BALTIMORE COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
DIVISION OF CONSTRUCTION CONTRACTS ADMINISTRATION
111 WEST CHESAPEAKE AVENUE
TOWSON, MARYLAND 21204

Contract No. 24024 GX0
Pittsfield Road Stream Restoration at
Green Valley, Owings Mills, MD. 21117
Owings Mills – District 3c2
Workday No.
Proj-10001417, 214000351, 10000198

ADDENDUM NO. 2

DATE: 4/8/2025

Contact: Anthony Crews, 410-887-3531, tcrews@baltimorecountymd.gov

To All Bidders

This addendum is hereby made a part of the Proposal and the Special Provisions, and is hereby incorporated into the Contract. Should this addendum conflict with any portion of the Special Provisions, the Proposal, or any prior addenda, this addendum shall supersede and control.

Please note the attached changes, corrections, and/or information in connection with the contract and submit bids and be otherwise governed accordingly.

For Your Information

See attached drawings which are **only** for clarity, information and reviewing.

Attachments – Drawings 1 - 46

PLEASE SIGN BELOW ACKNOWLEDGING RECEIPT OF THIS ADDENDUM AND RETURN WITH YOUR BID.

_____ _____
Company Name **Signature**

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

OWINGS MILLS, MARYLAND 21117

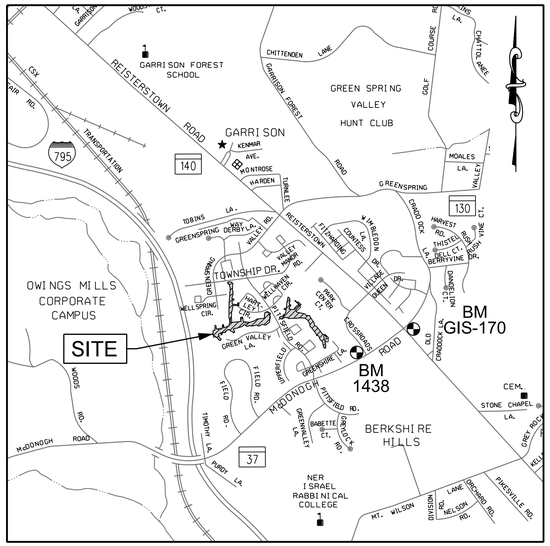
PREPARED FOR:
BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

PREPARED BY:

KCI TECHNOLOGIES

Engineers
Planners
Scientists
Construction Managers

936 Ridgebrook Road
Sparks, Maryland 21152
Telephone: (410) 316-7800
Fax: (410) 316-7818



PROJECT LENGTH: 4,692 LF

VICINITY MAP
SCALE: 1" = 1000'

SHEET INDEX

SHEET NO.	SHEET DESIGNATION	SHEET TITLE
1	TI-01	TITLE SHEET
2	SM-01	SITE MAP
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9	GS-07	GEOMETRY TABLES
10-11	GS-08 TO GS-09	TRAVERSE REFERENCES
12-17	GR-01 TO GR-06	GRADING PLANS
18	GR-07	GRADING STRUCTURE TABLES
19-23	DE-01 TO DE-05	STREAM DETAILS
24-28	PR-01 TO PR-05	PROFILES
29-34	ES-01 TO ES-06	EROSION & SEDIMENT CONTROL PLAN
35-38	ES-07 TO ES-10	EROSION & SEDIMENT CONTROL NOTES & DETAILS
39-44	LS-01 TO LS-06	LANDSCAPE PLAN
45-46	LD-01 TO LD-02	LANDSCAPE DETAILS

EXISTING CONDITIONS LEGEND

- EX. CONTOUR
- EX. STORM DRAIN
- EX. SANITARY SEWER
- EX. MANHOLE
- EX. WATER LINE
- EX. WATER METER
- EX. HAND BOX
- EX. TELEPHONE PEDESTAL
- EX. LIGHT POST
- EX. MAILBOX
- EX. SIGN
- SURVEY TRAVERSE POINT (TRAV. PT. 151, FLY R&C)
- EX. WOOD FENCE
- EX. CHAIN LINK FENCE
- EX. GUARDRAIL
- EX. WOODS LINE
- EX. SHRUBS
- EX. BUSH
- EX. TREE
- SPECIMEN TREE / CRITICAL ROOT ZONE (SP-1, CRZ)
- PROPERTY LINE
- EASEMENT LINE
- SOILS LINE (GhB, HbA)
- EX. EDGE OF WATER
- WATERS OF THE U.S. (WUS)
- EX. STREAM THALWEG (60+00)
- EX. NON-TIDAL WETLAND
- 25' WETLAND BUFFER (WB)
- EX. 100-YEAR FLOODPLAIN (FP)
- EX. GABION / RIPRAP

PROPOSED STREAM STRUCTURES

- WOODY TOE PROTECTION
- BOULDER BANK PROTECTION
- TOE BOULDER W/LIVE STAKES
- STEP-POOL CREST
- STEP / DROP
- WOODY DEBRIS PLUG
- CLAY PLUG
- BED MIX
- FLOODPLAIN LOG SILL
- BOULDER GRADE CONTROL ELEMENT
- LOG GRADE CONTROL ELEMENT
- PROP. CONTOUR (490)

GENERAL NOTES

1. THE FOLLOWING HORIZONTAL AND VERTICAL DATUMS ARE BASED ON THE MARYLAND STATE COORDINATE SYSTEM NAD 83 (2011) FOR HORIZONTAL AND NAVD 88 FOR VERTICAL AND ARE DERIVED FROM THE FOLLOWING BALTIMORE COUNTY SURVEY CONTROL POINTS:

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1438	630,039.55	1,382,609.56	536.65	INTERSECTION (CAPPED REBAR) OF MCDONOUGH RD. AND REISTERSTOWN RD.
GIS-170	630,420.61	1,383,312.41	550.05	INTERSECTION (BRASS DISK) OF MCDONOUGH RD. AND CROSSROADS DR.

2. THE PROPOSED GRADING SHOWN ON THESE PLANS MEETS THE REQUIREMENTS SET FORTH BY BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY AND COMPLIES WITH ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE. HOWEVER, DUE TO BUILDING TYPES AND LAYOUT, SOME FIELD ADJUSTMENTS MAY BE REQUIRED. ALL CHANGES MUST COMPLY WITH THE ABOVE MENTIONED REQUIREMENTS.
3. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST BUFFER EASEMENT OR OTHER FOREST RETENTION AREAS, EXCEPT AS PERMITTED BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY.
4. THERE SHALL BE NO CLEAR CUTTING, AND ONLY MINIMAL CLEARING AND GRUBBING AS NECESSARY. TREES SHALL BE AVOIDED WHERE POSSIBLE, UNLESS NOTED FOR REMOVAL.
5. STORMWATER MANAGEMENT HAS BEEN ADDRESSED THROUGH STORMWATER MANAGEMENT VARIANCE. SEE APPROVAL LETTER DATED: 02/21/2023
6. OVERALL LIMIT OF DISTURBANCE: 7.12 AC. / 309,964 SF.
7. THE UNNAMED TRIBUTARIES TO GWYNNS FALLS IN THE PROJECT AREA ARE DESIGNATED "USE I". ALL IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE OF ANY YEAR.
8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF BALTIMORE COUNTY CONTAINED HEREIN PLUS MSHA 2022 STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
9. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
10. EXISTING UTILITIES ARE BASED ON FIELD SURVEYS AND AVAILABLE RECORD DRAWINGS.
11. OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND KCI TECHNOLOGIES, INC. DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
12. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE SANITARY SEWER LINES AND EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
13. CONTRACTOR TO PERFORM SEISMIC TESTING AND MONITORING FOR THE FOLLOWING FOUR LOCATIONS ADJACENT TO CONSTRUCTION ENTRANCES: 1 HARTLEY CIRCLE; BETWEEN 12 & 14 HARTLEY CIRCLE; 8120 TOWNSHIP DRIVE; AND 8116 GREEN VALLEY LANE.

OWNER'S/DEVELOPER'S CERTIFICATION:

I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THIS CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO CERTIFY THAT THE SITE WILL BE INSPECTED AT THE END OF EACH WORKING DAY, AND THAT ANY NEEDED MAINTENANCE WILL BE COMPLETED SO AS TO INSURE THAT ALL SEDIMENT CONTROL PRACTICES ARE LEFT IN OPERATIONAL CONDITION. I/WE AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.

SIGNATURE OWNER/DEVELOPER _____ DATE _____

PRINT NAME _____ TITLE _____

CONSULTANT'S CERTIFICATION:

I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT AND THE CURRENT STATE OF MARYLAND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

SIGNATURE _____ DATE _____

SHANNON CP. LUCAS _____ 33079

PRINT NAME _____ P.E. NO.

OWNER'S/DEVELOPER'S CERTIFICATION - GRADING:

I/WE CERTIFY THAT ALL GRADING ON THIS SITE WILL BE DONE IN ACCORDANCE WITH THE CURRENT GRADING REQUIREMENTS AS SET FORTH BY THE BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY AND WITH THE REQUIREMENTS SPECIFIED IN ARTICLE 33, TITLE 5 OF THE BALTIMORE COUNTY CODE.

SIGNATURE OWNER/DEVELOPER _____ TITLE _____ DATE _____

PRINT NAME _____

SEAL

STATE OF MARYLAND — SHANNON CP. LUCAS — 33211 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL,JK | DRAWN CSD, AW, JS | CHECKED SL | BUREAU OF ENGINEERING AND CONSTRUCTION REVIEWED _____ DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO. | KEY SHEET: PNE | RIGHT OF WAY | POSITION SHEET: 37NW 27, 28; 38NW 27, 28

Baltimore County Soil Conservation District
APPROVED FOR SEDIMENT CONTROL _____ Date
_____ _____
DISTRICT OFFICIAL Plan No.
Technical Review for the District by:
This plan approval will expire three (3) years from the approval date.

STORMWATER MANAGEMENT PERMIT NOT REQUIRED

BALTIMORE COUNTY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
APPROVED FOR GRADING
Date

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

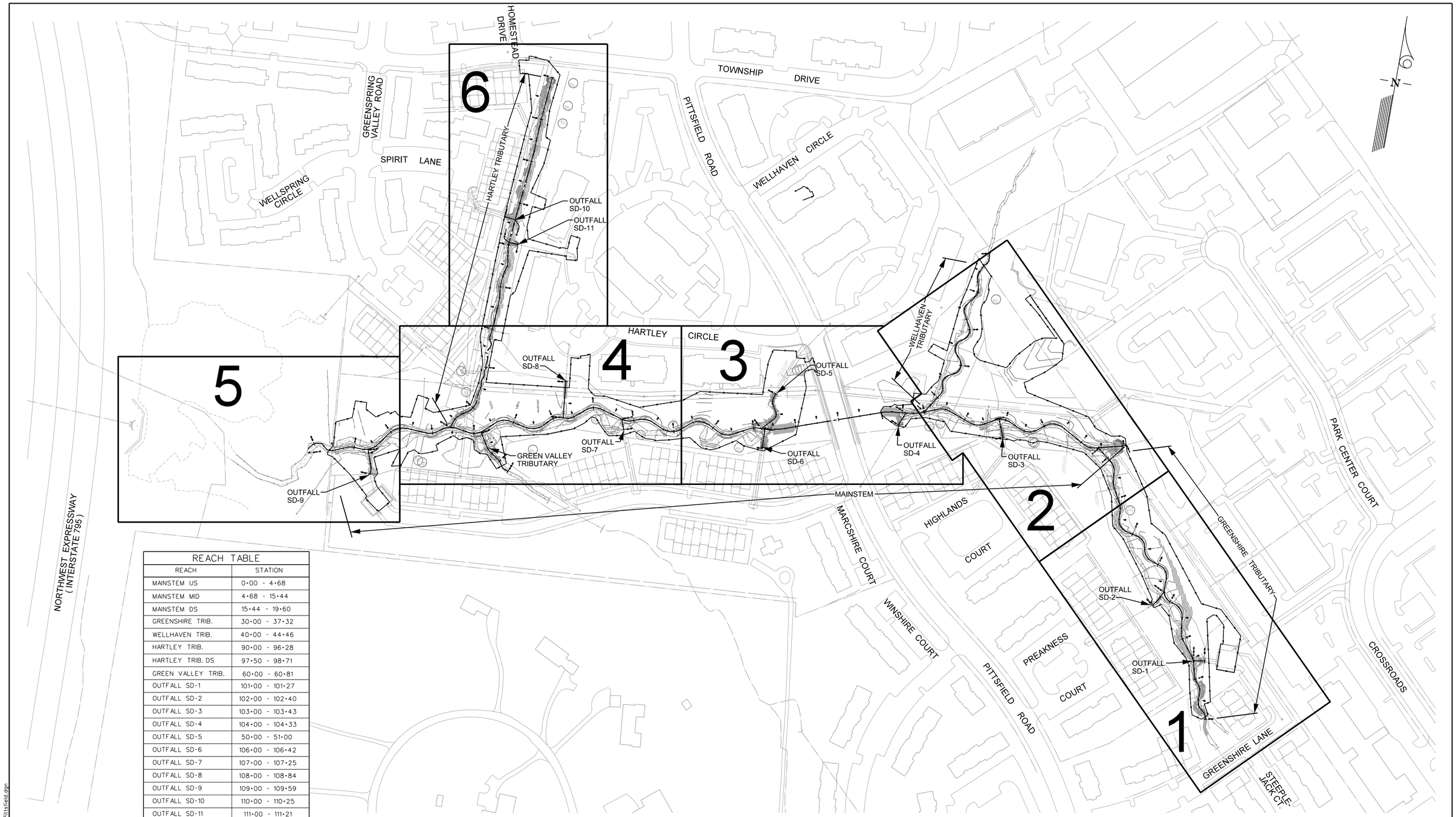
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT
COUNCIL DISTRICT NO. 02
TITLE SHEET
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

TI-01

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET	1 OF 46
DWG. NO.	2023-1187

PLOTTED: 11:01 AM on Friday, April 26, 2024"
FILE NAME: P:\2016\16900\2620\12_Drawings\pltPROJ_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025



REACH TABLE	
REACH	STATION
MAINSTEM US	0+00 - 4+68
MAINSTEM MID	4+68 - 15+44
MAINSTEM DS	15+44 - 19+60
GREENSHIRE TRIB.	30+00 - 37+32
WELLHAVEN TRIB.	40+00 - 44+46
HARTLEY TRIB.	90+00 - 96+28
HARTLEY TRIB. DS	97+50 - 98+71
GREEN VALLEY TRIB.	60+00 - 60+81
OUTFALL SD-1	101+00 - 101+27
OUTFALL SD-2	102+00 - 102+40
OUTFALL SD-3	103+00 - 103+43
OUTFALL SD-4	104+00 - 104+33
OUTFALL SD-5	50+00 - 51+00
OUTFALL SD-6	106+00 - 106+42
OUTFALL SD-7	107+00 - 107+25
OUTFALL SD-8	108+00 - 108+84
OUTFALL SD-9	109+00 - 109+59
OUTFALL SD-10	110+00 - 110+25
OUTFALL SD-11	111+00 - 111+21

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL,JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100ft.

SCALE	
PLAN:	1" = 100'
PROFILE:	
HOR.	N/A
VERT.	N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

SITE MAP

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

SM-01

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET	2 OF 46
DWG. NO.	2023-1188

PLOTTED: "11:11 AM on Thursday, March 21, 2024"
FILENAME: "2023\1188\2023_1188_Drawings\Base Plan\P0015_SITE_MAP_Pittsfield.dgn"

MATCH LINE - SEE SHEET GS-02

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 75/ 114
LOT 5B
ACCT. 03-2500007518
5 PARK CENTER CT.

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 79/ 109
LOT 5-A2
ACCT. 03-2500007518
10 CROSSROADS DRIVE

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 79/ 109
LOT 5-A1
ACCT. 03-2500008219
10 CROSSROADS DRIVE

J M S PROPERTIES INC
TM 67, PARCEL 296
L. 8516 F. 491 PLAT 12 / 80
ACCT. 03-2100011224
20 CROSSROADS DRIVE

N45° 02' 24"E, 149.52'

N45° 02' 24"E, 398.69'

N45° 02' 24"E, 231.03'

20' DRAINAGE & UTILTY EASEMENT
PLAT 55 / 11, RW-83-360
(APPROX. LOC.)

N44° 57' 36"W, 157.91

N44° 57' 36"W, 170.29'

HOA OPEN SPACE

10' DRAINAGE & UTILTY EASEMENT
PLAT 54/ 13 (APPROX. LOC.)

S40° 42' 13"W, 65.00'

(40' R/W)

GREENSHIRE LANE

EX. PARKING LOT

MCDONOGH TOWNSHIP SECTIONS
1-4 HOMEOWNERS ASSOCIATION
TM 67, P/O PARCEL 233
HOA OPEN SPACE (4.22 AC)
L. 7766 F. 823 PLAT 55 / 13
ACCT. 03-2000012351
MCDONOGH ROAD

"SECTION 1, MCDONOGH TOWNSHIP"
1985

STEEPLE-
JACK CT.

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION GREENSHIRE
STA. 33+71.62 TO TRAV. PT. 106
N 63° 53'44.22" E, 18.80'

N 630,600
E 1,381,600

TRAV. PT. 106 R&C

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION GREENSHIRE
STA. 31+84.25 TO TRAV. PT. 105
N 50° 59'11.54" E, 41.96'

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION OUTFALL SD-1
STA. 101+09.09 TO TRAV. PT. 105
N 9° 9'24.6" W, 57.24'

TRAV. PT. 105 R&C

N 630,396.33
E 1,381,888.45

STA. 33+27.81 BASELINE OF
CONSTRUCTION GREENSHIRE =
STA. 102+39.60 BASELINE OF
CONSTRUCTION OUTFALL SD-2

PT:33+35.04
EP:102+39.60

PC:33+57.67
PT:33+43.81
PC:34+18.19

PC:34+53.48
PT:34+49.44
PT:34+81.08

PC:35+15.24
PT:35+51.26

PT:35+71.95

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION GREENSHIRE
STA. 35+07.25 TO TRAV. PT. 107
S 13° 35'22.89" W, 48.60'

TRAV. PT. 107 R&C

102+39.60

N 630,537.44
E 1,381,767.41

PT:102+20.22
PC:102+06.41

102+00

BP:102+00.00

OUTFALL
SD-2

50' DRAINAGE & UTILITY EASEMENT
PLAT 55 / 11 (APPROX. LOC.)

N 630,503.46
E 1,381,747.49

TIE FROM BASELINE OF
CONSTRUCTION OUTFALL SD-2
STA. 102+00.00 TO TRAV. PT. 150
S 17° 59'57.89" W, 35.00'

TRAV. PT. 150 R&C

PC:33+92.24
PC:32+38.04
PT:32+86.74

PT:32+14.27
PC:31+94.95

32+00

101+00

N 630,392.10
E 1,381,862.24

101+26.55

EP:
101+26.55

OUTFALL
SD-1

S03° 17' 49"E, 116.74'

PT:31+54.01
PC:31+38.43

31+00

PT:31+07.45
PC:30+93.14
PT:30+87.18

PC:30+66.36
PT:30+48.79

30+00

BP:30+00.00
N 630,263.71
E 1,381,912.87

PC:30+26.02
PT:30+01.62
PC:30+01.19

TRAV. PT. 104 R&C

TIE FROM BASELINE OF
CONSTRUCTION GREENSHIRE
STA. 30+00.00 TO TRAV. PT. 104
S 39° 56'26.5" E, 93.58'

STA. 31+43.12 BASELINE OF
CONSTRUCTION GREENSHIRE =
STA. 101+26.55 BASELINE OF
CONSTRUCTION OUTFALL SD-1

10' DRAINAGE & UTILITY EASEMENT
PLAT 54/ 13 (APPROX. LOC.)

GREENSHIRE TRIBUTARY
STA. 30+00 - STA. 37+31.90

MCDONOGH TOWNSHIP SECTIONS
1-4 HOMEOWNERS ASSOCIATION
TM 67, P/O PARCEL 418
HOA OPEN SPACE (6.22 AC)
L. 8060 F 397 PLAT 55 / 11
ACCT. 03-2000012351
PREAKNESS CT.

"SECTION 3, MCDONOGH TOWNSHIP"
1985

S43° 43' 56"E, 183.83'

S43° 43' 58"E, 183.50'

S47° 34' 54"E, 179.00'

N42° 03' 52"W, 179.00'

S42° 25' 06"W, 104.00'

S43° 04' 46"W, 80.00'

N 630,600
E 1,381,550

S47° 56' 08"W, 97.00'

S45° 10' 29"W, 91.76'

S47° 47' 00"W, 253.43'

N 630,250
E 1,381,800

SHANE STEVEN E TRUSTEE
L. 42568 F. 254
ACCT. 03-2000012313
19 PREAKNESS CT.

SPARROW,MARGARET
L. 8248 F. 826
ACCT. 03-2000012312
20 PREAKNESS CT.

BARR, JEFFREY R
L. 8195 F. 027
ACCT. 03-2000012311
22 PREAKNESS CT.

WILLIAMS ROBERT
L. 34366 F. 057
ACCT. 03-2000012310
24 PREAKNESS CT.

GARDNER BETH M
L. 23034 F. 058
ACCT. 03-2000012309
26 PREAKNESS CT.

STEINHORN SUSAN
L. 41341 F. 486
ACCT. 03-2000012308
28 PREAKNESS CT.

MORRIS ARDELIA C
L. 44082 F. 427
ACCT. 03-2000012307
30 PREAKNESS CT.

EMA HOUSE LLC
L. 42568 F. 334
ACCT. 03-2000012306
27 PREAKNESS CT.

HARMOOD KRISTA L
L. 45304 F. 173
ACCT. 03-2000012305
25 PREAKNESS CT.

CAMPAGNOLI LOUIS A
CAMPAGNOLI CATHERINE L
L. 8408 F. 574
ACCT. 03-2000012304
23 PREAKNESS CT.

TUVIN GUY M
TUVIN JANE M
L. 44082 F. 599
LOT 11
ACCT. 03-2000012303
21 PREAKNESS CT.

CUMMINS LLC
L. 37713 F. 033
LOT 10
ACCT. 03-2000012302
19 PREAKNESS CT.

SHUSTERMAN JENNIFER
L. 41389 F. 228
LOT 9
ACCT. 03-2000012301
17 PREAKNESS CT.

MASSUDA RACHEL
L. 15650 F. 626
LOT 8
ACCT. 03-2000012300
15 PREAKNESS CT.

37.00'
37.08'
20.04'
20.05'
20.04'
20.05'
20.04'
46.52'
46.44'
20.01'
20.01'
20.01'
20.01'
20.01'
37.02'
20'
42.00'

SEAL

STATE OF MARYLAND
SHANNON LUCAS
33079
PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27,28 38NW 27,28

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

GEOMETRY SHEET

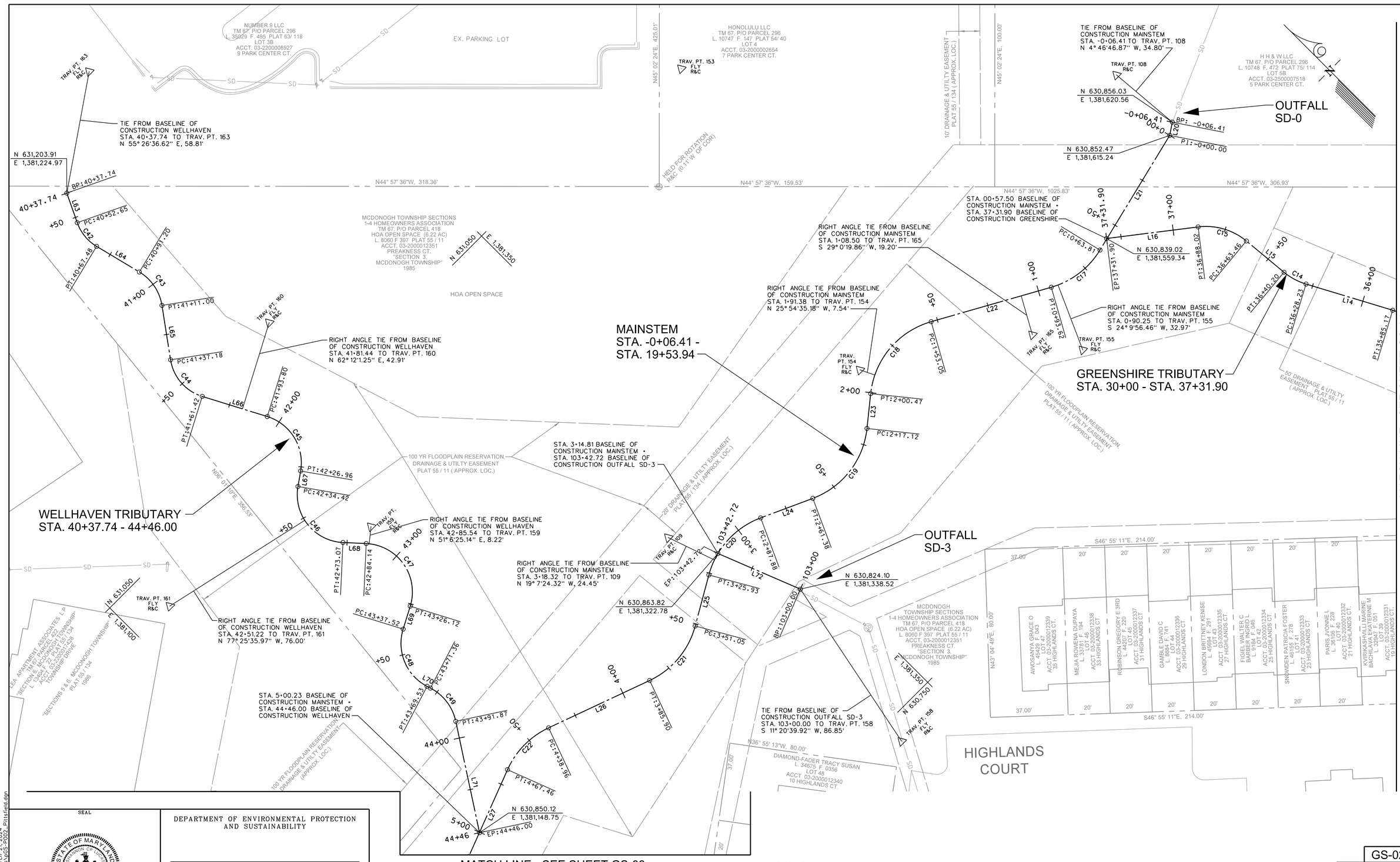
SUBDIVISION: MCDONOGH TOWNSHIP
COUNCIL DISTRICT NO. 02
EL. DISTRICT NO. 03

GS-01

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 3 OF 46
DWG. NO.
2023-1189

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: 11:11 AM on Thursday, March 21, 2024
FILE NAME: C:\Projects\2316002\620\12-Drawings\gs03-2001_Pittsfield.dgn



SEAL

STATE OF MARYLAND — JAMES WILLIAM KCI TECHNOLOGIES INC. — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW, HS, SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GEOMETRY SHEET

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GS-02

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 4 OF 46
DWG. NO.
2023-1190

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: "11:11 AM on Thursday, March 21, 2024"
FILE NAME: "C:\Projects\2020\12\Drawings\GS-02022_Pittsfield.dgn"

MATCH LINE - SEE SHEET GS-04

HARTLEY CIRCLE

N 630,950
E 1,380,700

EX. DRIVEWAY

TRAV. PT. 151
FLY R&C

LEA APARTMENT ASSOCIATES L P
TM 67, PARCEL 422
"SECTION 5, MCDONOGH TOWNSHIP"
L. 13404 F. 22 PLAT 55 / 134
ACCT. 03-2200017428
TOWNSHIP DRIVE

"SECTIONS 5 & 6, MCDONOGH TOWNSHIP"
PLAT 55 / 134
1986

DRAINAGE & UTILITY EASEMENT
PLAT 55 / 134 (APPROX. LOC.)

OUTFALL
SD-5

50+00
N 630,832.18
E 1,380,803.51

BP:50+00.00

PC:50+11.00

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION OUTFALL SD-5
STA. 50+19.01 TO TRAV. PT. 157
S 85° 29'48.85" W, 67.81'

TRAV. PT. 157
FLY R&C

N77° 57' 25"E, 396.56'

BALTIMORE COUNTY, MD
TM 67, P/O PARCEL 197
100 YEAR FLOODPLAIN RESERVATION &
DRAINAGE & UTILITY EASEMENT
L. 10329 F. 64 PLAT 55 / 147
ACCT. 03-2000012409

20' DRAINAGE & UTILTY EASEMENT
PLAT 55 / 134 (APPROX. LOC.)

S26° 19' 27"E, 51.40'

CONC. WALK

N85° 21' 02"E, 4.76'

S26° 19' 24"E, 75.24'

CONC. WALK

N26° 19' 26"W, 151.80'

LEA APARTMENT ASSOCIATES L P
TM 67, PARCEL 422
"SECTION 6, MCDONOGH TOWNSHIP"
L. 13404 F. 22 PLAT 55 / 134
ACCT. 03-2200017428
TOWNSHIP DRIVE

"SECTIONS 5 & 6, MCDONOGH TOWNSHIP"
PLAT 55 / 134
1986

N

N 630,950
E 1,381,050

STA. 5+42.46 BASELINE OF
CONSTRUCTION MAINSTEM -
STA. 104+32.51 BASELINE OF
CONSTRUCTION OUTFALL SD-4

TRAV. PT. 110
R&C

N85° 21' 02"E, 203.31'

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION MAINSTEM
STA. 5+24.37 TO TRAV. PT. 110
N 7° 37'22.69" W, 44.13'

N 630,840.75
E 1,381,107.80

MAINSTEM
STA. -0+06.41 -
STA. 19+53.94

TRAV. PT. 111
R&C

N 630 831.92
E 1 381 052.13

PI:5+92.24

PI:5+83.25

PI:5+74.59

PI:5+63.47

PI:5+59.19

PI:5+21.91

PC:5+12.63

PI:5+69.14

L33 L32 L31 L30 L29 L28 C23 L73

104+32.51

EP:
104+32.51

104+00

BP:104+00.00

OUTFALL
SD-4

N 630,810.72
E 1,381,095.33

MATCH LINE - SEE SHEET GS-02

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION MAINSTEM
STA. 10+61.75 TO TRAV. PT. 113
N 40° 18'23.7" W, 23.61'

TRAV. PT. 113
R&C

STA. 8+73.22 BASELINE OF
CONSTRUCTION MAINSTEM -
STA. 106+41.51 BASELINE OF
CONSTRUCTION OUTFALL SD-6

STA. 8+81.65 BASELINE OF
CONSTRUCTION MAINSTEM -
STA. 50+99.84 BASELINE OF
CONSTRUCTION OUTFALL SD-5

EP:106+41.51
106+41.51

50+99.84

L46 PT:10+58.75 C27 PC:10+11.21 L45 10+00 C26 PT:9+86.64 L44 PC:9+48.72 PT:9+08.76 C25 9+00 PC:8+89.59 L43 L77 L75 C24 PT:8+58.69 PC:8+54.52 L42 PT:8+42.52 L41 PI:8+46.34 L40 PI:8+25.80 L39 PI:8+15.25 L38 PI:8+01.26 8+00

N 630,765.23
E 1,380,861.33

N 630,746.90
E 1,380,784.46

N 630,746.98
E 1,380,792.88

BP: 106+00.00

N 630,705.51
E 1,380,794.62

106+00

RIGHT ANGLE TIE FROM BASELINE
OF CONSTRUCTION MAINSTEM
STA. 8+54.94 TO TRAV. PT. 112
S 26° 53'23.43" E, 65.59'

OUTFALL
SD-6

TRAV. PT. 112
R&C

PITTSFIELD ROAD

CONC. WALK

N88° 39' 06"E, 291.28'

N73° 40' 27"E, 62.97'

N58° 38' 36"E, 112.07'

S31° 21' 24"E, 180.00'

52.07'

46.37'

TRAV. PT. 156
R&C

21.56'

20.71'

20.71'

S01° 20' 54"E, 80.00'

FREDERICK SHAMAR E
FREDERICK CHRISTIN C
ACCT. 03-2000012373
LOT 22 PLAT 21301
8028 GREEN VALLEY LN

LIU WEN YU
LIU SHEN YU
ACCT. 03-2000012372
LOT 21 PLAT 9445
8024 GREEN VALLEY LN

AGBON BELMA
ACCT. 03-2000012371
LOT 20 PLAT 9443
8022 GREEN VALLEY LN

MICHAELIS DANIEL O 3RD
ACCT. 03-2000012370
LOT 19 PLAT 9473
8020 GREEN VALLEY LN

POPE AMAYE E
SALLYE L 37882 F. 0341
ACCT. 03-2000012369
LOT 18 PLAT 9426
8018 GREEN VALLEY LN

SHENYXIULIU
ACCT. 03-2000012368
LOT F 0318
8016 GREEN VALLEY LN

FLEET BRANDON DAVON
L 39380 F. 0134
ACCT. 03-2000012367
8014 GREEN VALLEY LN

S31° 21' 24"E, 180.00'

KUNH ALEXANDER
L 43 F. 0477
ACCT. 03-2000012366
8012 GREEN VALLEY LN

THOMPSON DEBORAH B
L 4078 F. 0003
ACCT. 03-2000012365
8010 GREEN VALLEY LN

CORNELL CHRISTOPHER
BURCE F. 0411
ACCT. 03-2000012364
8008 GREEN VALLEY LN

OWEN JAMES L
L 9401 F. 0380
ACCT. 03-2000012363
8006 GREEN VALLEY LN

BERMAN ANNE F
L 4701 F. 0081
ACCT. 03-2000012362
8004 GREEN VALLEY LN

DAVISON CYNTHIA
L 2656 F. 0380
ACCT. 03-2000012361
8002 GREEN VALLEY LN

DAVIS MATHRYN S
L 2656 F. 0380
ACCT. 03-2000012360
8000 GREEN VALLEY LN

MCDONOGH TOWNSHIP SECTIONS
1-4 HOMEOWNERS ASSOCIATION
TM 67, P/O PARCEL 418
HOA OPEN SPACE (5.22 AC)
L. 8060 F. 397, PLAT 55 / 11
ACCT. 03-2000012351
PREAKNESS CT.

"SECTION 3, MCDONOGH TOWNSHIP"
1985

N 630,750
E 1,381,050

S53° 04' 46"W, 134.00'

N53° 04' 47"E, 92.40'

N53° 04' 47"E, 95.70'

N36° 55' 13"W, 114.00'

N36° 55' 13"W, 80.00'

37.00'

RUECA JOSEPH RAYMOND
RUECA RAYNEE F
L. 34645 F. 0092
LOT 1.56
ACCT 03-2000012349
9336 PITTSFIELD RD.

BABCOCK MOHAMED ABDELHALIM
BABCOCK MOHAMED ELMADY
L. 41628 F. 0026
LOT 1.63
ACCT. 03-2000012344
2 HIGHLANDS CT.

RICHARDSON BRITTANY LASHAE
L. 43837 F. 0379
ACCT. 03-2000012343
4 HIGHLANDS CT.

CUMMINGS LLC
L. 37160 F. 0246
LOT 1.65
6 HIGHLANDS CT.

SAMPSON NYONOMA
L. 42705 F. 0067
8 HIGHLANDS CT.

SAMPSON MEDYOR
L. 42705 F. 0067

L=37.15'

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

SEAL

STATE OF MARYLAND
JOSHUA M. KOCH
No. 33079
PROFESSIONAL ENGINEER

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GEOMETRY SHEET

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GS-03

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 5 OF 46	
DWG. NO.	2023-1191

Contract No. 24024 GXO
Addendum No.2
April 8, 2025

PLOTTED: "11:11 AM on Thursday, March 21, 2024"
FILE: M:\2023\01650226\2D\12\Drawings\GS5-P0053_Pittsfield.dgn

MATCH LINE - SEE SHEET GS-06

MATCH LINE - SEE SHEET GS-05

MATCH LINE - SEE SHEET GS-03

HARTLEY CIRCLE

LEA APARTMENT ASSOCIATES L P
TM 67, PARCEL 422
"SECTION 5, MCDONOGH TOWNSHIP"
L. 13404 F. 22 PLAT 55 / 134
ACCT. 03-2200017428
TOWNSHIP DRIVE

"SECTIONS 5 & 6, MCDONOGH TOWNSHIP"
PLAT 55 / 134
1986

EX. PAVING

EX. DUMPSTERS W/ WOOD FENCE ENCLOSURE

CONC. WALK

25' DRAINAGE & UTILITY EASEMENT PLAT 57 / 136 (APPROX. LOC.)

N59° 44' 55"W, 49.00'

S30° 15' 05"W, 49.00'

S49° 54' 19"W 29.73'

N30° 15' 05"E, 124.00'

R&C N79° 94' 09"W, 29.73'

R&C MORRIS RITCHIE PROP. MKR (TYP.)

8-4 8-5 8-6 9-6 9-7

20' DRAINAGE & UTILITY EASEMENT PLAT 55 / 134 (APPROX. LOC.)

50' DRAINAGE & UTILITY EASEMENT PLAT 58 / 134 (APPROX. LOC.)

96+00

96+19.31

N 630,846.16
E 1,380,129.72
EP:96+19.31

L94

+50

EXISTING CHANNEL TO REMAIN

97+00

N 630,800
E 1,380,200

100 YR FLOODPLAIN RESERVATION, DRAINAGE & UTILITY EASEMENT (APPROX. LOC.)

TRAV. PT. 164
FLY
R&C

TIE FROM BASELINE OF CONSTRUCTION OUTFALL SD-8
STA. 108+00.00 TO TRAV. PT. 164
N 30° 30'0.98" W, 105.97'

OUTFALL SD-8

N 630,776.18
E 1,380,320.55

BP:108+00.00

108+00

SD

N 630,800
E 1,380,450

N 630,724.33
E 1,380,128.49

TRAV. PT. 121
R&C

TIE FROM BASELINE OF CONSTRUCTION HARTLEY
STA. 96+19.31 TO TRAV. PT. 121
S 27° 4'9.4" E, 96.16'

S85° 21' 07"W, 302.23'

N83° 32' 22"E, 402.29'

20' DRAINAGE & UTILITY EASEMENT PLAT 55 / 134 (APPROX. LOC.)

97+53.01

+50

L95

BP:97+53.01

PI:97+57.36

L96

PI:97+68.72

L97

PC:97+78.65

TIE FROM BASELINE OF CONSTRUCTION HARTLEY
STA. 97+53.01 TO TRAV. PT. 121
N 51° 10'41.85" E, 57.75'

TRAV. PT. 120
R&C

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION MAINSTEM
STA. 17+65.52 TO TRAV. PT. 120
N 5° 40'48.41" W, 92.91'

BALTIMORE COUNTY, MD
TM 67, P/O PARCEL 197
100 YEAR FLOODPLAIN RESERVATION & DRAINAGE & UTILITY EASEMENT
L. 10329 F. 64 PLAT 55 / 147
ACCT. 03-2000012409

100 YEAR FLOODPLAIN RESERVATION & DRAINAGE & UTILITY EASEMENT PLAT 55 / 147 (APPROX. LOC.)

98+00

HARTLEY TRIBUTARY
STA. 90+00 - STA. 98+71.36

STA. 13+76.00 BASELINE OF CONSTRUCTION MAINSTEM -
STA. 108+84.26 BASELINE OF CONSTRUCTION OUTFALL SD-8

EP:108+84.26

14+00

N 630,692.32
E 1,380,328.72

L78

+50

108+84.26

L51

C31

C32

C33

PC:13+76.98

PT:13+72.13

PC:13+47.14

PT:13+18.85

L50

+50

13+00

STA. 12+28.84 BASELINE OF CONSTRUCTION MAINSTEM -
STA. 107+24.72 BASELINE OF CONSTRUCTION OUTFALL SD-7

N 630,712.64
E 1,380,462.97

PC:12+79.80

L49

TRAV. PT. 114
R&C

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION MAINSTEM
STA. 12+59.19 TO TRAV. PT. 114
S 15° 54'13.22" W, 2.58'

EP:107+24.72

12+00

107+24.72

C30

L48

PT:12+28.60

PC:12+03.78

PT:11+98.28

C29

+50

PC:11+56.06

L47

11+00

PT:11+27.86

C28

PC:10+83.22

107+00

BP:107+00.00

N 630,689.44
E 1,380,471.50

MAINSTEM
STA. -0+06.41 -
STA. 19+53.94

OUTFALL SD-7

EP:98+71.36

98+71.36

N 630,625.38
E 1,380,075.89

L89

+50

C62

PC:98+28.02

PT:98+15.71

L88

PT:98+57.30

C61

PC:17+57.59

L57

+50

PT:17+16.36

C38

PC:16+89.07

L56

PT:16+74.84

PC:16+43.86

L55

PT:16+12.24

C37

16+00

17+00

EP:60+80.99

N 630,626.73
E 1,380,147.55

60+80.99

L82

+50

PC:15+76.03

PT:15+44.40

PC:15+06.03

L54

L53

PT:14+72.10

C36

C34

PC:14+23.23

L52

PT:14+08.75

C35

15+00

STA. 16+56.28 BASELINE OF CONSTRUCTION MAINSTEM -
STA. 98+71.36 BASELINE OF CONSTRUCTION HARTLEY

STA. 15+82.90 BASELINE OF CONSTRUCTION MAINSTEM -
STA. 60+80.99 BASELINE OF CONSTRUCTION GREEN VALLEY

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION MAINSTEM
STA. 14+43.97 TO TRAV. PT. 115
S 21° 52'11.76" E, 46.94'

TRAV. PT. 115
R&C

PT:60+45.02

C52

PC:60+28.48

L81

+50

60+00

PI:60+00.00

L80

PI:59+98.14

L79

59+87.55

BP:59+87.55

N 630,557.67
E 1,380,208.00

GREEN VALLEY TRIBUTARY

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION GREEN VALLEY
STA. 60+10.93 TO TRAV. PT. 116
S 34° 28'49.24" W, 61.95'

"SECTIONS 4, MCDONOGH TOWNSHIP"
PLAT 55 / 147
1986

S86° 13' 33"W, 228.50'

TRAV. PT. 116
R&C

S67° 45' 47"E
16.69'

PLAT REF: 0055 / 0147

N63° 56' 51"E, 199.94'

N63° 56' 51"E, 108.40'

S26° 03' 09"E, 80.00'

S01° 20' 54"E, 83.91'

S01° 20' 54"E, 80.00'

PLAT REF: 0055 / 0147

N 630,600
E 1,380,450

L=20.15'

L=20.04'

L=11.26'

8.74'

PETER JAMY CAREY
KELLY M. CAREY
L. 19515 F. 326
ACCT. 03-2000012389
8116 GREEN VALLEY LN

CAREY CANDACE
L 41460 F. 0001
ACCT. 03-2000012376
8032 GREEN VALLEY LN

MUGANLINSKY-FUAD
L. 30861 F. 0225
ACCT. 03-2000012375
8030 GREEN VALLEY LN

EL-HASAN EDDIE
L. 30861 F. 0473
ACCT. 03-2000012374
8028 GREEN VALLEY LN

STEIN DAVID
L. 25348 F. 0242
ACCT. 03-2000012373
8026 GREEN VALLEY LN

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

GS-04

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GEOMETRY SHEET

SUBDIVISION: MCDONOGH TOWNSHIP

EL. DISTRICT NO. 03

CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET	6 OF 46
DWG. NO.	2023-1192

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

DESIGNED AW, HS, SL, JK
DRAWN CSD, AW, JS
CHECKED SL

BUREAU OF ENGINEERING AND CONSTRUCTION
REVIEWED
DATE

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
DIRECTOR DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

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EXPIRATION DATE: 01/16/2025

SEAL
STATE OF MARYLAND SHANNON PATRICK LUCAS NO. 33079 PROFESSIONAL ENGINEER

PLOTTED: "11:11 AM on Thursday, March 21, 2024"
FILENAME: "c:\pw\16\60\25\01\21\Drawings\GS\PP004_Pittsfield.dgn"

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

MATCH LINE - SEE SHEET GS-04

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

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DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GEOMETRY SHEET

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GS-05

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 7 OF 46	
DWG. NO.	2023-1193

PLOTTED: 11:11 AM on Thursday, March 21, 2024
FILENAME: \\Bc1s0026a2012\Drawings\GXS-P0052_Pittsfield.dgn

Contract No. 24024 GXO
Addendum No.2
April 8, 2025

TOWNSHIP DRIVE

CONC. WALK

279.40'

S86° 08' 02"W, 32.64'

TRAV. PT. 124 R&C

TIE FROM BASELINE OF CONSTRUCTION HARTLEY
STA. 90+00 TO TRAV. PT. 124
N 62° 12' 35.03" E, 80.08'

N 631,462.41
E 1,380,168.00

BP: 90+00.00

P.I: 90+18.31

TRAV. PT. 173 R&C

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION HARTLEY
STA. 90+37.83 TO TRAV. PT. 173
S 84° 55' 42.47" E, 46.92'

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION HARTLEY
STA. 91+20.85 TO TRAV. PT. 167
S 85° 58' 24.05" E, 9.52'

TRAV. PT. 123 R&C

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION HARTLEY
STA. 91+82.90 TO TRAV. PT. 123
S 84° 29' 12.46" E, 62.99'

90+00

L86

+50

C55

P.C: 90+73.10

P.I: 90+84.44

L87

TRAV. PT. 167 FLY R&C

P.C: 91+37.26

P.I: 91+48.73

L88

91+00

C56

P.I: 91+70.19

L89

TRAV. PT. 168 FLY R&C

92+00

+50

L90

110+24.48

HARTLEY TRIBUTARY
STA. 90+00 - STA. 98+71.36

50' DRAINAGE & UTILITY EASEMENT PLAT 55 / 134 (APPROX. LOC.)

LEA APARTMENT ASSOCIATES L P
TM 67, PARCEL 422
"SECTION 5, MCDONOGH TOWNSHIP"
L. 13404 F. 22, PLAT 55 / 134
ACCT. 03-2200017428
TOWNSHIP DRIVE

"SECTIONS 5 & 6, MCDONOGH TOWNSHIP"
PLAT 55 / 134
1986

HARTLEY CIRCLE

E 1,380,250
N 631,400

E 1,380,250
N 630,950

STA. 93+40.11 BASELINE OF CONSTRUCTION HARTLEY =
STA. 110+24.48 BASELINE OF CONSTRUCTION OUTFALL SD-10

OUTFALL SD-11

N 631,123.53
E 1,380,140.29

N 631,068.58
E 1,380,156.05

TRAV. PT. 122 R&C

RIGHT ANGLE TIE FROM BASELINE OF CONSTRUCTION HARTLEY
STA. 94+15.51 TO TRAV. PT. 122
N 82° 44' 49.12" E, 56.67'

111+00

BP: 111+00.00

EP: 110+24.48

EP: 111+20.63

94+00

+50

C57

111+20.63

L91

PC: 94+44.82

C58

PRC: 94+50.75

95+00

C59

PRC: 95+14.33

C60

PT: 95+53.79

PT: 95+56.41

L93

L92

+50

PI: 95+87.02

N 631,126.38
E 1,380,115.97

110+00

BP: 110+00.00

PC: 93+84.17

PT: 94+19.37

N 631,069.07
E 1,380,135.43

STA. 93+94.80 BASELINE OF CONSTRUCTION HARTLEY =
STA. 111+20.63 BASELINE OF CONSTRUCTION OUTFALL SD-11

TRAV. PT. 172 FLY R&C

TIE FROM BASELINE OF CONSTRUCTION OUTFALL SD-10
STA. 110+00.00 TO TRAV. PT. 172
S 40° 1' 34.26" W, 39.60'

OUTFALL SD-10

20' DRAINAGE & UTILITY EASEMENT PLAT 55 / 134 (APPROX. LOC.)

S01° 18' 40"W, 298.00'

S04° 12' 36"W, 82.00'

S04° 12' 36"W, 142.00'

S05° 13' 26"W, 465.16'

S85° 47' 24"E, 74.00'

HAMLET COMMUNITY ASSOCIATION
TM 67, PARCEL 414
HOA OPEN SPACE
"SECTION 12B, MCDONOGH TOWNSHIP"
L. 8153 F. 616 PLAT 57 / 136
ACCT. 03-2100002698
GREENSPRING VALLEY ROAD

TRAN HANG & TRAN LOC VAN
L 29364 F 279
ACCT. 03-2100002631
8120 TOWNSHIP DR.

N 631,400
E 1,380,050

L=150.22, R=471.27', CH=S77° 00' 16"W, 149.58'

100 YR FLOODPLAIN RESERVATION DRAINAGE & UTILITY EASEMENT (APPROX. LOC.)

PLAT REF: 0057 / 0136

4-1 4-2 4-3 4-4 4-5 4-6 4-7 4-8

JOSEPH & JENNIFER AMALFITANO
L. 33769 F. 103
ACCT. 03-2100002662
17 SPIRIT LANE

KELLY KATHIE
L. 15864 F. 210
ACCT. 03-2100002670
15 SPIRIT LANE

SPIRIT LANE

HAMLET COMMUNITY ASSOCIATION
TM 67, PARCEL 414
HOA OPEN SPACE
"SECTION 12B, MCDONOGH TOWNSHIP"
L. 8153 F. 616 PLAT 57 / 136
ACCT. 03-2100002698
GREENSPRING VALLEY ROAD

TRAV. PT. 174 MAG. NAIL

N08° 27' 00"E, 26.93'

S30° 15' 05"W, 49.00'

100 YR FLOODPLAIN RESERVATION DRAINAGE & UTILITY EASEMENT (APPROX. LOC.)

S40° 05' 41"E, 29.73'

R&C HELD MORRIS RITCHIE PROP. MKR (TYP.)

N69° 44' 55"W, 126.06'

N69° 44' 55"W, 49.00'

N69° 13' 30"W, 89.44'

MATCH LINE - SEE SHEET GS-04

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW, HS, SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
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DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GEOMETRY SHEET

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GS-06

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 8 OF 46	
DWG. NO.	2023-1194

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: "11:11 AM on Thursday, March 21, 2024"
FILENAME="P:\0676\2520\12\Drawings\pss-P0676_Pittsfield.dgn"

Line Table

Line #	Length	Direction	Alignment Name
L1	1.19'	N7° 51' 07.57"W	GREENSHIRE
L2	3.40'	N54° 39' 19.33"W	GREENSHIRE
L3	17.58'	N0° 10' 45.48"W	GREENSHIRE
L4	5.96'	N42° 46' 21.74"W	GREENSHIRE
L5	30.98'	N13° 30' 14.33"W	GREENSHIRE
L6	40.93'	N39° 00' 48.46"W	GREENSHIRE
L7	37.97'	N7° 22' 38.62"W	GREENSHIRE
L8	11.29'	N73° 16' 32.49"W	GREENSHIRE
L9	22.63'	N2° 26' 18.74"E	GREENSHIRE
L10	24.32'	N71° 37' 37.72"W	GREENSHIRE
L11	4.03'	N7° 40' 27.31"W	GREENSHIRE
L12	28.26'	N76° 25' 37.11"W	GREENSHIRE
L13	20.69'	N2° 55' 51.95"W	GREENSHIRE
L14	43.05'	N28° 11' 23.38"W	GREENSHIRE
L15	23.27'	N5° 19' 23.89"W	GREENSHIRE
L16	43.89'	N52° 12' 59.21"W	GREENSHIRE
L17	26.55'	S80° 50' 35.40"W	Outfall SD-1
L18	6.41'	N40° 08' 18.95"E	Outfall SD-2
L19	19.38'	N25° 26' 54.45"E	Outfall SD-2
L20	6.41'	S56° 09' 54.24"W	MAINSTEM

Line Table

Line #	Length	Direction	Alignment Name
L41	3.82'	N84° 28' 26.72"W	MAINSTEM
L42	8.18'	S60° 11' 38.23"W	MAINSTEM
L43	30.90'	S89° 24' 58.13"W	MAINSTEM
L44	39.46'	S61° 57' 43.62"W	MAINSTEM
L45	24.57'	N63° 00' 22.57"W	MAINSTEM
L46	25.03'	S49° 41' 36.30"W	MAINSTEM
L47	28.20'	N66° 21' 37.65"W	MAINSTEM
L48	17.50'	S70° 21' 02.25"W	MAINSTEM
L49	51.19'	N74° 05' 46.78"W	MAINSTEM
L50	28.29'	S49° 57' 56.78"W	MAINSTEM
L51	4.86'	N89° 32' 27.60"W	MAINSTEM
L52	14.48'	S43° 18' 41.71"W	MAINSTEM
L53	33.94'	N78° 11' 36.12"W	MAINSTEM
L54	31.63'	S46° 51' 04.84"W	MAINSTEM
L55	31.62'	N81° 17' 06.23"W	MAINSTEM
L56	14.23'	S54° 19' 33.24"W	MAINSTEM
L57	41.23'	N86° 35' 31.11"W	MAINSTEM
L58	30.66'	S35° 16' 34.37"W	MAINSTEM
L59	13.75'	N87° 10' 53.52"W	MAINSTEM
L60	28.63'	S66° 46' 58.50"W	MAINSTEM

Line Table

Line #	Length	Direction	Alignment Name
L81	28.49'	N55° 31' 10.76"W	GREEN VALLEY
L82	35.97'	N31° 50' 06.69"W	GREEN VALLEY
L83	3.29'	N3° 43' 01.99"E	Outfall SD-9
L84	2.70'	N6° 34' 11.53"E	Outfall SD-9
L85	44.93'	N19° 01' 29.25"W	Outfall SD-9
L86	18.31'	S4° 53' 40.89"W	HARTLEY
L87	54.79'	S5° 04' 17.53"W	HARTLEY
L88	52.82'	S4° 01' 35.95"W	HARTLEY
L89	21.45'	S0° 03' 14.77"E	HARTLEY
L90	213.99'	S5° 30' 47.54"W	HARTLEY
L91	25.46'	S8° 49' 29.59"E	HARTLEY
L92	2.62'	S6° 59' 55.37"W	HARTLEY
L93	30.61'	S2° 36' 41.14"W	HARTLEY
L94	32.29'	S6° 10' 41.13"W	HARTLEY
L95	4.35'	S10° 01' 27.88"W	HARTLEY2
L96	11.36'	S11° 20' 13.25"W	HARTLEY2
L97	9.93'	S0° 56' 34.27"E	HARTLEY2
L98	12.91'	S57° 17' 59.85"W	HARTLEY2
L99	14.06'	S19° 11' 54.84"W	HARTLEY2

Curve Table

Curve #	Radius	Length	Delta	Tangent	Chord Direction	Chord Length	Alignment Name
C1	25.00	20.42'	46°48'11.75"	10.82'	N31° 15' 13.45"W	19.86'	GREENSHIRE
C2	25.00	23.77'	54°28'33.84"	12.87'	N27° 25' 02.41"W	22.88'	GREENSHIRE
C3	28.00	20.82'	42°35'36.26"	10.91'	N21° 28' 33.61"W	20.34'	GREENSHIRE
C4	28.00	14.30'	29°16'07.41"	7.31'	N28° 08' 18.04"W	14.15'	GREENSHIRE
C5	35.00	15.58'	25°30'34.13"	7.92'	N26° 15' 31.40"W	15.45'	GREENSHIRE
C6	35.00	19.33'	31°38'09.84"	9.92'	N23° 11' 43.54"W	19.08'	GREENSHIRE
C7	30.00	34.50'	65°53'53.87"	19.44'	N40° 19' 35.56"W	32.63'	GREENSHIRE
C8	28.00	37.00'	75°42'51.23"	21.76'	N35° 25' 06.88"W	34.37'	GREENSHIRE
C9	28.00	36.20'	74°03'56.46"	21.12'	N34° 35' 39.49"W	33.73'	GREENSHIRE
C10	28.00	31.25'	63°57'10.41"	17.48'	N39° 39' 02.52"W	29.66'	GREENSHIRE
C11	28.00	33.60'	68°45'09.80"	19.16'	N42° 03' 02.21"W	31.62'	GREENSHIRE
C12	28.00	35.92'	73°29'45.16"	20.91'	N39° 40' 44.53"W	33.50'	GREENSHIRE
C13	30.00	13.23'	25°15'31.43"	6.72'	N15° 33' 37.66"W	13.12'	GREENSHIRE
C14	30.00	11.97'	22°51'59.49"	6.07'	N16° 45' 23.64"W	11.89'	GREENSHIRE
C15	30.00	24.55'	46°53'35.32"	13.01'	N28° 46' 11.55"W	23.87'	GREENSHIRE
C16	53.85	13.81'	14°41'24.50"	6.94'	N32° 47' 36.70"E	13.77'	Outfall SD-2
C17	40.00	29.81'	42°41'57.77"	15.64'	N82° 20' 39.02"W	29.12'	MAINSTEM
C18	40.00	47.42'	67°55'29.59"	26.94'	S85° 02' 35.07"W	44.69'	MAINSTEM
C19	40.00	44.26'	63°23'55.16"	24.70'	S82° 46' 47.85"W	42.04'	MAINSTEM
C20	40.00	38.06'	54°30'50.21"	20.61'	S87° 13' 20.33"W	36.64'	MAINSTEM

Curve Table

Curve #	Radius	Length	Delta	Tangent	Chord Direction	Chord Length	Alignment Name
C41	45.00	20.45'	26°02'07.98"	10.40'	S79° 48' 02.49"W	20.27'	MAINSTEM
C42	21.46	14.83'	39°35'44.45"	7.72'	S5° 43' 22.95"W	14.53'	WELLHAVEN
C43	22.65	19.80'	50°04'37.35"	10.58'	S10° 57' 49.40"W	19.17'	WELLHAVEN
C44	21.76	24.24'	63°48'06.82"	13.55'	S4° 06' 04.66"W	23.00'	WELLHAVEN
C45	23.00	33.17'	82°37'09.64"	20.21'	S13° 30' 36.07"W	30.37'	WELLHAVEN
C46	22.79	38.66'	97°12'03.86"	25.85'	S6° 13' 08.97"W	34.18'	WELLHAVEN
C47	23.00	41.97'	104°33'38.86"	29.74'	S9° 53' 56.47"W	36.39'	WELLHAVEN
C48	23.00	32.01'	79°43'55.36"	19.21'	S22° 18' 48.23"W	29.49'	WELLHAVEN
C49	23.26	20.51'	50°30'38.62"	10.97'	S7° 42' 09.86"W	19.85'	WELLHAVEN
C50	21.91	19.01'	49°42'43.97"	10.15'	S8° 23' 50.14"E	18.42'	Outfall SD-5
C51	15.90	21.18'	76°19'34.34"	12.49'	S4° 54' 35.05"W	19.65'	Outfall SD-5
C52	40.00	16.53'	23°41'04.06"	8.39'	N43° 40' 38.73"W	16.42'	GREEN VALLEY
C53	88.05	4.38'	2°51'09.54"	2.19'	N5° 08' 36.76"E	4.38'	Outfall SD-9
C54	7.92	3.54'	25°35'40.78"	1.80'	N6° 13' 38.86"W	3.51'	Outfall SD-9
C55	621.64	11.34'	1°02'41.57"	5.67'	S4° 32' 56.74"W	11.34'	HARTLEY
C56	161.15	11.48'	4°04'50.72"	5.74'	S1° 59' 10.59"W	11.47'	HARTLEY
C57	140.64	35.19'	14°20'17.12"	17.69'	S1° 39' 21.03"E	35.10'	HARTLEY
C58	12.64	5.93'	26°52'05.02"	3.02'	S4° 36' 32.92"W	5.87'	HARTLEY
C59	142.45	63.58'	25°34'23.78"	32.33'	S5° 15' 23.54"W	63.06'	HARTLEY
C60	155.61	39.46'	14°31'43.72"	19.84'	S0° 15' 56.49"E	39.35'	HARTLEY

Line Table

Line #	Length	Direction	Alignment Name
L21	63.82'	S76° 18' 22.09"W	MAINSTEM
L22	59.42'	N60° 59' 40.14"W	MAINSTEM
L23	16.65'	S51° 04' 50.27"W	MAINSTEM
L24	26.50'	N65° 31' 14.57"W	MAINSTEM
L25	25.12'	S59° 57' 55.22"W	MAINSTEM
L26	53.06'	N70° 06' 49.20"W	MAINSTEM
L27	45.17'	S69° 04' 28.55"W	MAINSTEM
L28	37.28'	S82° 22' 37.31"W	MAINSTEM
L29	4.28'	S82° 54' 13.35"W	MAINSTEM
L30	11.12'	S88° 37' 43.46"W	MAINSTEM
L31	8.66'	S76° 34' 40.67"W	MAINSTEM
L32	8.99'	S82° 04' 44.58"W	MAINSTEM
L33	6.89'	S68° 11' 05.74"W	MAINSTEM
~~L34~~			~~MAINSTEM~~
~~L35~~			~~MAINSTEM~~
~~L36~~			~~MAINSTEM~~
~~L37~~			~~MAINSTEM~~
L38	13.99'	S69° 08' 53.25"W	MAINSTEM
L39	10.55'	S70° 29' 59.59"W	MAINSTEM
L40	16.72'	S73° 14' 29.04"W	MAINSTEM

Line Table

Line #	Length	Direction	Alignment Name
L61	6.95'	S74° 36' 30.56"W	MAINSTEM
~~L62~~			~~MAINSTEM~~
L63	14.91'	S25° 31' 15.17"W	WELLHAVEN
L64	23.73'	S14° 04' 29.28"E	WELLHAVEN
L65	26.19'	S36° 00' 08.07"W	WELLHAVEN
L66	32.38'	S27° 47' 58.75"E	WELLHAVEN
L67	7.46'	S54° 49' 10.90"W	WELLHAVEN
L68	11.07'	S42° 22' 52.96"E	WELLHAVEN
L69	11.40'	S62° 10' 45.90"W	WELLHAVEN
L70	1.83'	S17° 33' 09.45"E	WELLHAVEN
L71	54.14'	S32° 57' 29.17"W	WELLHAVEN
L72	42.72'	N21° 36' 32.25"W	Outfall SD-3
L73	32.51'	N22° 33' 34.51"E	Outfall SD-4
L74	11.00'	S16° 27' 31.84"W	Outfall SD-5
L75	35.42'	S43° 04' 22.22"W	Outfall SD-5
L76	13.23'	S33° 15' 12.12"E	Outfall SD-5
L77	41.51'	N2° 23' 42.16"W	Outfall SD-6
L78	84.26'	S5° 33' 52.42"E	Outfall SD-8
L79	10.59'	N33° 32' 20.43"W	GREEN VALLEY
L80	1.86'	N25° 34' 40.92"W	GREEN VALLEY

Curve Table

Curve #	Radius	Length	Delta	Tangent	Chord Direction	Chord Length	Alignment Name
C21	40.00	34.85'	49°55'15.58"	18.62'	S84° 55' 33.01"W	33.76'	MAINSTEM
C22	40.00	28.49'	40°48'42.25"	14.88'	S89° 28' 49.67"W	27.89'	MAINSTEM
C23	40.00	9.29'	13°18'08.77"	4.66'	S75° 43' 32.93"W	9.27'	MAINSTEM
C24	8.19	4.18'	29°13'19.90"	2.13'	S74° 48' 18.18"W	4.13'	MAINSTEM
C25	40.00	19.17'	27°27'14.51"	9.77'	S75° 41' 20.87"W	18.98'	MAINSTEM
C26	40.00	38.42'	55°01'53.81"	20.84'	S89° 28' 40.52"W	36.96'	MAINSTEM
C27	40.00	46.98'	67°18'01.13"	26.63'	S83° 20' 36.86"W	44.33'	MAINSTEM
C28	40.00	44.64'	63°56'46.05"	24.97'	S81° 39' 59.32"W	42.36'	MAINSTEM
C29	40.00	30.22'	43°17'20.10"	15.87'	N88° 00' 17.70"W	29.51'	MAINSTEM
C30	40.00	24.82'	35°33'10.98"	12.82'	S88° 07' 37.74"W	24.42'	MAINSTEM
C31	40.00	39.05'	55°56'16.44"	21.24'	S77° 56' 05.00"W	37.52'	MAINSTEM
C32	35.36	24.99'	40°29'35.62"	13.04'	S70° 12' 44.59"W	24.47'	MAINSTEM
C33	38.61	31.77'	47°08'50.69"	16.85'	S66° 53' 07.05"W	30.88'	MAINSTEM
C34	47.86	48.86'	58°29'42.17"	26.80'	S72° 33' 32.80"W	46.77'	MAINSTEM
C35	40.00	38.37'	54°57'19.04"	20.80'	S74° 19' 44.36"W	36.91'	MAINSTEM
C36	40.00	36.21'	51°51'48.93"	19.45'	S72° 46' 59.30"W	34.98'	MAINSTEM
C37	40.00	30.99'	44°23'20.53"	16.32'	S76° 31' 13.51"W	30.22'	MAINSTEM
C38	40.00	27.28'	39°04'55.64"	14.20'	S73° 52' 01.06"W	26.76'	MAINSTEM
C39	50.00	50.73'	58°07'54.52"	27.79'	S64° 20' 31.63"W	48.58'	MAINSTEM
C40	45.00	45.19'	57°32'32.11"	24.71'	S64° 02' 50.42"W	43.32'	MAINSTEM

Curve Table

Curve #	Radius	Length	Delta	Tangent	Chord Direction	Chord Length	Alignment Name
C61	35.86	36.46'	58°14'34.12"	19.98'	S28° 10' 42.79"W	34.91'	HARTLEY2
C62	44.03	29.28'	38°06'05.01"	15.20'	S38° 14' 57.35"W	28.74'	HARTLEY2

Traverse Coordinate Table

Traverse #	Northing	Easting	Elevation
104	630191.9539	1381972.9505	509.26
105	630451.3950	1381870.3623	491.47
106	630589.0212	1381781.7944	483.88
107	630610.4687	1381653.8625	488.01
108	630890.7113	1381617.6603	485.14
109	630885.9213	1381311.4111	464.93
110	630886.8866	1381119.8847	460.27
111	630810.6413	1380990.0221	480.92
112	630689.5195	1380840.6973	471.90
113	630744.9551	1380602.4331	451.80
114	630718.4749	1380433.0779	448.76
115	630614.5074	1380289.8839	453.36
116	630523.2935	1380157.2616	451.95
117	630496.3244	1379920.2437	444.65
118	630511.7449	1379723.8352	436.30
120	630697.3862	1379963.3474	442.32
121	630760.5278	1380173.4801	445.85
122	631055.5683	1380192.7492	454.48
123	631273.9663	1380218.0863	463.36
124	631499.7408	1380238.8455	483.35
150	630470.1745	1381736.6731	493.46
151	630943.1657	1380839.4496	472.60
153	631039.1768	1381473.4271	490.63
154	630877.8310	1381432.2314	467.13
155	630809.6501	1381513.8942	478.82
156	630658.9390	1380982.4923	488.30
157	630808.3854	1380731.9568	455.63
158	630738.9421	1381321.4333	498.86
159	630989.5077	1381215.1608	464.50
160	631092.3289	1381249.4802	468.61
161	631030.4486	1381120.8037	469.70
163	631237.2638	1381273.3995	486.22
164	630867.4917	1380266.7612	458.02
165	630831.6558	1381502.0486	464.77
167	631341.2943	1380167.6348	465.13
168	631238.6118	1380159.5482	461.80
170	630493.9311	1379372.8311	438.26
172	631096.0645	1380090.5085	466.34
173	631420.5693	1380211.4565	468.89
174	631163.8205	1380012.4261	471.45

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK | DRAWN CSD, AW, JS | CHECKED SL

BUREAU OF ENGINEERING AND CONSTRUCTION
REVIEWED
DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GEOMETRY TABLES

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GS-07

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 9 OF 46
DWG. NO.
2023-1195

PLOTTED: "11:11 AM on Thursday, March 21, 2024"
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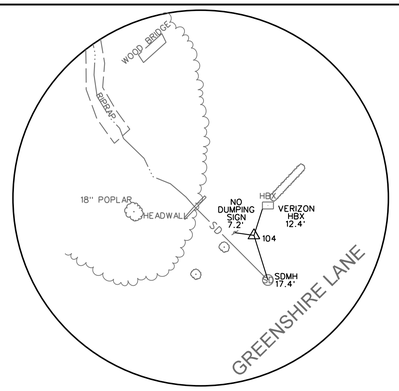
Contract No. 24024 GX0
Addendum No.2
April 8, 2025



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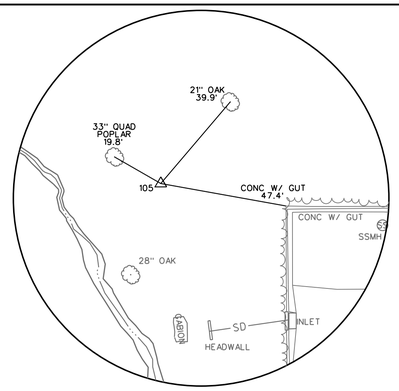

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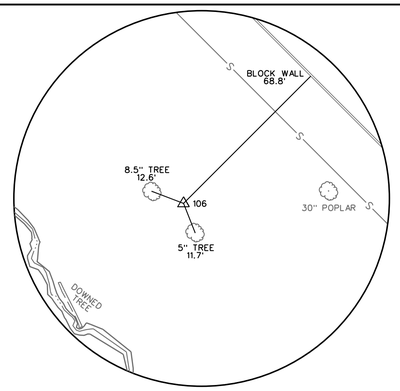

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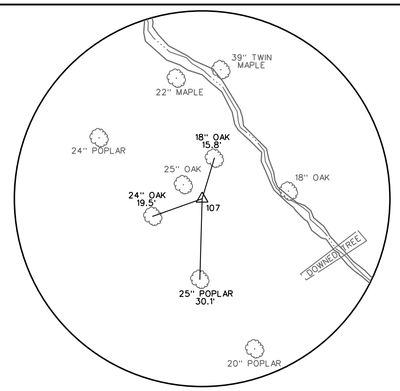

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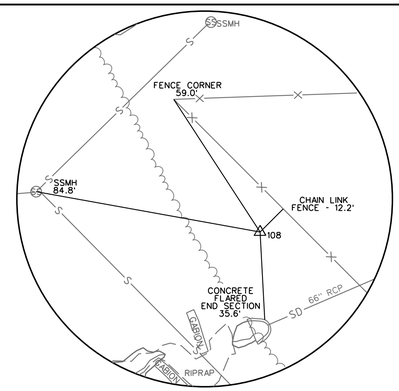

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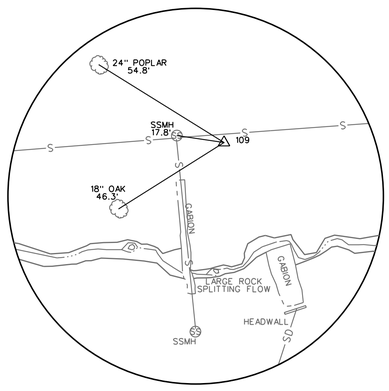

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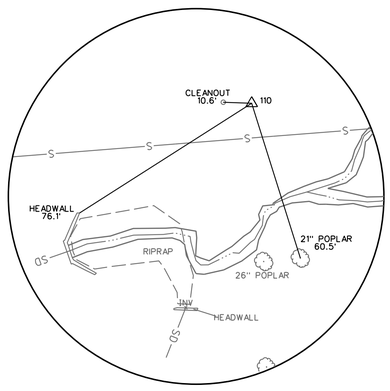

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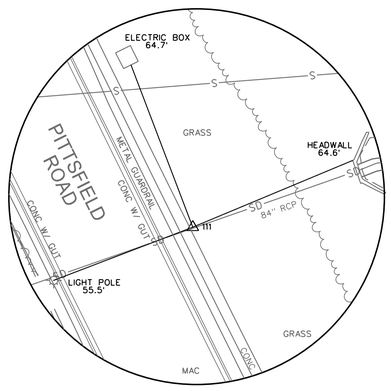

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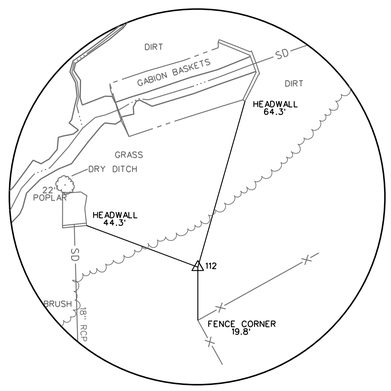

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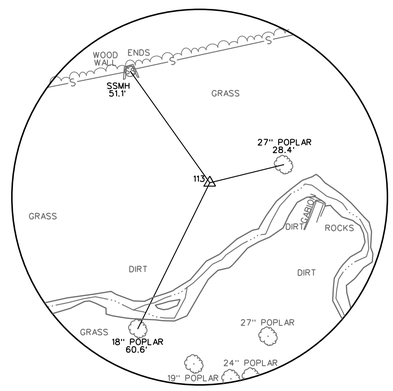

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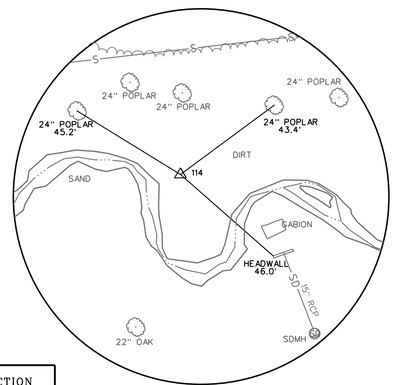

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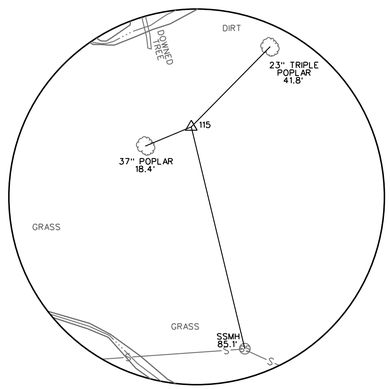

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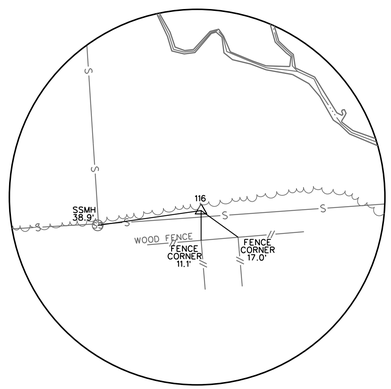

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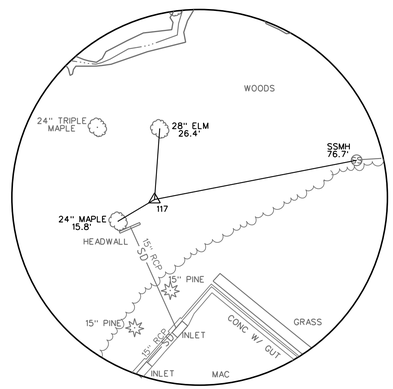

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DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · 33079 · PROFESSIONAL ENGINEER

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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL,JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

TRAVERSE REFERENCES

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GS-08

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 10 OF 46
DWG. NO.
2023-1196

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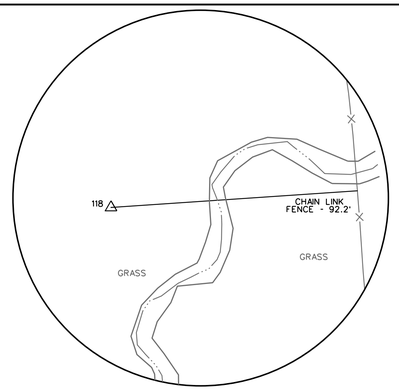

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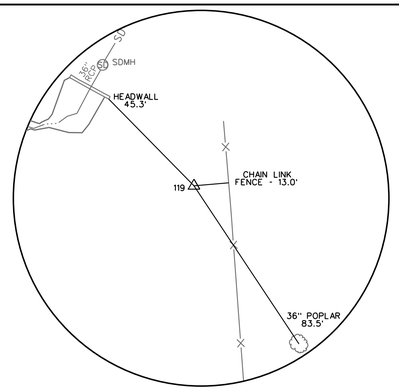

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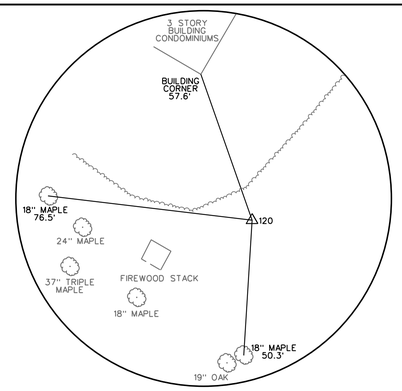

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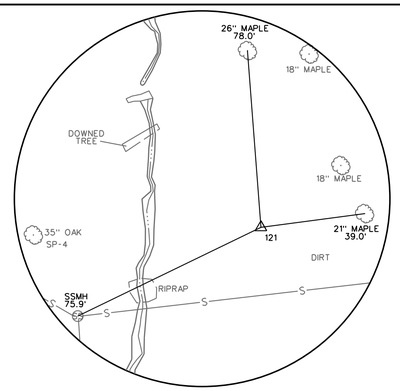

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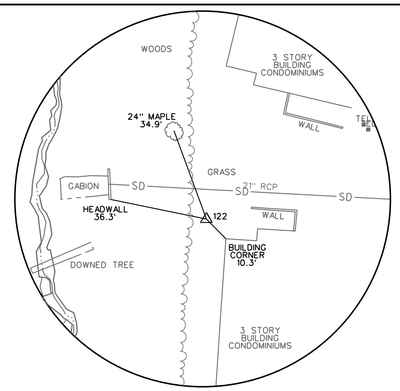

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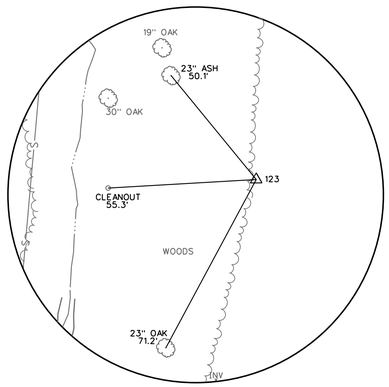

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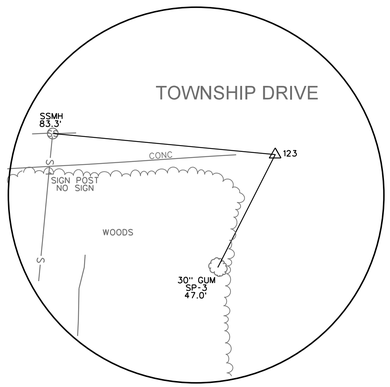

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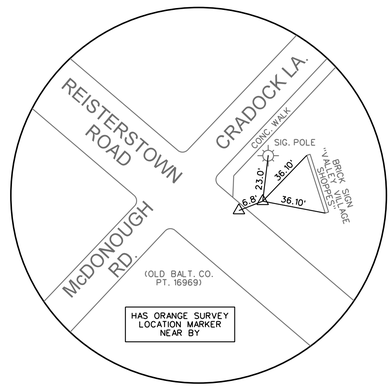

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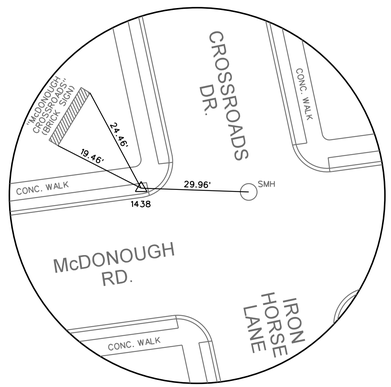

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FILE NAME: 2016\16900\2620\12_Drawings\gs05-5009_Pittsfield.dgn

SEAL

STATE OF MARYLAND · SHANNON CP. LUCAS · 33079 · PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL,JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

TRAVERSE REFERENCES

SUBDIVISION: MCDONOUGH TOWNSHIP EL. DISTRICT NO. 03

GS-09

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 11 OF 46
DWG. NO.
2023-1197

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

MATCH LINE - SEE SHEET GR-02

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 75/ 114
LOT 5B
ACCT. 03-2500007518
5 PARK CENTER CT.

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 79/ 109
LOT 5-A2
ACCT. 03-2500007518
10 CROSSROADS DRIVE

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 79/ 109
LOT 5-A1
ACCT. 03-2500008219
10 CROSSROADS DRIVE

J M S PROPERTIES INC
TM 67, PARCEL 296
L. 8516 F. 491 PLAT 12 / 80
ACCT. 03-2100011224
20 CROSSROADS DRIVE

N45° 02' 24"E, 149.52'
N45° 02' 24"E, 398.69'
N45° 02' 24"E, 231.03'

20' DRAINAGE & UTILITY EASEMENT
PLAT 55 / 11, RW-83/360
(APPROX. LOC.)

EX. 8" SAN. (84-1046)

N44° 57' 36"W, 157.91'
N44° 57' 36"W, 170.29'

HOA OPEN SPACE

10' DRAINAGE & UTILITY EASEMENT
PLAT 54/ 13 (APPROX. LOC.)

EX. MH 53486
EX. MH 53487
EX. MH 54183
EX. MH 54182
EX. MH 54179
EX. MH 54180
EX. MH 54181

SSMH
TOP=475.65'
INV. EL(E)=468.02'
INV. EL(S)=467.97'
INV. EL(N)=467.86'

SSMH
TOP=501.89'
INV. EL(E)=496.22'
INV. EL=496.02'

SSMH
TOP=503.55'
INV. EL=497.66'
INV. EL=497.01'

SSMH
TOP=508.25'
INV. EL=498.29'

INLET
TOP=483.70'

SSMH
TOP=509.10'
INV. EL=497.81'

GREENSHIRE LANE

EX. PARKING LOT

(40' R/W)

EX. 4"W

EX. 18"D (85-0932)

EX. 8"W

EX. 12"W

EX. 6"W

EX. 8"D (86-0176)

MCDONOGH TOWNSHIP SECTIONS
1-4 HOMEOWNERS ASSOCIATION
TM 67, P/O PARCEL 233
HOA OPEN SPACE (4.22 AC)
L. 7766 F. 823 PLAT 55 / 13
ACCT. 03-2000012351
MCDONOGH ROAD

"SECTION 1, MCDONOGH TOWNSHIP"
1985

MCDONOGH TOWNSHIP SECTIONS
1-4 HOMEOWNERS ASSOCIATION
TM 67, P/O PARCEL 418
HOA OPEN SPACE (6.22 AC)
L. 8060 F. 397 PLAT 55/ 11
ACCT. 03-2000012351
PREAKNESS CT.

"SECTION 3, MCDONOGH TOWNSHIP"
1985

STEEPLE-JACK CT.

GREENSHIRE TRIBUTARY

EX. 100-YR FLOODPLAIN

OUTFALL SD-1

OUTFALL SD-2

AVOID DISTURBANCE TO EX. TREES AND ROOTS. PACK ROOTS WITH SOIL AS NEEDED

PACK ROOTS WITH SOIL AS NEEDED

GRADE AS DIRECTED TO MINIMIZE DISTURBANCE TO TREE ROOTS. ROOT PRUNING AS NEEDED

ROOT PRUNE AND PACK ROOTS WITH SOIL AS NEEDED

MINIMIZE DISTURBANCE TO ROOTS

REMOVE EX. GABION

REMOVE EX. GABION

AVOID DISTURBANCE AROUND EX. TREES PER LANDOWNER REQUEST

BLEND TO EX. GRADES AS DIRECTED

50' DRAINAGE & UTILITY EASEMENT
PLAT 55 / 11 (APPROX. LOC.)

10' DRAINAGE & UTILITY EASEMENT
PLAT 55/ 13 (APPROX. LOC.)

N 630,600
E 1,381,550
N 630,250
E 1,381,800

S43° 43' 56"E, 183.83'
S43° 43' 58"E, 183.50'
S45° 10' 29"W, 91.76'
S47° 56' 08"W, 97.00'
S47° 47' 00"W, 253.43'
N42° 03' 52"W, 179.00'

LOD
CRZ
FP
WUS
SDM
SD
W
S

MT-1 MT-2 MT-3 MT-4
WT-1 WT-2 WT-3 WT-4 WT-5
BCR-1 BCR-2 BCR-3 BCR-4 BCR-5 BCR-6 BCR-7 BCR-8 BCR-9 BCR-10 BCR-11 BCR-12
TB-1 TB-2 TB-3 TB-4 TB-5
CP-1 CP-2
WDP-1 WDP-2
BBP-1 BBP-2
FPLS-1
STDR 1-7
SP-1

LEGEND

NOTE: SYMBOLS REPRESENTATIVE, NOT FOR CONSTRUCTION

- WOODY TOE PROTECTION (WT)
- BOULDER BANK PROTECTION (BBP)
- TOE BOULDER W/ LIVE STAKES (TB)
- STEP-POOL CREST (STEP-POOL)
- STEP / DROP (STDR)
- WOODY DEBRIS PLUG (WDP)
- CLAY PLUG (CP)
- BED MIX (BCR)
- FLOODPLAIN LOG SILL (FPLS)
- PROP. 100-YR FLOODPLAIN
- EX. 100-YR FLOODPLAIN
- WETLAND CREATION AREA (CW)
- MICROTOPOGRAPHY AREA (MT)
- PROP. BASELINE OF CONSTRUCTION (16+50)
- PROP. CONTOUR (490)
- TOP OF BANKS
- LOG GRADE CONTROL ELEMENT
- BOULDER GRADE CONTROL ELEMENT
- EX. TREE TO BE REMOVED
- PROP. SANITARY SEWER W/ CONCRETE ENCASEMENT

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND · SHANNON LUCAS · 33079 · PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK | DRAWN CSD, AW, JS | CHECKED SL

BUREAU OF ENGINEERING AND CONSTRUCTION
REVIEWED
DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO. | KEY SHEET: PNE
RIGHT OF WAY | POSITION SHEET: 37NW 27, 28 / 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

GRADING PLAN

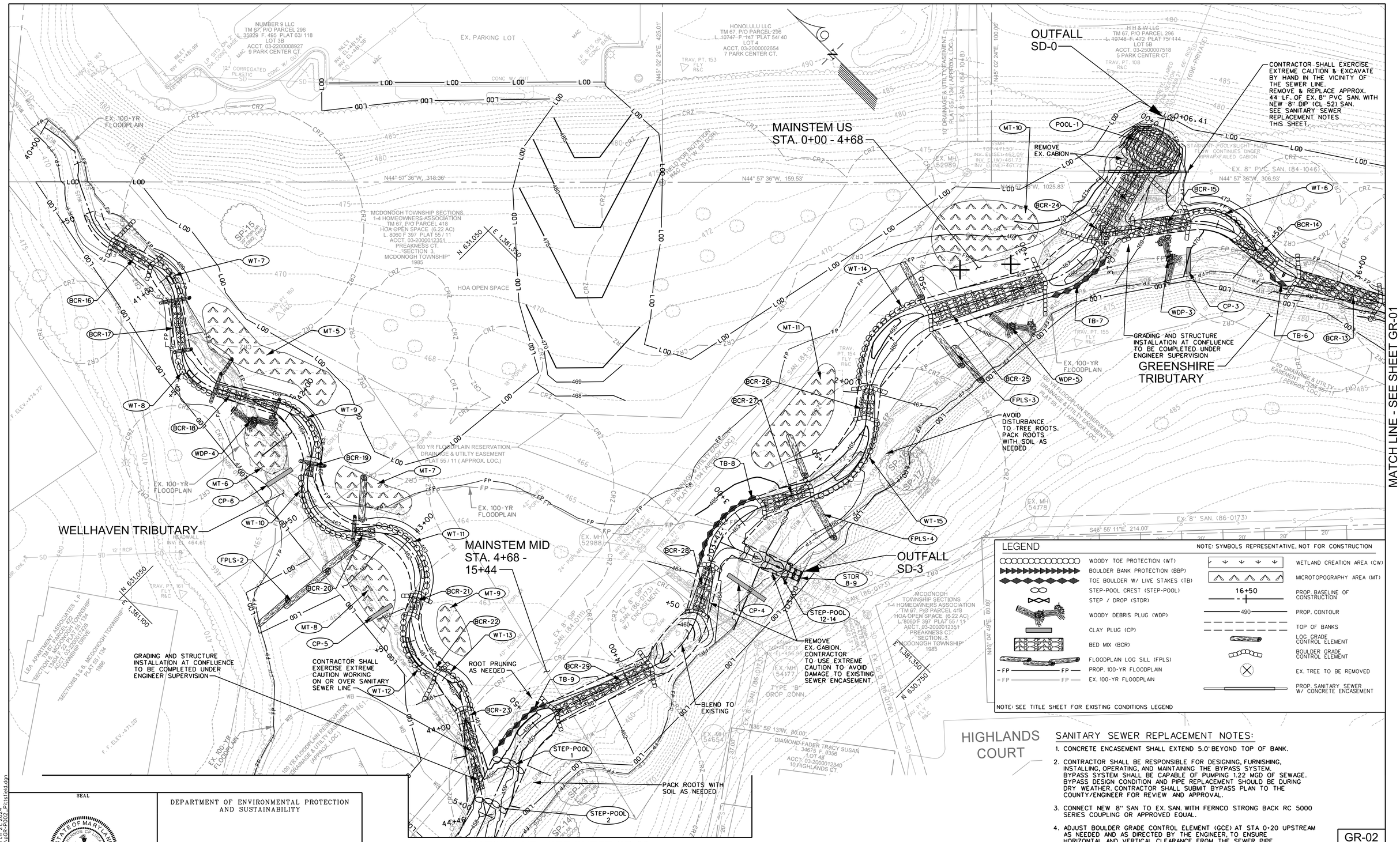
COUNCIL DISTRICT NO. 02
SUBDIVISION: MCDONOGH TOWNSHIP
EL. DISTRICT NO. 03

GR-01

CONTRACT NO.
24024 GX0
JOB ORDER NO.
247-221-0400-0351
SHEET 12 OF 46
DWG. NO.
2023-1198

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: 11:12 AM on Thursday, March 21, 2024
FILE NAME: 2016\16002620\12-Drawings\plan\16002620_1#1sfield.dgn



LEGEND

NOTE: SYMBOLS REPRESENTATIVE, NOT FOR CONSTRUCTION

- WOODY TOE PROTECTION (WT)
- BOULDER BANK PROTECTION (BBP)
- TOE BOULDER W/ LIVE STAKES (TB)
- STEP-POOL CREST (STEP-POOL)
- STEP / DROP (STDR)
- WOODY DEBRIS PLUG (WDP)
- CLAY PLUG (CP)
- BED MIX (BCR)
- FLOODPLAIN LOG SILL (FPLS)
- PROP. 100-YR FLOODPLAIN
- EX. 100-YR FLOODPLAIN
- WETLAND CREATION AREA (CW)
- MICROTOPOGRAPHY AREA (MT)
- 16+50 PROP. BASELINE OF CONSTRUCTION
- 490 PROP. CONTOUR
- TOP OF BANKS
- LOG GRADE CONTROL ELEMENT
- BOULDER GRADE CONTROL ELEMENT
- EX. TREE TO BE REMOVED
- PROP. SANITARY SEWER W/ CONCRETE ENCASEMENT

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

HIGHLANDS COURT

SANITARY SEWER REPLACEMENT NOTES:

1. CONCRETE ENCASEMENT SHALL EXTEND 5.0' BEYOND TOP OF BANK.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, INSTALLING, OPERATING, AND MAINTAINING THE BYPASS SYSTEM. BYPASS SYSTEM SHALL BE CAPABLE OF PUMPING 1.22 MGD OF SEWAGE. BYPASS DESIGN CONDITION AND PIPE REPLACEMENT SHOULD BE DURING DRY WEATHER. CONTRACTOR SHALL SUBMIT BYPASS PLAN TO THE COUNTY/ENGINEER FOR REVIEW AND APPROVAL.
3. CONNECT NEW 8" SAN TO EX. SAN. WITH FERNCO STRONG BACK RC 5000 SERIES COUPLING OR APPROVED EQUAL.
4. ADJUST BOULDER GRADE CONTROL ELEMENT (GCE) AT STA 0+20 UPSTREAM AS NEEDED AND AS DIRECTED BY THE ENGINEER, TO ENSURE HORIZONTAL AND VERTICAL CLEARANCE FROM THE SEWER PIPE.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW, HS, SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

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. 33079
EXPIRATION DATE: 01/16/2025

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GRADING PLAN

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GR-02

CONTRACT NO.
24024 GX0
JOB ORDER NO.
247-221-0400-0351
SHEET 13 OF 46
DWG. NO.
2023-1199

PLOTTED: 11:12 AM on Thursday, March 21, 2024
FILENAME: P:\2016\16002620\12.00\drawings\16002620_PittsfieldA.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

MATCH LINE - SEE SHEET GR-04

MATCH LINE - SEE SHEET GR-02

HARTLEY CIRCLE

PITTSFIELD ROAD

N 630,950
E 1,380,700

N 630,950
E 1,381,050

N 630,750
E 1,381,050

INSTALL PRIVACY FENCE PRIOR TO DISTURBANCE. (PER SPECIAL PROVISION) SEE ES-03 FOR DETAILS.

CONTRACTOR SHALL EXERCISE EXTREME CAUTION WORKING ON OR OVER SANITARY SEWER LINE

GRADE DOWN BERM

MAINSTEM MID STA. 4+45.9 - 15+44.4

OUTFALL SD-5

CONTRACTOR SHALL EXERCISE EXTREME CAUTION WORKING ON OR OVER SANITARY SEWER LINE

ROOT PRUNING AS NEEDED

REMOVE EX. GABION

EXISTING GABION TO REMAIN

GRADING AND STRUCTURE INSTALLATION AT CONFLUENCE TO BE COMPLETED UNDER ENGINEER SUPERVISION

REMOVE EX. GABION

PACK ROOTS WITH SOIL

OUTFALL SD-6

CUT LEANING TREES ALONG STEEP BANK AT BASE OF TRUNK AS DIRECTED BY COUNTY AND ENGINEER

MAINSTEM MID STA. 4+46 - 15+44

EXISTING GABION TO REMAIN

REMOVE EXISTING GABION FROM OUTFALL SD-4 AT ENGINEER'S DISCRETION

OUTFALL SD-4

MT-12 MT-13 WT-16 BCR-30 BCR-31 BCR-32 TB-10 WDP-6 FPLS-5 POOL-2 STEP-POOL 18-23 STEP-POOL 6 STDR 10-15 STEP-POOL 15-17 STEP-POOL 3-5 SP-12

LEGEND

NOTE: SYMBOLS REPRESENTATIVE, NOT FOR CONSTRUCTION

- WOODY TOE PROTECTION (WT)
- BOULDER BANK PROTECTION (BBP)
- TOE BOULDER W/ LIVE STAKES (TB)
- STEP-POOL CREST (STEP-POOL)
- STEP / DROP (STDR)
- WOODY DEBRIS PLUG (WDP)
- CLAY PLUG (CP)
- BED MIX (BCR)
- FLOODPLAIN LOG SILL (FPLS)
- PROP. 100-YR FLOODPLAIN
- EX. 100-YR FLOODPLAIN
- WETLAND CREATION AREA (CW)
- MICROTOPOGRAPHY AREA (MT)
- PROP. BASELINE OF CONSTRUCTION (16+50)
- PROP. CONTOUR (490)
- TOP OF BANKS
- LOG GRADE CONTROL ELEMENT
- BOULDER GRADE CONTROL ELEMENT
- EX. TREE TO BE REMOVED
- PROP. SANITARY SEWER W/ CONCRETE ENCASEMENT

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL,JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27,28 38NW 27,28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GRADING PLAN

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GR-03

CONTRACT NO.
24024 GX0
JOB ORDER NO.
247-221-0400-0351
SHEET 14 OF 46
DWG. NO.
2023-1200

PLOTTED: 11:12 AM on Thursday, March 21, 2024
FILENAME: P:\2019\19602620\10 Drawings\gcpl-P0003_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

MATCH LINE - SEE SHEET GR-06

MATCH LINE - SEE SHEET GR-05

MATCH LINE - SEE SHEET GR-03

MAINSTEM DS
STA. 15+44 -
19+47

HARTLEY
TRIBUTARY DS
STA. 97+53 -
98+71.36

MAINSTEM MID
STA. 4+46 -
15+44

GREEN VALLEY
TRIBUTARY

OUTFALL
SD-8

OUTFALL
SD-7

HARTLEY CIRCLE

CONTRACTOR SHALL EXERCISE EXTREME CAUTION WORKING ON OR OVER SANITARY SEWER LINE

GRADING AND STRUCTURE INSTALLATION AT CONFLUENCE TO BE COMPLETED UNDER ENGINEER SUPERVISION

PACK ROOTS WITH SOIL AS NEEDED

ROOT PRUNING AS NEEDED

MINIMIZE DISTURBANCE TO EX. TREE AND ROOTS ROOT PRUNING AS NEEDED

BLEND TO EXISTING

WETLAND CREATION

LEA APARTMENT ASSOCIATES L P
TM 67, PARCEL 422
"SECTION 5, MCDONOGH TOWNSHIP"
L. 13404 F. 22 PLAT 55 / 134
ACCT. 03-2200017428
TOWNSHIP DRIVE

"SECTIONS 5 & 6, MCDONOGH TOWNSHIP"
PLAT 55 / 134
1986

"SECTIONS 4, MCDONOGH TOWNSHIP"
PLAT 55 /147
1986

BALTIMORE COUNTY, MD
TM 67, P/O PARCEL 197
100 YEAR FLOODPLAIN RESERVATION & DRAINAGE & UTILITY EASEMENT
10329, F. 64 PLAT 55 / 147
ACCT. 03-2000012409

KEITH BLANK CHARLES
TM 67, PARCEL 193
L. 19515 F. 326
ACCT. 03-2200018235
8116 GREENWOOD AVE

LEGEND

NOTE: SYMBOLS REPRESENTATIVE, NOT FOR CONSTRUCTION

- WOODY TOE PROTECTION (WT)
- BOULDER BANK PROTECTION (BBP)
- TOE BOULDER W/ LIVE STAKES (TB)
- STEP-POOL CREST (STEP-POOL)
- STEP / DROP (STDR)
- WOODY DEBRIS PLUG (WDP)
- CLAY PLUG (CP)
- BED MIX (BCR)
- FLOODPLAIN LOG SILL (FPLS)
- PROP. 100-YR FLOODPLAIN
- EX. 100-YR FLOODPLAIN
- WETLAND CREATION AREA (CW)
- MICROTOPOGRAPHY AREA (MT)
- PROP. BASELINE OF CONSTRUCTION (16+50)
- PROP. CONTOUR (490)
- TOP OF BANKS
- LOG GRADE CONTROL ELEMENT
- BOULDER GRADE CONTROL ELEMENT
- EX. TREE TO BE REMOVED
- PROP. SANITARY SEWER W/ CONCRETE ENCASEMENT

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GRADING PLAN

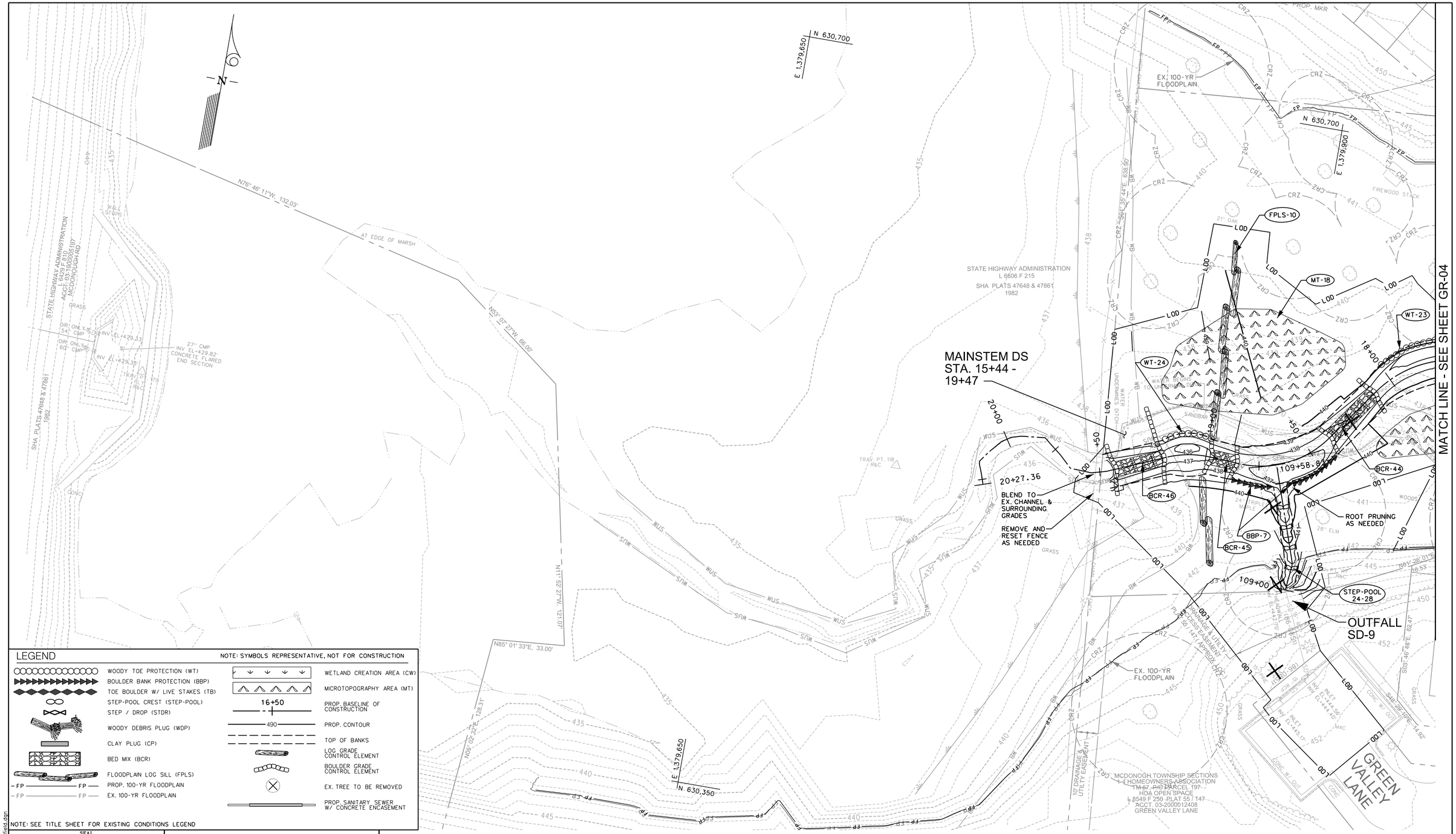
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GR-04

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 15 OF 46
DWG. NO.
2023-1201

PLOTTED: 11:12 AM on Thursday, March 21, 2024
FILENAME: 16\2022\16502220\2.0\Drawings\GDP-F004-Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025



MATCH LINE - SEE SHEET GR-04

LEGEND

NOTE: SYMBOLS REPRESENTATIVE, NOT FOR CONSTRUCTION

- WOODY TOE PROTECTION (WT)
- BOULDER BANK PROTECTION (BBP)
- TOE BOULDER W/ LIVE STAKES (TB)
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- STEP / DROP (STDR)
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- WETLAND CREATION AREA (CW)
- MICROTOPOGRAPHY AREA (MT)
- 16+50 PROP. BASELINE OF CONSTRUCTION
- 490 PROP. CONTOUR
- TOP OF BANKS
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- BOULDER GRADE CONTROL ELEMENT
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GRADING PLAN

SUBDIVISION: MCDONOUGH TOWNSHIP EL. DISTRICT NO. 03

GR-05

CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET 16 OF 46	
DWG. NO.	2023-1202

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: "11:12 AM, on Thursday, March 21, 2024"
E:\EMC\2016\16002620\12-Drawings\plan-Profiles_Pittsfield.dgn

HARTLEY TRIBUTARY
STA. 90+00 - 96+28

OUTFALL SD-11

OUTFALL SD-10

HARTLEY CIRCLE

TOWNSHIP DRIVE

SPIRIT LANE

STABILIZE RILL WITH FILTER FABRIC AND RIPRAP AS DIRECTED

ROOT PRUNING AS NEEDED

CONTRACTOR SHALL EXERCISE EXTREME CAUTION WORKING ON OR OVER SANITARY SEWER LINE

REPLACE APPROX. 31 LF. OF EX. PVC SHC WITH DIP (CL 52) PER BALT. CO. STD. DETAIL S-12A. SEE SANITARY SEWER NOTES THIS SHEET.

REPLACE APPROX. 22 LF. & 27 LF. OF EX. PVC SHC WITH DIP (CL 52) PER BALT. CO. STD. DETAIL S-12A. SEE SANITARY SEWER NOTES THIS SHEET.

APPROX. LOCATION OF EX. CLEANOUT & LATERAL LINE. NOT FIELD LOCATED.

REMOVE EX. GABION

REMOVE EX. GABION

MATCH LINE - SEE SHEET GR-04

SANITARY SEWER REPLACEMENT NOTES:

1. CONCRETE ENCASE NEW SHC FOLLOWING BALT. CO. STD. DETAIL G-8.
2. CONCRETE ENCASEMENT SHALL EXTEND 5.0' BEYOND THE TOP OF BANKS.
3. THE CONNECTION SHOULD BE MADE BETWEEN DIP AND INTACT EXISTING PIPE IN GOOD CONDITION AND DIGGING UP THE CONNECTION BETWEEN THE MAIN AND THE LATERAL SHOULD BE AVOIDED.
4. WHEN CONNECTING REPLACED LATERAL TO EXISTING SEWER OR CLEANOUT, A FERNCO RC 5000 SERIES COUPLING OR APPROVED EQUAL MUST BE USED TO PROVIDE A WATERTIGHT CONNECTION.
5. CONTRACTOR TO VERIFY CONNECTION SIZE IN THE FIELD.
6. ADJUST BOULDER GRADE CONTROL ELEMENT (GCE) AT STA. 95+18 UPSTREAM AS NEEDED AND AS DIRECTED BY THE ENGINEER, TO ENSURE HORIZONTAL AND VERTICAL CLEARANCE FROM THE SEWER PIPE.

LEGEND

NOTE: SYMBOLS REPRESENTATIVE, NOT FOR CONSTRUCTION

- WOODY TOE PROTECTION (WT)
- BOULDER BANK PROTECTION (BBP)
- TOE BOULDER W/ LIVE STAKES (TB)
- STEP-POOL CREST (STEP-POOL)
- STEP / DROP (STDR)
- WOODY DEBRIS PLUG (WDP)
- CLAY PLUG (CP)
- BED MIX (BCR)
- FLOODPLAIN LOG SILL (FPLS)
- PROP. 100-YR FLOODPLAIN
- EX. 100-YR FLOODPLAIN
- WETLAND CREATION AREA (CW)
- MICROTOPOGRAPHY AREA (MT)
- PROP. BASELINE OF CONSTRUCTION (16+50)
- PROP. CONTOUR (490)
- TOP OF BANKS
- LOG GRADE CONTROL ELEMENT
- BOULDER GRADE CONTROL ELEMENT
- EX. TREE TO BE REMOVED
- PROP. SANITARY SEWER W/ CONCRETE ENCASEMENT

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

KCI TECHNOLOGIES
ENGINEER SHANNON CP LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
DIRECTOR DATE

DESIGNED AW, HS, SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GRADING PLAN

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

GR-06

CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET	17 OF 46
DWG. NO.	2023-1203

PLOTTED: 11:12 AM on Thursday, March 21, 2024
FILE NAME: P:\2016\16902620.12\Drawings\plan-P0008_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

WOODY DEBRIS PLUG*

NAME	US STATION	US OFFSET DISTANCE (FT)	DS STATION	DS OFFSET DISTANCE (FT)	OFFSET SIDE	PLUG (EA)
GREENSHIRE						
WDP-1	32+52.1	29.4	32+57.9	9.3	L	1
WDP-2	33+28.5	24.5	33+31.5	33	L	1
WDP-3	37+02.0	28.1	37+03.0	5.2	L	1
WELLHAVEN						
WDP-4	41+73.0	8	41+92.0	9.5	R	1
MAINSTEM						
WDP-5	1+05.0	21	1+25.0	9	L	1
WDP-6	8+84.7	33	9+11.0	28	L	1
WDP-7	12+56.0	16	12+76.0	16	L	1
WDP-8	13+72.1	11	13+92.4	22.2	L	1
WDP-9	14+87.0	57.5	14+90.0	39	R	1
WDP-10	15+03.5	42	15+09.0	58.5	R	1
WDP-11	15+14.5	25.5	15+19.5	41.5	R	1
WDP-12	15+27.0	58.5	15+34.0	50	R	1
				TOTAL PLUGS (EA)		12

*- FIELD DIRECTED AND ADJUSTED BY THE ENGINEER AS NECESSARY

FLOODPLAIN LOG SILL*

NAME	CENTERLINE STATION**	RB OFFSET STATION	RB OFFSET DISTANCE (LF)	LB OFFSET STATION	LB OFFSET DISTANCE (LF)	SILL LENGTH (LF)***
GREENSHIRE						
FPLS-1	34+18.2	33+93.0	39.5	34+19.0	33	72
WELLHAVEN						
FPLS-2	42+84.2	42+58.0	52.5	42+84.0	21.5	87
MAINSTEM						
FPLS-3	1+53.1	1+56.4	28.4	1+48.0	37.5	56
FPLS-4	2+61.4	2+63.8	28.6	2+59.0	27.5	44.9
FPLS-5	10+11.2	10+17.5	46	10+07.0	45	80.4
FPLS-6	12+28.6	N/A	N/A	12+38.7	27.4	23.7
FPLS-7	13+18.9	N/A	N/A	13+16.6	37.4	31.8
FPLS-8	14+09.5	14+02.0	73.5	14+09.0	20.8	83.1
FPLS-9	17+57.6	17+42.0	70	17+47.0	44	112
FPLS-10	18+97.9	19+02.0	100.7	18+83.0	49.2	135
					TOTAL LENGTH (LF)	725.9

*- FIELD DIRECTED AND ADJUSTED BY THE ENGINEER AS NECESSARY

**-CENTERLINE STATION IS THE LOCATION OF THE DS EDGE OF LOG, OFFSETS ARE MEASURED FROM MIDDLE OF LOG

***- LENGTH DOES NOT INCLUDE OVERLAP REQUIRED

BOULDER BANK PROTECTION

NAME	FROM STATION (PC)	TO STATION (PT)	OFFSET DISTANCE*	OFFSET SIDE	BOULDER TYPE	LENGTH* (LF)
GREENSHIRE						
BBP-1	31+38.4	31+54.0	2	R	II	16.5
BBP-2	32+98.0	33+35.0	2.5	L	II	40.3
MAINSTEM						
BBP-3	12+03.8	12+28.6	6	L	I	28.5
BBP-4	13+77.0	14+08.8	6	R	I	36.7
BBP-5	15+76.0	16+12.2	7	L	II	42.5
BBP-6	16+43.9	16+74.9	7	R	II	36.4
BBP-7	18+39.0	18+84.2	7	L	II	52.2
HARTLEY						
BBP-8	98+28.0	98+57.3	2	R	I	30.6
					TOTAL LENGTH (LF) :	253.1

*LENGTH MEASURED ALONG OUTSIDE BANK AT TOE OF SLOPE

CLAY PLUGS

NAME	US STATION	US OFFSET DISTANCE	DS STATION	DS OFFSET DISTANCE	OFFSET SIDE	CLAY VOLUME (CY)
GREENSHIRE						
CP-1	32+80.7	11	32+97.0	21	L	17.9
CP-2	34+41.4	26.8	34+45.0	16.9	L	32.3
CP-3	36+91.5	25.1	36+91.5	12.1	L	12.8
MAINSTEM						
CP-4	03+28.3	9.7	03+37.5	29.6	L	37.5
WELLHAVEN						
CP-5	43+34.5	11.4	43+42.2	19.4	R	7.6
CP-6	42+32.4	8.3	42+38.7	19.8	R	3.6
					TOTAL CLAY VOLUME (CY)	111.6

TOE BOULDERS

NAME	FROM STATION (PC)	TO STATION (PT)	OFFSET DISTANCE*	OFFSET SIDE	BOULDER TYPE	LENGTH* (LF)
GREENSHIRE						
TB-1	30+25.0	30+48.8	2	L	II	25.7
TB-2	30+93.1	31+07.5	2	L	II	15.3
TB-3	31+95.0	32+14.3	2	L	II	20.4
TB-4	35+15.3	35+51.3	2	L	II	38.5
TB-5	35+72.0	35+85.2	2	R	II	14.1
TB-6	36+28.2	36+40.2	2	L	II	12.8
MAINSTEM						
TB-7	0+63.8	0+93.6	5.5	L	I	33.9
TB-8	2+87.9	3+25.9	4	R	I	41.9
TB-9	4+39.0	4+67.5	4	R	I	31.3
TB-10	9+48.2	9+86.6	6	L	I	44.2
					TOTAL LENGTH (LF):	278.1

*LENGTH MEASURED ALONG OUTSIDE BANK AT TOE OF SLOPE

OUTFALL STABILIZATION

NAME	US STATION	DS STATION	BED MIX TYPE	BED MIX (SY)
SD-2				
OS-1	102+00.0	102+34.2	I, NO BRUSH	23.6
SD-6				
OS-2	106+18.0	106+28.6	II	7.1
SD-7				
OS-3	107+00.0	107+24.7	I, NO BRUSH	16.8
SD-8				
OS-4*	108+49.5	108+73.6	I, NO BRUSH	32.7
SD-10				
OS-5	110+00.0	110+07.3	I, NO BRUSH	5.0
			TOTAL TYPE I, NO BRUSH BED MIX SY	78.0
			TOTAL TYPE II BED MIX SY	7.1

*BED MIX TO TIE INTO BCR-37

ROCK LINED POOLS

NAME	FROM STATION	TO STATION	BED MIX TYPE	BED MIX (SY)
MAINSTEM				
POOL-1	0+00.0	0+20.0	I, NO BRUSH	46.4
SD-5				
POOL-2	50+00.0	50+12.0	I, NO BRUSH	13.7
HARTLEY				
POOL-3	90+00.0	90+15.0	II	21.5
POOL-8	92+71.5	93+04.2	II	55.6
POOL-9	93+29.9	93+64.3	II	58.6
POOL-10	93+83.0	94+08.4	II	43.2
			TOTAL BED MIX TYPE II (SY)	178.8
			TOTAL BED MIX TYPE I, NO BRUSH (SY)	60.2

STEP DROPS

NAME	US STATION	DS STATION
SD-1		
STDR-1	101+00.0	101+03.0
STDR-2	101+03.0	101+06.0
STDR-3	101+06.0	101+09.0
STDR-4	101+09.0	101+12.0
STDR-5	101+12.0	101+15.0
STDR-6	101+15.0	101+18.0
STDR-7	101+18.0	101+19.8
SD-3		
STDR-8	103+00.0	103+03.0
STDR-9	103+03.0	103+06.0
SD-6		
STDR-10	106+00.0	106+03.0
STDR-11	106+03.0	106+06.0
STDR-12	106+06.0	106+09.0
STDR-13	106+09.0	106+12.0
STDR-14	106+12.0	106+15.0
STDR-15	106+15.0	106+18.0
SD-10		
STDR-16	110+07.3	110+10.3
STDR-17	110+10.3	110+13.3
STDR-18	110+13.3	110+16.3
STDR-19	110+16.3	110+17.6
TOTAL STEP/DROP (EA)		19

STEP-POOL

NAME	CREST US STATION	CREST DS STATION	CREST BOULDER SIZE	POOL US STATION	POOL DS STATION	POOL BED MIX	POOL MATERIAL (SY)
MAINSTEM							
SP-1	4+67.5	4+69.5	IMBRICATED	4+69.5	4+88.8	I, NO BRUSH	38.2
SP-2	4+88.8	4+90.8	IMBRICATED	4+90.8	5+10.1	I, NO BRUSH	38.2
SP-3	5+10.1	5+12.1	IMBRICATED	5+12.1	5+31.5	I, NO BRUSH	38.2
SP-4	5+31.5	5+33.5	IMBRICATED	5+33.5	5+52.8	I, NO BRUSH	38.2
SP-5	5+52.8	5+54.8	IMBRICATED	5+54.8	5+59.2	I, NO BRUSH	8.7
SP-6	8+54.9	8+57.9	IMBRICATED	8+57.9	9+00.0	II	108.5
GREEN VALLEY							
SP-7	60+00.0	60+02.0	II	60+02.0	60+16.2	I, NO BRUSH	22.3
SP-8	60+16.2	60+18.2	II	60+18.2	60+32.3	I, NO BRUSH	22.4
SP-9	60+32.3	60+34.3	II	60+34.3	60+48.5	I, NO BRUSH	22.3
SP-10	60+48.5	60+50.5	II	60+50.5	60+64.7	I, NO BRUSH	22.4
SP-11	60+64.7	60+66.7	II	60+66.7	60+73.7	I, NO BRUSH	11.1
SD-3							
SP-12	103+06.0	103+08.0	II	103+08.0	103+17.1	I, NO BRUSH	8.1
SP-13	103+17.1	103+19.1	II	103+19.1	103+28.2	I, NO BRUSH	8.1
SP-14	103+28.2	103+30.2	II	103+30.2	103+34.5	I, NO BRUSH	3.8
SD-4							
SP-15	N/A	N/A	N/A	104+00.0	104+11.1	II	13.8
SP-16	104+11.1	104+13.1	II	104+13.1	104+22.1	II	11.3
SP-17	104+22.1	104+24.1	II	104+24.1	104+28.5	II	5.4
SD-5							
SP-18	50+12.0	50+14.0	II	50+14.0	50+24.4	II	11.9
SP-19	50+24.4	50+26.4	II	50+26.4	50+36.9	II	11.9
SP-20	50+36.9	50+38.9	II	50+38.9	50+49.3	II	11.9
SP-21	50+49.3	50+51.3	II	50+51.3	50+61.7	II	11.9
SP-22	50+61.7	50+63.7	II	50+63.7	50+74.1	II	11.9
SP-23	50+74.1	50+76.1	II	50+76.1	50+82.0	II	6.7
SD-9							
SP-24	N/A	N/A	N/A	109+00.0	109+09.5	I, NO BRUSH	8.0
SP-25	109+09.5	109+11.5	II	109+11.5	109+19.1	I, NO BRUSH	6.4
SP-26	109+19.1	109+21.1	II	109+21.1	109+28.6	I, NO BRUSH	6.4
SP-27	109+28.6	109+30.6	II	109+30.6	109+38.1	I, NO BRUSH	6.4
SP-28	109+38.1	109+40.1	II	109+40.1	109+49.0	I, NO BRUSH	7.5
SD-11							
SP-29	N/A	N/A	N/A	111+00.0	111+11.5	II	14.8
SP-30	111+11.5	111+13.5	II	111+13.5	111+18.3	II	6.2

STEP-POOL QUANTITY SUMMARY

TOTAL IMBRICATED CREST (EA)	6	BED MIX TYPE I, NO BRUSH TOTAL (SY)	425.2
TOTAL BOULDER TYPE II CREST (EA)	21	BED MIX TYPE II TOTAL (SY)	117.8

MICROTOPORAPHY

NAME	AREA (SY)
GREENSHIRE	
MT-1	53.9
MT-2	117.6
MT-3	101.4
MT-4	24.3
WELLHAVEN	
MT-5	121.4
MT-6	46.0
MT-7	55.0
MT-8	67.7
MT-9	31.6
MAINSTEM	
MT-10	138.5
MT-11	111.9
MT-12	552.6
MT-13	125.5
MT-14	56.6
MT-15	92.1
MT-16	127.3
MT-17	151.9
MT-18	337.9
TOTAL AREA (SY)	2313.2

CREATED WETLAND

NAME	AREA (SY)
MAINSTEM	
CW-1	350.0
TOTAL AREA (SY)	350.0

WOODY TOE PROTECTION

NAME	FROM STATION (PC)	TO STATION (PT)	OFFSET DISTANCE*	OFFSET SIDE	LENGTH* (LF)
GREENSHIRE					
WT-1	30+66.4	30+87.2	2	R	22.3
WT-2	32+52.2	32+86.7	2.5	R	37.4
WT-3	33+57.7	33+93.9	2.5	R	39.4
WT-4	34+18.2	34+49.4	2.5	L	34
WT-5	34+53.5	34+87.1	2.5	R	36.6
WT-6	36+63.5	36+88.0	2	R	26.2
WELLHAVEN					
WT-7	40+91.2	41+11.0	2	L	21.5
WT-8	41+37.2	41+61.4	2	R	26.5
WT-9	41+93.8	42+27.0	2	L	36
WT-10	42+34.4	42+73.1	2	R	42.1
WT-11	42+84.2	43+26.1	2	L	45.6
WT-12	43+37.4	43+69.5	2	R	34.9
WT-13	43+71.4	43+91.9	2	L	22.3
MAINSTEM					
WT-14	1+53.1	2+00.5	5.5	R	53.9
WT-15	2+17.1	2+61.4	4	L	48.7
WT-16	10+11.2	10+58.2	6	R	54
WT-17	11+56.1	11+86.3	6	R	34.8
WT-18	12+79.8	13+18.9	6	R	44.9
WT-19	13+47.1	13+72.1	6	L	29.2
WT-20	14+23.2	14+72.1	6	L	55
WT-21	15+06.0	15+44.4	6	R	44.1
WT-22	16+89.1	17+16.4	7	L	32.1
WT-23	17+57.6	18+08.3	7	R	57.8
WT-24	18+97.9	19+18.4	7	R	23.6
HARTLEY					
WT-25	97+78.7	98+15.1	2	L	38.5
				TOTAL LENGTH (LF):	941.4

*LENGTH MEASURED ALONG OUTSIDE BANK AT TOE OF SLOPE

BRUSH / COBBLE RIFFLE (BCR)

NAME	FROM STATION (PT)	TO STATION (PC)	BED MIX TYPE	BED MIX* (SY)	US GCE TYPE	US GCE KEY IN LENGTH LB (FT)	US GCE KEY IN LENGTH RB (FT)	DS GCE TYPE	DS GCE KEY IN LENGTH LB (FT)	DS GCE KEY IN LENGTH RB (FT)
GREENSHIRE										
BCR-1	30+21.6	30+25.0	II	1.5	N/A	N/A	N/A	II	5.7	7.5
BCR-2	30+48.8	30+66.4	II	12.5	IMBRICATED	6.7	10.0	IMBRICATED	2.0	2.0
BCR-3	30+87.2	30+93.1	II	3.7	IMBRICATED	9.6	6.0	N/A	N/A	N/A
BCR-4	31+07.5	31+38.4	II	24.9	IMBRICATED	7.0	7.2	IMBRICATED	2.0	2.0
BCR-5	31+54.0	31+95.0	II	34.5	II	7.9	6.8	II	2.0	2.0
BCR-6	32+14.3	32+52.2	II	31.3	IMBRICATED	6.0	14.7	IMBRICATED	2.0	2.0
BCR-7	32+86.7	32+98.0	I	4.9	I	6.0	6.0	I	2.0	2.0
BCR-8	33+35.0	33+57.7	I	11.6	LOG	6.5	6.5	LOG	2.5	2.5
BCR-9	33+93.9	34+18.2	I	12.6	LOG	6.5	6.5	LOG	2.5	2.5
BCR-10	34+49.4	34+53.5	II	2.6	II	6.5	6.5	N/A	N/A	N/A
BCR-11	34+87.1	35+15.3	II	22.8	II	6.0	6.0	II	2.0	2.0
BCR-12	35+51.3	35+72.0	II	15.9	II	12.3	2.0	II	6.5	2.0
BCR-13	35+85.2	36+28.2	II	36.5	II	8.3	6.7	II	9.4	9.8
BCR-14	36+40.2	36+63.5	II	18.2	II	2.0	2.0	II	2.0	2.0
BCR-15	36+88.0	37+18.9	II	25.3	II	6.8	6.0	II	6.0	4.0
WELLHAVEN										
BCR-16	40+67.5	40+91.2	I	9.4	I	13.0	5.5	I	5.0	5.5
BCR-17	41+11.0	41+37.2	0	10.9	LOG	6.0	5.5	LOG	1.5	1.5
BCR-18	41+61.4	41+93.8	0	13.6	LOG	15.7	5.5	LOG	1.5	1.5
BCR-19	42+27.0	42+34.4	0	2.6	LOG	5.5	5.5	N/A	N/A	N/A
BCR-20	42+73.1	42+84.2	0	4.6	LOG	1.5	1.5	N/A	N/A	N/A
BCR-21	43+26.1	43+37.4	I	3.9	I	5.5	5.5	I	2.0	2.0
BCR-22	43+69.5	43+71.4	N/A	N/A	II	5.5	12.9	N/A	N/A	N/A
BCR-23	43+91.9	44+33.0	I	16.7	II	2.0	2.0	N/A	N/A	N/A
MAINSTEM										
BCR-24	0+20.0	0+63.8	0	41.3	I	15.0	7.5	I	8.0	13.0
BCR-25	0+93.6	1+53.1	0	57.8	I	11.8	9.0	I	3.5	3.5
BCR-26	2+00.5	2+17.1	I	8.8	II	6.5	6.5	II	2.5	2.5
BCR-27	2+61.4	2+87.9	I	15.3	II	2.5	2.5	II	2.5	2.5
BCR-28	3+25.9	3+51.1	I NO BRUSH	14.4	II	2.5	6.5	II	2.5	2.5
BCR-29	3+85.9	4+39.0	I	33.0	II	6.5	6.5	II	6.5	6.5
BCR-30	9+00.0	9+48.2	0	35.6	I	13.0	7.0	I	3.0	3.0
BCR-31	9+86.6	10+11.2	I	17.2	I	7.0	7.0	I	3.0	3.0
BCR-32	10+58.2	10+83.2	I	17.5	I	8.5	7.0	I	12.4	3.0
BCR-33	11+27.9	11+56.1	I	20.0	I	21.9	3.0	I	3.0	7.0
BCR-34	11+86.3	12+03.8	I	11.7	I	7.0	7.0	I	3.0	3.0
BCR-35	12+28.6	12+79.8	I	37.1	II	7.0	3.0	II	3.0	3.0
BCR-36	13+18.9	13+47.1	I	20.1	I	13.7	3.0	I	3.0	3.0
BCR-37**	13+72.1	13+81.9	0	11.2	I	3.0	15.1	N/A	N/A	N/A
BCR-38	14+08.8	14+23.2	I	8.5	II	3.0	3.0	II	3.0	3.0
BCR-39	14+72.1	15+06.0	I	23.7	II	7.6	8.8	II	3.0	3.0
BCR-40	15+44.4	15+76.0	0	22.7	I	21.5	7.0	I	3.0	3.0
BCR-41	16+12.2	16+43.9	I NO BRUSH	22.6	I	8.5	6.8	I	3.0	6.7
BCR-42	16+74.9	16+89.1	I	8.3	II	20.6	8.5	II	3.0	3.0
BCR-43	17+16.4	17+57.6	I	29.3	II	8.5	8.5	II	3.0	3.0
BCR-44	18+08.3	18+39.0	I	21.1	II	7.1	7.1	II	3.1	3.1
BCR-45	18+84.2	18+97.9	I	8.8	I	3.1	3.1	I	3.1	3.1
BCR-46	19+18.4	19+42.9	I	16.4	II	8.5	21.3	IMBRICATED	8.5	8.5
HARTLEY										
BCR-47	90+15.0	90+40.7	II	33.1	II	6.8	6.8	II	4.3	4.3
BCR-48	90+75.0	91+00.7	II	33.1	II	6.8	6.8	II	4.3	4.3
BCR-49	91+35.0	91+60.7	II	33.0	II	10.0	6.8	II	4.3	4.3
BCR-50	91+81.1	92+17.6	II	49.2	II	7.3	6.8	II	4.3	4.3
BCR-51	92+42.9	92+71.5	II	35.1	IMBRICATED	6.7	6.7	IMBRICATED	4.3	4.3
BCR-52	93+04.2	93+29.9	II	30.8	IMBRICATED	10.0	7.0	IMBRICATED	4.3	4.3
BCR-53	93+64.3	93+83.0	II	20.9	IMBRICATED	6.8	7.5	IMBRICATED	4.3	4.3
BCR-54	94+08.4	94+31.6	II	27.3	IMBRICATED	7.1	11.5	IMBRICATED	4.3	4.3
BCR-55	94+63.2	94+90.8	I	22.4	II	6.9	8.1	II	4.3	4.3
BCR-56	95+17.8	95+44.1	I	21.2	II	8.0	7.0	II	4.3	4.3
BCR-57	95+84.0	96+12.2	I	23.1	II	7.0	7.8	II	4.3	4.3
BCR-58	97+57.4	97+78.7	I	10.4	I	6.5	6.5	I	2.5	2.5
BCR-59	98+15.1	98+28.0	0	5.8	I	6.5	6.5	I	2.5	2.5
BCR-60	98+57.3	98+63.6	0	2.8	I	6.1	6.5	N/A	N/A	N/A

* TYPE II BED MIX TO BE PLACED FROM TOB TO TOB, TYPE I AND 0 TO BE PLACED FROM TOE TO TOE

**BED MIX TO EXTEND TO DOWNSTREAM EXTENT OF CONFLUENCE WITH SD-8

BRUSH / COBBLE RIFFLE (BCR) QUANTITY SUMMARY

TOTAL BED MIX TYPE 0 (SY)	208.8	TOTAL NUMBER OF BOULDER TYPE I GCE (EA)	34.0	TOTAL LENGTH OF KEY IN BOULDER TYPE I (LF)	424.4
TOTAL BED MIX TYPE I (SY)	433.2	TOTAL NUMBER OF BOULDER TYPE II GCE (EA)	51.0	TOTAL LENGTH OF KEY IN BOULDER TYPE II (LF)	568.1
TOTAL BED MIX TYPE I NO BRUSH (SY)	37.1	TOTAL NUMBER OF IMBRICATED GCE (EA)	16.0	TOTAL LENGTH OF KEY IN IMBRICATED BOULDERS (LF)	193.5
TOTAL BED MIX TYPE II (SY)	492.1	TOTAL NUMBER OF LOG GCE (EA)	10.0	TOTAL LENGTH OF KEY IN HEADER LOG (LF)	88.7

SEAL

STATE OF MARYLAND — JOSEPH KEITH SLAUGHTER — No. 21601 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK | DRAWN CSD, AW, JS | CHECKED SL | DATE

BUREAU OF ENGINEERING AND CONSTRUCTION — REVIEWED

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

GRADING STRUCTURE TABLES

SUBDIVISION: MCDONOGH TOWNSHIP — EL. DISTRICT NO. 03

GR-07

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET	18 OF 46
DWG. NO.	2023-1204

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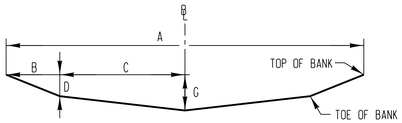
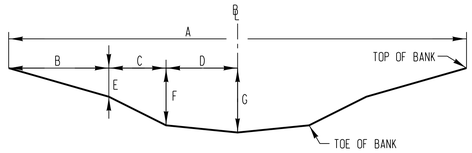


TYPICAL SECTION RIFFLE 'A'

NOT TO SCALE



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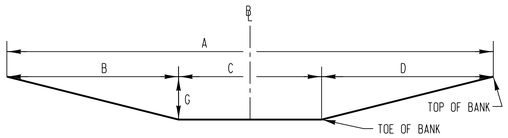

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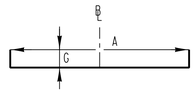
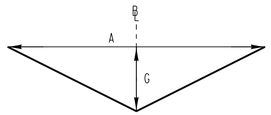


TYPICAL SECTION WEIR

NOT TO SCALE



TYPICAL SECTION RIFFLE 'D'

NOT TO SCALE

TYPICAL RIFFLE

REACH	TEMPLATE	STATION ✖	A	B	C	D	E	F	G✖✖
GREENSHIRE TRIB.	RIFFLE 'A'	30+21.6 - 32+52.2; 34+87.1 - 37+17	8'	2.0'	2.0'	0.75'	-	-	1.0'
GREENSHIRE TRIB.	RIFFLE 'A'	32+86.7 - 34+53.5	10'	2.5'	2.5'	0.75'	-	-	1.0'
MAINSTEM US	RIFFLE 'A'	0+20 - 1+53.1	16'	3.5'	4.5'	1.2'	-	-	1.5'
MAINSTEM US	RIFFLE 'A'	2+00.5 - 4+39	11'	2.5'	3.0'	0.95'	-	-	1.25'
MAINSTEM MID (US OF PITTSFIELD)	RIFFLE 'A'	4+67.5 - 5+54.8	17'	4.5'	4.0'	1.0'	-	-	1.25'
MAINSTEM MID (DS OF PITTSFIELD)	RIFFLE 'A'	9+00 - 15+06	13'	3.0'	3.5'	1.2'	-	-	1.5'
MAINSTEM DS	RIFFLE 'A'	15+44.4 - 19+47	16'	4.5'	3.5'	1.5'	-	-	1.8'
WELLHAVEN TRIB.	RIFFLE 'A'	40+67.5 - 44+33	7'	1.5'	2.0'	0.55'	-	-	0.8'
HARTLEY TRIB.	RIFFLE 'B'	90+15 - 92+17.6	12.8'	2.8'	1.6'	2.0'	0.8'	1.6'	1.8'
HARTLEY TRIB.	RIFFLE 'B'	92+42.9 - 94+31.6	12.2'	2.7'	1.5'	1.9'	0.7'	1.5'	1.7'
HARTLEY TRIB.	RIFFLE 'B'	94+63.2 - 96+12.2	14'	3.0'	2.0'	2.0'	1.9'	0.8'	0.2'
HARTLEY TRIB.	RIFFLE 'A'	97+57.4 -98+63.6	10'	2.5'	2.5'	1.3'	-	-	1.5'
GREEN VALLEY TRIB.	RIFFLE 'C'	60+00 - 60+73.7	13.6'	4.8'	4.0'	4.8'	-	-	1.2'
OUTFALL SD-1	WEIR	101+00 - 101+19.8	5'	-	-	-	-	-	0.5'
OUTFALL SD-2	RIFFLE 'C'	102+00 - 102+34.2	6'	2.0'	2.0'	2.0'	-	-	0.6'
OUTFALL SD-3	WEIR	103+00 - 103+06	5'	-	-	-	-	-	0.4'
OUTFALL SD-3	RIFFLE 'C'	103+06 - 103+30.2	8'	3.0'	2.0'	3.0'	-	-	0.6'
OUTFALL SD-4	RIFFLE 'C'	104+11.1 - 104+24.1	9'	3.5'	2.0'	3.5'	-	-	0.5'
OUTFALL SD-5	RIFFLE 'A'	50+12 - 50+76.1	8'	2.0'	2.0'	0.7'	-	-	0.9'
OUTFALL SD-6	WEIR	106+00.1 - 106+28.6	5'	-	-	-	-	-	0.5'
OUTFALL SD-7	RIFFLE 'D'	107+00 - 107+20.1	6'	-	-	-	-	-	0.5'
OUTFALL SD-8	RIFFLE 'C'	108+49.5 - 108+79.2	12'	3.0'	6.0'	3.0'	-	-	0.8'
OUTFALL SD-9	RIFFLE 'C'	109+09.5 - 109+40.1	6'	2.0'	2.0'	2.0'	-	-	0.4'
OUTFALL SD-10	RIFFLE 'D'	110+00 - 110+07.3	6'	-	-	-	-	-	0.5'
OUTFALL SD-10	WEIR	110+07.3 - 110+17.6	6'	-	-	-	-	-	0.5'
OUTFALL SD-11	RIFFLE 'A'	111+11.5 - 111+13.5	11'	4.5'	1.0'	0.1'	-	-	1.1'

✖ STATION RANGES ARE REPRESENTATIVE FOR DETERMINATION OF RIFFLE DIMENSIONS ALONG BASELINE APPLIED BETWEEN THE PT DOWN TO THE PC (SEE PROFILE AND CROSS SECTIONS) FOR EXACT STATIONS.

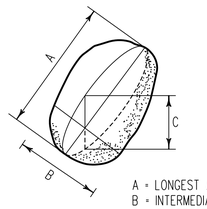
✖ ✖ MAX DEPTH

GENERAL NOTES

1. SUITABLE STONES (BOULDERS, COBBLE, GRAVEL) FROM THE CLASS 5 EXCAVATION MEETING THE SPECIFIED GRADATION SHALL BE SALVAGED WHEN POSSIBLE. ONLY FURNISH MATERIAL WHEN SALVAGED IS NOT AVAILABLE.
2. STONES SHALL BE GRAY OR BROWN IN COLOR (SHALL NOT BE WHITE).
3. NUMBER OF STONES SHOWN IN DETAILS AND GRADING SHEETS IS FOR GRAPHICAL PURPOSES ONLY. ACTUAL NUMBER OF STONES SHALL DEPEND ON STONE SIZE AND STREAM DIMENSIONS.
4. ALL STONES SHALL BE CAREFULLY PLACED AND TIGHT FITTING MINIMIZING VOIDS/GAPS.
5. VOIDS SHALL BE CHINKED USING THE LARGEST PARTICLE SIZE THAT CAN BE USED TO FILL THE VOID, THEN WITH SUITABLE BACKFILL.
6. STRUCTURES SHALL BE CONSTRUCTED IN LIFTS WITH VOIDS FILLED THROUGHOUT CONSTRUCTION AND PRIOR TO PLACEMENT OF TOP LAYERS IF APPLICABLE.
7. WHERE EXISTING CONDITIONS REQUIRE FILL BEYOND THE MATERIAL SHOWN AND SPECIFIED ON THE STREAM DETAILS, SUITABLE BACKFILL SHALL BE USED TO FILL THE CHANNEL TO ESTABLISH SUBGRADE ELEVATIONS AND DIMENSIONS TO PREPARE FOR SPECIFIED MATERIAL PLACEMENT.
8. SUITABLE BACKFILL MATERIAL SHALL BE SALVAGED THROUGH CLASS 5 EXCAVATION. IF SALVAGED SUITABLE BACKFILL MATERIAL IS NOT AVAILABLE, USE FURNISHED BANK RUN GRAVEL (BRG-BASE, PER BALTIMORE COUNTY STANDARD 901.01) AS APPROVED BY THE COUNTY AND/OR ENGINEER.
9. LOGS SHALL NOT BE FURNISHED, IF MATERIAL TO CONSTRUCT LOG STRUCTURES IS NOT AVAILABLE, FURNISHED CLASS II BOULDERS MAY BE SUBSTITUTED AS APPROVED BY AND DIRECTED BY THE COUNTY AND ENGINEER.
10. REFERENCES TO RIGHT AND LEFT ARE ORIENTED LOOKING DOWNSTREAM.
11. ALL PROPOSED GEOTEXTILE SHALL BE NONWOVEN CLASS SE.
12. TOPSOIL SHALL BE SALVAGED THROUGH CLASS 5 EXCAVATION AS APPROVED BY THE COUNTY AND OR ENGINEER. IF SALVAGED TOPSOIL IS NOT APPROVED, UTILIZE FURNISHED TOPSOIL.
13. GEOTEXTILE (INCIDENTAL TO BANK TREATMENTS) MAY BE REPLACED WITH REINFORCED NATURAL FIBER MATTING AT THE DIRECTION OF THE COUNTY OR ENGINEER.

ABBREVIATIONS:

US	UPSTREAM
DS	DOWNSTREAM
PT	POINT OF TANGENCY, UPSTREAM END OF A RIFFLE, DOWNSTREAM END OF A POOL
PC	POINT OF CURAVTURE, DOWNSTREAM END OF THE RIFFLE, UPSTREAM END OF A POOL
LB	LEFT BANK ORIENTED LOOKING DOWNSTREAM
RB	RIGHT BANK ORIENTED LOOKING DOWNSTREAM
NFM	NATURAL FIBER MATTING
RNFM	REINFORCED NATURAL FIBER MATTING
GCE	GRADE CONTROL ELEMENT



A = LONGEST AXIS (LENGTH)
B = INTERMEDIATE AXIS (WIDTH)
C = SHORTEST AXIS (THICKNESS)

BOULDER (STONE) AXIS DEFINITION

NOT TO SCALE

BED MIXES

% by Volume of Total Mix	Brush (3" to 6" Dia. Limbs)	Suitable Backfill* Approved by Engineer	Gravel* 3/4" to 2" Stone	Class 0 Riprap (D50=4"; D100=8.5")	Class I Riprap (D50=9"; D100=16")	Class II Riprap (D50=16"; D100=24")	Thickness
Type 0 Bed Mix	10%	20%	20%	50%			1.0'
Type I Bed Mix	10%	20%	15%	15%	40%		1.5'
Type II Bed Mix		10%	10%	20%	30%	30%	2.0'
Type I Bed Mix No Brush		20%	15%	15%	50%		1.5'

* SHALL NOT BE COMPRISED OF RIPRAP, BUT SHALL BE NATURAL RIVER STONE

SIZES FOR BOULDER TYPES

BOULDER TYPE	AXIS A (LONGEST) MAX.	AXIS B (INTERMEDIATE) RANGE	AXIS C (SHORTEST) MIN.	FEATURE	FOOTER DEPTH
BOULDER TYPE I	2.0'	1.0' - 1.5'	0.75'	BOULDER GRADE CONTROL ELEMENTS	1.5'
				BOULDER BANK PROTECTION, TOE BOULDER	0.75'
BOULDER TYPE II	2.5'	1.5' - 2.0'	1.0'	BOULDER GRADE CONTROL ELEMENTS, STEP POOL CRESTS	2.0'
				BOULDER BANK PROTECTION, TOE BOULDER	1.0'
IMBRICATED	3.0'	1.5' - 2.5'	1.5'	BOULDER GRADE CONTROL ELEMENTS*, STEP/DROP**, STEP POOL CRESTS	3.0'

*SILL AT DOWNSTREAM EXTENT OF RESTORATION, STA. 19+43, (DS GCE OF BCR-46) TO HAVE A FOOTER DEPTH OF 4.5', SEE PROFILE

**SEE DETAIL, ONLY DOWNSTREAM MOST DROP FOR EACH OUTFALL EXTENDS TO FULL FOOTER DEPTH, SEE PROFILE

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK | BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS | REVIEWED
CHECKED SL | DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS
AT PITTSFIELD ROAD
STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

STREAM DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

DE-01

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET	19 OF 46
DWG. NO.	2023-1205

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: "11:12 AM on Thursday, March 21, 2024"
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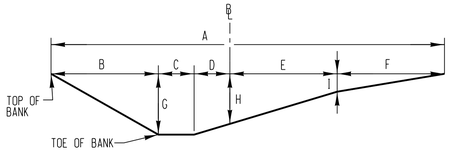
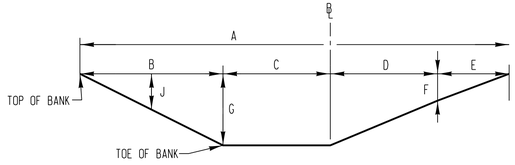


TYPICAL SECTION POOL 1

NOT TO SCALE

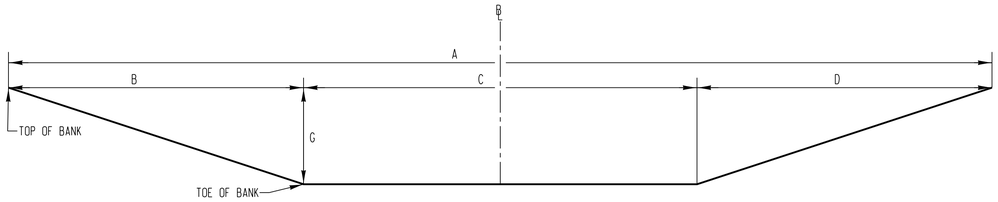
NOTE: POOL RIGHT IS A MIRROR IMAGE OF POOL LEFT.



TYPICAL SECTION POOL 2

NOT TO SCALE

NOTE: POOL RIGHT IS A MIRROR IMAGE OF POOL LEFT.



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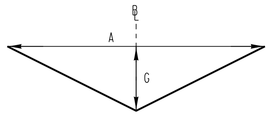

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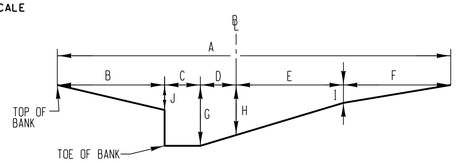


TYPICAL SECTION POOL 5

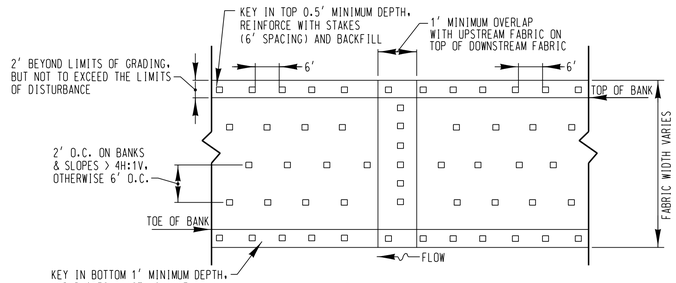
NOT TO SCALE

POOL DIMENSIONS REFLECT MAXIMUM DEPTHS OCCURRING AT STATIONS PER THE PROFILE AND CROSS SECTIONS. PROVIDE SMOOTH TRANSITIONS BETWEEN RIFFLE AND POOLS

TYPICAL POOL

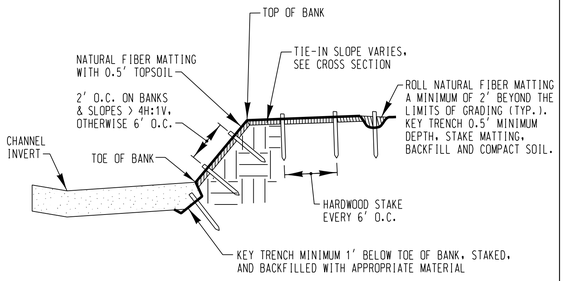
REACH	TEMPLATE	STATION	A	B	C	D	E	F	G**	H	I	J
GREENSHIRE TRIB.	POOL 2	30+39.3 - 32+07.4; 35+35.8 - 36+77.9	10'	4.0'	2.0'	2.0'	2.0'	0.75'	2.0'	-	-	-
GREENSHIRE TRIB.	POOL 2	32+65.6 - 34+78.1	12.5'	4.0'	2.5'	2.5'	3.5'	0.75'	2.0'	-	-	-
MAINSTEM US (PLUNGE POOL)	POOL 3	0+05.5 - 0+14.5	20'	5.5'	9.0'	5.5'	-	-	2.25'	-	-	-
MAINSTEM US (LOW SLOPE)	POOL 5	0+71.8 - 1+81.4	20'	3.0'	2.0'	3.5'	5.8'	5.8'	3.0'	2.3'	1.2'	1.5'
MAINSTEM US	POOL 5	2+33.3 - 4+57	15.4'	2.4'	2.0'	2.0'	4.5'	4.5'	2.2'	1.8'	0.9'	1.2'
MAINSTEM MID (US OF PITTSFIELD, HIGH SLOPE)	POOL 3	4+78.5 - 5+42.5	17'	6.5'	4.0'	6.5'	-	-	2.4'	-	-	-
MAINSTEM MID (PLUNGE POOL, DS OF PITTSFIELD)	POOL 3	8+68.9 - 8+94.8	22'	7.0'	8.0'	7.0'	-	-	3.0'	-	-	-
MAINSTEM MID (DS OF PITTSFIELD)	POOL 5	*9+57.3 - 15+30.5*	17'	3.0'	2.0'	4.0'	6.0'	2.0'	2.5'	1.8'	0.5'	1.5'
MAINSTEM DS	POOL 5	*15+85.3 - 18+67.9	20'	3.0'	2.0'	5.0'	5.0'	5.0'	3.0'	2.2'	1.1'	1.5'
MAINSTEM DS	POOL 5	19+06.4 - 19+11.1	20'	5.0'	2.0'	3.0'	5.0'	5.0'	3.0'	2.2'	1.1'	1.5'
MAINSTEM BOULDER BANK PROTECTION EXCEPTIONS	POOL 1	12+03.8 - 12+28.6 13+77.0 - 14+08.8	17'	3.0'	2.0'	4.0'	6.0'	2.0'	2.5'	1.8'	0.5'	-
MAINSTEM BOULDER BANK PROTECTION EXCEPTIONS	POOL 1	15+76.0 - 16+12.2 16+43.9 - 16+74.9 18+39.0 - 18+84.2	20'	3.0'	2.0'	5.0'	5.0'	5.0'	3.0'	2.2'	1.1'	-
WELLHAVEN TRIB.	POOL 5	40+52.6 - 43+83.8	9.4'	1.4'	1.0'	1.0'	3.0'	3.0'	1.7'	1.4'	0.5'	0.7'
HARTLEY TRIB. (PLUNGE POOL)	POOL 3	90+03.8 - 90+11.3	12.5'	3.8'	5.0'	3.8'	-	-	1.3'	-	-	-
HARTLEY TRIB.	POOL 3	90+45.4 - 95+54.7	14'	5.5'	3.0'	5.5'	-	-	2.8'	-	-	-
HARTLEY TRIB.	POOL 1	97+86 - 98+51.2	12'	4.0'	1.0'	1.0'	3.0'	3.0'	2.0'	1.7'	0.85'	
GREEN VALLEY TRIB.	POOL 3	60+09.1 - 60+57.6	13'	5.0'	3.0'	5.0'	-	-	2.5'	-	-	-
OUTFALL SD-3	POOL 4	103+11.5 - 103+23.4	7.2'	-	-	-	-	-	1.8'	-	-	-
OUTFALL SD-4	POOL 4	104+04.3 - 104+17	10'	-	-	-	-	-	2.5'	-	-	-
OUTFALL SD-5 (PLUNGE POOL)	POOL 3	50+03 - 50+09	10.0'	3.0'	4.0'	3.0'	-	-	1.0'	-	-	-
OUTFALL SD-5	POOL 4	104+04.3 - 104+17	9.2'	-	-	-	-	-	2.3'	-	-	-
OUTFALL SD-9	POOL 4	109+04.4 - 109+34	6.8'	-	-	-	-	-	1.7'	-	-	-
OUTFALL SD-11	POOL 4	111+05.38 - 111+05.40	10.4'	-	-	-	-	-	2.6'	-	-	-

*SELECT REACHES WITHIN RANGE UTILIZE DIFFERENT TEMPLATE. SEE 'MAINSTEM BOULDER BANK PROTECTION EXCEPTIONS' FOR STATIONS AND DIMENSIONS
**MAX DEPTH



TYPICAL PLAN VIEW NATURAL FIBER MATTING AND REINFORCED NATURAL FIBER MATTING

NOT TO SCALE



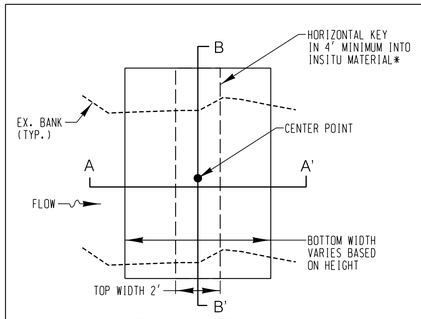
NATURAL FIBER MATTING CROSS SECTION

NOT TO SCALE

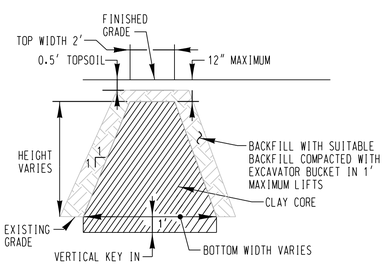
NOTES:
1. NATURAL FIBER MATTING TO BE ROLLED LENGTHWISE ALONG STREAMBANK EXTENDING TO THE BOTTOM OF TOE PROTECTION AND A MINIMUM OF TWO FOOT PAST THE LIMITS OF GRADING. IF MORE THAN ONE ROLL IS REQUIRED, MID-BANK OVERLAP SHOULD BE A MINIMUM OF ONE FOOT AND SECURELY FASTENED WITH STAKES.
2. NATURAL FIBER MATTING IS TO BE INSTALLED ON ALL GRADED BANK SLOPES STEEPER THAN 3H:1V THAT ARE NOT PROTECTED BY OTHER SPECIFIED BANK PROTECTIONS.
3. NATURAL FIBER MATTING. MATTING FOR THE BANK TREATMENT AREAS SHALL CONSIST OF A MACHINE PRODUCED MAT OF DEGRADABLE NATURAL FIBERS.

ALL MATTING SHALL BE PULLED TIGHT AND SHALL NOT BE LOOSE OR SAGGING.

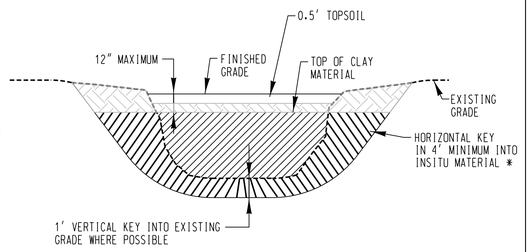
4. REINFORCED NATURAL FIBER MATTING. MATTING SHALL CONSIST OF A DOUBLE-LAYERED BIODEGRADABLE FABRIC: A BOTTOM LAYER OF JUTE FABRIC AND A TOP LAYER OF HIGH STRENGTH COIR MATTING, CONNECTED TOGETHER.
5. MATTING STAKES. STAKES FOR SECURING THE MATTING ALONG OTHER PORTIONS OF THE MATTING MATERIAL ABOVE THE TOE TRENCH AND FOR THE KEY IN TRENCH AT THE TOP OF THE SLOPE SHALL CONSIST OF 1-1/2" X 1-1/2" HARDWOOD STAKES, 18-INCHES IN LENGTH, TAPERED AT THE BOTTOM END FOR EASY INSERTION INTO THE SOIL AND FLAT AT THE TOP END FOR HAMMERING.



PLAN VIEW



PROFILE A-A'



CROSS-SECTION B-B'

CLAY PLUG

NOT TO SCALE

NOTES:
1. COMPACTED CLAY MATERIAL MUST BE UNIFIED SOIL CLASSIFICATION SC OR CC MATERIAL.
2. EXCAVATION INCIDENTAL TO PAY ITEM.
3. THE CENTER POINT IS THE STATION REFERENCED IN THE STRUCTURE TABLE TAKEN PERPENDICULAR TO THE BASELINE.
4. * SEEK DIRECTION AND APPROVAL FROM THE ENGINEER AND COUNTY IF KEY IN WILL RESULT IN DISTURBANCE TO TREE ROOTS OR WETLANDS.

SEAL

STATE OF MARYLAND · SHANNON LUCAS · 33079 · PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK | BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS | REVIEWED
CHECKED SL | DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

STREAM DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

DE-02

CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET 20 OF 46	
DWG. NO.	2023-1206

PLOTTED: 11:03 AM on Friday, April 26, 2024
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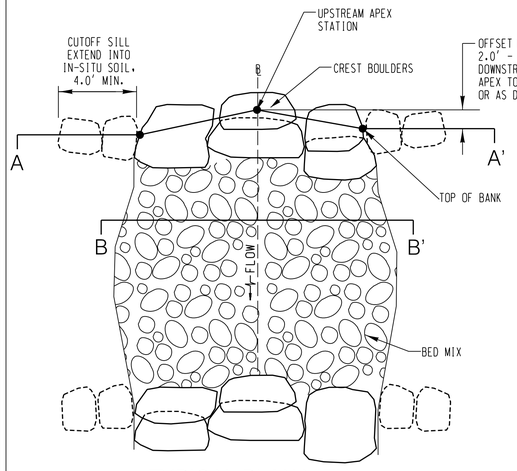
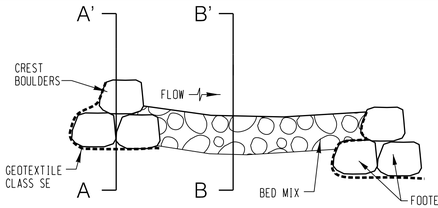
Contract No. 24024 GX0
Addendum No.2
April 8, 2025



TYPICAL PLAN VIEW OF STEP-POOL

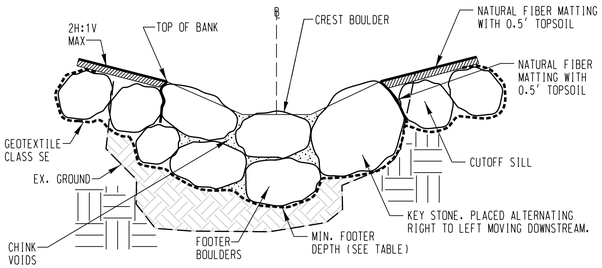
NOT TO SCALE

STEP-POOLS ARE DEFINED AS THE UPSTREAM CREST AND DOWNSTREAM POOL



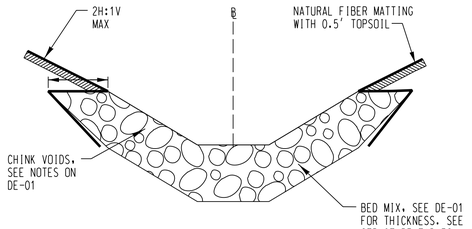
TYPICAL PROFILE THROUGH STEP-POOL

NOT TO SCALE



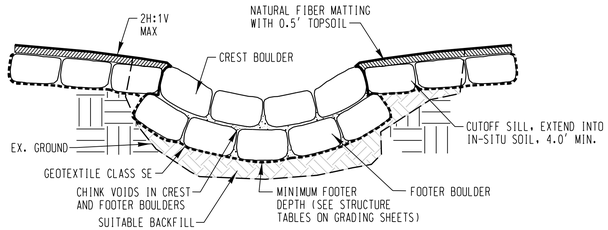
STEP-POOL CREST A-A' (CLASS II BOULDER)

NOT TO SCALE



STEP-POOL POOL B-B'

NOT TO SCALE

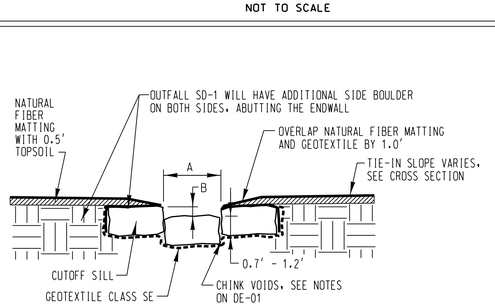


STEP-POOL CREST A-A' (IMBRICATED)

NOT TO SCALE

STEP-POOL DETAILS

NOT TO SCALE



MINIMUM STEP/DROP STRUCTURE DIMENSIONS			
LOCATION	A	B	C*
OUTFALL SD-1	3'-6'	0.4'-0.6'	0.5'
OUTFALL SD-3	3'-6'	0.4'-0.6'	0.6'
OUTFALL SD-6	3'-6'	0.4'-0.6'	0.6'
OUTFALL SD-10	3'-6'	0.4'-0.6'	0.5'

DUE TO THE VARYING SIZE OF IMBRICATED BOULDERS, A RANGE OF DIMENSIONS ARE SUITABLE FOR STEP DROP STRUCTURES.

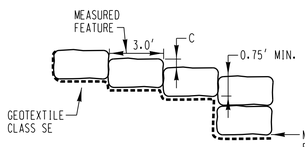
*DROP BETWEEN STEP/DROPS SHOULD MAINTAIN DESIGN SLOPE: SD-1=17%, SD-3=20%, SD-6=19%, SD-10=20%

STEP/DROP STRUCTURE CROSS SECTION

NOT TO SCALE

NOTES:

1. PLACEMENT OF STEPS AND CHANNEL DIMENSIONS MAY BE ADJUSTED AS APPROVED BY THE ENGINEER, BUT MINIMUM DIMENSIONS FOR WIDTH, DEPTH, CUTOFF SILLS, FOOTER DEPTHS, END DOWNSTREAM STATION AND ELEVATION SHALL BE MET.
2. BOULDERS SHALL BE CAREFULLY PLACED AND TIGHT FITTING MINIMIZING VOIDS/GAPS.
3. NUMBER OF BOULDERS ARE FOR GRAPHICAL PURPOSES ONLY. ACTUAL NUMBER OF BOULDERS SHALL DEPEND ON STONE SIZE AND CHANNEL DIMENSIONS.
4. GROUT THE SEAM BETWEEN THE EXISTING CONCRETE APRON AND TOP ROW OF IMBRICATED BOULDERS TO SEAL AND MAINTAIN SURFACE FLOW OVER THE FACE OF THE STEP STRUCTURE.



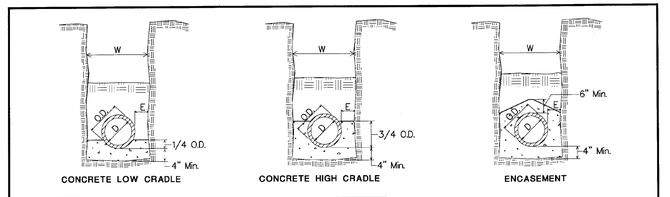
STEP/DROP STRUCTURE PROFILE

NOT TO SCALE

OUTFALL: SD-1, SD-3, SD-6, SD-10

STEP/DROP DETAILS

NOT TO SCALE



CONCRETE LOW CRADLE | CONCRETE HIGH CRADLE | ENCASEMENT

CONCRETE QUANTITIES - CUBIC FT. PER LINEAR FT.			
PIPE DIAMETER (D)	LOW CRADLE	HIGH CRADLE	ENCASEMENT
6"	0.94	1.38	2.15
8"	1.09	1.67	2.57
12"	1.40	2.25	3.43
16"	1.73	2.87	4.35
20"	2.09	3.51	5.32
24"	2.47	4.18	6.35
30"	3.6	6.4	9.6
36"	4.3	7.7	11.6
42"	5.7	10.7	15.9
48"	6.6	12.3	18.4
	①	②	③

① CF/F = (W x (0.333 + OD/4)) − 0.154 x (OD)²
② CF/F = (W x (0.333 + (0.750 x OD))) − 0.632 x (OD)²
③ CF/F = (W x (0.833 + OD)) − 0.785 x (OD)² − 0.25 x W

W = Cradle Payment Width (Trench Width)
W = O.D. + 2E

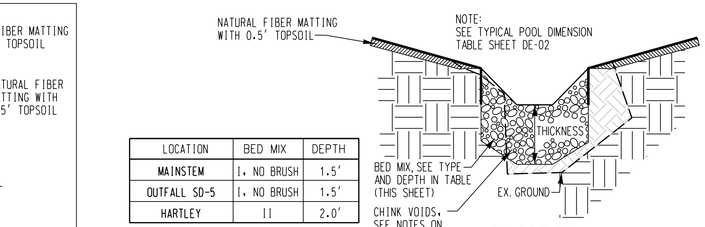
E = 9" for 6" to 24" Pipes
E = 12" for 27" to 36" Pipes
E = 15" for 42" to 72" Pipes

NOTES:
1. Quantities are for estimating only.
2. Quantities based on Ductile Iron Pipe.
3. Formulas shown may be used for pipe other than D.I.P and/or for sizes not shown.

APPROVAL
BUREAU OF ENGINEERING & CONSTRUCTION
10/23/97
DATE

DEPARTMENT OF PUBLIC WORKS
GENERAL DETAILS
TRENCH CRADLE AND ENCASEMENT

ISSUED: OCTOBER 1977
REVISED: AUGUST 1997
REVISED:
PLATE
G-8

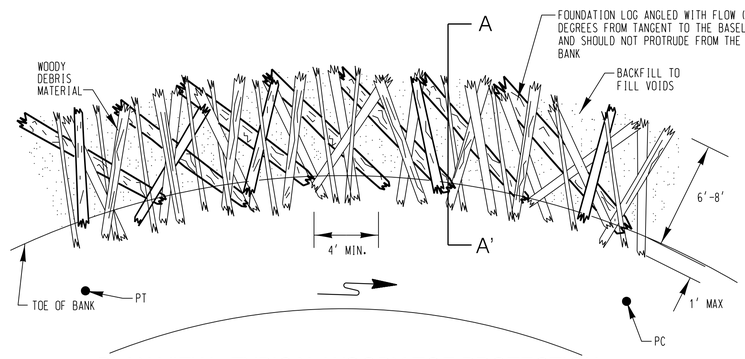


LOCATION	BED MIX	DEPTH
MAINSTEM	I, NO BRUSH	1.5'
OUTFALL SD-5	I, NO BRUSH	1.5'
HARTLEY	II	2.0'

TYPICAL ROCK LINED POOL

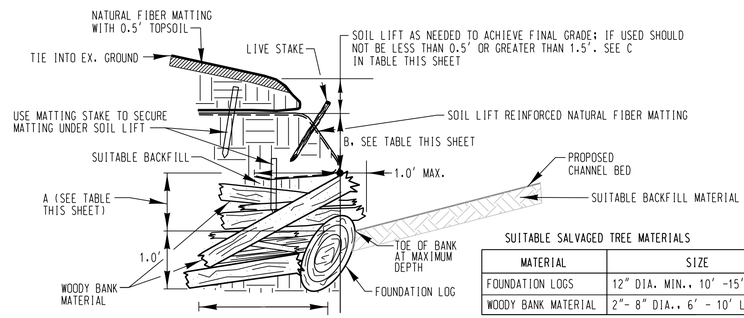
NOT TO SCALE

MAINSTEM, SD-5, HARTLEY



PLAN VIEW - TYPICAL WOODY TOE PROTECTION

NOT TO SCALE



SUITABLE SALVAGED TREE MATERIALS

MATERIAL	SIZE
FOUNDATION LOGS	12" DIA. MIN., 10' -15' LONG
WOODY BANK MATERIAL	2"- 8" DIA., 6' - 10' LONG

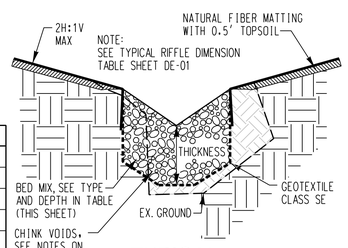
CROSS SECTION A-A' TYPICAL WOODY TOE PROTECTION

NOT TO SCALE

NOTES:

1. SUITABLE TREE MATERIALS INCLUDING TRUNKS, TOPS, AND LIMBS (ENSURE NO INVASIVES), SHALL BE SALVAGED FOR USE IN TOE WOOD APPLICATIONS AS APPROVED BY THE ENGINEER.
2. FOUNDATION LOGS SHALL BE ANGLED WITH THE FLOW TO THE BANK AND EXTEND THE FULL WIDTH OF THE FILL SECTION. FOUNDATION LOGS SHALL BE PLACED UNIFORMLY AT THE MAX DEPTH WITH SUITABLE BACKFILL USED TO PROVIDE SMOOTH TRANSITION TO AND FROM THE RIFFLES.
3. WOODY BANK MATERIAL SHALL BE PLACED RANDOMLY ON FOUNDATION LOGS IN LIFTS, COMPACTED WITH EXCAVATOR BUCKET, AND CHINKED WITH SUITABLE BACKFILL TO FILL VOIDS UNTIL THE FINAL DEPTH OF MATERIAL IS REACHED (SEE SECTION A-A').
4. CONTINUE TO FILL VOIDS WITH SUITABLE BACKFILL MATERIAL.
5. INSTALL SOIL LIFT WITH REINFORCED NATURAL FIBER MATTING. STAKE THE BOTTOM OF THE REINFORCED NATURAL FIBER MATTING LIFT AT LEAST 3.0' INTO BANK.
6. IF WOODY BANK MATERIAL SUPPLY IS LIMITED, A TOE BOULDER MAY BE USED WITH PRIOR APPROVAL BY THE COUNTY AND ENGINEER.

HEIGHT OF MATERIAL							
MATERIAL	REACH						
	GREENSHIRE	WELLHAVEN	MAINSTEM US (LOW SLOPE)	MAINSTEM US	MAINSTEM MID	MAINSTEM DS	HARTLEY
WOODY BANK MATERIAL, A	1.0'	1.0'	1.5'	1.0'	1.0'	1.5'	1.0'
RNFM SOIL LIFT, B	0.5'	0.7'	0.75'	0.7'	0.75'	0.75'	0.5'
NFM SOIL LIFT, C	0.5'	N/A	0.75'	0.5'	0.75'	0.75'	0.5'



LOCATION	BED MIX	DEPTH
OUTFALL SD-2	I, NO BRUSH	1.5'
OUTFALL SD-6	II	2.0'
OUTFALL SD-7	I, NO BRUSH	1.5'
OUTFALL SD-8	I, NO BRUSH	1.5'
OUTFALL SD-10	I, NO BRUSH	1.5'

TYPICAL OUTFALL STABILIZATION

NOT TO SCALE

OUTFALL: SD-2, SD-6, SD-7, SD-8, SD-10

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

DE-03

SEAL

STATE OF MARYLAND — JOHN SHANNON COPELAND — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR — DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED — CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED — DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

STREAM DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP — EL. DISTRICT NO. 03

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 21 OF 46
DWG. NO.
2023-1207

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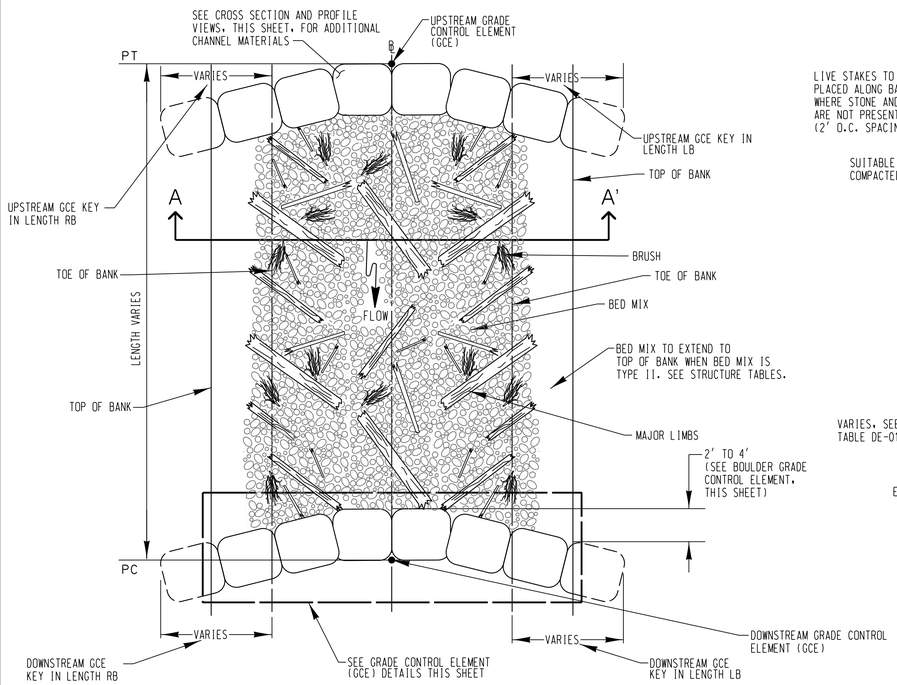


BRUSH / COBBLE RIFFLE (BCR) WITH GRADE CONTROL - PLAN

NOT TO SCALE

NOTES:

1. RIGHT AND LEFT BANKS ARE DETERMINED WHEN FACING DOWNSTREAM.
2. GRADE CONTROL ELEMENTS (GCE) ARE LOCATED AT THE UPSTREAM AND IN MOST CASES DOWNSTREAM END OF RIFFLES AND CONSTRUCTED WITH BOULDERS OR LOGS. SEE GRADING PLANS, PROFILES, AND STRUCTURE TABLES.
3. BED MIX SHALL BE PLACED AND CHINKED IN LIFTS TO MINIMIZE VOIDS AND PREVENT SUBSURFACE FLOW.
4. UPSTREAM/DOWNSTREAM GCE KEY IN LENGTH LB/RB VARY. SEE STRUCTURE TABLES FOR EXACT LENGTHS. THE LENGTH MAY BE FIELD ADJUSTED AS APPROVED BY THE ENGINEER.
5. SELECT BACKFILL MATERIAL AND SOIL BACKFILL MATERIAL SHALL BE COMPACTED SUCH THAT FUTURE SETTLEMENT OF THE MATERIAL IS KEPT TO A MINIMUM.
6. SUITABLE BACKFILL SHALL BE SALVAGED MATERIAL. IF SALVAGED SUITABLE BACKFILL IS NOT AVALIABLE, USE FURNISHED BANK RUN GRAVEL AS APPROVED BY THE COUNTY AND/OR ENGINEER.

BOULDER GCE NOTES:

1. BOULDERS SHALL BE PLACED FIRST AT THE CHANNEL INVERT ALIGNED WITH THE PC. THE REST OF THE BOULDERS OF THE GCE SHALL BE ANGLED DOWNSTREAM. THE UPSTREAM/DOWNSTREAM GCE KEY IN LB/RB SHALL BE PLACED PERPENDICULAR TO THE TOP OF BANK.
2. ALL GAPS/VOIDS BETWEEN BOULDERS SHALL BE CHINKED WITH BED MIX UNTIL ALL VOIDS ARE FILLED.
3. ON THE UPSTREAM FACE OF THE BOULDERS A LAYER OF GEOTEXTILE SHALL BE PLACED AS SHOWN IN THE DETAIL THE ENTIRE LENGTH OF THE GCE.

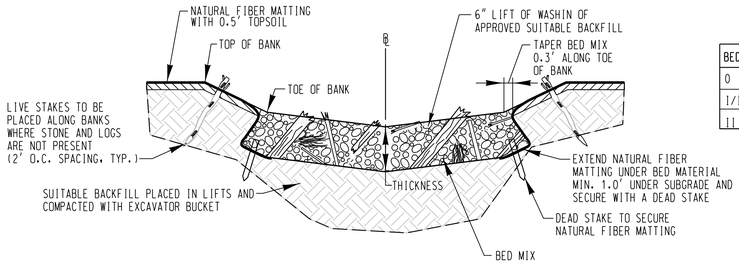
LOG GCE NOTES:

1. LOGS SHALL BE SALVAGED FROM ON-SITE CLEARING ACTIVITIES AND HAVE A DIAMETER OF 0.75' TO 1.0' AS APPROVED BY THE ENGINEER. A SINGLE LOG 1.5' IN DIAMETER MIN. MAY BE USED, IN WHICH CASE A FOOTER LOG WILL NOT BE REQUIRED. IF SALVAGED MATERIAL IS DETERMINED UNSUITABLE BY THE ENGINEER, BOULDER GCE MAY BE USED. ALL MATERIALS MUST BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT. THE CONTRACTOR SHALL WORK WITH THE ENGINEER FOR FINAL PLACEMENT OF THE LOGS.
2. LOGS SHALL BE PLACED SUCH THAT THE HEADER LOG IS AT THE GRADE OF THE PROPOSED TOE OF BANK. A NOTCH SHALL BE CUT TO ESTABLISH PROPOSED CHANNEL GRADE.
3. DUCKBILL EARTH ANCHOR MODEL 138 OR EQUIVALENT, DRIVEN TO APPROXIMATELY 5.0' DEEP. GALVANIZED STAINLESS STEEL, ALLOY BOLTTYPE SHACKLE WITH WORKING LOAD LIMIT OF 10,000 LBS. MINIMUM, ANDGALVANIZED CABLE 5/16" DIA. X 5.0' LONG SHALL BE USED TO SECURE LOGS AT BOTH ENDS.
4. ALL LOGS SHALL BE RELATIVELY STRAIGHT AND LIMBS AND BRANCHESNSHALL BE TRIMMED FLUSH.
5. FOOTER LOGS ARE LOGS PLACED TO PROVIDE A FOUNDATION AND SCOUR PROTECTION FOR THE HEADER LOGS.
6. ALL GAPS/VOIDS LARGER THAN 1 INCH BETWEEN THE HEADER AND FOOTER LOGS SHALL BE CHINKED WITH LIMBS AND SPECIFIED BED MIX ON THE UPSTREAM SIDE PRIOR TO PLACEMENT OF THE GEOTEXTILE.
7. GEOTEXTILE CLASS SE SHALL BE PLACED UNDER THE FOOTER AND WRAPPED ALONG THE UPSTREAM FACE OF BOTH THE HEADER AND FOOTER LOGS AND TACKED TO THE UPSTREAM FACE OF THE HEADER LOG.

APPROXIMATE MINIMUM LOG LENGTH. SEE STRUCTURE TABLE

REACH	STATION	HEADER LOG LENGTH	FOOTER LOG LENGTH
GREENSHIRE	33+35.0	18.0'	10.0'
	33+57.7	10.0'	10.0'
	33+93.9	18.0'	10.0'
	34+18.2	10.0'	10.0'
WELLHAVEN	41+11.0	15.5'	7.0'
	41+37.2	7.0'	7.0'
	41+61.4	25.2'*	7.0'
	41+93.8	7.0'	7.0'
	42+27.0	15.0'	7.0'
	42+73.1	7.0'	7.0'

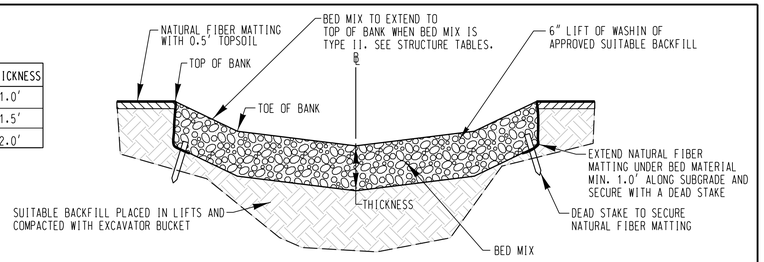
* MULTIPLE LOGS REQUIRED TO SPAN ENTIRE LENGTH. ABUT LOGS AND FILL IN VOIDS WITH BED MIX AND SUITABLE SALVAGED MATERIAL. SINGLE LOG TO SPAN PROPOSED CHANNEL SHALL BE A MINIMUM OF 15.0 FT LONG.



BRUSH / COBBLE / RIFFLE (BCR) MIX TYPE 0, TYPE I, TYPE I NO BRUSH - SECTION A-A'

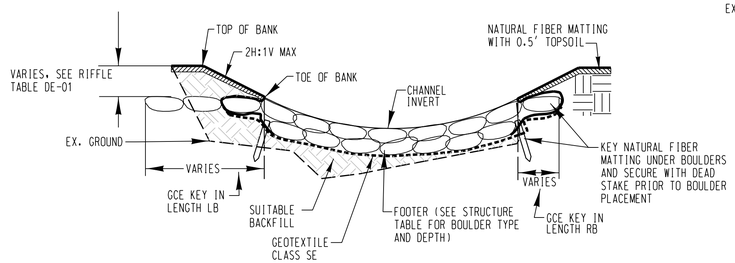
NOT TO SCALE

BED MIX	THICKNESS
0	1.0'
I/I NO BRUSH	1.5'
II	2.0'



BRUSH / COBBLE / RIFFLE (BCR) MIX TYPE II- SECTION A-A'

NOT TO SCALE



BOULDER GRADE CONTROL ELEMENT - CROSS-SECTION

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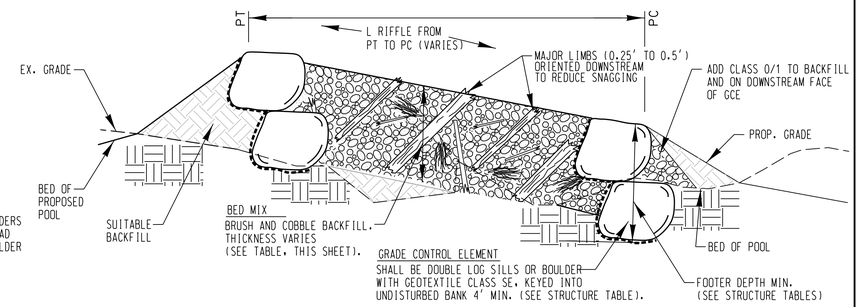
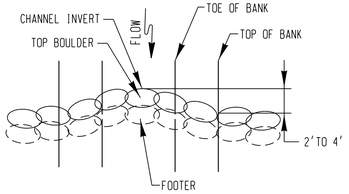


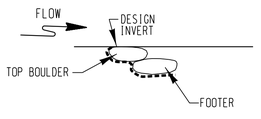
BRUSH / COBBLE / RIFFLE (BCR) WITH GRADE CONTROL PROFILE

NOT TO SCALE



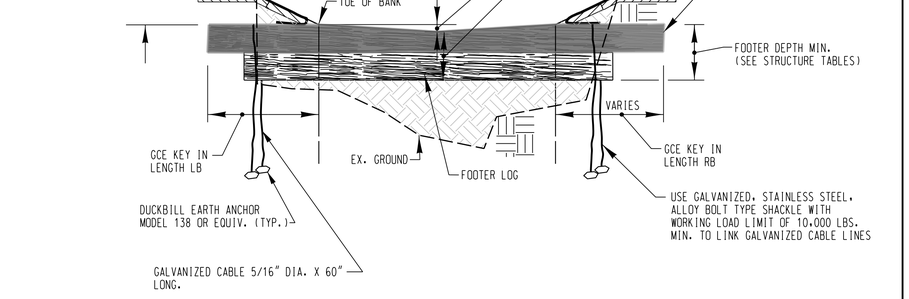
BOULDER GRADE CONTROL ELEMENT - PLAN

NOT TO SCALE



BOULDER GRADE CONTROL ELEMENT - PROFILE THROUGH BASELINE

NOT TO SCALE



LOG GRADE CONTROL ELEMENT - CROSS SECTION

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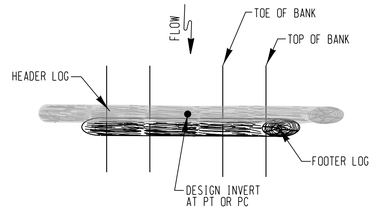

LOG GRADE CONTROL ELEMENT - PLAN

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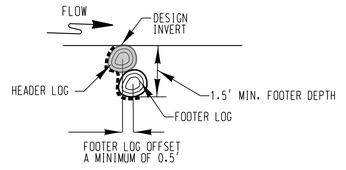

LOG GRADE CONTROL ELEMENT - PROFILE THROUGH BASELINE

NOT TO SCALE

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 37,38 38NW 37,38

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

STREAM DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

CONTRACT NO.	DE-04
24024 GXO	
JOB ORDER NO.	
247-221-0400-0351	
SHEET 22 OF 46	
DWG. NO.	
2023-1208	

PLOTTED: 11:13 AM on Thursday, March 21, 2024
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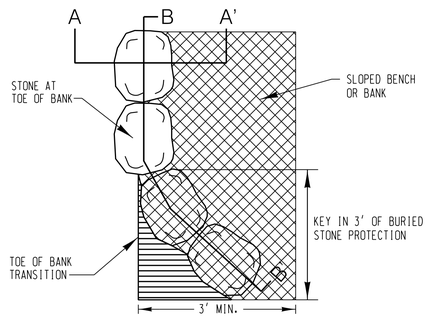
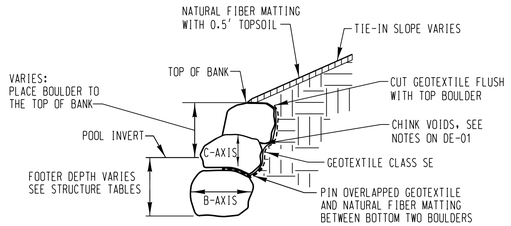
Contract No. 24024 GX0
Addendum No.2
April 8, 2025



BOULDER BANK AND TOE BOULDER PROTECTION KEY IN

NOT TO SCALE

NOTE: KEY IN SHALL BE APPLIED AT UP AND DOWNSTREAM EXTENTS WHEN NO OTHER BANK TREATMENT IS PRESCRIBED. BOULDER BANK AND TOE BOULDER PROTECTION KEY IN ELEVATION SHALL BE TAPERED DOWN WITH GRADE WHEN NO OTHER BANK TREATMENT IS PRESCRIBED.



TYPICAL BOULDER BANK PROTECTION CROSS SECTION A-A'

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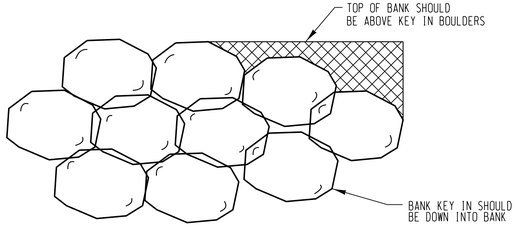
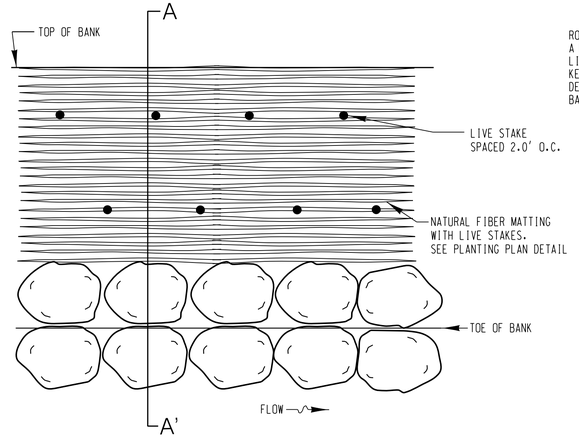


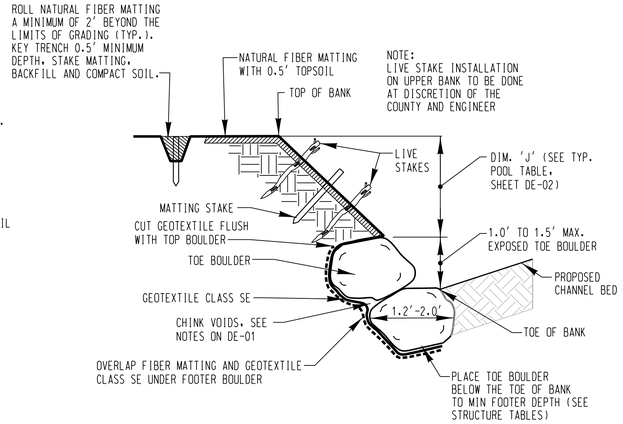
TYPICAL BOULDER BANK PROTECTION PROFILE B-B'

NOT TO SCALE



TOE BOULDER PLAN VIEW

NOT TO SCALE



TOE BOULDER SECTION A-A'

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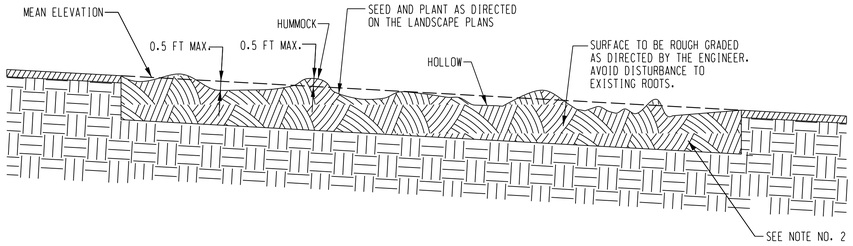
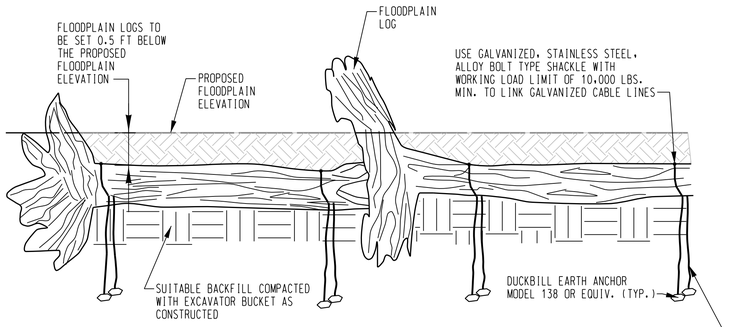


TYPICAL SECTION - MICROTOPOGRAPHY / CREATED WETLANDS

HUMMOCK-HOLLOW
NOT TO SCALE

NOTES FOR MICROTOPOGRAPHY:

1. THE SURFACE OF THE SOIL MUST NOT BE COMPACTED TO THE EXTENT THAT IT LIMITS PLANT ESTABLISHMENT AND MICROBIAL ACTIVITY. UPON COMPLETION OF INITIAL GRADING (BEFORE ADDING TOPSOIL), THE SOIL MUST BE DISKED OR CHISEL PLOWED TO A DEPTH OF AT LEAST 0.7'.
2. PROVIDE TOPSOIL TO A DEPTH OF AT LEAST 0.5'. SALVAGED TOPSOIL SHOULD BE FREE FROM INVASIVE PLANT SPECIES. SITE SHOULD BE GRADED TO BELOW 0.5' OF FINAL GRADE, THEN 0.5' TOPSOIL SPREAD OVER THE SITE.
3. SOIL AND SUBSTRATE AMENDMENTS MAY BE NEEDED TO MEET HYDRIC SOIL CHARACTERISTICS AND MAINTAIN THE SPECIFIED PLANT SPECIES. A MINIMUM OF 60 CUBIC YARDS OF ORGANIC MATTER PER ACRE IS REQUIRED UNLESS PRE-CONSTRUCTION SOIL MONITORING DEMONSTRATES THAT THERE IS AN AMOUNT OF STABLE CARBON EQUIVALENT OR HIGHER TO THAT IN AN APPROPRIATE DEPARTMENT-APPROVED REFERENCE WETLAND.
4. MICROTOPOGRAPHY VARIATIONS ARE UP TO 0.5' FROM DESIGN ELEVATION. WITH NO MORE THAN 25 PERCENT OF EACH AREA REMAINING AT THE DESIGN ELEVATION. MICROTOPOGRAPHIC GRADING SHALL NOT DESTROY OR DISTURB ROOTS OF MATURE TREES.
5. SUPPLEMENTAL LARGE WOODY DEBRIS SHOULD BE ADDED. THIS MAY INCLUDE A COMBINATION OF LOGS, BRUSH PILES, OVERTURNED STUMPS, ETC.. DEAD WOODY MATERIAL ONSITE MAY BE USED. LIVE MATERIAL SALVAGED FROM ONSITE MUST BE FROM NATIVE SPECIES ONLY. MATERIAL WITH OR WITHOUT LEAVES IS ACCEPTABLE. LARGE WOODY DEBRIS SHOULD BE PLACED / PILED AT THE DIRECTION OF THE ENGINEER. MATERIAL SHOULD CONSIST OF A RANGE OF SIZES FROM 0.2' - 2.0' IN DIAMETER AND 4' - 8' IN LENGTH. PILES SHOULD RANGE FROM 2' - 4' IN HEIGHT.
6. AREAS INDICATED FOR MICROTOPOGRAPHY ARE MINIMUM AND CAN BE EXPANDED AT THE DIRECTION OF THE ENGINEER. MICROPTOPOGRAPHY SHALL BE PERFORMED WITHIN THE ACTIVE WORK AREAS AND SHALL AVOID ADDITIONAL DISTURBANCE TO THE TREE ROOTS, WETLANDS, AND BUFFERS.

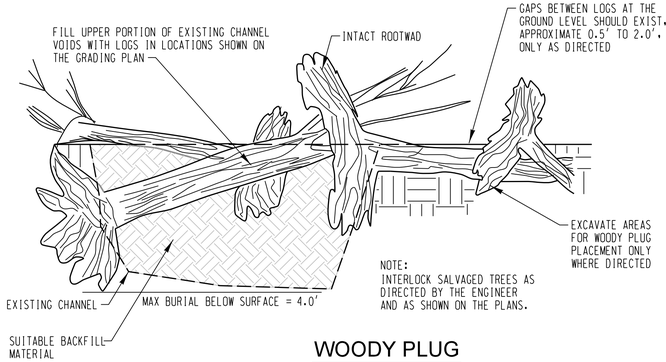


FLOODPLAIN LOG SILL

NOT TO SCALE

NOTES:

1. FLOODPLAIN LOGS SHALL HAVE A MINIMUM DIAMETER OF 10" AND MINIMUM LENGTH OF 15'.
2. TOP OF FLOODPLAIN LOGS WILL BE SET 0.5 FT BELOW THE ELEVATION OF THE PROPOSED FLOODPLAIN.
3. THE ENDS OF MULTIPLE LOGS USED TO CONSTRUCT A FLOODPLAIN WOODY DEBRIS PLUG SHALL OVERLAP (EXTEND) PAST ONE ANOTHER BY A MINIMUM OF 2'.
4. BRANCHES AND OTHER IRREGULARITIES MAY PROTRUDE ABOVE THE FLOODPLAIN SURFACE.
5. DUCKBILL EARTH ANCHOR MODEL 138 OR EQUIVALENT, DRIVEN TO APPROXIMATELY 60" DEEP. GALVANIZED STAINLESS STEEL, ALLOY BOLT TYPE SHACKLE WITH WORKING LOAD LIMIT OF 10,000 LBS. MINIMUM. AND GALVANIZED CABLE 5/16" DIA. x 60" LONG SHALL BE USED TO SECURE LOGS AT BOTH ENDS.
6. THE PLACEMENT OF ADDITIONAL MATERIALS SUCH AS TREE TOPS, BRANCHES, ROOTS AND OTHER PORTIONS OF THE HARVESTED / FURNISHED TREES (ADDITIONAL WOODY MATERIALS) SHALL BE INSTALLED AT THE DIRECTION OF THE ENGINEER.
7. IF SALVAGED WOODY MATERIAL IS NOT AVAILABLE ON SITE, TYPE II BOULDER KEY-IN OR LIVE FENCE MAY BE SUBSTITUTED WITH PRIOR APPROVAL BY THE COUNTY AND ENGINEER. IF BOULDER SUBSTITUTE IS USED, THEY SHOULD BE BURIED 0.5' BELOW FINISHED GRADE WITH COMPACTED TOPSOIL PLACED ON TOP. VOIDS BETWEEN BOULDERS SHOULD BE WELL CHINKED.
8. PLACEMENT OF FLOODPLAIN LOG SILLS SHALL BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO MATURE TREES AND WETLANDS AS DIRECTED BY THE ENGINEER.



WOODY PLUG

NOT TO SCALE

NOTE: IF WOODY PLUG SUPPLY IS LIMITED, A CLAY PLUG MAY BE USED WITH PRIOR APPROVAL BY THE COUNTY AND ENGINEER.

SEAL

STATE OF MARYLAND — DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY — JOHN D. SARBANES — 3.24.17 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

STREAM DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

DE-05

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 23 OF 46	
DWG. NO.	2023-1209

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: 11:13 AM, on Thursday, March 21, 2024
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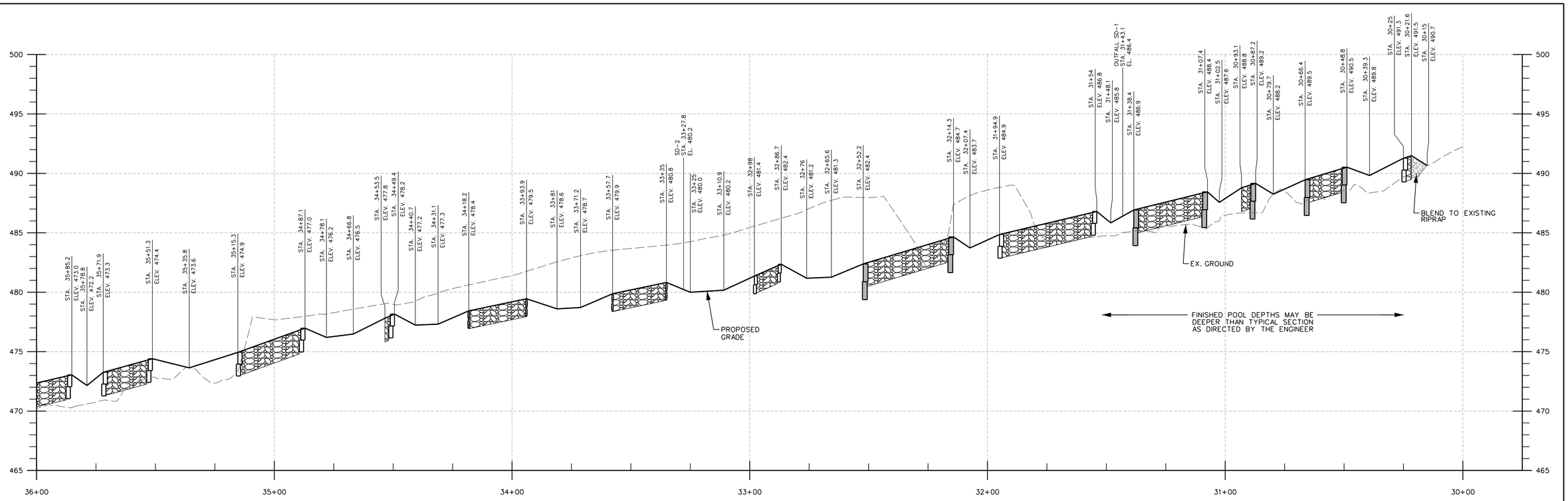
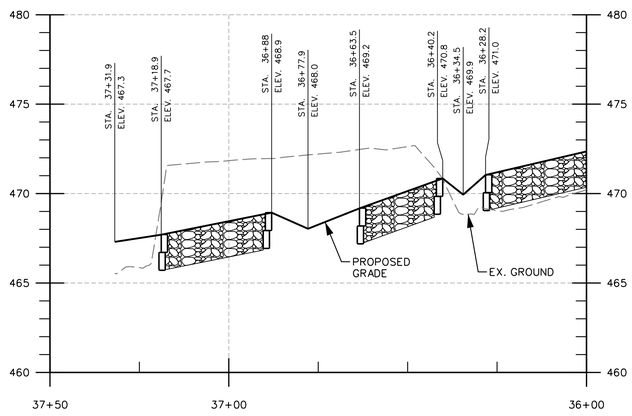
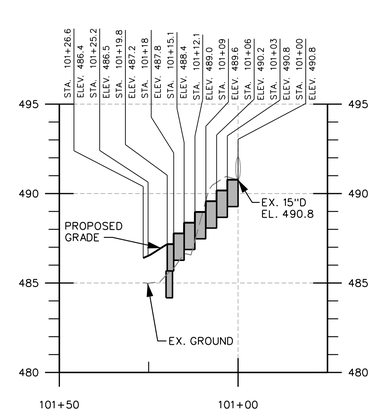


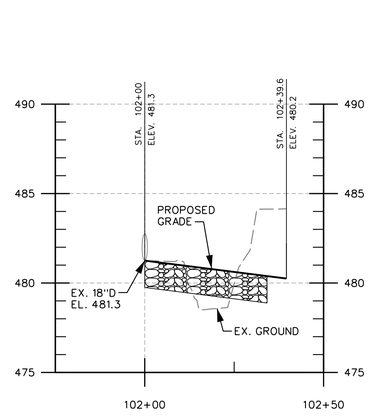
GREENSHIRE TRIB.



GREENSHIRE TRIB. - CONT'D



OUTFALL SD-1



OUTFALL SD-2

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SEAL

STATE OF MARYLAND · SHANNON LUCAS · 33079 · PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL,JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

LEGEND
- EXISTING GROUND (UNDER BASELINE)
- PROPOSED GRADE (UNDER BASELINE)
- PROPOSED THALWEG *

* WHEN THALWEG IS OFFSET FROM BASELINE

STRUCTURES LEGEND
- PROP. BOULDER TYPE I
- PROP. BOULDER TYPE II
- PROP. IMBRICATED
- PROP. BED MATERIAL

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. 1"=20'
VERT. 1"=4'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

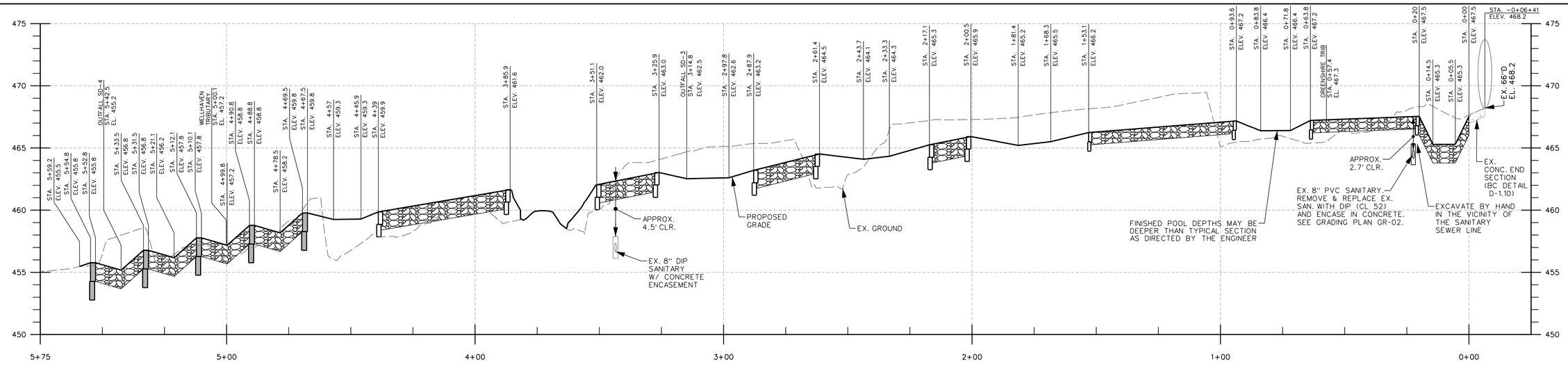
PROFILES

COUNCIL DISTRICT NO. 02
SUBDIVISION: MCDONOGH TOWNSHIP
EL. DISTRICT NO. 03

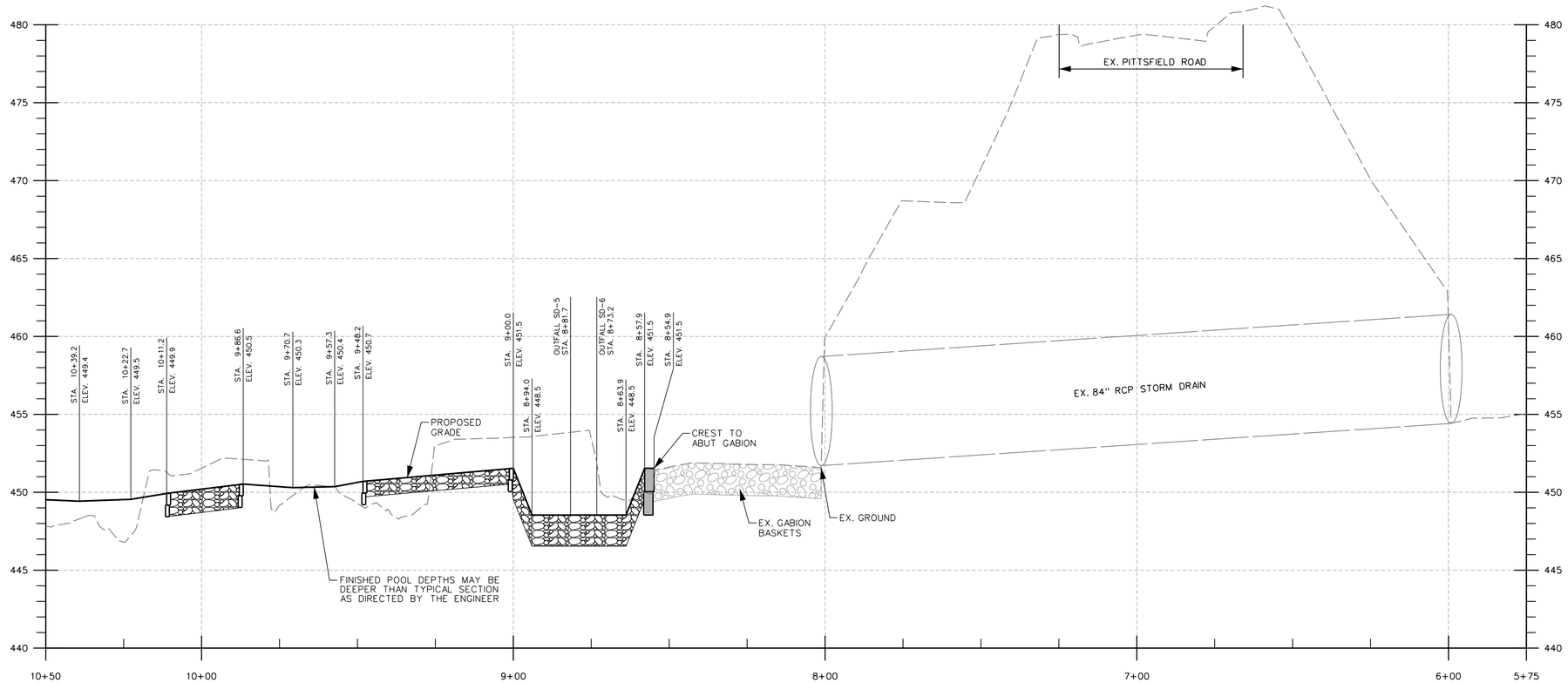
PR-01

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET	24 OF 46
DWG. NO.	2023-1210

Contract No. 24024 GX0
Addendum No.2
April 8, 2025



MAINSTEM US



MAINSTEM - CONT'D

LEGEND

- EXISTING GROUND (UNDER BASELINE)
- PROPOSED GRADE (UNDER BASELINE)
- PROPOSED THALWEG *

* WHEN THALWEG IS OFFSET FROM BASELINE

STRUCTURES LEGEND

- PROP. BOULDER TYPE I
- PROP. BOULDER TYPE II
- PROP. IMBRICATED
- PROP. BED MATERIAL

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. 1"=20'
VERT. 1"=4'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS
AT PITTSFIELD ROAD
STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

PROFILES

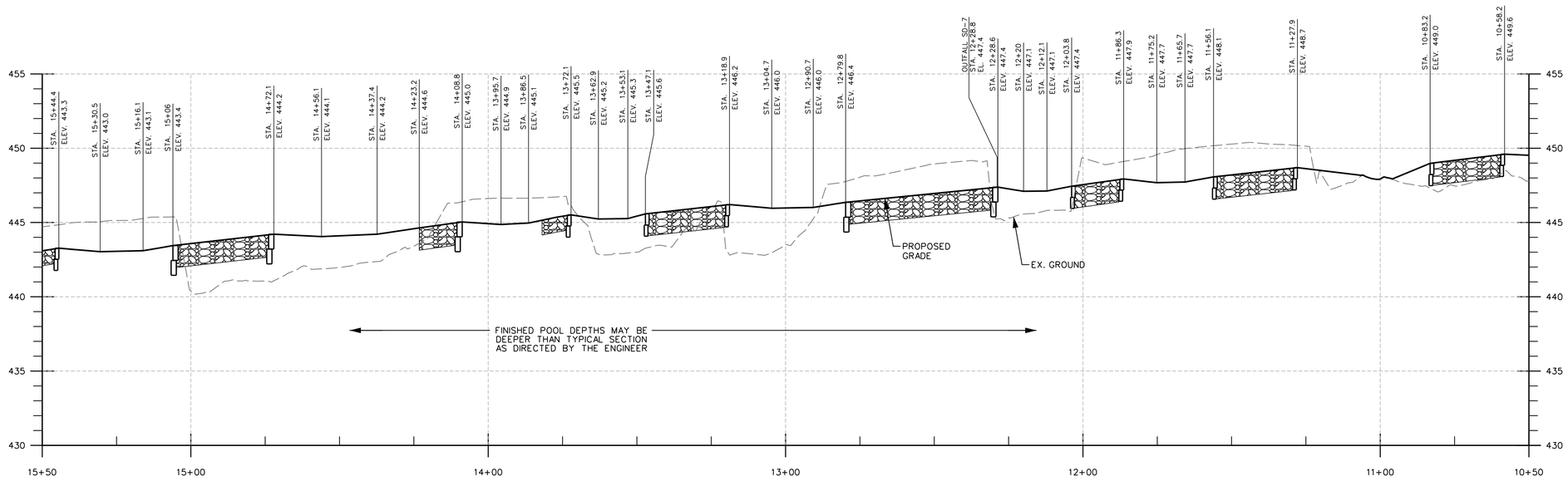
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

PR-02

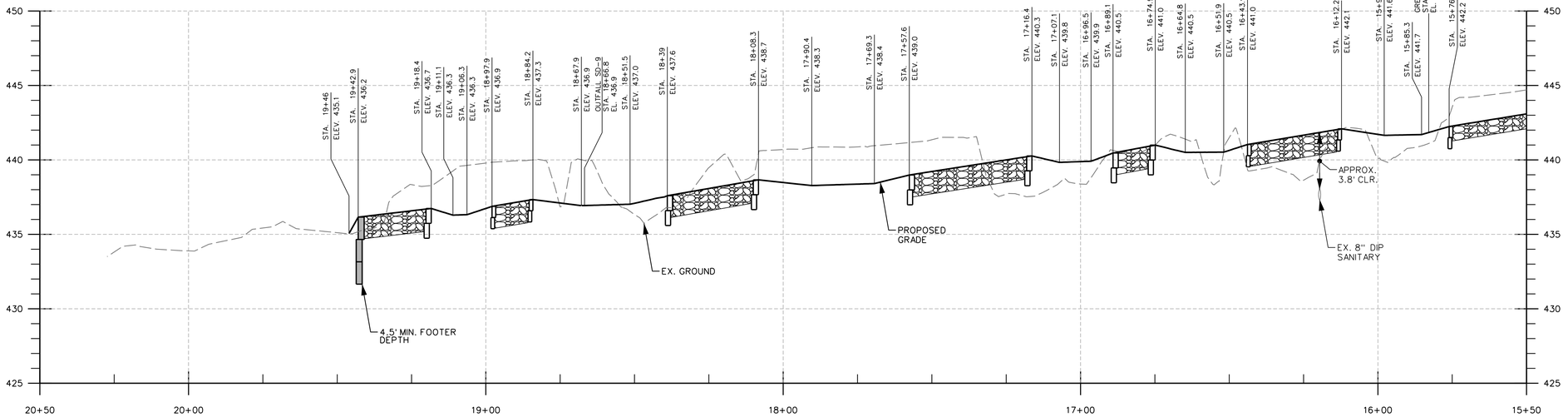
CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 25 OF 46	
DWG. NO.	2023-1211

PLOTTED: "11:13 AM on Thursday, March 21, 2024"
FILE: M:\2023\WS\WS02\24024\12-Drawings\PR-PP02_Pittsfield.dgn

Contract No. 24024 GXO
Addendum No.2
April 8, 2025



MAINSTEM - CONT'D



MAINSTEM - CONT'D

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

LEGEND
- EXISTING GROUND (UNDER BASELINE)
- PROPOSED GRADE (UNDER BASELINE)
- PROPOSED THALWEG *

* WHEN THALWEG IS OFFSET FROM BASELINE

STRUCTURES LEGEND
- PROP. BOULDER TYPE I
- PROP. BOULDER TYPE II
- PROP. IMBRICATED
- PROP. BED MATERIAL

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. 1"=20'
VERT. 1"=4'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

PROFILES

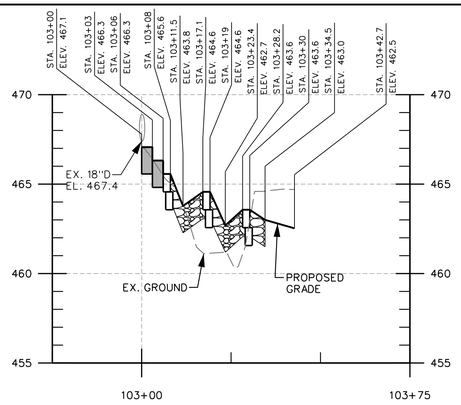
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

PR-03

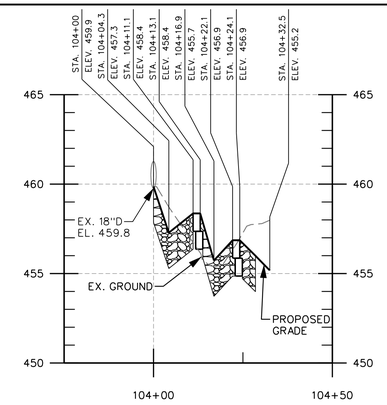
CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 26 OF 46	
DWG. NO.	2023-1212

PLOTTED: "11:13 AM on Thursday, March 21, 2024"
FILE: M:\2023\WS02\24024\12 Drawings\PR-03\03_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025



OUTFALL SD-3



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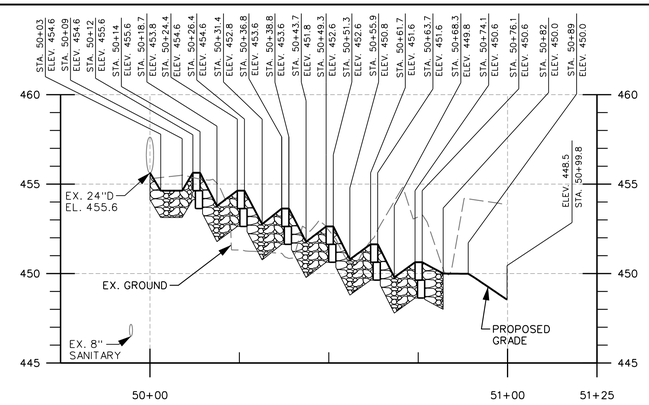
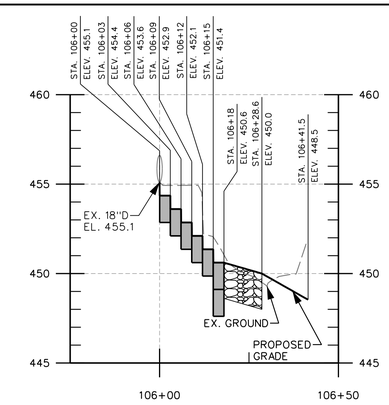
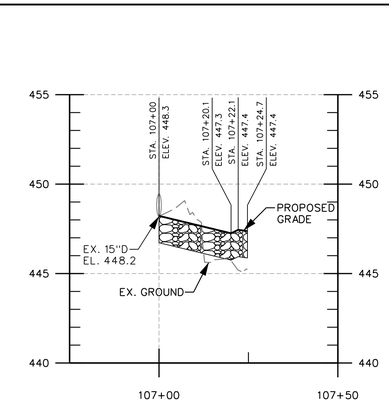


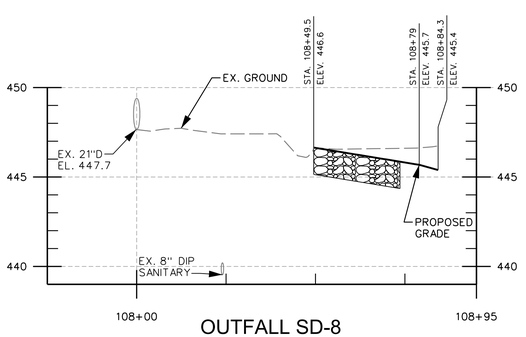
OUTFALL SD-5



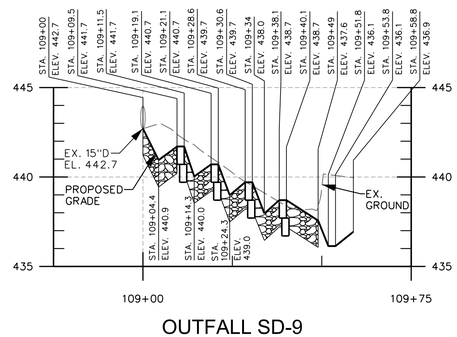
OUTFALL SD-6



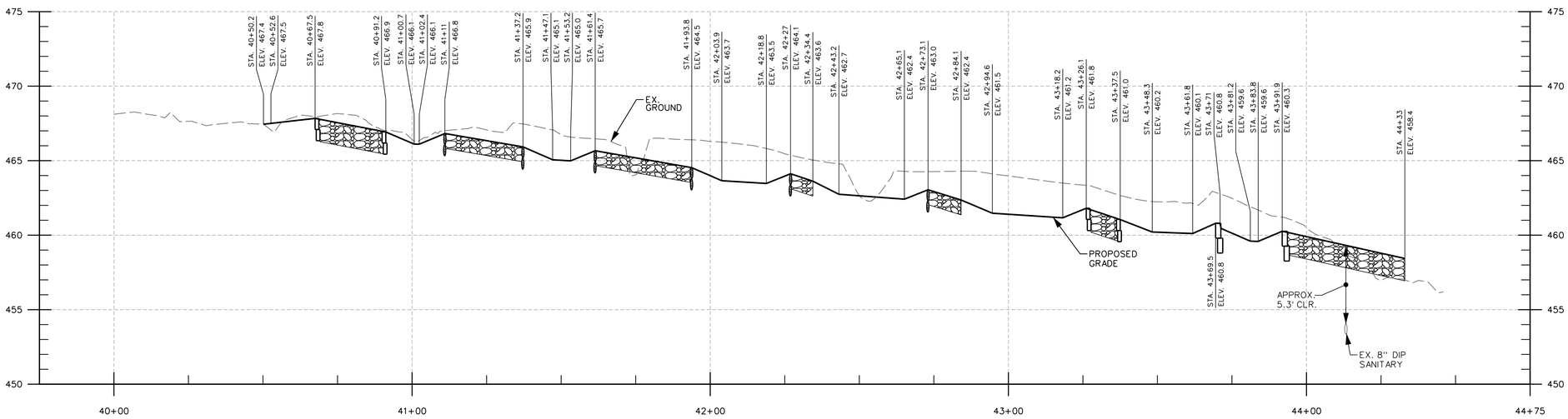
OUTFALL SD-7



OUTFALL SD-8



OUTFALL SD-9



WELLHAVEN TRIB.

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 36NW 27, 28

LEGEND
EXISTING GROUND (UNDER BASELINE)
PROPOSED GRADE (UNDER BASELINE)
PROPOSED THALWEG *
* WHEN THALWEG IS OFFSET FROM BASELINE

STRUCTURES LEGEND
PROP. BOULDER TYPE I
PROP. BOULDER TYPE II
PROP. IMBRICATED
PROP. BED MATERIAL

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. 1"=20'
VERT. 1"=4'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

PROFILES

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

PR-04

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 27 OF 46	
DWG. NO.	2023-1213

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

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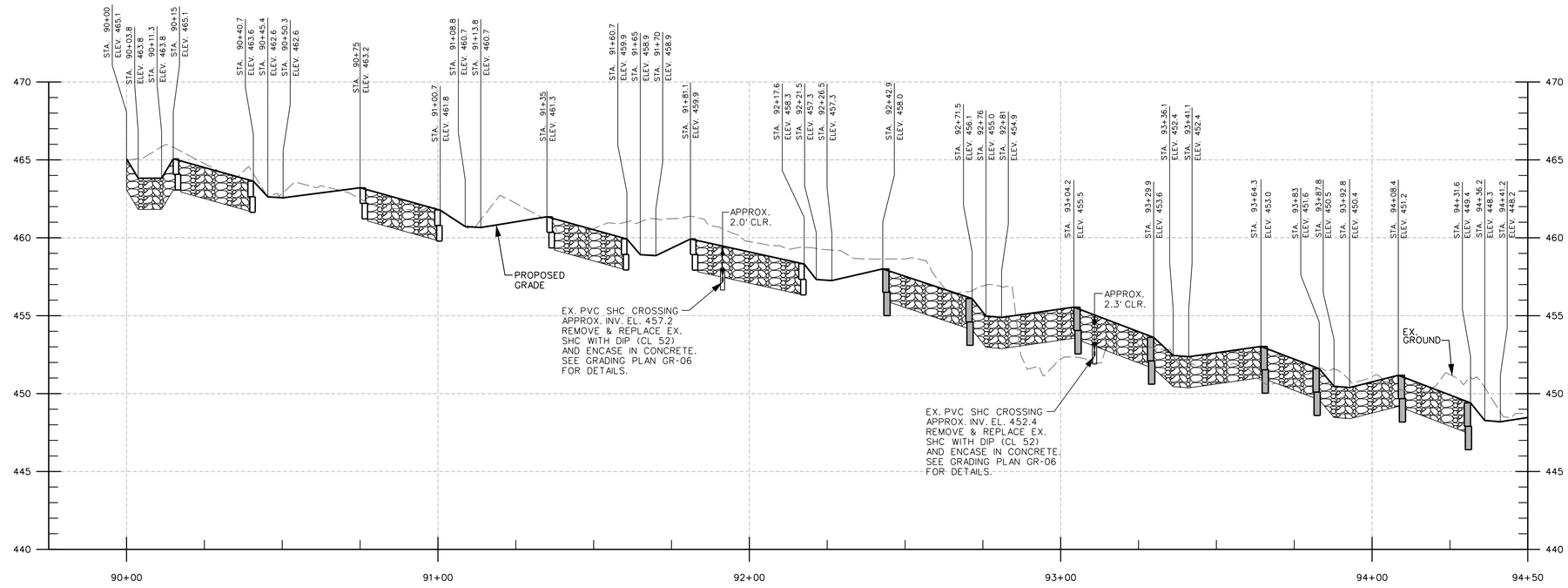
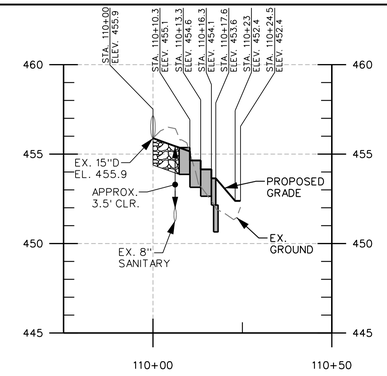
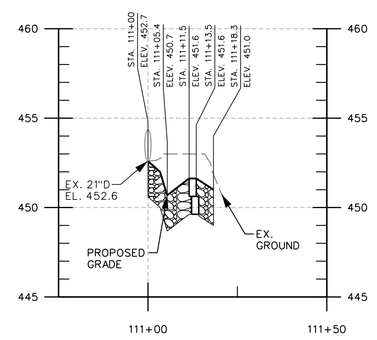


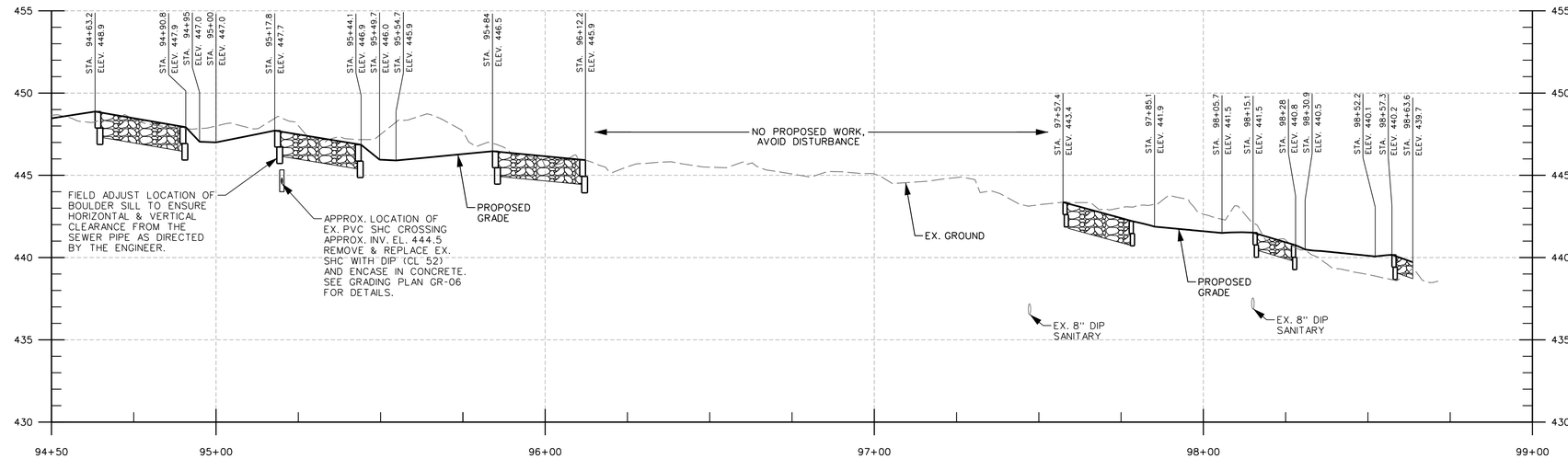
HARTLEY TRIB.



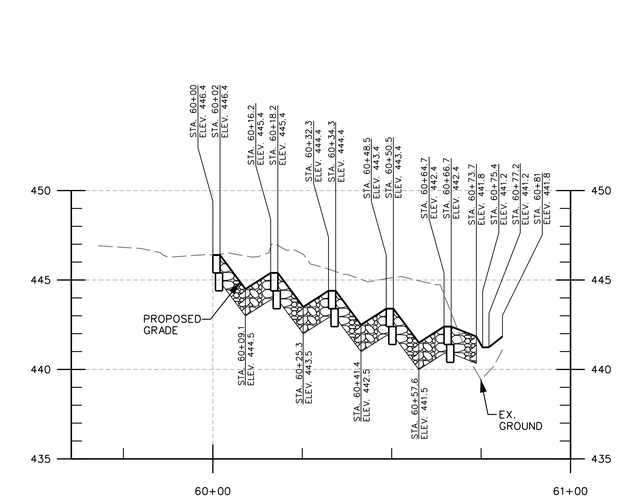
OUTFALL SD-10



OUTFALL SD-11



HARTLEY TRIB. - CONT'D



GREEN VALLEY TRIB.

PLOTTED: "11:15 AM on Thursday, March 21, 2024"
FILE NAME: C:\Projects\16802620\12 Drawings\pPR-P005_Pittsfield.dgn

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

LEGEND
- EXISTING GROUND (UNDER BASELINE)
- PROPOSED GRADE (UNDER BASELINE)
- PROPOSED THALWEG *

* WHEN THALWEG IS OFFSET FROM BASELINE

STRUCTURES LEGEND
- PROP. BOULDER TYPE I
- PROP. BOULDER TYPE II
- PROP. IMBRICATED
- PROP. BED MATERIAL

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. 1"=20'
VERT. 1"=4'

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

PROFILES

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

PR-05	
CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET 28 OF 46	
DWG. NO.	2023-1214

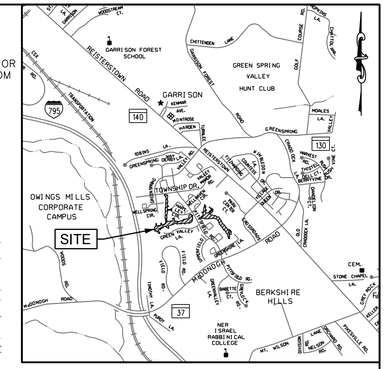
Contract No. 24024 GX0
Addendum No.2
April 8, 2025

MATCH LINE - SEE SHEET ES-02

BENCHMARK

THE FOLLOWING HORIZONTAL AND VERTICAL DATUMS ARE BASED ON THE MARYLAND STATE COORDINATE SYSTEM NAD 83 (2011) FOR HORIZONTAL AND NAVD 88 FOR VERTICAL AND ARE DERIVED FROM THE FOLLOWING BALTIMORE COUNTY SURVEY CONTROL POINTS:

POINT	NORTHING	EASTING	ELEVATION
1438	630,039.55	1,382,609.56	536.65
DESCRIPTION: CAPPED REBAR			
GIS-170	630,420.61	1,383,312.41	550.05
DESCRIPTION: BRASS DISK			



VICINITY MAP
SCALE: 1" = 1000'

LEGEND

NOTE: SEE TITLE SHEET FOR PROPOSED STREAM STRUCTURES LEGEND

- LOD — LIMIT OF DISTURBANCE
- OSF — ORANGE SAFETY FENCE
- PUMP — PUMP AND HOSE
- FB — FILTER BAG
- SAND BAG DAM
- SSF — SUPER SILT FENCE
- SFOP — SILT FENCE ON PAVEMENT
- HTP / TPF — HEAVY TREE PROTECTION / TREE PROTECTION FENCE
- FP — EX. 100-YEAR FLOODPLAIN
- FP — PROP. 100-YEAR FLOODPLAIN
- STAGING / STOCKPILE AREA
- EX. TREE TO BE REMOVED
- STABILIZED CONSTRUCTION ENTRANCE
- TB — TEMPORARY ACCESS BRIDGE
- MULCH ACCESS PATH
- TIMBER MAT ACCESS PATH
- TEMPORARY SEEDING AND SOIL STABILIZATION MATTING
- AGIP / COIP / MOD COIP — AT GRADE INLET PROTECTION / COMBINATION INLET PROTECTION / & MODIFIED COMBINATION INLET PROTECTION (SUMP)

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

DAILY STABILIZATION NOTE:
CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:
1. FOR AREAS TO BE VEGETATIVELY STABILIZED:
   A. PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS, OR SWALES.
   B. PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

NOTES:
1. IN THE EVENT THAT SOIL RUTTING AND/OR EXPOSURE OCCURS, IMMEDIATELY STABILIZE WITH SEED AND SOIL STABILIZATION MATTING. IF THE CONDITION WORSENS OR AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR, PLACE SUPER SILT FENCE ON THE DOWNSTREAM SIDE.
2. FOR BCSCD APPROVAL STAMP AND ADDITIONAL LEGEND ITEMS, SEE TITLE SHEET, TI-01.
3. PROVIDE INLET PROTECTION AT EXISTING INLET PER THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR. (SEE MOD COIP DETAIL ON SHEET ES-05.)

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL
_____ DATE

SEAL

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
DIRECTOR _____ DATE

DESIGNED AW, HS, SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

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. 33079
EXPIRATION DATE: 01/16/2025

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	32NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

SC 1 OF 10

ES-01

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL PLAN

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET	29 OF 46
DWG. NO.	2023-1215

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: 11:13 AM on Thursday, March 21, 2024
FILE NAME: P:\16\60262\12\Drawings\ES-TP001_Pittsfield.dgn

PROVIDE INLET PROTECTION AT EXISTING INLET PER THE DIRECTION OF THE SEDIMENT CONTROL INPSECTOR

STAGING/ STOCKPILE AREA

SCE #2 TO BE USED SPARINGLY DUE TO SMALL EXISTING PARKING LOT AND HEAVY USE.

OUTFALL SD-0

MAINSTEM US

INTAKE HOSE PHASE 4

CLEANWATER DIKE PHASE 4

STREAM DIVERSION PUMP PHASE 4

DISCHARGE HOSE PHASE 4

INTAKE HOSE PHASE 3

CLEANWATER DIKE PHASE 3

STREAM DIVERSION PUMP PHASE 3

CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN THE VICINITY OF THE SANITARY SEWER LINE

DEWATERING PUMP PHASE 2

SEDIMENT DIKE PHASE 2

CLEANWATER DIKE PHASE 3

DISCHARGE ONTO A STABLE ENERGY DISSIPATOR MADE OF SANDBAGS

DISCHARGE HOSE PHASE 2

GREENSHIRE TRIBUTARY

DISCHARGE HOSE PHASE 3

WELLHAVEN TRIBUTARY

CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN THE VICINITY OF THE SANITARY SEWER LINE

OUTFALL SD-3

SEDIMENT DIKE PHASES 3 & 4

INTAKE HOSE PHASE 3

DEWATERING PUMP PHASE 4

STREAM DIVERSION PUMP PHASE 3

DISCHARGE HOSE PHASE 3

HIGHLANDS COURT

MATCH LINE - SEE SHEET ES-03

MATCH LINE - SEE SHEET ES-01

LEGEND

NOTE: SEE TITLE SHEET FOR PROPOSED STREAM STRUCTURES LEGEND

LOD	LIMIT OF DISTURBANCE
OSF	ORANGE SAFETY FENCE
PUMP	PUMP AND HOSE
FB	FILTER BAG
	SAND BAG DAM
SSF	SUPER SILT FENCE
SFOP	SILT FENCE ON PAVEMENT
HTP / TPF	HEAVY TREE PROTECTION / TREE PROTECTION FENCE
FP	EX. 100-YEAR FLOODPLAIN
FP	PROP. 100-YEAR FLOODPLAIN
	STAGING / STOCKPILE AREA
	EX. TREE TO BE REMOVED
	STABILIZED CONSTRUCTION ENTRANCE
TB	TEMPORARY ACCESS BRIDGE
	MULCH ACCESS PATH
	TIMBER MAT ACCESS PATH
	TEMPORARY SEEDING AND SOIL STABILIZATION MATTING
ACIP / COIP / MOD COIP	AT GRADE INLET PROTECTION / COMBINATION INLET PROTECTION / & MODIFIED COMBINATION INLET PROTECTION (SUMP)

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)

1 inch = 20ft.

NOTES:

1. IN THE EVENT THAT SOIL RUTTING AND/OR EXPOSURE OCCURS, IMMEDIATELY STABILIZE WITH SEED AND SOIL STABILIZATION MATTING. IF THE CONDITION WORSENS OR AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR, PLACE SUPER SILT FENCE ON THE DOWNSTREAM SIDE.
2. FOR BCSCD APPROVAL STAMP AND ADDITIONAL LEGEND ITEMS, SEE TITLE SHEET, TI-01.

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL
DATE

SC 2 OF 10

ES-02

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND — SHANNON CHRISTOPHER LUCAS — 33079 — PROFESSIONAL ENGINEER

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW, HS, SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL PLAN

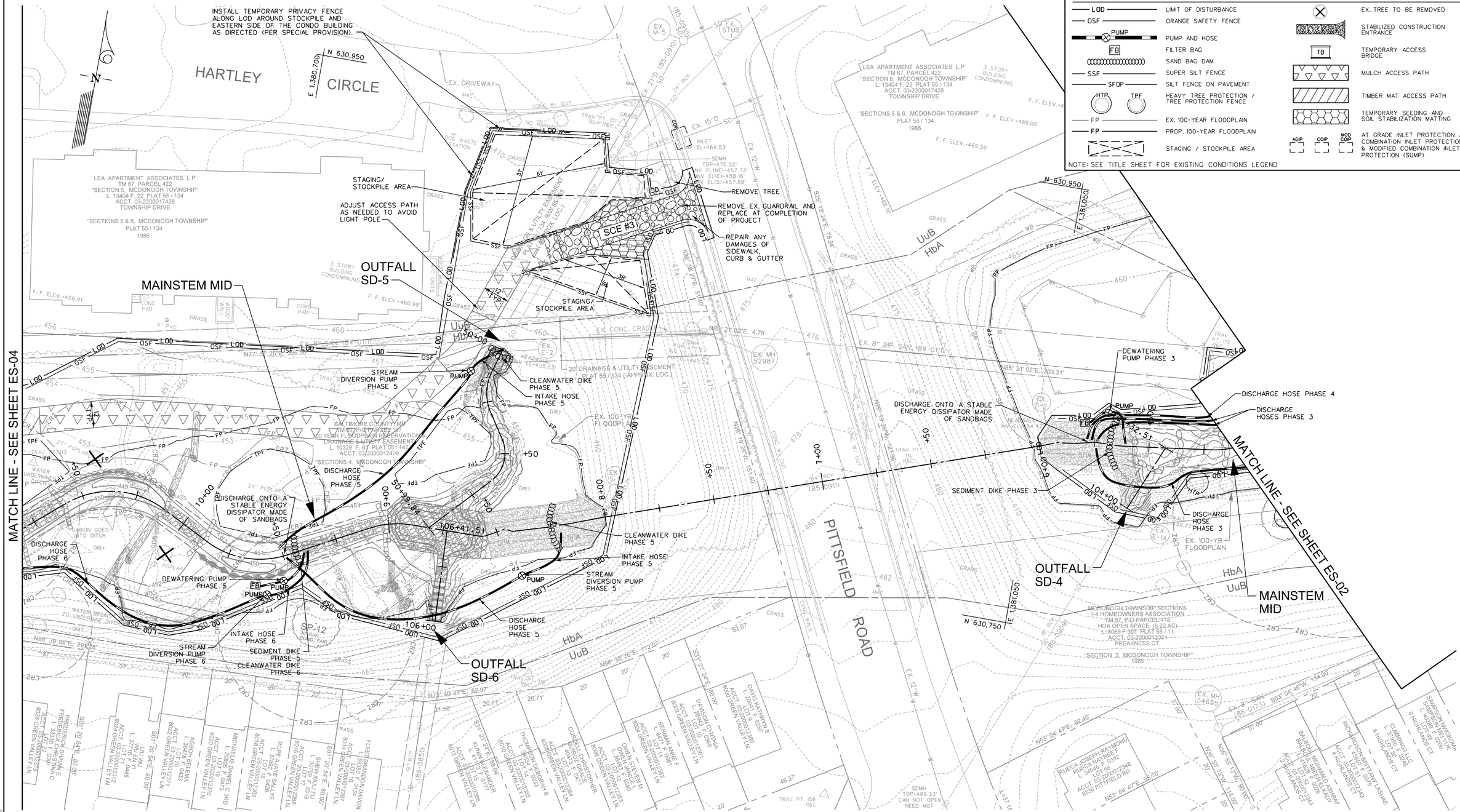
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET 30 OF 46	
DWG. NO.	2023-1216

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. 33079
EXPIRATION DATE: 01/16/2025

PLOTTED: 11:13 AM on Thursday, March 21, 2024
FILE NAME: 2016160262612-Drawings-pES-T0002-PittsfieldSR.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025


INSTALL TEMPORARY PRIVACY FENCE ALONG LOD AROUND STOCKPILE AND EASTERN SIDE OF THE CONDO BUILDING AS DIRECTED (PER SPECIAL PROVISION).
HARTLEY CIRCLE
N 630,950
E 1,380,700
LEA APARTMENT ASSOCIATES L P TM 67, PARCEL 422 "SECTION 5, MCDONOGH TOWNSHIP" L. 13404 F. 22 PLAT 55 / 134 ACCT. 03-2200017428 TOWNSHIP DRIVE
"SECTIONS 5 & 6, MCDONOGH TOWNSHIP" PLAT 55 / 134 1986
STAGING/ STOCKPILE AREA
ADJUST ACCESS PATH AS NEEDED TO AVOID LIGHT POLE
REMOVE TREE
REMOVE EX. GUARDRAIL AND REPLACE AT COMPLETION OF PROJECT
REPAIR ANY DAMAGES OF SIDEWALK, CURB & GUTTER
SCE #3
OUTFALL SD-5
MAINSTEM MID
STAGING/ STOCKPILE AREA
STREAM DIVERSION PUMP PHASE 5
CLEANWATER DIKE PHASE 5
INTAKE HOSE PHASE 5
20' DRAINAGE & UTILITY EASEMENT PLAT 55/134 (APPROX. LOC.)
EX. 100-YR FLOODPLAIN
DISCHARGE HOSE PHASE 5
DISCHARGE ONTO A STABLE ENERGY DISSIPATOR MADE OF SANDBAGS
BALTIMORE COUNTY, MD. TM 67, P/O PARCEL 187 100 YEAR FLOODPLAIN RESERVATION DRAINAGE & UTILITY EASEMENT L. 10329 F. 64 PLAT 55/144 ACCT. 03/2000012409
"SECTIONS 4, MCDONOGH TOWNSHIP"
DEWATERING PUMP PHASE 5
DISCHARGE HOSE PHASE 6
INTAKE HOSE PHASE 6
STREAM DIVERSION PUMP PHASE 6
SEDIMENT DIKE PHASE 5
CLEANWATER DIKE PHASE 6
OUTFALL SD-6
DISCHARGE HOSE PHASE 5
STREAM DIVERSION PUMP PHASE 5
INTAKE HOSE PHASE 5
CLEANWATER DIKE PHASE 5
DEWATERING PUMP PHASE 3
DISCHARGE HOSE PHASE 4
DISCHARGE HOSES PHASE 3
DISCHARGE ONTO A STABLE ENERGY DISSIPATOR MADE OF SANDBAGS
SEDIMENT DIKE PHASE 3
DISCHARGE HOSE PHASE 3
OUTFALL SD-4
MATCH LINE - SEE SHEET ES-02
MATCH LINE - SEE SHEET ES-04
PITTSFIELD ROAD
MCDONOGH TOWNSHIP" SECTIONS 1-4 HOMEOWNERS ASSOCIATION TM 67, P/O PARCEL 418 HOA OPEN SPACE (6.22 AC) L. 8060 F. 097 PLAT 55 / 11 ACCT. 03-2000012361 PREAKNESS CT.
"SECTION 3, MCDONOGH TOWNSHIP" 1985
N 630,750
E 1,381,050
EX. 8" SAN. (84-0111)
EX. 8" DIP SAN. (84-0111)
EX. MH 52987
EX. MH 24655
EX. 100-YR FLOODPLAIN
SEAL
STATE OF MARYLAND SHANNON CPS LUCAS 33079 PROFESSIONAL ENGINEER
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. 33079 EXPIRATION DATE: 01/16/2025
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
DIRECTOR DATE
DESIGNED AW,HS,SL, JK
DRAWN CSD, AW, JS
CHECKED SL
BUREAU OF ENGINEERING AND CONSTRUCTION REVIEWED DATE
BUR. OF ENGINEERING & CONSTRUCTION APPROVED CHIEF DATE
KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079
ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER
REVISED AS PER RECORD PRINT DATE
DRAFTSMAN DATE
REVISION BY
HIGHWAYS STRUCTURES STORM DRAINS SEWER WATER FIELD ENGINEER
DEPARTMENT OF PUBLIC WORKS APPROVED DIRECTOR DATE
P. W. A. DIR. NO. KEY SHEET PNE
RIGHT OF WAY POSITION SHEET 37NW 27 28 38NW 27 28
SCALE PLAN: 1" = 20' PROFILE: HOR. N/A VERT. N/A
LEGEND
NOTE: SEE TITLE SHEET FOR PROPOSED STREAM STRUCTURES LEGEND
LOD LIMIT OF DISTURBANCE
OSF ORANGE SAFETY FENCE
PUMP PUMP AND HOSE
FB FILTER BAG
SAND BAG DAM
SSF SUPER SILT FENCE
SFOP SILT FENCE ON PAVEMENT
HTP TPF HEAVY TREE PROTECTION / TREE PROTECTION FENCE
FP EX. 100-YEAR FLOODPLAIN
FP PROP. 100-YEAR FLOODPLAIN
STAGING / STOCKPILE AREA
EX. TREE TO BE REMOVED
STABILIZED CONSTRUCTION ENTRANCE
TB TEMPORARY ACCESS BRIDGE
MULCH ACCESS PATH
TIMBER MAT ACCESS PATH
TEMPORARY SEEDING AND SOIL STABILIZATION MATTING
AGIP COIP MOD COIP AT GRADE INLET PROTECTION / COMBINATION INLET PROTECTION/ & MODIFIED COMBINATION INLET PROTECTION (SUMP)
NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND
NOTES:
1. IN THE EVENT THAT SOIL RUTTING AND/OR EXPOSURE OCCURS, IMMEDIATELY STABILIZE WITH SEED AND SOIL STABILIZATION MATTING. IF THE CONDITION WORSENS OR AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR, PLACE SUPER SILT FENCE ON THE DOWNSTREAM SIDE.
2. FOR BCSCD APPROVAL STAMP AND ADDITIONAL LEGEND ITEMS, SEE TITLE SHEET, TI-01.
3. ANY REMOVAL & REPLACEMENT OF EXISTING SIDEWALK, CURB & GUTTER OR GUARDRAILS WILL BE REPLACED IN KIND AND MET SMOOTHLY FOR LINE & GRADE.
4. PROVIDE INLET PROTECTION AT EXISTING INLET PER THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR. (SEE COIP DETAIL, SHT. ES-05).
GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.
BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL
DATE
SC 3 OF 10
ES-03
DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88
BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION
UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT
COUNCIL DISTRICT NO. 02
EROSION & SEDIMENT CONTROL PLAN
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03
CONTRACT NO. 24024 GX0
JOB ORDER NO. 247-221-0400-0351
SHEET 31 OF 46
DWG. NO. 2023-1217
PLOTTED: "11:13 AM on Thursday, March 21,2024"
FILE: M:\2016\16802620\12-Drawings\ES-16802620_Pittsfield.dgn
Contract No. 24024 GX0
Addendum No.2
April 8, 2025

MATCH LINE - SEE SHEET ES-06

LEGEND

NOTE: SEE TITLE SHEET FOR PROPOSED STREAM STRUCTURES LEGEND

LOD	LIMIT OF DISTURBANCE	⊗	EX. TREE TO BE REMOVED
OSF	ORANGE SAFETY FENCE	SCE	STABILIZED CONSTRUCTION ENTRANCE
PUMP	PUMP AND HOSE	TB	TEMPORARY ACCESS BRIDGE
FB	FILTER BAG	▽▽▽	MULCH ACCESS PATH
0000000000	SAND BAG DAM	▨	TIMBER MAT ACCESS PATH
SSF	SUPER SILT FENCE	⬡	TEMPORARY SEEDING AND SOIL STABILIZATION MATTING
SFOP	SILT FENCE ON PAVEMENT	AGIP COIP MOD COIP	AT GRADE INLET PROTECTION / COMBINATION INLET PROTECTION/ & MODIFIED COMBINATION INLET PROTECTION (SUMP)
HTP TPF	HEAVY TREE PROTECTION / TREE PROTECTION FENCE		
FP	EX. 100-YEAR FLOODPLAIN		
FP	PROP. 100-YEAR FLOODPLAIN		
⊠	STAGING / STOCKPILE AREA		

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

NOTES:

1. IN THE EVENT THAT SOIL RUTTING AND/OR EXPOSURE OCCURS, IMMEDIATELY STABILIZE WITH SEED AND SOIL STABILIZATION MATTING. IF THE CONDITION WORSENS OR AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR, PLACE SUPER SILT FENCE ON THE DOWNSTREAM SIDE.
2. FOR BCSCD APPROVAL STAMP AND ADDITIONAL LEGEND ITEMS, SEE TITLE SHEET, TI-01.
3. ANY REMOVAL & REPLACEMENT OF EXISTING SIDEWALK, CURB & GUTTER OR GUARDRAILS WILL BE REPLACED IN KIND AND MET SMOOTHLY FOR LINE & GRADE.

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL
DATE

SC 4 OF 10

ES-04

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

SHANNON CP LUCAS
NO. 33079

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW, HS, SL, JK
DRAWN CSD, AW, JS
CHECKED SL

BUREAU OF ENGINEERING AND CONSTRUCTION
REVIEWED
DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED ____ CHIEF
DATE ____

REVISED AS PER RECORD PRINT		DATE	REVISION	BY
DRAFTSMAN	DATE			

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED ____ DIRECTOR
DATE ____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL PLAN

SUBDIVISION: MCDONOGH TOWNSHIP
EL. DISTRICT NO. 03

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 32 OF 46
DWG. NO.
2023-1218

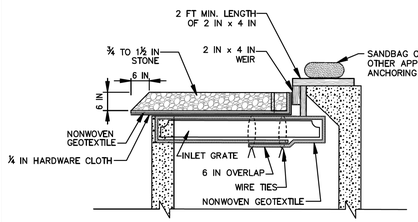
PLOTTED: "11:13 AM on Thursday, March 21, 2024"
FILE:M:\2016\161602620.12\Drawings\pES-P004_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

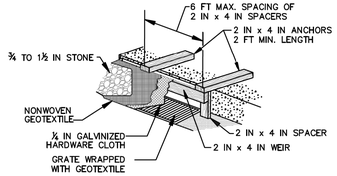
DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



SECTION



ISOMETRIC VIEW

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
4. ATTACH A CONTINUOUS PIECE OF ½ INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2X4 WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
6. NAIL THE 2X4 WEIR TO THE TOP OF A 9 INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
7. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS OF 2x4 INCH TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
8. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
9. FORM THE ¼ INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
10. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
11. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

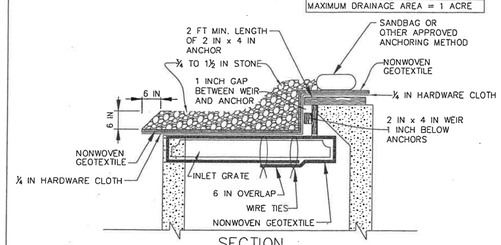
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

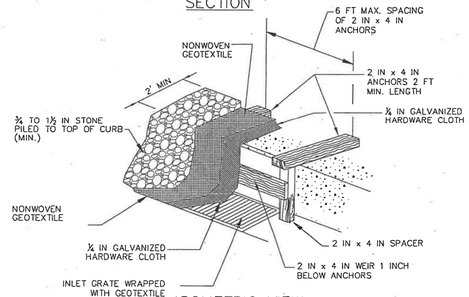
DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: MOD COIP

MAXIMUM DRAINAGE AREA = 1 ACRE



SECTION



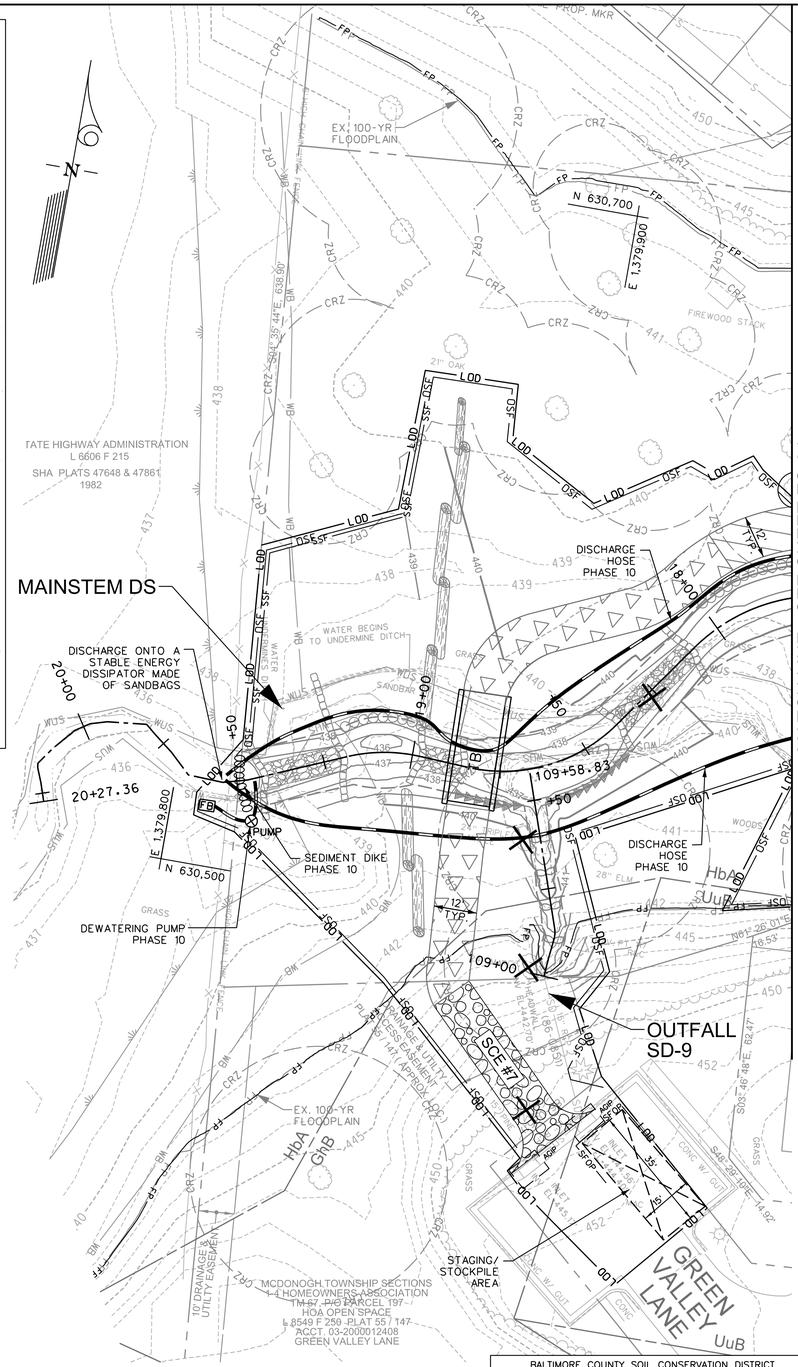
ISOMETRIC VIEW

NOTE: HARDWARE CLOTH, GEOTEXTILE AND STONE SHALL EXTEND 2 FEET BEYOND THROAT ON EACH SIDE.

MODIFIED FOR SUMP

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MODIFIED FOR USE IN BALTIMORE COUNTY



MATCH LINE - SEE SHEET ES-04

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: MOD COIP

CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
4. NAIL THE 2X4 WEIR (1 INCH BELOW THE ANCHORS) TO THE TOP OF A 9 INCH LONG VERTICAL SPACER, LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
5. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS) AT SPACER LOCATIONS. EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
6. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
7. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 60 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO 2 FEET BEYOND THE TOP OF CURB, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
8. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH.
9. FORM THE ¼ INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MODIFIED FOR SUMP

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MODIFIED FOR USE IN BALTIMORE COUNTY

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	MODIFIED-2013	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, 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 material 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:

   Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, 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.

LEGEND

NOTE: SEE TITLE SHEET FOR PROPOSED STREAM STRUCTURES LEGEND

LOD	LIMIT OF DISTURBANCE		EX. TREE TO BE REMOVED
OSF	ORANGE SAFETY FENCE	SCE	STABILIZED CONSTRUCTION ENTRANCE
PUMP	PUMP AND HOSE	TB	TEMPORARY ACCESS BRIDGE
FB	FILTER BAG		MULCH ACCESS PATH
	SAND BAG DAM		TIMBER MAT ACCESS PATH
SSF	SUPER SILT FENCE		TEMPORARY SEEDING AND SOIL STABILIZATION MATTING
SFOP	SILT FENCE ON PAVEMENT	AGIP / COIP / MOD COIP	AT GRADE INLET PROTECTION / COMBINATION INLET PROTECTION/ & MODIFIED COMBINATION INLET PROTECTION (SUMP)
HTP / TPF	HEAVY TREE PROTECTION / TREE PROTECTION FENCE		
FP	EX. 100-YEAR FLOODPLAIN		
FP	PROP. 100-YEAR FLOODPLAIN		
	STAGING / STOCKPILE AREA		

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

NOTES:
1. IN THE EVENT THAT SOIL RUTTING AND/OR EXPOSURE OCCURS, IMMEDIATELY STABILIZE WITH SEED AND SOIL STABILIZATION MATTING. IF THE CONDITION WORSENS OR AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR, PLACE SUPER SILT FENCE ON THE DOWNSTREAM SIDE.
2. FOR BCSCD APPROVAL STAMP AND ADDITIONAL LEGEND ITEMS, SEE TITLE SHEET, TI-01.
3. PROVIDE INLET PROTECTION AT EXISTING INLET PER THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR. (SEE AGIP DETAIL, SHT. ES-08).

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SEAL

STATE OF MARYLAND — JAMES CHRISTOPHER SHANNON — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR — DATE

DESIGNED AW,HS,SL,IK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL PLAN

SUBDIVISION: MCDONOGH TOWNSHIP — EL. DISTRICT NO. 03

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL
_____ DATE

SC 5 OF 10

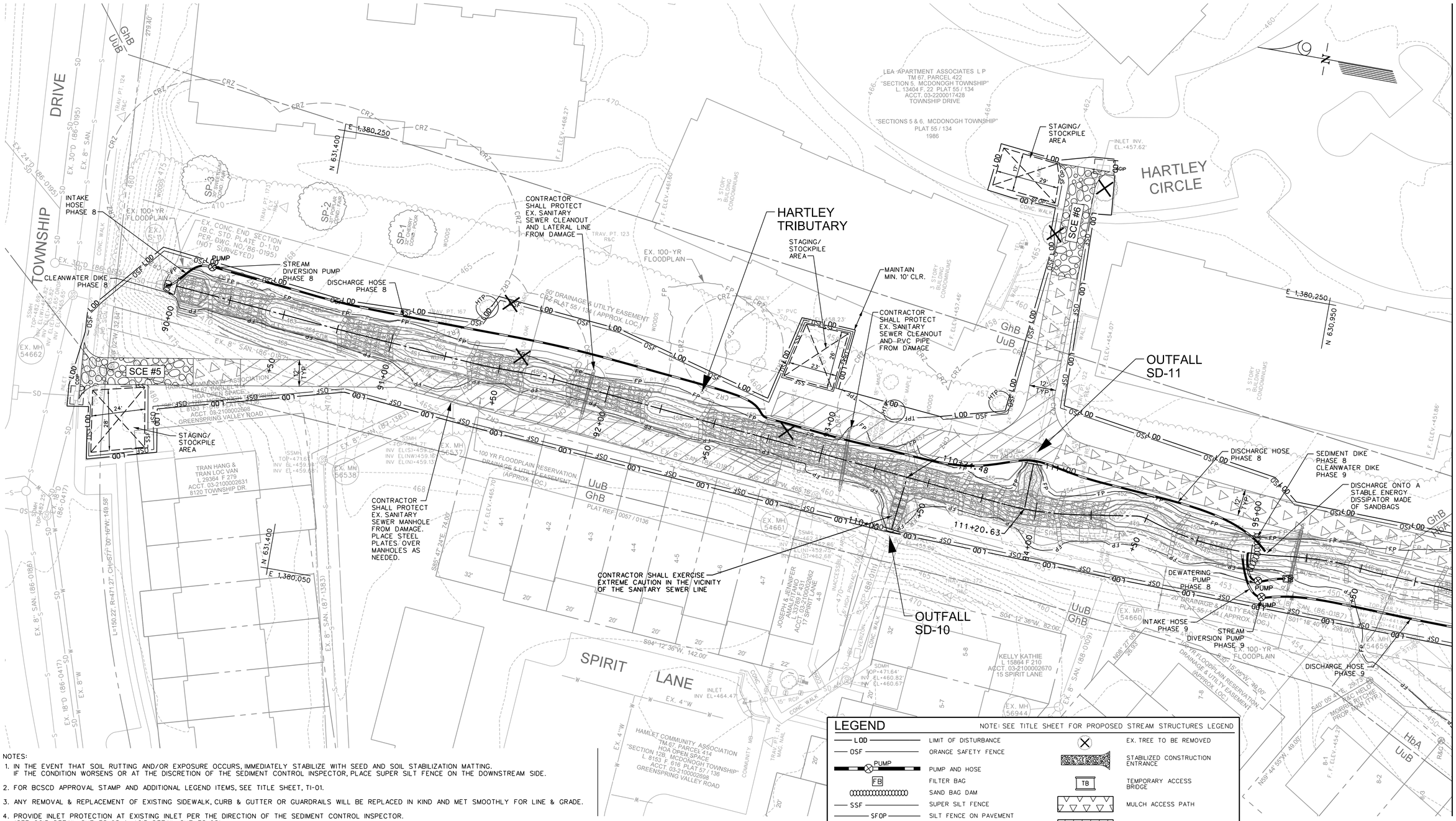
ES-05

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

CONTRACT NO.
24024 GX0
JOB ORDER NO.
247-221-0400-0351
SHEET 33 OF 46
DWG. NO.
2023-1219

PLOTTED: 11:14 AM on Thursday, March 21, 2024
FILENAME=Z:\DWG\2022\12\Drawings\PES-P0005_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025



NOTES:

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2. FOR BCSCD APPROVAL STAMP AND ADDITIONAL LEGEND ITEMS, SEE TITLE SHEET, TI-01.
3. ANY REMOVAL & REPLACEMENT OF EXISTING SIDEWALK, CURB & GUTTER OR GUARDRAILS WILL BE REPLACED IN KIND AND MET SMOOTHLY FOR LINE & GRADE.
4. PROVIDE INLET PROTECTION AT EXISTING INLET PER THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR. (SEE COIP DETAIL, SHT. ES-05 & AGIP DETAIL, SHT. ES-08).

LEGEND

NOTE: SEE TITLE SHEET FOR PROPOSED STREAM STRUCTURES LEGEND

LOD	LIMIT OF DISTURBANCE		EX. TREE TO BE REMOVED
OSF	ORANGE SAFETY FENCE		STABILIZED CONSTRUCTION ENTRANCE
PUMP	PUMP AND HOSE	TB	TEMPORARY ACCESS BRIDGE
FB	FILTER BAG		MULCH ACCESS PATH
	SAND BAG DAM		TIMBER MAT ACCESS PATH
SSF	SUPER SILT FENCE		TEMPORARY SEEDING AND SOIL STABILIZATION MATTING
SFOP	SILT FENCE ON PAVEMENT	AGIP COIP MOD COIP	AT GRADE INLET PROTECTION / COMBINATION INLET PROTECTION/ & MODIFIED COMBINATION INLET PROTECTION (SUMP)
HTP TPF	HEAVY TREE PROTECTION / TREE PROTECTION FENCE		
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NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL
DATE

SC 6 OF 10 ES-06

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY
DIRECTOR — DATE

DESIGNED AW,HS,SL,JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
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REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
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	37NW 37,38 38NW 37,38

SCALE
PLAN: 1" = 20'
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HOR. N/A
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BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL PLAN

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SHEET 34 OF 46	
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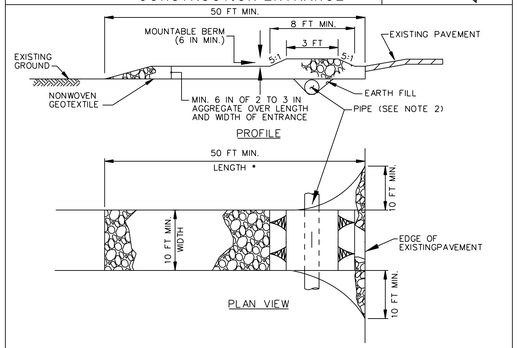
Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: 11:14 AM on Thursday, March 21, 2024
FILE NAME: P:\2016\16900220\12-Drawings\ES-P0008_Pittsfield.dgn

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

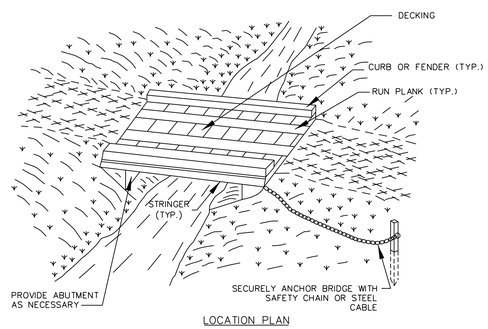
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (•30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	201 1	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL: TB



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

DETAIL H-4-1 TEMPORARY ACCESS BRIDGE

STANDARD SYMBOL: TB

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TEMPORARY BRIDGE STRUCTURE AT OR ABOVE THE BANK ELEVATION TO PREVENT IMPACTS FROM FLOATING MATERIALS AND DEBRIS.
2. PLACE ABUTMENTS PARALLEL TO, AND ON, STABLE BANKS.
3. CONSTRUCT BRIDGE TO SPAN ENTIRE CHANNEL UNLESS OTHERWISE INDICATED ON APPROVED PLAN.
4. USE STRINGERS CONSISTING OF LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.
5. SELECT DECKING MATERIALS TO PROVIDE SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. PLACE ALL DECKING MEMBERS PERPENDICULAR TO THE STRINGERS, BUTT TIGHTLY, AND SECURELY FASTEN. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.
6. SECURELY FASTEN OPTIONAL RUN PLANKING FOR THE LENGTH OF THE SPAN. PROVIDE A RUN PLANK FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.
7. INSTALL CURBS THE ENTIRE LENGTH OF THE OUTER SIDES OF THE DECK TO PREVENT SEDIMENT FROM ENTERING THE STREAM CHANNEL.
8. ANCHOR BRIDGE SECURELY AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL POSTS. ANCHOR MUST BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM.
9. AREAS DISTURBED DURING BRIDGE INSTALLATION AND\OR REMOVAL MUST NOT BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
10. STABILIZE APPROACH TO BRIDGE AND KEEP FREE OF EROSION. CLEAN SEDIMENT FROM DECKING AND CURBS DAILY BY SCRAPING, SWEEPING, AND/OR VACUUMING. ENSURE THAT DECKING AND CURBS REMAIN TIGHTLY BUTTED WITHOUT GAPS. REMOVE DEBRIS TRAPPED BY BRIDGE. MAINTAIN AREAS ADJACENT TO CROSSING TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
11. AFTER THE TEMPORARY CROSSING IS NO LONGER NEEDED, REMOVE IT WITHIN 14 CALENDAR DAYS. IF SUBJECT TO THE USE DESIGNATION CLOSURE, REMOVE AT THE END OF CLOSURE PERIOD. PROTECT STREAM BANKS DURING BRIDGE REMOVAL AND STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MATTING. ACCOMPLISH REMOVAL OF THE BRIDGE AND CLEAN UP OF THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. STORE ALL REMOVED MATERIALS IN AN APPROVED STAGING AREA.

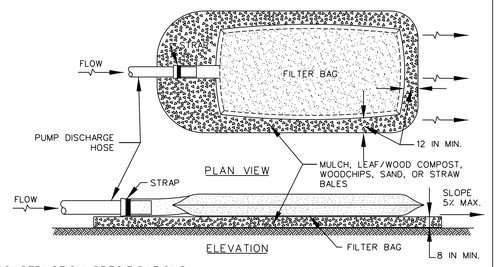
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: FB



CONSTRUCTION SPECIFICATIONS

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

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

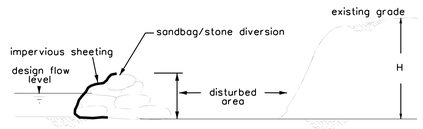
6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

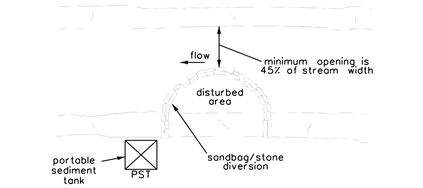
DETAIL 1.5: SANDBAG/STONE DIVERSION

TRANSVERSE SECTION VIEW



H/2•1 ft (0.3 m) for projects of duration < 2 weeks;
2-year flood elevation for projects of longer duration

PLAN VIEW



TEMPORARY INSTREAM CONSTRUCTION MEASURES | *REVISED NOVEMBER 2000 PAGE 1.5 - 3* | *MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION*

MGWC 1.5: SANDBAG/STONE CHANNEL DIVERSION

DESCRIPTION

The work should consist of installing sandbag or stone flow diversions for the purpose of erosion control when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS

Diversions are used to isolate work areas from flow during the construction of in-stream projects. Diversions which have an insufficient flow capacity can fail and severely erode the disturbed channel section under construction. Therefore, in-channel construction activities should occur only during periods of low rainfall. This temporary measure may not be practical in large channels.

MATERIAL SPECIFICATIONS

Material for sandbag and stone stream diversions should meet the following requirements:

Riprap: Riprap should be washed and have a minimum diameter of 6 inches (0.15 meters).
Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.).
Sheeting: Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES

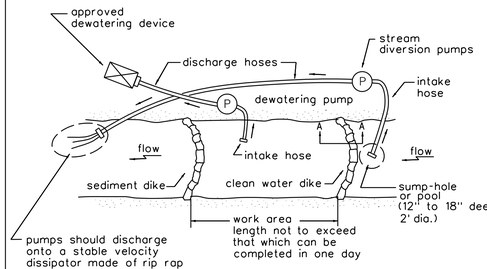
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during periods of low flow. If necessary, silt fence or straw bales should be installed around the perimeter of the work area.

Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should proceed as follows (refer to Detail 1.5):

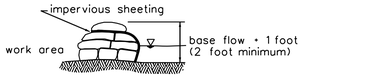
1. The diversion structure should be installed from upstream to downstream.
2. The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach. For projects with a duration less than 2 weeks, the height of the diversion should be one half the streambank height, measured from the channel bed, plus 1 foot (0.3 meters) or bankfull height, whichever is greater. For projects of longer duration, the top of the sandbag or stone diversion should correspond to bankfull height. For diversion structures utilizing sandbags, the stream bed should be hand prepared prior to placement of the base layer of sandbags in order to ensure a water tight fit. Additionally, it may be necessary to prepare the bank in a similar fashion.
3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
4. Sediment-laden water from the construction area should be pumped to a dewatering basin.
5. Sheeting on the diversion should be positioned such that the upstream portion covers the downstream portion with at least a 18-inch (0.45 meters) overlap.
6. Sandbag or stone diversions should not obstruct more than 45% of the stream width. Additionally, bank stabilization measures should be placed in the constricted section if accelerated erosion and bank scour are observed during the construction time or if project time is expected to last more than 2 weeks.
7. Prior to removal of these temporary structures, any accumulated sediment should be removed, deposited and stabilized in an approved area outside the 100-year floodplain unless authorized by the WMA.
8. Sediment control devices are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

DETAIL 1.2: PUMP-AROUND PRACTICE

PLAN VIEW



SECTION A-A



cross section of sandbag dike

TEMPORARY INSTREAM CONSTRUCTION MEASURES | *REVISED NOVEMBER 2000 PAGE 1.2 - 3* | *MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION*

MARYLAND DEPARTMENT OF THE ENVIRONMENT
WATERWAY CONSTRUCTION GUIDELINES
REVISED NOVEMBER 2000
TEMPORARY INSTREAM CONSTRUCTION MEASURES
PAGE 1.2 - 1

MGWC 1.2: PUMP-AROUND PRACTICE
The work should consist of installing a temporary pump around and supporting measures to divert flow around instream construction sites.

IMPLEMENTATION SEQUENCE
Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):
1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.
7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).
9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL

DATE

SC 7 OF 10

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

ES-07

SEAL

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 37,38 38NW 37,38

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL NOTES & DETAILS

SUBDIVISION- MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

CONTRACT NO.
24024 GX0
JOB ORDER NO.
247-221-0400-0351
SHEET 35 OF 46
DWG. NO.
2023-1221

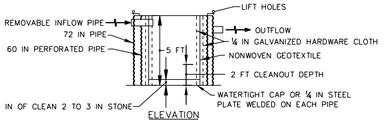
PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33079
EXPIRATION DATE: 01/16/2025

PLOTTED: 11:14 AM on Thursday, March 21, 2024
FILENAME: 2016160\2820\12\Drawings\pes-0001_Pittsfield.dgn

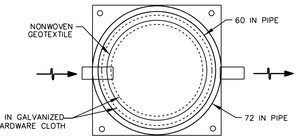
Contract No. 24024 GX0
Addendum No.2
April 8, 2025

DETAIL F-3: PORTABLE SEDIMENT TANK

STANDARD SYMBOL: ⊠PST



ELEVATION



PLAN VIEW

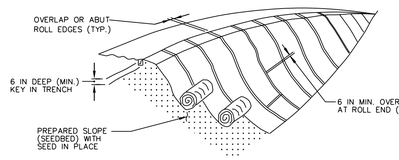
CONSTRUCTION SPECIFICATIONS

1. PROVIDE 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP CAPACITY. REQUIRED STORAGE VOLUME MAY BE ATTAINED BY PLACEMENT OF TANKS IN PARALLEL WITH INFLOW EVENLY DISTRIBUTED AMONG TANKS. OVERTOPPING OF TANKS IS NOT PERMITTED.
2. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER FOR THE INNER PIPE. LINE PIPE WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, SANDWICHED BETWEEN, AND ATTACHED TO, ¼ INCH HARDWARE CLOTH.
3. OVERLAP GEOTEXTILE 8 INCHES MINIMUM AT VERTICAL SEAM AND AT THE BOTTOM PLATE.
4. ANCHOR GEOTEXTILE AT BOTTOM OF TANK WITH 4 INCHES OF 2 TO 3 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE.
5. USE 72 INCH CORRUGATED METAL OR PLASTIC OUTER PIPE WITH PERMANENT OUTFLOW PIPE WITH INVERT LOWER THAN INFLOW PIPE.
6. INFLOW PIPE MUST DISCHARGE INTO INNER PIPE AND BE REMOVABLE.
7. PLACE TANK ON LEVEL SURFACE AND DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A PORTABLE SEDIMENT TANK REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT FROM INNER PIPE WHEN IT REACHES TWO FEET IN DEPTH. IF SYSTEM CLOGS, PULL OUT INNER PIPE, REMOVE ACCUMULATED SEDIMENT, AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

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

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

STANDARD SYMBOL: TSSMS ≥ 2.25 lb/ft² (SHEAR STRESS)



ISOMETRIC VIEW

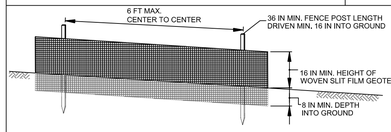
CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2×2 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, 1×3 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.

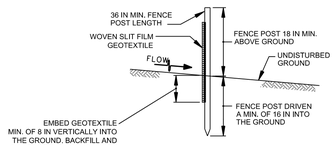
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

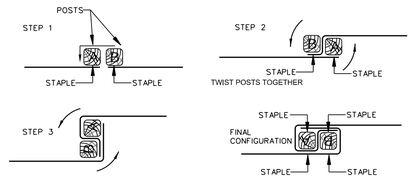
STANDARD SYMBOL: SF



ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

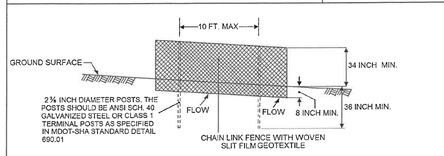
1. USE WOOD POSTS 1¾ X 1¾ ± 1/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
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

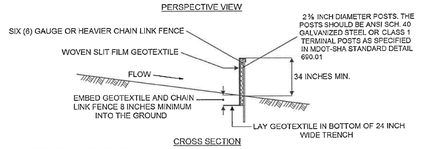
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



PERSPECTIVE VIEW



CROSS SECTION

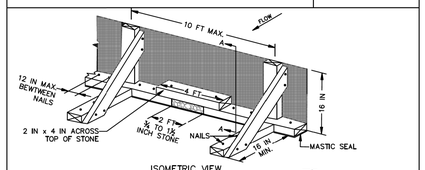
CONSTRUCTION SPECIFICATIONS

1. INSTALL 2¾ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.15 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 38 INCHES INTO THE GROUND.
2. FASTEN 6 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2¾ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND. LAY THE GEOTEXTILE IN THE BOTTOM OF THE 24 INCH WIDE TRENCH.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BYPASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE UPHILL A MINIMUM OF 3 VERTICAL FEET TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURERS CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H - 1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF THE FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

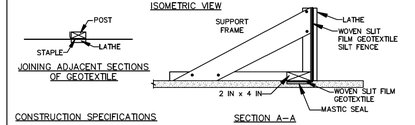
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MODIFIED FOR USE IN BALTIMORE COUNTY		
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	MODIFIED - 2012 REVISED - 5/2023	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP



ISOMETRIC VIEW

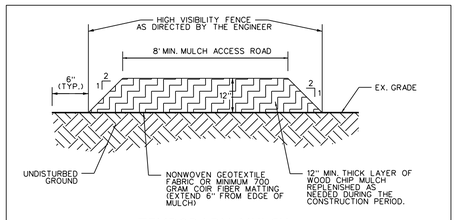


SECTION A–A

CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
3. 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.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF 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



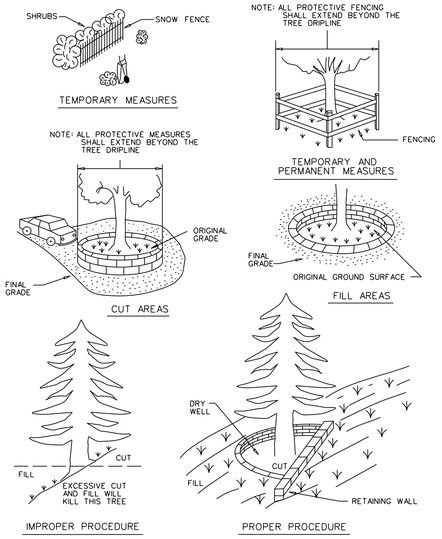
TEMPORARY MULCH ACCESS PATH DETAIL

NOT TO SCALE

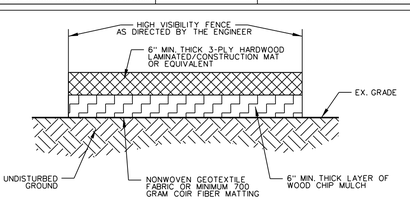
NOTES:

1. ACCESS ROUTES TO BE VERIFIED BY ENGINEER AT PRE-CONSTRUCTION MEETING. MINOR ADJUSTMENTS TO THE ALIGNMENT THAT MINIMIZES TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL BY ENGINEER AND THE SEDIMENT CONTROL INSPECTOR.
2. AS FIELD CONDITIONS WARRANT, ADDITIONAL WOOD CHIP MULCH (EXCEEDING THE MINIMUM 12") MAY BE REQUIRED AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR TO AVOID RUTTING OF THE SOIL SURFACE.
3. TIMBER MATS ARE REQUIRED WHEN CROSSING WETLANDS.
4. CONTRACTOR SHALL MAINTAIN MULCH MAT THROUGHOUT CONSTRUCTION PERIOD. UPON COMPLETION OF THE PROJECT, MULCH CAN REMAIN IN PLACE, BEING SPREAD THROUGHOUT THE SITE AT A MAXIMUM DEPTH OF 2". THE CONTRACTOR MUST ENSURE THAT THIS PROCESS IS DONE THROUGHOUT THE GRADING PROCESS, IN A MANOR WHICH ENSURES PROPOSED GRADES ARE MET AND MAINTAINED, WITHOUT DISTURBANCE TO FINAL SEEDING AND PLANTING OF THE SITE.
5. SCARIFICATION OF COMPACTED MULCH TO OCCUR UPON REMOVAL OF ACCESS PATH, AT DIRECTION OF THE ENGINEER. IF SOILS ARE EXPOSED AND RUTTED BELOW MULCH MATTING, CONTRACTOR TO ADDRESS ACCORDINGLY TO RESTORE NATURAL CONDITIONS. STABILIZE ALL EXPOSED SOIL WITH APPROPRIATE PERMANENT SEED MIX, AS DEFINED IN THE LANDSCAPE PLANS. SOIL STABILIZATION MATTING MAY BE REQUIRED AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR TO STABILIZE SLOPED AREAS.
6. THE ACCESS PATH IS DESIGNED TO PREVENT COMPACTION OF EXISTING SOILS USING LOW PRESSURE EQUIPMENT WHICH EXERTS NO MORE THAN 12 PSI. IF THE CONTRACTOR INTENDS TO USE ANY EQUIPMENT WITH HIGHER LOADS, ADDITIONAL PROTECTION MEASURES MUST BE PROVIDED, AND THOSE MEASURES MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.
7. FABRIC / MATTING SHALL BE PLACED WITH THE SEAMS PARALLEL TO THE FLOW OF TRAFFIC. OVERLAP FABRIC / MATTING 18-INCH MINIMUM AT SEAMS.
8. WOOD CHIP MULCH SHALL BE DERIVED FROM FRESH, OR AGED HARDWOOD, OR PINE MATERIALS INCLUDING BARK AND WOOD FRAGMENTS. WOOD CHIPS SHALL BE FREE OF LEAVES, VINES, INCLUDING POISON IVY, TRASH, AND FOREIGN MATTER, AND MAY INCLUDE CHUNKS UP TO 3 INCHES IN ANY DIMENSION.
9. HIGH VISIBILITY FENCE SHALL BE INSTALLED IN THE LOCATIONS AS SHOWN ON THE PLAN SHEETS.

DETAIL 31 - TREE PROTECTION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 23 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



TIMBER MAT ACCESS PATH DETAIL

NOT TO SCALE

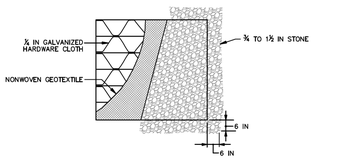
NOTES:

1. TIMBER MAT ACCESS PATH IS REQUIRED WHEN CROSSING WETLANDS AND WETLAND BUFFERS.
2. MATS SHALL BE PLACED END TO END TO FORM A CONTINUOUS SPAN FOR THE ENTIRE LENGTH OF THE AREA TO BE PROTECTED.
3. MATS SHALL BE INSPECTED FREQUENTLY AND MAINTAINED OR REPLACED AS NECESSARY TO ENSURE THEIR PROPER FUNCTION.
4. INDIVIDUAL MATS SHALL BE SECURELY CONSTRUCTED WITH INDIVIDUAL COMPONENT LAYERS BOLTED, CABLED OR OTHERWISE SECURELY FASTENED.
5. TIMBER MATS SHALL EITHER BE NEW OR POWER WASHED PRIOR TO ARRIVING ON SITE IF PREVIOUSLY USED.
6. HIGH VISIBILITY FENCE SHALL BE INSTALLED IN THE LOCATIONS AS SHOWN ON THE PLAN SHEETS.

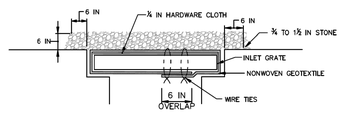
DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



PLAN / CUT AWAY VIEW



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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

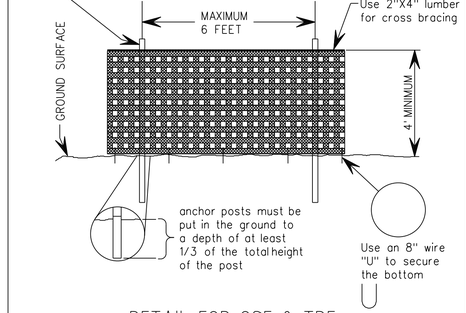
INLET PROTECTION NOTE:

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

•1. ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
2. INLETS ON PRIVATE OR PUBLIC PAVED ROADWAYS OPEN TO THE PUBLIC.

ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PAGE E.23 (OR AS MAY BE AMENDED). THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

•STORM DRAINS TO BE FLUSHED PRIOR TO TRAPPING DEVICE REMOVAL



DETAIL FOR OSF & TPF
TEMPORARY ORANGE CONSTRUCTION FENCE, TEMPORARY ORANGE SAFETY FENCE (OSF), TEMPORARY SAFETY FENCE, TREE PROTECTION FENCE (TPF)

NOT TO SCALE

NOTE:
TPF AND OSF PER MSHA SPEC. 104 AND AS SHOWN ON PLANS.
THE TPF WILL COMPLETELY SURROUND THE DESIGNATED TREES.

SEAL

STATE OF MARYLAND — JOSHUA CHRISTOPHER MCDONOGH — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL
_____ DATE _____

SC 8 OF 10

ES-08

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL NOTES & DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 36 OF 46
DWG. NO.
2023-1222

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: "11:10 AM on Friday, April 26, 2024"
FILE NAME: C:\Projects\6502\24012\Drawings\ES 50002_Pittsfield.dgn

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN.
2. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, MINOR FIELD ADJUSTMENTS CAN AND WILL BE MADE TO INSURE THE CONTROL OF ANY SEDIMENT. CHANGES IN SEDIMENT CONTROL PRACTICES REQUIRE PRIOR APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT.
3. AT THE END OF EACH WORKING DAY, ALL SEDIMENT CONTROL PRACTICES WILL BE INSPECTED AND LEFT IN OPERATIONAL CONDITION.
4. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: A.) THREE CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1), AND B.) SEVEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
5. ANY CHANGE TO THE GRADING PROPOSED ON THIS PLAN REQUIRES RE-SUBMISSION TO BALTIMORE COUNTY SOIL CONSERVATION DISTRICT FOR APPROVAL.
6. DUST CONTROL WILL BE PROVIDED FOR ALL DISTURBED AREAS. REFER TO "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PG. H-22, FOR ACCEPTABLE METHODS AND SPECIFICATIONS FOR DUST CONTROL.
7. ANY VARIATIONS FROM THE SEQUENCE OF OPERATIONS STATED ON THIS PLAN REQUIRES THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR AND THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT PRIOR TO THE INITIATION OF THE CHANGE.
8. EXCESS CUT OR BORROW MATERIAL SHALL GO TO, OR COME FROM, RESPECTIVELY, A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.
9. THE FOLLOWING ITEM MAY BE USED AS APPLICABLE: REFER TO "MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION" BY THE WATER MANAGEMENT ADMINISTRATION (WMA) OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT REVISED, NOVEMBER, 2000, FOR STANDARD DETAILS AND DETAILED SPECIFICATIONS OF EACH PRACTICE SPECIFIED HEREIN FOR WATERWAY CONSTRUCTION.
10. PUMPING SEDIMENT LADEN WATER INTO WATERS OF THE STATE IS STRICTLY PROHIBITED. ANY PORTABLE DEWATERING DEVICE MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.
11. UPON INSTALLATION OF THE BASE PAVEMENT AND AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR, RELOCATE THE STABILIZED CONSTRUCTION ENTRANCE(S) AND INSTALL ADDITIONAL CONTROL MEASURES (STABILIZED CONSTRUCTION ENTRANCES, SILT FENCES, SUPER SILT FENCES) AS NEEDED TO CONTROL SEDIMENT RUNOFF FROM DISTURBED AREAS. THE ADDITIONAL CONTROLS MUST NOT ALTER DRAINAGE PATTERNS.
12. MATERIAL THAT IS HAULED OFF SITE SHALL NOT BE REUSED. MATERIAL SHALL BE DISPOSED OF AT A LANDFILL DUE TO THE INVASIVE SPECIES PRESENT ON SITE.

TEMPORARY STOCKPILE NOTE

TEMPORARY STOCKPILES SHALL BE:

1. LOCATED WITHIN THE LIMIT OF DISTURBANCE (LOD).
2. DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE.
3. POSITIONED TO NOT IMPEDE UPON, OR IMPAIR THE FUNCTION OF SAID DEVICE.
4. POSITIONED TO NOT ALTER DRAINAGE DIVIDES.

MAINTENANCE NOTE

CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

H-1 STANDARDS AND SPECIFICATIONS

FOR

MATERIALS

Table H.1: Geotextile Fabrics

		WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE[1]					
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	
Apparent Opening Size[2]	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Sieve 70 (0.21 mm)		U.S. Sieve 70 (0.21 mm)	
Permittivity	ASTM D-4491	0.05 sec^{-1}		0.28 sec^{-1}		1.1 sec^{-1}	
Ultraviolet Resistance Retained at 500 hours	ASTM D-4355	70% strength		70% strength		70% strength	

[1] All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

[2] Values for AOS represent the average maximum opening.

Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyolefins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other, including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The geotextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

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

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

Purpose
To provide a suitable soil medium for vegetative growth.

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

Criteria

A. Soil Preparation
1. Temporary Stabilization
   a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
   b. Apply fertilizer and lime as prescribed on the plans.
   c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
   a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      i. Soil pH between 6.0 and 7.0.
      ii. Soluble salts less than 500 parts per million (ppm).
      iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      iv. Soil contains 1.5 percent minimum organic matter by weight.
      v. Soil contains sufficient pore space to permit adequate root penetration.
   b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
   c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
   d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
   e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
   a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
   c. The original soil to be vegetated contains material toxic to plant growth.
   d. The soil is so acidic that treatment with limestone is not feasible.
4. Areas having slopes steeper than 2:1 require special consideration and design.
5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
   a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 $\frac{1}{2}$ inches in diameter.
   b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
   c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
6. Topsoil Application
   a. Erosion and sediment control practices must be maintained when applying topsoil.
   b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
   c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

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

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

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

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

Criteria

A. Seeding
1. Specifications
   a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
   b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
   c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
   d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.
2. Application
   a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
   b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
   c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
      i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen: P_2O_5 (phosphorous), 200 pounds per acre; K_2O (potassium), 200 pounds per acre.
      ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      iii. Mix seed and fertilizer on site and seed immediately and without interruption.
      iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching
1. Mulch Materials (in order of preference)
   a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
   b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
      i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
      iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
      v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
2. Application
   a. Apply mulch to all seeded areas immediately after seeding.
   b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
   c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. Anchoring
   a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
      i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
      ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
      iv. ~~Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.~~

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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

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

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

Criteria
1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season. To stabilize disturbed soils with vegetation for up to 6 months.

HARDINESS ZONE (FROM FIGURE B.3): 7a SEED MIXTURE (FROM TABLE B.1):					FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
					436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
	NOTE: SEE TABLE B.1 ON SHEET 10.					

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition
To stabilize disturbed soils with permanent vegetation.

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

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

Criteria

A. Seed Mixtures
1. General Use
   a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
   b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
   c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
   d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
2. Turfgrass Mixtures
   a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
   b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
      i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT CONTROL

_____ DATE _____

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

_____ DIRECTOR _____ DATE

DESIGNED AW,HS,SL, JK | BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS | REVIEWED
CHECKED SL | DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

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. 33079
EXPIRATION DATE: 01/16/2025

SC 9 OF 10

ES-09

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

EROSION & SEDIMENT CONTROL NOTES & DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

CONTRACT NO. 24024 GXO
JOB ORDER NO. 247-221-0400-0351
SHEET 37 OF 46
DWG. NO. 2023-1223

PLOTTED: "11:14 AM on Thursday, March 21, 2024"
By: MKarpe
N:\Projects\BaltCo\Pittsfield\2022\Drawings\ES-SC003_Pittsfield.dgn

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION CONT.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Notes:
Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures
Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)
Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

1. General Specifications
a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

3. Sod Maintenance
a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

Permanent Seeding Summary – Existing Grass Slopes Only
(See Permanent Seeding for Riparian and Streambank Zones, Sheet 45)

Hardiness Zone (from Figure B.3): 7a
Seed Mixture (from Table B.3):

Mix No.	Species	Application Rate (lb/ac)	Seeding Dates **	Seeding Depths	Fertilizer Rate (10–20–20) N	P_2O_5	K_2O	Lime Rate
3	Deer Tongue	20	Feb 15–Apr 30 ♦♦ May 1–May 31 *	¼ – ½ in	45 lb/ac (1.0 lb/ 1000 sf)	90 lb/ac (2.0 lb/ 1000 sf)	90 lb/ac (2.0 lb/ 1000 sf)	2 tons/ac (90 lb/1000 sf)
	Canada Wild Rye	3						
	Redtop	1						
	Common Lespedeza	10						
10	Orchard Grass	25	Feb 15 – Apr 30 Aug 15 – Oct 31	¼ – ½ in				
	Creeping Red Fescue	10						
	Redtop	1						
	Alsike Clover	3						
	White Clover	3						
	Foxtail Millet	2	May 1 – Aug 14					
12	Foxtail Millet	4	May 1 – Aug 14					
	Creeping Red Fescue	25	Feb 15 – Apr 30 Aug 15 – Oct 31	¼ – ½ in				
	Hard Fescue	25						
	Sheep Fescue	25						
	White Clover	3						
	Red Clover	3						

Notes:
1. The planting dates listed are averages for each zone. These dates may require adjustment to reflect local conditions, especially near the boundaries of the zones. When seeding toward the end of the listed planting dates, or when conditions are expected to be less than optimal, select an appropriate nurse crop from Table B.1. Temporary Seeding for Site Stabilization and plant together with the permanent seeding mix.
2. When planted during the growing season, most of these materials must be purchased and kept in a dormant condition until planting. Bare-root grasses are the exception—they may be supplied as growing (non-dormant) plants.
♦ Additional planting dates for the lower Coastal Plain, dependent on annual rainfall and temperature trends. Recommend adding a nurse crop, as noted above, if planting during this period.
♦♦ Warm-season grasses need a soil temperature of at least 50 degrees F in order to germinate. If soil temperatures are colder than 50 degrees, or moisture is not adequate, the seeds will remain dormant until conditions are favorable. In general, planting during the latter portion of this period allows more time for weed emergence and weed control prior to planting. When selecting a planting date, consider the need for weed control vs. the likelihood of having sufficient moisture for later plantings, especially on droughty sites.
*** Additional planting dates during which supplemental watering may be needed to ensure plant establishment.**
+ Frequent freezing and thawing of wet soils may result in frost-heaving of materials planted in late fall, if plants have not sufficiently rooted in place. Sod usually needs 4 to 6 weeks to become sufficiently rooted. Large containerized and balled-and-burlapped stock may be planted into the winter months as long as the ground is not frozen and soil moisture is adequate.
**** For the period May 1 – Aug 14 add Foxtail Millet to Mixes 10 and 12 (see Summary for application rates).**

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/ lb/ac	lb/1000 ft²	Seeding Depth 2/ (inches)	Recommended Seeding Dates by Plant Hardiness Zone 3/ 5b and 6a	6b	(7a) and 7b
Cool-Season Grasses						
Annual Ryegrass (Lolium perenne ssp. multiflorum)	40	1.0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Barley (Hordeum vulgare)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Oats (Avena sativa)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (Triticum aestivum)	120	2.8	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Cereal Rye (Secale cereale)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug 1 to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15
Warm-Season Grasses						
Foxtail Millet (Setaria italica)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14
Pearl Millet (Pennisetum glaucum)	20	0.5	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14

Temporary Seeding for Site Stabilization Notes:
1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses. Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above. Oats are the recommended nurse crop for warm-season grasses.
2/ For sandy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

SEQUENCE OF OPERATIONS

1. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, (410) 887-3226 AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, INSPECTION AND COMPLIANCE PROGRAM, (410) 537-3510 AT LEAST 5 DAYS PRIOR TO BEGINNING WORK.
2. ORANGE HIGH VISIBILITY FENCE SHALL BE MANUALLY INSTALLED ALONG THE LIMIT OF DISTURBANCE AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR. THIS SHALL BE COMPLETED AND INSPECTED AT THE PRE-CONSTRUCTION MEETING.
3. THE STATIONS FOR EACH PHASE LISTED BELOW MAY BE ADJUSTED DUE TO FIELD CONDITIONS WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR. SEDIMENT-LADEN WATER SHALL NOT BE DISCHARGED DOWNSTREAM OF THE WORK AREA. WITHIN EACH PHASE, WORK SHALL PROCEED FROM UPSTREAM TO DOWNSTREAM. WORK SHALL NOT BE CONDUCTED IN THE STREAM CHANNEL(S) DURING RAIN EVENTS. AT THE CONCLUSION OF EACH PHASE, PRIOR TO RELOCATING AND/OR REMOVING THE SEDIMENT (SANDBAG) DIKES, CONTRACTOR SHALL REMOVE ANY ACCUMULATED SEDIMENT FROM THE WORK AREA AND DISPOSE OF AT A SITE WITH AN OPEN GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN.

PHASE 1 GREENSHIRE TRIBUTARY (STATION 30+00 TO 35+20) - SEE SHT. ES-01

4. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES WITHIN THE PHASE 1 WORK AREA INCLUDING AREAS OF OUTFALLS SD-1 AND SD-2, MULCH / TIMBER MATS & TEMPORARY BRIDGE ACCESS PATHS, MODIFIED COMBINATION INLET PROTECTION FOR EXISTING INLET, SUPER SILT FENCE FOR STOCKPILE, SILT FENCE ON PAVEMENT FOR STAGING (AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR), AND STABILIZED CONSTRUCTION ENTRANCE #1 OFF OF GREENSHIRE LANE, NORTH OF STA 31+50 BY PARKING LOT TURNAROUND.
5. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING STABILIZED CONSTRUCTION ENTRANCE #1, MULCH/TIMBER ACCESS PATHS AND TEMPORARY BRIDGE, PHASE 1 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES), SUPER SILT FENCE AROUND STAGING/STOCKPILE AREA AND VEHICLE PARKING AREA, AND TREE PROTECTION (AS NEEDED).
6. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
7. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 1 WORK AREA.
8. PERFORM STREAM GRADING AND STREAM RESTORATION WORK INCLUDING SPURS TO OUTFALLS SD-1/ SD-2 WITHIN THE PHASE 1 LIMITS.
CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING PERMANENT SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
9. PERFORM FINAL STABILIZATION OF PHASE 1 WORK AREA PER LANDSCAPING PLAN. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 2.

PHASE 2 GREENSHIRE TRIBUTARY (STATION 35+20 TO 37+31.90) - SEE SHT. ES-01 / ES-02

10. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 2 WORK AREA.
11. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING TIMBER ACCESS PATH AND TRANSITIONING PHASE 1 TO PHASE 2 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES) AND TREE PROTECTION (AS NEEDED). USE CAUTION AROUND EXISTING 8" SANITARY , STATION 35+50 TO 36+80, RT. (UNDER ACCESS PATH).
12. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
13. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 2 WORK AREA.
14. PERFORM STREAM GRADING AND STREAM RESTORATION WORK WITHIN THE PHASE 2 LIMITS. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
15. PERFORM FINAL STABILIZATION OF PHASE 2 WORK AREA PER LANDSCAPING PLAN. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 3.

PHASE 3 MAINSTEM US NORTHEASTERLY OF PITTSFIELD ROAD (STATION 0+00 TO 05+75) - SEE SHT. ES-02 / ES-03

16. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 3 WORK AREA.
17. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING TEMPORARY BRIDGE ACROSS OUTFALL FROM SD-0 AND TRANSITIONING PHASE 2 TO PHASE 3 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES) FOR MAINSTEM US, AND TREE PROTECTION (AS NEEDED).
18. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
19. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 3 WORK AREA.
20. PERFORM STREAM GRADING AND STREAM RESTORATION WORK WITHIN THE PHASE 3 LIMITS, INCLUDING SPURS TO OUTFALLS SD-3 / SD-4. USE EXTREME CAUTION WHEN WORKING NEAR THE EXISTING 8" SANITARY CROSSING AT STATIONS 0+23 & 3+45± AS SHOWN ON THE PLANS. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING PERMANENT SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
21. PERFORM FINAL STABILIZATION OF PHASE 3 WORK AREA PER LANDSCAPING PLAN. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 4.

PHASE 4 WELLHAVEN TRIBUTARY (STATION 40+35 TO 44+45) - SEE SHT. ES-02

22. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 4 WORK AREA.
23. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING STABILIZED CONSTRUCTION ENTRANCE #2 & TIMBER/ MULCH ACCESS MATS, INSTALL PHASE 4 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES), SUPER SILT FENCE AROUND STAGING/STOCKPILE AREA, AND TREE PROTECTION (AS NEEDED).
24. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
25. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 4 WORK AREA.
26. PERFORM STREAM GRADING AND STREAM RESTORATION WORK WITHIN THE PHASE 4 LIMITS. USE EXTREME CAUTION WHEN WORKING NEAR THE EXISTING 8" SANITARY CROSSING AT STATION 44+13.
CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
27. PERFORM FINAL STABILIZATION OF PHASE 4 WORK AREA PER LANDSCAPING PLAN. PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 5.

PHASE 5 MAINSTEM MID DOWNSTREAM OF WELLHAVEN TO WEST OF PITTSFIELD (STATION 8+25 TO 9+40 & 50+00 TO 50+99.84) - SEE SHT. ES-03

28. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 5. WORK AREA.
29. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING (2 OF EACH) PHASE 5 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES), AND INSTALL STABILIZED CONSTRUCTION ENTRANCE #3, TIMBER & MULCH ACCESS MATS, AND TREE PROTECTION (AS NEEDED).
30. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
31. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 5 WORK AREA.
32. PERFORM STREAM GRADING AND STREAM RESTORATION WORK INCLUDING SPUR TO SD-6 WITHIN THE PHASE 5 LIMITS. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
33. PERFORM FINAL STABILIZATION OF PHASE 5 WORK AREA PER LANDSCAPING PLAN. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 6.

PHASE 6 MAINSTEM MID TO UPSTREAM OF OUTFALL SD-8 (STATION 9+40 to 13+40) - SEE SHT. ES-03 / ES-04

34. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 6 WORK AREA.
35. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING MULCH / TIMBER MATS, PHASE 6 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES), STABILIZED CONSTRUCTION ENTRANCE #4, TEMPORARY ACCESS ROAD, AND TREE PROTECTION (AS NEEDED).
36. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
37. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 6 WORK AREA.
38. PERFORM STREAM GRADING AND STREAM RESTORATION WORK INCLUDING SPUR TO OUTFALL SD-7, WITHIN THE PHASE 6 LIMITS.
39. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
40. PERFORM FINAL STABILIZATION OF PHASE 7 WORK AREA PER LANDSCAPING PLAN. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 7.

PHASE 7 MAINSTEM MID TO JUST UPSTREAM OF HARTLEY TRIBUTARY (STA 13+40 TO 16+40) & GREEN VALLEY TRIBUTARY (STA. 59+95 TO 60+80) - SEE SHT. ES-04

41. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 7 WORK AREA.
42. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING PHASE 7 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES), TEMPORARY ACCESS ROAD, AND TREE PROTECTION (AS NEEDED).
43. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
44. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 7 WORK AREA.
45. PERFORM STREAM GRADING AND STREAM RESTORATION WORK INCLUDING SPUR TO OUTFALL SD-8, WITHIN THE PHASE 7 LIMITS, INCLUDING WORK WITHIN GREEN VALLEY TRIBUTARY. USE EXTREME CAUTION AROUND EXISTING 8" SANITARY CROSSING AT STATION 16+20± & 108+24±. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
46. PERFORM FINAL STABILIZATION OF PHASE 7 WORK AREA PER LANDSCAPING PLAN. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 8.

PHASE 8 (HARTLEY TRIBUTARY STATION 90+00 TO 95+00) - SEE SHT. ES-06

47. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 8 WORK AREA.
48. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING STABILIZED CONSTRUCTION ENTRANCE #5 AND #6, MULCH / TIMBER MATS, PHASE 8 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL STREAM NECESSARY HOSES), TREE PROTECTION (AS NEEDED) AND SSF - STAGING / STOCKPILE AREAS.
49. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
50. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 8 WORK AREA.
51. PERFORM STREAM GRADING AND STREAM RESTORATION WORK INCLUDING SPURS TO OUTFALLS SD-10 / SD-11, WITHIN THE PHASE 8 LIMITS. USE EXTREME CAUTION AROUND EXISTING 8" SANITARY CROSSING AT STATION 92+91 , 93+10± & AT SPUR TO SD-10. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE END OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
52. PERFORM FINAL STABILIZATION OF PHASE 8 WORK AREA PER THE LANDSCAPING PLANS. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, MOVE TO PHASE 9.

PHASE 9 HARTLEY TRIBUTARY (STATION 95+00 TO 98+71.36) - SEE SHT. ES-04 / ES-06

53. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 9 WORK AREA.
54. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING PHASE 9 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES) AND TREE PROTECTION (AS NEEDED).
55. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
56. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 9 WORK AREA.
57. PERFORM STREAM GRADING AND STREAM RESTORATION WORK WITHIN THE PHASE 9 LIMITS. USE EXTREME CAUTION AROUND EXISTING 8" SANITARY CROSSING AT STATION 97+47 & 98+13. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
58. PERFORM FINAL STABILIZATION OF PHASE 9 WORK AREA PER LANDSCAPING PLANS. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, PROCEED WITH PHASE 10.

PHASE 10 MAINSTEM DOWNSTREAM OF HARTLEY TO END OF MAINSTEAM DS (STATION 16+40 TO 20+27.36) SEE SHT. ES-04 / ES-05

59. CLEAR AND GRUB FOR SEDIMENT AND EROSION CONTROL MEASURES OR DEVICES ONLY WITHIN THE PHASE 10 WORK AREA.
60. INSTALL SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES, INCLUDING STABILIZED CONSTRUCTION ENTRANCE #7, MULCH / TIMBER MATS, TEMPORARY BRIDGE, PHASE 10 PUMP-AROUND SYSTEM (INCLUDING CLEAN WATER DIKE, STREAM DIVERSION PUMP, SEDIMENT DIKE, DEWATERING PUMP, FILTER BAG, SANDBAG ENERGY DISSIPATOR, AND ALL NECESSARY HOSES) AND TREE PROTECTION (AS NEEDED).
61. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL, UPON COMPLETION OF SAID INSTALLATION.
62. WITH THE APPROVAL OF BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS, SEDIMENT CONTROL AND THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF PHASE 10 AREA.
63. PERFORM STREAM GRADING AND STREAM RESTORATION WORK INCLUDING SPUR TO OUTFALL SD-9, WITHIN THE PHASE 10 LIMITS. CONTRACTOR SHALL DISTURB ONLY THAT MUCH OF AN AREA THAT CAN BE BROUGHT TO FINAL GRADE AT THE OF EACH DAY AND STABILIZED. ALL DISTURBANCE ADJACENT TO THE STREAM CHANNEL SHALL BE STABILIZED USING SEED WITH SOIL STABILIZATION MATTING. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
64. PERFORM FINAL STABILIZATION OF PHASE 10 WORK AREA PER LANDSCAPING PLAN.
65. UPON COMPLETION AND STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

NOTE:
THE LOCATION OF SANDBAG DIKES AS SHOWN ON THE PLAN SHEETS IS APPROXIMATE, AND MAY BE ADJUSTED WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR.

BALTIMORE COUNTY SOIL CONSERVATION DISTRICT
APPROVED FOR SEDIMENT

MATCH LINE - SEE SHEET LS-02

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 75/ 114
LOT 5B
ACCT. 03-2500007518
5 PARK CENTER CT.

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 79/ 109
LOT 5-A2
ACCT. 03-2500007518
10 CROSSROADS DRIVE

H H & W LLC
TM 67, P/O PARCEL 296
L. 10748 F. 472 PLAT 79/ 109
LOT 5-A1
ACCT. 03-2500008219
10 CROSSROADS DRIVE

J M S PROPERTIES INC
TM 67, PARCEL 296
L. 8516 F. 491 PLAT 12 / 80
ACCT. 03-2100011224
20 CROSSROADS DRIVE

N45° 02' 24"E, 149.52'
N45° 02' 24"E, 398.69'
N45° 02' 24"E, 231.03'

20' DRAINAGE & UTILITY EASEMENT
PLAT 55 / 11, RW-83/360
(APPROX. LOC.)

EX. 8" SAN. (84-1046)

N44° 57' 36"W, 157.91'
N44° 57' 36"W, 170.29'

HOA OPEN SPACE

10' DRAINAGE & UTILITY EASEMENT
PLAT 54/ 13 (APPROX. LOC.)

EX. MH 53486
EX. MH 53487
EX. MH 54182
EX. MH 54183
EX. MH 54179
EX. MH 54180
EX. MH 54181

SSMH
TOP=501.89'
INV. EL=496.22
INV. EL=496.02

SSMH
TOP=503.55'
INV. EL=497.05'
INV. EL=497.01'

SSMH
TOP=508.25'
INV. EL=498.29'

EX. 4"W

(40' R/W)

GREENSHIRE LANE

EX. PARKING LOT

OUTFALL
SD-1

OUTFALL
SD-2

GREENSHIRE TRIBUTARY

MCDONOGH TOWNSHIP SECTIONS
1-4 HOMEOWNERS ASSOCIATION
TM 67, P/O PARCEL 233
HOA OPEN SPACE (4.22 AC)
L. 7766 F. 823 PLAT 55 / 13
ACCT. 03-2000012351
MCDONOGH ROAD

"SECTION 1, MCDONOGH TOWNSHIP"
1985

MCDONOGH TOWNSHIP SECTIONS
1-4 HOMEOWNERS ASSOCIATION
TM 67, P/O PARCEL 418
HOA OPEN SPACE (6.22 AC)
L. 8060 F. 397 PLAT 55/11
ACCT. 03-2000012351
PREAKNESS CT.

"SECTION 3, MCDONOGH TOWNSHIP"
1985

EX. 100-YR FLOODPLAIN

50' DRAINAGE & UTILITY EASEMENT
PLAT 55 / 11 (APPROX. LOC.)

10' DRAINAGE & UTILITY EASEMENT
PLAT 54/ 13 (APPROX. LOC.)

STEEPLE-
JACK CT.

GREENSHIRE LANE

EX. 18"D (85-0932)

EX. 8"W

EX. 8" SAN. (86-0173)

S43° 43' 56"E, 183.83'

S43° 43' 58"E, 183.50'

N 630,600
E 1381,550

N 630,250
E 1381,800

S47° 56' 08"W, 97.00'

S47° 47' 00"W, 253.43'

S45° 10' 29"W, 91.76'

N42° 03' 52"W, 179.00'

42.00'

37.00'

20'

102+00

101+00

101+26.55

31+00

30+00

34+00

35+00

+50

LOD

CRZ

SD

W

WUS

SDM

EMA HOUSE LLC
L. 44082 F. 334
LOT 14
ACCT. 03-2000012306
27 PREAKNESS CT.

HARMOOD KRISTA L
L. 44082 F. 775
LOT 13
ACCT. 03-2000012305
25 PREAKNESS CT.

CAMPAGNOLI LOUIS A
CAMPAGNOLI CATHERINE L
L. 8408 F. 574
LOT 12
ACCT. 03-2000012304
23 PREAKNESS CT.

TUVIN GUY M
TUVIN JANE M
L. 44082 F. 599
LOT 11
ACCT. 03-2000012303
21 PREAKNESS CT.

CUMMINS LLC
L. 37713 F. 033
LOT 10
ACCT. 03-2000012302
19 PREAKNESS CT.

SHUSTERMAN PETER
L. 41389 F. 225
LOT 9
ACCT. 03-2000012301
17 PREAKNESS CT.

MASSUDA RACHEL
L. 15650 F. 620
LOT 8
ACCT. 03-2000012300
15 PREAKNESS CT.

LOT 16
ACCT. 03-2000012308
29 PREAKNESS CT.

MORRIS ARDELIA C
L. 44082 F. 427
LOT 15
ACCT. 03-2000012307
30 PREAKNESS CT.

LEGEND

- RIPARIAN SEED ONLY ZONE
- LOWLAND RIPARIAN ZONE
- RIPARIAN ZONE
- LOWLAND RIPARIAN SEED ONLY ZONE
- LIVE STAKE ZONE
- TURF GRASS ZONE
- WOODY TOE PROTECTION (WITH LIVE STAKES)
- TOE BOULDER (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE 0, TYPE 1, TYPE 1 NO BRUSH (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE II (NO LIVE STAKES)

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SEAL

STATE OF MARYLAND
SHANNON CP LUCAS
33079
PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL,JK | BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS | REVIEWED
CHECKED SL | DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED CHIEF
DATE

ROAD PERMIT AND GRADES
PERMIT REQUESTED
PERMIT NUMBER
GRADE ESTABLISHED
PROFILE NUMBER

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED DIRECTOR
DATE

P. W. A. DIR. NO. | KEY SHEET
PNE
RIGHT OF WAY | POSITION SHEET
37NW 27,28
38NW 27,28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE PLAN

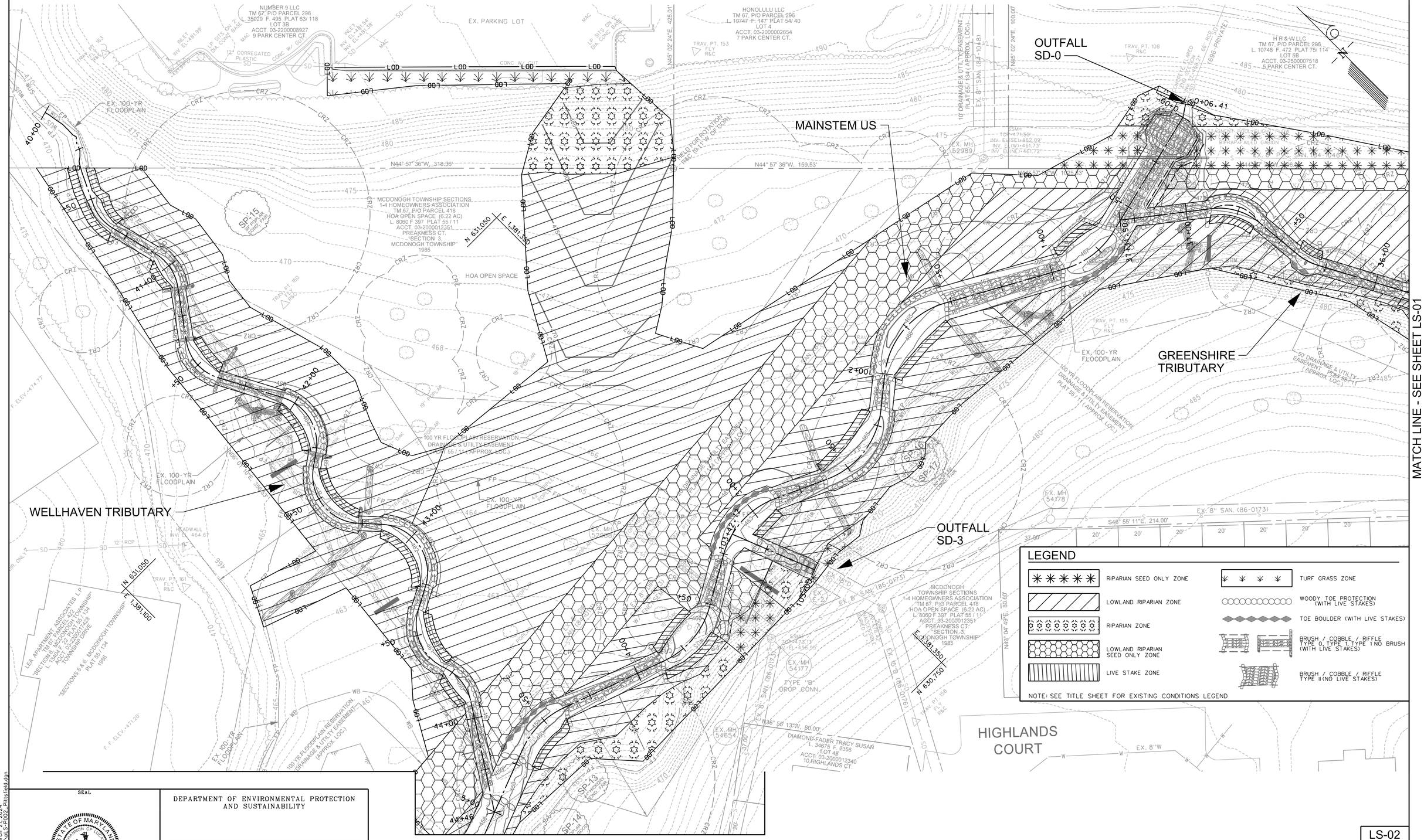
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

LS-01

CONTRACT NO.
24024 GX0
JOB ORDER NO.
247-221-0400-0351
SHEET 39 OF 46
DWG. NO.
2023-1225

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: 11:15 AM on Thursday, March 21, 2024
FILE NAME: C:\Projects\160262\12-Drawings\pls-5600-Pittsfield.dgn



LEGEND

- RIPARIAN SEED ONLY ZONE
- LOWLAND RIPARIAN ZONE
- RIPARIAN ZONE
- LOWLAND RIPARIAN SEED ONLY ZONE
- LIVE STAKE ZONE
- TURF GRASS ZONE
- WOODY TOE PROTECTION (WITH LIVE STAKES)
- TOE BOULDER (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE O, TYPE I, TYPE I NO BRUSH (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE II (NO LIVE STAKES)

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE PLAN

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

LS-02

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 40 OF 46	
DWG. NO.	2023-1226

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: "11:15 AM on Thursday, March 21, 2024"
BY: AW,HS,SL,JK
C:\Projects\0760\760262\02\Drawings\LS-02\LS-02.PittsfieldLS.dgn

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE PLAN

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

LS-03

CONTRACT NO.	24024 GX0
JOB ORDER NO.	247-221-0400-0351
SHEET 41 OF 46	
DWG. NO.	2023-1227

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: 11:15 AM on Thursday, March 21, 2024
FILENAME: P:\2016\16002620.10\Drawings\ls-sht\P0002_Pittsfield.dgn

MATCH LINE - SEE SHEET LS-06

MATCH LINE - SEE SHEET LS-05

MATCH LINE - SEE SHEET LS-03

HARTLEY CIRCLE

LEA APARTMENT ASSOCIATES L P
TM 67, PARCEL 422
"SECTION 5, MCDONOGH TOWNSHIP"
L. 13404 F. 22 PLAT 55 / 134
ACCT. 03-2200017428
TOWNSHIP DRIVE

"SECTIONS 5 & 6, MCDONOGH TOWNSHIP"
PLAT 55 / 134
1986

3 STORY BUILDING CONDOMINIUMS

EX. 100-YR FLOODPLAIN

100 YR FLOODPLAIN RESERVATION, DRAINAGE & UTILITY EASEMENT (APPROX. LOC.)

20' DRAINAGE & UTILITY EASEMENT PLAT 55 / 134 (APPROX. LOC.)

40' DRAINAGE & UTILITY EASEMENT PLAT 55 / 134 (APPROX. LOC.)

OUTFALL SD-8

HARTLEY TRIBUTARY DS

BALTIMORE COUNTY, MD
TM 67, P/O PARCEL 197
100 YEAR FLOODPLAIN RESERVATION & DRAINAGE & UTILITY EASEMENT
10329, F. 64 PLAT 55 / 147
ACCT. 03-2000012409

MAINSTEM DS

GREEN VALLEY TRIBUTARY

MAINSTEM MID

OUTFALL SD-7

"SECTIONS 4, MCDONOGH TOWNSHIP"
PLAT 55 /147
1986

PLAT REF. 0055 / 0147

N 630,800
E 1,380,200

N 630,800
E 1,380,450

N 630,600
E 1,380,450

LEGEND

- RIPARIAN SEED ONLY ZONE
- LOWLAND RIPARIAN ZONE
- RIPARIAN ZONE
- LOWLAND RIPARIAN SEED ONLY ZONE
- LIVE STAKE ZONE
- TURF GRASS ZONE
- WOODY TOE PROTECTION (WITH LIVE STAKES)
- TOE BOULDER (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE O, TYPE I, TYPE I NO BRUSH (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE II (NO LIVE STAKES)

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

DESIGNED AW,HS,SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED
CHECKED SL	DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED _____ CHIEF
DATE _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE PLAN

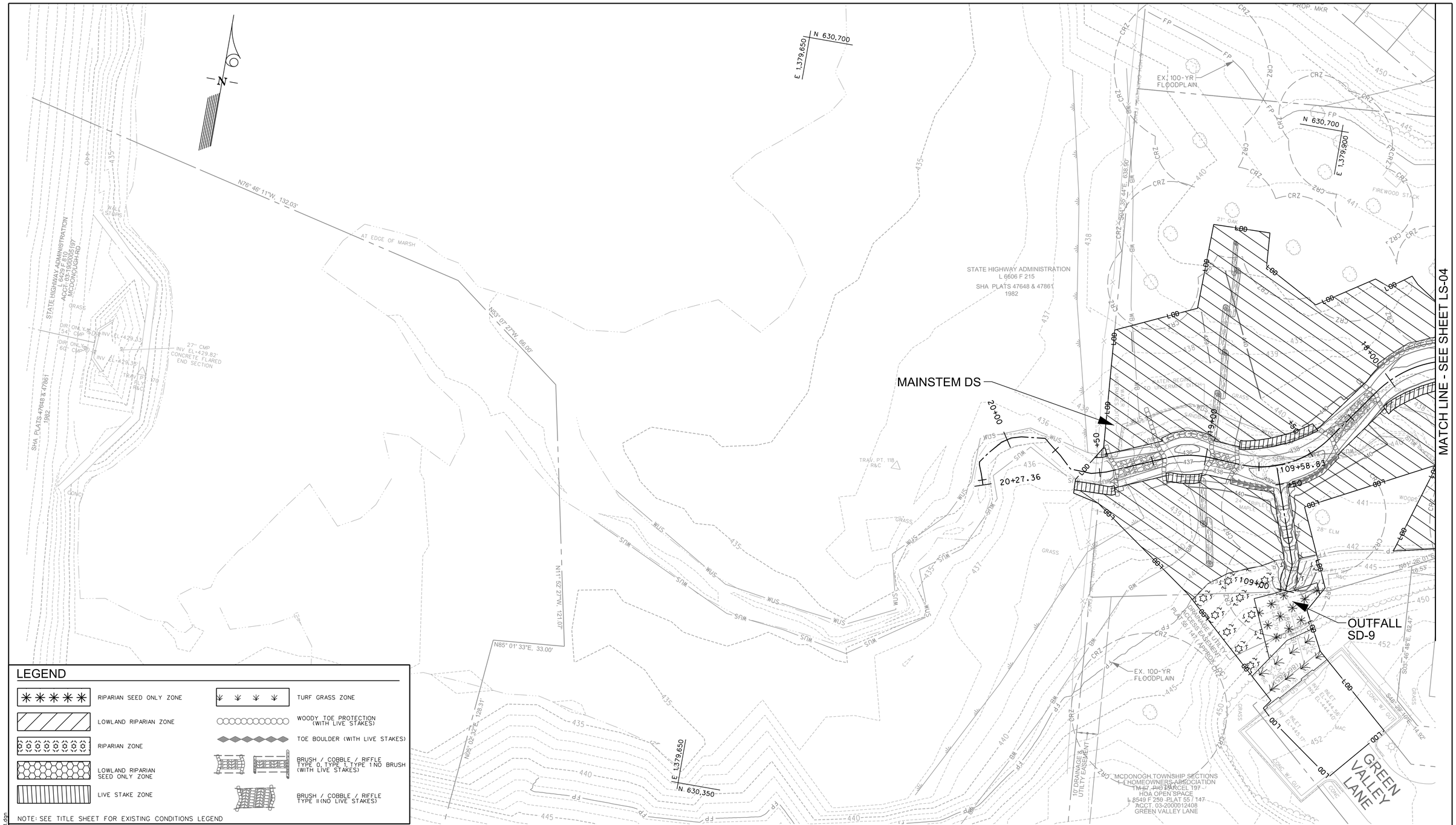
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

LS-04

CONTRACT NO.
24024 GXO
JOB ORDER NO.
247-221-0400-0351
SHEET 42 OF 46
DWG. NO.
2023-1228

PLOTTED: 11:15 AM on Thursday, March 21, 2024
FILE NAME: P:\2016\16002620\12 Drawings\ls_s-PP004_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025



LEGEND

- RIPARIAN SEED ONLY ZONE
- LOWLAND RIPARIAN ZONE
- RIPARIAN ZONE
- LOWLAND RIPARIAN SEED ONLY ZONE
- LIVE STAKE ZONE
- TURF GRASS ZONE
- WOODY TOE PROTECTION (WITH LIVE STAKES)
- TOE BOULDER (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE 0, TYPE 1, TYPE 1 NO BRUSH (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE II (NO LIVE STAKES)

NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — EXPIRES: 01/16/2025 — 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR _____ DATE _____

DESIGNED AW,HS,SL,JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

REVISED AS PER RECORD PRINT DATE		REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE PLAN

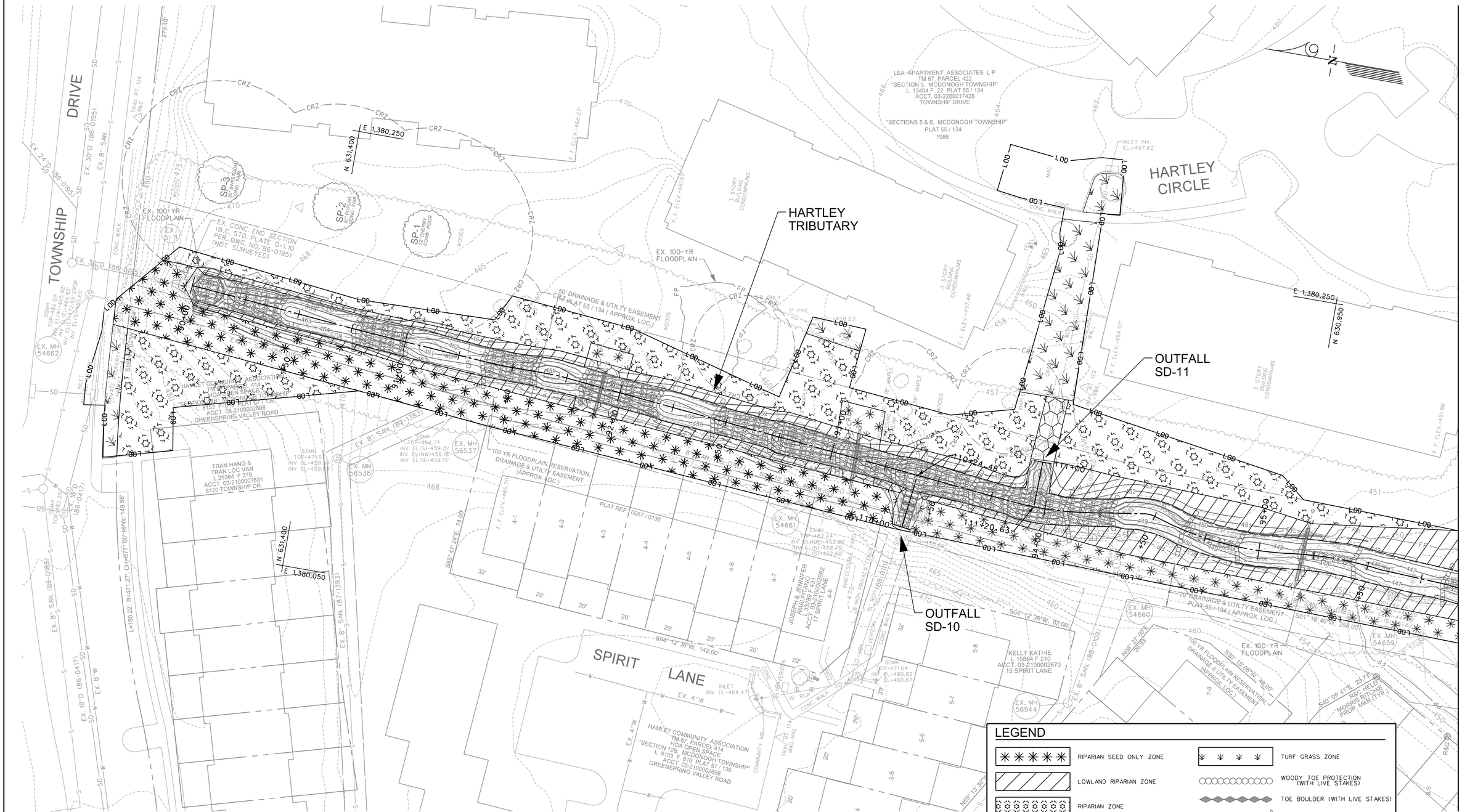
SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

LS-05

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 43 OF 46	
DWG. NO.	2023-1229

PLOTTED: 11:15 AM on Thursday, March 21, 2024
FILE NAME: P:\016\16900\2620\12-Drawings\pls-24005_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025



LEGEND

- RIPARIAN SEED ONLY ZONE
- LOWLAND RIPARIAN ZONE
- RIPARIAN ZONE
- LOWLAND RIPARIAN SEED ONLY ZONE
- LIVE STAKE ZONE
- TURF GRASS ZONE
- WOODY TOE PROTECTION (WITH LIVE STAKES)
- TOE BOULDER (WITH LIVE STAKES)
- BRUSH / COBBLE / RIFFLE TYPE 0, TYPE 1, TYPE 1 NO BRUSH (WITH LIVE STAKES)
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NOTE: SEE TITLE SHEET FOR EXISTING CONDITIONS LEGEND

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20ft.

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR — DATE

DESIGNED AW, HS, SL, JK	BUREAU OF ENGINEERING AND CONSTRUCTION	BUR. OF ENGINEERING & CONSTRUCTION
DRAWN CSD, AW, JS	REVIEWED	APPROVED _____ CHIEF
CHECKED SL	DATE	DATE _____

REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

KCI TECHNOLOGIES
ENGINEER SHANNON CP LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
PERMIT REQUESTED _____
PERMIT NUMBER _____
GRADE ESTABLISHED _____
PROFILE NUMBER _____

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED _____ DIRECTOR
DATE _____

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: 1" = 20'
PROFILE:
HOR. N/A
VERT. N/A

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE PLAN

SUBDIVISION: MCDONOGH TOWNSHIP — EL. DISTRICT NO. 03

LS-06

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 44 OF 46	
DWG. NO.	2023-1230

PLOTTED: 11:15 AM on Thursday, March 21, 2024
FILE NAME: 2016160\02\20\Drawings\LS-Sheets\LS-0606_Pittsfield.dgn

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

MASTER PLANT SCHEDULE

RIPARIAN ZONE

(35,048 SQ FT / 0.8 AC)

Qty	Botanical Name	Common Name	Size	Form	Spacing/Rate	Indicator
TREES & UNDERSTORY TREES (70%)						
19	Quercus rubra	Northern Red Oak	5' Height	Container	11' O.C.	FACU
19	Quercus alba	White Oak	5' Height	Container	11' O.C.	FACU
19	Nyssa sylvatica	Black Gum	5' Height	Container	11' O.C.	FAC
19	Diospyros virginiana	Persimmon	5' Height	Container	11' O.C.	FAC
19	Fagus grandifolia	American beech	5' Height	Container	11' O.C.	FACU
19	Celtis occidentalis	Common Hackberry	5' Height	Container	11' O.C.	FACU
19	Tilia americana	American Basswood	5' Height	Container	11' O.C.	FACU
19	Juniperus virginiana	Red Cedar	5-6' Height	Container	11' O.C.	FACU
19	Cercis canadensis	Redbud	5'Height	Container	11' O.C.	FACU
19	Carpinus caroliniana	Musclewood	5' Height	Container	11' O.C.	FAC
19	Chionanthus virginicus	White Fringetree	5' Height	Container	11' O.C.	FAC
SHRUBS (30%)						
62	Amelanchier canadensis	Serviceberry	3' Height	Container	6'-8' O.C.	FAC
62	Asimina triloba	Pawpaw	3' Height	Container	6'-8' O.C.	FAC
62	Hamamelis virginiana	Witch Hazel	3' Height	Container	6'-8' O.C.	FACU
30	Ilex opaca	American holly	3' Height	Container	6'-8' O.C.	FACU

LOWLAND RIPARIAN ZONE

(151,504 SQ FT / 3.48 AC)

Qty	Botanical Name	Common Name	Size	Form	Spacing/Rate	Indicator
TREES & UNDERSTORY TREES (70%)						
85	Acer rubrum	Red Maple	5' Height	Container	11' O.C.	FAC
85	Acer saccharinum	Silver Maple	5' Height	Container	11' O.C.	FACW
112	Betula nigra	River Birch	5' Height	Container	11' O.C.	FACW
94	Nyssa sylvatica	Black Gum	5' Height	Container	11' O.C.	FAC
112	Platanus occidentalis	American Sycamore	5' Height	Container	11' O.C.	FACW
94	Quercus bicolor	Swamp White Oak	5' Height	Container	11' O.C.	FACW
112	Quercus phellos	Willow Oak	5' Height	Container	11' O.C.	FAC
94	Alnus serrulata	Hazel Alder	5' Height	Container	11' O.C.	OBL
94	Carpinus caroliniana	Musclewood	5' Height	Container	11' O.C.	FAC
SHRUBS (30%)						
104	Amelanchier canadensis	Serviceberry	3' Height	Container	6'-8' O.C.	FAC
104	Cornus sericea	Red Osier Dogwood	3' Height	Container	6'-8' O.C.	
104	Ilex glabra	Inkberry	3' Height	Container	6'-8' O.C.	FAC
104	Ilex verticillata	Common winterberry	3' Height	Container	6'-8' O.C.	FACW
104	Lindera benzoin	Spicebush	3' Height	Container	6'-8' O.C.	FAC
104	Physocarpus opulifolius	Ninebark	3' Height	Container	6'-8' O.C.	FACW
104	Sambucus nigra	Common Elderberry	3' Height	Container	6'-8' O.C.	FACW
104	Vaccinium corymbosum	Highbush Blueberry	3' Height	Container	6'-8' O.C.	FACW
104	Viburnum dentatum	Southern Arrowwood	3' Height	Container	6'-8' O.C.	FAC

WOODY TOE (WITH LIVE STAKES)

(995 LF / 2,985 SF / 0.07 AC)

Qty	Botanical Name	Common Name	Size	Form	Spacing/Rate
LIVE STAKES					
125	Cornus racemosa	Gray dogwood	3' Length 0.5"-1.0" dia.	Dormant stems	2' O.C.
125	Cornus amomum	Silky dogwood	3' Length 0.5"-1.0" dia.	Dormant stems	2' O.C.
125	Salix sericea	Silky willow	3' Length 0.5"-1.0" dia.	Dormant stems	2' O.C.
125	Salix discolor	Pussy willow	3' Length 0.5"-1.0" dia.	Dormant stems	2' O.C.

TOE BOULDER (WITH LIVE STAKES) ZONE

(299 LF / 897 SF / 0.02 AC)

Qty	Botanical Name	Common Name	Size	Form	Spacing/Rate
LIVE STAKES					
75	Cornus racemosa	Gray dogwood	3' Length 0.5"-1.5" dia.	Dormant stems	2' O.C.
75	Cornus amomum	Silky dogwood	3' Length 0.5"-1.5" dia.	Dormant stems	2' O.C.
75	Cornus sericea	Red osier dogwood	3' Length 0.5"-1.5" dia.	Dormant stems	2' O.C.
75	Salix sericea	Silky willow	3' Length 0.5"-1.5" dia.	Dormant stems	2' O.C.

LIVE STAKE ZONE

(5,349 SQ FT/ 0.12 AC)

Qty	Botanical Name	Common Name	Size	Form	Spacing/Rate
268	Cornus sericea	Red osier dogwood	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
268	Cornus amomum	Silky dogwood	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
268	Salix discolor	Pussy willow	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
268	Salix lucida	Shining willow	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
268	Salix sericea	Silky willow	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.

BRUSH / COBBLE / RIFFLE - TYPE 0, 1, & 1 NO BRUSH (WITH LIVE STAKES) ZONE

(1,611 LF / 5,323 SQ FT/ 0.12 AC)

Qty	Botanical Name	Common Name	Size	Form	Spacing/Rate
162	Cornus sericea	Red osier dogwood	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
162	Cornus amomum	Silky dogwood	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
162	Salix discolor	Pussy willow	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
162	Salix lucida	Shining willow	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.
162	Salix sericea	Silky willow	3' Length 0.5"-1.5" dia.	Dormant Stems	2' O.C.

PERMANENT SEEDING FOR RIPARIAN ZONE & RIPARIAN SEED ONLY ZONE

(49,732 SQ FT / 1.14 AC)

Botanical Name	Common Name	% of Mix	Quantity (lbs)
Panicum claudestinum	Deertongue	29.8	20.38
Sorghastrum nutans	Indiangrass	26.9	18.4
Elymus virginicus	Virginia Wildrye	20.0	13.68
Panicum rigidulum	Redtop Panicgrass	10.0	6.84
Chasmanthium latifolium	River Oats	6.0	4.1
Chamaecrista fasciculata	Patridge Pea	3.0	2.05
Asclepias incarnata	Swamp Milkweed	1.5	1.03
Senna hebecarpa	Wild Senna	1.0	0.68
Mondarda fistulosa	Wild Bergamot	0.4	0.27
Helianthus angustifolius	Narrowleaf Sunflower	0.3	0.21
Aster novae-angliae	New England Aster	0.2	0.14
Aster puniceus	Purplestem Aster	0.2	0.14
Eupatorium perfoliatum	Boneset	0.2	0.14
Solidago rugosa	Wrinkleleaf Goldenrod	0.2	0.14
Vernonia noveboracensis	NY Ironweed	0.2	0.14
Aster prenanthoides	Zigzag Aster	0.1	0.07

Application Rate of 60 lb / ac — SEED TOTAL — 68.4 lbs
ERNST MIX * 722: LOWER MIDLAND RIPARIAN MIX
OR SIMILAR MIX AS APPROVED BY ENGINEER.

MIX FORMULATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE DEPENDING ON THE AVAILABILITY OF EXISTING AND NEW PRODUCTS. WHILE THE FORMULA MAY CHANGE, THE GUIDING PHILOSOPHY AND FUNCTION OF THE MIX WILL NOT.

SEE STANDARD SPECIFICATION SECTION 707 - MEADOW ESTABLISHMENT AND WILDFLOWER SEEDING. MEASURE AND PAYMENT WILL BE IN POUNDS PER ACRE.

PERMANENT SEEDING FOR LOWLAND RIPARIAN, LOWLAND RIPARIAN SEED ONLY, LIVE STAKE, WOODY TOE, TOE BOULDER, AND BRUSH/COBBLE/RIFFFLE ZONES

(195,337 SQ FT / 4.48 AC)

Botanical Name	Common Name	% of Mix	Quantity (lbs)
Carex vulpinoidea	Fox Sedge	21.8	58.6
Elymus virginicus	Virginia Wildrye	20.0	53.76
Panicum rigidulum	Redtop Panicgrass	17.5	47.04
Carex lurida	Lurid Sedge	15.7	42.2
Carex scoparia	Blunt Broom Sedge	8.0	21.5
Verbena hastata	Blue Vervain	4.0	10.75
Juncus effusus	Soft Rush	3.0	8.06
Asclepias incarnata	Swamp Milkweed	1.2	3.23
Bidens cernua	Nodding Bur Marigold	1.0	2.69
Juncus tenius	Path Rush	1.0	2.69
Aster novae-angliae	New England Aster	0.9	2.42
Aster prenanthoides	Zigzag Aster	0.9	2.42
Vernonia noveboracensis	New York Ironweed	0.7	1.88
Zizia aurea	Golden Alexanders	0.7	1.88
Carex crinita	Fringed Sedge	0.5	1.34
Eupatorium perfoliatun	Boneset	0.5	1.34
Glyceria striata	Fowl Mannagrass	0.5	1.34
Helenium autumnale	Common Sneezeweed	0.5	1.34
Aster puniceus	Purplestem Aster	0.4	1.08
Solidago rugosa	Wrinkleleaf Goldenrod	0.4	1.08
Lobelia siphilitica	Great Blue Lobelia	0.3	0.81
Scirpus cyperinus	Woolgrass	0.3	0.81
Mimulus ringens	Square Stemmed Monkeyflower	0.2	0.54

Application Rate of 60 lb / ac — SEED TOTAL — 268.8 lbs
ERNST MIX * 723: MD LOWER MIDLAND FACW MIX
OR SIMILAR MIX AS APPROVED BY ENGINEER.

MIX FORMULATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE DEPENDING ON THE AVAILABILITY OF EXISTING AND NEW PRODUCTS. WHILE THE FORMULA MAY CHANGE, THE GUIDING PHILOSOPHY AND FUNCTION OF THE MIX WILL NOT.

SEE STANDARD SPECIFICATION SECTION 707 - MEADOW ESTABLISHMENT AND WILDFLOWER SEEDING. MEASURE AND PAYMENT WILL BE IN POUNDS PER ACRE.

TURF GRASS ZONE

(12,234 SQ FT / 0.28 AC)

Qty	Botanical Name
56.0 lbs	Seed mix No. 1 (920.06.07(a))

Application Rate of 200 lbs / ac

REFER TO STANDARD SPECIFICATION SECTION 920.06 - SEED AND TURFGRASS SOD STANDARDS. MEASURE AND PAYMENT WILL IN POUNDS PER ACRE.

NOTE:
1. A HALF FOOT OF TOPSOIL SHALL BE PLACED THROUGOUT THE SITE EXCEPT IN WETLANDS TO INCREASE SOIL FERTILITY.
2. ENSURE TOP SOIL IS WEED AND SEED FREE.
3. ENSURE PLANTINGS ARE PROPERLY WEEDED BEFORE BEING PLANTED.

SEAL

STATE OF MARYLAND — SHANNON CP LUCAS — No. 33079 — PROFESSIONAL ENGINEER

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. 33079
EXPIRATION DATE: 01/16/2025

DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR — DATE

DESIGNED AW, HS, SL, JK — BUREAU OF ENGINEERING AND CONSTRUCTION
DRAWN CSD, AW, JS — REVIEWED
CHECKED SL — DATE

BUR. OF ENGINEERING & CONSTRUCTION
APPROVED — CHIEF
DATE

KCI TECHNOLOGIES
ENGINEER SHANNON CP. LUCAS
936 RIDGEBROOK RD., SPARKS, MD 21152
410-316-7800 / SHANNON.LUCAS@KCI.COM
DATE 3/21/2024 LIC. NO. 33079

ROAD PERMIT AND GRADES
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PERMIT NUMBER
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REVISED AS PER RECORD PRINT	DATE	REVISION	BY
DRAFTSMAN	DATE		

HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER

DEPARTMENT OF PUBLIC WORKS
APPROVED — DIRECTOR
DATE

P. W. A. DIR. NO.	KEY SHEET
	PNE
RIGHT OF WAY	POSITION SHEET
	37NW 27, 28 38NW 27, 28

SCALE
PLAN: AS SHOWN
PROFILE:
HOR. N/A
VERT. N/A

DESIGN & DRAWINGS BASED ON MARYLAND COORDINATE SYSTEM: HORIZONTAL: NAD 83 / 2011 & VERTICAL: NAVD 88

BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE DETAILS

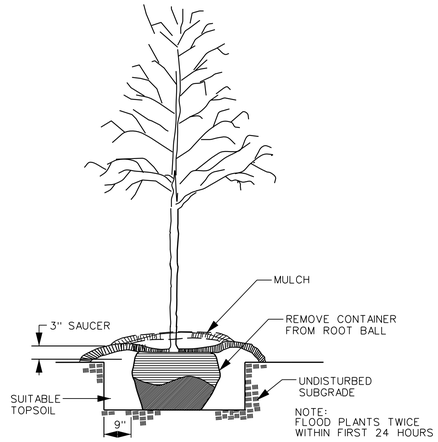
SUBDIVISION: MCDONOGH TOWNSHIP — EL. DISTRICT NO. 03

LD-01

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET 45 OF 46	
DWG. NO.	2023-1231

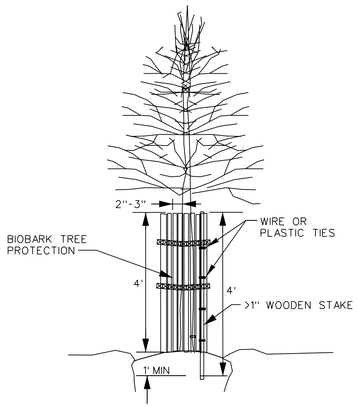
PLOTTED: 11:15 AM on Thursday, March 21, 2024
FILENAME: 2016\16092620.12\Drawings\16-0901-Pittsfield.dgn

Contract No. 24024 GXO
Addendum No.2
April 8, 2025



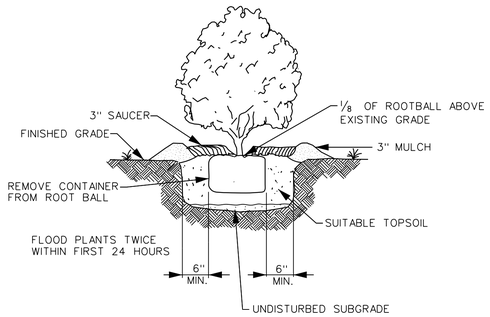
TREE PLANTING DETAIL

NOT TO SCALE



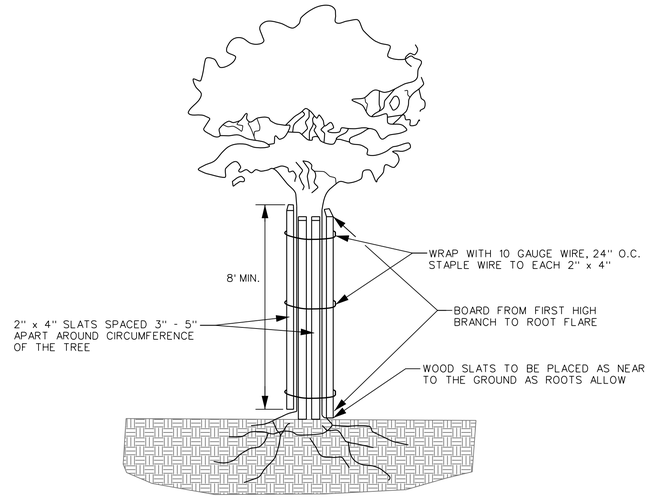
TREE SHELTER DETAIL

NOT TO SCALE



SHRUB PLANTING DETAIL

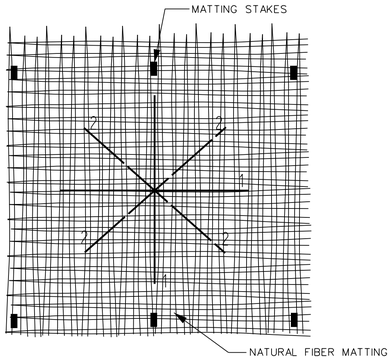
NOT TO SCALE



HEAVY TREE PROTECTION DETAIL

NOT TO SCALE

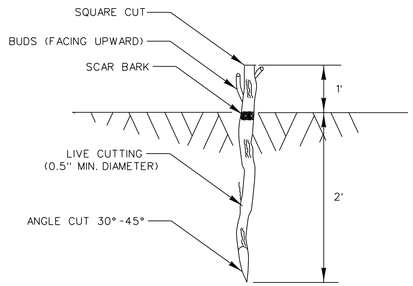
NOTES:
1. PROTECTIVE PLANKING SHALL BE ERECTED PRIOR TO CLEARING, GRADING OR CONSTRUCTION BEGINS. PROTECTIVE MEASURES SHALL REMAIN IN PLACE FOR THE DURATION OF CONSTRUCTION.
2. NOTIFY BALTIMORE COUNTY OR ENGINEER IF ANY TREE TO BE PLANKED APPEARS TO BE DEAD OR DYING.



PLANTING WITHIN NATURAL FIBER MATTING

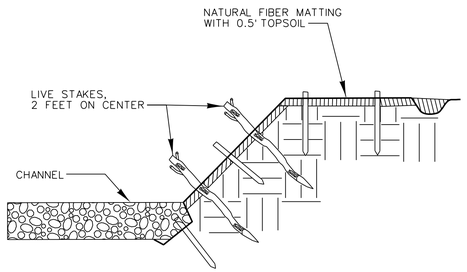
NOT TO SCALE

SEQUENCE:
1. CUT NATURAL FIBER MATTING USING A SHARP KNIFE, FOLLOWING THE SOLID LINE IN THE DIAGRAM. ALL CUTS SHALL BE A MINIMUM OF 2 FEET FROM ANY SEAMS, OVERLAPS, OR EDGES OF THE MATTING. SIZE OF CUT DEPENDS ON PROPOSED PLANT.
2. PULL BACK CUT MATTING AWAY FROM CENTER AND TEMPORARILY PIN BACK, FOLLOWING DASHED LINE IN THE DIAGRAM.
3. DIG HOLE FOR PLANT.
4. REMOVE TEMPORARY PINS FROM CUT MATTING AND PLACE MATTING FIRMLY IN HOLE.
5. PLACE PLANT ON TOP CUT MATTING.
6. BACKFILL AND SECURE PLANT IN HOLE.



LIVE STAKE DETAIL

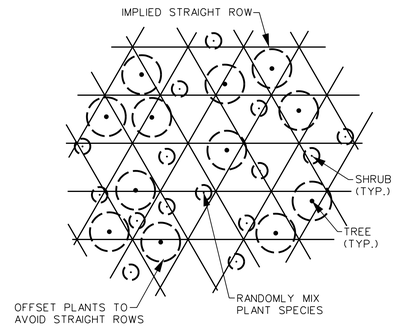
NOT TO SCALE



LIVE STAKE PLANTING CROSS SECTION

NOT TO SCALE

NOTES:
1. PLANT LIVE STAKES PERPENDICULAR TO THE STREAM BANK.
2. BUDS SHOULD BE FACING UPWARD.
3. APPROXIMATELY 1' OF THE LIVE STAKE SHOULD BE ABOVE GROUND.
4. APPROXIMATELY 2' OF THE LIVE STAKE SHOULD BE IN THE GROUND.
5. DETAIL SHOWS 2 ROWS, MAY ONLY BE 1 ROW.



RANDOM PLANT SPACING

NOT TO SCALE

NOTE:
1. TREE PLANTING SHALL BE A RANDOM DISTRIBUTION OF SPECIES AND TREE TYPE.

2. REFER TO PLANT SCHEDULES FOR DENSITIES. CLUSTER PLANTS RANDOMLY AS DIRECTED BY ON-SITE INSPECTOR.

SEAL

STATE OF MARYLAND · SHANNON CP LUCAS · No. 33079 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION:
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DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

DIRECTOR DATE

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DRAWN CSD, AW, JS	REVIEWED	APPROVED CHIEF
CHECKED SL	DATE	DATE

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ENGINEER SHANNON CP LUCAS
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BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING & CONSTRUCTION

UNNAMED TRIBUTARY TO GWYNNS FALLS AT PITTSFIELD ROAD STREAM RESTORATION PROJECT

COUNCIL DISTRICT NO. 02

LANDSCAPE DETAILS

SUBDIVISION: MCDONOGH TOWNSHIP EL. DISTRICT NO. 03

LD-02

CONTRACT NO.	24024 GXO
JOB ORDER NO.	247-221-0400-0351
SHEET	46 OF 46
DWG. NO.	2023-1232

Contract No. 24024 GX0
Addendum No.2
April 8, 2025

PLOTTED: "11:15 AM on Thursday, March 21, 2024"
FILENAME: \\BG02\BG02\2.0\Drawings\24.0-0092_Pittsfield.dgn