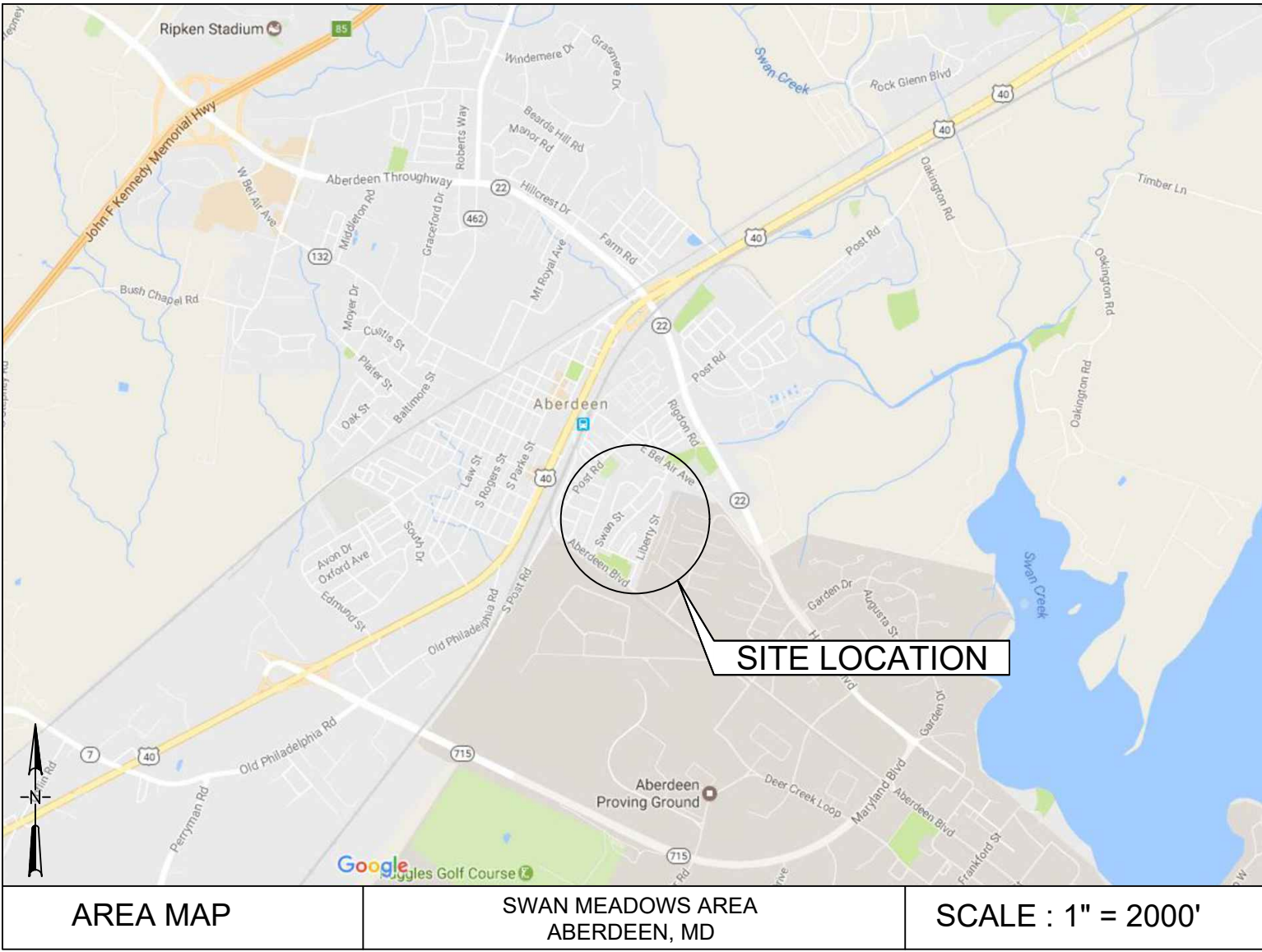
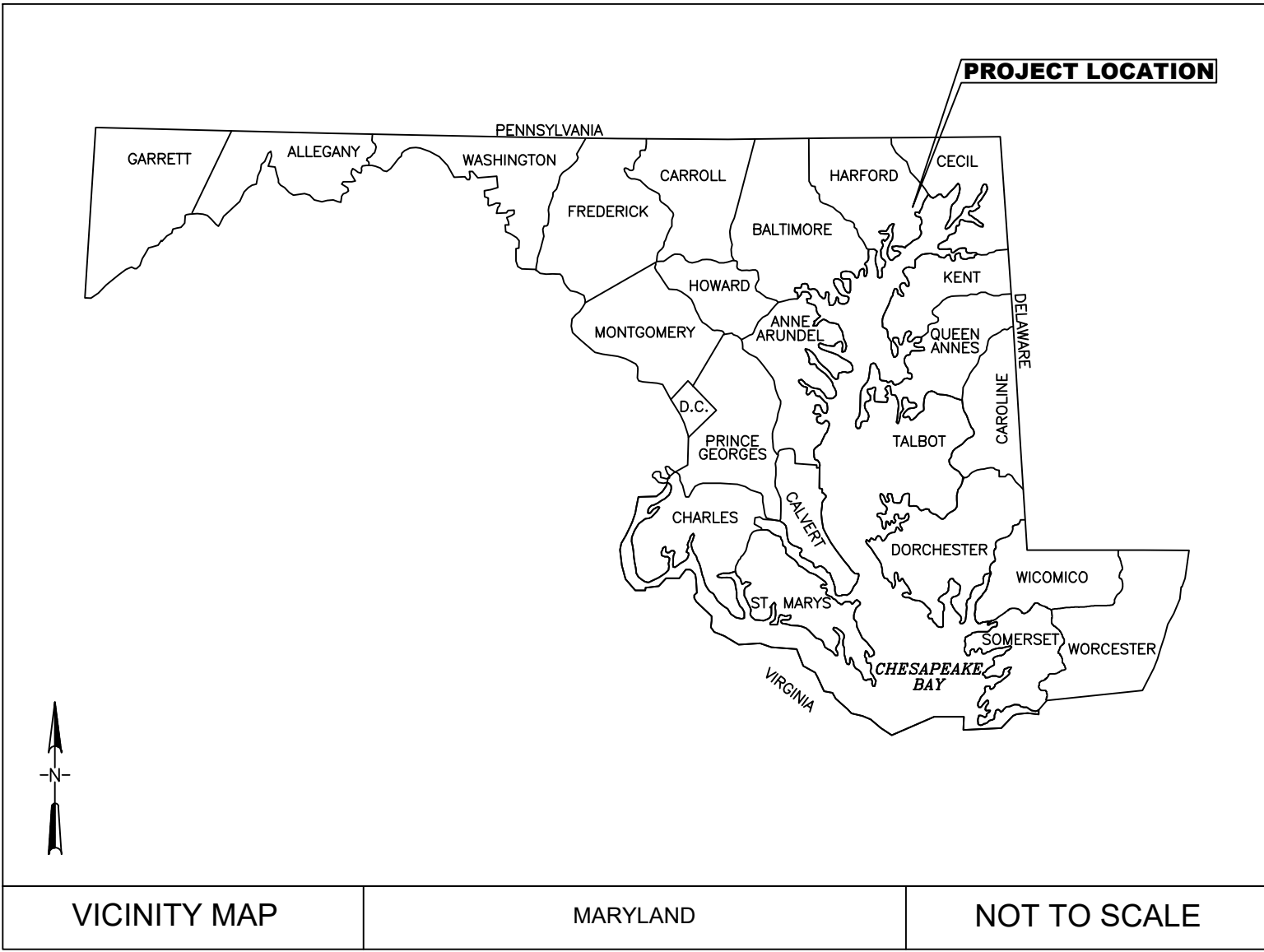


CONTRACT DRAWINGS
CITY OF ABERDEEN, MARYLAND
DEPARTMENT OF PUBLIC WORKS

SWAN MEADOWS
EROSION & SEDIMENT CONTROL PLANS

PROJECT# 22-18



- GENERAL NOTES
1. THE PURPOSE OF THIS PLAN IS TO PROVIDE PLANS FOR EROSION AND SEDIMENT CONTROL ALONG THE SUBDIVISION ROADS IN THE SWAN MEADOWS COMMUNITY DURING CONSTRUCTION OF THE WATER AND SEWER MAIN IMPROVEMENTS.
 2. OWNER/DEVELOPER: CITY OF ABERDEEN
 3. HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NAVD88
 4. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS FLOWN BY AXIS GEOSPATIAL IN APRIL 2022 AND SUPPLEMENTAL SURVEY PROVIDED BY KCI TECHNOLOGIES INC DATED JUNE 2022.
 5. EXISTING UTILITIES ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR AND THE COMPLETENESS OR ACCURACY OF THE SAME IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES BEFORE TRENCH EXCAVATION BEGINS. HE SHALL PROTECT SERVICE CONNECTIONS AND MAINTAIN THEIR UNINTERRUPTED SERVICE. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IMMEDIATELY. THE COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR.
 6. ROADS, ROADWAYS, SIDEWALKS, CURB/GUTTERS, ROADSIDE DRAINAGE DITCHES, UNDERDRAINS, ETC. WHICH ARE DAMAGED BY CONTRACTOR OPERATIONS SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT PRIOR TO THE START OF CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.
 7. ALL AREAS DISTURBED WITHIN EASEMENTS AND RIGHT-OF-WAYS OR ON PRIVATE PROPERTY SHALL BE RESTORED TO A CONDITION OF AT LEAST EQUAL TO THAT WHICH EXISTED PRIOR TO THE START OF CONSTRUCTION. THE COST OF SUCH RESTORATION SHALL BE BORNE BY THE CONTRACTOR.
 8. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TRAINED SAFETY PERSONNEL AND TO ENSURE THAT ALL CONSTRUCTION IS IN ACCORDANCE WITH THE STATE OCCUPATIONAL SAFETY LAWS (MOSHA).
 9. SUBSURFACE UTILITIES SHOWN BASED ON VISUALLY OBSERVED EVIDENCE AT GROUND LEVEL. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONFER WITH THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BE DONE WITHOUT FIRST CALLING "MISS UTILITY" (1-800-257-7777) 72 HOURS PRIOR TO EXCAVATION TO HAVE UNDERGROUND UTILITY CABLES LOCATED AND MARKED.
 10. CONTRACTOR WILL BE RESPONSIBLE FOR MONITORING SEDIMENT TRACKING ON PAVED SURFACES. STREET SWEEPING WILL BE REQUIRED IF SEDIMENT IS FOUND ON ROADWAYS.
 11. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF TRAFFIC PER THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 12. CONSTRUCTION FROM THESE PLANS MUST BE STARTED WITHIN ONE (1) YEAR OF THE APPROVAL DATE OR APPROVAL IS NULL AND VOID.
 13. CONSTRUCTION OF THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING PUBLICATIONS:
MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MDOT-SHA BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES
MDOT-SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS
MARYLAND OCCUPATIONAL SAFETY LAWS (OSHA)
HARFORD COUNTY D.P.W. STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS
HARFORD COUNTY ROAD CODE
CITY OF ABERDEEN - \$470.5 "RESIDENTIAL SUBDIVISION PAVING SECTIONS"
HARFORD COUNTY STANDARD SPECIFICATIONS FOR WATER MAINS & SEWER MAINS
 14. PRIOR TO ANY ONSITE LAND DISTURBANCES, FORTY- EIGHT (48) HOURS ADVANCE NOTICE SHALL BE GIVEN TO THE CITY OF ABERDEEN, D.P.W. INSPECTION SECTION BY CONTACTING THE CHIEF INSPECTOR AT 410-272-1600, AT WHICH TIME A PRECONSTRUCTION MEETING WILL BE SCHEDULED.
 15. FOR ANY GRADING OPERATIONS ON THIS PROJECT, THE G.P. PERMIT WILL BE ISSUED BY THE CITY. WRITTEN REQUESTS FOR PERMITS SHOULD BE SENT TO THE CITY. THE GRADING PERMIT WILL BE ISSUED AT THE PRE-CONSTRUCTION MEETING..
 16. ALL DISTURBED AREAS AS A RESULT OF ROADWAYS, WATER, AND SEWER CONSTRUCTION SHALL BE SEEDED AND MULCHED WITHIN SEVEN (7) DAYS AFTER COMPLETION, OR AS SPECIFIED IN THE APPROVED EROSION & SEDIMENT CONTROL PLANS.
 17. ALL MANHOLES WILL BE BACKFILLED WITH NO. 57 AGGREGATE FOR A WIDTH OF 1.5 FEET OUTSIDE THE PERIMETER OF THE MANHOLES AS PER SECTION 305 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, HARFORD COUNTY EDITION.
 18. THE CONTRACTOR SHALL INDICATE THE TOTAL NUMBER OF CURB SIDE TREES REMOVED DURING CONSTRUCTION , AND REPLACE WITH LOCAL "MD TREES".

INDEX OF SHEETS	
SHEET NO.	TABLE OF CONTENTS
D-0.01	E&S COVER SHEET
D-1.01	INDEX SHEET & SEQUENCE OF CONSTRUCTION
D-1.02	PLAN SHEET
D-1.03	PLAN SHEET
D-1.04	PLAN SHEET
D-1.05	PLAN SHEET
D-1.06	PLAN SHEET
D-1.07	PLAN SHEET
D-1.08	PLAN SHEET
D-1.09	E&S DETAILS
D-1.10	E&S DETAILS

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

CONSTRUCTION
SET

OWNER/DEVELOPER: 60 NORTH PARK STREET ABERDEEN, MD 21001 PHONE: (410) 273-1402 FAX: (410) 273-1402		KCI TECHNOLOGIES, INC. ENGINEERS - PLANNERS - SURVEYORS 614 N. DuPont Highway, Suite 100 Dover DE 19901 PHONE: (302) 747-5999 FAX: (302) 773-1767 Website: www.kci.com		2023.08.14 DATE	REISSUED FOR BID REVISION
0 SCALE - PLAN:		KCI TECHNOLOGIES, INC. ENGINEERS - PLANNERS - SURVEYORS 614 N. DuPont Highway, Suite 100 Dover DE 19901 PHONE: (302) 747-5999 FAX: (302) 773-1767 Website: www.kci.com			
E&S COVER SHEET		SWAN MEADOWS WATER & SEWER IMPROVEMENTS EROSION & SEDIMENT CONTROL PLANS		ABERDEEN HARFORD COUNTY MARYLAND	
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 433625 EXPIRATION DATE: 4/30/2026		CITY OF ABERDEEN DEPARTMENT OF PUBLIC WORKS APPROVAL		SIGNATURE: Drafting: MD Check: PG Design: MD Check: PG SCALE: AS NOTED DATE: 06-14-2026 KCI JOB #: 13158575 SM SHEET: D-0.01	

THE FOLLOWING SEQUENCE OF CONSTRUCTION IS SUGGESTED WITH THE GOAL OF MINIMIZING DISRUPTION TO THE COMMUNITY AND SURROUNDING AREA TO THE EXTENT POSSIBLE. ALL NEW UTILITIES SHALL BE INSTALLED AND TESTED, OLD UTILITIES SHALL BE REMOVED OR ABANDONED, AND THE AREA RESTORED (PAVED) AS SOON AS POSSIBLE. THE PROJECT SHALL BE PHASED TO MINIMIZE THE TOTAL AREA DISTURBED AT ANY GIVEN TIME. TYPICAL UTILITY INSTALLATION ORDER SHALL BE SANITARY SEWER, WATER, FOLLOWED BY IMMEDIATE RESTORATION OF EACH PHASE PRIOR TO PROCEEDING TO THE NEXT PHASE. THE CONTRACTOR MAY SUBMIT AN ALTERNATE SEQUENCE FOR REVIEW AND CONSIDERATION BUT MUST ACHIEVE A SIMILAR OR REDUCED LEVEL OF DISRUPTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY PROVISIONS REQUIRED TO MAINTAIN SERVICE TO USERS AT ALL TIMES. THE 10" LINE ON ABERDEEN AVE IS THE BACKBONE OF THE NEW SYSTEM. THE 10" STUB ON SWAN ST IS AT THE INTERSECTION WITH ABERDEEN AVE. ALL PIPING TO BE ABANDONED IN PLACE SHALL BE FILLED WITH FLOWABLE FILL AND CAPPED WHERE APPLICABLE. WATER MAIN SERVICES TO HOMES CANNOT BE CONNECTED TO NEW MAINS UNTIL THE NEW MAINS ARE CONNECTED TO ABERDEEN AVE. THE NEW SYSTEM MUST NEVER BE CONNECTED TO THE TRANSITE MAIN, EVEN TEMPORARILY.

SEQUENCE OF CONSTRUCTION

1. DELINEATE LOD CLEARLY IN THE FIELD PRIOR TO PRE CONSTRUCTION MEETING.
2. CONTACT THE CITY INSPECTOR MATTHEW BOSAK (410) 272-1600 EXTENSION 263 AT LEAST 48 HOURS PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES. A PRE-CONSTRUCTION MEETING WILL BE ARRANGED AT THE PROJECT SITE UNLESS WAIVED BY THE PROPER AUTHORITY. FAILURE TO NOTIFY THE DEPARTMENT MAY EXPOSE THE OWNER/DEVELOPER TO ADDITIONAL WORK.
3. CONTACT THE CITY INSPECTOR FOR AN INSPECTION OF EROSION AND SEDIMENT CONTROLS.
4. UPON APPROVAL OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS FROM THE CITY INSPECTOR, COMMENCE CONSTRUCTION.

PHASE 1 - DEFENSE DRIVE & SWAN STREET

DEFENSE DRIVE SERVES AS THE PRIMARY OUTFALL FOR SANITARY SEWER. CONTRACTOR SHALL MAKE TEMPORARY CONNECTIONS AS NEEDED TO MAINTAIN SERVICE TO THE ENTIRE COMMUNITY AT ALL TIMES.

SANITARY SEWER:

GENERAL: SAW CUT ROADWAY AS REQUIRED FOR SANITARY SEWER INSTALLATION. INSTALL SANITARY SEWER AND TEST AS REQUIRED. OBTAIN APPROVAL FROM THE CITY BEFORE TYING INTO THE EXISTING SEWER AND INSTALLING NEW SEWER LATERALS. WHEN INSTALLING SEWER LATERALS, INSTALL EACH LATERAL AND STABILIZE IN THE SAME SHIFT. RESTORE ROADWAY TEMPORARILY WITH COLD PATCH UNTIL FINAL PAVING CAN TAKE PLACE.

1. INSTALL SANITARY SEWER FROM MH A-12 (STUB OUT BOTH SIDES) TO D-01. TEST ALL PIPING AND MH'S.
2. INSTALL BYPASS PUMPING FROM EX. MH 0199 TO MH 0217.
3. INSTALL SANITARY SEWER FROM A-13 TO A-15. TEST ALL PIPING AND MH'S.
4. CONNECT USERS TO NEW SEWER ON DEFENSE DRIVE.
5. COMPLETE DOGHOUSE MH T-1 FLOW CHANNEL. FLOW CHANNEL TO REDIRECT FLOW TO MH A-12. PLUG FLOW FROM MH 204.
6. REMOVE BYPASS PUMPING FROM EX. MH 0199 TO MH 0217.
7. REMOVE OR ABANDON EX. SEWER IN PLACE ALONG DEFENSE DRIVE FROM SWAN STREET TO END.
8. INSTALL SANITARY SEWER FROM J-01 TO STUBBED OUT A-12. TEST ALL PIPING AND MH'S.
9. INSTALL BYPASS PIPING FROM STUBBED OUT A-08 TO ADJACENT EXISTING MH AT INTERSECTION OF ABERDEEN AVENUE AND SWAN STREET.

10. CONNECT USERS TO NEW SEWER ON SWAN STREET AND ABERDEEN AVENUE.
11. REMOVE OR ABANDON EX. SEWER IN PLACE ALONG SWAN STREET FROM ABERDEEN AVENUE TO DEFENSE DRIVE.

WATER MAIN:

GENERAL: SAW CUT ROADWAY AS REQUIRED FOR WATER MAIN INSTALLATION. INSTALL WATER MAINS AND TEST AS REQUIRED. RESTORE ROADWAY TEMPORARILY WITH COLD PATCH UNTIL FINAL PAVING CAN TAKE PLACE. OBTAIN CITY APPROVAL BEFORE CONNECTING TO EXISTING WATER MAINS AND/OR WATER SERVICES.

1. INSTALL WATER MAIN FROM DEFENSE DRIVE TO THE INTERSECTION OF SWAN STREET (STUB OUT END VALVE ON SOUTHERN SIDE OF TEE). CONTINUE INSTALLING WATER MAIN ON SWAN STREET TO APPROXIMATELY 20 FT FROM THE EXISTING STUB.
2. BACTERIA AND PRESSURE TEST MAIN.
3. CONNECT TO EXISTING 10 INCH STUB ON SWAN STREET.
4. INSTALL NEW SERVICES, METER PITS AND CONNECT TO HOMES.
5. INSTALL MAIN ON EAST BEL AIR AVENUE.
6. ABANDON EX. WATER MAIN IN AREA OF REPLACEMENT.

PAVEMENT AND RESTORATION:

ONCE ALL UTILITIES ARE COMPLETE WITHIN THE LIMITS OF PAVING, PERFORM ALL RESTORATION WITHIN THE ROADWAY AND FINAL PAVEMENT.

PHASE 2 - SWAN STREET

SANITARY SEWER:

1. INSTALL SANITARY SEWER FROM THE STUB OUT AT MH A-12 TO THE TERMINAL MANHOLE AT ABERDEEN BLVD MD C-01. INSTALL STUB FROM MH C-02 INTO VICTORY ST. BEYOND THE INTERSECTION AND CAP FOR CONNECTION IN FUTURE PHASE. TEST ALL PIPING AND MH'S.
2. CONNECT USERS TO NEW SEWER ON SWAN STREET.
3. REMOVE OR ABANDON EX. SEWER IN PLACE ALONG SWAN STREET FROM LOT #183 SWAN STREET TO INTERSECTION OF SWAN STREET AND DEFENSE DRIVE.
4. REMOVE DOGHOUSE MH T-1.

WATER MAIN:

1. INSTALL WATER MAIN FROM FIRE HYDRANT TEE AT ABERDEEN BLVD TO DEFENSE DRIVE.
2. BACTERIA AND PRESSURE TEST MAIN.
3. TIE-IN WATER MAIN AT DEFENSE DRIVE.
4. INSTALL NEW SERVICES, METER PITS AND CONNECT TO HOMES.
5. INSTALL NEW MAIN ON ABERDEEN BLVD AND CONNECT NEW MAIN ON SWAN STREET.
6. ABANDON EX. WATER MAIN IN AREA OF REPLACEMENT.

PAVEMENT AND RESTORATION:

ONCE ALL UTILITIES ARE COMPLETE WITHIN THE LIMITS OF PAVING, PERFORM ALL RESTORATION WITHIN THE ROADWAY AND FINAL PAVEMENT.

PHASE 3 - ABERDEEN AVE.

PHASE 3 SHALL FOLLOW THE SAME GENERAL SEQUENCE, HOWEVER, EXISTING 10" WATER MAIN ON ABERDEEN AVE SHALL REMAIN IN SERVICE.

SANITARY SEWER:

1. INSTALL SANITARY SEWER FROM MH B-01 TO THE STUB OUT OF MH A-08. TEST ALL PIPING AND MH'S.
2. CONNECT USERS TO NEW SEWER ON ABERDEEN AVENUE.
3. INSTALL NEW BYPASS CONNECTION FROM MH A-07 TO EX. MH AT THE INTERSECTION OF ABERDEEN AVENUE AND LIBERTY STREET.
4. ABANDON EX. SANITARY SEWER IN AREA OF REPLACEMENT.

PAVEMENT AND RESTORATION:

ONCE ALL UTILITIES ARE COMPLETE WITHIN THE LIMITS OF PAVING, PERFORM ALL RESTORATION WITHIN THE ROADWAY AND FINAL PAVEMENT.

PHASE 4 - VICTORY ROAD AND CHESAPEAKE COURT

SANITARY SEWER:

1. INSTALL SANITARY SEWER FROM STUB OUT OF MH C-02 TO MH E-03. INSTALL SANITARY SEWER FROM MH H-01 TO MH E-04 AND MH G-01 TO MH E-05. TEST ALL PIPES AND MH'S.
2. CONNECT USERS TO NEW SEWER.
3. ABANDON EX. SANITARY SEWER IN AREA OF REPLACEMENT.

WATER MAIN:

1. INSTALL WATER MAIN ON VICTORY STREET FROM SWAN STREET TO INTERSECTION OF VICTORY STREET AND ABERDEEN AVENUE.
2. BACTERIA AND PRESSURE TEST MAIN.
3. TIE-IN TO EXISTING STUBS AT ABERDEEN AVENUE AND SWAN STREET.
4. INSTALL NEW SERVICES, METER PITS AND CONNECT TO HOMES.
5. INSTALL WATER MAIN ON VICTORY STREET FROM LIBERTY STREET TO 20 FT PRIOR TO STUB. INSTALL WATER MAIN ON CHESAPEAKE COURT TO 20 FT IN FRONT OF STUB.
6. BACTERIA AND PRESSURE TEST MAIN.
7. TIE-IN TO EXISTING STUB AT CHESAPEAKE COURT THEN TIE-IN TO EXISTING STUB ON VICTORY STREET AT CHESAPEAKE COURT.
8. INSTALL NEW SERVICES, METER PITS AND CONNECT TO HOMES.

PAVEMENT AND RESTORATION:

ONCE ALL UTILITIES ARE COMPLETE WITHIN THE LIMITS OF PAVING, PERFORM ALL RESTORATION WITHIN THE ROADWAY AND FINAL PAVEMENT.

PHASE 5 - LIBERTY STREET

SANITARY SEWER:

1. INSTALL SANITARY SEWER FROM MH A-01 TO STUB AT MH A-07.
2. TEST ALL PIPING AND MH'S.
3. TIE-IN TO STUB AT MH A-07.
4. CONNECT USERS TO NEW SEWER.
5. REMOVE BYPASS OUTSIDE OF MH A-07.
6. INSTALL SANITARY SEWER FROM MH E-01 TO MH E-03.
7. TEST ALL PIPING AND MH'S.
8. TIE-IN TO STUB AT MH E-03.
9. CONNECT USERS TO NEW SEWER.
10. ABANDON EX. SANITARY SEWER IN AREA OF REPLACEMENT.

WATER MAIN:

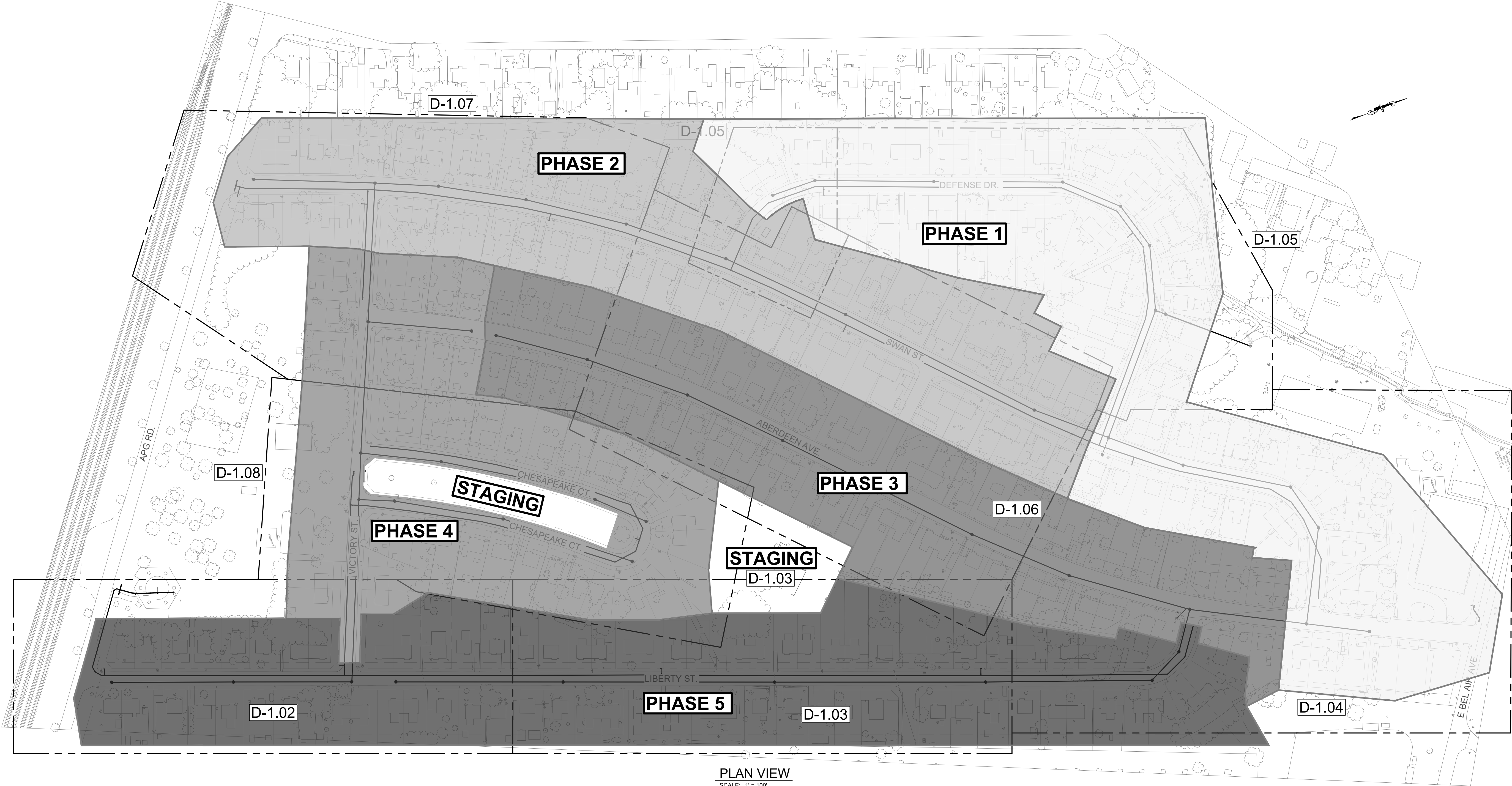
1. INSTALL WATER MAIN ON LIBERTY STREET.
2. BACTERIA AND PRESSURE TEST MAIN.
3. TIE-IN TO EXISTING STUB AT THE INTERSECTION OF LIBERTY STREET AND ABERDEEN AVENUE.
4. MAKE SOUTHERN CONNECTION AT EXISTING WATER TOWER.
5. INSTALL WATER MAIN ON NORTHERN SIDE OF ALTITUDE VALVE AT EXISTING WATER TOWER.
6. INSTALL NEW SERVICES, METER PITS AND CONNECT TO HOMES.
7. MAKE FINAL ABANDONMENT AT ALTITUDE VALVE.

PAVEMENT AND RESTORATION:

ONCE ALL UTILITIES ARE COMPLETE WITHIN THE LIMITS OF PAVING, PERFORM ALL RESTORATION WITHIN THE ROADWAY AND FINAL PAVEMENT.

PHASE 6 - FINAL UTILITY REMOVAL/ABANDONMENT AND FINAL RESTORATION

1. FOLLOWING COMPLETION OF ALL NEW UTILITY INSTALLATION AND CONNECTION TO EXISTING USERS, CONTRACTOR SHALL COMPLETE REMOVAL OR ABANDONMENT OF EXISTING SANITARY SEWER, WATER MAIN AS NECESSARY.
2. CONTRACTOR SHALL PERFORM ALL FINAL RESTORATION OF DISTURBED AREAS OUTSIDE OF THE LIMITS OF PAVEMENT INCLUDING DRIVEWAY RESTORATION, FINAL GRADING, TOPSOIL, SEED, MULCH, LANDSCAPING, ETC.
3. AFTER FINAL GRADING, SCHEDULE AN INSPECTION WITH THE SEDIMENT CONTROL INSPECTOR. UPON APPROVAL FROM THE INSPECTOR, REMOVE REMAINING E&S CONTROLS AND STABILIZE AREA.



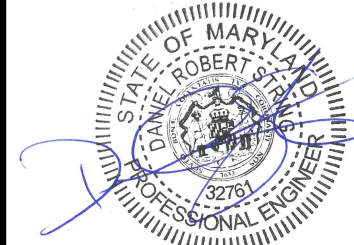
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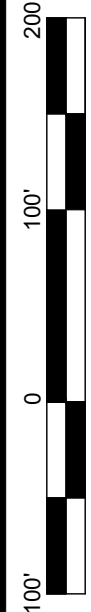
CONSTRUCTION SET

INDEX SHEET & SEQUENCE OF CONSTRUCTION
SWAN MEADOWS WATER & SEWER IMPROVEMENTS
EROSION & SEDIMENT CONTROL PLANS
ABERDEEN
HARFORD COUNTY
MARYLAND

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE
PREPARED OR APPROVED BY ME, AND THAT I AM A
DAILY LICENSED PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 13158575
EXPIRATION DATE: 12/31/2026



SIGNATURE:
Drafting: MD Check PG
Design: MD Check PG
SCALE: 1"=100'
DATE: 08-14-2026
KCI JOB #: 13158575.SM
SHEET: D-1.01



KCI TECHNOLOGIES, INC.
ENGINEERS • PLANNERS • SURVEYORS
614 N. DuPont Highway, Suite 100 Dover DE 19901
PHONE: (302) 747-5999 FAX: (302) 737-7507 Website: www.kci.com

OWNER/DEVELOPER:
60 NORTH PARK STREET
PHILADELPHIA, MD 19106
PHONE: (215) 762-2111 FAX: (215) 762-2111

2026-08-14
DATE

REVISION

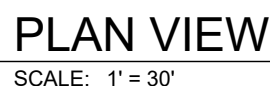


026-08-14	REISSUED FOR BID
DATE	REVISION

ENGINEERS - PLANNERS - SURVEYORS
614 N. DuPont Highway, Suite 100 Dover DE, 19901
PHONE: (302) 747-5999 FAX: (302) 731-7807 Website: www.kci.com

HARFORD COUNTY
MARY AND

SIGNATURE: _____			
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Design:	MD	Check:	PG
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KCI JOB #:	13158575.SM		
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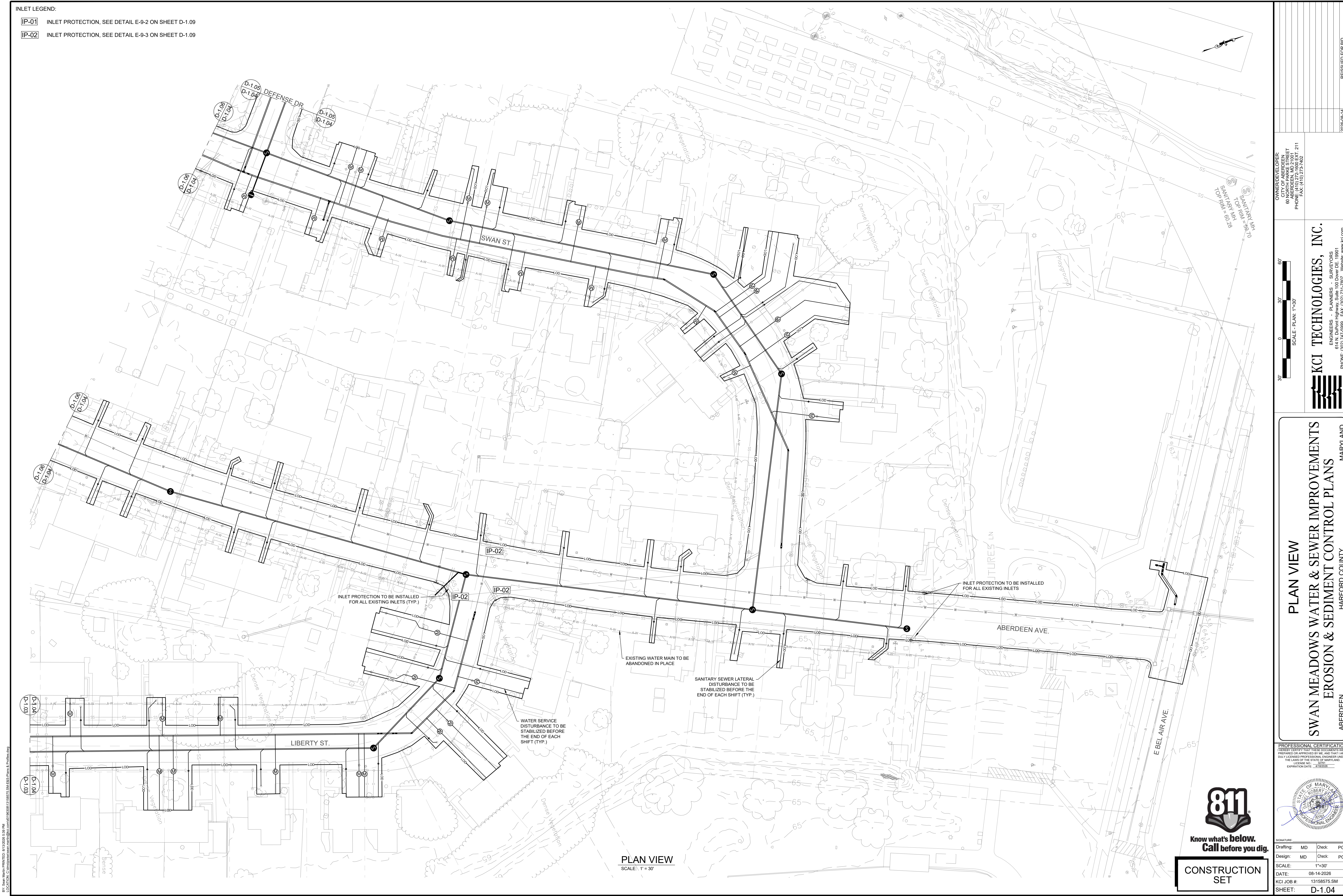


INLET LEGEND:

	INLET PROTECTION, SEE DETAIL E-9-2 ON SHEET D-1.09
	INLET PROTECTION, SEE DETAIL E-9-3 ON SHEET D-1.09

CONSTRUCTION SET

BY: Sean Martin PRINTED: 8/13/2026 5:39 PM
LOCATION: C:\msi\sean.martin\com\0194308\13158575 SM-E.S.Plant & Profiles.dwg



INLET LEGEND:
[IP-01] INLET PROTECTION, SEE DETAIL E-9-2 ON SHEET D-1.09
[IP-02] INLET PROTECTION, SEE DETAIL E-9-3 ON SHEET D-1.09

OWNER/DEVELOPER:
60 NORTH PARK STREET
PHILADELPHIA, MD 211
PHONE: (410) 772-7422
FAX: (410) 772-7422

2023.08.14

DATE

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REVISION

PLAN VIEW

SWAN MEADOWS WATER & SEWER IMPROVEMENTS
EROSION & SEDIMENT CONTROL PLANS

ABERDEEN
HARFORD COUNTY
MARYLAND

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE
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FULLY LICENSED PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 413525
EXPIRATION DATE: 12/31/2025

SIGNATURE:
Drafting: MD Check: PG
Design: MD Check: PG

SCALE:
1"=30'

DATE:
08-14-2026

KCI JOB #:
13158575.SM

SHEET:
D-1.04

Know what's below.
Call before you dig.

CONSTRUCTION
SET

SCALE: 1"=30'

PLAN VIEW

OWNER/DEVELOPER:
60 NORTH PARK STREET
PHILADELPHIA, MD 211
PHONE: (410) 772-7422
FAX: (410) 772-7422

2023.08.14

DATE

REISSUED FOR BID
REVISION

PLAN VIEW

SWAN MEADOWS WATER & SEWER IMPROVEMENTS
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ABERDEEN
HARFORD COUNTY
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1"=30'

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08-14-2026

KCI JOB #:
13158575.SM

SHEET:
D-1.04

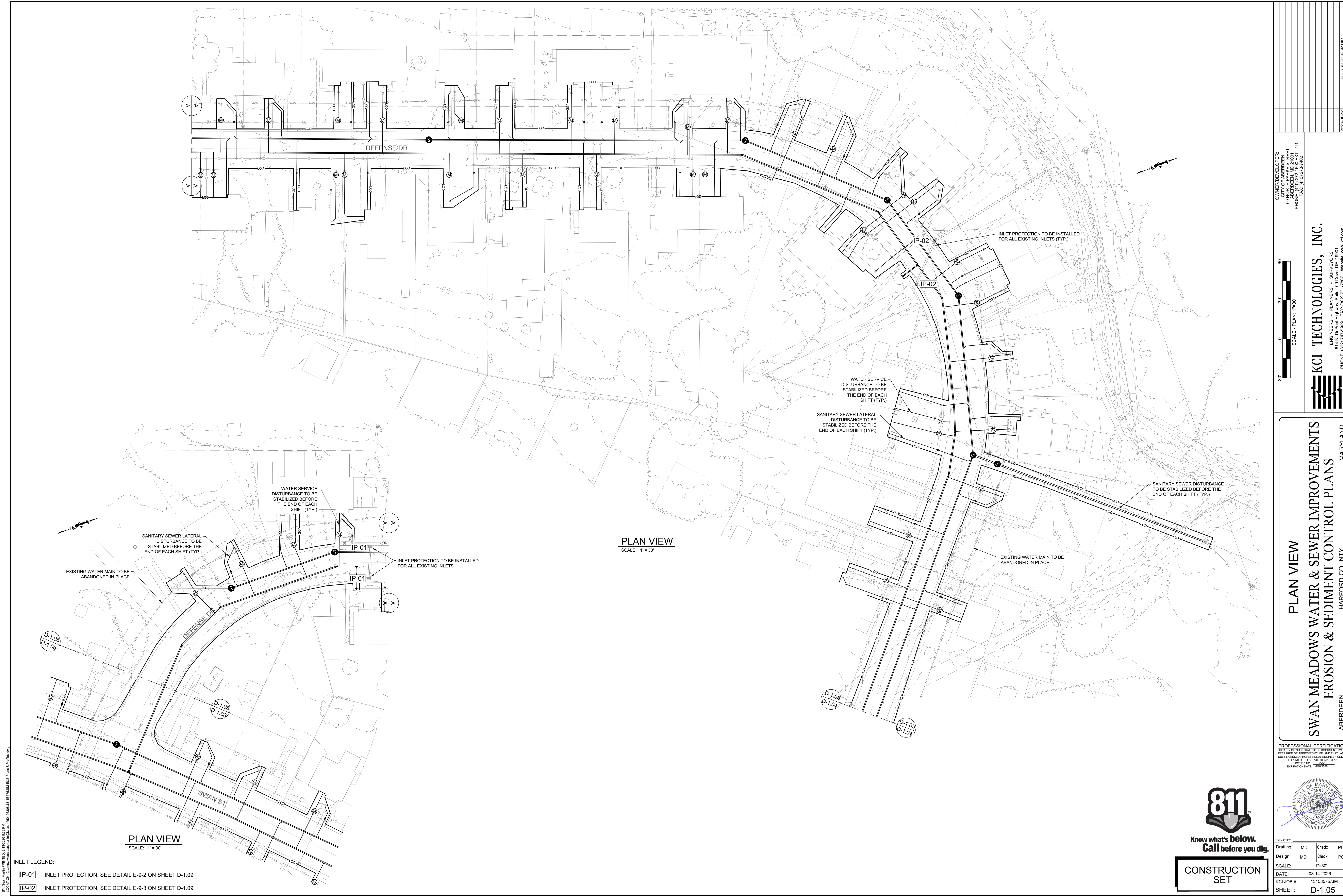
Know what's below.
Call before you dig.

CONSTRUCTION
SET

SCALE: 1"=30'

PLAN VIEW

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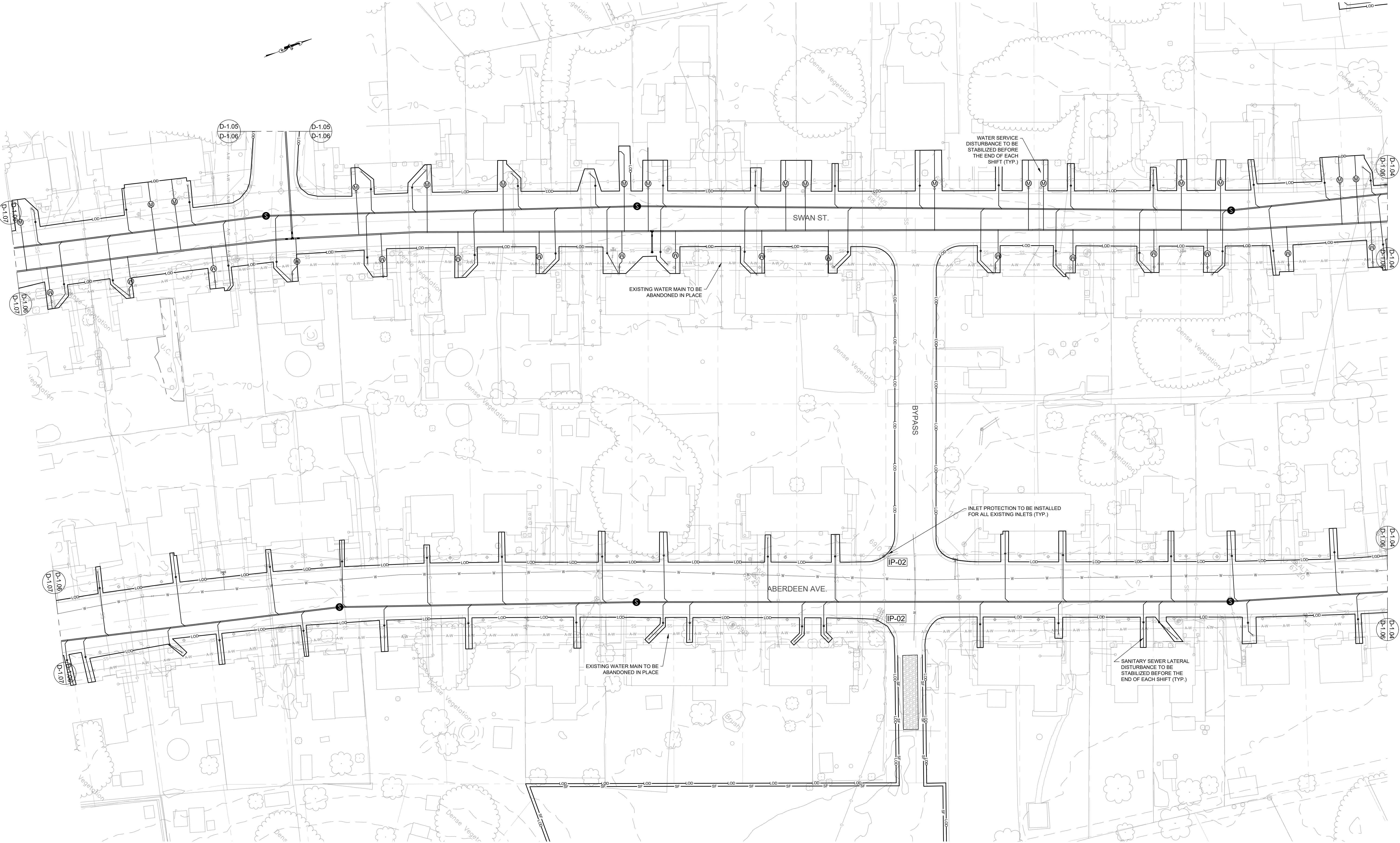
CONSTRUCTION SET

OWNER/DEVELOPER: 60 NORTH PARK STREET PHILADELPHIA, PA 19106 PHONE: (215) 567-7400 FAX: (215) 567-7402		DATE: 2026.08.14	
ENGINEERS - PLANNERS - SURVEYORS 614 N. DuPont Highway, Suite 100 Dover DE 19901 PHONE: (302) 747-5999 FAX: (302) 773-7607 Website: www.kci.com		REVISIONS FOR BID	
KCI TECHNOLOGIES, INC.			
PLAN VIEW			
SWAN MEADOWS WATER & SEWER IMPROVEMENTS			
EROSION & SEDIMENT CONTROL PLANS			
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HARFORD COUNTY			
MARYLAND			
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SCALE: 1"=30'			
DATE: 08-14-2026			
KCI JOB #: 13158575 SM			
SHEET: D-1.05			

Plot Date: 08/14/2026 09:39 PM
Plot Scale: 1"=30'
Plot Path: C:\Users\Public\Documents\13158575 SM\811\811.dwg
Plot Title: SWAN MEADOWS WATER & SEWER IMPROVEMENTS
Plot Author: KCI Technologies, Inc.

INLET LEGEND:

- IP-01 INLET PROTECTION, SEE DETAIL E-9-2 ON SHEET D-1.09
IP-02 INLET PROTECTION, SEE DETAIL E-9-3 ON SHEET D-1.09



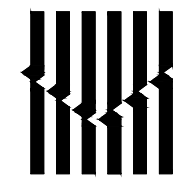
PLAN VIEW
SCALE: 1"=30'



CONSTRUCTION
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LICENSE NO. 13158575 SM			
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PLAN VIEW
SWAN MEADOWS WATER & SEWER IMPROVEMENTS
EROSION & SEDIMENT CONTROL PLANS
ABERDEEN
HARFORD COUNTY
MARYLAND



KCI TECHNOLOGIES, INC.
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OWNER/DEVELOPER:
60 NORTH PARK STREET
REHOBOTH BEACH, MD 20707
PHONE: (410) 723-7402

2026.08.14	DATE
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- INLET LEGEND:
- IP-01 INLET PROTECTION, SEE DETAIL E-9-2 ON SHEET D-1.09
 - IP-02 INLET PROTECTION, SEE DETAIL E-9-3 ON SHEET D-1.09

PLAN VIEW
SCALE: 1" = 30'



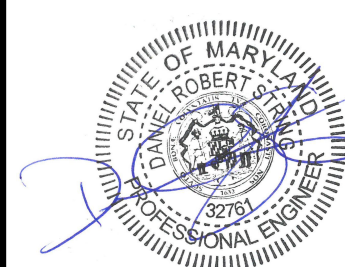
CONSTRUCTION SET

PLAN VIEW

SWAN MEADOWS WATER & SEWER IMPROVEMENTS
EROSION & SEDIMENT CONTROL PLANS

ABERDEEN
HARFORD COUNTY
MARYLAND

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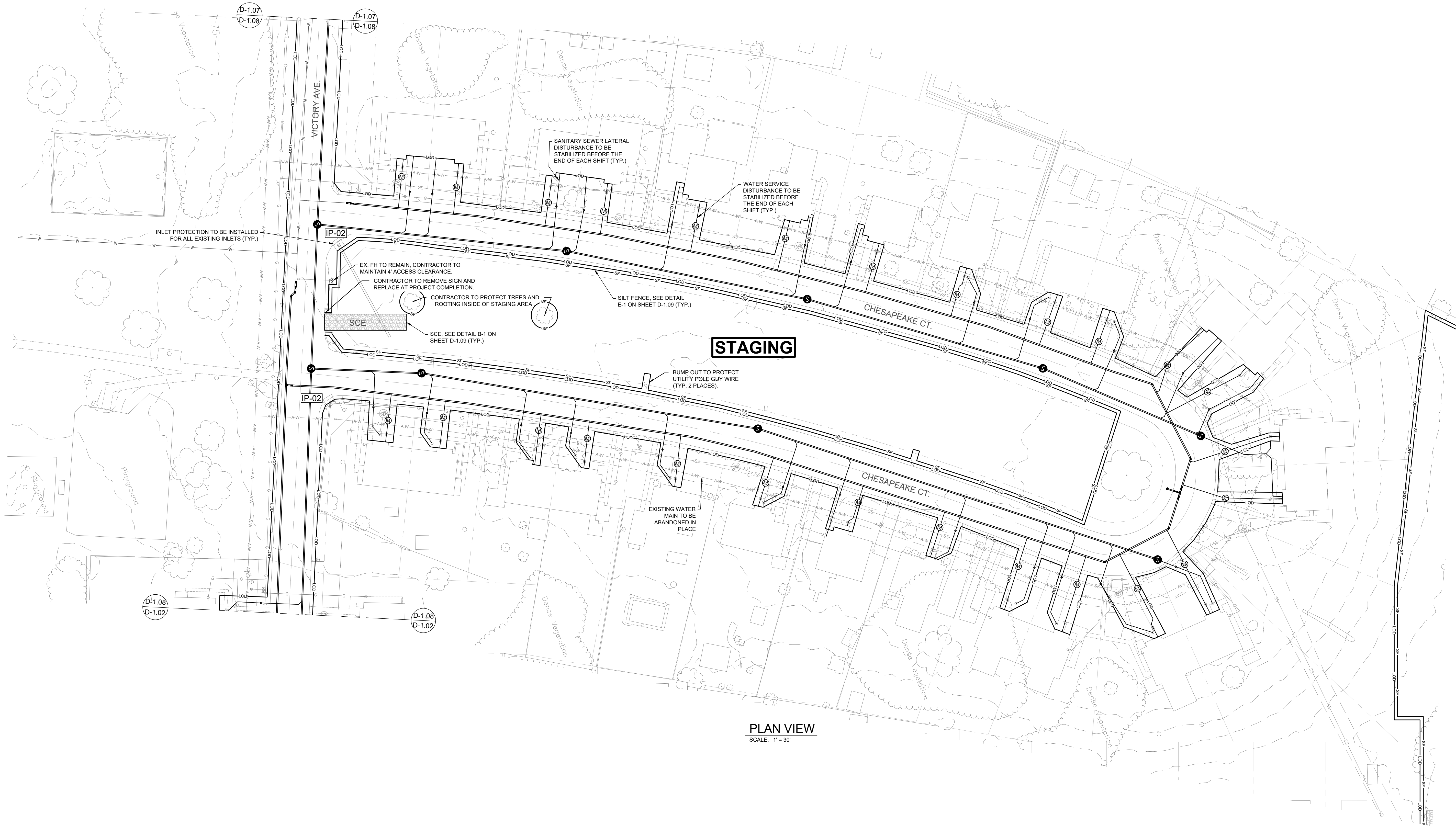
OWNER/DEVELOPER:
60 NORTH PARK STREET
PHILADELPHIA, MD 19106
PHONE: (215) 762-7272 FAX: (215) 762-7402

2026.08.14	DATE
	REISSUED FOR BID
	REVISION

1/2" = 1' = 30' (1/2" = 1' = 30')
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INLET LEGEND:

- IP-01 INLET PROTECTION, SEE DETAIL E-9-2 ON SHEET D-1.09
IP-02 INLET PROTECTION, SEE DETAIL E-9-3 ON SHEET D-1.09



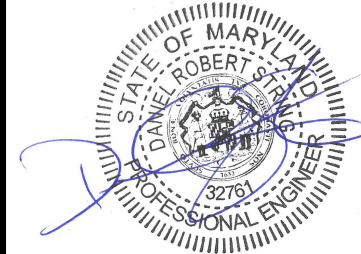
PLAN VIEW
SCALE: 1" = 30'



Know what's below.
Call before you dig.

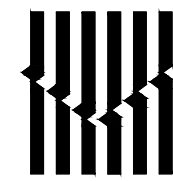
CONSTRUCTION
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PLAN VIEW
SWAN MEADOWS WATER & SEWER IMPROVEMENTS
EROSION & SEDIMENT CONTROL PLANS
ABERDEEN
HARFORD COUNTY
MARYLAND



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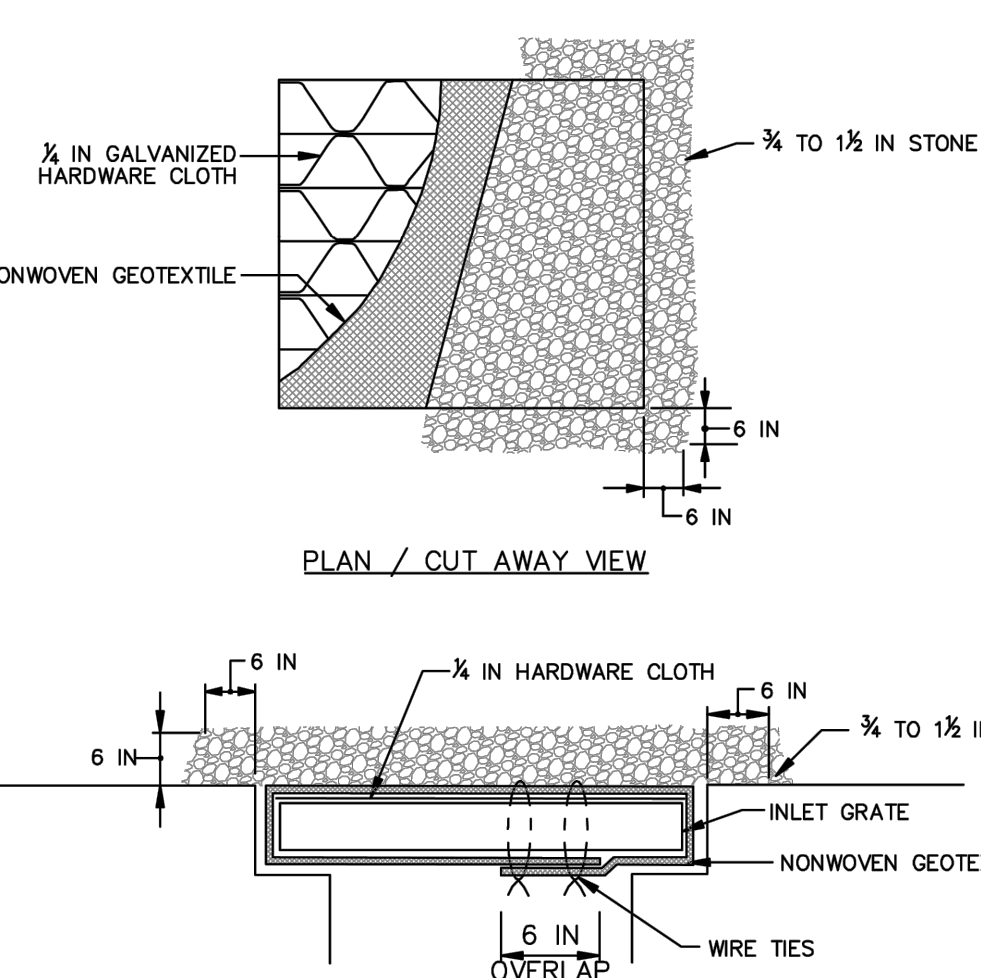
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DATE

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REVISION

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL


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 $\frac{3}{4}$ TO $1\frac{1}{2}$ 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.

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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-4401
PERMEABILITY (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.

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL

MAXIMUM DRAINAGE AREA = ¼ ACRE

ISOMETRIC

SECTION A-A

CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES, AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
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.

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-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL

PROFILE

50 FT MIN.
 MOUNTABLE BERM (6 IN MIN.)
 8 FT MIN.
 3 FT
 5:1
 5:1
 EXISTING PAVEMENT
 EXISTING GROUND
 NONWOVEN GEOTEXTILE
 MIN. 6 IN OF 2 TO 3 IN AGGREGATE OVER LENGTH AND WIDTH OF ENTRANCE
 EARTH FILL
 PIPE (SEE NOTE 6)

PLAN VIEW

50 FT MIN.
 LENGTH *
 10 FT MIN.
 WIDTH
 10 FT MIN.
 10 FT MIN.
 EDGE OF EXISTING PAVEMENT

CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL F-2 SUMP PIT	STANDARD SYMBOL SP
--	-----------------------

ELEVATION

CONSTRUCTION SPECIFICATIONS

- USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER. BOTTOM OF PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
- WRAP PIPE WITH 1/2 INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
- EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
- SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
- BACKFILL PIT AROUND THE PIPE WITH 3/4 TO 1 1/2 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE, AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
- DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
- A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. 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

PERMANENT VEGETATIVE STABILIZATION

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

A) SEEDBED PREPARATION:
Loosen upper three inches by raking, disking, or other acceptable means after spreading four inches of topsoil.

B) SOIL AMENDMENTS:
Apply 500 lbs per acre of 10-10-10 fertilizer and two tons per acre of lime.

C) SEEDING:*
FOR PERIODS OF MARCH 1 TO MAY 15 AND AUGUST 15 TO OCTOBER 15: Seed with 125 lbs per acre of Tall Fescue, 15 lbs per acre of Perennial Ryegrass, and 10 lbs of Kentucky Bluegrass.

FOR PERIOD OF MAY 16 TO AUGUST 14: Seed with 110 lbs per acre of Tall Fescue and 3 lbs per acre of Weeping Lovegrass.

FOR PERIOD OF OCTOBER 16 TO FEBRUARY 28, PROTECT SITE BY: Option 1: 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, Option 2: use sod, or Option 3: seed with 60 lbs per acre of tall fescue and mulch with 2 tons per acre of well anchored straw.
NOTE: For quick cover with tall fescue, add 2 lbs of small grain per 1,000 sq. ft.

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

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

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

* IF OTHER SEED MIXES ARE TO BE SUBSTITUTED, THEY MUST COMPLY WITH THE **2011 MARYLAND STANDARD AND SPECIFICATIONS, CHAPTER B, TABLE B-3(PAGES B 26 TO B 31)**
 ** IF A DIFFERENT TYPE OF MULCH IS TO BE USED, IT MUST COMPLY WITH THE **2011 MARYLAND STANDARD AND SPECIFICATION, CHAPTER B: MULCHING (PAGES B 6 & B 7)**

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
<u>CONSTRUCTION SPECIFICATIONS</u> 1. USE WOOD POSTS 1 1/4 x 1 1/4 ± 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 3/8 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART 3. USE WOVEN SILT 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

E&S DETAILS SWAN MEADOWS WATER & SEWER IMPROVEMENTS EROSION & SEDIMENT CONTROL PLANS ABERDEEN HARFORD COUNTY MARYLAND		KCI TECHNOLOGIES, INC. ENGINEERS - PLANNERS - SURVEYORS 614 N. DuPont Highway, Suite 100 Dover DE 19901 PHONE: (302) 744-5699 FAX: (302) 731-7607 Website: www.kci.com	
OWNER/DEVELOPER: CITY OF ABERDEEN 60 ABERDEEN RD. 21007 ABERDEEN, MD 21007 PHONE: (410) 275-7402 FAX: (410) 275-7402		SCALE - PLAN: NA 0	
PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. EXPIRATION DATE: 4-2028		SEAL OF THE STATE OF MARYLAND STATE OF MARYLAND SEAL OF THE STATE OF MARYLAND PROFESSIONAL ENGINEER NO. 3070 EXPIRATION DATE: 4-2028	
Drafting: TJG Design: TJG SCALE: NA DATE: 08-14-2026 KCI JOB #: 13158575.SM SHEET: D-1 09		Check: DRS Check: DRS	

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PROJECT NO: 13158575
SHEET NO: 211
SHEET TOTAL: 211
DATE: 08/14/2026
TIME: 04:41 PM
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CHECKED BY: DRS
PROJECT NO: 13158575
SHEET NO: 211
SHEET TOTAL: 211

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

- 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.
- Apply fertilizer and lime as prescribed on the plans.
- Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization

- A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - 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.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
- Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
- 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.
- Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
- 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

- 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.
- 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.
- Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - 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.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - 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 1½ inches in diameter.
 - 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.
 - 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.
- Topsoil Application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - 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.
 - 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)

- 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.
- 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.
- 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.
- 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.
- 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

- 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.
- 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.
- 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.
- 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

- Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - 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.
 - 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.
- Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - 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.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
- Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - 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; P₂O₅ (phosphorous), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - 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.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - When hydroseeding do not incorporate seed into the soil.

B. Mulching

1. Mulch Materials (in order of preference)

- 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.**
- Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - 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.
 - WCFM, including dye, must contain no germination or growth inhibiting factors.
 - 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.
 - WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
 - 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

- Apply mulch to all seeded areas immediately after seeding.
- 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.
- 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

- 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:
 - 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.
 - 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.
 - Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petrosol, 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.**
 - 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-4-5 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

- 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.
 - 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.
 - For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.
 - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ 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.
- Turfgrass Mixtures**
- Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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: 1½ 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 is 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)

- 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 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
- If soil moisture is deficient, supply new seedlings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b				Fertilizer Rate (10-20-20)			Lime Rate
Seed Mixture (from Table B.3): 9				N	P ₂ O ₅	K ₂ O	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths			
9	Tall Fescue	60	March 15 to Jun 1	¼- ½ in	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
	Kentucky Bluegrass	40	August 1 to October 1	¼- ½ in			
	Perennial Ryegrass	20		¼- ½ in			

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

1. General Specifications

- Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
- 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.
- 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.
- Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- 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

- During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- 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.
- 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.
- 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

- 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.
- After the first week, sod watering is required as necessary to maintain adequate moisture content.
- Do not mow until the sod is firmly rooted. No more than ½ 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.

OWNER/DEVELOPER:
60 NORTH PARK STREET
FREDERICK, MD 21701
PHONE: (301) 747-5999 FAX: (410) 273-7402

SCALE - PLAN: NA
0 10 20 FEET

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PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE
PREPARED OR APPROVED BY ME, AND THAT I AM A
DAILY LICENSED PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 33781
EXPIRATION DATE: 03/2028

SIGNATURE:
Drafting: JTG Check: DRS
Design: JTG Check: DRS
SCALE: NA
DATE: 08-14-2026
KCI JOB #: 13158575.SM
SHEET: D-1.10

CONSTRUCTION SET