	MAPLELEAF VIBURNUM	SHRUB	0	0	18
VACCINIUM VACILLANS	LOWBUSH BLUEBERRY	SHRUB	0	0	18
		TOTAL	221	117	36

ZONE 2: RIPARIAN TREE AND SHRUB MIX - 0.27 ACRES

SCIENTIFIC NAME	COMMON NAME	TYPE	1"-2" CALIPER/#7 CONTAINER	1" CALIPER/#5 CONTAINER	1.5-2"CALIPER/#2 CONTAINER
LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	SINGLE STEM TREE	6	3	0
ACER RUBRUM	RED MAPLE	SINGLE STEM TREE	6	3	0
BETULA NIGRA	RIVER BIRCH	SINGLE STEM TREE	2	2	0
PLATANUS OCCIDENTAILS	AMERICAN SYCAMORE	SINGLE STEM TREE	5	2	0
QUERCUS PHELLOS	WILLOW OAK	SINGLE STEM TREE	5	2	0
ALNUS SERRULATA	SMOOTH ALDER	MULTI STEM TREE	5	2	0
QUERCUS BICOLOR	SWAMP WHITE OAK	SINGLE STEM TREE	3	2	0
LINDERA BENZOIN	SPICEBUSH	SHRUB	0	0	5
		TOTAL	32	16	5

ZONE 2: RIPARIAN SEED MIX - 0.34 ACRES
ERNMX-732 OR APPROVED EQUAL

SCIENTIFIC NAME	COMMON NAME	TYPE	%TOTAL COMPOSITION
SORGHASTRUM NUTANS	INDIANGRASS	HERB	39.70%
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	HERB	20.00%
PANICUM VIRGATUM	SWITCHGRASS	HERB	18.00%
PANICUM RIGIDULUM	REDTOP PANICGRASS	HERB	10.00%
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	HERB	3.00%
RUDBECKIA HIRTA	BLACKEYED SUSAN	HERB	3.00%
HELIOPSIS HELIANTHOIDES	OXEYE SUNFLOWER	HERB	2.00%
ASCLEPIAS INCARNATA	SWAMP MILKWEED	HERB	1.00%
VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	HERB	0.90%
EUPATORIUM PERFOLIATUM	BONESET	HERB	0.80%
HELENIUM AUTUMNALE	COMMON SNEEZEWEED	HERB	0.80%
SOLIDAGO RUGOSA	WRINKLELEAF GOLDENROD	HERB	0.80%

ZONE 3 & ZONE 4
WETLAND AND STREAMBANK SEED MIX - 0.44 ACRES
ERNMX-733 OR APPROVED EQUAL

SCIENTIFIC NAME	COMMON NAME	TYPE	%TOTAL COMPOSITION
CAREX VULPINOIDEA	FOX SEDGE	HERB	25.00%
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	HERB	18.00%
PANICUM RIGIDULUM	REDTOP PANICGRASS	HERB	17.00%
CAREX LURIDA	LURID SEDGE	HERB	16.70%
CAREX SCOPARIA	BLUNT BROOM SEDGE	HERB	10.00%
CAREX CRINITA	FRINGED SEDGE	HERB	3.00%
JUNCUS EFFUSUS	SOFT RUSH	HERB	3.00%
ASCLEPIAS INCARNATA	SWAMP MILKWEED	HERB	2.00%
EUPATORIUM PERFOLIATUM	BONESET	HERB	1.00%
HELENIUM AUTUMNALE	COMMON SNEEZEWEED	HERB	1.00%
JUNCUS TENUIS	PATH RUSH	HERB	1.00%
VERNONIA NOVEBORACENSIS	NEW YORK IRONWEED	HERB	1.00%
SOLIDAGO RUGOSA	WRINKLELEAF GOLDENROD	HERB	0.70%
MIMULUS RINGENS	SQUARE STEMMED MONKEYFLOWER	HERB	0.30%
SCIRPUS CYPERINUS	WOOLGRASS	HERB	0.30%

ZONE 4: WETLAND TREE AND SHRUB MIX - 0.33 ACRES

SCIENTIFIC NAME	COMMON NAME	TYPE	1"-2" CALIPER/#7 CONTAINER	1" CALIPER/#5 CONTAINER	1.5-2"CALIPER/#2 CONTAINER
QUERCUS BICOLOR	SWAMP WHITE OAK	SINGLE STEM TREE	4	6	0
NYSSA SYLVATICA	BLACK TUPELO	SINGLE STEM TREE	4	6	0
BETULA NIGRA	RIVER BIRCH	SINGLE STEM TREE	4	6	0
QUERCUS MICHAUXII	SWAMP CHESTNUT OAK	SINGLE STEM TREE	4	6	0
PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	SINGLE STEM TREE	4	6	0
CEPHALANTHUS OCCIDENTALIS	BUTTONBUSH	SHRUB	0	0	3
MAGNOLIA VIRGINIANA	SWEET BAY MAGNOLIA	MULTI STEM TREE	2	6	0
RHODODENDRON CANESCENS	MOUNTAIN AZALEA	SHRUB	0	0	3
		TOTAL	22	36	6

ZONE 3: STREAMBANK LIVE STAKES MIX - 0.10 ACRES

SCIENTIFIC NAME	COMMON NAME	QUANTITY
SALIX NIGRA	BLACK WILLOW	118
CORNUS AMOMUM	SILKY DOGWOOD	118
CORNUS SERICEA	RED OSIER DOGWOOD	118
SALIX SERICEA	SILKY WILLOW	118
	TOTAL	472

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM RESTORATION DETAILS

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. DE-01 of DE-03

Scale : AS NOTED

Date : FEBRUARY 2025

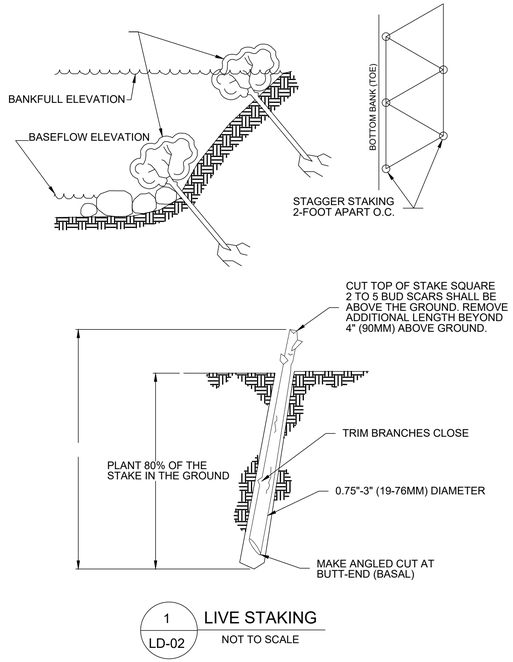
Sheet No. 36 of 40

BID No.:

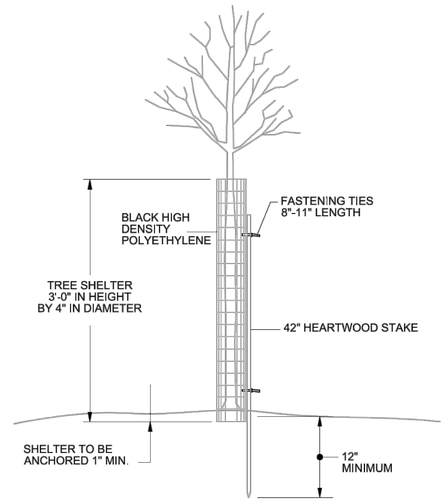
HCG DWG ID No.:

SCALE: 1" = 1inch

1. QUANTITIES ARE BASED ON ESTIMATED PLANTING AREA OF 3.12 ACRES. ANY ADDITIONAL DISTURBANCE REQUIRING PLANTING SHALL BE SEEDED AND PLANTED AT THE RATE SPECIFIED FOR UPLAND SEED MIX.
2. SEEDING SHALL OCCUR PRIOR TO INSTALLATION OF EROSION CONTROL COIR MATTING FABRIS AND LIVE STAKE PLANTING.
3. LIVE STAKES SHALL BE INSTALLED ALONG NEWLY GRADED BANKS WITHIN PLANTING ZONE 3 AS INDICATED ON THE LANDSCAPING PLANS. THE DENSITY OF LIVE STAKES IS BASED ON AN ESTIMATED AREA OF STREAM BANK AND SPACED ACCORDING TO THE LIVE STAKING DETAIL.
4. LIVE STAKES WILL BE PLANTED WITH 2 ROWS ON EACH SPECIFIED STREAM BANK AT 3'X3' SPACING.
5. TREES AND SHRUBS SHALL BE SPACED 15 FT ON CENTER
6. MULCHING SHALL BE PERFORMED WITHIN 48 HOURS OF SEEDING. GRAIN STRAW MULCH SHOULD BE APPLIED ON SEEDED AREAS AT A RATE OF 2 TONS PER ACRE AND APPLIED UNIFORMLY.
7. SPECIES LISTED ON LD-01 SHOULD BE PLANTED. HOWEVER, IF UNAVAILABLE, SUBSTITUTIONS OF OTHER IN-STOCK NATIVE MATERIAL WILL BE ALLOWED BASED ON THE TREE SUPPLY NURSERY WITH REVIEW AND APPROVAL.
8. UPLAND SEED MIX SHALL BE APPLIED EVENLY AT A RATE OF 20 LBS PER ACRE WITH A COVER CROP OF OATS AT 100 LBS PER ACRE BETWEEN JANUARY 1 TO APRIL 30, BROWN TOP MILLET AT 30 LBS PER ACRE BETWEEN MAY 1 TO AUGUST 31 OR GRAIN RYE AT 100 LBS PER ACRE BETWEEN SEPTEMBER 1 TO DECEMBER 31.
9. RIPARIAN SEED MIX SHALL BE APPLIED EVENLY AT A RATE OF 20 LBS PER ACRE WITH A COVER CROP OF GRAIN OATS AT 100 LBS PER ACRE BETWEEN JANUARY 1 TO APRIL 30, BROWN TOP MILLET AT 30 LBS PER ACRE BETWEEN MAY 1 TO AUGUST 31, OR GRAIN RYE AT 100 LBS PER ACRE BETWEEN SEPTEMBER 1 TO DECEMBER 31.
10. ALL SINGLE STEM TREES LOCATED WITHIN ZONE 1 SHALL RECEIVE BLACK HIGH DENSITY POLYETHYLENE DEER PROTECTION SHELTERS 3' IN HEIGHT BY 4" IN DIAMETER MOUNTED AS DEPICTED IN THE TYPICAL DETAIL PROVIDED.
11. ALL SHRUB PLANTINGS AND MULTI STEM TREES LOCATED WITHIN ZONE 1 SHALL BE ENCLOSED USING 4' TALL, 14 GAUGE WIRE FENCE SECURED TO 6' METAL T-POSTS DRIVE 2' INTO THE GROUND.
12. INDIVIDUAL TREES WITHIN THE LOD THAT ARE NOT MARKED AS REMOVAL AND NOT WITHIN A DESIGNATED AREA OF FOREST RETENTION SHALL BE PROTECTED WITH TREE PLANKING CONTINUOUSLY AROUND THOSE TREES.
13. CONTRACTOR SHALL USE LOW PRESSURE EQUIPMENT OR HAND GRADING WHEN GRADING WITHIN CRITICAL ROOT ZONES OF TREES THAT ARE MARKED AS REMOVAL
14. FOREST RETENTION SIGNAGE SHALL BE STAKED ALONG THE EXISTING HIGH VISIBILITY FENCING OR SILT FENCE ALONG PORTIONS OF THE LOD MARKED AS FOREST RETENTION AREA. SIGN SHALL BE SPACE APPROXIMATELY 100 FEET APART WHERE POSSIBLE, WITH MAXIMUM OF 150 FEET APART.
15. CONTRACTOR SHALL REFER TO PROJECT SPECIFICATIONS REGARDING ADDITIONAL FOREST/TREE PROTECTION METHODS AND TO BE SUPERVISED BY A LICENSED TREE CARE PROFESSIONAL
16. NO TREES SHALL BE PLANTED WITHIN 15 FEET OF ANY EXISTING UTILITIES ON SITE

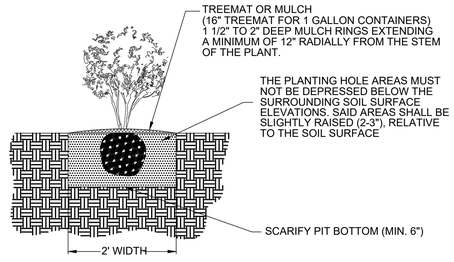


1 / LD-02 — LIVE STAKING
NOT TO SCALE

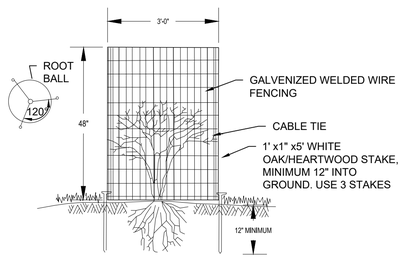


NOTES:
1. UP TO 2" OF SOIL CAN BE MOUNTED AROUND THE OUTSIDE OF TREE SHELTER.

2 / LD-02 — DEER PROTECTION - TREE SLEEVE
NOT TO SCALE



3 / LD-02 — CONTAINER TREE AND SHRUB PLANTING
NOT TO SCALE



4 / LD-02 — DEER PROTECTION - SHRUB

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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

SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
LANDSCAPING DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. LD-02 of LD-02

Scale : AS NOTED
Date : FEBRUARY 2025
Sheet No. 38 of 40

BID No.:
HCG DWG ID No.:

DRAINAGE AREAS		
POI	DRAINAGE AREA (SQ. MI)	PERCENT IMPERVIOUS (%)
REACH 1	0.05	40%
REACH 2A	0.08	33%
REACH 2B	0.09	33%
LT-1	0.02	28.3%
LT-2	0.01	11.9%

DRAINAGE AREA BOUNDARY

SUB-DRAINAGE AREA BOUNDARY

① POINT OF INTEREST (POI)

N

140 0 140 280

SCALE IN FEET 1" = 140'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

BID No.:

HCG DWG ID No.:

SCALE: 1"=40'

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
DRAINAGE AREA

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale : 1"=140'

Date : FEBRUARY 2025

Drawing No. DA-01 of DA-01

Sheet No. 38 of 40

START RESTORATION OF LT-2
STA 0+63

END OF LT-2
STA 1+68

END OF REACH 2B
END OF RESTORATION
STA 9+69

END OF REACH 2A
START OF REACH 2B
STA 5+64

END OF OF LT-1
STA 0+92

START OF LT-1
STA 0+00

END OF RT-1
STA 0+52

END OF REACH 1
START OF REACH 2A
START RESTORATION
STA 2+32

START OF RT-1
STA 0+00

REACH 1
START RESTORATION
STA 0+00

LEGEND
EXISTING 100-YR FLOODPLAIN
EXISTING CROSS SECTION
PROPOSED 100-YR FLOODPLAIN
PROPOSED CROSS SECTION

N

40 0 40 80
SCALE IN FEET 1" = 40'

S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	
SIGN AND SEAL	

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

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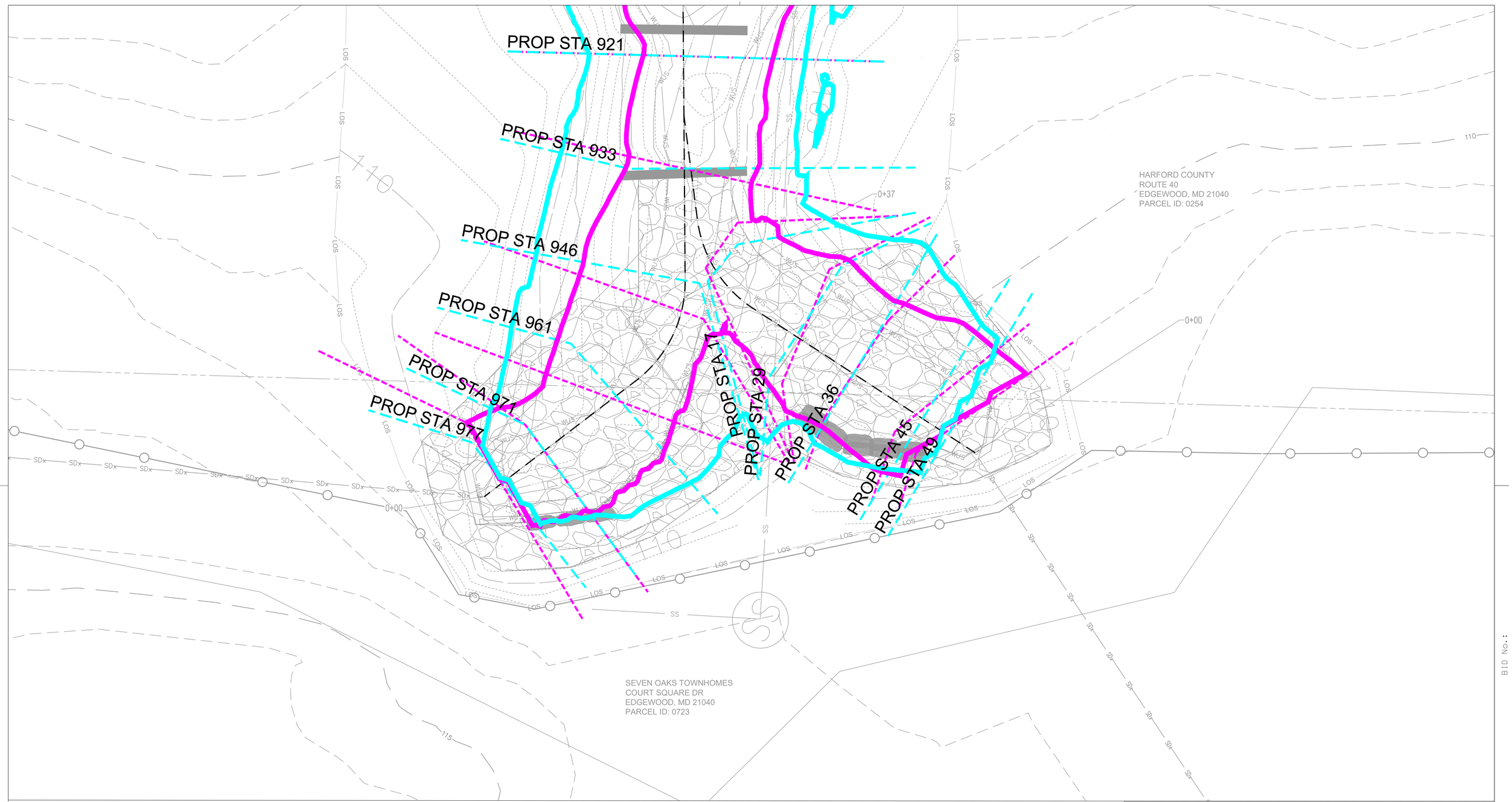
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
FLOODPLAIN EXHIBITS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. FP-01 of FP-02

Scale : 1" = 40'
Date : FEBRUARY 2025
Sheet No. 39 of 40

BID No.:
HCG DWG ID No.:
SCALE: 1 inch



LEGEND

EXISTING 100-YR FLOODPLAIN

EXISTING CROSS SECTION

PROPOSED 100-YR FLOODPLAIN

PROPOSED CROSS SECTION

N

5 0 5 10

SCALE IN FEET 1" = 5'

BILLING NO. XXXXXX

EG-SWMENG- XXXXXX-XXXX #XXXX

PROFESSIONAL CERTIFICATION

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S/C PLAN # XXXXX

GP # XXXXX-XXXX

SIGN AND SEAL

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
FLOODPLAIN EXHIBITS

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Scale : 1" = 5'

Date : FEBRUARY 2025

Drawing No. FP-02 of FP-02

Sheet No. 40 of 40

BID No.:

HCG DWG ID No.: