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:1,332 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(REACH 1,2A,2B)	130.71 TONS/YR	160.64 LBS/YR	21.07 LBS/YR	14.59
RT-1	0.9 TONS/YR	6.4 LBS/YR	1.3 LBS/YR	0.4
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
REACH 3	2.8 TONS/YR	3.1 LBS/YR	0.6 LBS/YR	0.2

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 "STANDARD SPECIFICATIONS AND DETAILS FOR WATER MAINS & SEWER MAINS" DATED 2014, 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) IN U.S. FEET. ONLY THOSE CONTROL POINTS SHOWN ON THESE PLANS ARE TO BE USED FOR THE CONSTRUCTION OF THIS PROJECT.

TMDL NOTES:
1. 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.
2. 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.
3. TMDL CALCULATIONS SHOWN ABOVE ARE PRELIMINARY AND INCLUDED FOR REFERENCE ONLY. FINAL LOAD REDUCTIONS WILL BE UPDATED AND RECALCULATED AS DESIGN PROGRESSES.

NOT FOR CONSTRUCTION: 100% DESIGN REVIEW

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: 2.73 ACRES
DISTURBED AREA: 2.73 ACRES
IMPACT TO 100 FOOT STREAM BUFFER: 2.47 ACRES
NET FOREST LOSS: TBD

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 # 59914	Revisions
GRA-004622-2025	

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 : SEPTEMBER 2025
Sheet No. 01 of 65

BID No.:
HCG DWG ID No.:
SCALE: 1"=400'

GENERAL CONSTRUCTION NOTES

PROJECT DESCRIPTION
THE HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS, WATERSHED PROTECTION AND RESTORATION DIVISION OFFICE IS PURSUING THE EDGEWATER VILLAGE STREAM RESTORATION PROJECT. THE PROJECT INCLUDES 1,332 LINEAR FEET OF STREAM RESTORATION AND 245 LINEAR FEET OF SANITARY SEWER REPLACEMENT. THE GOAL OF THE PROJECT IS TO REPLACE AND STABILIZE THE EXISTING EXPOSED SANITARY SEWER LINE AND TO PROVIDE STREAM STABILIZATION AND CHANNEL RESTORATION DESIGNS THAT ARE LOW-MAINTENANCE AND COST-EFFECTIVE WHILE MINIMIZING ADVERSE ENVIRONMENTAL IMPACTS. 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
	EXISTING FENCE
SD SD	EXISTING STORM DRAIN
SS	EXISTING SANITARY SEWER
SS SD	EXISTING MANHOLE
	EXISTING CONCRETE DEBRIS
	EXISTING RIP RAP
	DEMOLITION BOUNDARY
	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
	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
SB SB	STREAM BUFFER (100')
EPH EPH	EPHEMERAL STREAM
RP RP	ROOT PRUNING
	IMBRICATED WALL
TBC	TEMPORARY BRIDGE CROSSING

S/C PLAN # 59914

GRA-004622-2025

Revisions

SIGN AND SEAL

PROFESSIONAL CERTIFICATION

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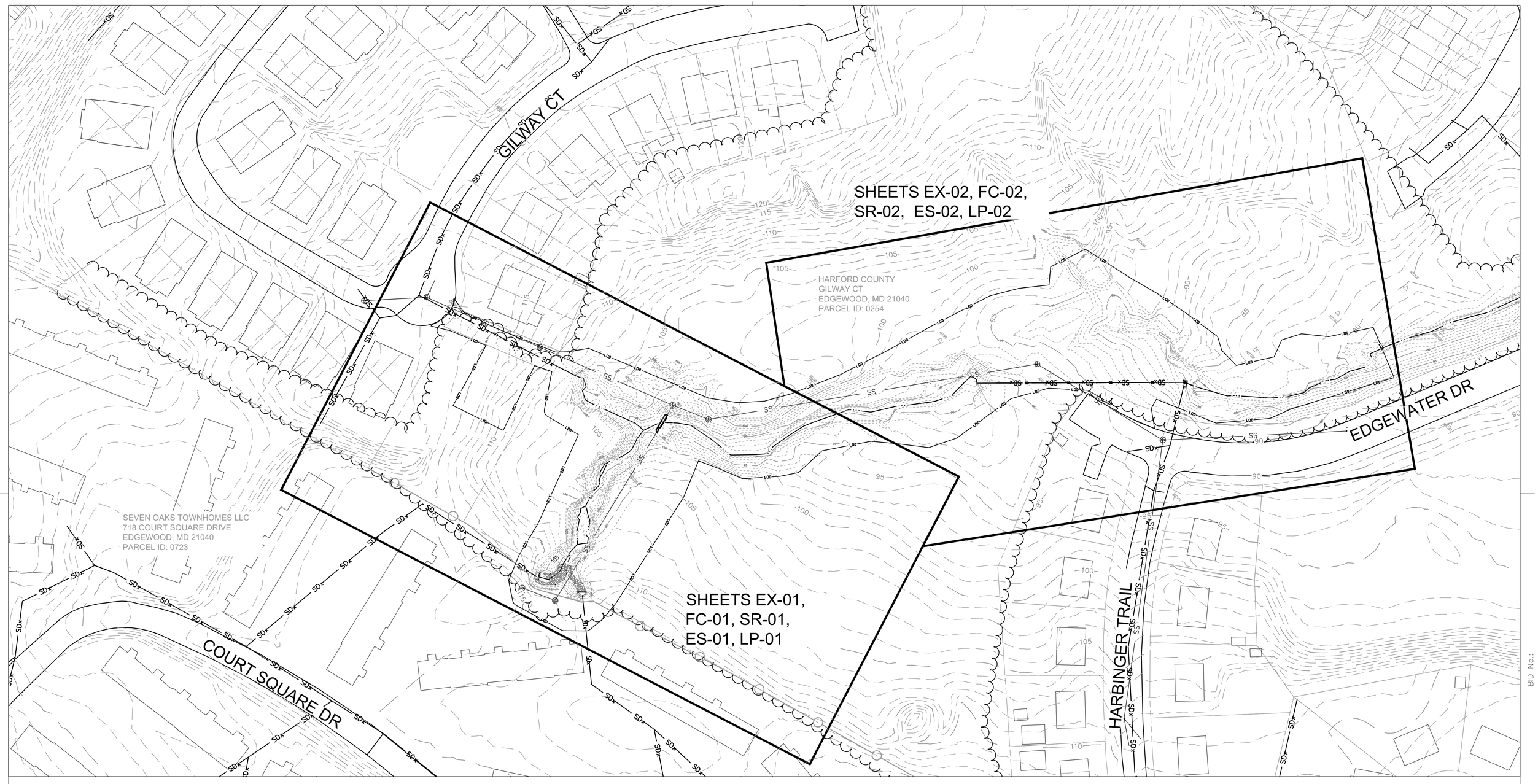
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
GENERAL CONSTRUCTION NOTES

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

Scale : NTS
Date : SEPTEMBER 2025
Sheet No. 02 of 65

BID No.:
HCG DWG ID No.:
SOLT Index



N

50 0 50 100

SCALE IN FEET 1" = 50'

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SIGN AND SEAL

S/C PLAN # 59914	Revisions
GRA-004622-2025	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SITE PLAN

Drawn By :	CA	Scale :	1" = 50'
Designed By :	CA	Date :	SEPTEMBER 2025
Reviewed By :	BWA		
Drawing No.	SP-01 of SP-01	Sheet No.	03 of 65

BID No.:

HCG DWG ID No.:

SCALE 1 inch

MATCHLINE SEE SHEET EX-02

GILWAY CT

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

SSMH-07
TOP=115.03'
INV IN ELEV=101.28'
INV OUT ELEV=101.13'
N:641809.3026
E:1504701.1588

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

SSMH-01
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

DEMOLISH AND REMOVE
CONCRETE DEBRIS

48" RCP INV
ELEV 101.36

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

HARFORD COUNTY
DRAINAGE AND
UTILITY EASEMENT
PARCEL ID: 0998

SSMH-06
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-65152
TOP=100.40'
8" INV IN ELEV=90.50'
8" INV OUT ELEV=90.40'
N:641879.4447
E:1504885.3471

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

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

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

GABION MATTRESS/
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 02
TOP=113.65'
INV IN ELEV=100.05'
8" INV OUT ELEV=99.95'
N:641624.9622
E:1504901.9990

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

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

SSMH 03
AS-BUILT TOP=115.60'

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'

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
EXISTING CONDITIONS

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

Scale : 1" = 20'
Date : SEPTEMBER 2025
Sheet No. 04 of 65

BID No.:

HCG DWG ID No.:

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

SSMH-65153TOP=98.29'
SW 8" INV IN ELEV=80.34'
NE 8" INV OUT
ELEV=80.30'
N:642167.5153
E:1505098.0555

REFER TO EDGEWATER VILLAGE SEWER REPLACEMENT PLANS FOR MANHOLE MODIFICATIONS

60" RCP INV EL: 85.69'

DEMOLISH AND REMOVE 20 LF OF STORM DRAIN

60" RCP INV EL=85.69'

TOP=86.59'
MANHOLE LID IS
WELDED SHUT

MATCHLINE SEE SHEET EX-01

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

HARBINGER TRAIL

SSMH-65154
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

EDGEWATER DR

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'

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SIGN AND SEAL

S/C PLAN # 59914
GRA-004622-2025

Revisions

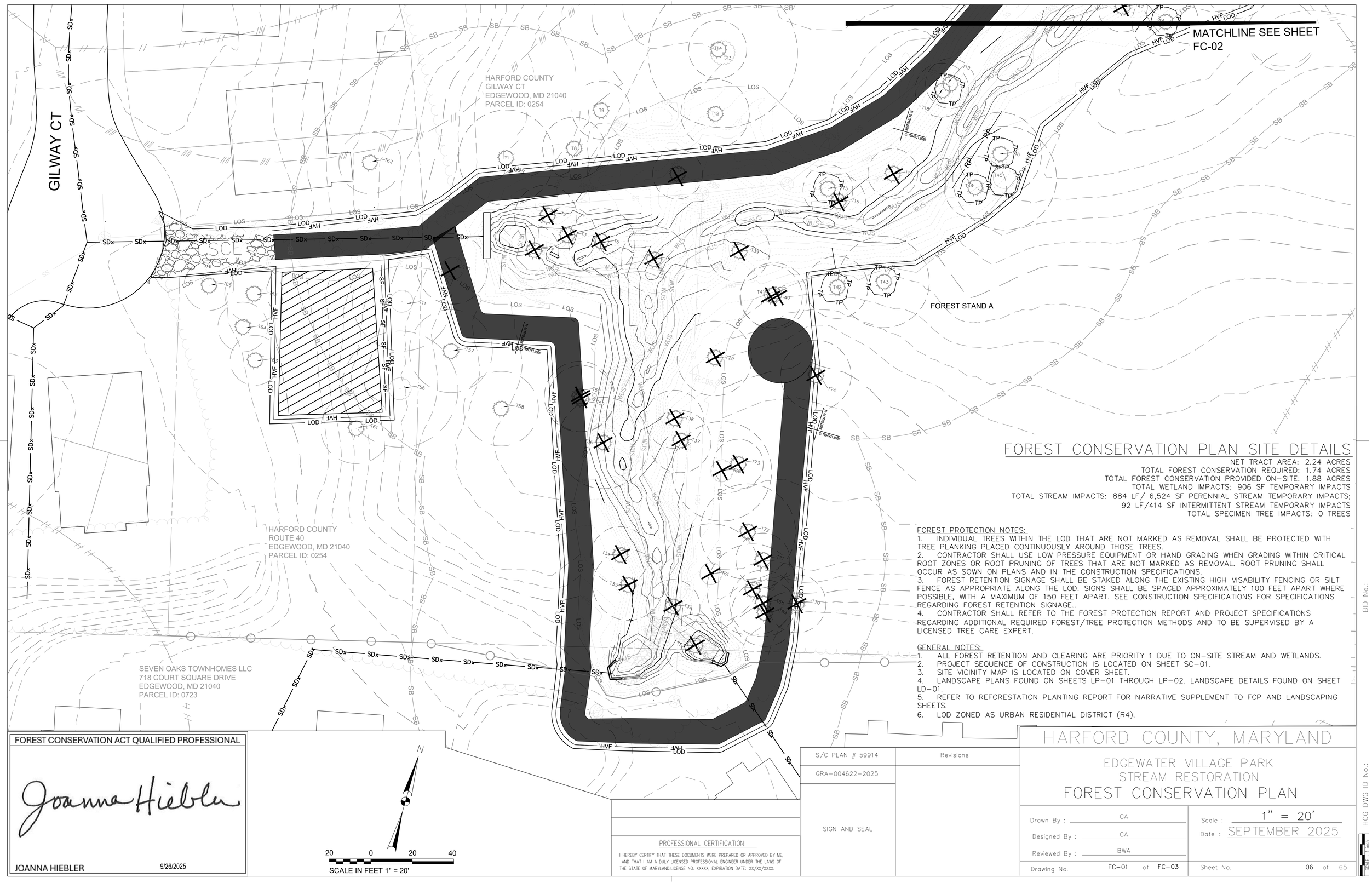
HARFORD COUNTY, MARYLAND

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 : SEPTEMBER 2025
Sheet No. 05 of 65

BID No.:
HCG DWG ID No.:
SCALE 1"=20'



FOREST CONSERVATION PLAN SITE DETAILS

NET TRACT AREA: 2.24 ACRES
TOTAL FOREST CONSERVATION REQUIRED: 1.74 ACRES
TOTAL FOREST CONSERVATION PROVIDED ON-SITE: 1.88 ACRES
TOTAL WETLAND IMPACTS: 906 SF TEMPORARY IMPACTS
TOTAL STREAM IMPACTS: 884 LF/ 6,524 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 PROTECTED WITH TREE PLANKING PLACED CONTINUOUSLY AROUND THOSE TREES.
2. CONTRACTOR SHALL USE LOW PRESSURE EQUIPMENT OR HAND GRADING WHEN GRADING WITHIN CRITICAL ROOT ZONES OR ROOT PRUNING OF TREES THAT ARE NOT MARKED AS REMOVAL. ROOT PRUNING SHALL OCCUR AS SOWN ON PLANS AND IN THE CONSTRUCTION SPECIFICATIONS.
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 CONSTRUCTION SPECIFICATIONS FOR SPECIFICATIONS REGARDING FOREST RETENTION SIGNAGE..
4. CONTRACTOR SHALL REFER TO THE FOREST PROTECTION REPORT AND PROJECT SPECIFICATIONS REGARDING ADDITIONAL REQUIRED FOREST/TREE PROTECTION METHODS AND TO BE SUPERVISED BY A LICENSED TREE CARE EXPERT.

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 IS 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. LOD ZONED AS URBAN RESIDENTIAL DISTRICT (R4).

FOREST CONSERVATION ACT QUALIFIED PROFESSIONAL

Joanna Hiebler

JOANNA HIEBLER 9/26/2025

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
FOREST CONSERVATION PLAN

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. FC-01 of FC-03

Scale : 1" = 20'
Date : SEPTEMBER 2025
Sheet No. 06 of 65

BID No.:
HCG DWG ID No.:
SCALE 1:20

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

MATCHLINE SEE SHEET FC-01

FOREST STAND A

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

HARBINGER TRAIL

EDGEWATER DR

FOREST CONSERVATION ACT QUALIFIED PROFESSIONAL

Joanna Hiebler

JOANNA HIEBLER 9/26/2025

N

20 0 20 40

SCALE IN FEET 1" = 20'

S/C PLAN # 59914

GRA-004622-2025

Revisions

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HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
FOREST CONSERVATION PLAN

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

Scale : 1" = 20'
Date : SEPTEMBER 2025

Drawing No. FC-02 of FC-03

Sheet No. 07 of 65

BID No.:

HCG DWG ID No.:

Tree ID	Common Name	DBH (in)	Appraisal	CRZ (ft)	Suitable for Re-use (Y/N)	Specimen Tree	Within LOD (Y/N)	To be Removed
1	American sycamore	23	Good	23	N	N	N	N
2	Tulip poplar	15	Good	15	Y	N	Y	Y
3	Red maple	14	Good	14	Y	N	Y	Y
4	Red maple	12	Good	12	N	N	Y	Y
5	Tulip poplar	16	Good	16	Y	N	Y	Y
6	Red maple	16	Good	16	Y	N	Y	Y
7	Tulip poplar	12	Good	12	N	N	Y	Y
8	Pitch pine	15	Poor	15	N	N	N	N
9	Red maple	14	Good	14	N	N	N	N
10	Tulip poplar	17	Good	17	Y	N	Y	Y
11	Chestnut oak	24	Poor	24	N	N	Y	N
12	Tulip poplar	16.5	Good	16.5	N	N	N	N
13	Red maple	36	Poor	36	N	Y	N	N
14	Red maple	14	Fair	14	Y	N	N	N
15	Tulip poplar	12	Good	12	N	N	Y	N
16	Tulip poplar	13	Good	13	Y	N	Y	Y
17	Tulip poplar	12	Fair	12	Y	N	Y	Y
18	Red maple	13	Good	13	Y	N	Y	N
19	Silver maple	12	Good	12	N	N	Y	N
20	Red maple	15	Good	15	Y	N	Y	Y
21	Tulip poplar	19	Good	19	Y	N	Y	Y
22	Red maple	13	Good	13	Y	N	Y	N
23	Red maple	17	Good	17	Y	N	Y	N
24	Black gum	12	Good	12	N	N	Y	Y
25	Red maple	14	Good	14	Y	N	Y	Y
26	Red maple	18	Good	18	Y	N	Y	Y
27	Black locust	12	Fair	12	Y	N	Y	Y
28	Black locust	17	Fair	17	Y	N	Y	Y
29	Chestnut oak	18	Good	18	Y	N	Y	Y
30	Chestnut oak	24	Poor	24	N	N	Y	Y
31	Scarlet oak	24	Good	24	Y	N	Y	Y
32	Tulip poplar	13	Good	13	Y	N	Y	Y
33	Tulip poplar	15	Good	15	Y	N	Y	Y
34	American beech	14	Good	14	Y	N	Y	Y
35	Tulip poplar	17	Good	17	Y	N	Y	Y
36	Tulip poplar	22	Good	22	Y	N	Y	Y
37	Tulip poplar	15	Good	15	Y	N	Y	Y
38	Chestnut oak	14	Good	14	Y	N	Y	Y
39	Pitch pine	15	Good	15	Y	N	Y	Y
40	Chestnut oak	16	Good	16	Y	N	Y	Y
41	Chestnut oak	15	Good	15	Y	N	Y	Y
42	Scarlet oak	15	Good	15	N	N	Y	N
43	Chestnut oak	22	Good	22	N	N	Y	N
44	Swamp white oak	15	Good	15	N	N	Y	N
45	White oak	25	Good	25	N	N	Y	Y
46	Chestnut oak	20	Good	20	Y	N	Y	N
47	Tulip poplar	12	Good	12	N	N	Y	Y
48	Chestnut oak	16	Good	16	N	N	Y	N
49	Chestnut oak	24	Good	24	Y	N	Y	Y
50	Tulip poplar	14	Good	14	Y	N	Y	Y
51	Chestnut oak	13	Good	13	Y	N	Y	Y
52	Tulip poplar	12	Good	12	N	N	Y	Y
53	White oak	26	Good	26	N	N	Y	N
54	Red maple	16	Fair	16	Y	N	Y	Y
55	Tulip poplar	22	Good	22	Y	N	Y	Y
56	Black gum	28	Fair	28	Y	N	Y	N
57	Black gum	20	Fair	20	Y	N	Y	N
58	Black gum	18	Good	18	Y	N	Y	N
59	Chestnut oak	16	Good	16	Y	N	Y	Y
60	Chestnut oak	17	Good	17	Y	N	Y	Y
61	White oak	17	Poor	17	N	N	N	N
62	Red maple	15	Poor	15	N	N	N	N
63	Chinese elm	12	Good	12	Y	N	Y	N
64	Chinese elm	12	Poor	12	N	N	Y	N
65	Chinese elm	14	Poor	14	N	N	Y	N
66	Chinese elm	12	Poor	12	N	N	Y	N
67	Chestnut oak	22	Fair	22	Y	N	Y	Y
68	Black cherry	16	Fair	16	Y	N	Y	Y
69	Japanese elm	16	Fair	16	Y	N	Y	Y
70	Red maple	14	Fair	14	Y	N	Y	Y
71	Chestnut oak	13	Fair	13	Y	N	Y	Y
72	Chestnut oak	23	Fair	23	Y	N	Y	Y
73	Chestnut oak	12	Good	12	Y	N	Y	Y
74	Chestnut oak	17	Fair	17	Y	N	Y	Y
75	Chestnut oak	16	Good	16	Y	N	Y	N
76	Chestnut oak	18	Good	18	Y	N	N	N
77	White oak	17	Fair	17	Y	N	N	N
78	Red maple	12	Fair	12	Y	N	Y	Y
79	Loblolly pine	17	Fair	17	Y	N	Y	Y
80	Virginia Pine	12	Fair	12	Y	N	Y	N
81	Virginia Pine	13	Fair	13	Y	N	Y	N
82	Red maple	13	Poor	13	N	N	Y	N
83	Tulip poplar	14	Poor	14	N	N	Y	N
84	Black cherry	23	Poor	23	N	N	Y	N
85	Virginia pine	16	Good	16	Y	N	Y	N
86	Black cherry	13	Poor	13	N	N	Y	Y
87	Virginia pine	12	Fair	12	Y	N	N	N
88	Red maple	13	Fair	13	Y	N	Y	N
89	Red maple	16.5	Fair	16.5	Y	N	Y	Y
90	Loblolly pine	16	Fair	16	Y	N	N	N
91	Loblolly pine	12.5	Fair	12.5	Y	N	Y	N
92	Virginia pine	13.5	Fair	13.5	Y	N	Y	Y
93	Loblolly pine	13.5	Fair	13.5	Y	N	N	N
94	Loblolly pine	16	Fair	16	Y	N	Y	N
95	Loblolly pine	18	Fair	18	Y	N	N	N
96	American sycamore	16	Fair	16	Y	N	N	Y
97	American sycamore	18	Fair	18	Y	N	N	Y
98	Red maple	16	Fair	16	Y	N	Y	Y
99	Sweet gum	13.5	Fair	13.5	Y	N	Y	Y
100	Red maple	16	Fair	16	Y	N	Y	Y

Tree ID	Common Name	DBH (in)	Appraisal	CRZ (ft)	Suitable for Re-use (Y/N)	Specimen Tree	Within LOD (Y/N)	To be Removed
101	American sycamore	17.5	Fair	17.5	Y	N	Y	Y
102	Loblolly pine	16	Fair	16	Y	N	Y	Y
103	Virginia pine	17	Fair	17	Y	N	Y	Y
104	Loblolly pine	17	Fair	17	Y	N	Y	Y
105	Loblolly pine	14	Poor	14	N	N	Y	Y
106	Bradford pear	18	Fair	18	Y	N	Y	Y
107	Red maple	14	Good	14	Y	N	Y	N
108	Red maple	14	Fair	14	Y	N	Y	N
109	Red maple	12	Fair	12	Y	N	Y	N
110	Red maple	20	Fair	20	Y	N	Y	N
111	Red maple	26	Fair	26	Y	N	Y	N
112	Bradford pear	15	Poor	15	N	N	Y	N
113	White mulberry	14	Fair	14	Y	N	Y	N
114	Loblolly pine	13	Fair	13	Y	N	Y	N
115	American sycamore	12	Fair	12	Y	N	Y	Y
116	American sycamore	14	Fair	14	Y	N	Y	N
117	Red maple	13	Fair	13	Y	N	Y	Y
118	Tulip poplar	15	Fair	15	Y	N	Y	N
119	Sweet gum	12	Fair	12	Y	N	Y	N
120	Bradford pear	13	Fair	13	Y	N	Y	N
121	Red maple	12	Fair	12	Y	N	Y	N

FOREST CONSERVATION ACT QUALIFIED PROFESSIONAL

Joanna Hiebler

JOANNA HIEBLER 9/26/2025

BID No.:

HCG DWG ID No.:

SCALE 1 inch

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

FOREST CONSERVATION PLAN TABLE

Drawn By : CA

Designed By : CA

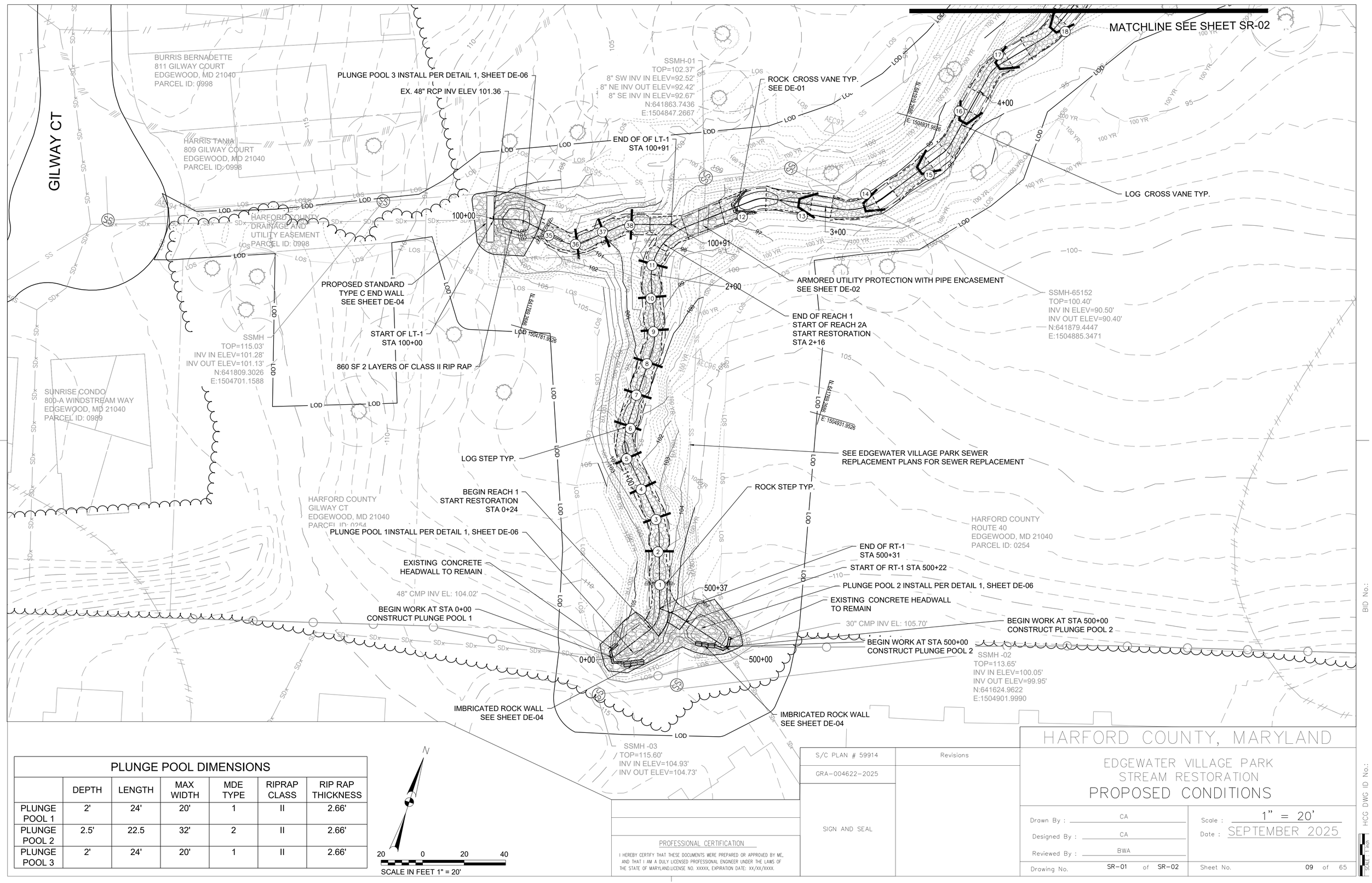
Reviewed By : BWA

Scale : NA

Date : SEPTEMBER 2025

Drawing No. FC-03 of FC-03

Sheet No. 08 of 65



PLUNGE POOL DIMENSIONS

	DEPTH	LENGTH	MAX WIDTH	MDE TYPE	RIPRAP CLASS	RIP RAP 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'

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

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 : SEPTEMBER 2025
Sheet No. 09 of 65

BID No.:
HCG DWG ID No.:

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

START RESTORATION OF LT-2
STA 299+89

LOG STEP TYP.

SSMH-65153
REFER TO EDGEWATER VILLAGE SEWER REPLACEMENT
PLANS FOR MANHOLE MODIFICATIONS

ARMORED UTILITY PROTECTION
WITH PIPE ENCASEMENT SEE SHEET DE-02

END OF REACH 2A
START OF REACH 2B
STA 5+59

END OF LT-2
STA 300+75

LOG CROSS VANE TYP.

LOG STEP TYP.

END OF REACH 2B
END OF RESTORATION
STA 9+15

ROCK CROSS VANE TYP.

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

START REACH 3
STA 400+09

EXISTING HEADWALL TO REMAIN
CULVERT INVERT EL: 78.79'

PLUNGE POOL 4
968 SF PROPOSED RIP RAP PLACEMENT
2 LAYERS OF CLASS II RIP RAP

END REACH 3
STA 402+13

MATCHLINE SEE SHEET SR-01

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

HARBINGER TRAIL

EDGEWATER DR

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

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

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROPOSED CONDITIONS

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

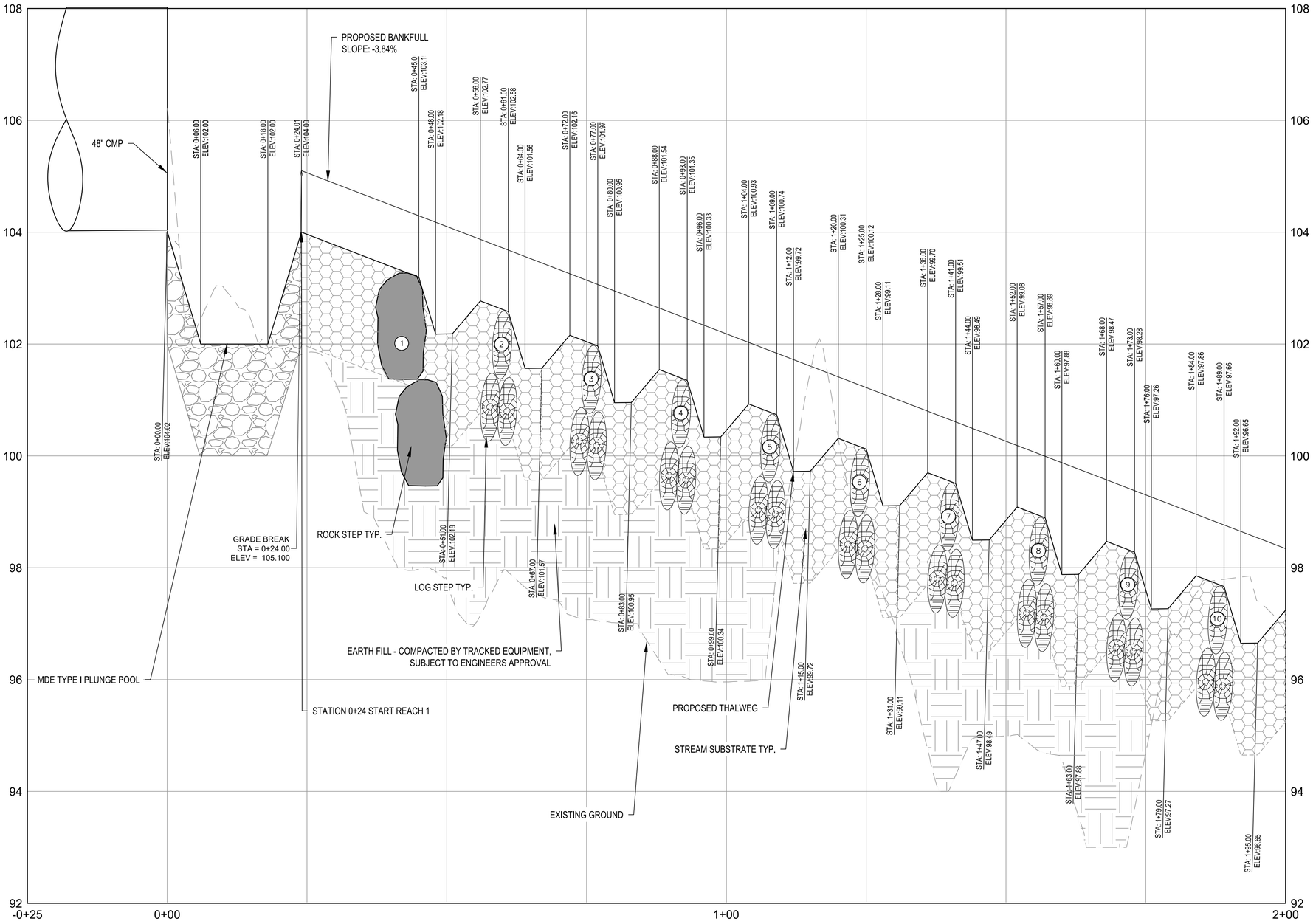
Scale : 1" = 20'
Date : SEPTEMBER 2025

Drawing No. SR-02 of SR-02

Sheet No. 10 of 65

BID No.:

HCG DWG ID No.:



1 REACH 1 PROFILE STA 0+00-2+00

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20
SCALE IN FEET 1" = 10'

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

S/C PLAN # 59914	Revisions
GRA-004622-2025	

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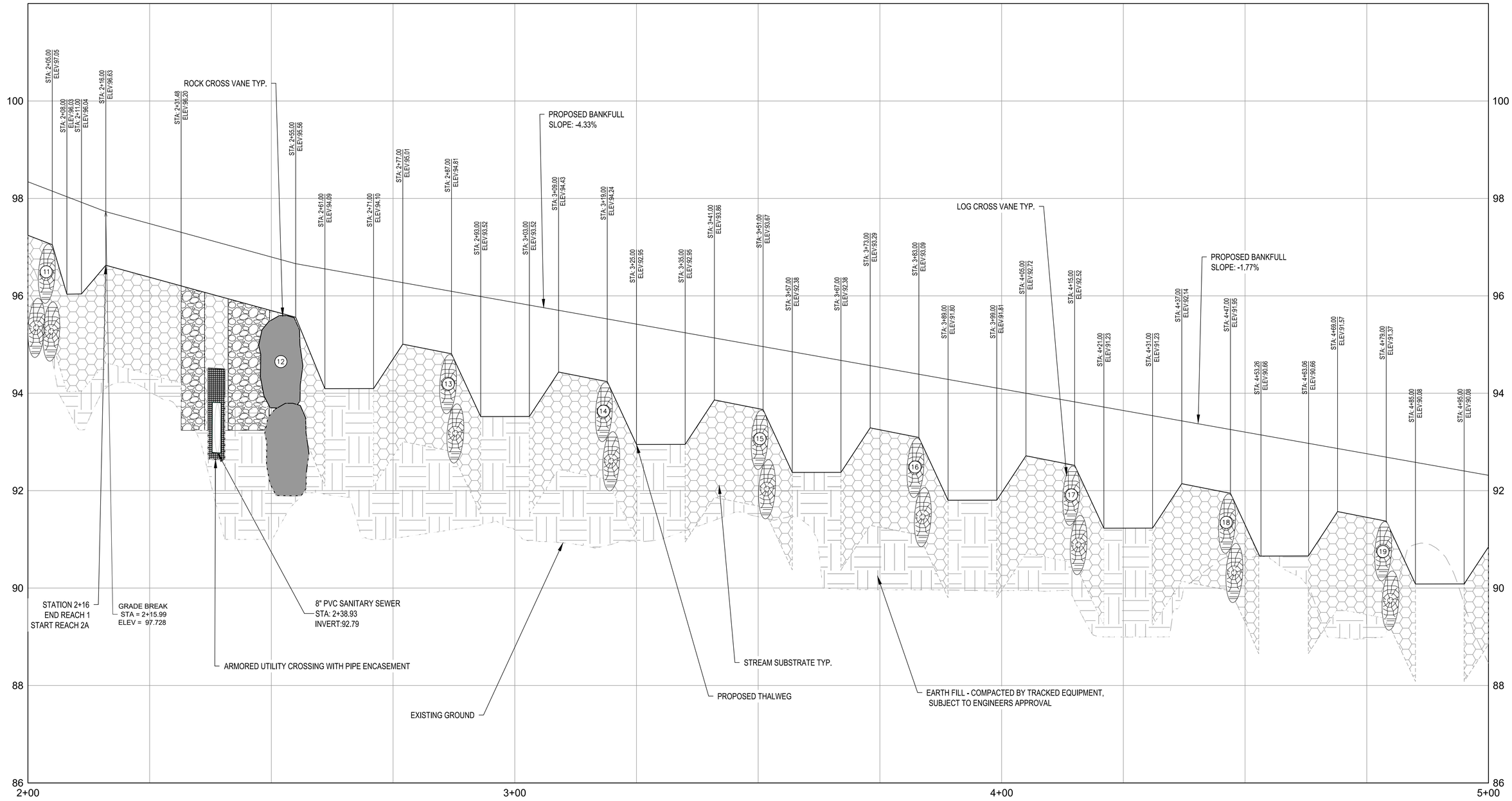
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. PR-01 of PR-08

Scale : AS SHOWN
Date : SEPTEMBER 2025
Sheet No. 11 of 65

BID No.:
HCG DWG ID No.:
SCALE: 1"=10'



1 REACH 1 & 2A PROFILE STA 2+00-5+00

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20
SCALE IN FEET 1" = 10'

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

S/C PLAN # 59914

GRA-004622-2025

Revisions

SIGN AND SEAL

PROFESSIONAL CERTIFICATION

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HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

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

Scale : AS SHOWN
Date : SEPTEMBER 2025

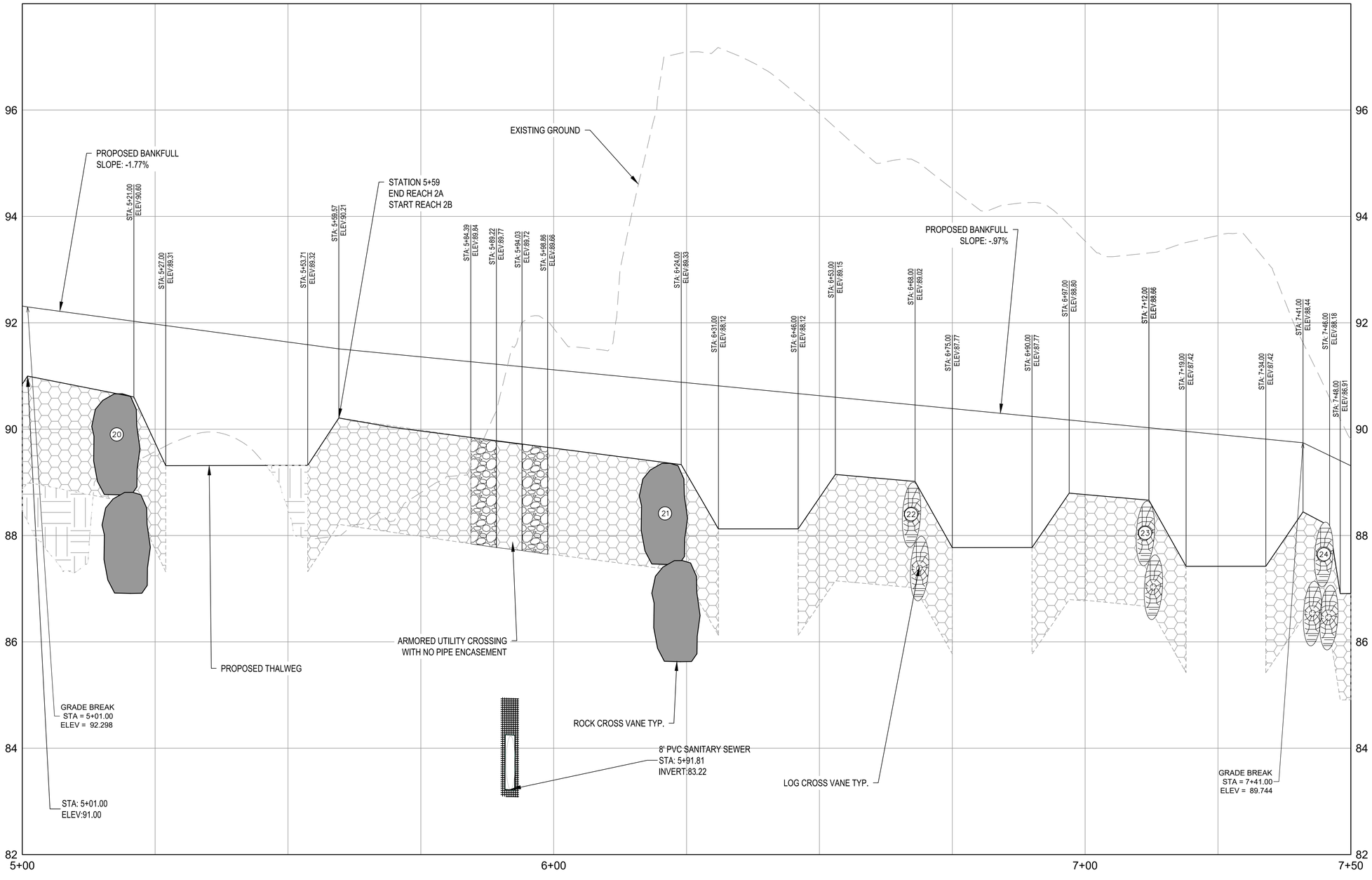
Drawing No. PR-02 of PR-08

Sheet No. 12 of 65

BID No.:

HCG DWG ID No.:

SCALE: 1"=10'



1 REACH 2A & 2B PROFILE STA 5+00-7+50

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20
SCALE IN FEET 1" = 10'

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

S/C PLAN # 59914

GRA-004622-2025

Revisions

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
PROFILE VIEW

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

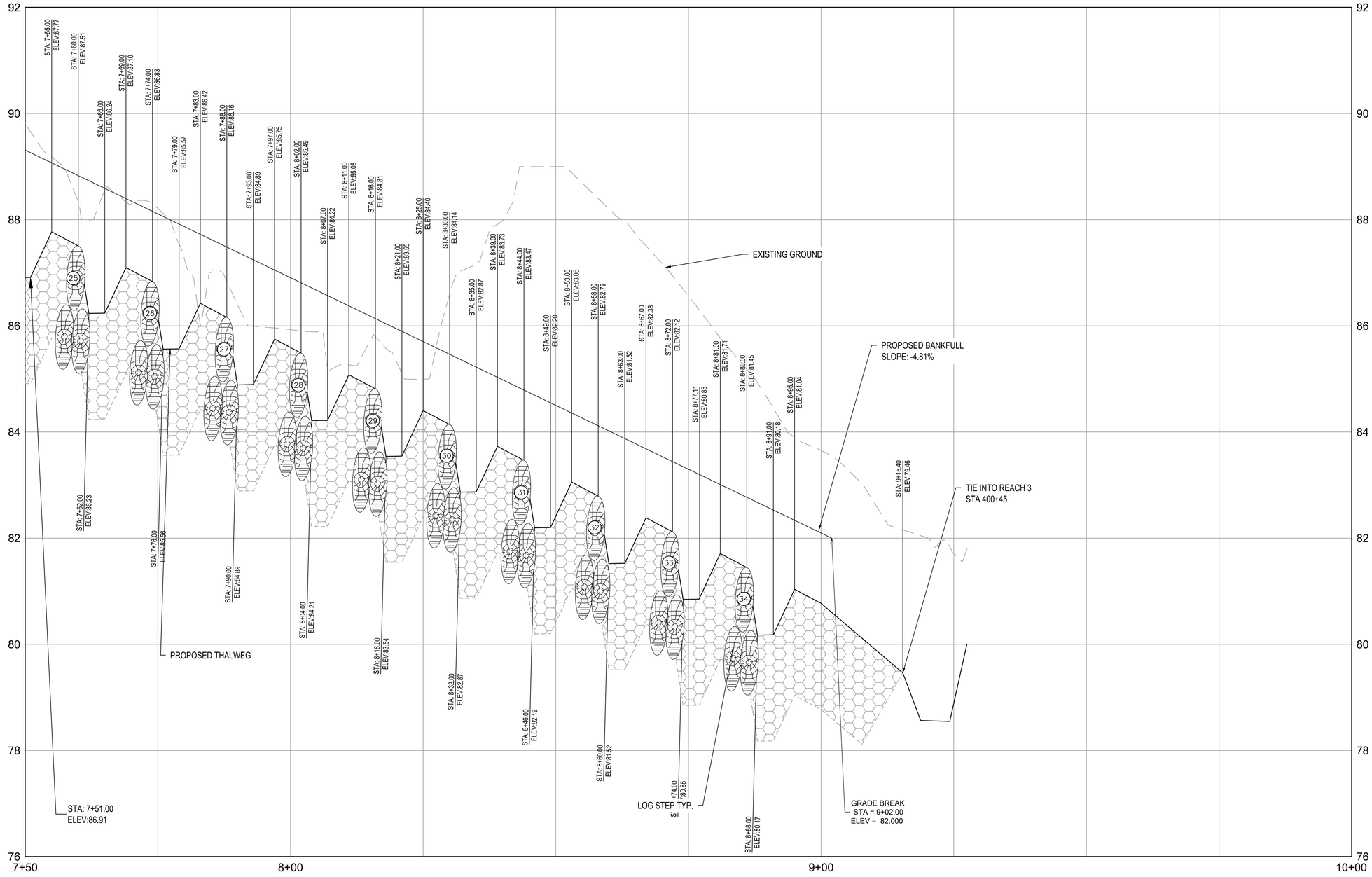
Scale : AS SHOWN
Date : SEPTEMBER 2025

Drawing No. PR-03 of PR-08

Sheet No. 13 of 65

BID No.:

HCG DWG ID No.:



1 REACH 2B PROFILE STA 7+50 - 9+20

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20

SCALE IN FEET 1" = 10'

VERTICAL 1 0 1 2

SCALE IN FEET 1" = 1'

S/C PLAN # 59914

GRA-004622-2025

Revisions

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
PROFILE VIEW

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

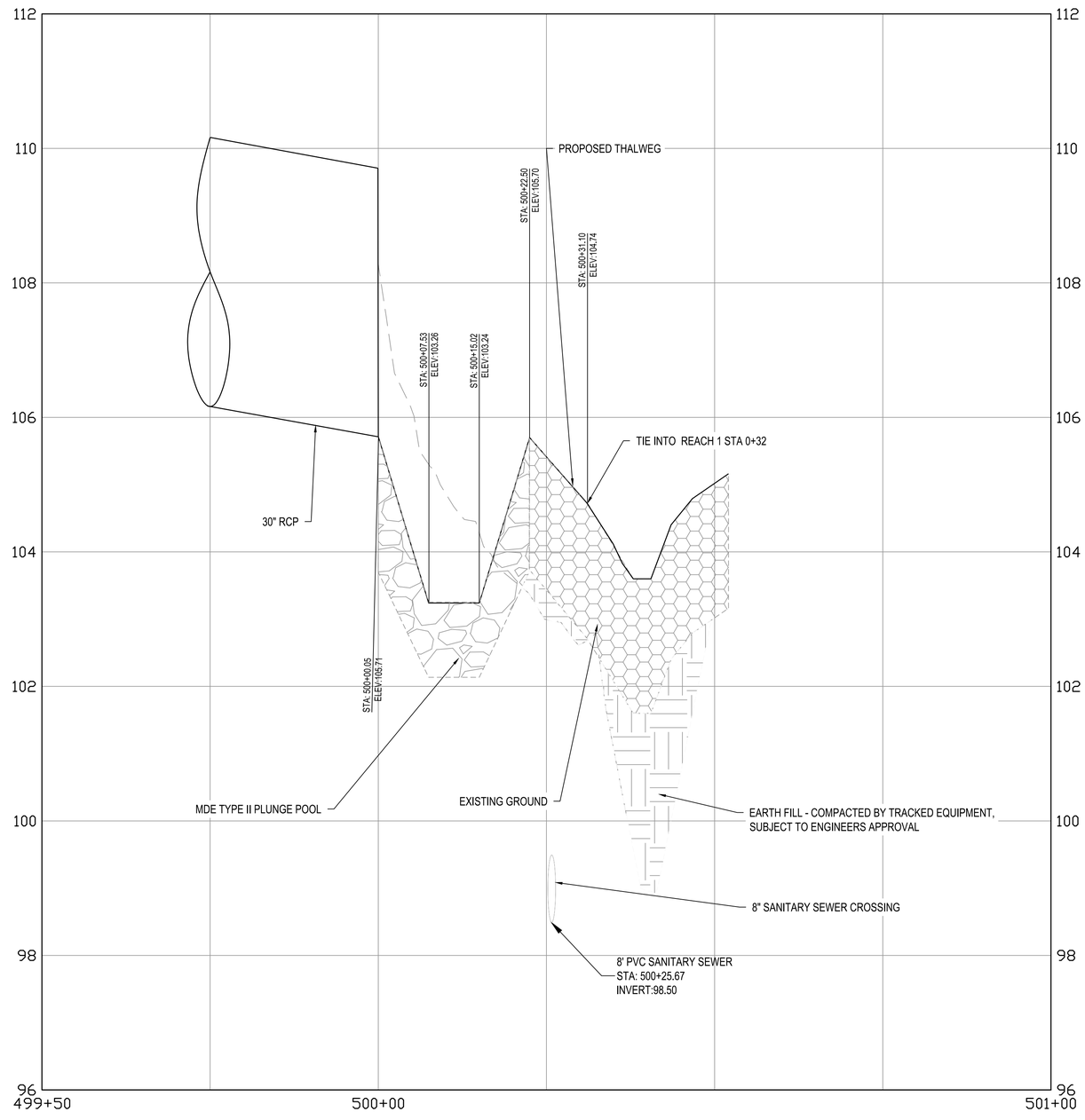
Scale : AS SHOWN
Date : SEPTEMBER 2025

Drawing No. PR-04 of PR-08

Sheet No. 14 of 65

BID No.:

HCC DWG ID No.:



1 RT-1 PROFILE STA 500+00 TO 500+31

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20
SCALE IN FEET 1" = 10'

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

S/C PLAN # 59914
GRA-004622-2025

Revisions

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

HARFORD COUNTY, MARYLAND

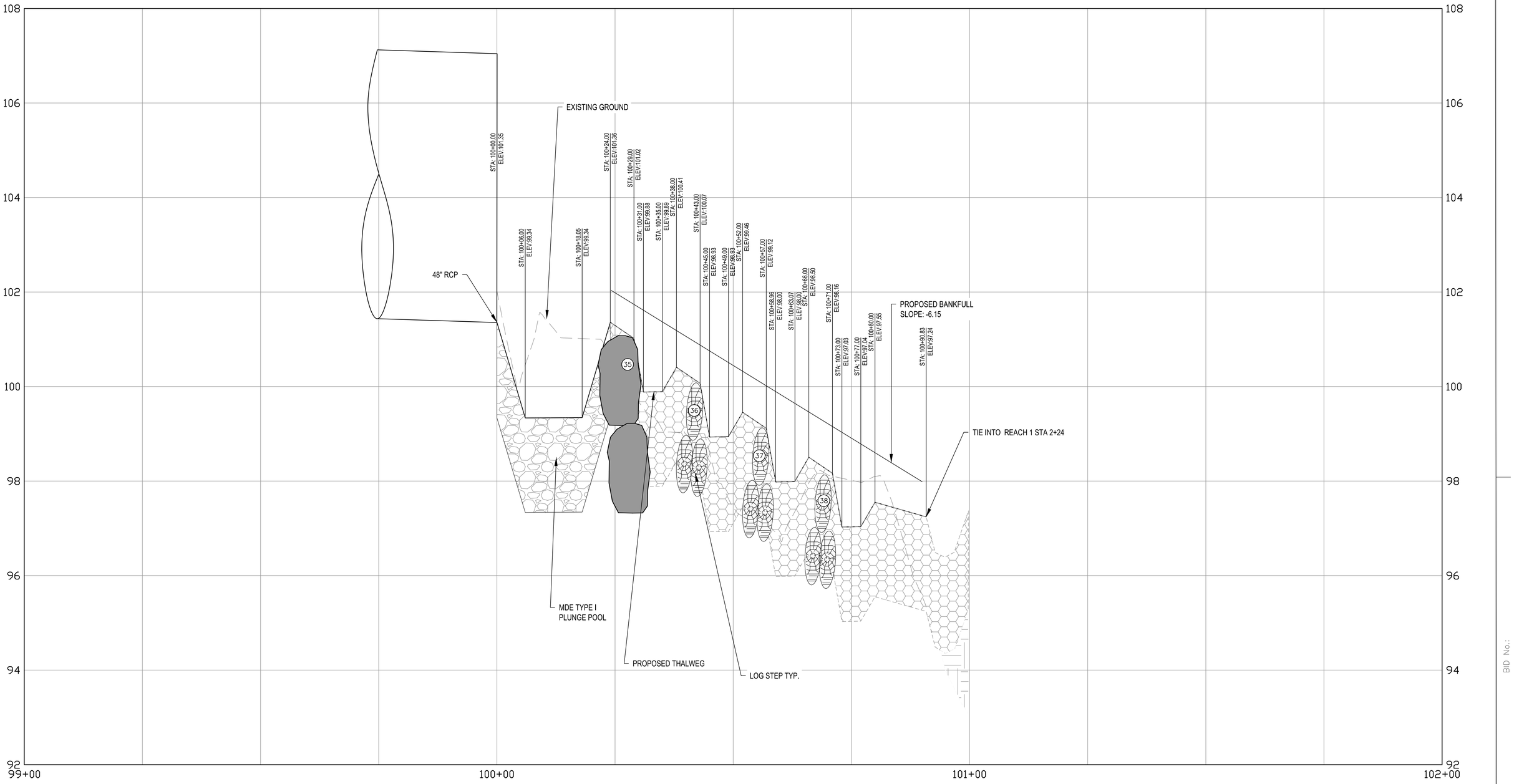
EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. PR-05 of PR-08

Scale : AS SHOWN
Date : SEPTEMBER 2025

Sheet No. 15 of 65

BID No.:
HCG DWG ID No.:



1 LT-1 PROFILE STA 100+00-101+00

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20
SCALE IN FEET 1" = 10'

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

S/C PLAN # 59914

GRA-004622-2025

Revisions

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
PROFILE VIEW

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

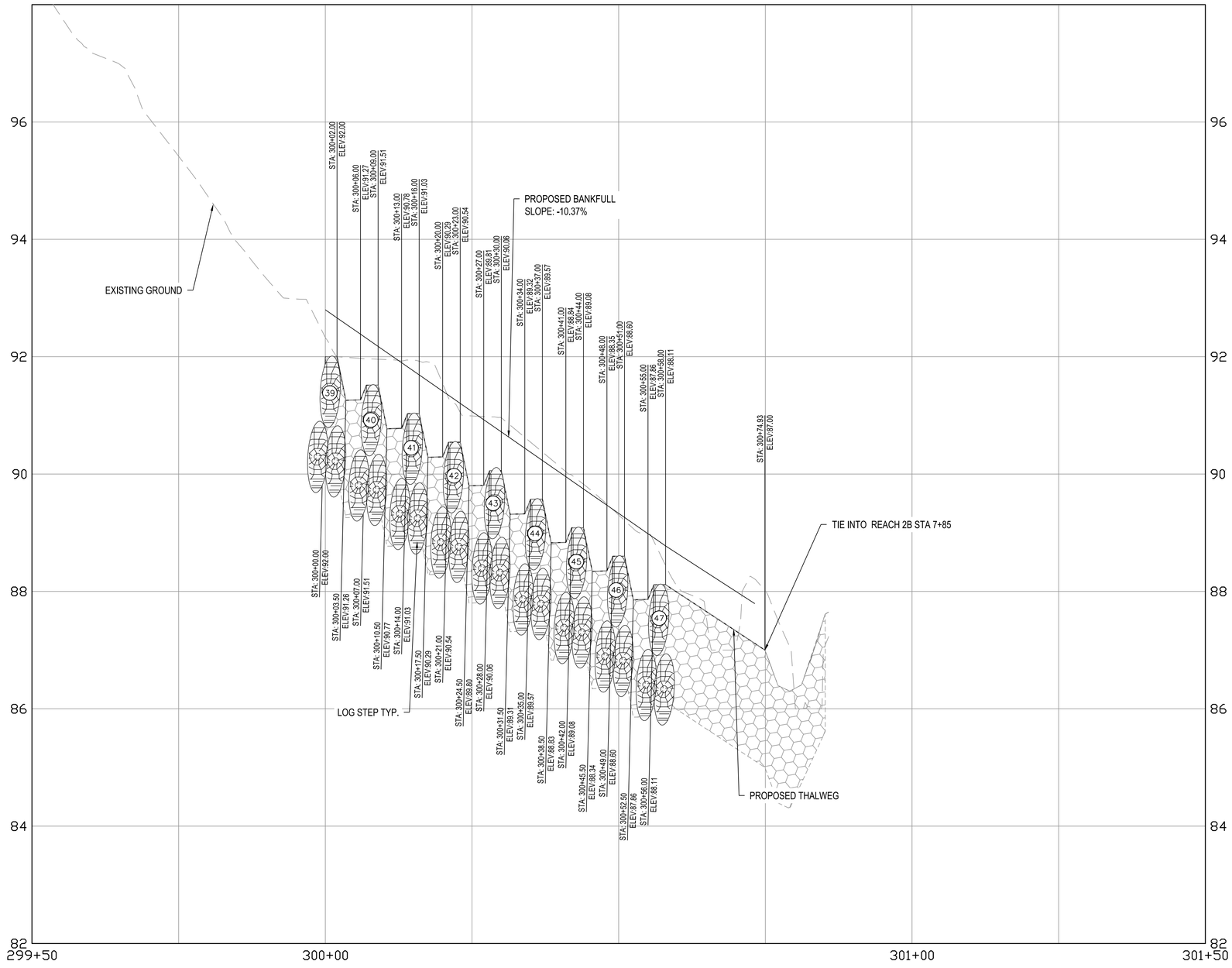
Scale : AS SHOWN
Date : SEPTEMBER 2025

Drawing No. PR-06 of PR-08

Sheet No. 16 of 65

BID No.:

HCG DWG ID No.:



1 LT-2 PROFILE STA 300+00-300+75

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20
SCALE IN FEET 1" = 10'

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

S/C PLAN # 59914	Revisions
GRA-004622-2025	
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.

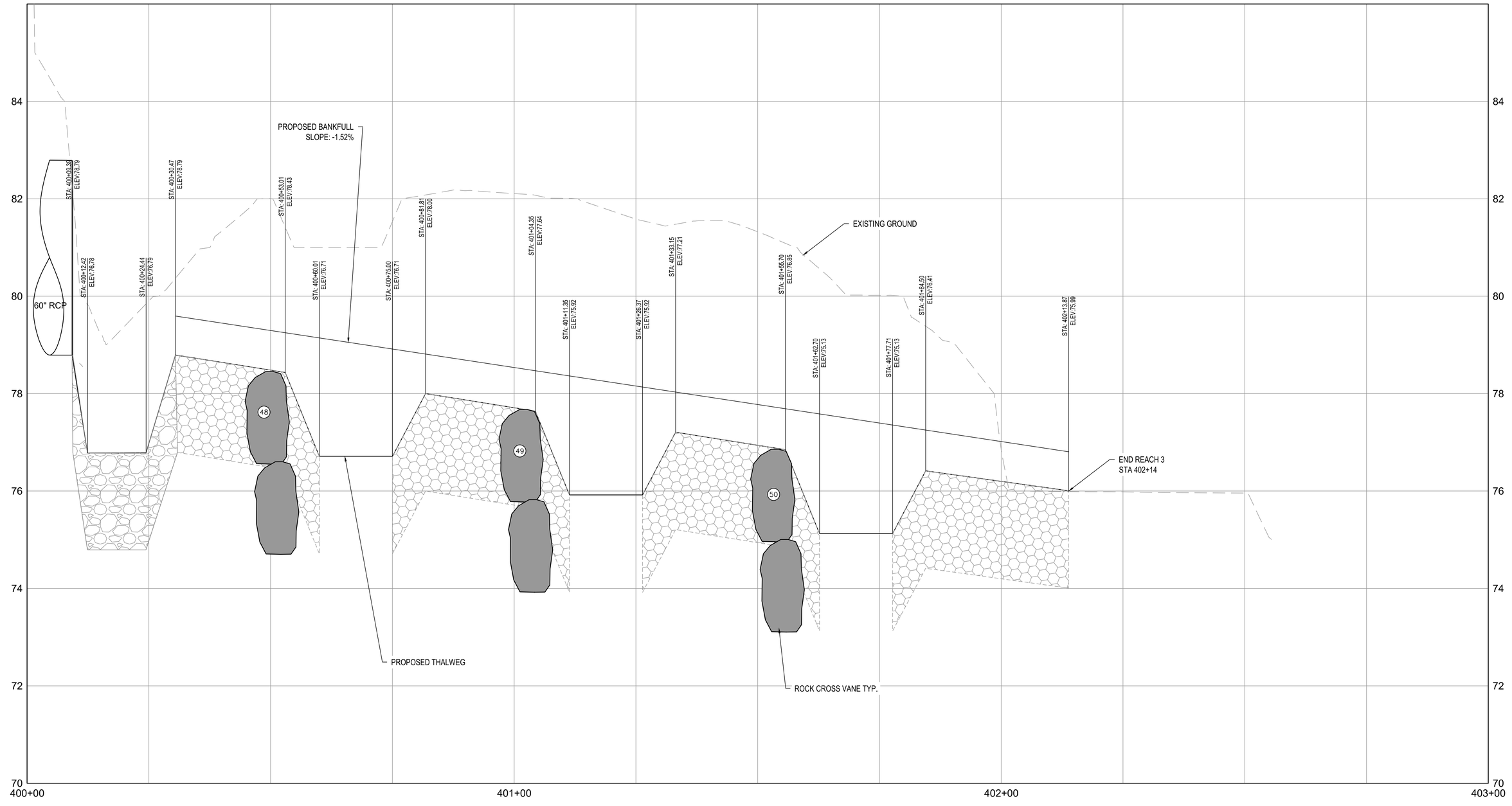
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. PR-07 of PR-08

Scale : AS SHOWN
Date : SEPTEMBER 2025
Sheet No. 17 of 65

BID No.:
HCG DWG ID No.:



1 REACH 3 STA 400+00-402+14

SCALE: HORIZONTAL 1" = 10'; VERTICAL 1" = 1'

HORIZONTAL 10 0 10 20
SCALE IN FEET 1" = 10'

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

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 # 59914

GRA-004622-2025

Revisions

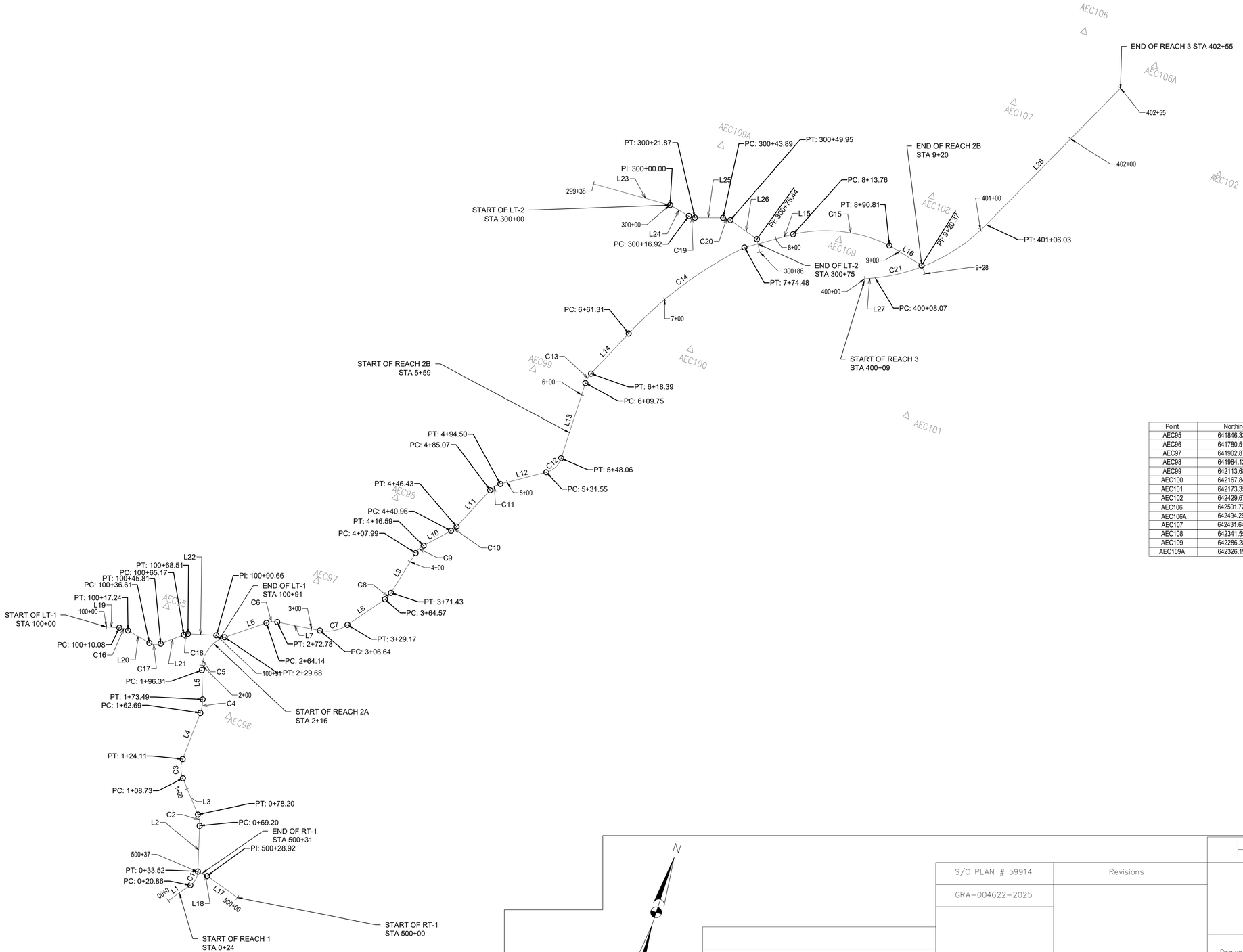
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
PROFILE VIEW

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. PR-08 of PR-08

Scale : AS SHOWN
Date : SEPTEMBER 2025
Sheet No. 18 of 65

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



Point	Northing	Easting	Elevation (Ft)	Description
AEC95	641846.3349	1504794.0337	104.03	TRAV AEC RC
AEC96	641780.5190	1504867.6594	102.78	TRAV AEC RC
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
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

N

40 0 40 80

SCALE IN FEET 1" = 40'

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 # 59914

GRA-004622-2025

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 : SEPTEMBER 2025

Sheet No. 19 of 65

BID No.:

HCG DWG ID No.:

SCALE 1 inch

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	61.69	N0° 55' 36.10"W	(1505047.95,642054.85)	(1505046.95,642116.53)
L14	42.92	N24° 21' 13.08"E	(1505048.69,642124.92)	(1505066.39,642164.02)
L15	39.28	N56° 05' 09.34"E	(1505130.24,642256.74)	(1505162.84,642278.66)
L16	29.56	S76° 52' 35.75"E	(1505236.73,642294.77)	(1505265.51,642288.06)

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	19.58	8.64	N11° 42' 48.49"E	(1505046.95,642116.53)	(1505048.69,642124.92)
C14	317.89	113.17	N34° 33' 09.93"E	(1505066.39,642164.02)	(1505130.24,642256.74)
C15	115.40	77.05	N77° 41' 53.08"E	(1505162.84,642278.66)	(1505236.73,642294.77)

Line Table: RT-1

Line #	Length	Direction	Start Point	End Point
L17	28.92	N73° 11' 09.53"W	(1504919.49,641648.96)	(1504891.80,641657.33)
L18	7.96	N85° 28' 01.57"W	(1504891.80,641657.33)	(1504883.86,641657.96)

Line Table: LT-1

Line #	Length	Direction	Start Point	End Point
L19	10.08	N74° 33' 10.71"E	(1504754.66,641815.86)	(1504764.38,641818.54)
L20	19.37	S78° 23' 34.73"E	(1504771.45,641818.61)	(1504790.42,641814.72)
L21	19.37	N49° 58' 37.55"E	(1504799.00,641817.05)	(1504813.83,641829.51)
L22	22.15	N74° 08' 11.52"E	(1504816.66,641831.23)	(1504837.97,641837.29)

Curve Table: LT-1

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C16	13.57	7.15	N89° 24' 22.58"E	(1504764.38,641818.54)	(1504771.45,641818.61)
C17	10.14	9.20	N74° 45' 29.12"E	(1504790.42,641814.72)	(1504799.00,641817.05)
C18	9.93	3.33	N58° 39' 13.77"E	(1504813.83,641829.51)	(1504816.66,641831.23)

Line Table: LT-2

Line #	Length	Direction	Start Point	End Point
L23	61.97	N86° 32' 28.06"E	(1505002.77,642265.59)	(1505064.63,642269.33)
L24	16.92	S78° 24' 04.95"E	(1505064.63,642269.33)	(1505081.20,642265.93)
L25	22.02	N71° 20' 18.44"E	(1505086.08,642266.23)	(1505106.95,642273.28)
L26	25.48	S73° 06' 16.99"E	(1505112.92,642273.37)	(1505137.30,642265.97)

Curve Table: LT-2

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C19	9.37	4.95	N86° 28' 06.75"E	(1505081.20,642265.93)	(1505086.08,642266.23)
C20	9.78	6.07	N89° 07' 00.72"E	(1505106.95,642273.28)	(1505112.92,642273.37)

Line Table: Reach 3

Line #	Length	Direction	Start Point	End Point
L27	8.07	N65° 27' 57.94"E	(1505227.02,642263.88)	(1505234.36,642267.22)
L28	149.46	N25° 43' 20.91"E	(1505302.95,642334.40)	(1505367.82,642469.05)

Curve Table: Reach 3

Curve #	Radius	Length	Chord Direction	Start Point	End Point
C21	141.22	97.96	N45° 35' 39.42"E	(1505234.36,642267.22)	(1505302.95,642334.40)

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

LINE AND CURVE TABLES

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

Scale :
Date : SEPTEMBER 2025
Sheet No. 20 of 65

BID No.:

HCG DWG ID No.:

No.	Reach 1 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
1	0+46 ROCK STEP					
	1	641669.71	1504880.37	103.19		Step
2	0+61 LOG STEP					
	1	641684.44	1504875.95	102.77		Step
3	0+77 LOG STEP					
	1	641699.37	1504870.13	101.97		Step
4	0+93 LOG STEP					
	1	641711.49	1504859.63	101.35		Step
5	1+09 LOG STEP					
	1	641723.48	1504849.12	100.74		Step
6	1+25 LOG STEP					
	1	641738.32	1504844.23	100.12		Step
7	1+41 LOG STEP					
	1	641754.27	1504844.87	99.51		Step
8	1+57 LOG STEP					
	1	641770.27	1504845.46	98.89		Step
9	1+73 LOG STEP					
	1	641786.09	1504844.12	98.28		Step
10	1+89 LOG STEP					
	1	641801.06	1504838.49	97.66		Step
11	2+05 LOG STEP					
	1	641816.59	1504834.40	97.05		Step

No.	Reach 2 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
12	2+55 ROCK CROSS VANE					
	1	641862.60	1504868.13	95.93	4.0%	Arm Tie
	2	641854.54	1504863.52	95.56		Arm Tip
	3	641853.28	1504864.43	95.56		Center
	4	641851.75	1504865.61	95.56		Arm Tip
	5	641854.79	1504874.39	95.93	4.0%	Arm Tie
13	2+87 LOG CROSS VANE					
	1	641870.50	1504901.86	95.19	4.0%	Arm Tie
	2	641866.29	1504893.48	94.81		Arm Tip
	3	641864.31	1504893.74	94.81		Center
	4	641862.33	1504894.01	94.81		Arm Tip
	5	641860.55	1504903.23	95.19	4.0%	Arm Tie
14	3+19 LOG CROSS VANE					
	1	641881.14	1504928.07	94.61	4.0%	Arm Tie
	2	641872.86	1504923.64	94.24		Arm Tip
	3	641871.18	1504924.72	94.24		Center
	4	641869.49	1504925.80	94.24		Arm Tip
	5	641873.03	1504934.47	94.61	4.0%	Arm Tie
15	3+51 LOG CROSS VANE					
	1	641905.66	1504946.56	94.05	4.0%	Arm Tie
	2	641896.74	1504943.61	93.67		Arm Tip
	3	641895.53	1504945.22	93.67		Center
	4	641894.34	1504946.80	93.67		Arm Tip
	5	641899.67	1504954.56	94.05	4.0%	Arm Tie
16	3+83 LOG CROSS VANE					
	1	641933.64	1504955.92	93.47	4.0%	Arm Tie
	2	641924.29	1504956.85	93.09		Arm Tip
	3	641923.85	1504958.80	93.09		Center
	4	641923.40	1504960.77	93.09		Arm Tip
	5	641931.43	1504965.67	93.47	4.0%	Arm Tie
17	4+15 LOG CROSS VANE					
	1	641964.31	1504969.51	92.90	4.0%	Arm Tie
	2	641955.67	1504965.80	92.52		Arm Tip
	3	641954.51	1504967.33	92.52		Center
	4	641953.35	1504968.84	92.52		Arm Tip
	5	641957.79	1504977.13	92.90	4.0%	Arm Tie
18	4+47 LOG CROSS VANE					
	1	641988.81	1504987.19	92.32	4.0%	Arm Tie
	2	641979.44	1504986.34	91.95		Arm Tip
	3	641978.64	1504988.17	91.95		Center
	4	641978.04	1504990.02	91.95		Arm Tip
	5	641984.82	1504996.37	92.32	4.0%	Arm Tie
19	4+79 LOG CROSS VANE					
	1	642018.05	1505000.33	91.75	4.0%	Arm Tie
	2	642008.72	1504999.26	91.37		Arm Tip
	3	642007.91	1505001.09	91.37		Center
	4	642007.12	1505002.88	91.37		Arm Tip
	5	642013.78	1505009.50	91.75	4.0%	Arm Tie
20	5+21 ROCK CROSS VANE					
	1	642044.09	1505036.33	90.97	4.0%	Arm Tie
	2	642036.83	1505030.79	90.60		Arm Tip
	3	642035.13	1505031.78	90.60		Center
	4	642033.82	1505032.81	90.60		Arm Tip
	5	642035.78	1505041.89	90.97	4.0%	Arm Tie
21	6+23 ROCK CROSS VANE					
	1	642140.58	1505050.32	89.84	4.0%	Arm Tie
	2	642131.21	1505049.74	89.46		Arm Tip
	3	642130.53	1505051.23	89.46		Center
	4	642129.88	1505052.51	89.46		Arm Tip
	5	642136.38	1505059.40	89.84	4.0%	Arm Tie
22	6+68 LOG CROSS VANE					
	1	642181.29	1505069.20	89.39	4.0%	Arm Tie
	2	642171.99	1505067.98	89.02		Arm Tip
	3	642171.15	1505069.72	89.02		Center
	4	642170.29	1505071.66	89.02		Arm Tip
	5	642177.05	1505078.17	89.39	4.0%	Arm Tie
23	7+12 LOG CROSS VANE					
	1	642220.08	1505092.88	89.04	4.0%	Arm Tie
	2	642211.23	1505089.82	88.66		Arm Tip
	3	642209.83	1505091.86	88.66		Center
	4	642208.93	1505093.16	88.66		Arm Tip
	5	642214.21	1505100.97	89.04	4.0%	Arm Tie

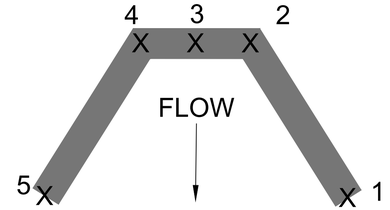
No.	Reach 2 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
24	7+46 LOG STEP					
	1	642235.56	1505111.05	88.18		Step
25	7+60 LOG STEP					
	1	642246.36	1505120.41	87.51		Step
26	7+74 LOG STEP					
	1	642256.39	1505129.89	86.83		Step
27	7+88 LOG STEP					
	1	642264.42	1505141.66	86.16		Step
28	8+02 LOG STEP					
	1	642272.05	1505153.16	85.49		Step
29	8+16 LOG STEP					
	1	642279.85	1505164.71	84.81		Step
30	8+30 LOG STEP					
	1	642286.13	1505177.25	84.14		Step
31	8+44 LOG STEP					
	1	642290.85	1505190.27	83.47		Step
32	8+58 LOG STEP					
	1	642294.19	1505204.07	82.79		Step
33	8+72 LOG STEP					
	1	642295.49	1505218.14	82.12		Step
34	8+86 LOG STEP					
	1	642295.33	1505231.98	81.45		Step

No.	LT-1 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
35	100+29 ROCK STEP					
	1	641816.24	1504783.00	101.02		Step
36	100+43 LOG STEP					
	1	641815.57	1504796.77	100.07		Step
37	100+57 LOG STEP					
	1	641824.29	1504807.51	99.12		Step
38	100+71 LOG STEP					
	1	641831.92	1504819.08	98.16		Step

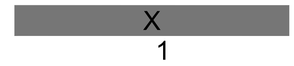
No.	LT-2 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
39	300+02 LOG STEP					
	1	642268.93	1505066.66	92.00		Step
40	300+09 LOG STEP					
	1	642267.50	1505073.59	91.51		Step
41	300+16 LOG STEP					
	1	642266.17	1505080.38	91.03		Step
42	300+23 LOG STEP					
	1	642266.61	1505087.20	90.54		Step
43	300+30 LOG STEP					
	1	642268.84	1505093.79	90.06		Step
44	300+37 LOG STEP					
	1	642271.08	1505100.42	89.57		Step
45	300+44 LOG STEP					
	1	642273.28	1505106.95	89.09		Step
46	300+51 LOG STEP					
	1	642273.07	1505113.92	88.60		Step
47	300+58 LOG STEP					
	1	642271.03	1505120.62	88.11		Step

No.	Reach 3 Structures (Thalweg Station)	Northing:	Easting:	El.	Arm Grade	Description
48	400+53 ROCK CROSS VANE					
	1	642304.48	1505274.10	78.80	4.0%	Arm Tie
	2	642295.74	1505271.86	78.43		Arm Tip
	3	642293.83	1505273.25	78.43		Center
	4	642292.57	1505274.64	78.43		Arm Tip
	5	642294.44	1505283.90	78.81	4.0%	Arm Tie
49	401+04 ROCK CROSS VANE					
	1	642344.48	1505300.03	78.02	4.0%	Arm Tie
	2	642335.19	1505301.31	77.64		Arm Tip
	3	642333.85	1505302.78	77.64		Center
	4	642333.11	1505304.24	77.64		Arm Tip
	5	642338.13	1505312.71	78.03	4.0%	Arm Tie
50	401+56 ROCK CROSS VANE					
	1	642391.22	1505322.55	77.22	4.0%	Arm Tie
	2	642381.96	1505324.00	76.85		Arm Tip
	3	642381.05	1505325.48	76.85		Center
	4	642380.16	1505327.05	76.85		Arm Tip
	5	642384.92	1505335.06	77.22	4.0%	Arm Tie

POINT GUIDE FOR CONTROL POINTS
ROCK AND LOG CROSS VANE



ROCK AND LOG STEP



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

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914	Revisions
GRA-004622-2025	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

STRUCTURE TABLES

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

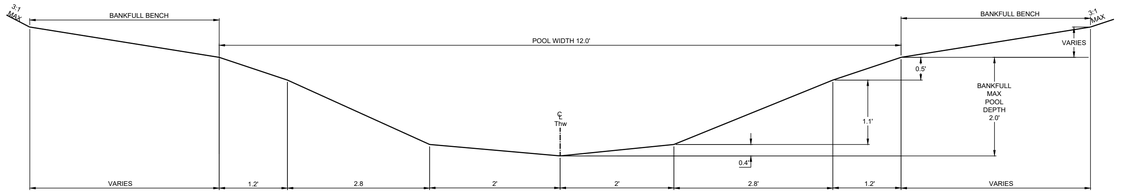
Scale :
Date : SEPTEMBER 2025

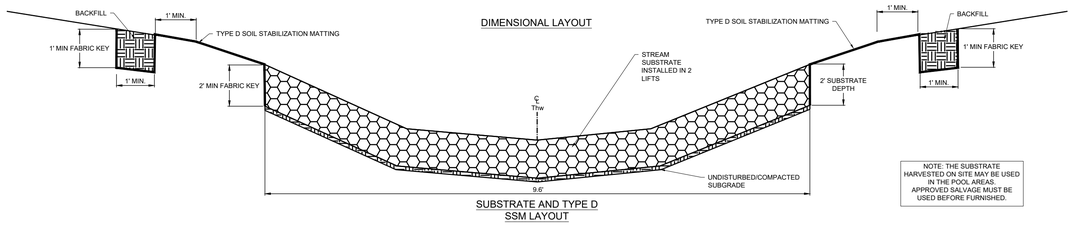
Drawing No. ST-01 of ST-01

Sheet No. 21 of 65

BID No.:

HCG DWG ID No.:



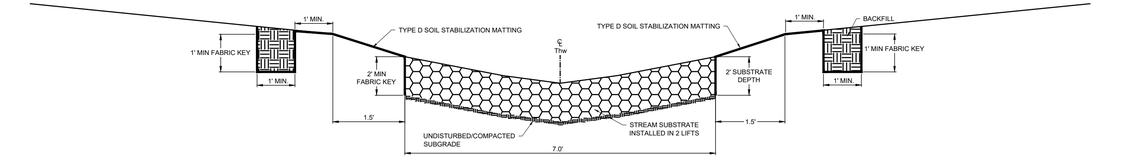


DIMENSIONAL LAYOUT

SUBSTRATE AND TYPE D SSM LAYOUT

NOTE: THE SUBSTRATE HARVESTED ON SITE MAY BE USED IN THE POOL AREAS. APPROVED SALVAGE MUST BE USED BEFORE FURNISHED.

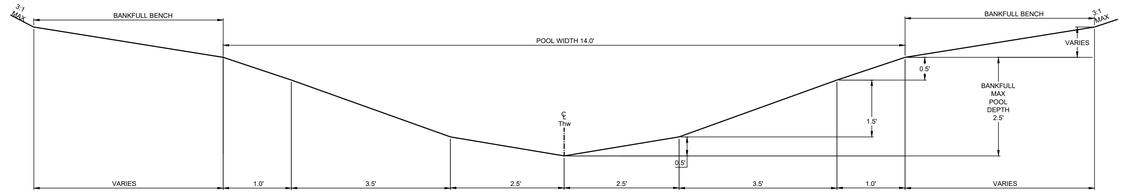
1 TYPICAL REACH 1 CROSS SECTION LAYOUT - POOL
NOT TO SCALE

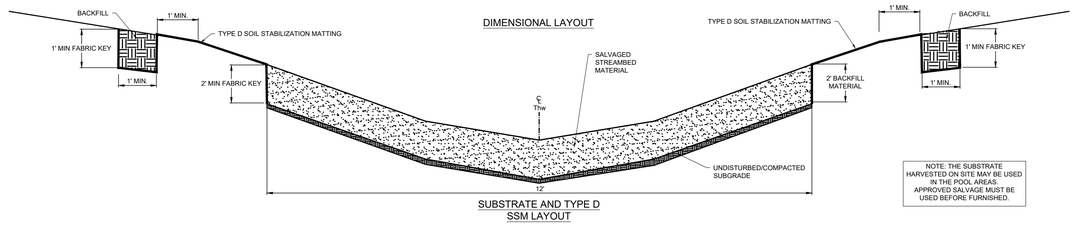


DIMENSIONAL LAYOUT

SUBSTRATE AND TYPE D SSM LAYOUT

2 TYPICAL REACH 1 CROSS SECTION LAYOUT - RIFFLE
NOT TO SCALE



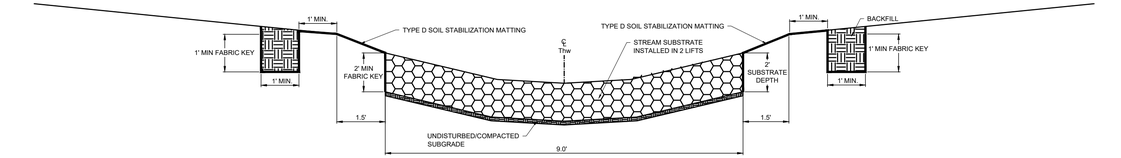


DIMENSIONAL LAYOUT

SUBSTRATE AND TYPE D SSM LAYOUT

NOTE: THE SUBSTRATE HARVESTED ON SITE MAY BE USED IN THE POOL AREAS. APPROVED SALVAGE MUST BE USED BEFORE FURNISHED.

1 TYPICAL REACH 2A & 2B STA 2+16 - 7+41 CROSS SECTION LAYOUT - POOL
NOT TO SCALE



DIMENSIONAL LAYOUT

SUBSTRATE AND TYPE D SSM LAYOUT

2 TYPICAL REACH 2A & 2B STA 2+16 - 7+41 CROSS SECTION LAYOUT - POOL
NOT TO SCALE

BID No.:

HCG DWG ID No.:

SCALE: 1=1

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 # 59914	Revisions
GRA-004622-2025	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

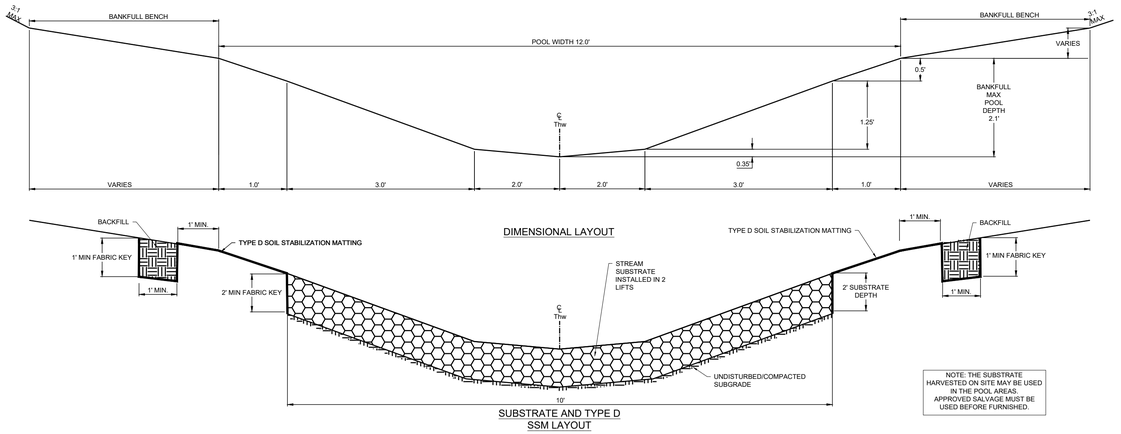
STREAM CROSS SECTIONS

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

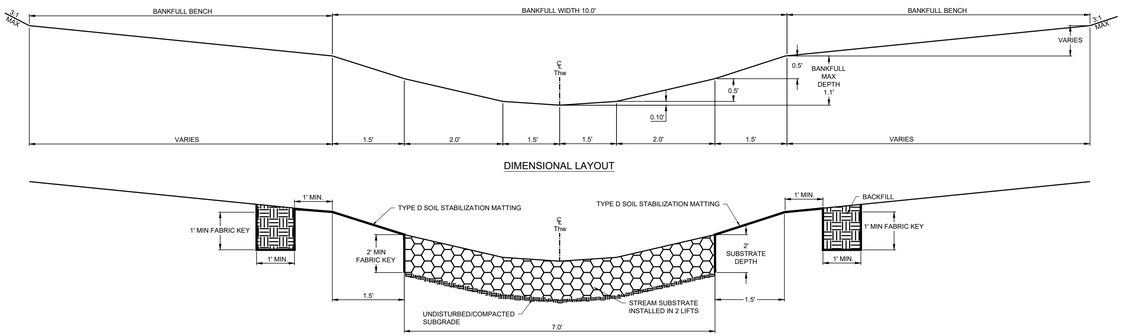
Scale : AS NOTED
Date : SEPTEMBER 2025

Drawing No. XS-01 of XS-03

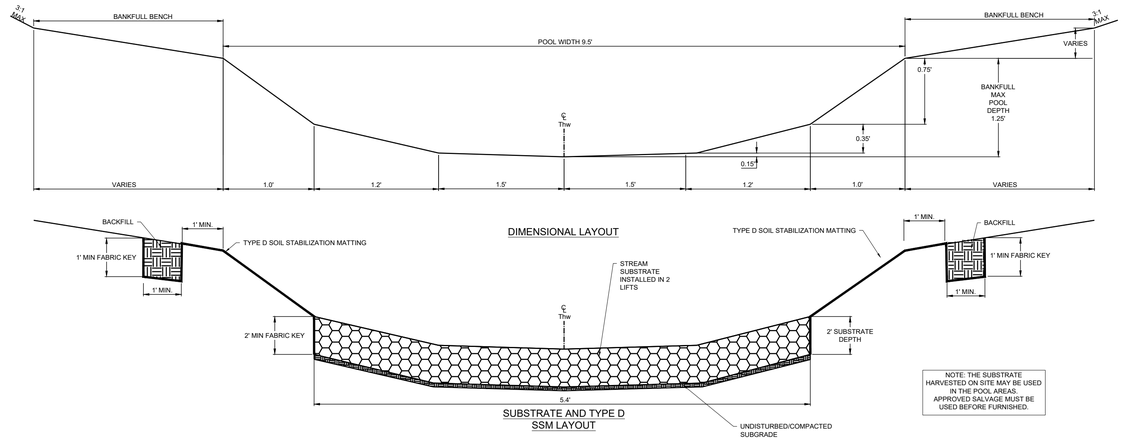
Sheet No. 22 of 65



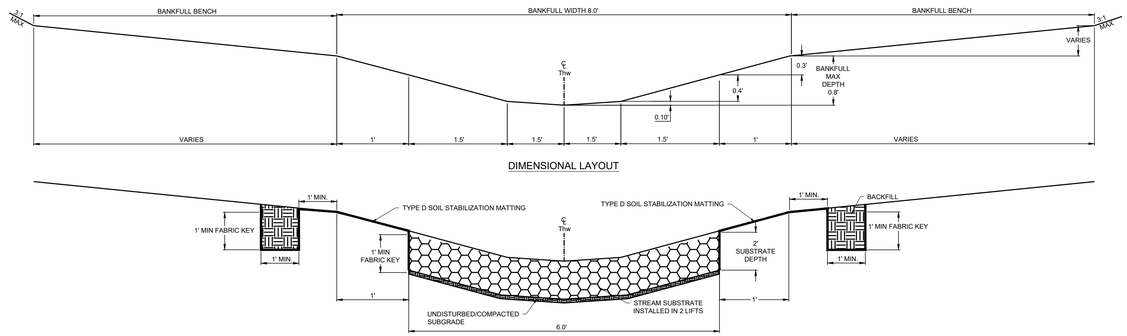
1 TYPICALREACH RT1 & LT1 CROSS SECTION LAYOUT - POOL
NOT TO SCALE



2 TYPICAL REACH RT1 & LT1 CROSS SECTION LAYOUT - RIFFLE
NOT TO SCALE



1 TYPICALREACH LT2 CROSS SECTION LAYOUT - POOL
NOT TO SCALE



2 TYPICAL REACH LT2 CROSS SECTION LAYOUT - RIFFLE
NOT TO SCALE

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 # 59914	Revisions
GRA-004622-2025	

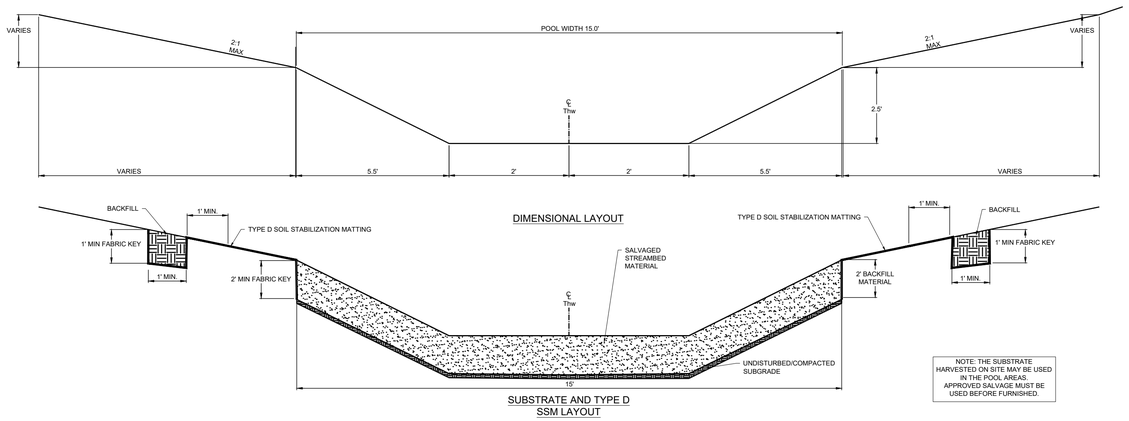
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM CROSS SECTIONS

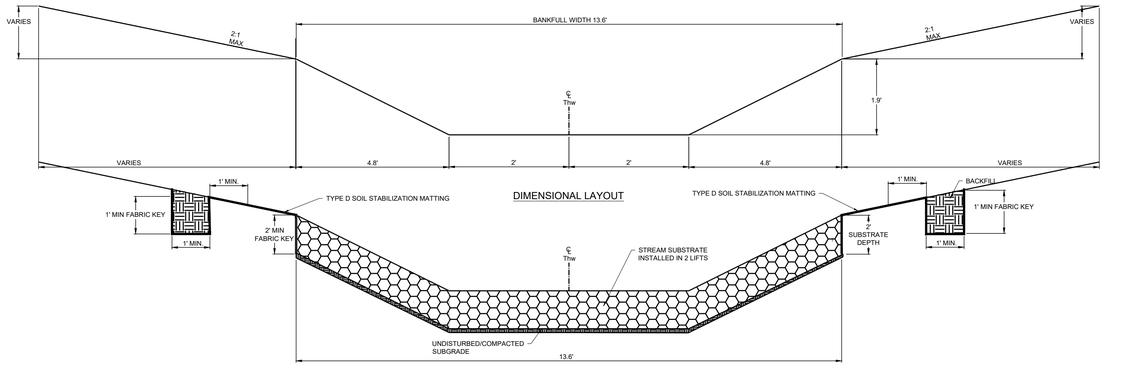
Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. XS-02 of XS-03

Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 23 of 65

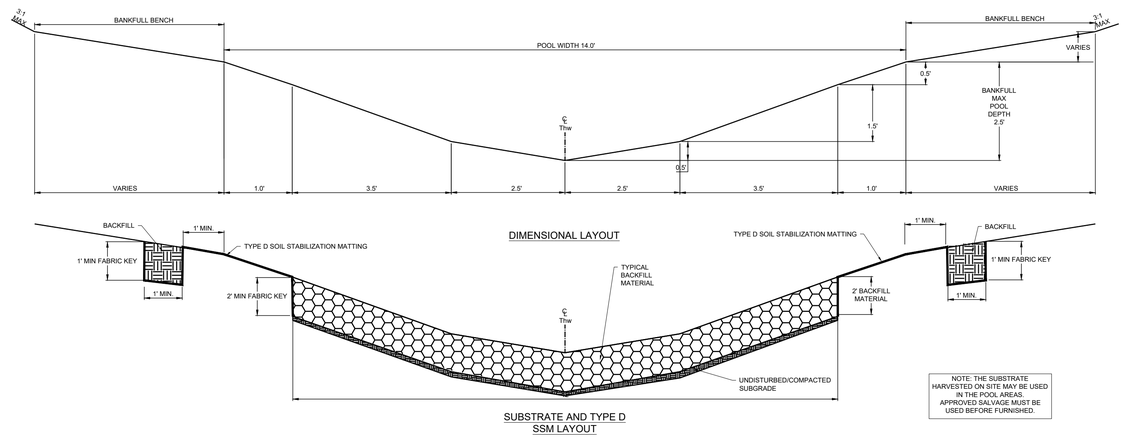
BID No.:
HCG DWG ID No.:
SALT Tech



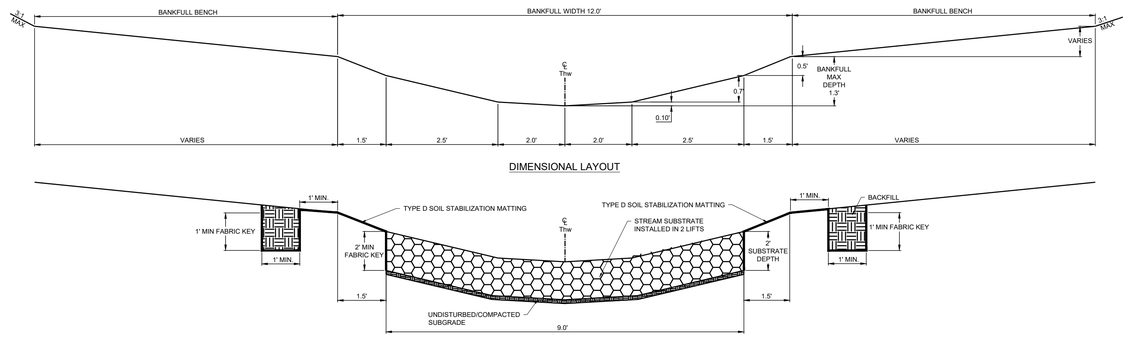
1 TYPICAL REACH 3 CROSS SECTION LAYOUT - POOL
NOT TO SCALE



1 TYPICAL REACH 3 CROSS SECTION LAYOUT - RIFFLE
NOT TO SCALE



1 TYPICAL REACH 2A & 2B STA 7+41 - 9+15 CROSS SECTION LAYOUT - POOL
NOT TO SCALE



2 TYPICAL REACH 2A & 2B STA 7+41 - 9+15 CROSS SECTION LAYOUT - RIFFLE
NOT TO SCALE

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 # 59914	Revisions
GRA-004622-2025	

BID No.:

HCG DWG ID No.:

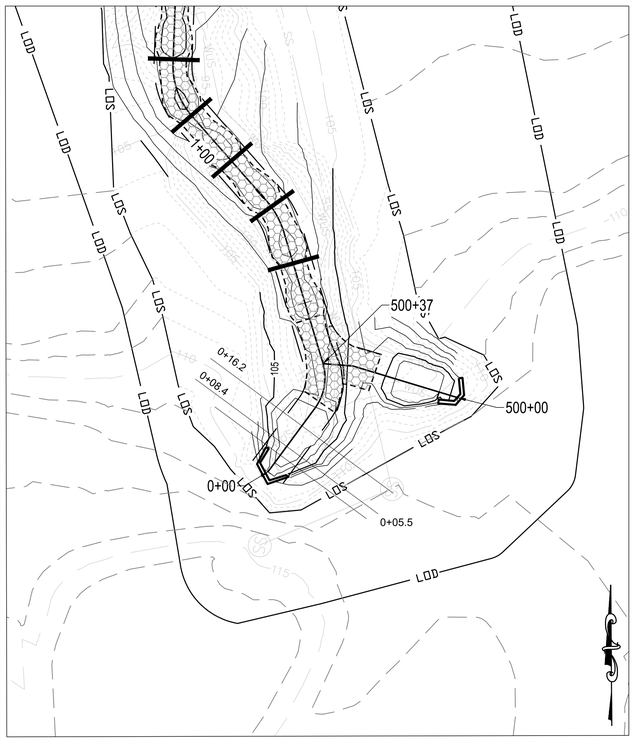
SCALE 1"=0"

HARFORD COUNTY, MARYLAND

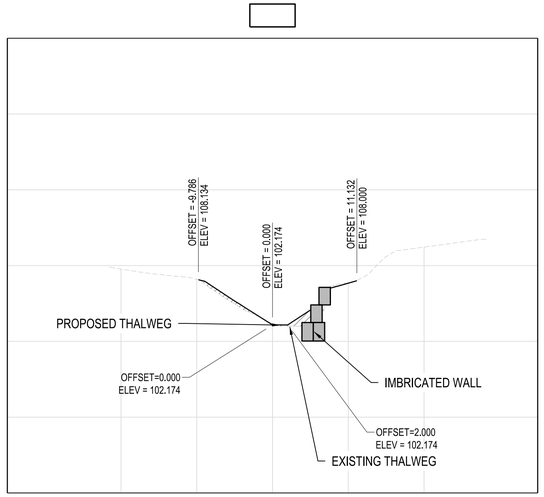
EDGEWATER VILLAGE PARK
STREAM RESTORATION

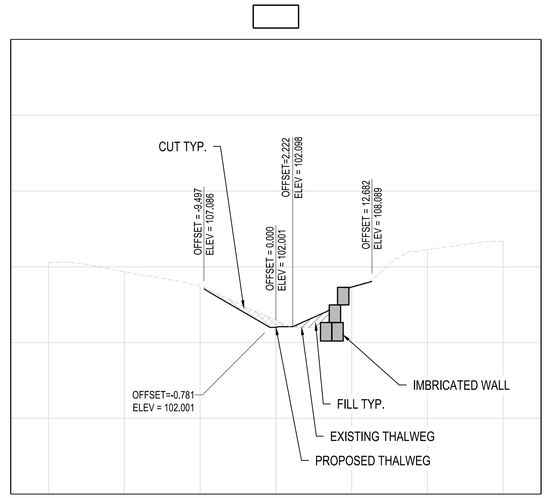
STREAM CROSS SECTIONS

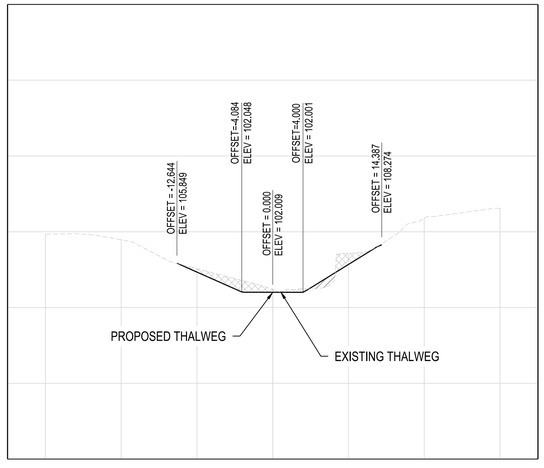
Drawn By :	CA	Scale :	AS NOTED
Designed By :	CA	Date :	SEPTEMBER 2025
Reviewed By :	BWA		
Drawing No.	XS-03 of XS-03	Sheet No.	24 of 65



SCALE IN FEET 1" = 20'







1 REACH 1 SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

SECTION VIEW

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. SE-01 of SE-12

Scale : AS SHOWN

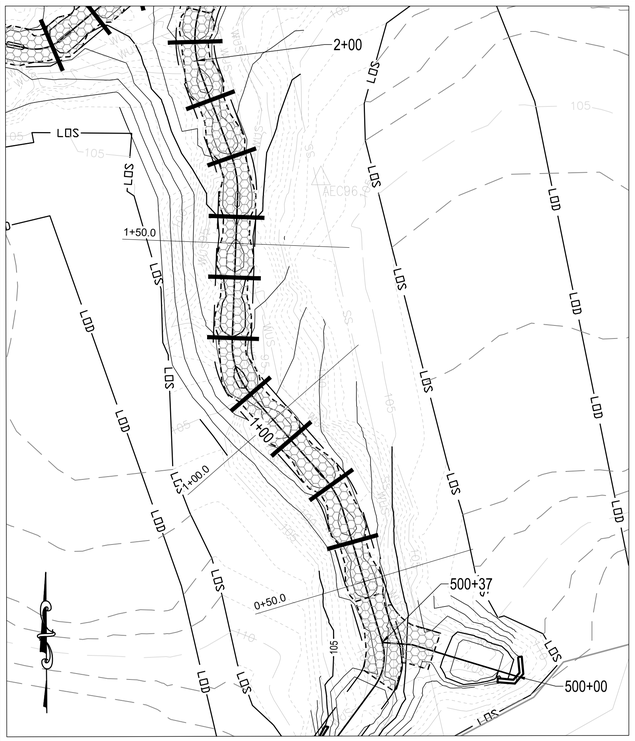
Date : SEPTEMBER 2025

Sheet No. 25 of 65

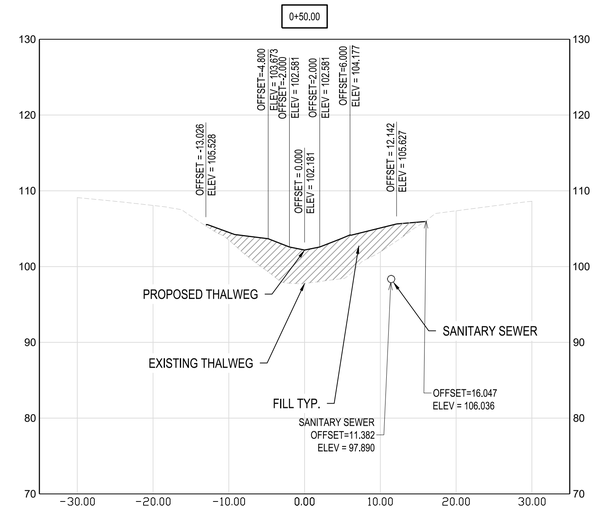
BID No.:

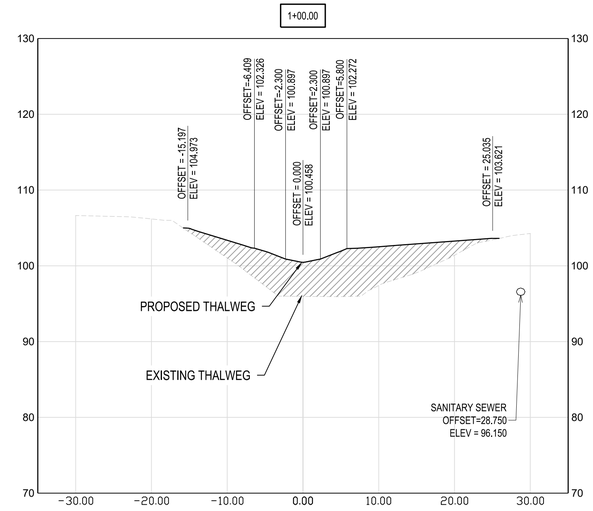
HCG DWG ID No.:

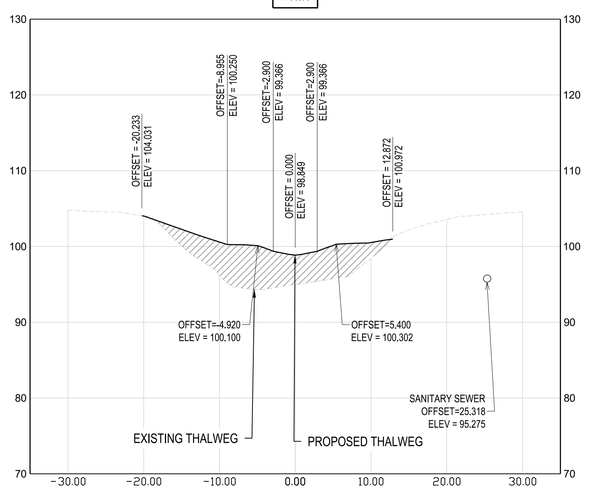
SCALE: 1 inch



SCALE IN FEET 1" = 20'







1 REACH 1 SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

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

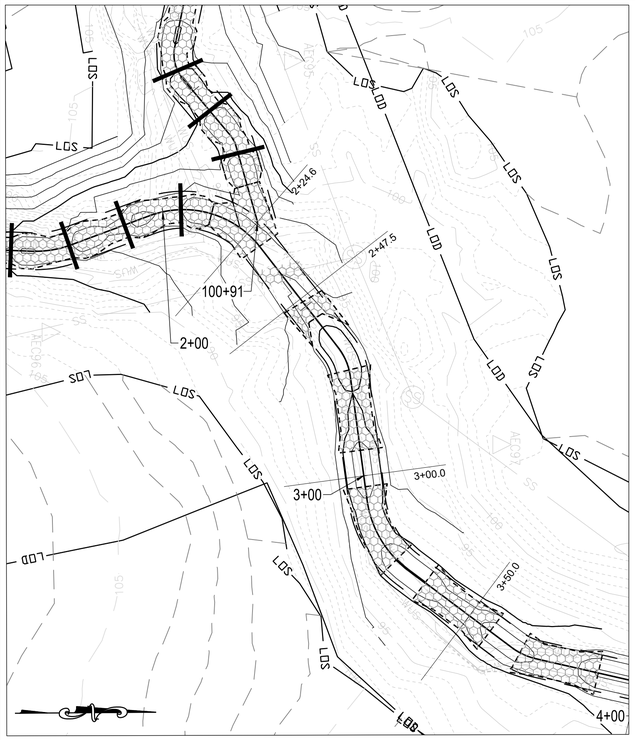
Scale : AS SHOWN
Date : SEPTEMBER 2025

Drawing No. SE-02 of SE-12

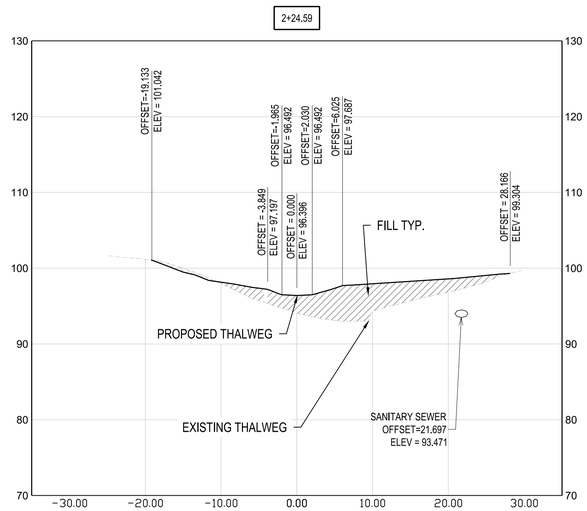
Sheet No. 26 of 65

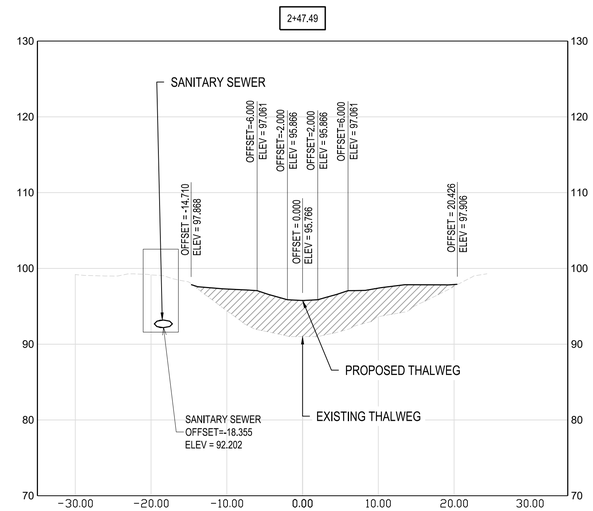
BID No.:

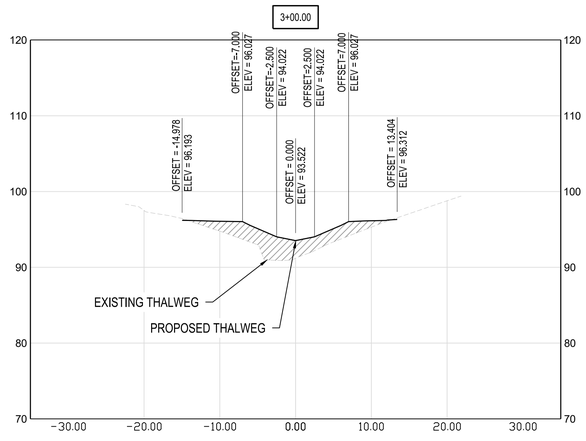
HCG DWG ID No.:

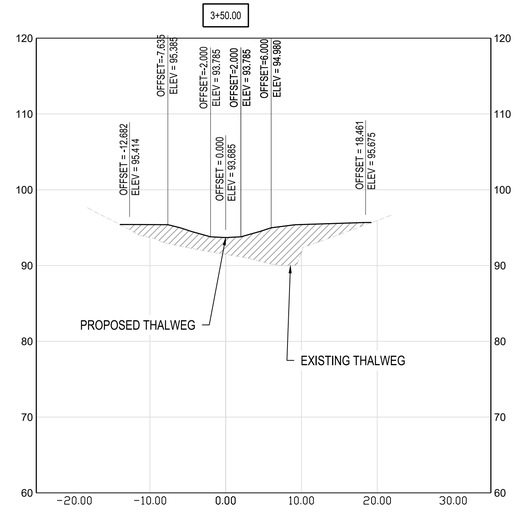


SCALE IN FEET 1" = 20'









1 REACH 1 AND REACH 2A SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

S/C PLAN # 59914

GRA-004622-2025

Revisions

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

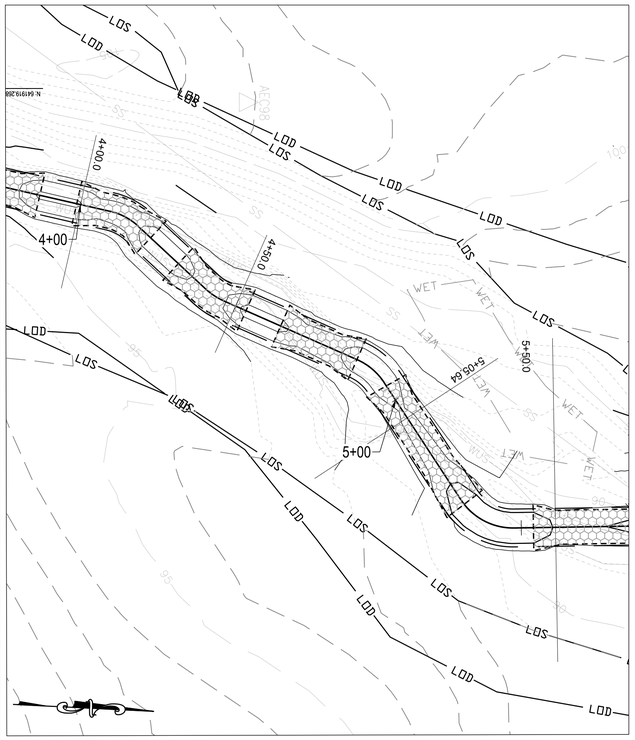
EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. SE-03 of SE-12

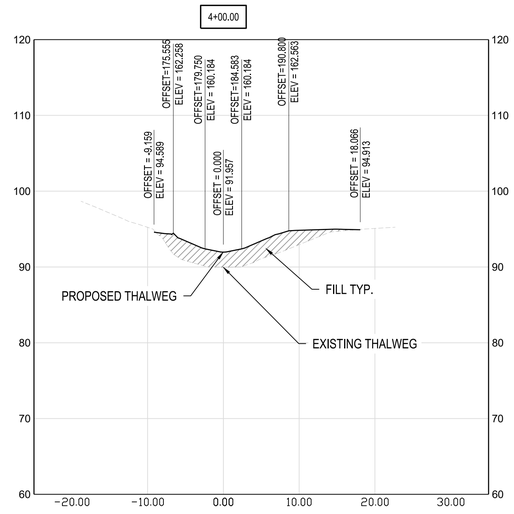
Scale : AS SHOWN
Date : SEPTEMBER 2025
Sheet No. 27 of 65

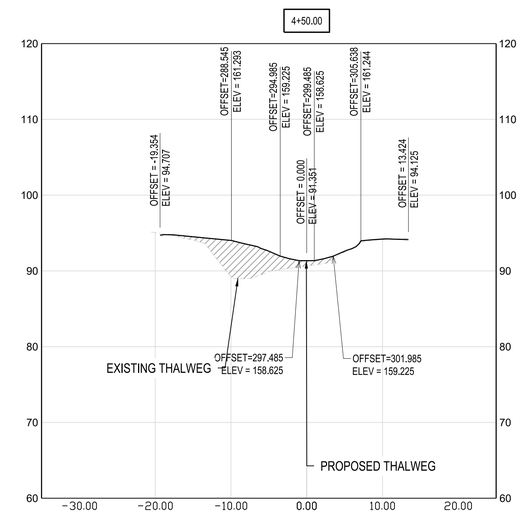
BID No.:

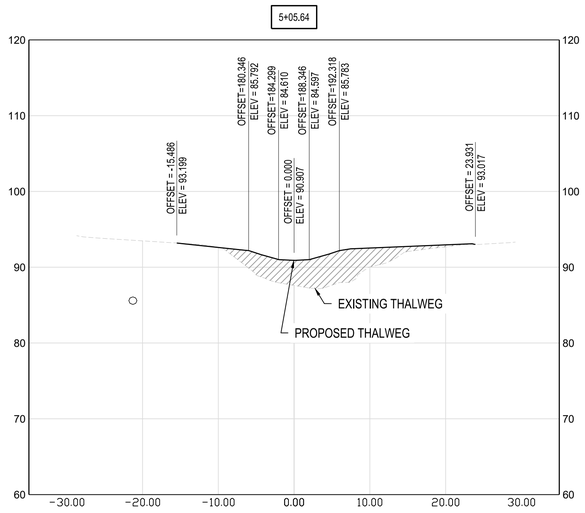
HCG DWG ID No.:

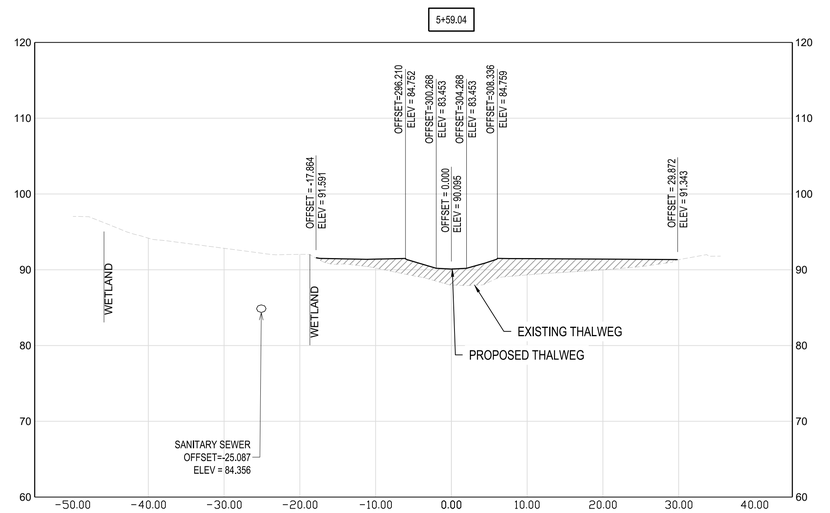


SCALE IN FEET 1" = 20'









1 REACH 2A SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

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

Scale : AS SHOWN
Date : SEPTEMBER 2025

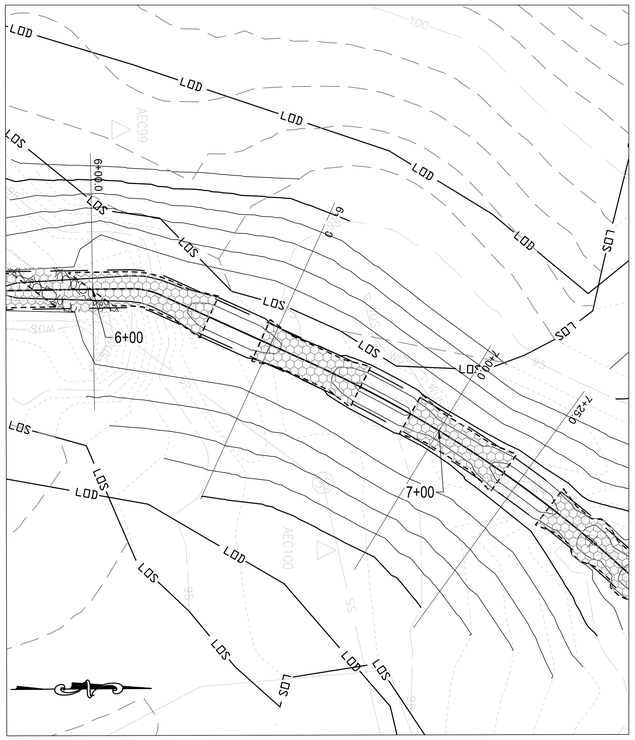
Drawing No. SE-04 of SE-12

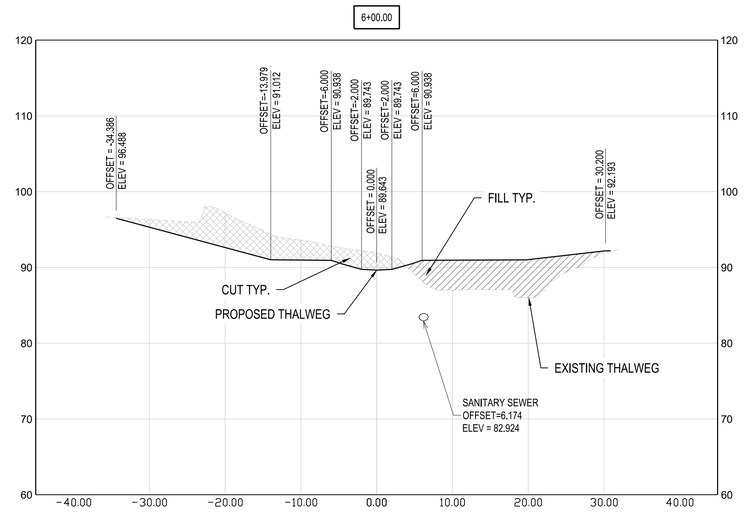
Sheet No. 28 of 65

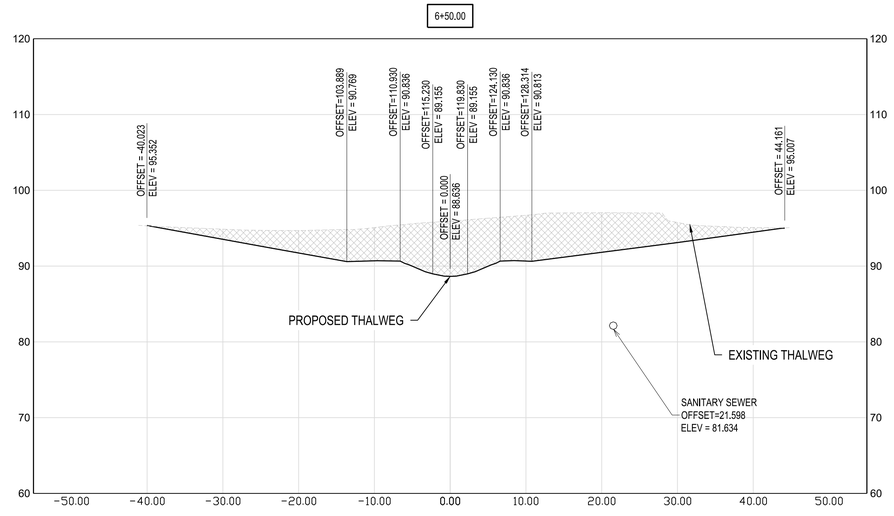
BID No.:

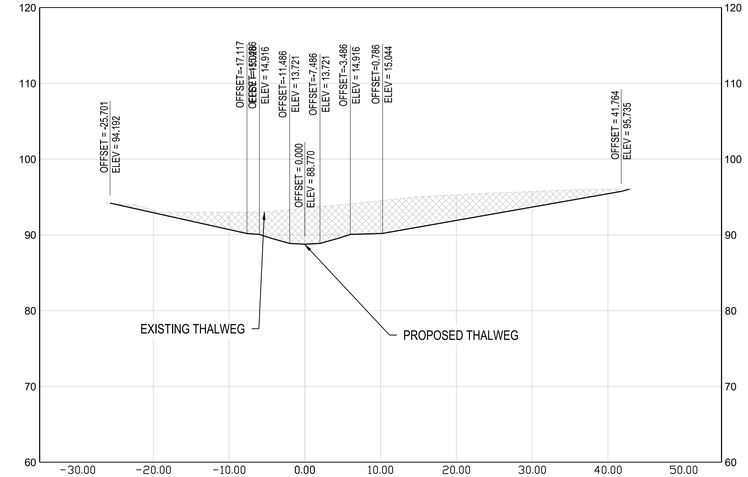
HCG DWG ID No.:

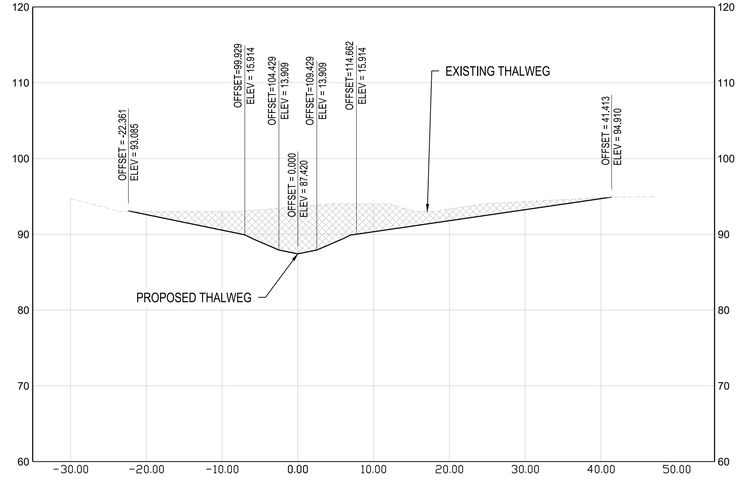
SALT Tech











1 REACH 2B SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION

SECTION VIEW

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. SE-05 of SE-12

Scale : AS SHOWN

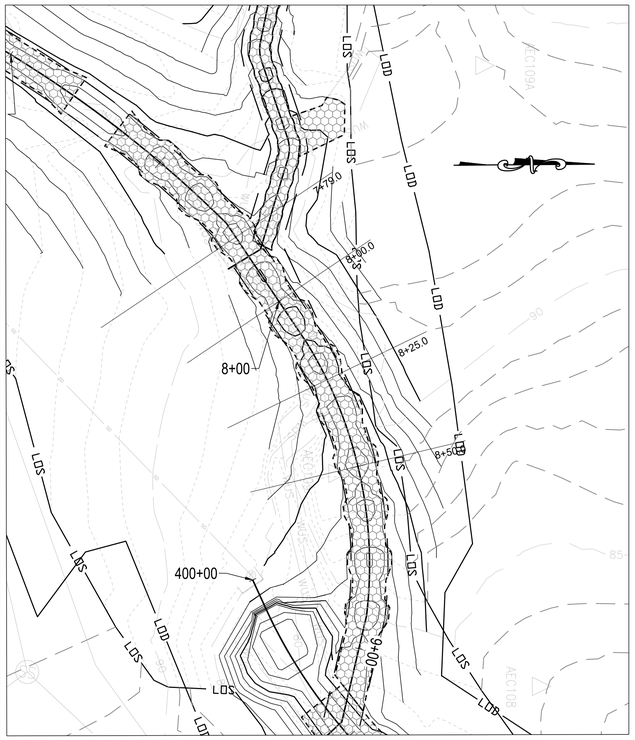
Date : SEPTEMBER 2025

Sheet No. 29 of 65

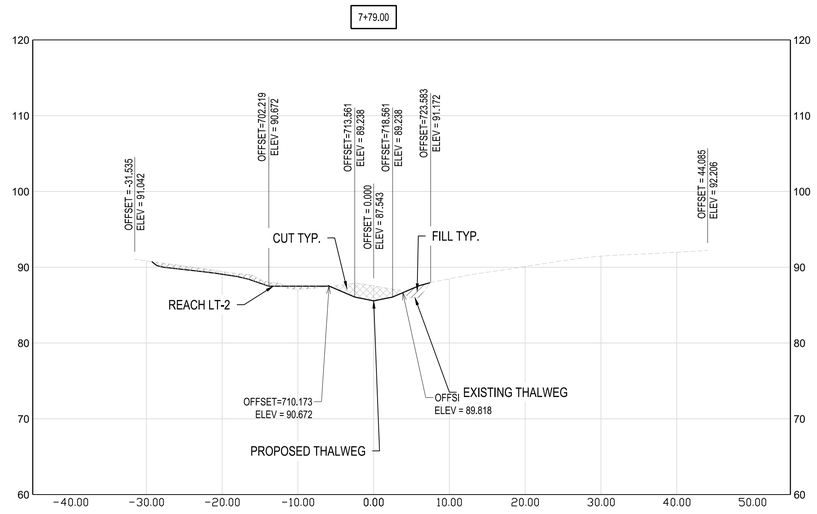
BID No.:

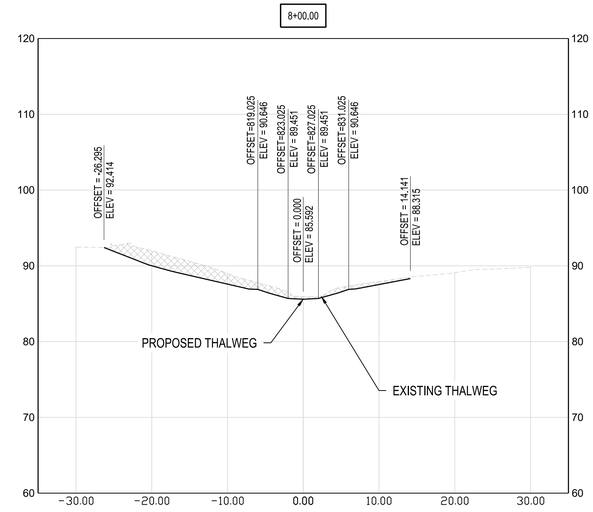
HCG DWG ID No.:

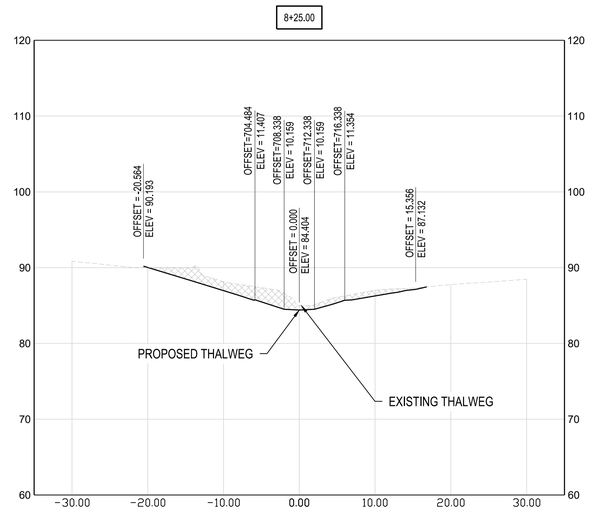
SCALE 1"=20'

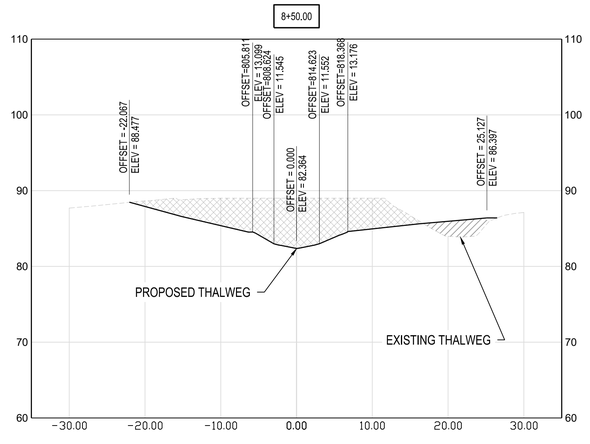


SCALE IN FEET 1" = 20'









1 REACH 2B SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

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

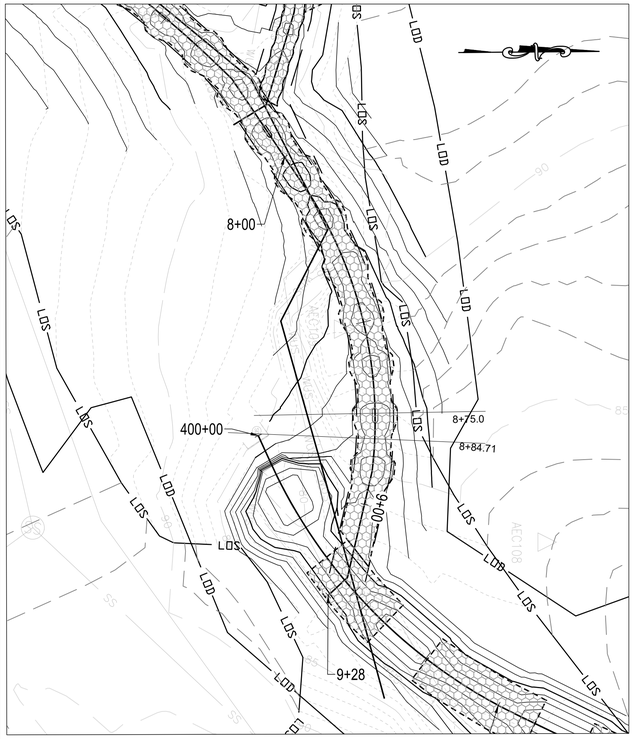
Scale : AS SHOWN
Date : SEPTEMBER 2025

Drawing No. SE-06 of SE-12

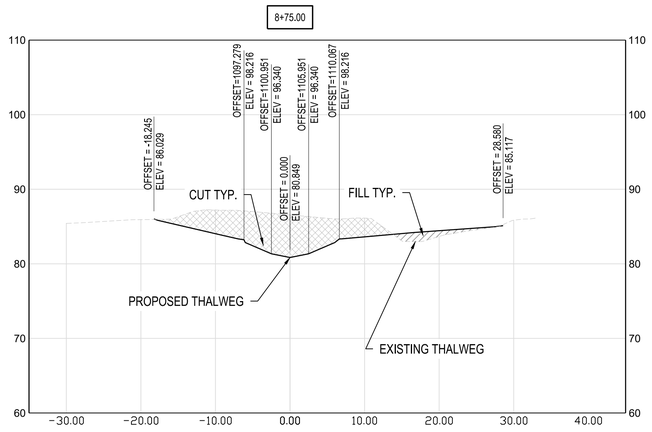
Sheet No. 30 of 65

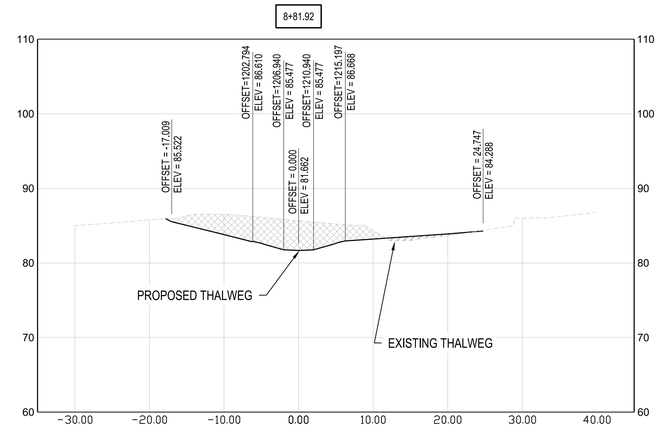
BID No.:

HCG DWG ID No.:



SCALE IN FEET 1" = 20'





1 REACH 2B SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

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

Scale : AS SHOWN
Date : SEPTEMBER 2025

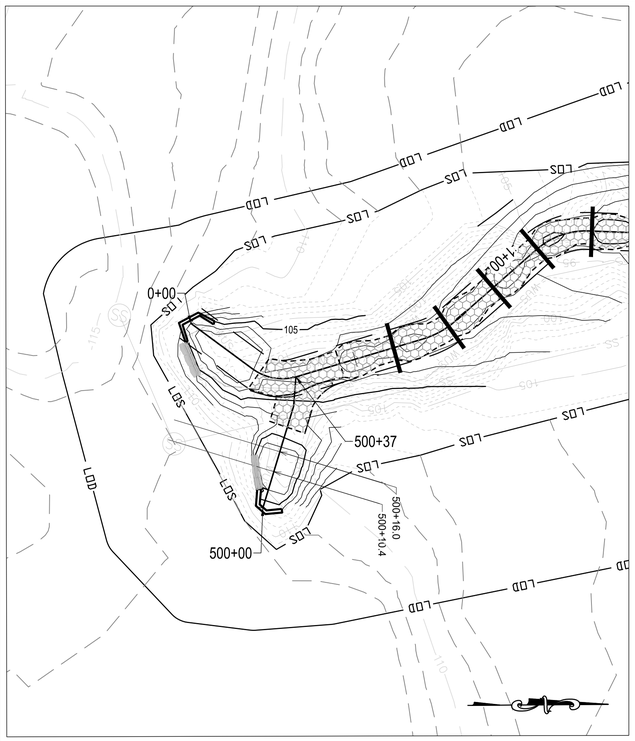
Drawing No. SE-07 of SE-12

Sheet No. 31 of 65

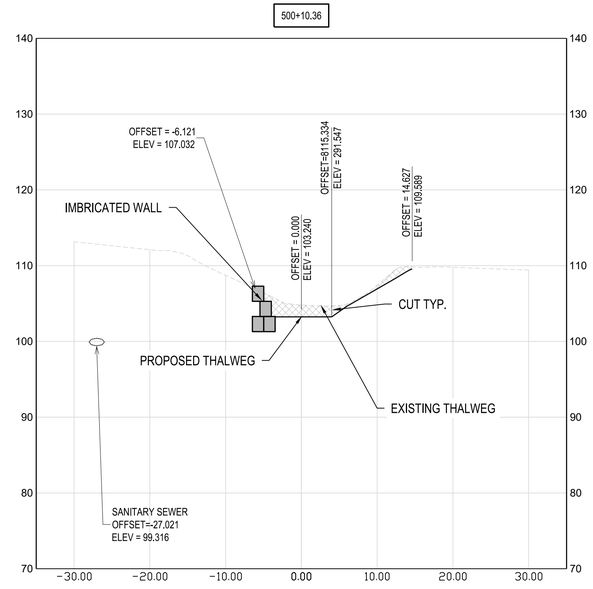
BID No.:

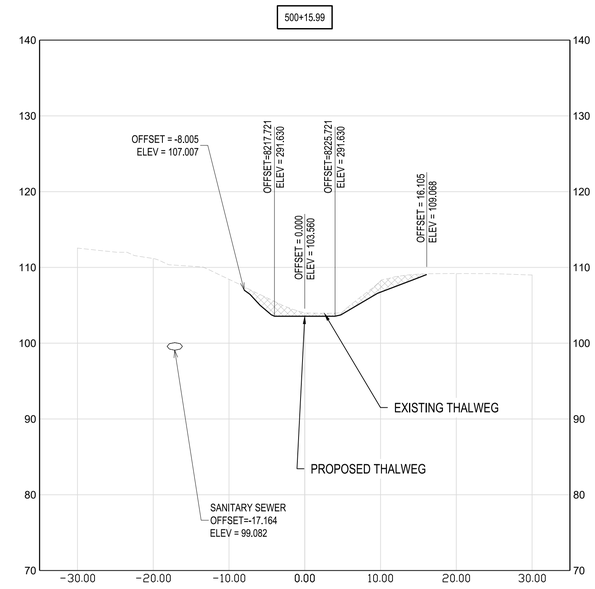
HCG DWG ID No.:

SCALE 1 inch



SCALE IN FEET 1" = 20'





1 RT-1 SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

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

Scale : AS SHOWN
Date : SEPTEMBER 2025

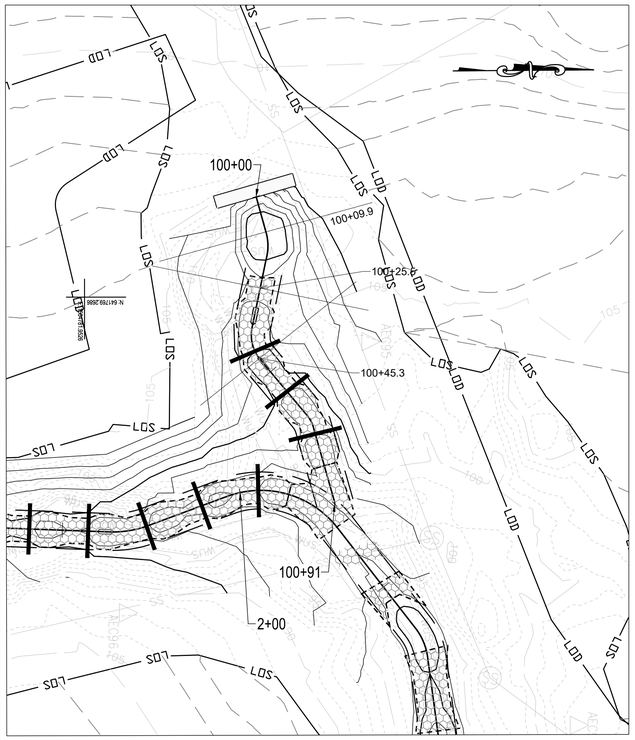
Drawing No. SE-08 of SE-12

Sheet No. 32 of 65

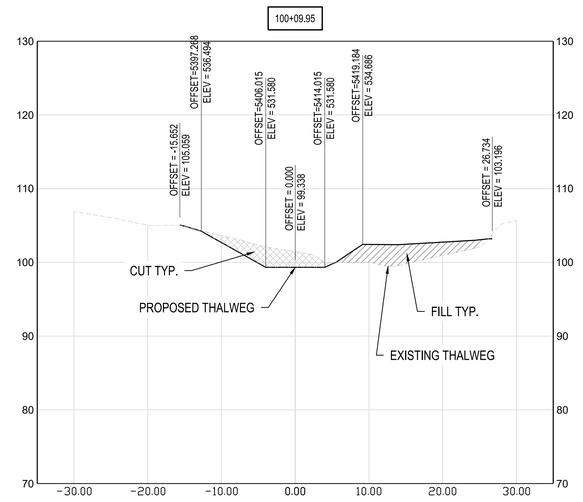
BID No.:

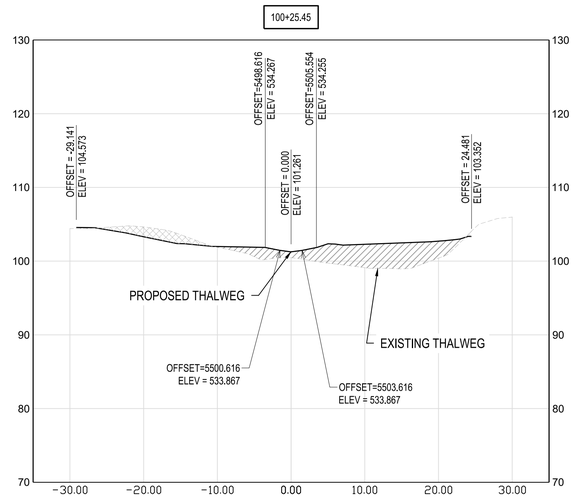
HCG DWG ID No.:

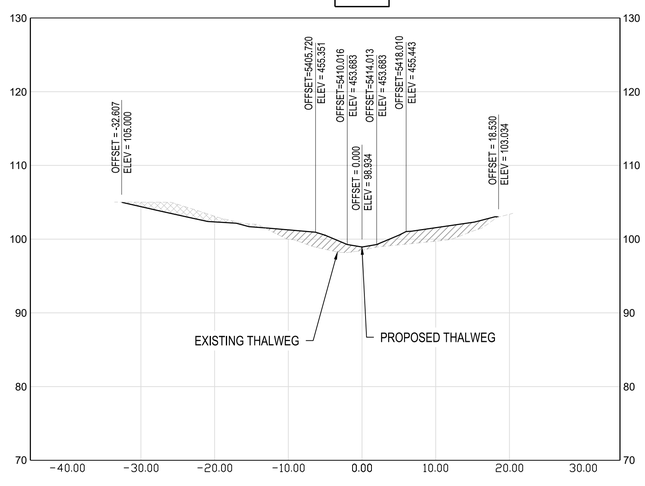
SCALE 1 inch



SCALE IN FEET 1" = 20'







1 LT-1 SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914	Revisions
GRA-004622-2025	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

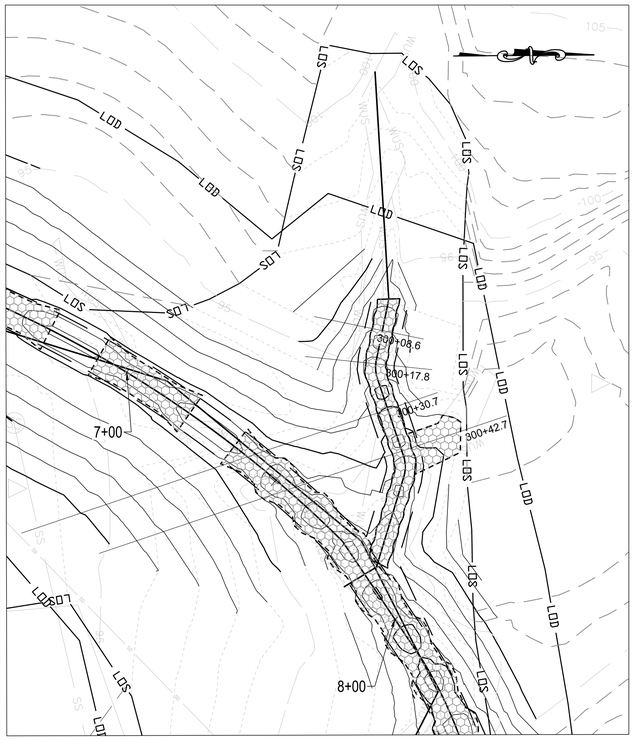
Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. SE-09 of SE-03

Scale : AS SHOWN
Date : SEPTEMBER 2025
Sheet No. 33 of 65

BID No.:

HCG DWG ID No.:

SCALE: 1 inch



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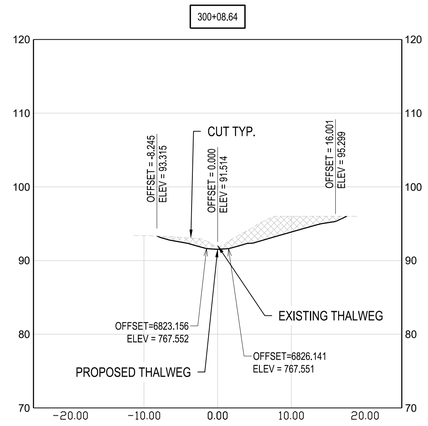
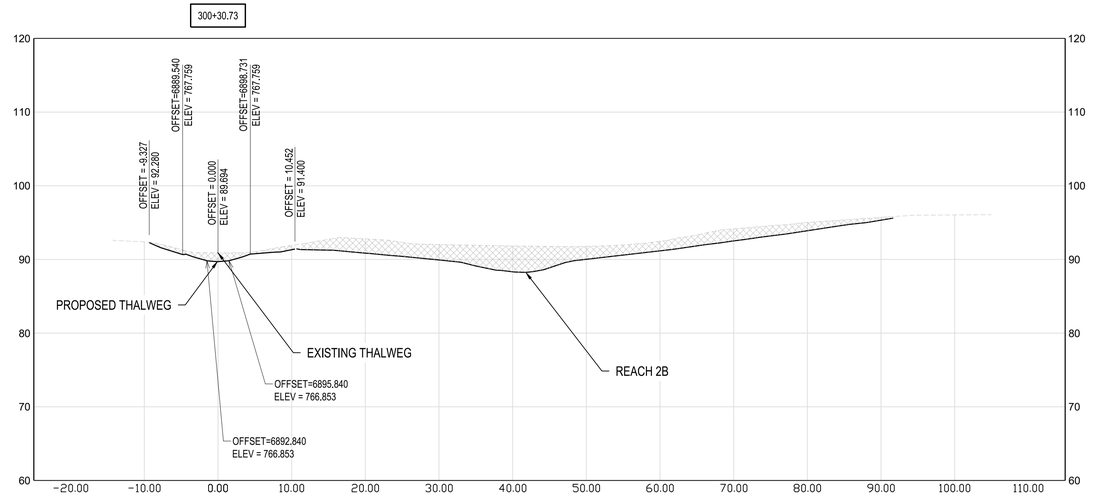
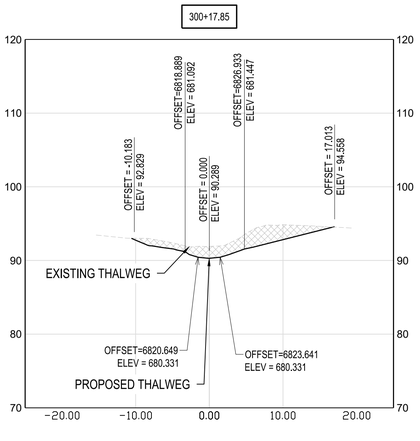
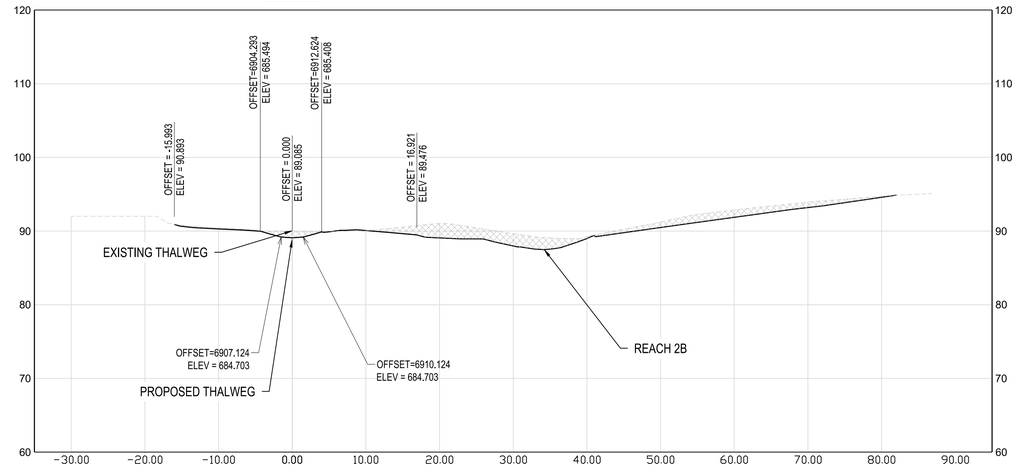








1 LT-2 SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

S/C PLAN # 59914

GRA-004622-2025

Revisions

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
SECTION VIEWS

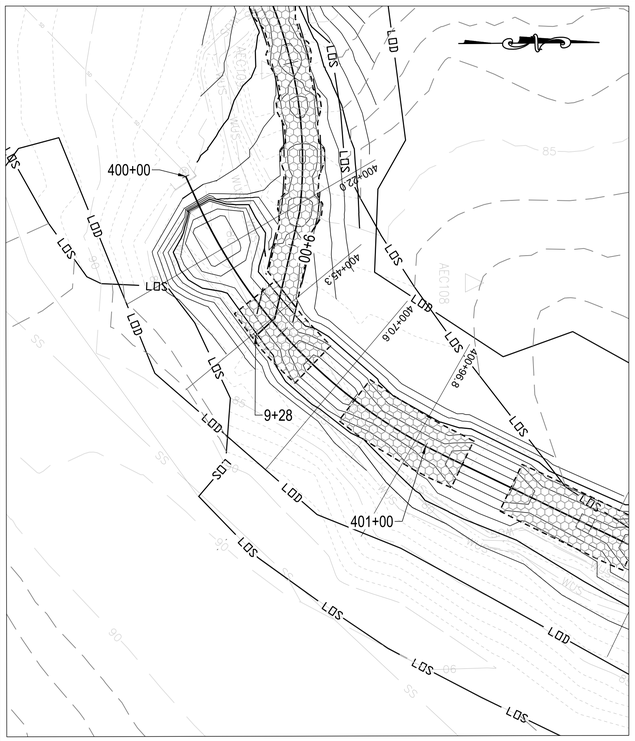
Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. SE-10 of SE-12

Scale : AS SHOWN
Date : SEPTEMBER 2025
Sheet No. 34 of 65

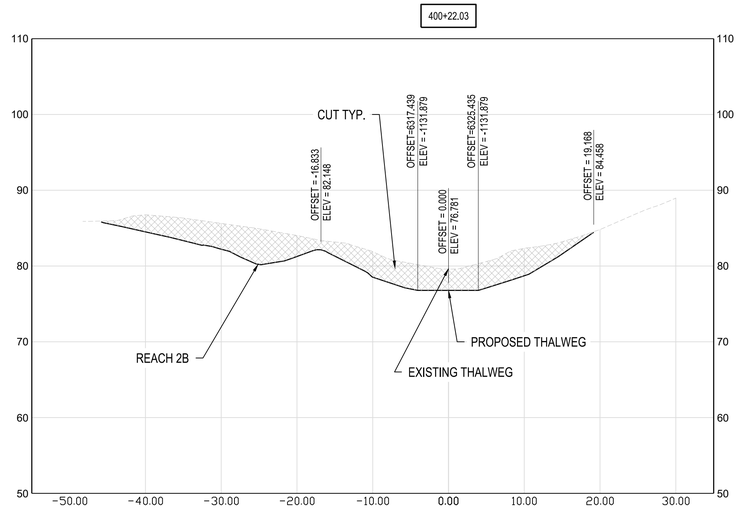
BID No.:

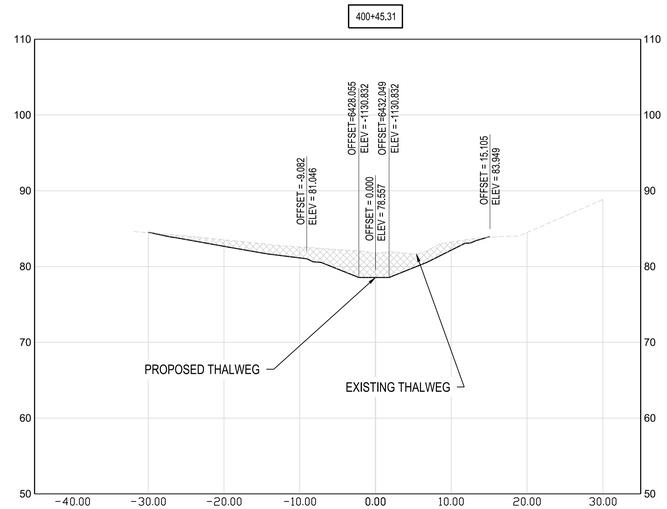
HCG DWG ID No.:

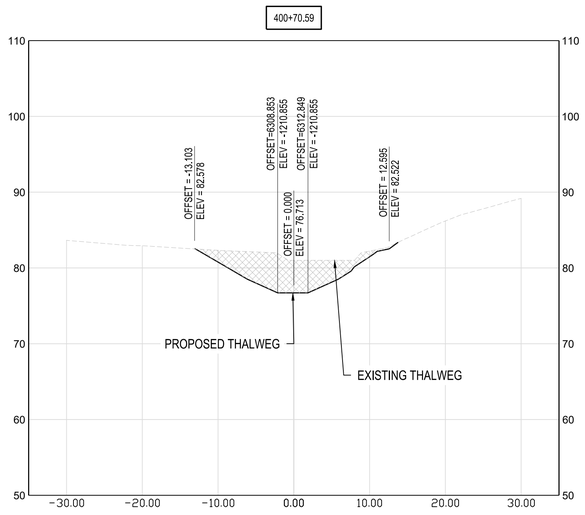
SCALE 1 inch

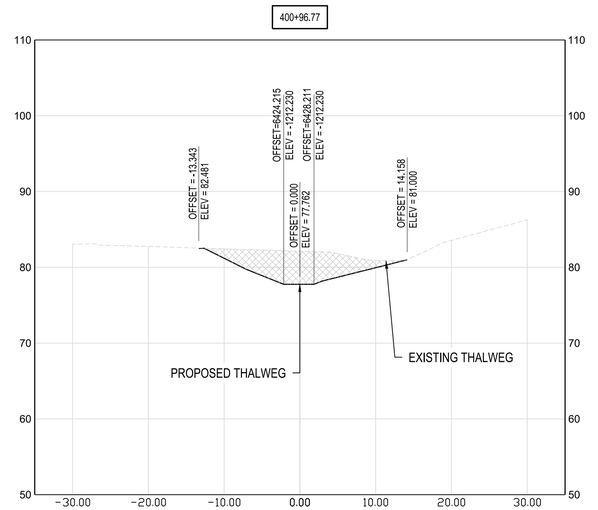


SCALE IN FEET 1" = 20'









1 REACH 3 SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

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

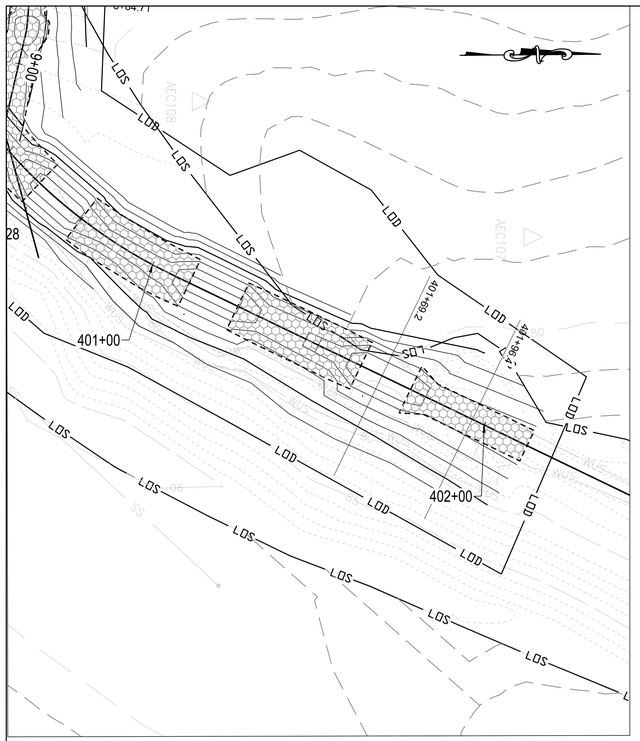
Scale : AS SHOWN
Date : SEPTEMBER 2025

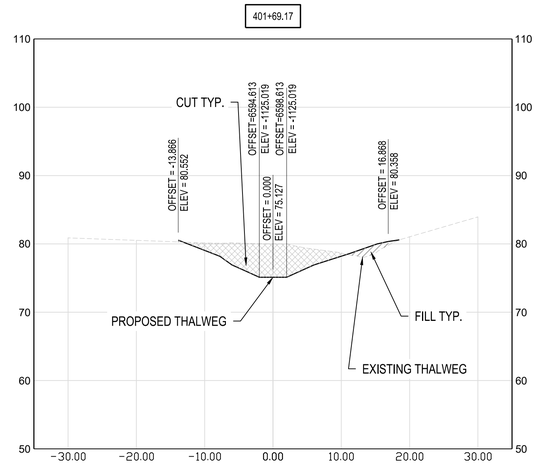
Drawing No. SE-11 of SE-12

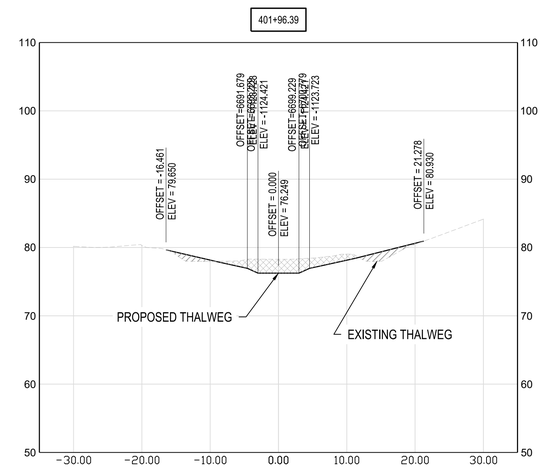
Sheet No. 35 of 65

BID No.:

HCG DWG ID No.:







1 REACH 3 SECTION VIEWS

SCALE: 1" = 10'

10 0 10 20

SCALE IN FEET 1" = 10'

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 # 59914	Revisions
GRA-004622-2025	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SECTION VIEW

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

Scale : AS SHOWN
Date : SEPTEMBER 2025

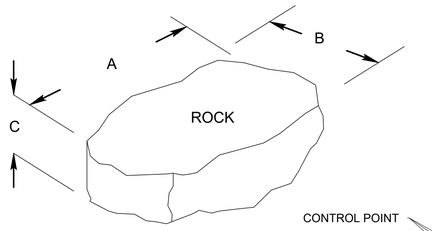
Drawing No. SE-12 of SE-12

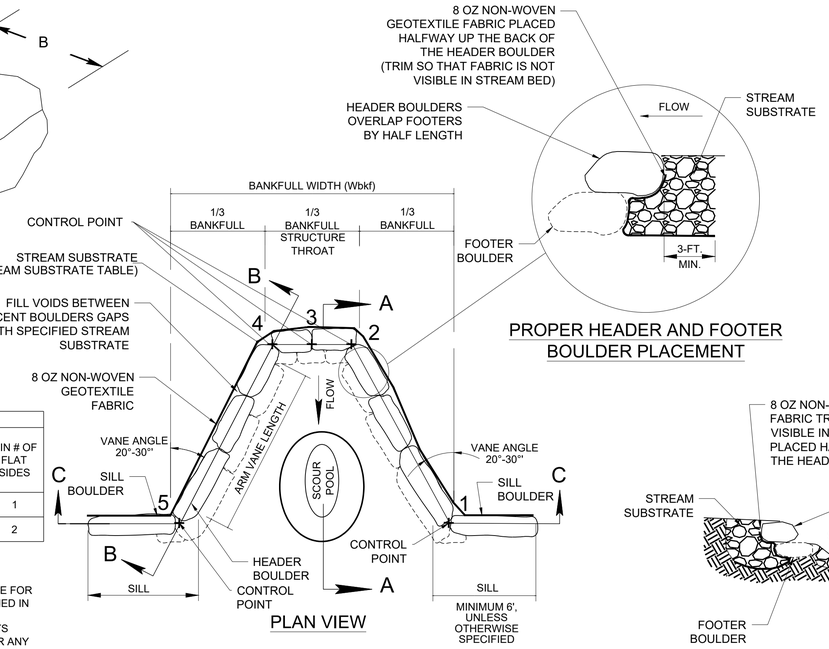
Sheet No. 36 of 65

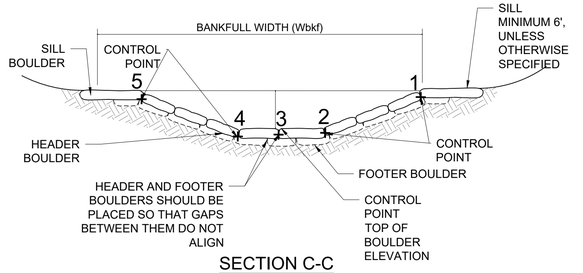
BID No.:

HCG DWG ID No.:

SCALE 1 inch

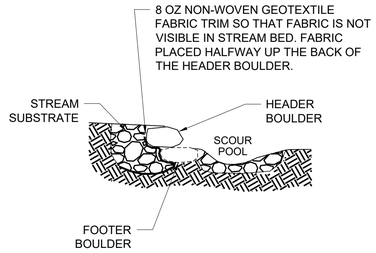


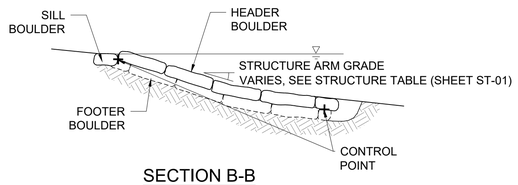




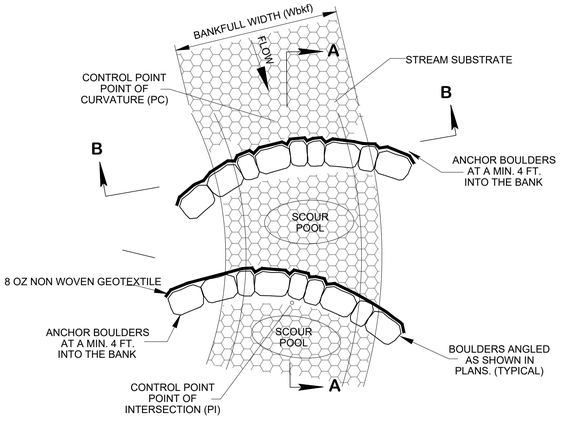
BOULDER SIZING TABLE						
	MIN DENSITY (LB/CU FT)	A LENGTH (FT)	B WIDTH (FT)	C HEIGHT (FT)	MIN # OF FLAT SIDES
HEADER BOULDER	150	3.0-4.0	3.0-4.0	1.5-2.0	1
FOOTER BOULDER	150	3.0-4.0	3.0-4.0	1.5-2.0	2

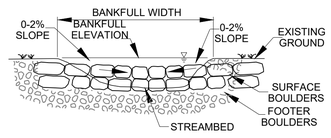
NOTES:
1. HEADER AND FOOTER BOULDER SHALL MEET THE STONE FOR IN-STREAM AND BANK STRUCTURES (ITEM: 9010) OUTLINED IN THE CONSTRUCTION SPECIFICATIONS.
2. BOULDERS THAT DO NOT MEET THE SIZE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS WITHIN 3 INCHES FOR ANY PARAMETER MUST BE APPROVED FOR USE BY THE PROJECT 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.





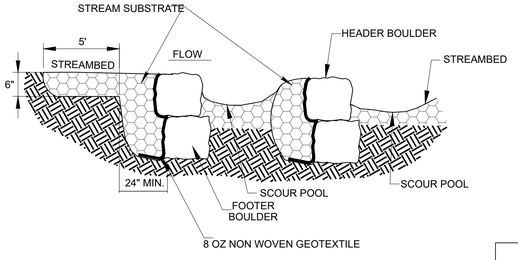
1 DE-01 ROCK CROSS VANE
NOT TO SCALE





BOULDER SIZING TABLE

	MIN DENSITY (LB/CU FT)	A LENGTH (FT)	B WIDTH (FT)	C 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



2 DE-01 ROCK STEP POOL
NOT TO SCALE

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

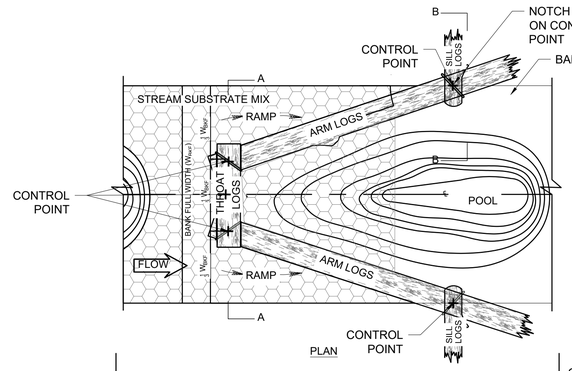
EDGEWATER VILLAGE PARK
STREAM RESTORATION

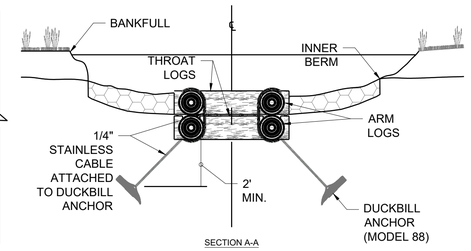
STREAM RESTORATION DETAILS

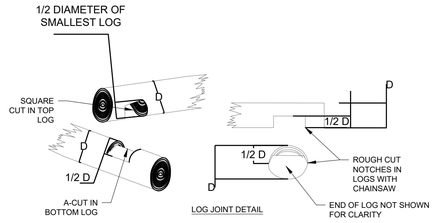
Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. DE-01 of DE-06

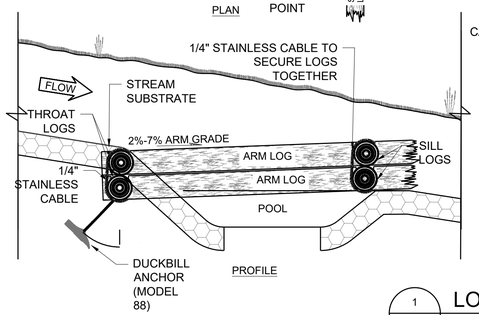
Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 37 of 65

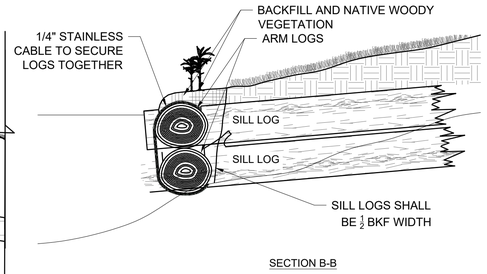
BID No.:
HCG DWG ID No.:
SCALE 1 inch











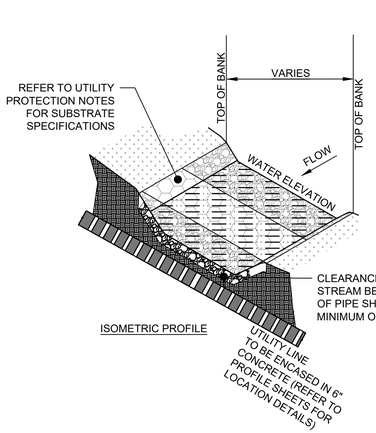
NOTE:
1. TREES SALVAGED DURING CLEARING ACTIVITIES FROM THE PROJECT MAY BE UTILIZED FOR LOG CROSS VANES MATERIAL ON APPROVAL BY THE ENGINEER OF RECORD. SEE SALVAGED LOGS SPECIFICATIONS FOR MINIMUM SIZE AND ACCEPTABLE TREE CHARACTERISTICS.
2. NOTCHES ARE CUT IN THROAT LOGS AND SILL LOGS TO ACCOMMODATE 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-05 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.

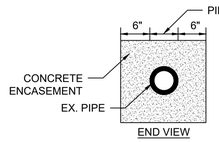
LOG CROSS VANE SIZING CHART REACH 2A&2B

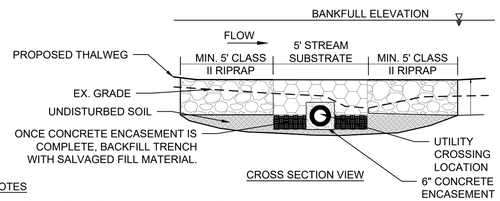
	BANKFULL WIDTH (FEET)	MIN. THROAT LOG LENGTH * ($\frac{1}{2}$ W_{BKF}) (FEET)	MIN. SILL LENGTH* ($\frac{1}{2}$ W_{BKF}) (FEET)	MIN. ARM LENGTH	MIN. DIAMETER (INCHES)
REACH 2A&2B	12'	4'	6'	SEE ST-01 FOR ARM LENGTH, VARIES BY STRUCTURE	12"

* ADDITIONAL LOG LENGTH MAY BE REQUIRED FOR PROPER LOG JOINTS

1 DE-02 **LOG CROSS VANE**
NOT TO SCALE

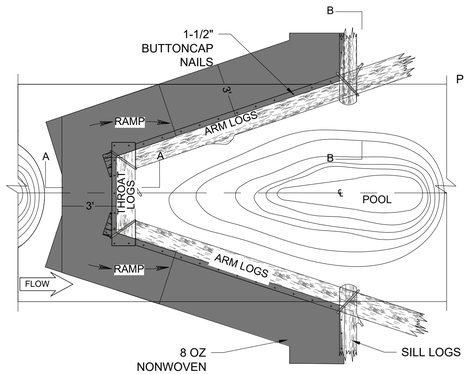




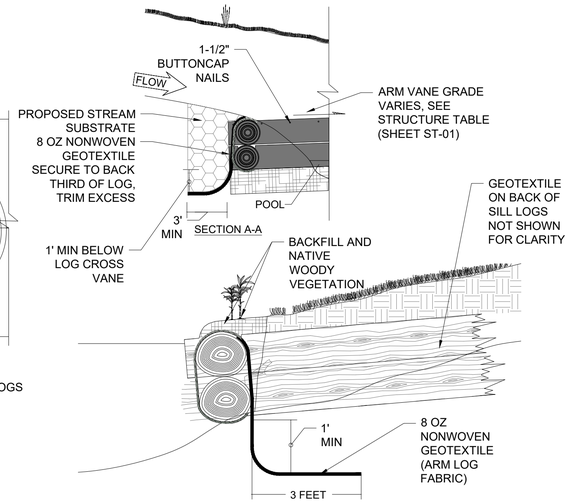


NOTES
1. CONTRACTOR SHALL VERIFY UTILITIES HAVE BEEN MARKED.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR COST OF ANY DAMAGES TO UTILITIES CAUSED BY THE CONSTRUCTION, AND WILL BE REQUIRED TO PERFORM REPAIRS AT THE COUNTY'S REQUEST.
3. STREAM SUBSTRATE SHALL BE USED AS FILL MATERIAL TO RAISE THE EXISTING GRADE TO THE ELEVATION SPECIFIED IN PROFILE SHEETS.
4. CLASS II RIPRAP AND STREAM SUBSTRATE MIX SHALL BE PLACED TO THE SPRINGLINE OF THE CROSSING PIPE.
5. CONCRETE ENCASEMENT SHALL EXTEND A MINIMUM OF 5 FEET BEYOND THE TOP OF BANK ON THE LEFT AND RIGHT. THE CONCRETE ENCASEMENT SHALL START AND END WITHIN 1 FOOT OF THE NEAREST PIPE JOINT.
6. CONCRETE USED FOR THE ENCASEMENT SHALL BE 2500 P.S.I. OR GREATER.

2 DE-02 **ARMOURED UTILITY PROTECTION - WITH PIPE ENCASEMENT**
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

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 # 59914

GRA-004622-2025

Revisions

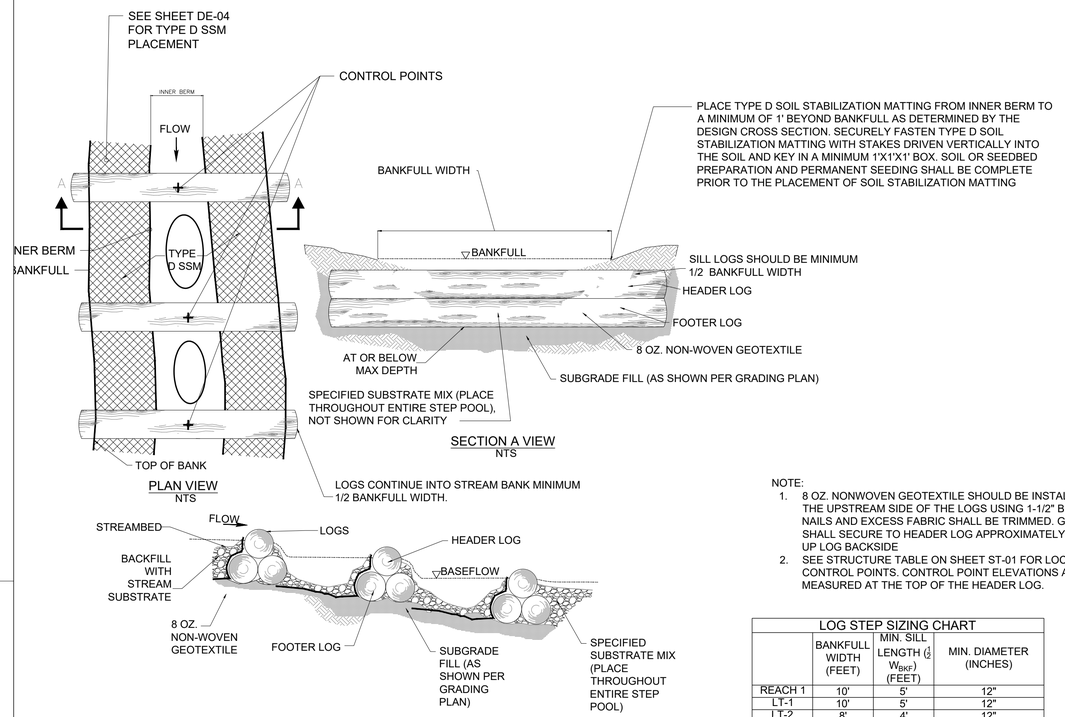
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM RESTORATION DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. DE-02 of DE-06

Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 38 of 65

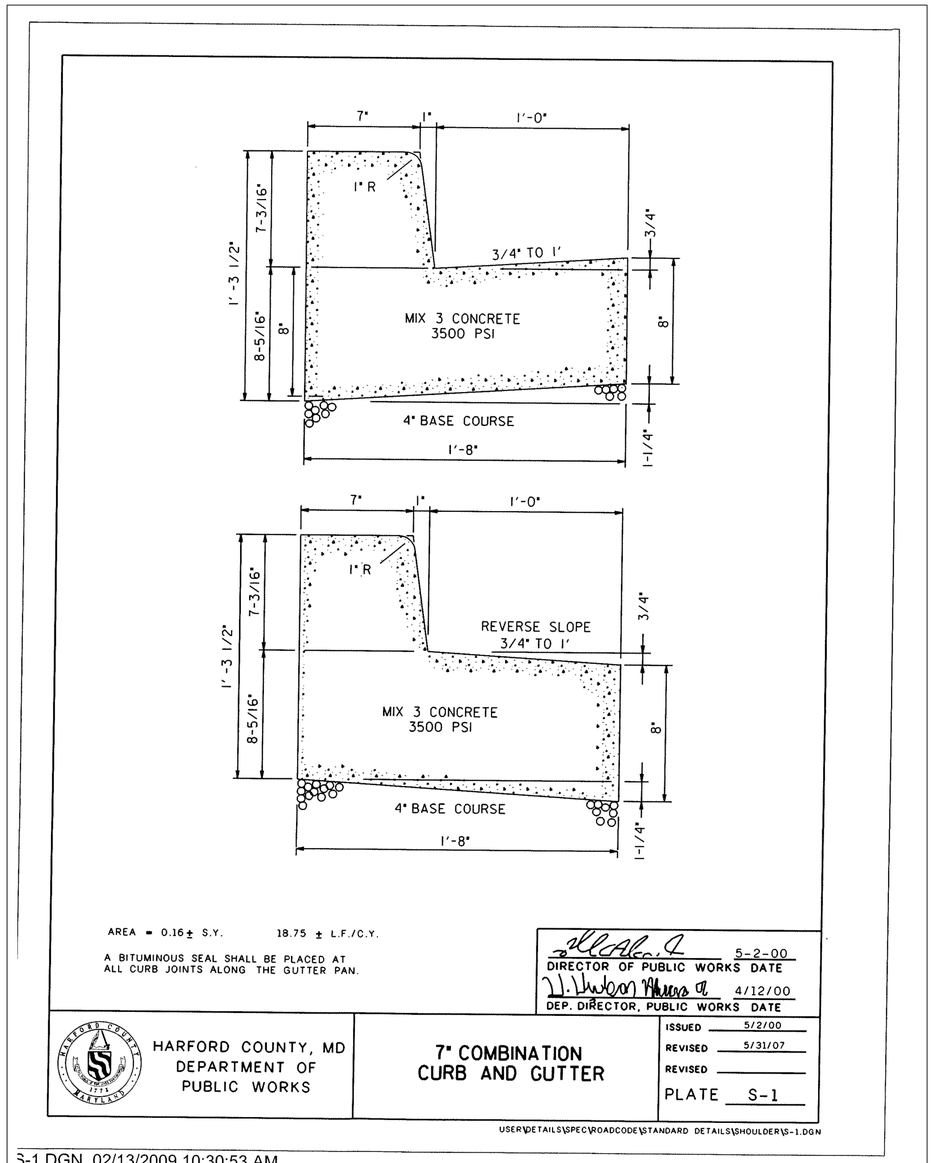
BID No.:
HCG DWG ID No.:
SCALE 1 inch



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.

LOG STEP SIZING CHART			
	BANKFULL WIDTH (FEET)	MIN. SILL LENGTH ($\frac{1}{2}$ W_{BKF}) (FEET)	MIN. DIAMETER (INCHES)
REACH 1	10'	5'	12"
LT-1	10'	5'	12"
LT-2	8'	4'	12"

1 / DE-03 LOG STEP POOL
NOT TO SCALE



2 / DE-03 7" COMBINATION CURB AND GUTTER
NOT TO SCALE

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

Revisions

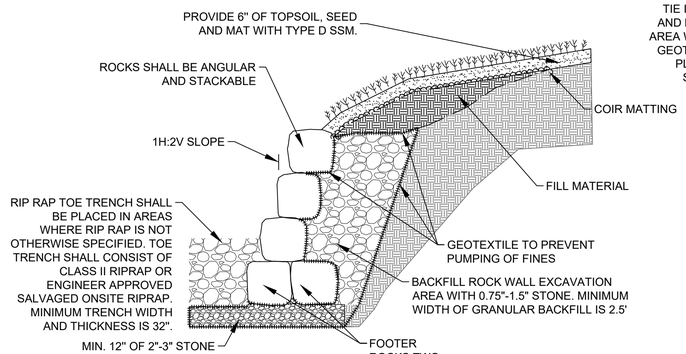
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM RESTORATION DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. DE-03 of DE-06

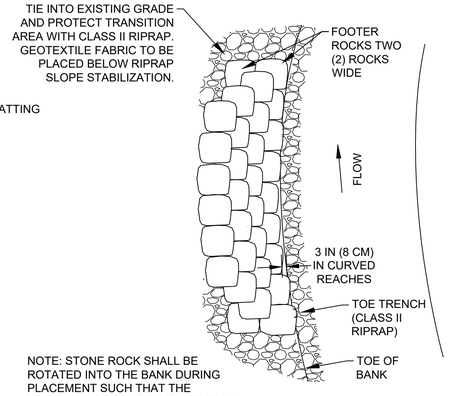
Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 39 of 65

BID No.:
HCG DWG ID No.:



SECTION VIEW

NOT TO SCALE

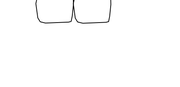


NOTE: STONE ROCK SHALL BE ROTATED INTO THE BANK DURING PLACEMENT SUCH THAT THE UPSTREAM ROCK ARE OFFSET FROM THE DOWNSTREAM ROCK BY A MINIMUM OF 3 INCHES

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



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

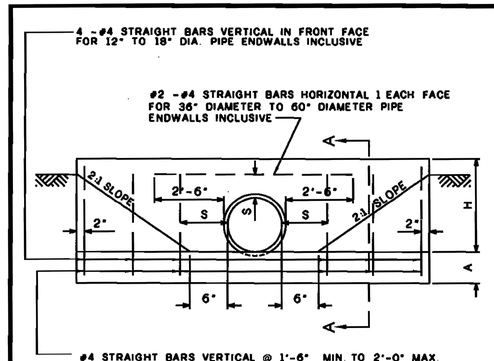
Imbricated Wall Geometry									
Reach	Centerline Station Start	Centerline Station End	Start Offset (FT)	End Offset (FT)	Top Elevation (FT)	Stream Channel Lowest Elevation (FT)	Footer Bottom Elevation (FT)	Total Height (FT)	Total Length (FT)
Reach 1	0+02.2	0+10.2	4	7.3	107.02	102.02	100.02	7	9.5
RT-1	0+5.53	0+13	1.7	4	107.2	103.2	101.2	6	9.5

NOTES:

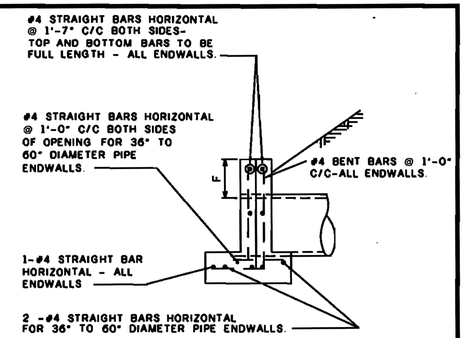
1. ALL EXCAVATION SHOULD BE MADE IN REASONABLY CLOSE CONFORMITY WITH THE EXISTING STREAM SLOPE AND BED. THE SLOPE OF THE CUT FACE SHOULD BE IN THE RANGE OF 1H:6V TO 2H:6V.
2. COIR MATTING IS TO BE KEYED IN A MINIMUM OF 6" AT ENDS AND STAKED PER MANUFACTURER RECOMMENDATIONS.
3. GEOTEXTILE IS TO BE PLACED 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.
9. ALL IMBRICATED ROCK SHALL HAVE 2 FLAT SIDES EXCEPT FOR THE TOP ROCK WHICH SHALL HAVE A MINIMUM OF 1 FLAT SIDE.

1 / DE-04 IMBRICATED RIP RAP WALL

NOT TO SCALE



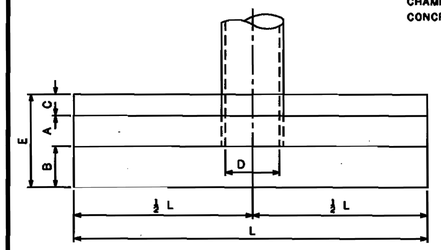
ELEVATION



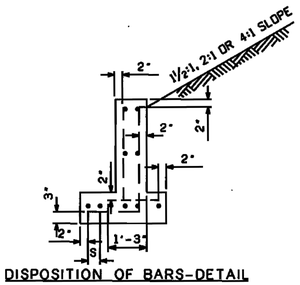
SECTION A-A

"S" DISTANCES FROM INSIDE SURFACE OF PIPE TO VERTICAL BARS IN FRONT AND REAR FACE.
4" FOR 12" DIAMETER TO 18" DIAMETER PIPES INCLUSIVE
6" FOR 24" DIAMETER TO 36" DIAMETER PIPES INCLUSIVE
8" FOR 42" DIAMETER TO 60" DIAMETER PIPES INCLUSIVE

GENERAL NOTES:
REINFORCING: DEFORMED STEEL BARS: #4 ∅ BARS
CHAMFER: ALL EXPOSED EDGES 1" x 1" OR AS DIRECTED
CONCRETE: MIX. NO. 2



PLAN



DISPOSITION OF BARS-DETAIL

QUANTITES IN TABLE TO BE USED FOR EST. ONLY

OPENINGS		DIMENSIONS							VOLUME	STEEL
D INCHES	AREA SQ.FT.	A	B	C	E	F	H	L	CONC. C.Y.	LBS.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-6"	0.61	38
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-9"	0.78	55
18	1.78	9"	6"	6"	1'-9"	9"	2'-3"	9'-0"	0.95	62
24	3.14	9"	14"	6"	2'-5	9"	2'-9"	11'6"	1.56	91
30	4.91	9"	14"	6"	2'-5	12"	3'-6"	14'-2"	2.19	136
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.18	222
42	9.62	12"	16"	10"	3'-2"	12"	4'-6"	19'-2"	5.13	265
48	12.57	12"	16"	10"	3'-2"	12"	5'-0"	21'-2"	6.12	326
54	15.90	12"	20"	12"	3'-8"	12"	5'-6"	24'2"	7.68	384
60	19.64	12"	20"	12"	3'-8"	12"	6'-0"	26'-8"	8.86	428

DIRECTOR OF PUBLIC WORKS — DATE 05.02.00

DEP. DIRECTOR, PUBLIC WORKS — DATE 04.12.00

HARFORD COUNTY, MD
DEPARTMENT OF PUBLIC WORKS

STANDARD TYPE 'C' ENDWALL ROUND PIPE

ISSUED 05.02.00
REVISED
REVISED
PLATE D-11

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 # 59914

GRA-004622-2025

Revisions

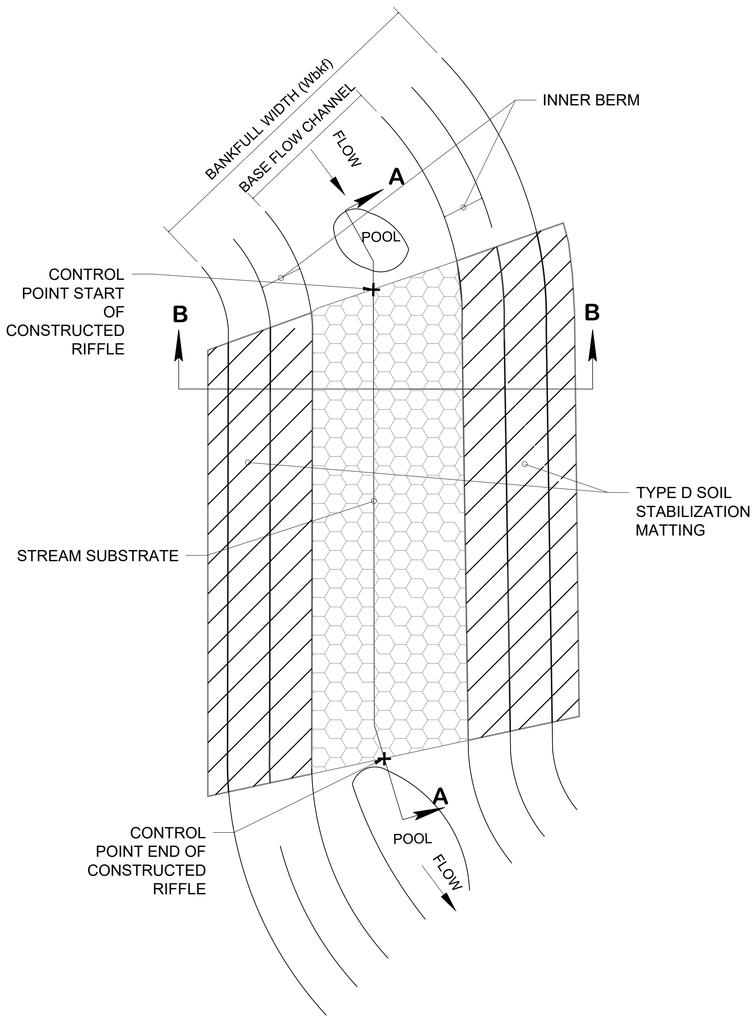
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
STREAM RESTORATION DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. DE-04 of DE-06

Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 40 of 65

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



PLAN VIEW

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
REACH 3	11.7	10%	50%	40%	2.0
TRIBUTARIES (RT1, LT1, LT2)	8.5	25%	75%	0%	2.0

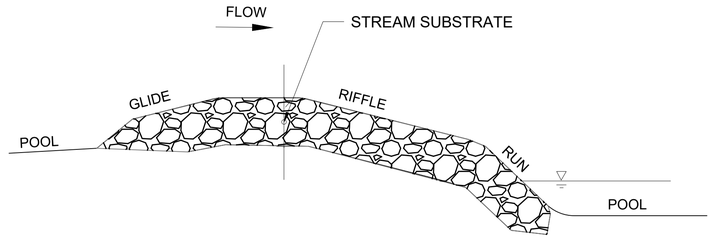
STREAM SUBSTRATE NOTES

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.

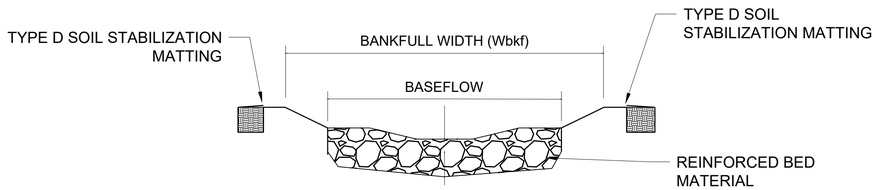
THE STREAM SUBSTRATE MUST MEET THE MATERIAL SPECIFICATIONS PROVIDED IN THE TABLE.

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.



SECTION A-A



SECTION B-B

1 / DE-04 CONSTRUCTED RIFFLE

NOT TO SCALE

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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 : SEPTEMBER 2025

Drawing No. DE-05 of DE-06

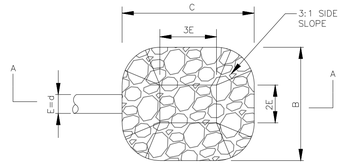
Sheet No. 41 of 65

BID No.:

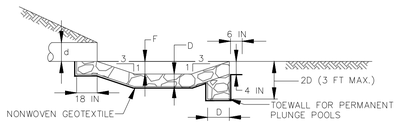
HCG DWG ID No.:

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-4-2 STANDARDS AND SPECIFICATIONS

FOR

PLUNGE POOL

Definition

An excavated depression lined with riprap and placed at the outfall of a culvert.

Purpose

To dissipate the energy of a discharge and prevent scour at a pipe outfall.

Conditions Where Practice Applies

Where discharge velocity and energy at a pipe outlet is sufficient to erode the downstream channel reach. This applies to outlets of all types such as road culverts, sediment basins, and stormwater management facilities. Plunge pools are an alternative to rock outlet protection and are preferable in locations where space constraints exist. A plunge pool may be temporary or permanent, based on design.

Design Criteria

1. Select type of plunge pool (larger stone required for Type 1):

   Type I: Plunge pool is depressed ½ the size of the culvert rise.
   Type II: Plunge pool is depressed the full height of the culvert rise.

2. Determine the riprap (d_{50}) stone size for the plunge pool type and design storm flow.

   Type I: $d_{50} = (0.0125d^2/Tw) \times (Q/d^{2.5})^{4/3}$
   Type II: $d_{50} = (0.0082d^2/Tw) \times (Q/d^{2.5})^{4/3}$

3. Determine plunge pool dimensions.

   C = (3 x d) + (6 x F)
   B = (2 x d) + (6 x F)

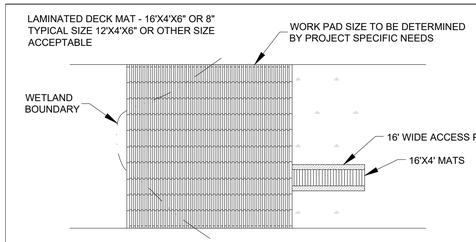
   Where: d_{50} = the median stone size in feet (refer to Table H.2: Stone Size)
   d = the culvert diameter or span in feet
   Tw = the tailwater depth in feet
   Q = the design flow for the culvert, minimum 10-year, 24-hour storm, in cfs
   B = the plunge pool width in feet
   C = the plunge pool length in feet
   D = 2 x d_{50} = riprap thickness in feet
   E = the culvert diameter or span in feet equal to d
   3E = the plunge pool bottom length in feet
   2E = the plunge pool bottom width in feet
   F = plunge pool depth in feet = d (for Type II) or 0.5 d (for Type I)

4. For permanent uses, provide a toewall at the downstream end at a depth twice the (D) dimension and at a width equal to the (D) dimension, on nonwoven geotextile. Extend the rip-rap a minimum of 18 inches under the outlet pipe if the outlet does not have a footer or headwall.
5. Provide an underdrain to a suitable outfall if standing water in the plunge pool is an issue or as required by the appropriate approval authority.
6. Provide the design values on the plans for the following dimensions: B, C, D, E, and F.

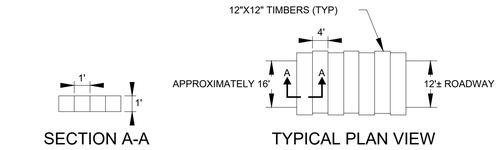
Maintenance

Maintenance needs are generally low for plunge pools. The line, grade, and cross section must be maintained, and the outlet must be kept free of erosion. After high flows inspect for scour and dislodged riprap. Repairs must be made immediately. Accumulated sediment and debris must be removed.

1 / DE-06 — PLUNGE POOL — NOT TO SCALE



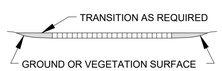
TYPICAL MAT LAYOUT



SECTION A-A — TYPICAL PLAN VIEW

TYPICAL MAT SECTION

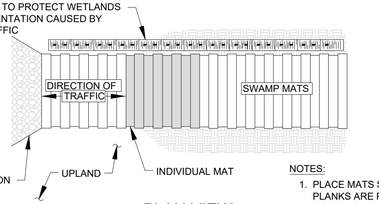
BOLTED TOGETHER



TYPICAL SECTION VIEW

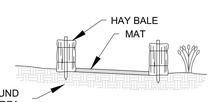
NOTES:
1. TO BE INSTALLED IF NECESSARY TO PREVENT RUTTING, TO ACCESS STRUCTURES.
2. THIS DETAIL SHOWS TYPICAL DIMENSIONS. SOME CONTRACTORS SWAMP MATS ARE DIMENSIONALLY DIFFERENT FROM WHAT IS SHOWN HERE.
3. DEPENDENT ON SITE CONDITIONS, MULTIPLE LAYERS OF MATS MAY BE INSTALLED.

IN AREAS ADJACENT TO WETLANDS, HAY BALES MAY BE PLACED ALONG EDGE OF SWAMP MATS TO PROTECT WETLANDS FROM SEDIMENTATION CAUSED BY VEHICLE TRAFFIC



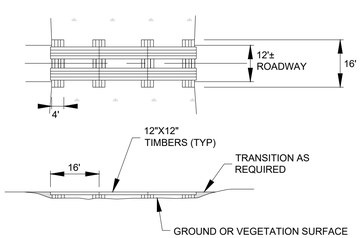
PLAN VIEW

NOTES:
1. PLACE MATS SO PLANKS ARE PERPENDICULAR TO DIRECTION OF TRAFFIC.
2. REMOVE SEDIMENT DEPOSITS ALONG EDGES OF MATS ON A REGULAR BASIS



ELEVATION VIEW

TYPICAL MAT USE



TYPICAL STREAM CROSSING WITH MATS

2 / DE-06 — LAMINATED DECK MAT — NOT TO SCALE

S/C PLAN # 59914

GRA–004622–2025

SIGN AND SEAL

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Revisions

HARFORD COUNTY, MARYLAND

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STREAM RESTORATION
STREAM RESTORATION DETAILS

Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. DE–06 of DE–06

Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 42 of 65

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

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. DUE TO THE ENVIRONMENTALLY SENSITIVE NATURE OF THE SITE AND EXISTING UTILITIES WITHIN THE LOD ALL TEMPORARY ACCESS ROADS SHALL UTILIZE GROUND PROTECTION MEASURES FOR THE ENTIRE LENGTH OF ROAD. MINIMUM GROUND PROTECTION MEASURES REQUIRED FOR LOW SLOPED AREAS INCLUDE LAMINATED DECK MATS. THE CONTRACTOR MAY COVER MATS WITH A THIN LAYER OF MULCH TO PROTECT MATS AND REDUCE THE RISK OF DAMAGE. IN AREAS OF STEEP SLOPES THAT EXCEED 15% SLOPE ALONG THE PROPOSED TEMPORARY ACCESS ROAD THE GROUND PROTECTION SHOULD INCLUDE INSTALLATION OF CRUSHED AGGREGATE WITH A GEOTEXTILE UNDERLAYMENT.
9. CONSTRUCT NEW SANITARY SEWER UPGRADES PER EDGEWATER VILLAGE SANITARY SEWER REPLACEMENT PLANS.
10. CONTRACTOR SHALL SUPPLY AND MAINTAIN AN ONSITE CONCRETE WASHOUT STRUCTURE WHICH SHALL BE ON SITE AND AVAILABLE DURING ALL CONCRETE RELATED WORK ACTIVITIES.
11. PROPERLY ENCASE THE SEWER IN CONCRETE PER THE UTILITY PROTECTION DETAIL.
12. TEMPORARILY STABILIZE AREA IMPACTED BY SEWER REPLACEMENT.

BEGIN PHASE 2

13. PHASE 2 WORK CAN BEGIN IN CONJUNCTION WITH PHASE 1
14. 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.
15. THE CONTRACTOR SHALL CONSTRUCT THE STREAM IN MAXIMUM 150-FOOT DAILY WORK ZONES, THAT CAN BE COMPLETED IN ONE DAY, TO MINIMIZE THE POTENTIAL OF UNNECESSARY OPEN AND UNSTABLE GROUND AT ANY POINT DURING CONSTRUCTION.
16. 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.
17. INSTALL DEWATERING PUMP AROUND PRACTICE FOR THE DAILY WORK ZONE AS SHOWN IN THE EROSION & SEDIMENT CONTROL PLANS.
18. 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.
19. 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.
20. THE CONTRACTOR SHALL BEGIN ALL INSTREAM STREAM RESTORATION WORK STARTING UPSTREAM AND PROCEED DOWNSTREAM, UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE PROJECT ENGINEER.
21. 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.
22. 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.
23. 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.
24. 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.
25. 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.
26. STREAM GRADING AND STRUCTURE CONSTRUCTION SHALL PROCEED AS FOLLOWS:
    - I. MAINSTEM STA 0+00 - 0+32
    - II. RT-1 STA 500+00-500+31
    - III. MAINSTEM STA 0+32-2+31
    - IV. INSTALL ARMORED UTILITY PROTECTION WITH PIPE ENCASEMENT FROM STATION 2+31-2+50
    - V. LT-1 HEADWALL - INSTALL FORMWORK, REBAR, AND POUR CONCRETE FOR PROPOSED HEADWALL AS SHOWN ON THE PLANS
    - VI. LT-1 STA 100+00 - 100+91
    - VII. MAINSTEM STATION 2+55 - 5+84
    - IV. INSTALL ARMORED UTILITY PROTECTION WITHOUT PIPE ENCASEMENT FROM STATION 5+84-5+98
    - IW. MAINSTEM STATION 5+98- 7+46
    - IV. 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 300+00- 300+75.
    - XI. MAINSTEM STA 7+46-9+20
    - XII. CONSTRUCT PLUNGE POOL 4
    - XIJ. REACH 3 STATION 400+30- 402+13.87

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.

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
SEQUENCE OF CONSTRUCTION

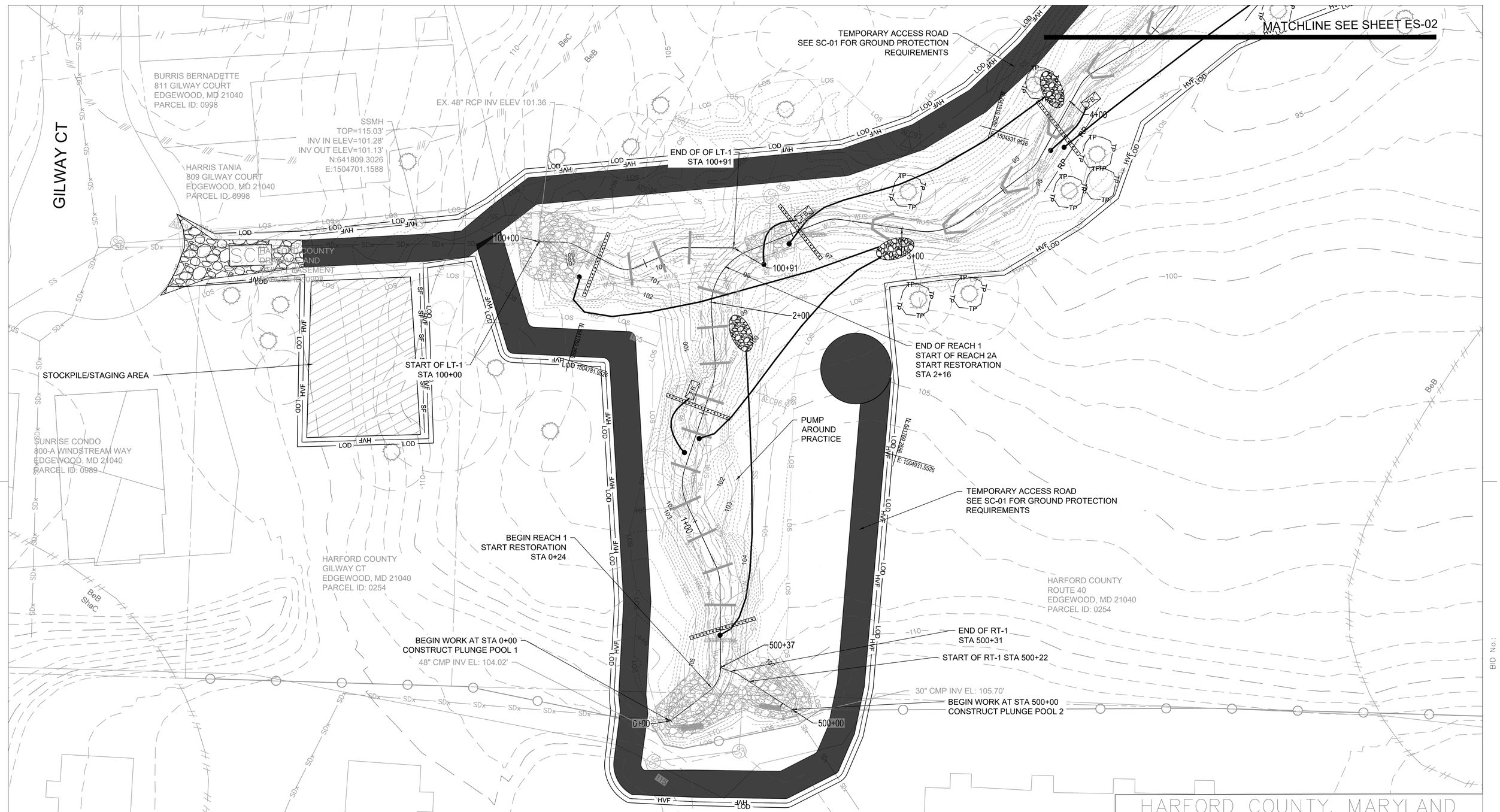
Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. SC-01 of SC-01

Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 43 of 65

BID No.:

HCG DWG ID No.:

SCALE: 1"=50'



S/C PLAN # 59914

GRA-004622-2025

Revisions

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
ESC PLAN

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. ES-01 of ES-02

Scale : 1" = 20'

Date : SEPTEMBER 2025

Sheet No. 44 of 65

BID No.:

HCG DWG ID No.:

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

TEMPORARY BRIDGE CROSSING

START RESTORATION OF LT-2
STA 299+89

END OF REACH 2A
START OF REACH 2B
STA 5+59

END OF LT-2
STA 300+75

END OF REACH 2B
END OF RESTORATION
STA 9+15

MATCHLINE SEE SHEET ES-01

TEMPORARY STAGING AREA

START REACH 3
STA 400+09

END REACH 3
STA 402+13

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

HARBINGER TRAIL

EDGEWATER DR

SCALE IN FEET 1" = 20'

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
ESC PLAN

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

Scale : 1" = 20'
Date : SEPTEMBER 2025

Drawing No. ES-02 of ES-02

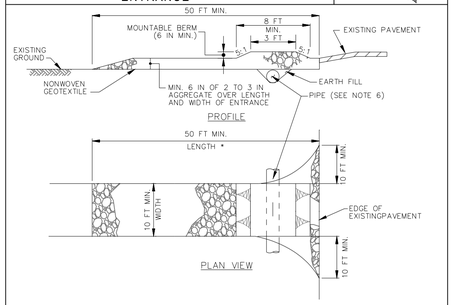
Sheet No. 45 of 65

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 (*50 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.

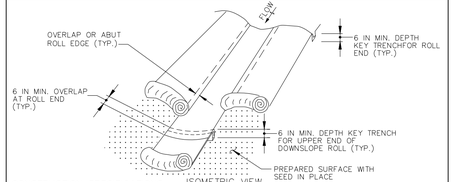
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

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.

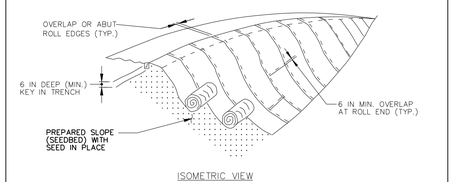
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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)



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 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 & 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.

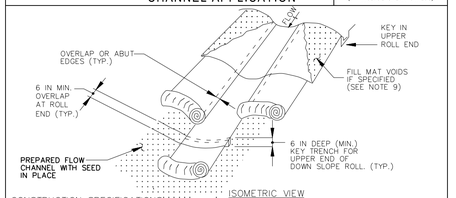
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

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, 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.

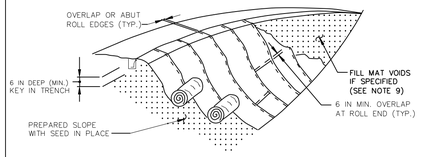
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

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)



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, 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 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.

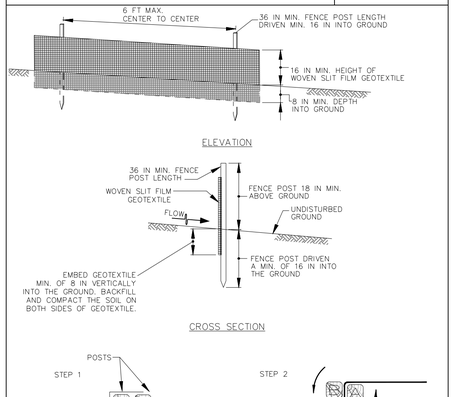
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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



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

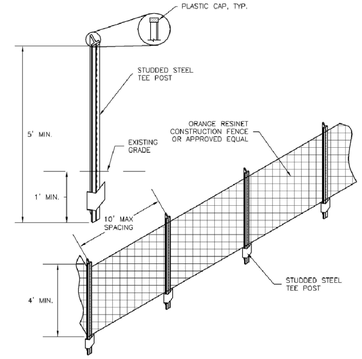
1. USE WOOD POSTS 1¾ x 1¾ ± ¾ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. 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

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



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

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
ESC DETAILS

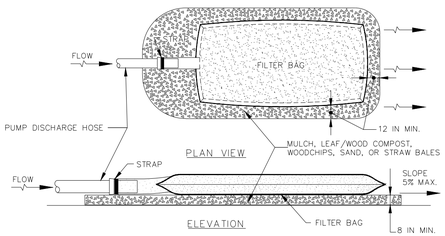
Drawn By :	CA	Scale :	AS NOTED
Designed By :	CA	Date :	SEPTEMBER 2025
Reviewed By :	BWA		
Drawing No.	ED-01 of ED-03	Sheet No.	46 of 65

BID No.:

HCG DWG ID No.:

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

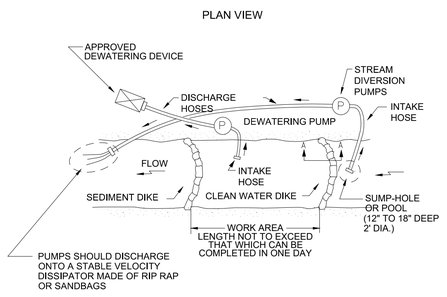
6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

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

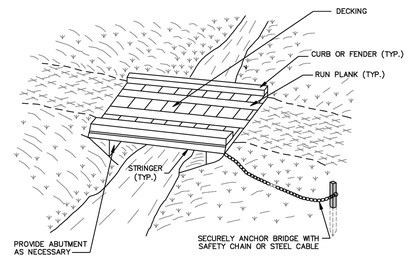


REVISED NOVEMBER 2000
PAGE 1.2 - 3

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

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL: TB



LOCATION PLAN

NOTE:
TIME OF YEAR RESTRICTIONS DO NOT APPLY TO THE CONSTRUCTION OR REMOVAL OF A TEMPORARY ACESS BRIDGE UNLESS THERE IS DISTURBANCE TO THE STREAM CHANNEL.

1 OF 2

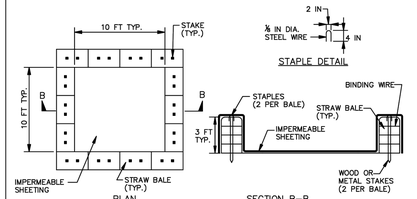
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

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

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

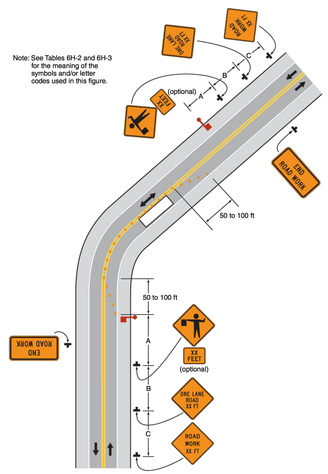
2 OF 2

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

4 ED-02 **CONCRETE WASHOUT STRUCTURE** NOT TO SCALE

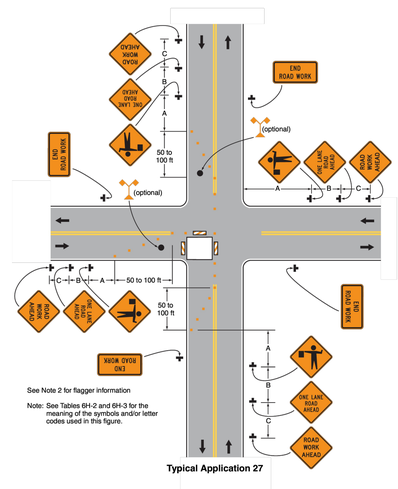
Figure 6H-10. Lane Closure on a Two-Lane Road Using Flaggers (TA-10)



Typical Application 10

5 ED-02 **LANE CLOSURE ON A TWO LANE ROAD** NOT TO SCALE

Figure 6H-27. Closure at the Side of an Intersection (TA-27)



Typical Application 27

6 ED-02 **CLOSURE AT INTERSECTION** NOT TO SCALE

Table 6H-2. Meaning of Symbols on Typical Application Diagrams

Arrow board	Shadow vehicle
Arrow board support or trailer (shown facing down)	Sign (shown facing left)
Changeable message sign or support trailer	Surveyor
Channelizing device	Temporary barrier
Crash cushion	Temporary barrier with warning light
Direction of temporary traffic detour	Traffic or pedestrian signal
Direction of traffic	Truck-mounted attenuator
Flagger	Type 3 barricade
High-level warning device (Flag tree)	Warning light
High-level warning device (flag tree) shall not be used along State owned, operated, or maintained roadways.	Work space
Longitudinal channelizing device	Work vehicle
Luminaire	
Pavement markings that should be removed for a long-term project	

Table 6H-3. Meaning of Letter Codes on Typical Application Diagrams

Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	100 feet	100 feet	100 feet
Urban (high speed)*	350 feet	350 feet	350 feet
Rural	500 feet	500 feet	500 feet
Expressway / Freeway	1,000 feet	1,500 feet	2,640 feet

* Speed category to be determined by highway agency
Along State owned, operated, and maintained roadways, urban low speed shall be defined as less than or equal to 40 mph and urban high speed shall be defined as greater than 40 mph

** The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The "first sign" is the sign in a three-sign series that is closest to the TTC zone. The "third sign" is the sign that is furthest upstream from the TTC zone.)

Table 6H-4. Formulas for Determining Taper Length

Speed (S)	Taper Length (L) in feet
40 mph or less	$L = \frac{WS^2}{60}$
45 mph or more	$L = WS$

Where: L = taper length in feet
W = width of offset in feet
S = posted speed limit, or off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

7 ED-02 **MOT TRAFFIC SYMBOLS** NOT TO SCALE

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 # 59914

GRA-004622-2025

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 : SEPTEMBER 2025
Sheet No. 47 of 65

BID No.:
HCG DWG ID No.:
SALT Tech

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 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 OF 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:
   - 6.1. THREE CALENDAR DAYS ON SLOPES GREATER THAN 3:1, ALL WATERWAYS AND TO THE SURFACE OF ALL PERIMETER CONTROLS,
   - 6.2. 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 SPECIFICATION AS SHOWN ON THE PLAN. IF THE BASIN IS TO BE USED AT 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 CHANGED OR MODIFICATIONS WILL BE MADE WITHOUT WRITTEN AUTHORIZATION OF THE HARFORD COUNTY 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 OPERATION. 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 STANDARD 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 AN ESSENTIAL PART 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 AND EROSION 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.

PERMANENT VEGETATIVE STABILIZATION NOTES

ALL DISTURBED AREAS WHICH ARE NOT BE PAVED, SHALL BE PERMANENTLY STABILIZED AS FOLLOWS:
A. SEED BED PREPARATION: LOOSEN UPPER THREE INCH BY RAKING,DISCING, OR OTHER ACCEPTABLE MEANS AFTER SPREADING FOUR INCHES OF TOP SOIL
B. 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, AND20 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 ADDRESSING "SOD" (PAGES B.23 & B.24).

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 SUBSTITUTED, THEY MUST COMPLY WITH THE 2011 MARYLAND STANDARD AND SPECIFICATIONS, B-4-3: "SEEDING AND MULCHING' (PAGES B.15 B.17)

TEMPORARY VEGETATIVE STABILIZATION

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

A.) SEEDBED PREPARATION:
LOOSEN A MINIMUM OF THREE INCHES ALONG UPPER SOIL BY DISCING, RAKING OR OTHER ACCEPTABLE MEANS

B.) 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

C.) 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-4-4: "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).

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

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 2011 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:	118957 SF/ 2.73 ACRES
TOTAL DISTURBED AREA:	118957 SF/ 2.73 ACRES
TOTAL AREA TO BE PAVED:	0.0 SF/0.0 ACRES
AREA TO BE STABILIZED:	118957 SF/ 2.73 ACRES
TOTAL CUT*:	2191 CU YD
TOTAL FILL:	1801 CU YD
TOPSOIL:	614 CU YD
NPDES I.D. POINT	N: 641669.2051' E: 1504880.4859'

* ANY EXCESS MATERIAL SHALL BE REMOVED TO A SITE WITHIN CURRENT ENS PLAN AND PERMIT

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 # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
ESC DETAILS

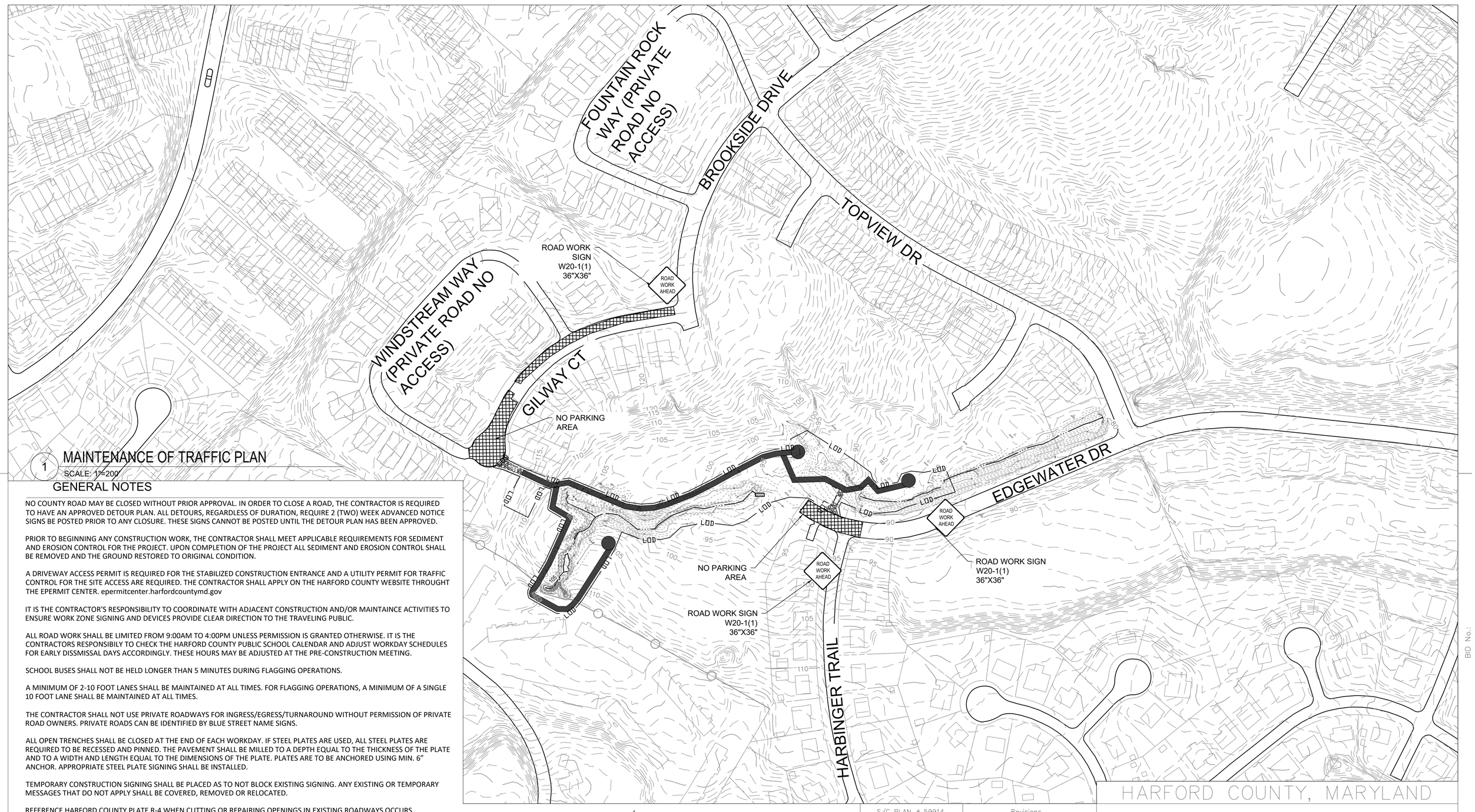
Drawn By : CA
Designed By : CA
Reviewed By : BWA
Drawing No. ED-03 of ED-03

Scale : AS NOTED
Date : SEPTEMBER 2025
Sheet No. 48 of 65

BID No.:

HCG DWG ID No.:

SCALE 1=1



1 MAINTENANCE OF TRAFFIC PLAN

SCALE: 1"=200'

GENERAL NOTES

NO COUNTY ROAD MAY BE CLOSED WITHOUT PRIOR APPROVAL. IN ORDER TO CLOSE A ROAD, THE CONTRACTOR IS REQUIRED TO HAVE AN APPROVED DETOUR PLAN. ALL DETOURS, REGARDLESS OF DURATION, REQUIRE 2 (TWO) WEEK ADVANCED NOTICE SIGNS BE POSTED PRIOR TO ANY CLOSURE. THESE SIGNS CANNOT BE POSTED UNTIL THE DETOUR PLAN HAS BEEN APPROVED.

PRIOR TO BEGINNING ANY CONSTRUCTION WORK, THE CONTRACTOR SHALL MEET APPLICABLE REQUIREMENTS FOR SEDIMENT AND EROSION CONTROL FOR THE PROJECT. UPON COMPLETION OF THE PROJECT ALL SEDIMENT AND EROSION CONTROL SHALL BE REMOVED AND THE GROUND RESTORED TO ORIGINAL CONDITION.

A DRIVEWAY ACCESS PERMIT IS REQUIRED FOR THE STABILIZED CONSTRUCTION ENTRANCE AND A UTILITY PERMIT FOR TRAFFIC CONTROL FOR THE SITE ACCESS ARE REQUIRED. THE CONTRACTOR SHALL APPLY ON THE HARFORD COUNTY WEBSITE THROUGHT THE EPERMIT CENTER. epermitcenter.harfordcountymd.gov

IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ADJACENT CONSTRUCTION AND/OR MAINTAINCE ACTIVITIES TO ENSURE WORK ZONE SIGNING AND DEVICES PROVIDE CLEAR DIRECTION TO THE TRAVELING PUBLIC.

ALL ROAD WORK SHALL BE LIMITED FROM 9:00AM TO 4:00PM UNLESS PERMISSION IS GRANTED OTHERWISE. IT IS THE CONTRACTORS RESPONSIBILY TO CHECK THE HARFORD COUNTY PUBLIC SCHOOL CALENDAR AND ADJUST WORKDAY SCHEDULES FOR EARLY DISSMISSAL DAYS ACCORDINGLY. THESE HOURS MAY BE ADJUSTED AT THE PRE-CONSTRUCTION MEETING.

SCHOOL BUSES SHALL NOT BE HELD LONGER THAN 5 MINUTES DURING FLAGGING OPERATIONS.

A MINIMUM OF 2-10 FOOT LANES SHALL BE MAINTAINED AT ALL TIMES. FOR FLAGGING OPERATIONS, A MINIMUM OF A SINGLE 10 FOOT LANE SHALL BE MAINTAINED AT ALL TIMES.

THE CONTRACTOR SHALL NOT USE PRIVATE ROADWAYS FOR INGRESS/EGRESS/TURNAROUND WITHOUT PERMISSION OF PRIVATE ROAD OWNERS. PRIVATE ROADS CAN BE IDENTIFIED BY BLUE STREET NAME SIGNS.

ALL OPEN TRENCHES SHALL BE CLOSED AT THE END OF EACH WORKDAY. IF STEEL PLATES ARE USED, ALL STEEL PLATES ARE REQUIRED TO BE RECESSED AND PINNED. THE PAVEMENT SHALL BE MILLED TO A DEPTH EQUAL TO THE THICKNESS OF THE PLATE AND TO A WIDTH AND LENGTH EQUAL TO THE DIMENSIONS OF THE PLATE. PLATES ARE TO BE ANCHORED USING MIN. 6" ANCHOR. APPROPRIATE STEEL PLATE SIGNING SHALL BE INSTALLED.

TEMPORARY CONSTRUCTION SIGNING SHALL BE PLACED AS TO NOT BLOCK EXISTING SIGNING. ANY EXISTING OR TEMPORARY MESSAGES THAT DO NOT APPLY SHALL BE COVERED, REMOVED OR RELOCATED.

REFERENCE HARFORD COUNTY PLATE R-4 WHEN CUTTING OR REPAIRING OPENINGS IN EXISTING ROADWAYS OCCURS.

ALL TEMPORARY ROAD REPAIRS REQUIRE HOT MIX ASPHALT.

EQUIPMENT AND MATERIALS SHALL NOT BE STORED/STAND WITHIN HARFORD COUNTY ROADWAY/RIGHT OF WAY AREAS OR IN OPEN AREAS CLOSER THAN 30 FEET FROM WHERE TRAFFIC IS BEING MAINTAINED. AREAS DESIGNATED AS TEMPORARY STAGING AREAS ON THE PLANS DO NOT APPLY.

IN ALL NO PARKING AREAS, CONTRACTOR TO MAINTAIN ACCESS TO PRIVATE DRIVEWAYS FOR HOMEOWNERS.

N

100 0 100 200

SCALE IN FEET 1" = 100'

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
MAINTENENCE OF TRAFFIC

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

Scale : 1" = 100'
Date : SEPTEMBER 2025

Drawing No. MT-01 of MT-01

Sheet No. 49 of 65

BID No.:

HCG DWG ID No.:

SALT Tech

MATCHLINE SEE SHEET LP-02

ZONE 2 RIPARIAN SEED MIX

ZONE 2 RIPARIAN TREE, SHRUB AND SEED MIX

ZONE 1 UPLAND TREE, SHRUB AND SEED MIX

ZONE 1 UPLAND HERBACEOUS SEED MIX

ZONE 3 STREAMBANK SEED MIX AND STREAM BANK LIVE STAKES

ZONE 4 TURFGRASS SOD

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

HARRIS TANIA
809 GILWAY COURT
EDGEWOOD, MD 21040
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

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

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

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

END OF OF LT-1
STA 100+91

START OF LT-1
STA 100+00

END OF REACH 1
START OF REACH 2A
START RESTORATION
STA 2+16

BEGIN REACH 1
START RESTORATION
STA 0+24

START OF RT-1 STA 500+22

END OF RT-1
STA 500+31

BEGIN WORK AT STA 0+00
CONSTRUCT PLUNGE POOL 1

BEGIN WORK AT STA 500+00
CONSTRUCT PLUNGE POOL 2

N

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

ZONE 1 UPLAND TREE, SHRUB AND SEED MIX + TYPE A SSM

ZONE 1 UPLAND HERBACEOUS SEED MIX + TYPE A SSM

ZONE 2 RIPARIAN TREE, SHRUB AND SEED MIX + TYPE A SSM

ZONE 2 RIPARIAN SEED MIX + TYPE A SSM

ZONE 3 STREAMBANK SEED MIX AND STREAM BANK LIVE STAKES + TYPE D SSM

ZONE 4 TURFGRASS SOD + TYPE A SSM

ZONE 1 UPLAND TREE, SHRUB AND SEED MIX + TYPE D SSM

ZONE 1 UPLAND HERBACEOUS SEED MIX + TYPE D SSM

ZONE 2 RIPARIAN TREE, SHRUB AND SEED MIX + TYPE D SSM

ZONE 2 RIPARIAN SEED MIX + TYPE D SSM

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914	Revisions
GRA-004622-2025	

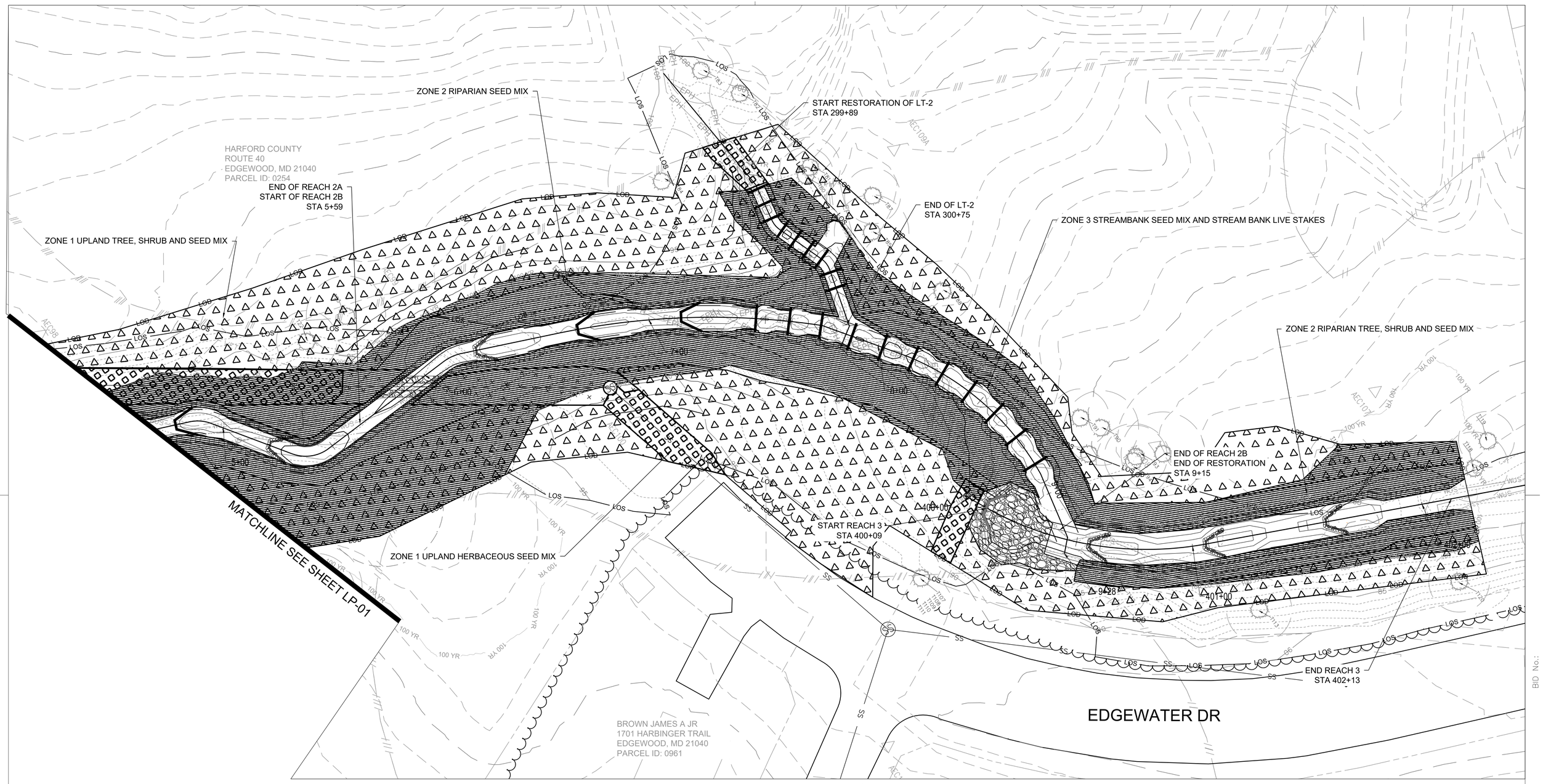
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
LANDSCAPING PLAN

Drawn By :	CA	Scale :	1" = 20'
Designed By :	CA	Date :	SEPTEMBER 2025
Reviewed By :	BWA		
Drawing No.	LP-01 of LP-02	Sheet No.	50 of 65

BID No.:

HCG DWG ID No.:



ZONE 1 UPLAND TREE, SHRUB AND SEED MIX + TYPE A SSM

ZONE 1 UPLAND HERBACEOUS SEED MIX + TYPE A SSM

ZONE 2 RIPARIAN TREE, SHRUB AND SEED MIX + TYPE A SSM

ZONE 2 RIPARIAN SEED MIX + TYPE A SSM

ZONE 3 STREAMBANK SEED MIX AND STREAM BANK LIVE STAKES + TYPE D SSM

ZONE 4 TURFGRASS SOD + TYPE A SSM

ZONE 1 UPLAND TREE, SHRUB AND SEED MIX + TYPE D SSM

ZONE 1 UPLAND HERBACEOUS SEED MIX + TYPE D SSM

ZONE 2 RIPARIAN TREE, SHRUB AND SEED MIX + TYPE D SSM

ZONE 2 RIPARIAN SEED MIX + TYPE D SSM

N

20 0 20 40

SCALE IN FEET 1" = 20'

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914	Revisions
GRA-004622-2025	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
LANDSCAPING PLAN

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. LP-02 of LP-02

Scale : 1" = 20'

Date : SEPTEMBER 2025

Sheet No. 51 of 65

BID No.:

HCG DWG ID No.:

ZONE 1: UPLAND SEED MIX - 1.79 ACRES
ERNMX-731 OR APPROVED EQUAL, 20 LBS/ACRE

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 - 1.48 ACRES

SCIENTIFIC NAME	COMMON NAME	TYPE	1" CALIPER/#7 CONTAINER	5/8" CALIPER/#5 CONTAINER	4' TALL/#2 CONTAINER
QUERCUS ALBA	WHITE OAK	SINGLE STEM TREE	0	39	0
POPULUS GRANDIDENTATA	BIG TOOTH ASPEN	SINGLE STEM TREE	28	0	0
LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	SINGLE STEM TREE	24	0	0
QUERCUS RUBRA	RED OAK	SINGLE STEM TREE	0	42	0
QUERCUS PALUSTRIS	PIN OAK	SINGLE STEM TREE	0	45	0
LIRIODENDRON TULIPIFERA	TULIP TREE	SINGLE STEM TREE	43	0	0
ACER RUBRUM	RED MAPLE	SINGLE STEM TREE	38	0	0
VIBURNUM ACERIFOLIUM	MAPLELEAF VIBURNUM	SHRUB	0	0	15
VACCINIUM PALLIDUM	LOWBUSH BLUEBERRY	SHRUB	0	0	14
		TOTAL	133	126	29

ZONE 2: RIPARIAN SEED MIX - 0.45 ACRES
ERNMX-732 OR APPROVED EQUAL, 20 LBS/ ACRE

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 2: RIPARIAN TREE AND SHRUB MIX - 0.40 ACRES

SCIENTIFIC NAME	COMMON NAME	TYPE	1" CALIPER/#7 CONTAINER	5/8" CALIPER/#5 CONTAINER	4' TALL/#2 CONTAINER
LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	SINGLE STEM TREE	12	0	0
ACER RUBRUM	RED MAPLE	SINGLE STEM TREE	11	0	0
BETULA NIGRA	RIVER BIRCH	SINGLE STEM TREE	5	0	0
PLATANUS OCCIDENTAILS	AMERICAN SYCAMORE	SINGLE STEM TREE	10	0	0
QUERCUS PHELLOS	WILLOW OAK	SINGLE STEM TREE	0	10	0
ALNUS SERRULATA	SMOOTH ALDER	MULTI STEM TREE	10	0	0
QUERCUS BICOLOR	SWAMP WHITE OAK	SINGLE STEM TREE	0	10	0
LINDERA BENZOIN	SPICEBUSH	SHRUB	0	0	8
		TOTAL	48	20	8

STREAMBANK SEED MIX - 0.12 ACRES
ERNMX-733 OR APPROVED EQUAL, 20 LBS/ACRE

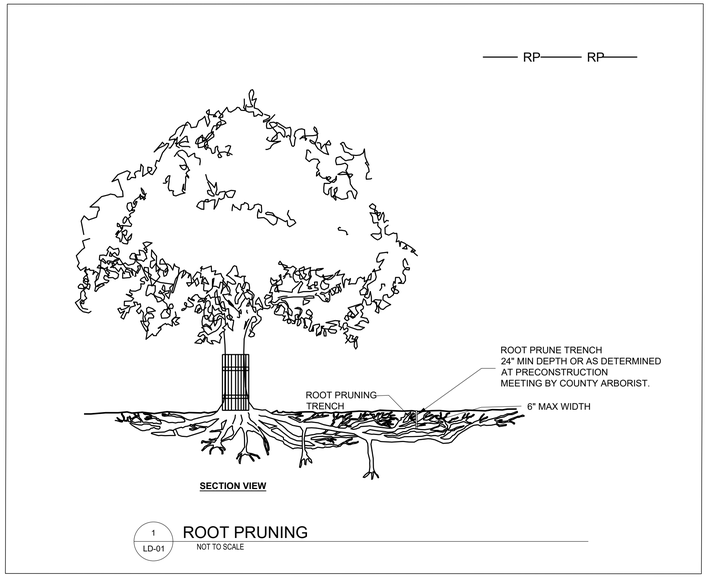
SCIENTIFIC NAME	COMMON NAME	TYPE	%TOTAL COMPOSITION
CAREX VULPINOIDEA	FOX SEDGE	HERB	25.00%
ELYMUS VIRGINICUS	VIRGINIA WILDRYE	HERB	18.00%
PANICUM RIGIDULUM	REDTOP PANICGRASS	HERB	17.00%
CAREX LURIDA	LURID SEDGE	HERB	16.70%
CAREX SCOPARIA	BLUNT BROOM SEDGE	HERB	10.00%
CAREX CRINITA	FRINGED SEDGE	HERB	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 3: STREAMBANK LIVE STAKES MIX - 0.12 ACRES

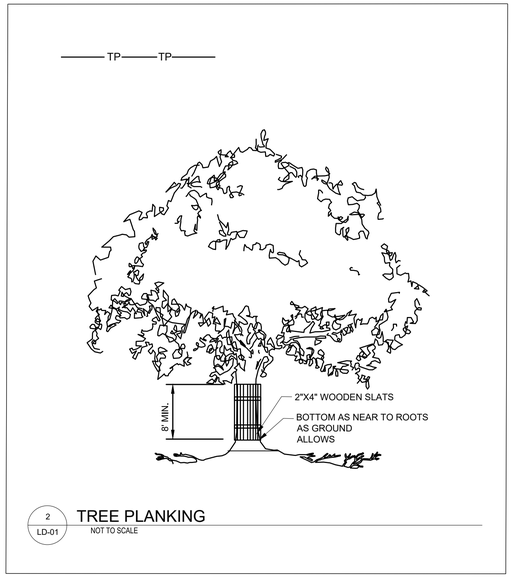
SCIENTIFIC NAME	COMMON NAME	QUANTITY
SALIX NIGRA	BLACK WILLOW	148
CORNUS AMOMUM	SILKY DOGWOOD	148
CORNUS SERICEA	RED OSIER DOGWOOD	148
SALIX SERICEA	SILKY WILLOW	147
	TOTAL	591

ZONE 4: TURF SEED

AREA	UNITS
1,581	SQUARE FEET



1 LD-01 ROOT PRUNING
NOT TO SCALE



2 LD-01 TREE PLANKING
NOT TO SCALE

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 # 59914

GRA-004622-2025

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 : SEPTEMBER 2025

Drawing No. LD-01 of LD-02

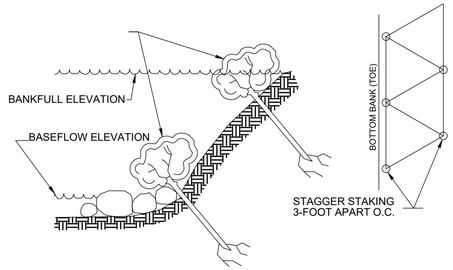
Sheet No. 52 of 65

BID No.:

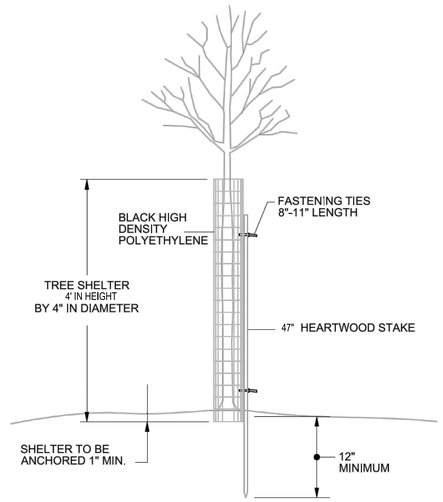
HCG DWG ID No.:

SCALE: 1"=50'

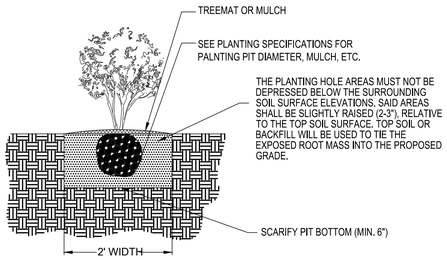
1. QUANTITIES ARE BASED ON ESTIMATED PLANTING AREA OF 2.39 ACRES. ANY ADDITIONAL DISTURBANCE REQUIRING PLANTING SHALL BE SEEDED AND PLANTED AT THE RATE SPECIFIED FOR UPLAND SEED MIX.
2. SEEDING SHALL OCCUR PRIOR TO INSTALLATION OF EROSION CONTROL COIR MATTING FABRICS AND LIVE STAKE PLANTING.
3. LIVE 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 IN OFFSETTING ROWS.
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. IF UNAVAILABLE, SUBSTITUTIONS MAY BE ALLOWED BASED ON REVIEW AND APPROVAL OF THE PROPOSED MATERIAL AND LOCAL NURSERY SUPPLY
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 4' 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 GALVANIZED, WELDED 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, NOT WITHIN A DESIGNATED AREA OF FOREST RETENTION, OUTSIDE THE LIMITS OF GRADING, AND OUTSIDE OF CONSTRUCTION ACCESS ROADS SHALL BE PROTECTED WITH TREE PLANKING OR HIGH VISIBILITY FENCE 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 TO BE SAVED.
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 THE EDGEWATER VILLAGE STREAM RESTORATION CONSTRUCTION SPECIFICATIONS REGARDING FOREST/TREE PROTECTION METHODS. INITIAL PLANTING SHALL BE SUPERVISED BY A LICENSED TREE CARE PROFESSIONAL
16. NO TREES SHALL BE PLANTED WITHIN 15 FEET OF ANY EXISTING UTILITIES ON SITE



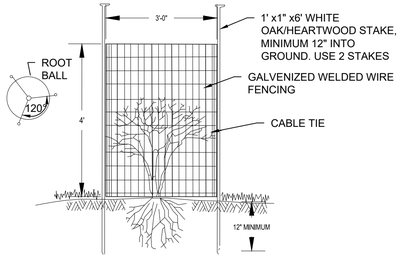
1 / LD-02 — LIVE STAKING
NOT TO SCALE



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 - MULTI-STEM TREE & SHRUB

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

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 : SEPTEMBER 2025
Sheet No. 53 of 65

BID No.:
HCG DWG ID No.:
CAD File:

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%
REACH 3	0.11	33.0%

DRAINAGE AREA BOUNDARY

SUB-DRAINAGE AREA BOUNDARY

① POINT OF INTEREST (POI)

N

140 0 140 280

SCALE IN FEET 1" = 140'

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # 59914

GRA-004622-2025

Revisions

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
STREAM RESTORATION
DRAINAGE AREA

Drawn By : CA

Designed By : CA

Reviewed By : BWA

Drawing No. DA-01 of DA-01

Scale : 1"=140'

Date : SEPTEMBER 2025

Sheet No. 54 of 65

BID No.:

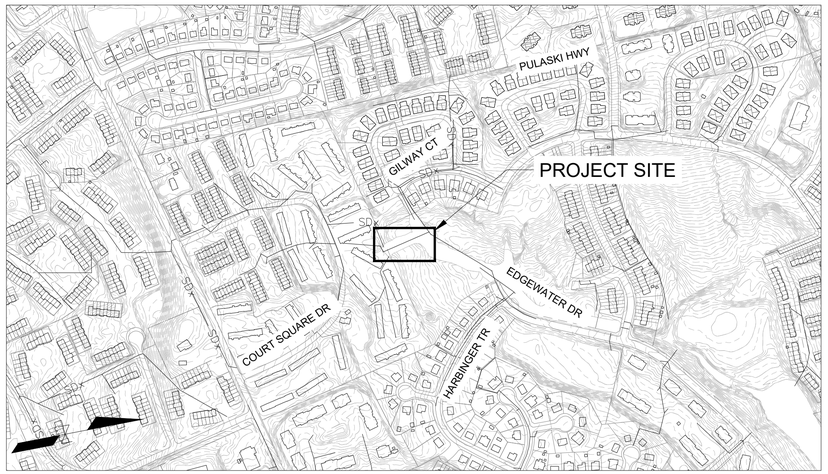
HCG DWG ID No.:

SCALE 1"=1"

EDGEWATER VILLAGE PARK SEWER REPLACEMENT

OFFICE OF PUBLIC WORKS
HARFORD COUNTY, MARYLAND
BID NO. : TBD

INDEX OF SHEETS



LOCATION MAP

SCALE 1" = 400'

400' 0 400' 800'

SCALE: 1"=400'

PROJECT SUMMARY

THE HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS, WATERSHED PROTECTION AND RESTORATION DIVISION IS PURSUING THE EDGEWATER PARK STREAM RESTORATION PROJECT. THIS SEWER REPLACEMENT PLAN WILL SUPPORT THE CONSTRUCTION OF THE EDGEWATER PARK STREAM RESTORATION PROJECT BY REPLACING AN 8" SEWER CROSSING THE PROPOSED STREAM ALIGNMENT AND MODIFYING EXISTING MANHOLES MEET COUNTY WATER AND SEWER SPECIFICATIONS.

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 WINTERS RUN-BUSH RIVER (HUC10: 0206000301) AND BUSH RIVER (HUC12: 020600030105) WATERSHEDS. AREAS LOCATED OUTSIDE THE LOD WILL NOT BE DISTURBED DURING CONSTRUCTION.

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 2022 AND THE MOST RECENT REVISIONS THEREOF AND ADDITIONS THERETO.

2. SPECIFICATIONS: CONSTRUCTION OF THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS AND DETAILS FOR WATER MAINS AND SANITARY SEWERS OF THE HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS AND WITH THE CONTRACT PLANS AND SPECIFICATIONS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY LAWS. SEE HARFORD COUNTY STANDARD SPECIFICATIONS. ALL MATERIALS USED ON THIS PROJECT SHALL BE LISTED IN THE APPROVED MATERIALS LIST AS IDENTIFIED IN THE RULES AND REGULATIONS OF THE DIVISION OF WATER AND SEWER.

3. 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.

4. STANDARD DETAILS: REFERENCE MADE TO STANDARDS ARE TAKEN FROM THE HARFORD COUNTY "STANDARD SPECIFICATIONS AND DETAILS FOR WATER MAINS & SEWER MAINS" DATED 2014, 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.

5. 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.

6. 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.

7. 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.

8. 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) IN U.S. FEET. ONLY THOSE CONTROL POINTS SHOWN ON THESE PLANS ARE TO BE USED FOR THE CONSTRUCTION OF THIS PROJECT. SOURCES FOR ELEVATION DATA INCLUDE THE FOLLOWING: SURVEY PERFORMED BY AECOM IN FEBRUARY 2023 AND MARCH 2023 AND GIS TOPOGRAPHY AVAILABLE FROM THE HARFORD COUNTY GIS DATA DOWNLOAD PORTAL.

NOT FOR CONSTRUCTION: 100% DESIGN REVIEW

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

CONTRACT NO. 2792A

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	Revisions
GP # XXXXX-XXXX	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
TITLE SHEET

Drawn By : LW	Scale : NTS
Designed By : LW	Date : SEPTEMBER 2025
Reviewed By : NK	
Drawing No. SS-01 OF SS-11	Sheet No. 55 of 65

BID No.:

HCG DWG ID No.:

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 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.

E. THE FLOW OF GRAVITY SEWERS SHOWN ON THE PLANS IS DOWNSTREAM IN THE DIRECTION OF THE STATIONS SHOWN UNLESS OTHERWISE NOTED. UNLESS OTHERWISE NOTED, STATIONS REFER TO SEWER PIPE STATIONING.

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

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

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

I. 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.

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

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

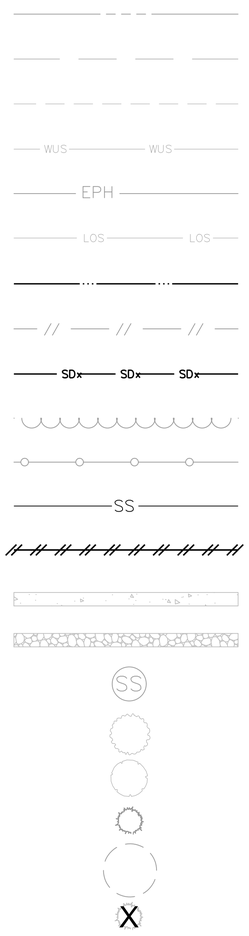
L. EXISTING UTILITIES SUCH AS WATER, SEWER, GAS, ELECTRICAL, FIBER, CABLE, ETC. MAY BE PRESENT IN THE AREA. THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED PRIOR TO CONSTRUCTION. ANY AND ALL DAMAGES RESULTING FROM THE FAILURE TO DO SO SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER. CONTACT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

M. IT IS ANTICIPATED THE SEWER REPLACEMENT AND MODIFICATIONS PRESENTED IN THIS PLAN WILL OCCUR CONCURRENTLY AND AT APPROPRIATE TIMES WITH THE EDGEWATER VILLAGE PARK STREAM RESTORATION PLAN.

N. WHERE APPLICABLE, CONTRACTOR SHALL UTILIZE THE EROSION AND SEDIMENT CONTROL PLAN AND NOTES, INCLUDING ANY NECESSARY STREAM DEWATERING PRACTICES, IN THE EDGEWATER VILLAGE STREAM RESTORATION PLAN.

LEGEND

EXISTING CONDITIONS/DEMOLITION



PROPERTY BOUNDARY

MAJOR CONTOURS

MINOR CONTOURS

WATERS OF THE US

EPHEMERAL WATER

LIMITS OF SURVEY

EXISTING STREAMLINE

SOIL BOUNDARY

STORM DRAIN

TREE LINE

FENCE

SANITARY SEWER

PIPE TO BE REMOVED

CONCRETE DEBRIS

RIPRAP

SANITARY SEWER MANHOLE

SPECIMEN TREE (30"+)

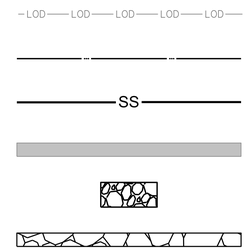
SIGNIFICANT TREE (24"-29")

TREES LESS THAN 24"

CRITICAL ROOT ZONE

TREE TO BE REMOVED

PROPOSED CONDITIONS



LIMIT OF DISTURBANCE

SEWER BYPASS FLOW

SANITARY SEWER PIPE

PIPE ENCASEMENT

PUMP PAD

RIPRAP

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: _____

CONTRACT NO. 2792A

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
SEWER REPLACEMENT

GENERAL CONSTRUCTION NOTES

Drawn By : LW
Designed By : LW
Reviewed By : NK

Scale : NTS
Date : SEPTEMBER 2025

Drawing No. SS-02 OF SS-11

Sheet No. 56 of 65

BID No.:

HCG DWG ID No.:

SEQUENCE OF CONSTRUCTION

1. THE SEWER MODIFICATION WORK DESCRIBED IN THIS PLAN SET WILL OCCUR AT APPROPRIATE TIMES DURING THE CONSTRUCTION OF THE EDGEWATER VILLAGE PARK STREAM RESTORATION.
2. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMISSIONS AND PERMITS PRIOR TO SEWER CONSTRUCTION.
3. THE CONTRACTOR SHALL NOTIFY THE COUNTY AND ITS REPRESENTATIVE A MINIMUM OF ONE (1) WEEK PRIOR TO COMMENCING ANY NEW SEWER REPLACEMENT ACTIVITIES.
4. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" PRIOR TO LAND DISTURBANCE TO DETERMINE LOCATIONS OF ALL EXISTING UTILITIES AND SERVICES WITHIN THE PROJECT LIMITS.
5. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING ACCOMMODATING PROJECT STAKEHOLDERS A MINIMUM OF ONE (1) WEEK PRIOR TO COMMENTING ANY NEW SEWER REPLACEMENT ACTIVITIES. THE CONTRACTOR SHALL BE PREPARED TO REVIEW THEIR WORKFLOW PLAN AND PROPOSED CONSTRUCTION SCHEDULE.
6. IT IS ANTICIPATED THE CONTRACTOR WILL, AS SHOWN ON AND IN ACCORDANCE WITH THE EDGEWATER VILLAGE PARK STREAM RESTORATION PLANS, MARK LIMITS OF DISTURBANCE (LOD) CLEARLY USING STAKES AND FLAGGING PRIOR TO CLEARING AND GRUBBING, INSTALLING SEDIMENT CONTROL MEASURES, CONSTRUCTION, CLEARING AND GRUBBING, OR OTHER LAND DISTURBANCE ACTIVITIES.
7. VERIFY THAT ALL REQUIRED PERMISSIONS AND PERMITS HAVE BEEN GRANTED BY THE COUNTY.
8. REMOVE THE EXISTING FRAME AND COVER FROM SSMH-01, SSMH-65151 AND SSMH-65152 AND INSTALL A WATERTIGHT FRAME AND COVER AS DESCRIBED IN HARFORD COUNTY STANDARD DETAIL SHOWN ON THE SEWER DETAILS. FLUSH EXISTING SEWER MAIN WITH CLEAN WATER PRIOR TO REMOVAL
9. ESTABLISH ACCESS TO COMMENCE REPLACEMENT OF THE 8" SANITARY SEWER PIPE FROM SEWER STATION 0+00 TO 2+45.
10. IN THE EVENT OF DAMAGE TO THE EXISTING SEWER MAIN, THE CONTRACTOR MUST:
    - 10.1. IMMEDITATELY NOTIFY HARFORD COUNTY WATER AND SEWER.
    - 10.2. HAVE APPROVED REPAIR CLAMPS ON SITE TO FIT THE OUTER DIAMETER (OD) THE ASBESTOS CEMENT (AC) PIPE.
    - 10.3. HAVE AN APPROVED SEWER BYPASS PLAN.
    - 10.4. IMPLEMENT THE SEWER BYPASS PLAN TO PREVENT SANITARY SEWER OVERFLOWS.
11. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING AND CORRECTING SANITARY SEWER OVERFLOWS INCLUDING DISINFECTION, PUBLIC NOTIFICATION, AND PAYING FINES LEVIED BY MARYLAND DEPARTMENT OF ENVIRONMENT (MDE) ONTO HARFORD COUNTY.
12. IF ANY ASBESTOS CEMENT PIPE NEEDS TO BE CUT, CUTTING SHALL BE PERFORMED FOLLOWING FEDERAL, STATE, AND LOCAL LAWS SUCH AS SPRAYING WHILE CUTTING TO PREVENT AIRBORNE ASBESTOS, BAGGING UP PIECES FOR TEMPORARY STORAGE, AND DISPOSAL AT AN APPROVED ASBESTOS WASTE FACILITY IN A NEIGHBORING STATE ALONG WITH APPROPRIATE AND TRACEABLE CHAIN-OF-CUSTODY MANIFESTS.
13. UPON VERIFICATION BY HARFORD COUNTY DEPARTMENT OF PUBLIC WORKS AND AT AN APPROPRIATE TIME DURING THE STREAM RESTORATION CONSTRUCTION, CONTRACTOR MAY PROCEED WITH INSTALLING SHUTOFF PLUGS AND BYPASS PUMPING OPERATION OF SANITARY SEWER MANHOLES AS DETAILED IN THE PLANS.
14. INSTALL PUMP PADS AND APPROPRIATE APPURTENANCES TO MAINTAIN THE BYPASS PUMPING OPERATION FOR THE DURATION OF THE SANITARY SEWER REPLACEMENT INCLUDING TIME REQUIRED FOR ALL TESTING REQUIREMENTS SPECIFIED IN HARFORD COUNTY SPECIFICATIONS.
15. WHEN THE SHUTOFF PLUGS AND BYPASS PUMPS ARE INSTALLED AND OPERATIONAL, CONTRACTOR MAY BEGIN EXCAVATING THE PIPE TRENCH TO EXPOSE THE SANITARY SEWER PIPE TO BE REPLACED. PIPE TRENCH SECTIONS MUST BE CLOSED AT THE END OF EACH WORK DAY UNLESS WRITTEN APPROVAL IS GRANTED BY THE COUNTY. THE PIPE TRENCH SHALL BE PRACTICALLY PLUMB. NO SLOPING OR CUT-BACK IS ALLOWED WITHOUT WRITTEN APPROVAL BY THE COUNTY. CONTRACTOR MUST FIELD VERIFY THE EXACT LOCATION AND LENGTH OF THE SANITARY SEWER TO BE REPLACED. FLUSH TEMPORARY BYPASS LINE WITH CLEAN WATER AND DRAIN INTO PUBLIC SEWER PRIOR TO DISASSEMBLY
16. REMOVE THE EXISTING DUCTILE IRON PIPE CONNECTING SSMH-01 AND SSMH-02. INSPECT THE EXISTING GASKETS AND VERIFY THE NEW PVC PIPE WILL FIT. INSERT THE NEW PVC PIPE INTO THE MANHOLE GASKET UP TO THE EXISTING CHANNEL. CONTRACTOR SHALL CORE DRILL THE EXISTING SANITARY SEWER MANHOLES AS NECESSARY TO INSTALL THE NEW SANITARY SEWER PIPE.
17. THE EXISTING MANHOLE CHANNEL AND BENCH SHALL BE SHAPED AS NECESSARY TO MEET THE PLAN INVERTS AND COUNTY SPECIFICATIONS.
18. UTILIZE AN A-LOK FIELD KIT OR SIMILAR TO CONNECT THE NEW PIPE TO THE EXISTING SANITARY SEWER MANHOLES.
19. INSTALL THE NEW PVC PIPE ON AN AGGREGATE BEDDING EXTENDING A MINIMUM OF 6" ABOVE THE SUBGRADE AS SHOWN IN THE DETAILS. GROUT PARGE THE CHANNELS OF SSMH-01 AND SSMH-02 TO REPAIR ANY DAMAGE.
20. INSTALL CONCRETE ENCASEMENT AS SHOWN ON THE PLAN AND PROFILE. REFER TO STREAM DETAILS FOR ADDITIONAL REQUIREMENTS. SEWER ENCASEMENT SHALL BE TEMPORARILY STABILIZED WITH CLASS 1 RIPRAP. RIPRAP SHALL BE PLACED OVERTOP THE SEWER ENCASEMENT AS SHOWN IN THE STREAM RESTORATION DESIGN PLANS AND TIE INTO THE EXISTING CHANNEL AT A 3:1 SLOPE ON ALL SIDES.
21. ONCE THE NEW PVC PIPE IS INSTALLED, PRIOR TO BACKFILLING THE CONTRACTOR SHALL COMPLETE PIPE TESTING REQUIREMENTS AS DESCRIBED IN THE HARFORD COUNTY WATER AND SEWER SPECIFICATIONS. THERE SHALL BE NO VISIBLE WATER LEAKS FROM THE CONSTRUCTED PIPE OR INSIDE ANY MANHOLE ALTERED DURING CONSTRUCTION.
22. WHEN ALL REQUIRED TESTING IS COMPLETE, THE PIPE TRENCH SHALL BE BACKFILLED ACCORDING TO HARFORD COUNTY SPECIFICATIONS. THE CONTRACTOR SHALL BACKFILL THE TRENCH IN SUCH A MANNER THAT FINAL GRADE CAN BE ESTABLISHED AT AN APPROPRIATE TIME IN ACCORDANCE WITH AND AS SHOWN ON THE EDGEWATER VILLAGE STREAM RESTORATION PLAN AND PROFILE.
23. COMPLETE INSTALLATION OF RIPRAP AT EXISTING SANITARY SEWER MANHOLE SSMH-65152 NEAR SEWER STATION 6+45 AT AN APPROPRIATE TIME DURING THE STREAM RESTORATION.
24. ONCE ALL BACKFILL AND STABILIZATION MEASURES HAVE BEEN COMPLETED THE CONTRACTOR SHALL ARRANGE FOR AND OBTAIN ANY REQUIRED FINAL SITE INSPECTIONS AND CERTIFICATIONS FOR PROJECT CLOSEOUT.

BID No.:

HCG DWG ID No.:

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

CONTRACT NO. 2792A

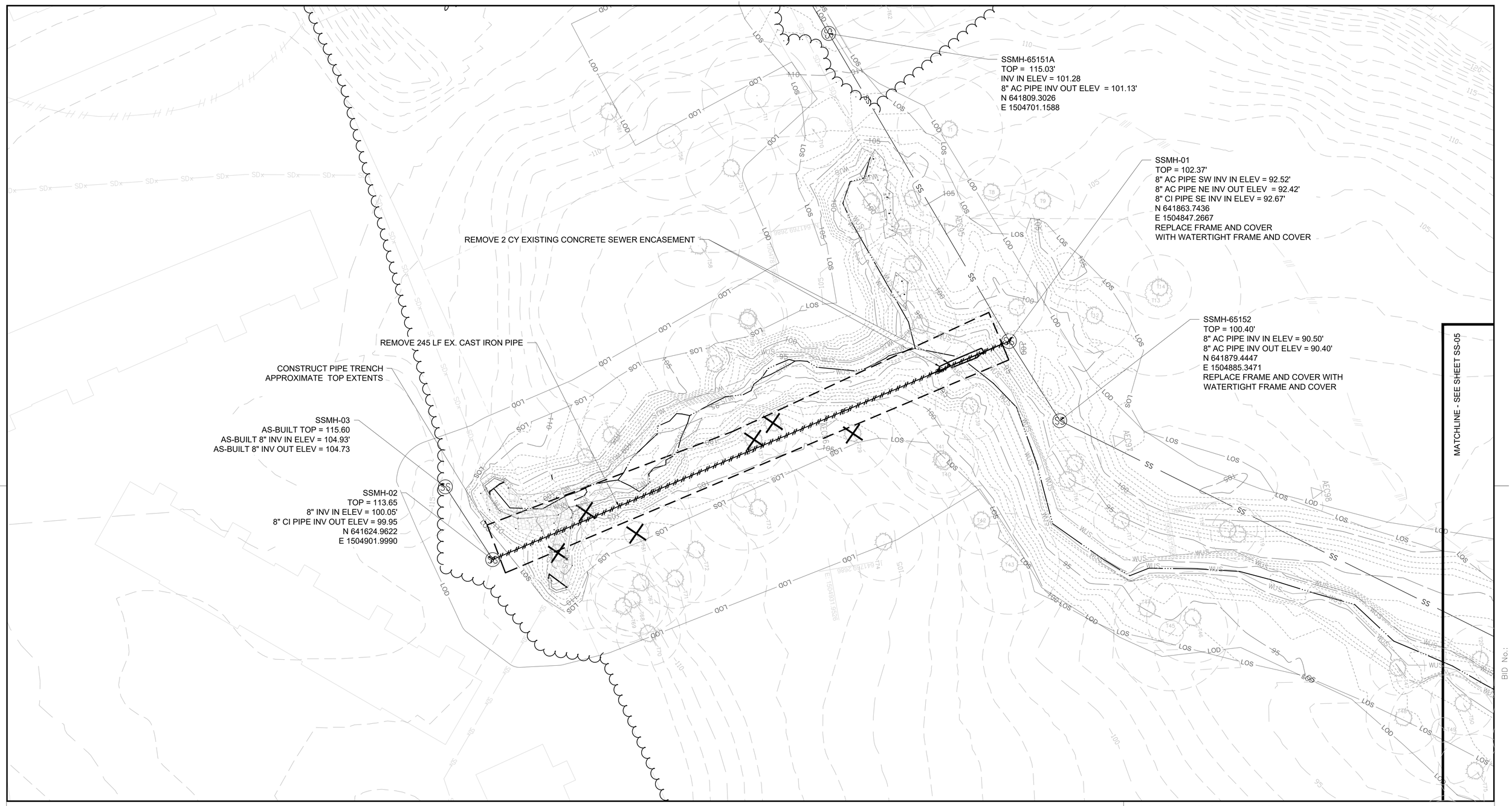
PROFESSIONAL CERTIFICATION

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
SEWER REPLACEMENT
SEQUENCE OF CONSTRUCTION

Drawn By :	LW	Scale :	NTS
Designed By :	LW	Date :	SEPTEMBER 2025
Reviewed By :	NK		
Drawing No.	SS-03 OF SS-11	Sheet No.	57 of 65



NOTES:

1. REMOVAL OF TREES IS SHOWN TO FACILITATE SEWER REPLACEMENT ONLY. CONTRACTOR SHALL COORDINATE ACTIVITIES WITH THE FOREST CONSERVATION PLAN WITHIN THE EDGEWATER VILLAGE PARK STREAM RESTORATION PLANS.
2. EXISTING GASKETS OR THE PIPE PENETRATIONS MUST REMAIN UNDAMAGED DURING CONSTRUCTION DURING REMOVAL OF DUCTILE IRON AND REPLACEMENT WITH PVC.
3. THERE ARE EXISTING PIPES IN THE PROJECT AREA THAT ARE ASBESTOS CEMENT (AC), SEE PLAN CALLOUTS. CONTRACTOR MUST TAKE APPROPRIATE MEASURES TO PREVENT DAMAGE TO ASBESTOS CEMENT PIPES. IN THE EVENT AN ASBESTOS CEMENT PIPE IS DAMAGED, THE CONTRACTOR MUST FOLLOW FEDERAL AND STATE LAWS REGARDING ASBESTOS PPE, DUST CONTAINMENT, BAGGED RUBBLE CONTAINMENT, TRANSPORTATION REGULATION INCLUDING APPROPRIATE MANIFEST, AND DISPOSAL IN CERTIFIED FACILITIES. CONTRACTOR MUST TAKE APPROPRIATE MEASURES TO PREVENT DAMAGE TO ASBESTOS CEMENT PIPES.

N

20 0 20 40

SCALE IN FEET 1" = 20'

CONTRACT NO. 2792A

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

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

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
EXISTING CONDITIONS/DEMOLITION

Drawn By :	LW	Scale :	1" = 20'
Designed By :	LW	Date :	SEPTEMBER 2025
Reviewed By :	NK		
Drawing No.	SS-04 OF SS-11	Sheet No.	58 of 65

BID No.:

HCG DWG ID No.:

MATCHLINE – SEE SHEET SS-04

SSMH-65153
TOP = 98.29'
8" AC PIPE SW INV IN ELEV = 80.34'
8" INV OUT ELEV = 80.30'
N 642167.5153
E 1505098.0555
REMOVE FRAME AND COVER
REPLACE WITH WATERTIGHT FRAME AND COVER

SSMH-65154
TOP = 91.69'
8" SW INV IN ELEV = 79.09'
8" NE INV OUT ELEV = 78.89'
8" SE INV IN ELEV = 79.89'
N 642202.6640
E 1505252.0035

NOTES:
1. REMOVAL OF TREES IS SHOWN TO FACILITATE SEWER REPLACEMENT ONLY. CONTRACTOR SHALL COORDINATE ACTIVITIES WITH THE FOREST CONSERVATION PLAN WITHIN THE EDGEWATER VILLAGE PARK STREAM RESTORATION PLANS.
2. EXISTING GASKETS OR THE PIPE PENETRATIONS MUST REMAIN UNDAMAGED DURING CONSTRUCTION DURING REMOVAL OF DUCTILE IRON AND REPLACEMENT WITH PVC.
3. THERE ARE EXISTING PIPES IN THE PROJECT AREA THAT ARE ASBESTOS CEMENT (AC), SEE PLAN CALLOUTS. CONTRACTOR MUST TAKE APPROPRIATE MEASURES TO PREVENT DAMAGE TO ASBESTOS CEMENT PIPES. IN THE EVENT AN ASBESTOS CEMENT PIPE IS DAMAGED, THE CONTRACTOR MUST FOLLOW FEDERAL AND STATE LAWS REGARDING ASBESTOS PPE, DUST CONTAINMENT, BAGGED RUBBLE CONTAINMENT, TRANSPORTATION REGULATION INCLUDING APPROPRIATE MANIFEST, AND DISPOSAL IN CERTIFIED FACILITIES. CONTRACTOR MUST TAKE APPROPRIATE MEASURES TO PREVENT DAMAGE TO ASBESTOS CEMENT PIPES.

N

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

CONTRACT NO. 2792A

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

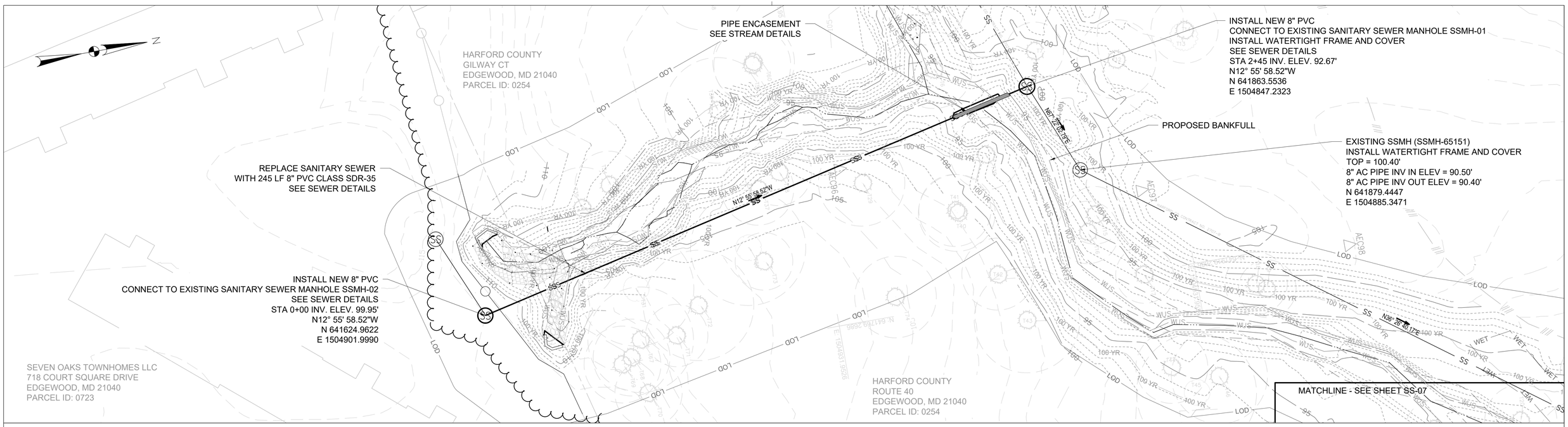
S/C PLAN # XXXXX	Revisions
GP # XXXXX-XXXX	

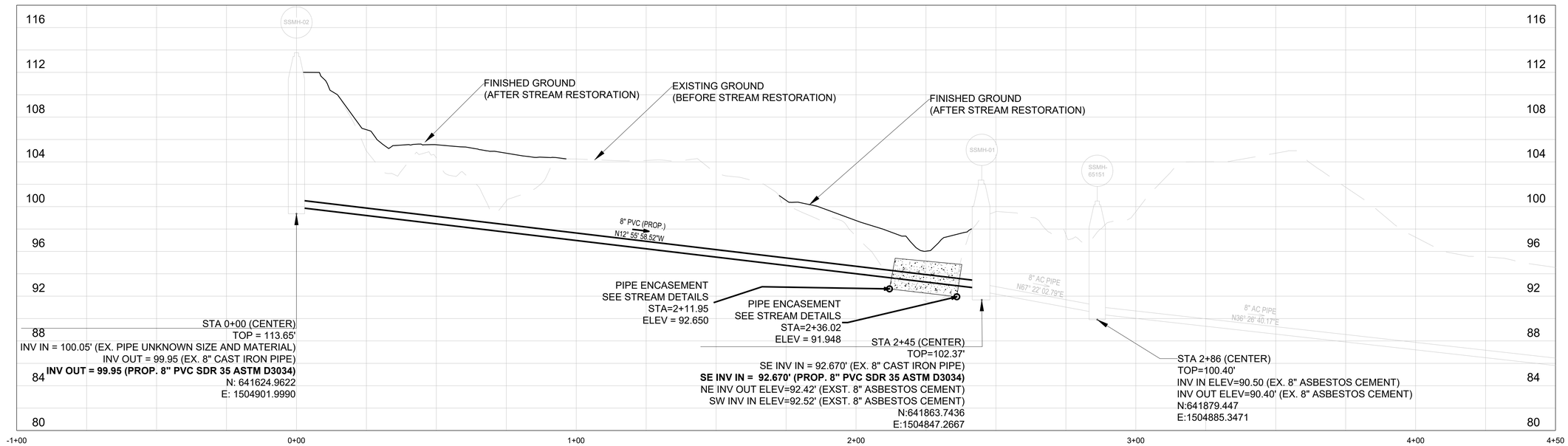
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
EXISTING CONDITIONS/DEMOLITION

Drawn By :	LW	Scale :	1" = 20'
Designed By :	LW	Date :	SEPTEMBER 2025
Reviewed By :	NK		
Drawing No.	SS-05 OF SS-11	Sheet No.	59 of 65

BID No.:
HCG DWG ID No.:
SCALE: 2nd





PROFILE VERTICAL SCALE
5 0 5 10
SCALE IN FEET 1" = 5'

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

CONTRACT NO. 2792A

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

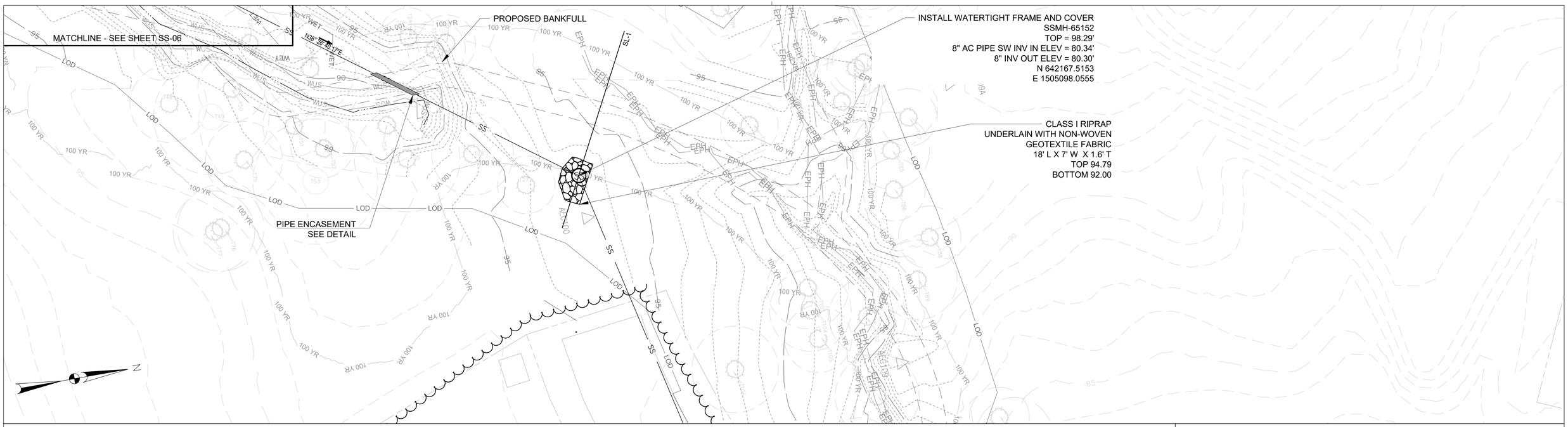
HARFORD COUNTY, MARYLAND

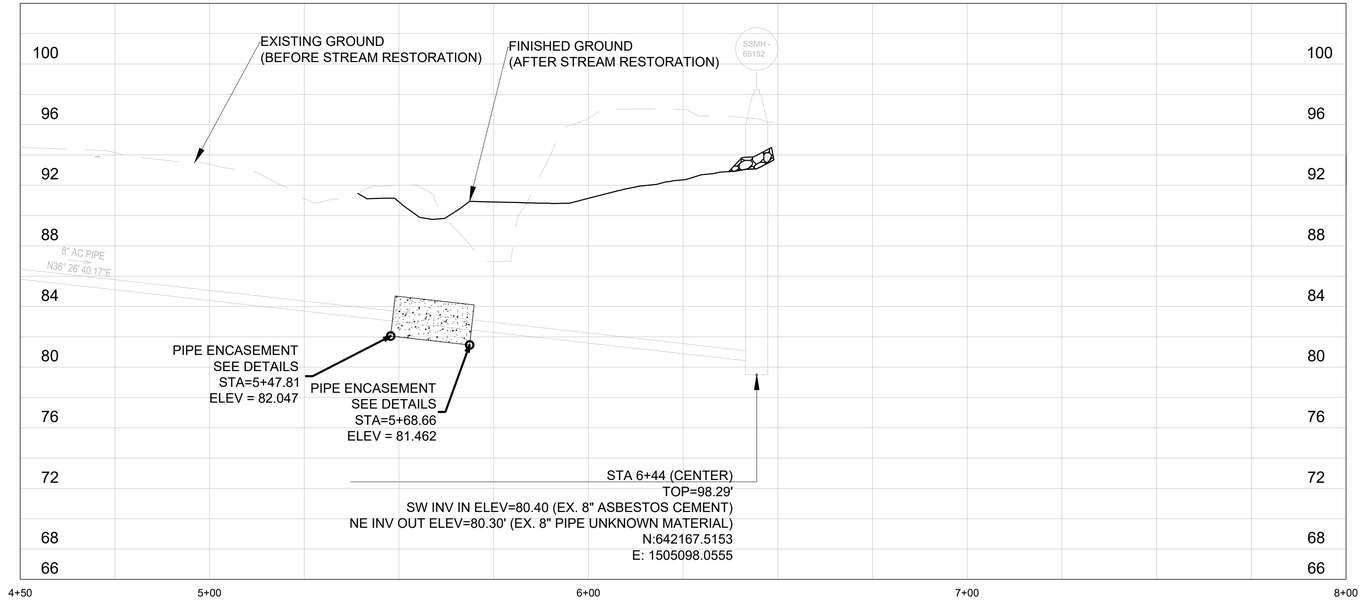
EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
SANITARY SEWER PLAN AND PROFILE

Drawn By : LW
Designed By : LW
Reviewed By : NK
Drawing No. SS-06 OF SS-11

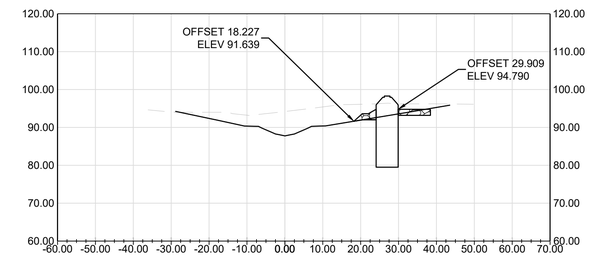
Scale : AS SHOWN
Date : SEPTEMBER 2025
Sheet No. 60 of 65

BID No.:
HCG DWG ID No.:
SCALE 1"=20'





SL-1
STREAM STATION 6+79.06



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

PROFILE VERTICAL SCALE
5 0 5 10
SCALE IN FEET 1" = 5'

HORIZONTAL SCALE (ALL VIEWS)
20 0 20
SCALE IN FEET 1" = 20'

CONTRACT NO. 2792A

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SIGN AND SEAL

S/C PLAN # XXXXX

GP # XXXXX-XXXX

Revisions

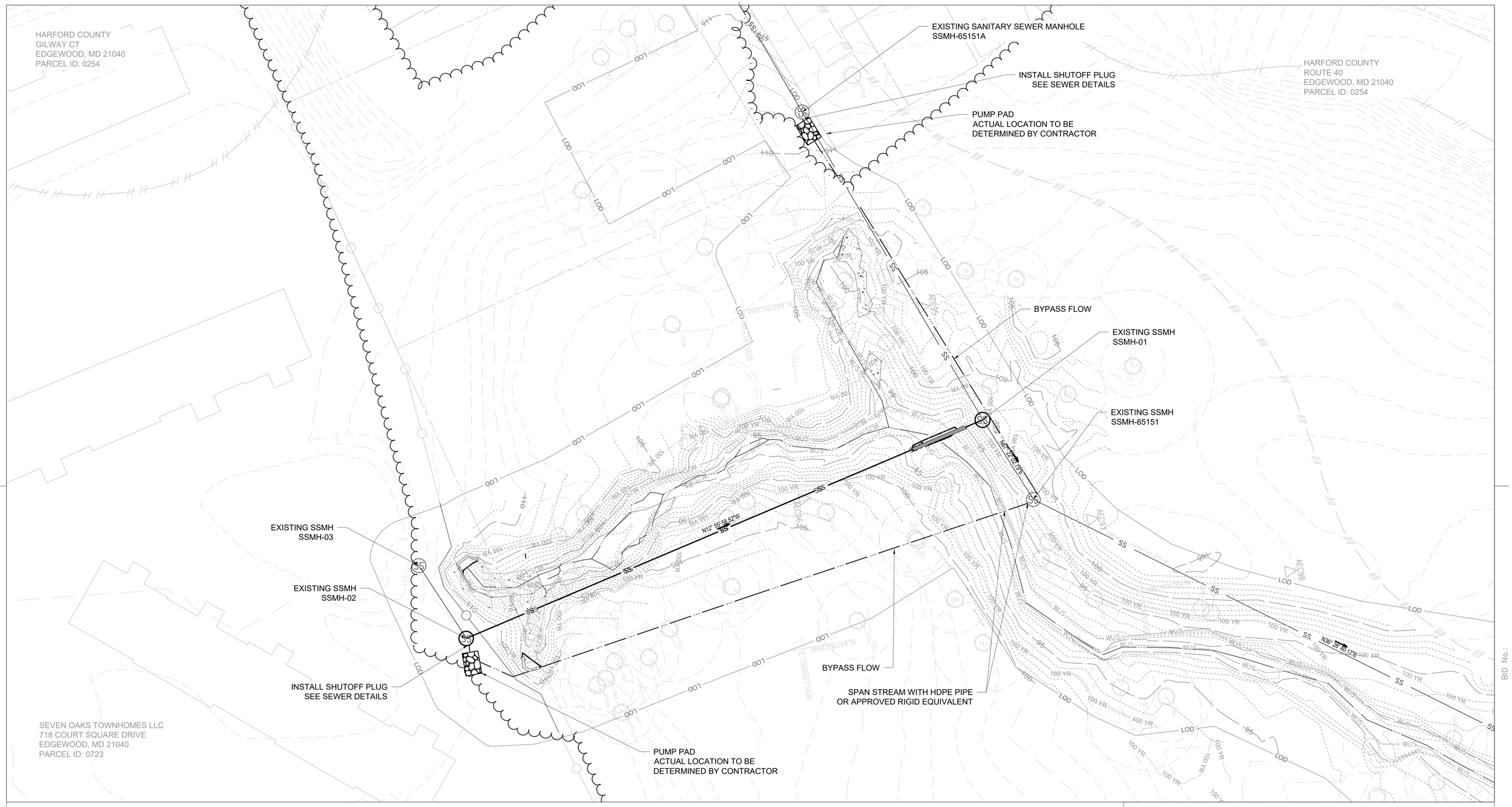
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
SANITARY SEWER PLAN AND PROFILE

Drawn By : LW
Designed By : LW
Reviewed By : NK
Drawing No. SS-07 OF SS-11

Scale : 1" = 20'
Date : SEPTEMBER 2025
Sheet No. 61 of 65

BID No.:
HCG DWG ID No.:
SCALE: 1"=20'



N

HORIZONTAL SCALE

20 0 20 40

SCALE IN FEET 1" = 20'

CONTRACT NO. 2792A

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

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

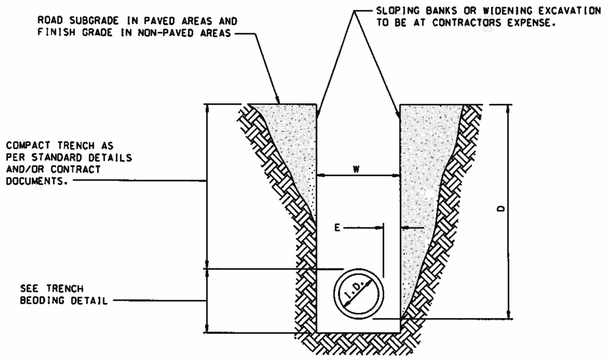
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
BYPASS PUMPING PLAN

Drawn By :	LW	Scale :	1" = 20'
Designed By :	LW	Date :	SEPTEMBER 2025
Reviewed By :	NK		
Drawing No.	SS-08 OF SS-11	Sheet No.	62 of 65

BID No.:

HCG DWG ID No.:



STANDARD TRENCH

PIPE I.D. (IN.)	W (IN.) 0' < D ≤ 5'	W (IN.) 5' < D ≤ 15'	W (IN.) 15' < D	PIPE I.D. (IN.)	W (IN.) 0' < D ≤ 5'	W (IN.) 5' < D ≤ 15'	W (IN.) 15' < D
6	36	60	66	18	40	64	70
8	36	60	66	20	42	66	72
10	36	60	66	24	46	70	76
12	36	60	66	27	56	80	86
15	37	61	67	30	59	83	89
16	38	62	68	36	66	90	96

NOTES:

1. W = PAYMENT WIDTH FOR CONTINGENT ITEMS IN NORMAL TRENCHES.
2. THE ABOVE CHART PERTAINS TO CAST IRON, DUCTILE IRON, AND PVC PIPE. FOR OTHER PIPE MATERIALS THE MAXIMUM TRENCH WIDTH (W) FOR TRENCH DEPTHS UP TO 5'- 0" WILL BE O.D. OF BELL + 2E (36" MIN.)
   - FOR 6" TO 24" PIPE, E = 9"
   - FOR 27" TO 36" PIPE, E = 12"
   - FOR 42" TO 72" PIPE, E = 15"

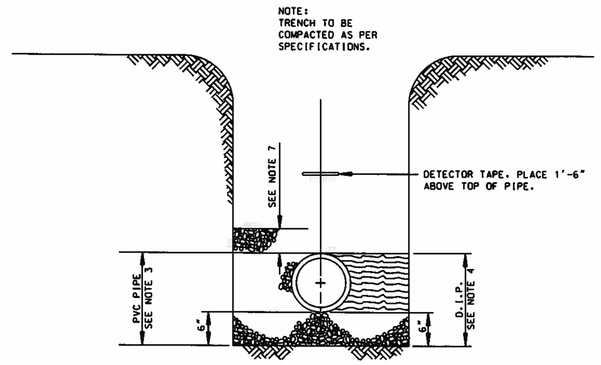
   ADD 24" TO THE ABOVE CALCULATED "W" FOR TRENCH DEPTHS GREATER THAN 5'- 0" AND LESS THAN 15'- 0". ADD 30" TO THE ABOVE CALCULATED "W" FOR TRENCH DEPTHS GREATER THAN 15'- 0".
3. TRENCHES TO BE SHEETED OR BRACED AS REQUIRED TO MEET ALL GOVERNING SAFETY CODES. ALL ASSOCIATED COST WILL BE BORNE BY THE CONTRACTOR.
4. ROADWAY PATCH/REPAIR SHALL BE MADE TO THE LIMITS NOTED IN THE HIGHWAY PERMIT. STANDARD DETAILS OR CONTRACT DOCUMENTS AS DIRECTED BY THE COUNTY. THE TRENCH WIDTHS ABOVE SHALL BE USED FOR PAVEMENT PAYMENT PURPOSES.

HARFORD COUNTY, MD
DEPARTMENT OF PUBLIC WORKS
Robert B. Cooper

STANDARD GENERAL DETAILS

TRENCH PAYMENT WIDTHS

ISSUED 7/1/98
REVISED 3/15/09
REVISED
PLATE G-8



SECTION
NO SCALE

NOTES:

1. UNLESS NOTED OTHERWISE, ALL ROAD REPAIR SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF THE HARFORD COUNTY OR MARYLAND STATE ROAD CODE.
2. ALL PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER AND COUNTY APPROVAL.
3. PVC PIPE: SHALL RECEIVE AASHTO M43, NO.57 AGGREGATE.
4. D.I. PIPE: SHALL BE INSTALLED ON 6" AASHTO M43, NO.57 AGGREGATE AND HAVE APPROVED COMPACTED BACKFILL MATERIAL CONSOLIDATED TO TOP OF PIPE.
5. SANITARY FORCE MAINS SHALL BE INSTALLED AS PER STANDARD DETAIL, W-1.
6. PROVIDE CONTINUOUS BEARING FOR FULL LENGTH OF PIPE.
7. AGGREGATE SHALL CONTINUE TO 6" ABOVE TOP OF PIPE WHEN USING P.V.C. WITH DEPTH OF COVER GREATER THAN 14'.

HARFORD COUNTY, MD
DEPARTMENT OF PUBLIC WORKS
Robert B. Cooper

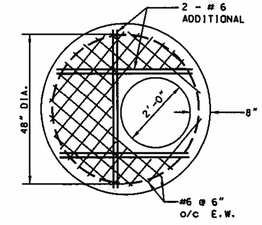
STANDARD SEWER DETAILS

PIPE BEDDING

ISSUED 7/1/98
REVISED
REISSUED 3/15/09
PLATE S-1

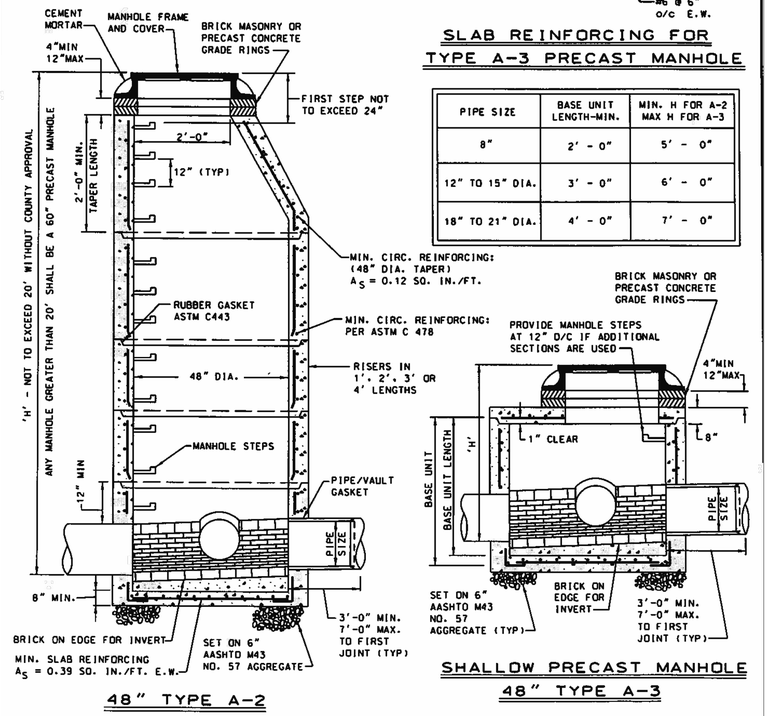
NOTES:

1. EXCEPT AS NOTED, MANHOLE TAPERS, RISERS, AND BASES SHALL BE FURNISHED IN STRICT ACCORDANCE WITH ASTM DESIGNATION C478 (LATEST) FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
2. CONCRETE FOR PRECAST CONSTRUCTION SHALL BE 4,000 PSI. MIN
3. REINFORCING FOR TYPE A-3, SAME AS TYPE A-2.
4. MANHOLE STEPS SHALL BE SPACED AS SHOWN IN A SINGLE VERTICAL ALIGNMENT. THE STEPS SHALL NOT BE STAGGERED.
5. TOP OF BENCH TO MATCH CROWN OF PIPE.
6. NO INTERIOR SURFACES SHALL RECEIVE PARGING WITHOUT COUNTY APPROVAL.
7. GRADE RINGS SHALL BE SET ON A FULL BED OF MORTAR.



SLAB REINFORCING FOR TYPE A-3 PRECAST MANHOLE

PIPE SIZE	BASE UNIT LENGTH-MIN.	MIN. H FOR A-2 MAX H FOR A-3
8"	2' - 0"	5' - 0"
12" TO 15" DIA.	3' - 0"	6' - 0"
18" TO 21" DIA.	4' - 0"	7' - 0"



HARFORD COUNTY, MD
DEPARTMENT OF PUBLIC WORKS
Robert B. Cooper

STANDARD SEWER DETAILS

48" PRECAST MANHOLE FOR 21" PIPE AND SMALLER

ISSUED 7/98
REVISED 4/17/01
REISSUED 3/15/09
PLATE S-2

1 SS-09 PIPE TRENCH
NOT TO SCALE

2 SS-09 PIPE BEDDING
NOT TO SCALE

3 SS-09 48-INCH PRECAST MANHOLE
NOT TO SCALE

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

Revisions

CONTRACT NO. 2792A

PROFESSIONAL CERTIFICATION

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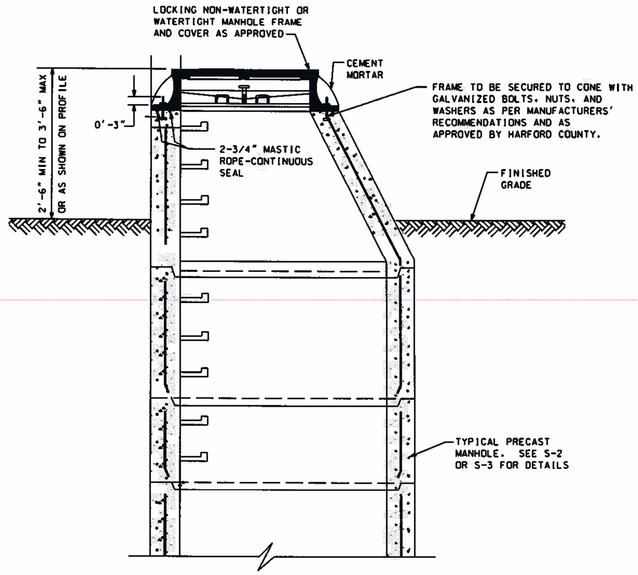
HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
SEWER DETAILS

Drawn By : LW
Designed By : LW
Reviewed By : NK
Drawing No. SS-09 OF SS-11

Scale : NTS
Date : SEPTEMBER 2025
Sheet No. 63 of 65

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

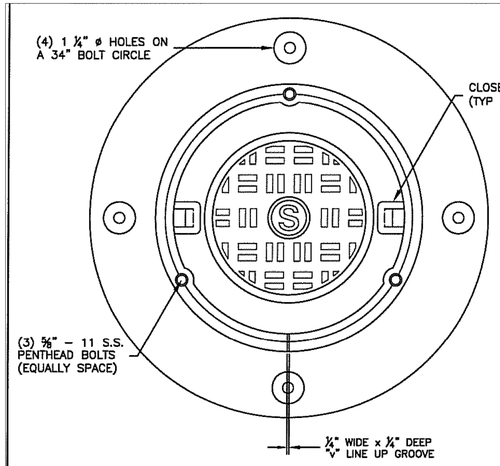


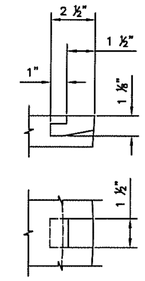
NOTES:

1. FRAME AND COVER SHALL BE PAINTED WITH A METAL PRIMER COAT FOLLOWED BY A COAT OF FLUORESCENT GREEN INDUSTRIAL ENAMEL.
2. GRADE RINGS AND BRICK BENEATH THE FRAME ARE PROHIBITED.

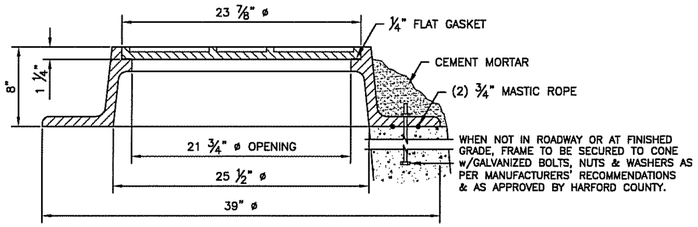
HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS Robert B. Cooper	STANDARD SEWER DETAILS MANHOLE WITHIN OFFSITE/UNIMPROVED AREA	ISSUED 7/98 REVISED 4/17/01 REVISED 5/11/06 REVISED 3/15/09 PLATE S-8

1 SS-10 MANHOLE WITHIN OFFSITE/UNIMPROVED AREA
NOT TO SCALE





CLOSED PICKHOLE DETAIL



- HEAVY DUTY
- MACHINED BEARING SURFACES (VERTICAL AND HORIZONTAL)
- MANUFACTURERS' MARKING ON FRAME AND COVER
- MAT'L: ASTM A48 CL 30B
- TOTAL WEIGHT: 420 LBS

NOTES:

1. MANHOLES LOCATED IN PAVED AREAS THAT ARE REQUIRED TO BE WATERTIGHT, SHALL UTILIZE A STANDARD FRAME AND COVER WITH A STAINLESS STEEL INSERT DISH AND RUBBER GASKET.
2. MANHOLES LOCATED IN LAWN AREAS SHALL BE CONSTRUCTED TO PROPOSED FINISH GRADE.
3. MANHOLES LOCATED IN OTHER AREAS SHALL BE A MAXIMUM OF 3'– 6" AND A MINIMUM OF 2'– 6" ABOVE EXISTING GRADE AND THE FRAME AND COVER SHALL BE PAINTED WITH A METAL PRIMER COAT (WHITE) FOLLOWED BY A COAT OF FLUORESCENT GREEN INDUSTRIAL ENAMEL.
4. MANHOLES LOCATED WITHIN THE 100 YEAR FLOODPLAIN SHALL EXTEND 3'– 0" ABOVE EXISTING GRADE.

HARFORD COUNTY, MD DEPARTMENT OF PUBLIC WORKS Louis H. Wirth, III	STANDARD SEWER DETAILS WATERTIGHT MANHOLE FRAME & COVER (FOR NON PAVED AREAS)	ISSUED 07/98 REVISED 11/10/14 PLATE S-17

2 SS-10 WATERTIGHT FRAME AND COVER
NOT TO SCALE

CONTRACT NO. 2792A

PROFESSIONAL CERTIFICATION

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SIGN AND SEAL

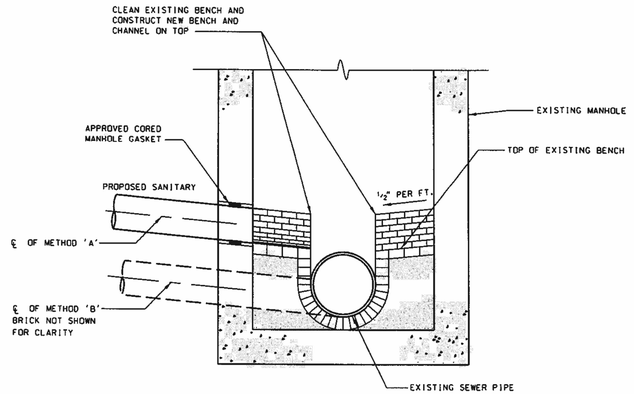
S/C PLAN # XXXXX	Revisions
GP # XXXXX–XXXX	

HARFORD COUNTY, MARYLAND

EDGEWATER VILLAGE PARK
SEWER REPLACEMENT
SEWER DETAILS

Drawn By :	LW	Scale :	NTS
Designed By :	LW	Date :	SEPTEMBER 2025
Reviewed By :	NK		
Drawing No.	SS–10 OF SS–11	Sheet No.	64 of 65

BID No.:
HCG DWG ID No.:
SCALE: 1"=50'



NOTES:

1. PRIOR TO CONNECTING TO EXISTING MANHOLE, AN INSPECTION WILL BE PERFORMED BY COUNTY PERSONNEL TO DETERMINE WHETHER THE EXISTING MANHOLE REQUIRES ANY REHABILATATION.
2. INVERT OF PROPOSED SANITARY TO BE CHANNELED AS PER STANDARD DETAILS.
3. NEW OPENING SHALL BE CORED AND SEALED.
4. METHOD 'B' IS DEFINED AS CONNECTING TO EXISTING MANHOLE BELOW EXISTING BENCH. WHEN USING METHOD 'B', THE ENTIRE BRICK CHANNEL AND BENCH SHALL BE REMOVED AND RE-CONSTRUCTED TO SUIT THE PROPOSED INCOMING SEWER. FLOW SHALL BE EITHER BYPASS PUMPED OR A FLEXIBLE SLEEVE INSTALLED DURING THE WORK. METHOD 'B' SHALL BE USED ONLY WHEN SPECIFICALLY APPROVED BY THE COUNTY.

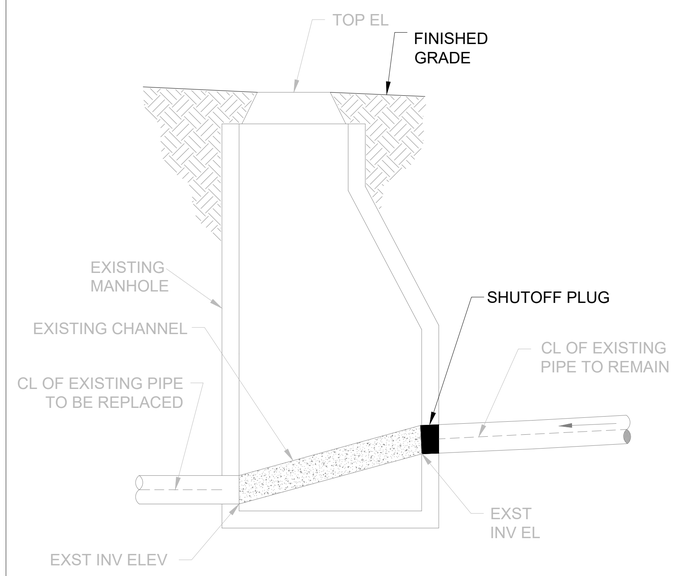
HARFORD COUNTY, MD
DEPARTMENT OF PUBLIC WORKS

STANDARD SEWER DETAILS

METHOD OF CONNECTION TO EXISTING MANHOLE

ISSUED 7/98
REVISED 11/26/03
REVISED 3/15/09
PLATE S-12

1 / SS-11 CONNECTION TO EXISTING MANHOLE
NOT TO SCALE



NOTES:
1. STAGE AND INSTALL BYPASS PUMPS AS INDICATED ON PLANS PRIOR TO INSTALLING TEMPORARY SHUTOFF PLUG.
2. FLOW SHALL BE BYPASS PUMPED DURING THE SANITARY SEWER REPLACEMENT WORK.

2 / SS-11 SEWER BYPASS PLUG
NOT TO SCALE

CONTRACT NO. 2792A

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
SEWER REPLACEMENT
SEWER DETAILS

Drawn By : LW
Designed By : LW
Reviewed By : NK
Drawing No. SS-11 OF SS-11

Scale : NTS
Date : SEPTEMBER 2025
Sheet No. 65 of 65

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