

GENERAL NOTES

- SUBJECT PROPERTY ZONED RC-DEO PER 10-06-2013 COMPREHENSIVE ZONING PLAN.
- DEED REFERENCE: LIBER 3999, FOLIO 580.
- SUBJECT PROPERTY IS LOCATED ON FREDERICK ROAD, A SCENIC ROAD.
- THE SUBJECT PROPERTY IS ENCLUMBERED BY A HOWARD COUNTY AGRICULTURAL LAND PRESERVATION PROGRAM EASEMENT, FILE NUMBER HO-09-17-E. THE HOWARD COUNTY AGRICULTURAL PRESERVATION BOARD REVIEWED THE PROPOSED PROJECT ON AUGUST 26, 2019 AND PROVIDED ADVISORY COMMENTS.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: F-09-011, F-93-033, ECP-19-039, ECP-21-008, ECP-21-009, SDP-20-046, SDP-21-025, SDP-21-027(F) & BA CASE NUMBERS BA-19-026C, BA-19-044C, AND BA-19-045C, AND PLAN NO. 25973.
- PRIVATE WELL AND SEWAGE DISPOSAL AREAS ARE USED WITHIN THIS SITE. THERE ARE NO WELLS OR SEWAGE DISPOSAL AREAS WITHIN THE CONDITIONAL USE AREAS.
- THE BOUNDARY SURVEY SHOWN HEREON IS BASED ON A CURRENT FIELD SURVEY BY GPI IN AUGUST OF 2020.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY GREENMAN-PEDERSON, INC. DATED JULY OF 2016 AND AUGUST OF 2020.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE, HOWARD COUNTY SOILS GRID 8, SUB-GRID 233.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES WITHIN THE CONDITIONAL USE AREA.
- THE EXISTING STRUCTURES ON SITE CONSIST OF TWO RESIDENCES, OUTBUILDING STRUCTURES, TRAILERS, AND A BARN.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD RUN SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORDED DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS WAIVERS HAVE BEEN APPROVED BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING HAS CONSIDERED THEM NECESSARY.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE NAD 83 AND UTM COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NUMBERS 15BA AND 15BB WERE USED FOR THIS PROJECT.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET OF ANY GRADING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL EASEMENTS, HAVE BEEN LOCATED.
- THE CONTRACTORS SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION 410.531.5533
BGE (CONTRACTOR SERVICES) 410.850.4620
BGE (UNDERGROUND DAMAGE CONTROL) 410.767.9098
MISS UTILITY 800.257.7777
COLONIAL PIPELINE COMPANY 410.795.1390
HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES 410.313.4800
HOWARD COUNTY HEALTH DEPARTMENT 410.313.2940
AT&T 800.252.1133
VERIZON 800.743.0033/410.224.9210
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/ BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- THE PROJECT IS IN CONFORMANCE WITH THE CURRENT HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- ALL HOPE PIPE SPECIFICATIONS AND INSTALLATIONS SHALL MEET AASHTO M-252 TYPE S, M-294 TYPE S AND ASTM D2321, RESPECTIVELY.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER.
- ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MDMUTCD).
- STORMWATER MANAGEMENT OBLIGATIONS FOR THIS SITE WILL BE MET BY ONE (1) BIORETENTION FACILITY (F-6) AND NON-ROOFTOP DISCONNECTS (N-2).
- NOTE THAT ALL GATES ARE TO HAVE A KNOX LOCK PROVIDED FOR FIRE DEPARTMENT ACCESS.
- MARKING WILL BE PROVIDED TO EMERGENCY RESPONDERS FOR APPROPRIATE WARNING AND GUIDANCE WITH RESPECT TO WORKING AROUND AND ISOLATING THE SOLAR ELECTRIC SYSTEM. THERE SHALL BE A SIGN INDICATING THE ELECTRICAL HAZARDS PRESENT, AND EMERGENCY CONTACT INFORMATION FOR THE SITE REPRESENTATIVES. A PLAN SHOWING THIS INFORMATION AND CLEARLY SHOWN MEANS OF ACCESS, FIRE DEPARTMENT TURN AROUND AREAS, MAIN AND SECONDARY SHUTOFFS AS WELL AS GATE LOCATIONS SHALL BE PROVIDED IN PDF FORMAT TO THE OFFICE OF THE FIRE MARSHALL.
- A VEGETATION MANAGEMENT PLAN SHALL BE PROVIDED AND KEPT ON FILE WITH THE OFFICE OF THE FIRE MARSHALL.
- TRAINING SHALL BE PROVIDED BY THE DEVELOPER/SOLAR FARM MANAGER TO THE FIRE DEPARTMENT.
- A COMMUNITY MEETING WAS CONDUCTED AT THE WEST FRIENDSHIP VOLUNTEER FIRE DEPARTMENT ON OCTOBER 30, 2019. THE PURPOSE OF THE MEETING WAS TO PROVIDE INFORMATION ON THE PROPOSED CONDITIONAL USE. TO USE A PORTION OF THE SUBJECT PROPERTY FOR A COMMERCIAL SOLAR FACILITY.
- THIS PROPERTY IS SUBJECT TO THE HOWARD COUNTY CASE BA-19-044C TO ALLOW THE CONDITIONAL USE FOR A COMMERCIAL SOLAR FACILITY AND WAS APPROVED ON DECEMBER 22, 2020 WITH THE FOLLOWING CONDITIONS:
• THE COMMERCIAL SOLAR FACILITY CONDITIONAL USE SHALL BE CONDUCTED IN CONFORMANCE WITH AND SHALL ONLY TO THE PETITION AS SUBMITTED AND AS SHOWN ON THE CONDITIONAL USE PLAN DATED APRIL 6, 2020 AND AMENDED AS OF NOVEMBER 23, 2020 AND NOT TO ANY OTHER ACTIVITIES USE, OR STRUCTURES ON THE PROPERTY.
• PETITIONER SHALL COMPLY WITH ALL CONDITIONAL USE STANDARDS;
• THE SITE DEVELOPMENT PLAN, OR ITS EQUIVALENT, SHALL INCLUDE A NOTE CONTAINING ALL CONDITIONS OF APPROVAL.
• PETITIONER SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS;
• THE SYSTEMS INSTALLED BY THE PETITIONER ON THE PROPERTY SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS AND PROVISIONS;
• ANY COMMERCIAL SOLAR FACILITY THAT IS NO LONGER USED SHALL BE REMOVED BY THE PROPERTY OWNER FROM THE SITE WITHIN ONE YEAR OF THE DATE THAT THE USE CEASES;
• THE PREMISES SHALL BE MAINTAINED AT ALL TIMES IN A CLEAN AND ORDERLY CONDITION, INCLUDING THE CARE OR REPLACEMENT OF PLANT MATERIALS REQUIRED IN THE LANDSCAPING PLAN. THE RESPONSIBILITY FOR COMPLIANCE WITH THIS PROVISION SHALL BE WITH ALL PARTIES HAVING A LEASE OR OWNERSHIP INTEREST IN THE COMMERCIAL SOLAR FACILITY.
• THE PETITIONER SHALL REGISTER ALL SOLAR COLLECTORS WITH THE DEPARTMENT OF FIRE AND RESCUE SERVICES. THE REGISTRATION SHALL INCLUDE A MAP OF THE SOLAR FACILITY NOTING THE RESCUE SERVICES. THE REGISTRATION SHALL INCLUDE A MAP OF THE SOLAR FACILITY NOTING THE LOCATION OF THE SOLAR COLLECTORS AND THE PANEL DISCONNECT;
• TREE REMOVAL SHALL BE MINIMIZED, AND REFORESTATION SHALL BE DONE IN ACCORDANCE WITH SECTION 16.1026 OF THE HOWARD COUNTY CODE;
• THE PETITIONER SHALL COMPLY WITH HOWARD COUNTY CODE, SECTION 15.512, WHICH REQUIRES A CURRENT SOIL CONSERVATION AND WATER QUALITY PLAN FOR ANY AGRICULTURAL PRESERVATION EASEMENT PROPERTY;
• ALL REQUIRED LANDSCAPING SHALL BE PROVIDED WITHIN SIX (6) MONTHS OF INSTALLATION OF THE SOLAR PANELS.

26. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT. \$3,000.00 FOR THE REQUIRED TEN (10) LANDSCAPING SHADE TREES AND \$14,850.00 FOR THE NINETY NINE (99) EVERGREEN TREES, FOR A TOTAL OF \$17,850.00.

27. THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION AND THE FOREST CONSERVATION MANUAL BY THE ON-SITE AFFORESTATION/REFORESTATION OF 3.3 ACRES OF FOREST. FINANCIAL SURETY WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT AT \$0.50 PER SQUARE FOOT, OR \$71,874.00.

28. THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY SILL ENGINEERING GROUP, LLC, DATED MAY 2021, AND HAS BEEN APPROVED UNDER SDP-21-027.

29. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED AUGUST 18, 2020, AND WAS APPROVED UNDER ECP-21-009.

30. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, INC. DATED MAY OF 2021, AND AN AFFO LETTER IS ON FILE WITH THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

31. THE FRONTAGE IMPROVEMENTS FOR THIS PROJECT WERE FULFILLED WITH A PAYMENT OF FEE-IN-LIEU IN COORDINATION WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS AND MARYLAND STATE HIGHWAY ADMINISTRATION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief Development Engineering Division DATE: 7-14-22

Chief, Division of Development DATE: 7/24/22

Director DATE: 7-25-23

PARCEL NUMBER	FACILITY NAME & NUMBER	PRACTICE TYPE	PUBLIC	PRIVATE	PRIVATELY MAINTAINED
146	BIORETENTION FACILITY #1	F-6		X	YES

NO.	DESCRIPTION	DATE
2	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/2023
1	REVISION TO THE SHEET INDEX, ADDED A GENERAL NOTE ABOUT THE BIKE LANE IMPROVEMENTS FEE-IN-LIEU, REVISION TO THE TITLE THIS SHEET	04/01/2022

STORMWATER MANAGEMENT PRACTICES	PARCEL	ADDRESS	BIORETENTION F-6 (NUMBER)
	146	13370 ROUTE 144	1

SUBDIVISION NAME	SECTION/AREA	PARCEL #
N/A	N/A	146

DEED	GRID #	ZONING	TAX MAP #	ELECT. DIST.	CENSUS TRACT
L 3999 F. 580	3	RC-DEO	15	3RD	8030.03

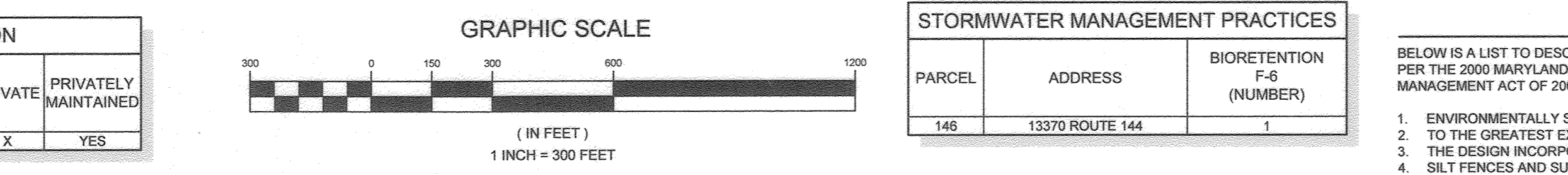
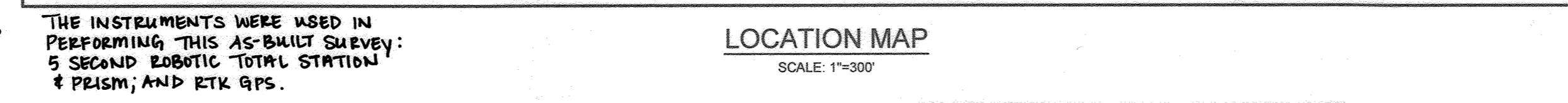
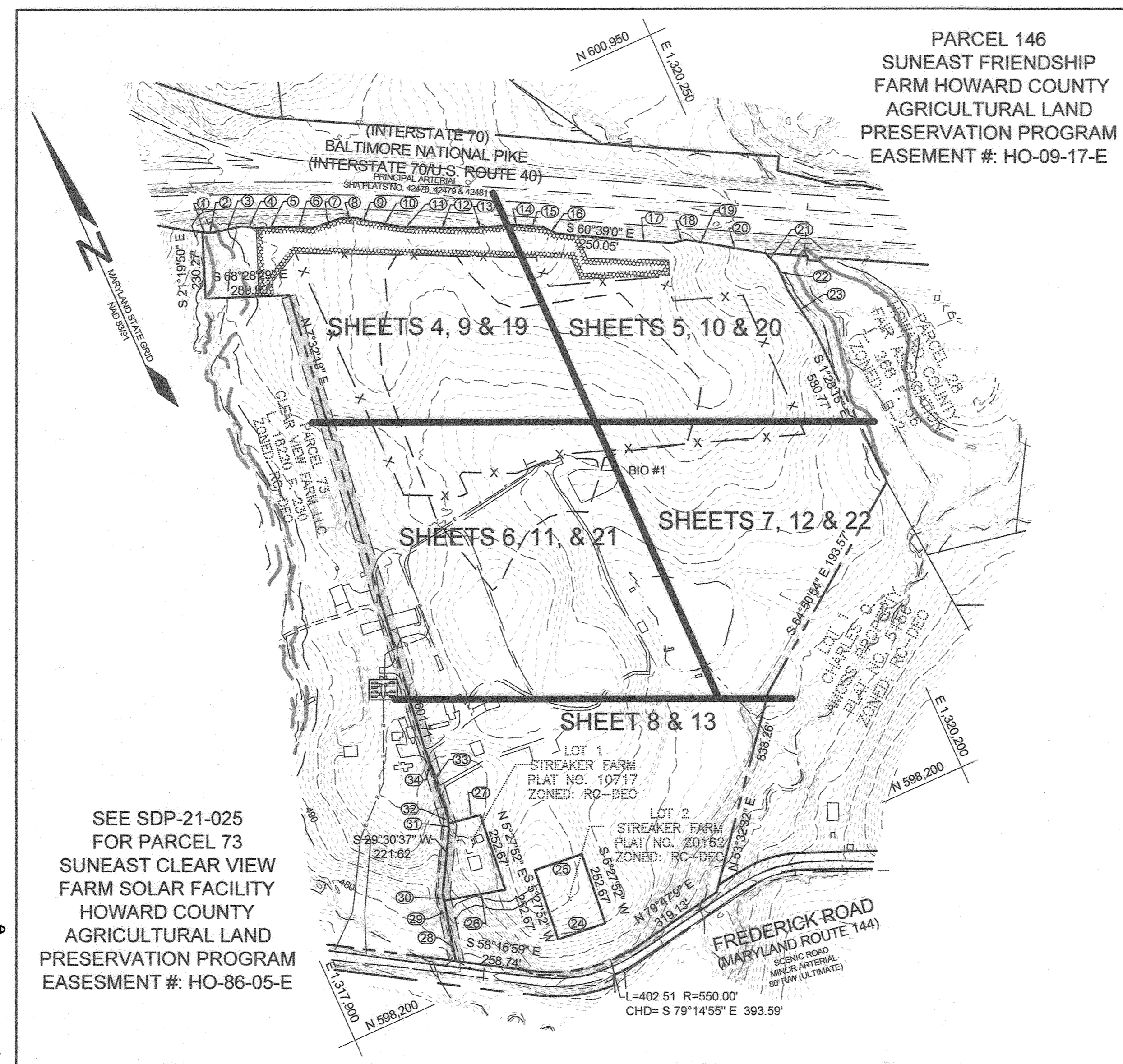
SITE DEVELOPMENT PLAN

SUNEAAT FRIENDSHIP FARM

SOLAR FACILITY,

COMMERCIAL

TAX MAP 15 PARCEL 146



STORMWATER MANAGEMENT INFORMATION
PARCEL NUMBER: 146
FACILITY NAME & NUMBER: BIORETENTION FACILITY #1
PRACTICE TYPE: F-6
PUBLIC: []
PRIVATE: [X]
PRIVATELY MAINTAINED: [YES]

ADDRESS CHART

PARCEL	ADDRESS
146	13300 FREDERICK ROAD

BEARING & DISTANCE CHART

TAG	BEARING	DISTANCE
1	S 59°45'9" E	14.16'
2	S 67°10'36" E	24.67'
3	N 78°18'37" E	100.78'
4	S 58°25'37" E	49.91'
5	S 68°25'56" E	98.90'
6	S 64°27'18" E	98.85'
7	S 84°35'21" E	104.98'
8	S 64°44'21" E	49.56'
9	S 50°52'20" E	50.97'
10	S 56°37'51" E	99.82'
11	S 61°25'24" E	49.49'
12	S 64°51'5" E	197.92'
13	S 70°17'7" E	150.03'
14	S 61°49'21" E	16.60'
15	S 61°46'53" E	81.15'
16	S 40°38'9" E	55.40'
17	S 61°47'45" E	150.00'
18	S 78°29'42" E	52.20'
19	S 56°57" E	100.50'
20	S 56°57" E	178.78'
21	S 18°47'3" E	56.64'
22	S 0°28'53" E	94.97'
23	S 9°43'15" E	164.83'
24	S 84°30'57" E	172.40'
25	S 84°30'57" E	172.40'
26	S 75°50'58" E	214.66'
27	S 80°45'16" E	113.12'
28	N 12°13'45" E	114.89'
29	N 14°9'43" E	98.69'
30	N 13°12'9" E	24.84'
31	N 21°31" E	21.14'
32	N 19°28'32" E	19.03'
33	N 4°55'7" E	158.57'
34	N 6°7'43" E	129.98'

STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

- BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007.
- ENVIRONMENTALLY SENSITIVE AREAS HAVE BEEN MAINTAINED.
 - TO THE GREATEST EXTENT PRACTICABLE, THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
 - THE DESIGN INCORPORATES THE LEAST IMPERVIOUS AREA POSSIBLE.
 - SILT FENCES AND SUPER SILT FENCES ARE USED AS SEDIMENT AND EROSION CONTROL DEVICES.
 - ESD PLANNING TECHNIQUES AND PRACTICES HAVE BEEN IMPLEMENTED, TO THE MAXIMUM EXTENT PRACTICABLE, THROUGH USE OF ONE (1) BIORETENTION FACILITY (F-6) AND NON-ROOFTOP (N-2) DISCONNECTS.
 - NO DESIGN MANUAL WAIVERS OR WAIVER PETITIONS ARE BEING REQUESTED.
 - THE PROPOSED SOLAR AREAS WILL UTILIZE GRASSES, MEADOWS, AND POLLINATOR HABITATS FOR MOST OF THE COVER, WITH RUNOFF FLOWING OFF OF THE SOLAR PANELS INTO THE GRASSES.
 - THE TREE TURNAROUNDS AND EQUIPMENT PADS WILL BE TREATED VIA NON-ROOF DISCONNECT.

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING SPECIMEN TREE
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- EXISTING STREAM
- EXISTING STREAM BUFFER
- EXISTING 100-YEAR FLOODPLAIN
- PROPOSED SOLAR ARRAY AREA
- PROPOSED LEVEL SPREADER
- PROPOSED 7" FENCE (NO BARBED WIRE)
- PROPOSED UNDERGROUND WIRE
- EXISTING 50' PRIVATE COMMON USE RIGHT-OF-WAY MAINTENANCE AGREEMENT LIBER 2700 FOLIO 429

VICINITY MAP
SCALE: 1"=2000'

BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION
15BA	597,228.1254	1,321,719.2760	590.296'
15BB	597,926.9029	1,319,949.6262	527.586'

SHEET INDEX

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3	SOILS MAP
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5	SITE PLAN AND GRADING
6	SITE PLAN AND GRADING
7	SITE PLAN AND GRADING
8	REVISED SITE PLAN AND GRADING
9	SEDIMENT AND EROSION CONTROL PLAN
10	SEDIMENT AND EROSION CONTROL PLAN
11	SEDIMENT AND EROSION CONTROL PLAN
12	SEDIMENT AND EROSION CONTROL PLAN
13	REVISED SEDIMENT AND EROSION CONTROL PLAN
14	SEDIMENT AND EROSION CONTROL DETAILS
15	SEDIMENT AND EROSION CONTROL NOTES
16	SITE DETAILS
17	SITE DETAILS
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22	STORMWATER MANAGEMENT PLAN
23	STORMWATER MANAGEMENT PLAN
24	STORMWATER MANAGEMENT PROFILE, NOTES AND DETAILS
25	STORMWATER MANAGEMENT PROFILE, NOTES AND DETAILS
26	LANDSCAPE PLAN
27	REVISED LANDSCAPE PLAN
28	REVISED FOREST CONSERVATION PLAN

OWNER
MIGHAS LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21794
GEORGE STREAKER, SR.

DEVELOPER
SUNEAAT FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4384
STEFANO@CHABERTON.COM

AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN ARE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, LICENSE NO. 32355 JULY 26, 2023

REVISED COVER SHEET
SUNEAAT FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
PARCEL 146
3RD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

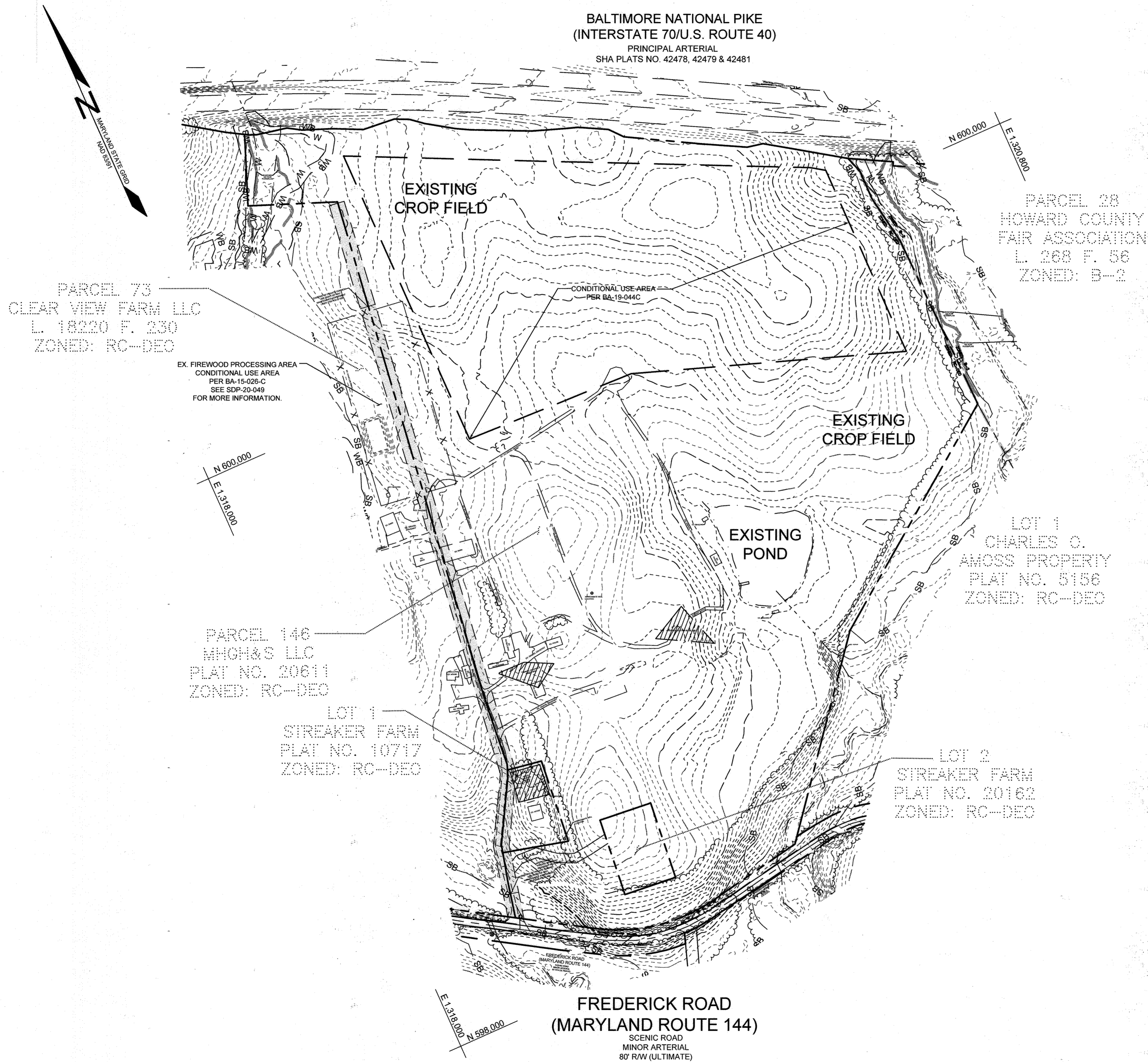
TAX MAP 15 GRID 3

STATE OF MARYLAND PROFESSIONAL ENGINEER
SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: MAY 31, 2022
PROJECT #: 19-044
SHEET #: 1 of 28

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. 30025, EXPIRATION DATE: JUNE 30, 2023.

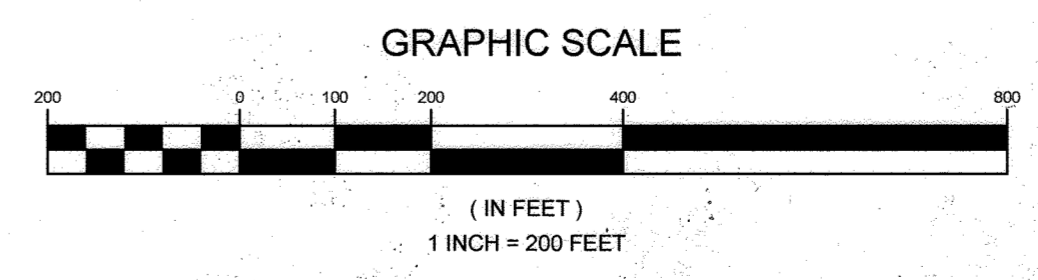
LEGEND	
EXISTING CONTOUR GIS	--- 382
EXISTING CONTOUR FIELD RUN	--- 382
EXISTING TREELINE	~~~~~
EXISTING WETLAND	— W —
EXISTING 25' WETLAND BUFFER	— WB —
EXISTING STREAM	— —
EXISTING 100' STREAM BUFFER	— SB —
EXISTING 100' FLOODPLAIN	— — —



OWNER	DEVELOPER
MHGH&S LLC 13300 ROUTE 144 WEST FRIENDSHIP, MD 21784 GEORGE STRECKER, SR.	SUNEAST FRIENDSHIP SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM
	SUNEAST FRIENDSHIP ANEM SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM

NO AS-BUILT INFORMATION IN THIS SHEET. JULY 24, 2023

FREDERICK ROAD
(MARYLAND ROUTE 144)
SCENIC ROAD
MINOR ARTERIAL
80' R/W (ULTIMATE)



PLAN VIEW
SCALE: 1"=200'

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson
2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION
DATE

Angy Green
2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT
DATE

DIRECTOR

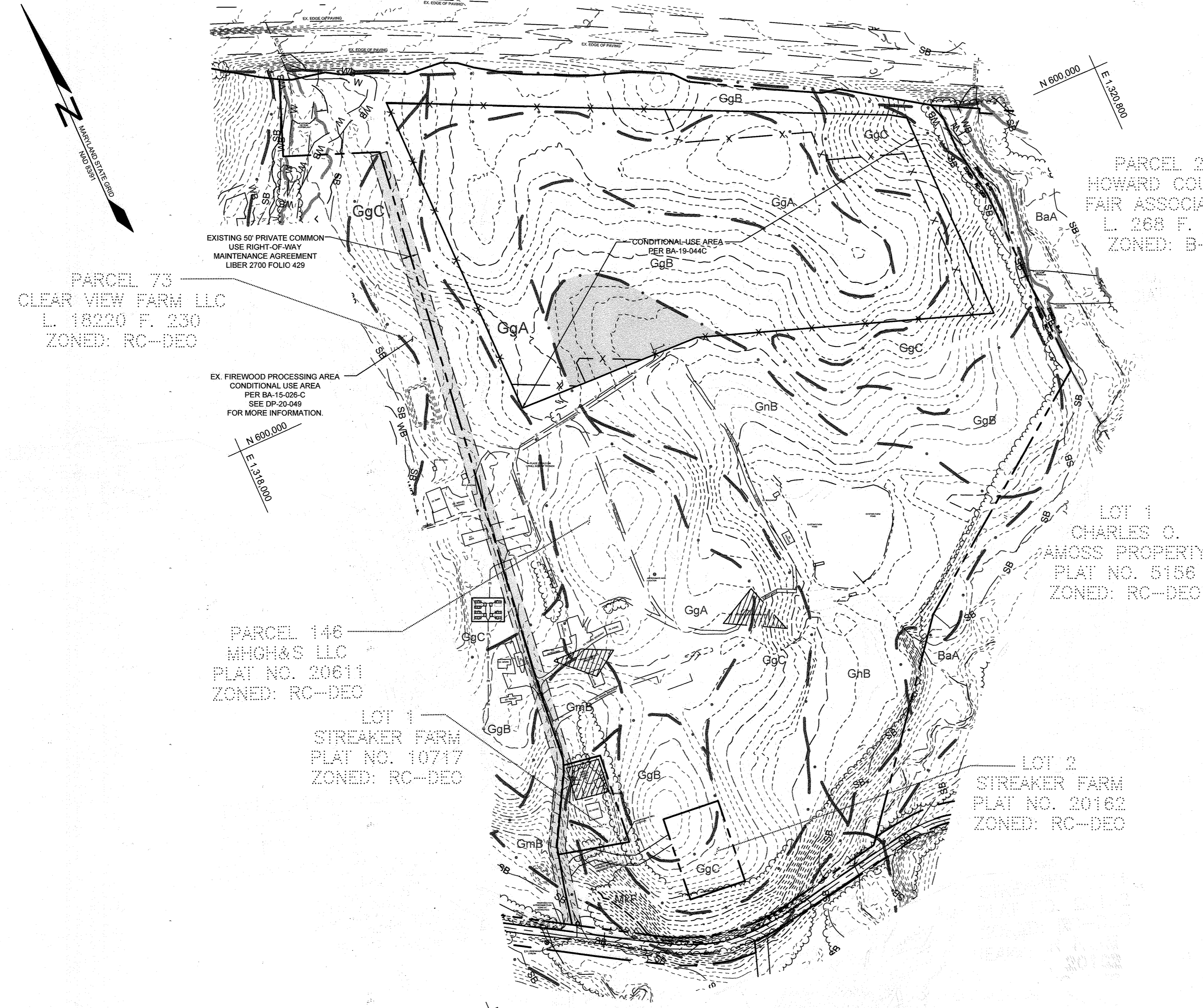
NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/2023

EXISTING CONDITIONS PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
PARCEL 146
HOWARD COUNTY, MARYLAND

	SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS
		DRAWN BY: TB
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: DECEMBER 21, 2021
		PROJECT #: 19-044
		SHEET #: 2 of 28

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. 20025, EXPIRATION DATE: JUNE 30, 2023.

BALTIMORE NATIONAL PIKE
(INTERSTATE 70/U.S. ROUTE 40)
PRINCIPAL ARTERIAL
SHA PLATS NO. 42478, 42479 & 42481



LEGEND

EXISTING CONTOUR GIS	----- 382
EXISTING CONTOUR FIELD RUN	----- 382
EXISTING STREAM	-----
EXISTING 100' STREAM BUFFER	SB
EXISTING 100-YEAR FLOODPLAIN	-----
EXISTING WETLAND	W
EXISTING 25' WETLAND BUFFER	WB
PROPOSED FENCE LINE	X X

SOILS LEGEND

'B'	[Symbol]
'C'	[Symbol]

NOTE: SOILS SHOWN ARE THOSE CONTAINED WITHIN THE DEVELOPMENT AREA.

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	"K" FACTOR
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	0.37
GgA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES	B	0.24
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.24
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C/D	0.55
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.49
MaD	MANOR LOAM, 15 TO 25% SLOPES	B	0.32
Hs	HATBORO-CODORUS SILT LOAMS, 0 TO 3 PERCENT SLOPES	B/D	0.43
MxK	MANOR-BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCKY	B	0.32

NOTES:
1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR "K" GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

FREDERICK ROAD
(MARYLAND ROUTE 144)
SCENIC ROAD
MINOR ARTERIAL
80' RAW (ULTIMATE)

PLAN VIEW
SCALE: 1"=200'

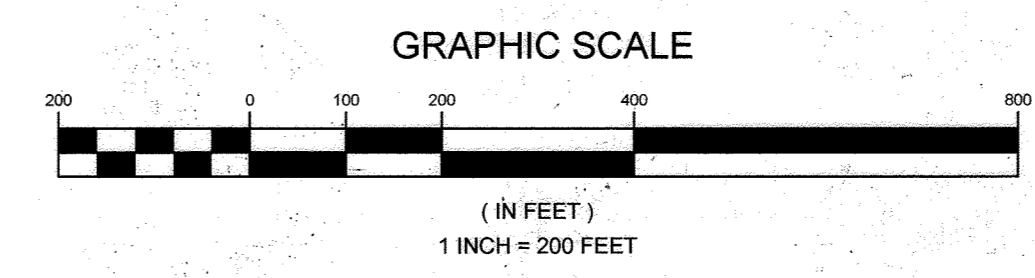
OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21794
GEORGE STREAKER, SR.

DEVELOPER
SUNEST FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SUNEST FRIENDSHIP ANEM SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

NO AS-BUILT INFORMATION
IN THIS SHEET. JULY 24, 2023

SOILS MAP
SUNEST FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
3RD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Developed by: *Chad Edmondson* 2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION
DATE: 2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT
DATE: 2/7/2022
DIRECTOR: *Angy Green*

NO.	DESCRIPTION	DATE
I	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/2023

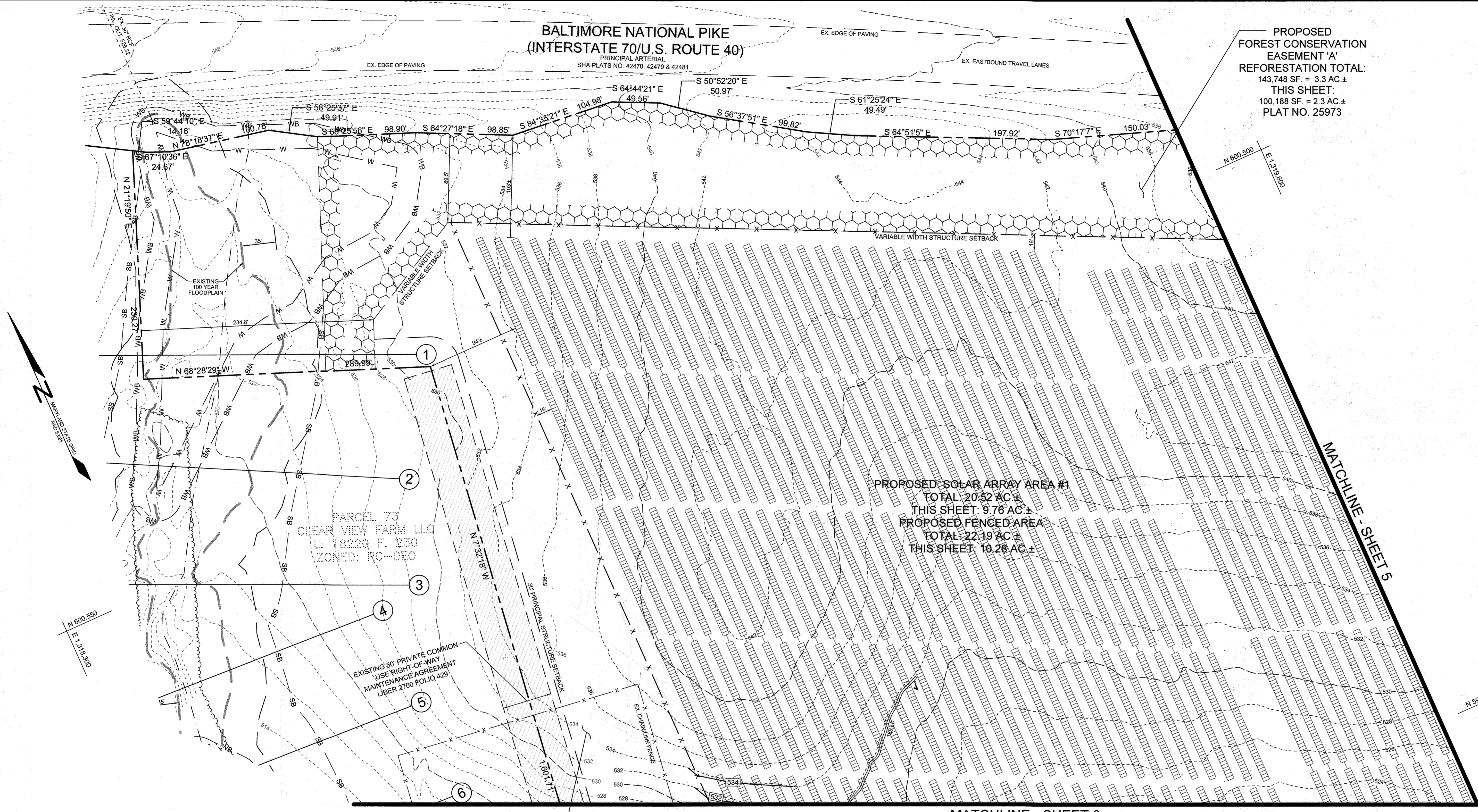
	<p>SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development</p>	<p>DESIGN BY: PS DRAWN BY: TB CHECKED BY: PS SCALE: AS SHOWN DATE: DECEMBER 21, 2021 PROJECT #: 19-044 SHEET #: 3 of 28</p>
	<p>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. 20205, EXPIRATION DATE: JUNE 30, 2023.</p>	

**BALTIMORE NATIONAL PIKE
(INTERSTATE 70/U.S. ROUTE 40)**
PRINCIPAL ARTERIAL
SHA PLATS NO. 42478, 42479 & 42481

**PROPOSED
FOREST CONSERVATION
EASEMENT 'A'
REFORESTATION TOTAL:
143,748 SF. = 3.3 AC ±
THIS SHEET:
100,188 SF. = 2.3 AC ±
PLAT NO. 25973**

LEGEND

- EXISTING GIS CONTOUR
- EXISTING FIELD RUN CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING WETLAND
- EXISTING 25' WETLAND BUFFER
- EXISTING STREAM
- EXISTING 100' STREAM BUFFER
- EXISTING ZONING BOUNDARY
- EXISTING 100-YEAR FLOODPLAIN & UTILITY EASEMENT
- PROPOSED SOLAR PANELS
- PROPOSED 7' HIGH CHAIN LINK SECURITY FENCE (NO BARBED WIRE)
- PROPOSED LEVEL SPREADER
- PROPOSED GATE
- PROPOSED UNDERGROUND 6GE ELECTRIC WIRE
- PROPOSED PERMANENT SWALE



**PROPOSED SOLAR ARRAY AREA #1
TOTAL: 20.52 AC ±
THIS SHEET: 9.76 AC ±**

**PROPOSED FENCED AREA
TOTAL: 22.19 AC ±
THIS SHEET: 10.28 AC ±**

**PARCEL 73
CLEAR VIEW FARM LLC
L 18220 F 030
ZONED: RC-BEO**

**EXISTING 50' PRIVATE COMMON
USE RIGHT-OF-WAY
MAINTENANCE AGREEMENT
LIBER 2700 FOLIO 4291**

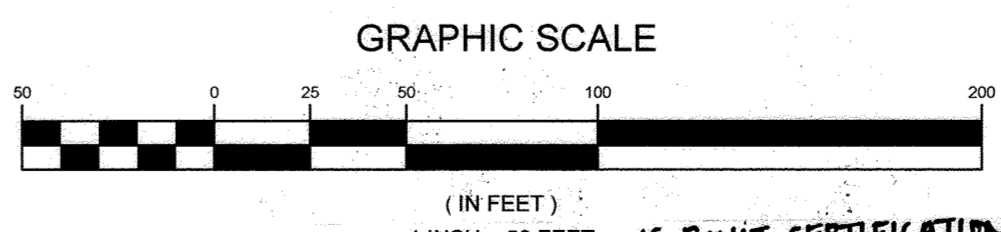
**EX. FIREWOOD PROCESSING AREA
CONDITIONAL USE AREA
PER BA-15-025-C
SEE SDP-20-049
FOR MORE INFORMATION**

OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21794
C/O STEFANO RATTI
GEORGE STRECKER, SR.

DEVELOPER
SUNEST FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SUNEST FRIENDSHIP ANEM SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

PLAN VIEW
SCALE: 1"=50'



AS-BUILT CERTIFICATION:

I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.

PAUL M. SILL, NO. 32025, JULY 26, 2023

SITE PLAN AND GRADING
SUNEST FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD

TAX MAP 15 GRID 3
3RD ELECTION DISTRICT

PARCEL 146
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 410.696.2022
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 4 of 28

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. 32025, EXPIRATION DATE: JUNE 30, 2023.

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson 2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION

Angy Goman 2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT

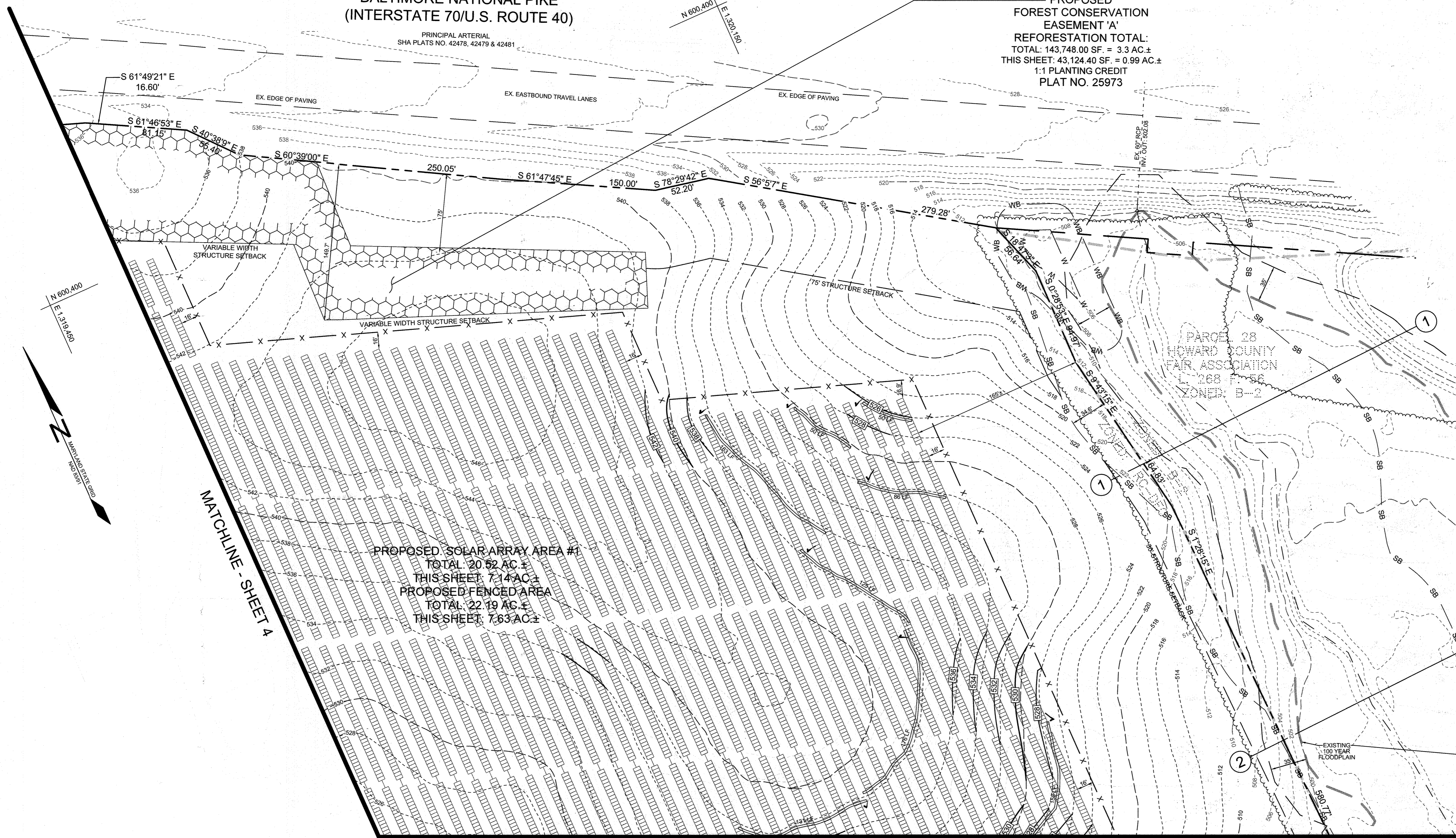
DIRECTOR

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/2023

**BALTIMORE NATIONAL PIKE
(INTERSTATE 70/U.S. ROUTE 40)**

PRINCIPAL ARTERIAL
SHA PLATS NO. 42476, 42479 & 42481

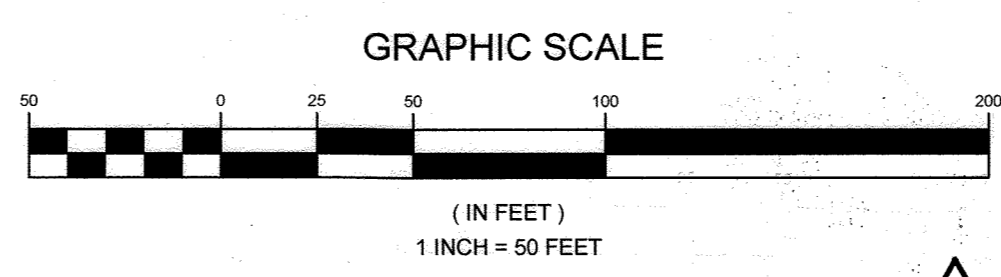
PROPOSED
FOREST CONSERVATION
EASEMENT 'A'
REFORESTATION TOTAL:
TOTAL: 143,748.00 SF. = 3.3 AC.±
THIS SHEET: 43,124.40 SF. = 0.99 AC.±
1:1 PLANTING CREDIT
PLAT NO. 25973



PROPOSED SOLAR ARRAY AREA #1
TOTAL: 20.52 AC.±
THIS SHEET: 7.14 AC.±
PROPOSED FENCED AREA
TOTAL: 22.19 AC.±
THIS SHEET: 7.63 AC.±

MATCHLINE - SHEET 7

PLAN VIEW
SCALE: 1"=50'



OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21754
C/O STEFANO RATTI
GEORGE STRECKER, SR.

DEVELOPER
SUN-EAST FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SUN-EAST FRIENDSHIP ANEM SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SITE PLAN AND GRADING
SUN-EAST FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
PARCEL 146
HOWARD COUNTY, MARYLAND

	SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS
		DRAWN BY: TB
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: DECEMBER 21, 2021
PROJECT #: 19-044 SHEET #: 5 of 28		

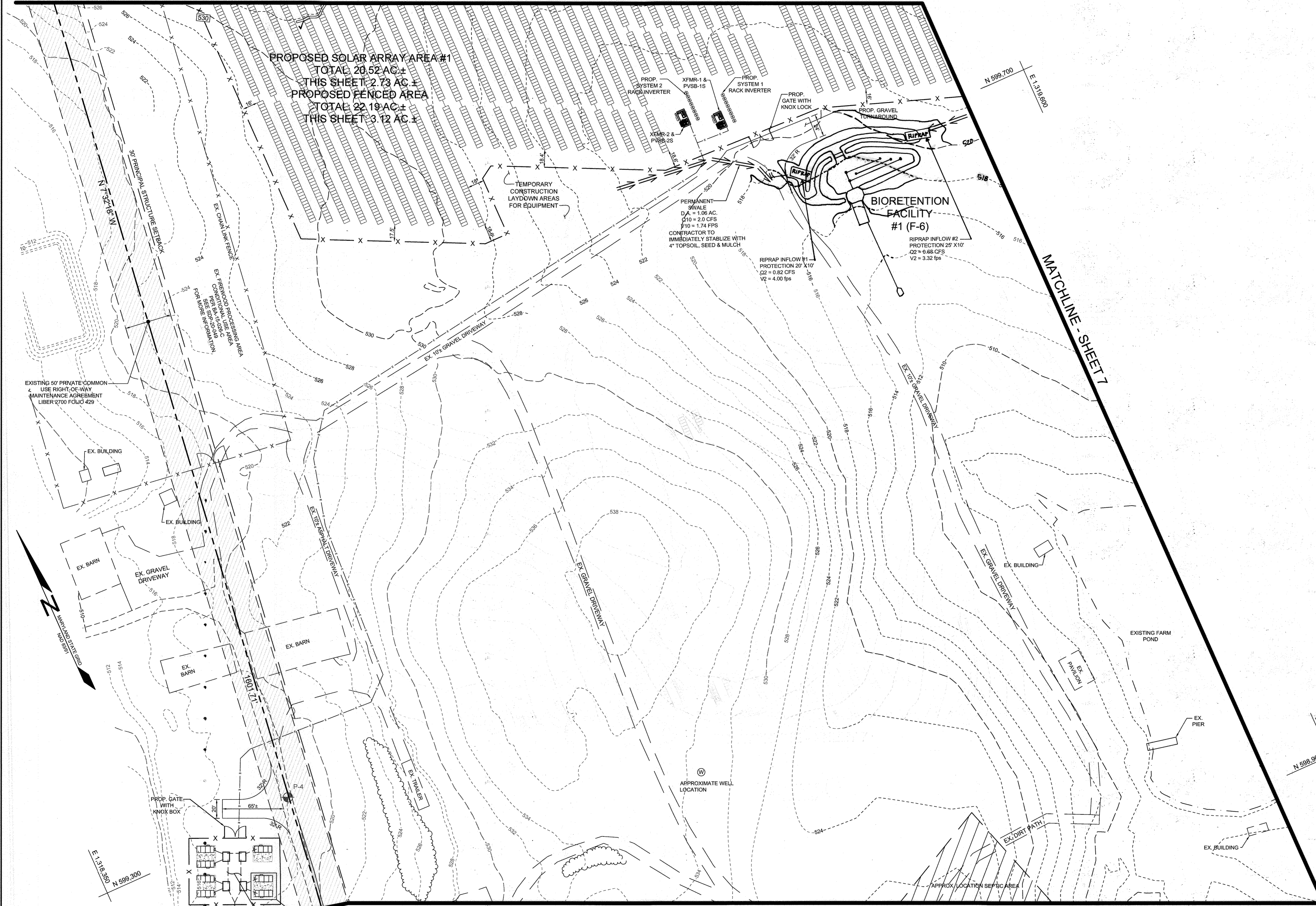
AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MYSELF, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN. MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, LICENSE NO. 32025, JULY 21, 2023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Developed by:
Chad Edmondson
2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION
DATE
2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT
DATE
2/7/2022
DIRECTOR

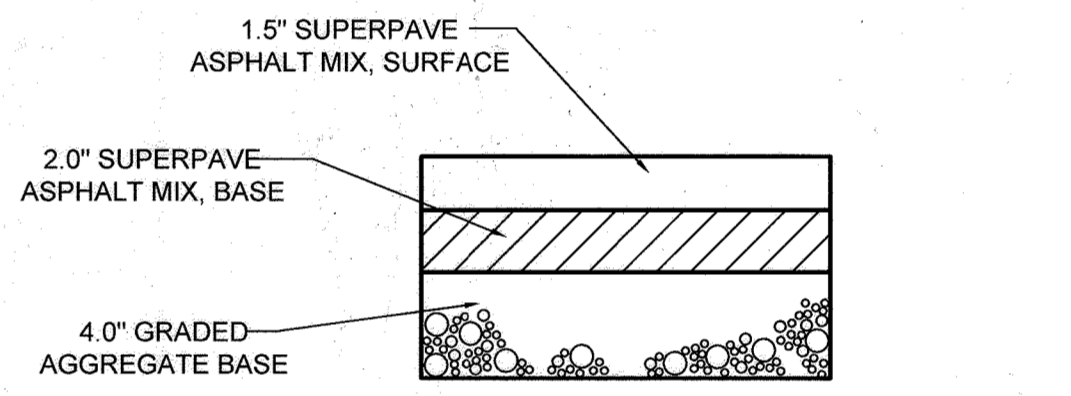
NO.	DESCRIPTION	DATE
I	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	1/24/23

REVISIONS

MATCHLINE - SHEET 4



MATCHLINE - SHEET 7



PAVING SECTION FOR ROAD WIDENING
NOT TO SCALE
*SEE GEOTECHNICAL REPORT FOR MORE INFORMATION

NOTE: BGE TURN AROUND PAD AND ENTRANCE DRIVEWAY WITHIN THE EXISTING 50' PRIVATE COMMON USE RIGHT-OF-WAY TO BE, UP TO 30' BEYOND THE BGE SUBSTATION, WIDENED TO 16' WHERE IT IS NOT ALREADY, WITH H2O LOADING CAPACITY. SEE CLEAR VIEW SDP-21-025 FOR MORE INFORMATION. SEE DETAIL THIS SHEET.

OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21784
GEORGE STRECKER, SR.

DEVELOPER
SUNEAST FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

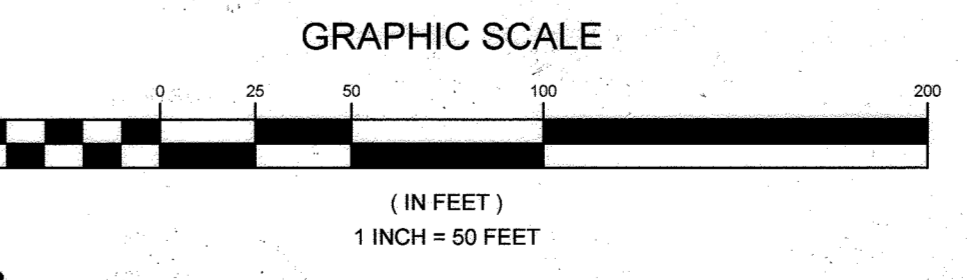
PLAN VIEW MATCHLINE - SHEET 8
SCALE: 1"=50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief Development Engineering Division
2/7/2022
DATE
2/7/2022
DATE
2/7/2022
DATE

PROPOSED BG&E INTERCONNECTION SUBSTATION PER SUNEAST CLEAR VIEW FARM SOLAR FACILITY SDP-21-025

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/26/2023

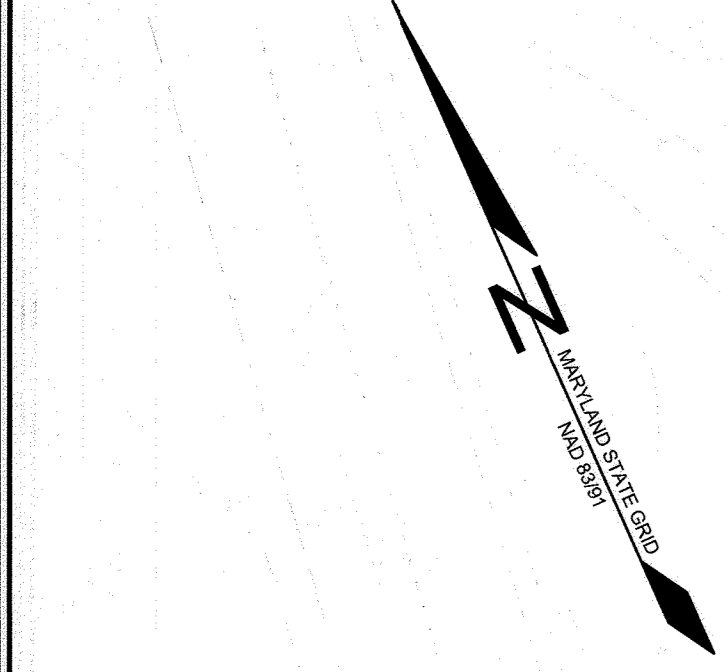
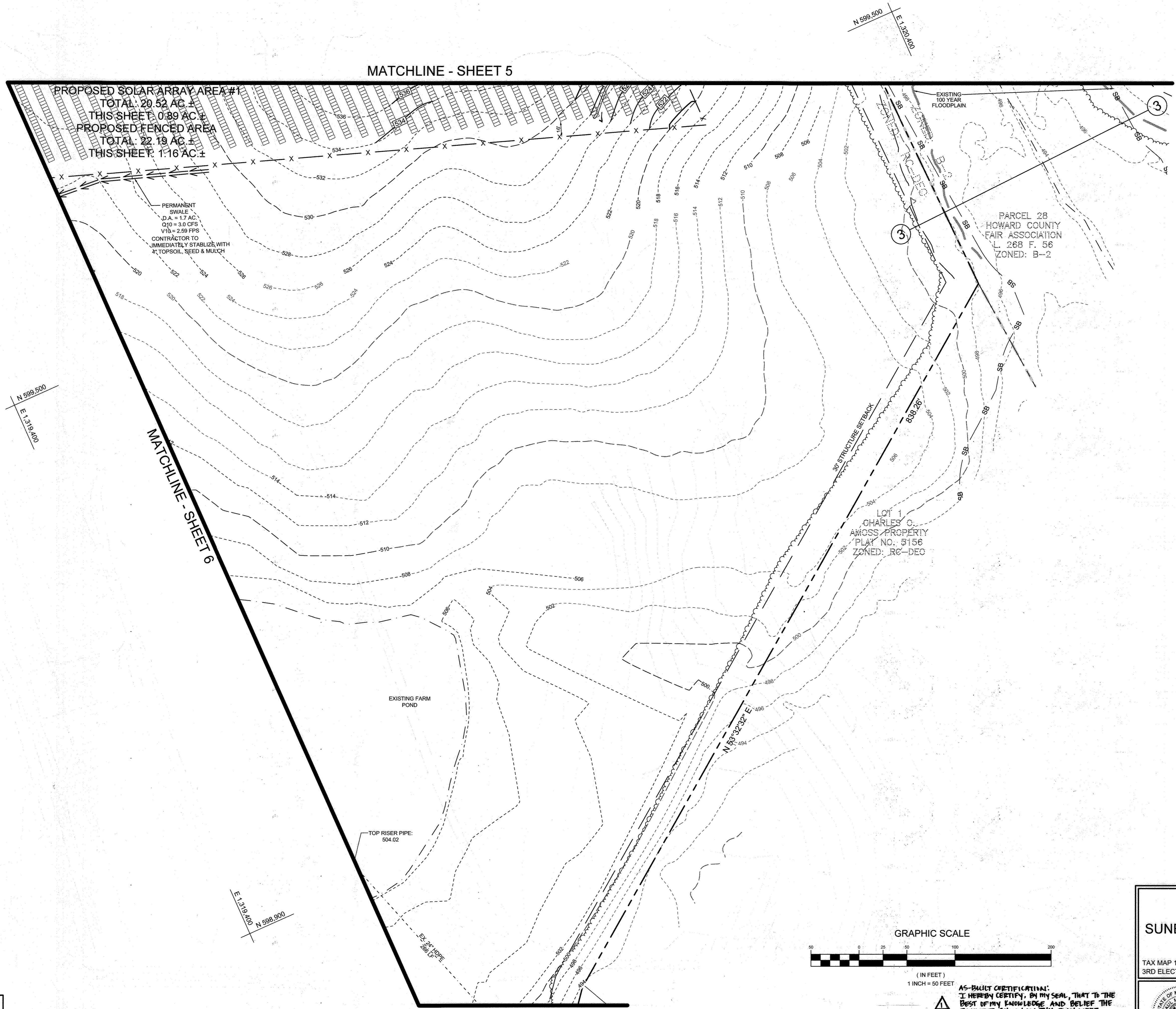
AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, N.E. 32025, JULY 26, 2023



SITE PLAN AND GRADING
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
PARCEL 146
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 6 of 28



N 599,500
E 1,319,400

N 599,500
E 1,319,400

MATCHLINE - SHEET 6

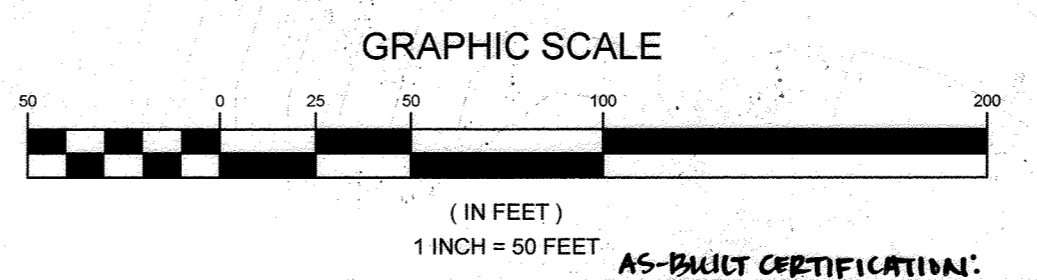
MATCHLINE - SHEET 5

MATCHLINE - SHEET 8

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Developed by: *Chad Edmondson*
 CHIEF DEVELOPMENT ENGINEERING DIVISION
 DATE: 2/7/2022
 CHIEF DIVISION OF LAND DEVELOPMENT
 DATE: 2/7/2022
 DIRECTOR: *Angy Simon*

NO.	DESCRIPTION	DATE
I	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/26/23

PLAN VIEW
SCALE: 1"=50'



AS-BUILT CERTIFICATION:
 I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
Paul M. Sill
 PAUL M. SILL, LICENSE NO. 32025,
 JULY 24, 2023

OWNER
 MHG&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21794
 C/O STEFANO RATTI
 GEORGE STREAKER, SR.

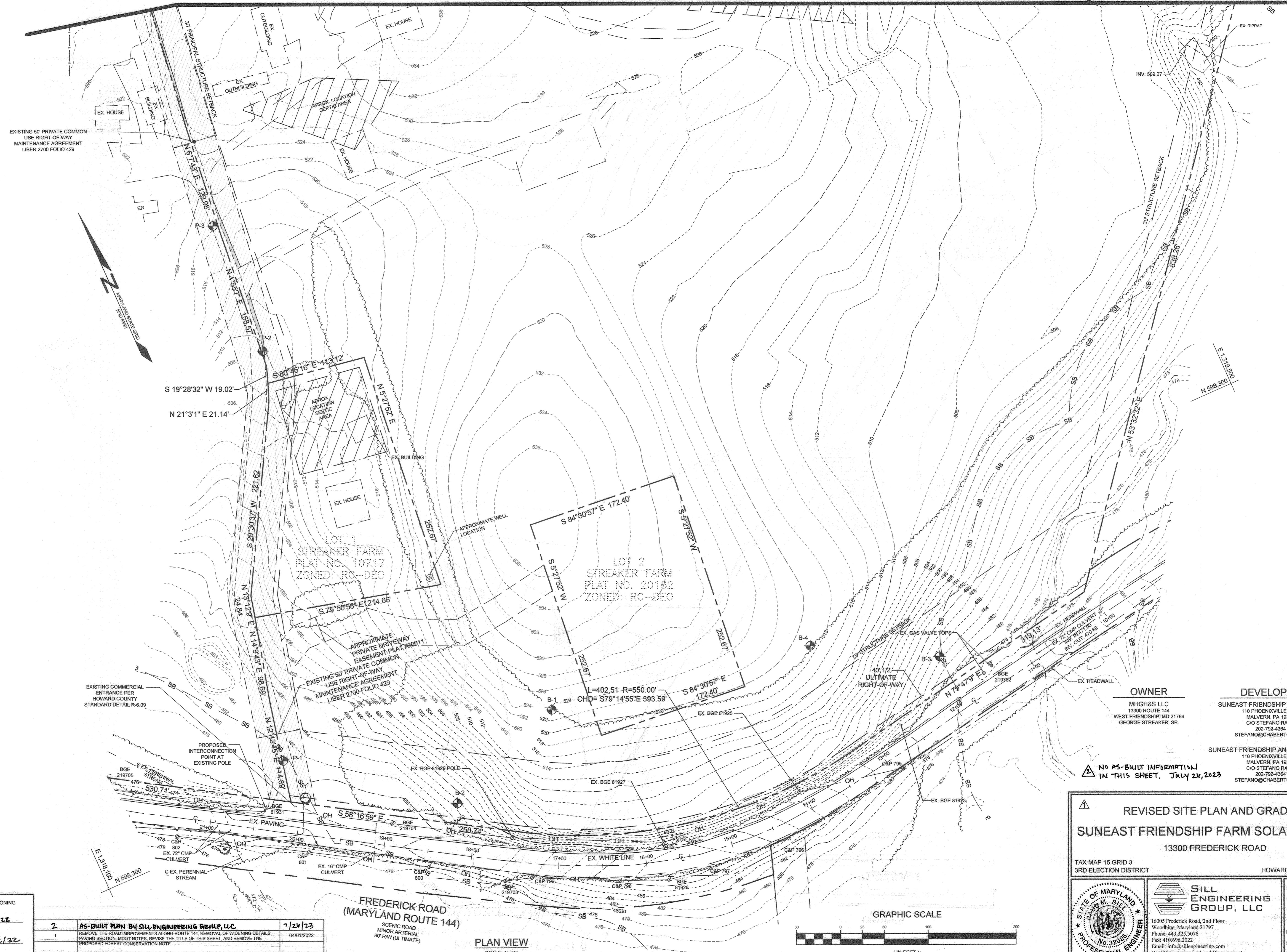
DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

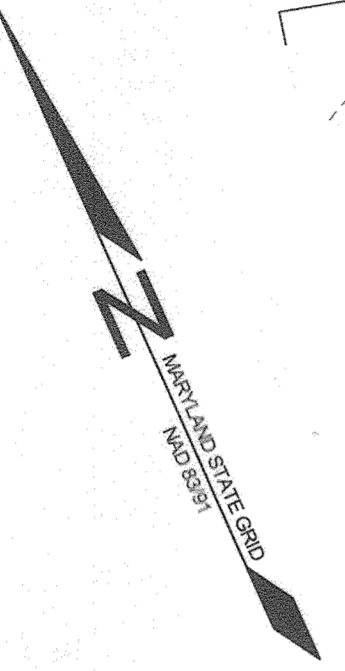
SITE PLAN AND GRADING
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT
 PARCEL 146
 HOWARD COUNTY, MARYLAND

	 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS
		DRAWN BY: TB
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: DECEMBER 21, 2021
PROJECT #: 19-044	SHEET #: 7 of 28	

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. 32025, EXPIRATION DATE: JUNE 23, 2023.



EXISTING 50' PRIVATE COMMON USE RIGHT-OF-WAY MAINTENANCE AGREEMENT LIBER 2700 FOLIO 429



OWNER
 MHG&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21794
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

NO AS-BUILT INFORMATION IN THIS SHEET. JULY 24, 2023

REVISED SITE PLAN AND GRADING
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT
 PARCEL 146
 HOWARD COUNTY, MARYLAND

STEFANO RATTI
 PROFESSIONAL ENGINEER
 No. 32026

SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: MAY 31, 2022
 PROJECT #: 19-044
 SHEET #: 8 of 28

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. 32026, EXPIRATION DATE: JUNE 30, 2023.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 7/14/22

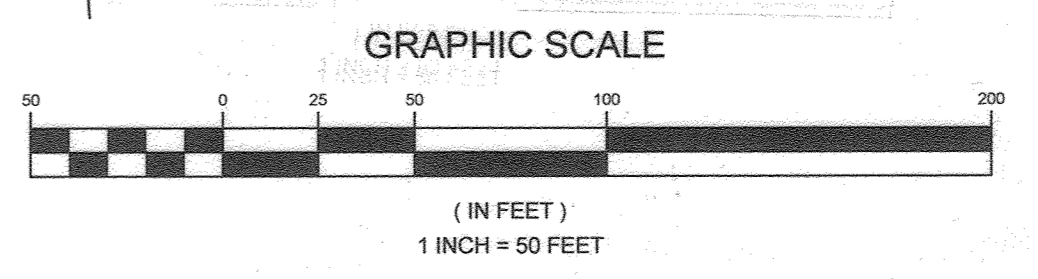
[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7/22/22

[Signature]
 DIRECTOR
 DATE: 7-25-22

NO.	DESCRIPTION	DATE
2	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23
1	REMOVE THE ROAD IMPROVEMENTS ALONG ROUTE 144, REMOVAL OF WIDENING DETAILS, PAVING SECTION, MOOT NOTES, REVISE THE TITLE OF THIS SHEET, AND REMOVE THE PROPOSED FOREST CONSERVATION NOTE	04/01/2022

FREDERICK ROAD (MARYLAND ROUTE 144)
 SCENIC ROAD
 MINOR ARTERIAL
 80' ROW (ULTIMATE)

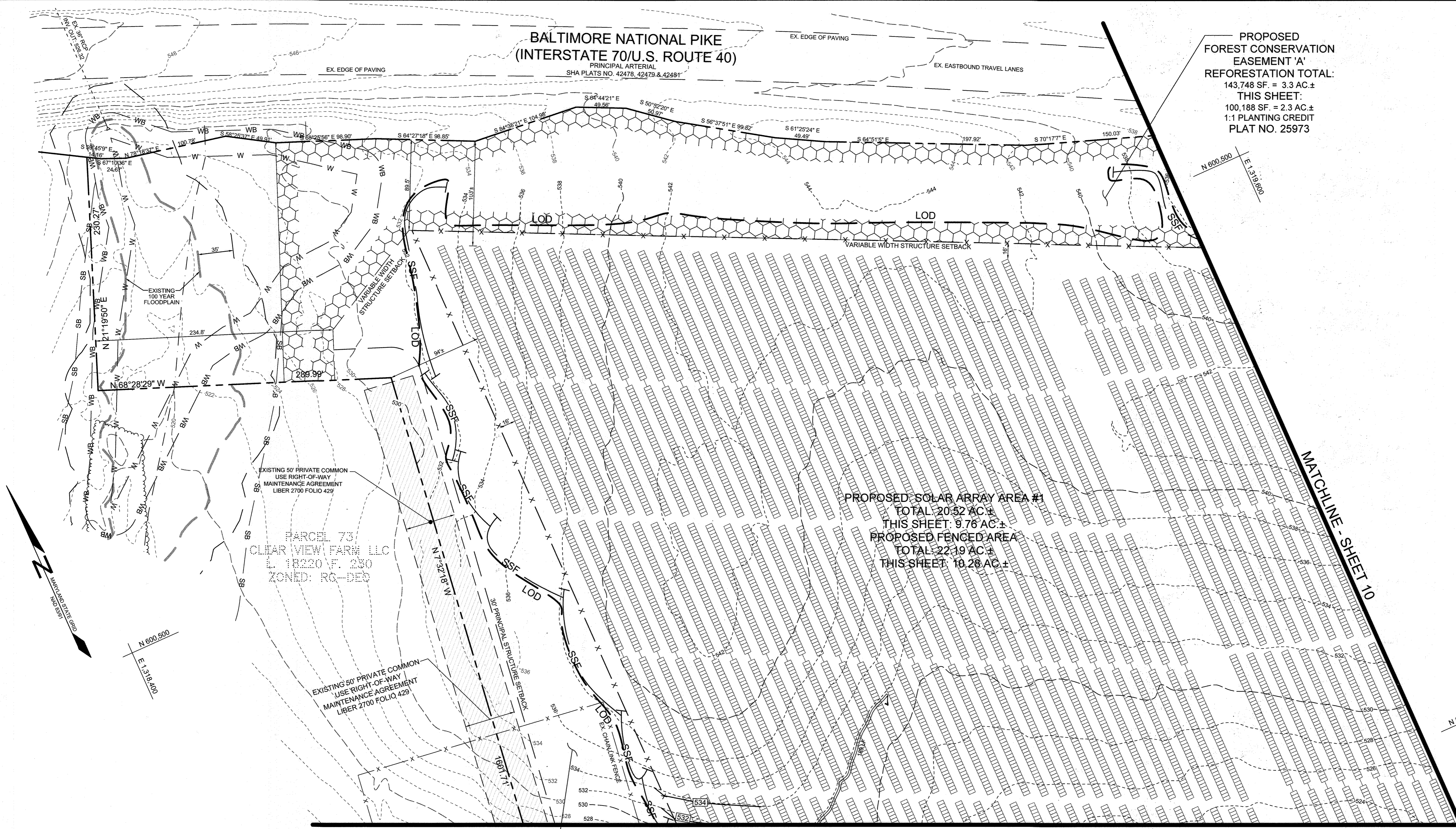
PLAN VIEW
 SCALE: 1"=50'



BALTIMORE NATIONAL PIKE (INTERSTATE 70/U.S. ROUTE 40) PRINCIPAL ARTERIAL SHA PLATS NO. 42478, 42479 & 42481

PROPOSED FOREST CONSERVATION EASEMENT 'A'
REFORESTATION TOTAL:
143,748 SF. = 3.3 AC ±
THIS SHEET:
100,188 SF. = 2.3 AC ±
1:1 PLANTING CREDIT
PLAT NO. 25973

LEGEND	
EXISTING GIS CONTOUR	---
EXISTING FIELD RUN CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	382.3
PROPOSED SPOT ELEVATION	382.3 + 82.53
DIRECTION OF FLOW	→
EXISTING TREELINE	~
PROPOSED TREELINE	~
EXISTING WETLAND	W
EXISTING 25' WETLAND BUFFER	WB
EXISTING STREAM	---
EXISTING 100' STREAM BUFFER	SB
EXISTING ZONING BOUNDARY	---
EXISTING 100-YEAR FLOODPLAIN & UTILITY EASEMENT	---
PROPOSED SOLAR PANELS	▭
PROPOSED 7' HIGH CHAIN LINK SECURITY FENCE (NO BARBED WIRE)	X X
PROPOSED LEVEL SPREADER	60 LF
PROPOSED UNDERGROUND BGE ELECTRIC WIRE	---
PROPOSED PERMANENT EARTH DINE	⇒ ⇒ ⇒ ⇒
PROPOSED GATE	W
SILT FENCE	SF SF
SUPER SILT FENCE	SSF SSF
LIMIT OF DISTURBANCE	LOD
STABILIZED CONSTRUCTION ENTRANCE	SCE
PERMANENT SLOPE STABILIZATION	▨



PROPOSED SOLAR ARRAY AREA #1
TOTAL 20.52 AC ±
THIS SHEET: 9.76 AC ±
PROPOSED FENCED AREA
TOTAL 22.19 AC ±
THIS SHEET: 10.28 AC ±

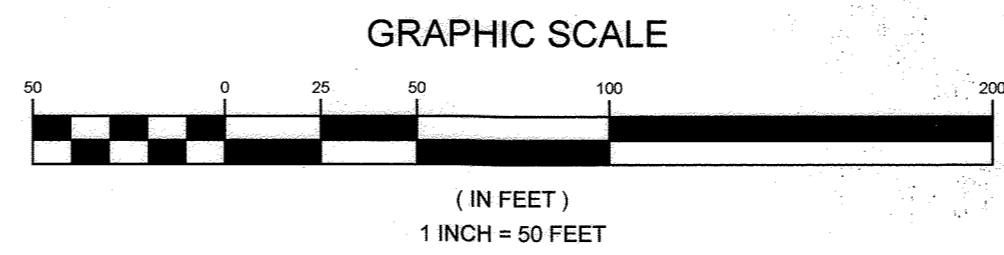
PARCEL 73
CLEAR VIEW FARM LLC
L 18220 F. 250
ZONED: RG-DEO

EXISTING 50' PRIVATE COMMON
USE RIGHT-OF-WAY
MAINTENANCE AGREEMENT
LIBER 2700 FOLIO 429

EX. FIREWOOD PROCESSING AREA
CONDITIONAL USE AREA
PER BA-15-026-C
SDP-20-049

NOTE: DURING PANEL INSTALLATION, CONTRACTOR SHALL IMMEDIATELY STABILIZE ANY DISTURBANCE DUE TO VEHICLE TRAFFIC AND PANEL INSTALLATION WITH 4" TOPSOIL, SEED, AND MULCH BEFORE MOVING ON TO THE NEXT BANK OF PANELS.

PLAN VIEW
SCALE: 1"=50'



AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, ND. 32025, JULY 24, 2023

OWNER	DEVELOPER
MHGH&S LLC 13300 ROUTE 144 WEST FRIENDSHIP, MD 21784 GEORGE STRECKER, SR.	SUNEAAT FRIENDSHIP SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM
	SUNEAAT FRIENDSHIP ANEM SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM

SEDIMENT & EROSION CONTROL PLAN
SUNEAAT FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
PARCEL 146
HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson
CHIEF ENGINEER
2/7/2022

Amy Simon
DIRECTOR
2/7/2022

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

DocuSigned by:
Alexander Bratekic
2/7/2022
HOWARD SCD

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

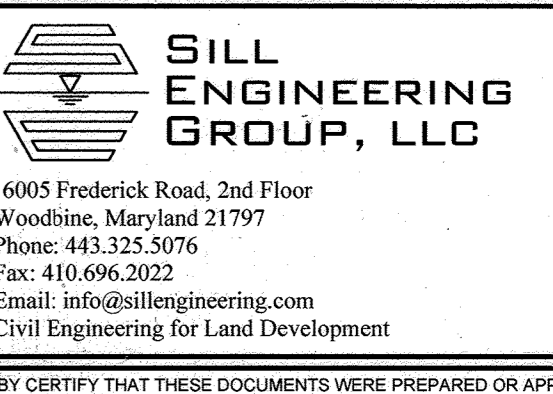
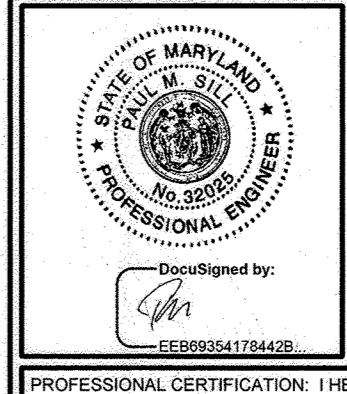
DocuSigned by:
Paul M. Sill
1/28/2022
SIGNATURE OF ENGINEER
PAUL M. SILL, P.E.

DEVELOPER'S CERTIFICATE

"I ME CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

DocuSigned by:
Stefano Ratti
1/28/2022
SIGNATURE OF DEVELOPER
STEFANO RATTI

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23

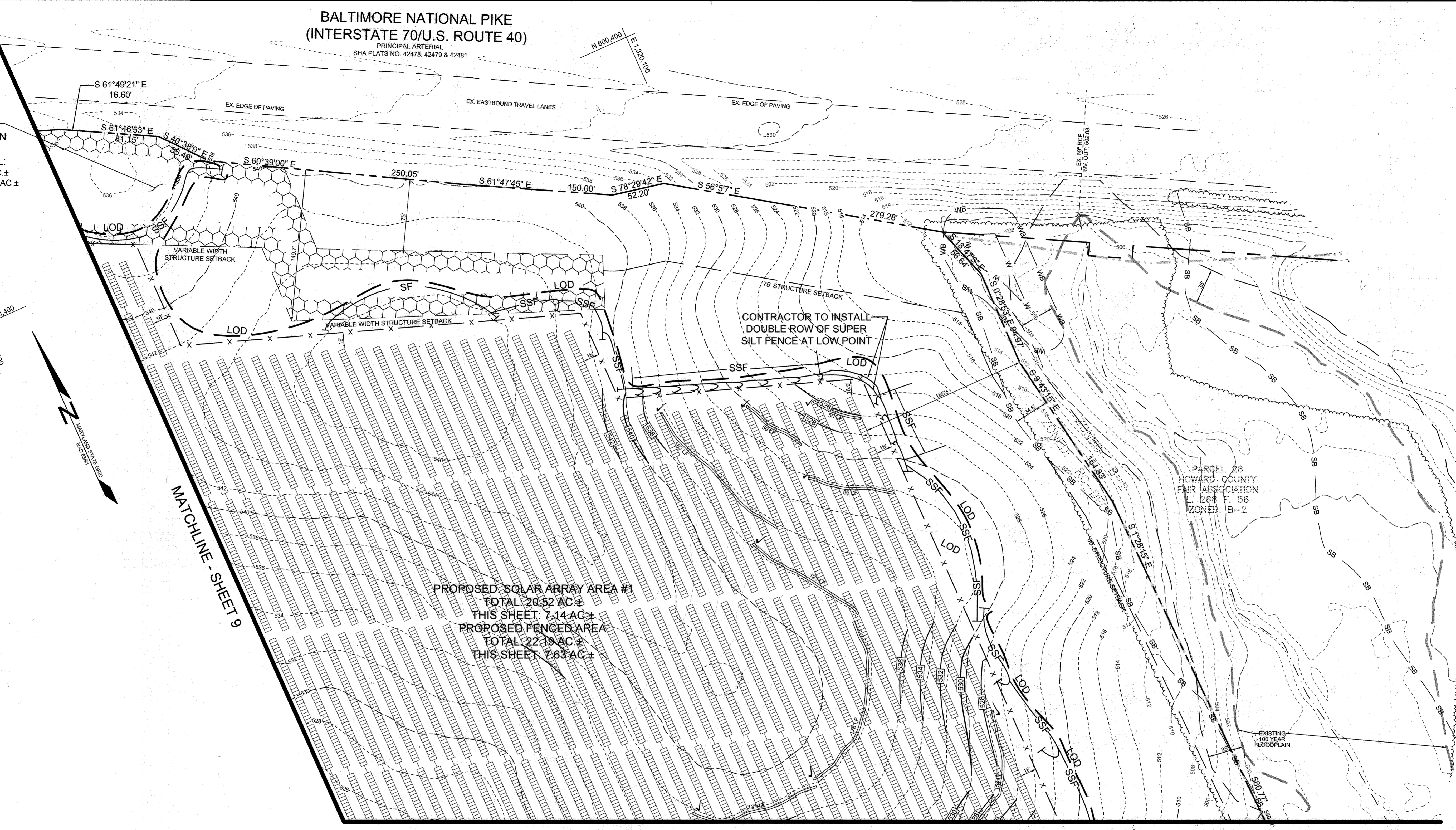


DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 9 of 28

**BALTIMORE NATIONAL PIKE
(INTERSTATE 70/U.S. ROUTE 40)**

PRINCIPAL ARTERIAL
SHA PLATS NO. 42478, 42479 & 42481

PROPOSED FOREST CONSERVATION EASEMENT 'A'
REFORESTATION TOTAL:
TOTAL: 143,748.00 SF. = 3.3 AC.±
THIS SHEET: 43,124.40 SF. = 0.99 AC.±
1:1 PLANTING CREDIT
PLAT NO. 25973



MATCHLINE - SHEET 9

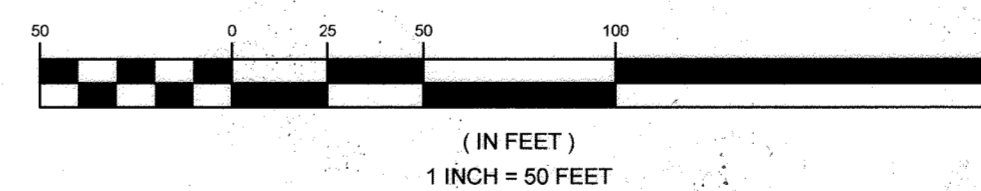
MATCHLINE - SHEET 12

NOTE: DURING PANEL INSTALLATION, CONTRACTOR SHALL IMMEDIATELY STABILIZE ANY DISTURBANCE DUE TO VEHICLE TRAFFIC AND PANEL INSTALLATION WITH 4" TOPSOIL, SEED, AND MULCH BEFORE MOVING ON TO THE NEXT BANK OF PANELS.

PLAN VIEW

SCALE: 1"=50'

GRAPHIC SCALE



AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, LICENSE NO. 32025
JULY 26, 2023

OWNER

MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21784
GEORGE STREAKER, SR.

DEVELOPER

SUNEAST FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC

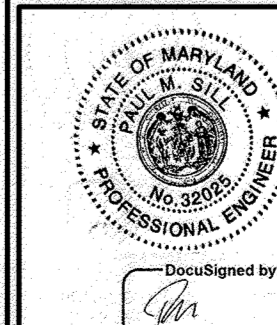
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

**SEDIMENT & EROSION CONTROL PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY**

13300 FREDERICK ROAD

TAX MAP 15 GRID 3
3RD ELECTION DISTRICT

PARCEL 146
HOWARD COUNTY, MARYLAND



SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 10 of 28

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chief of Planning and Zoning
2/7/2022
DATE

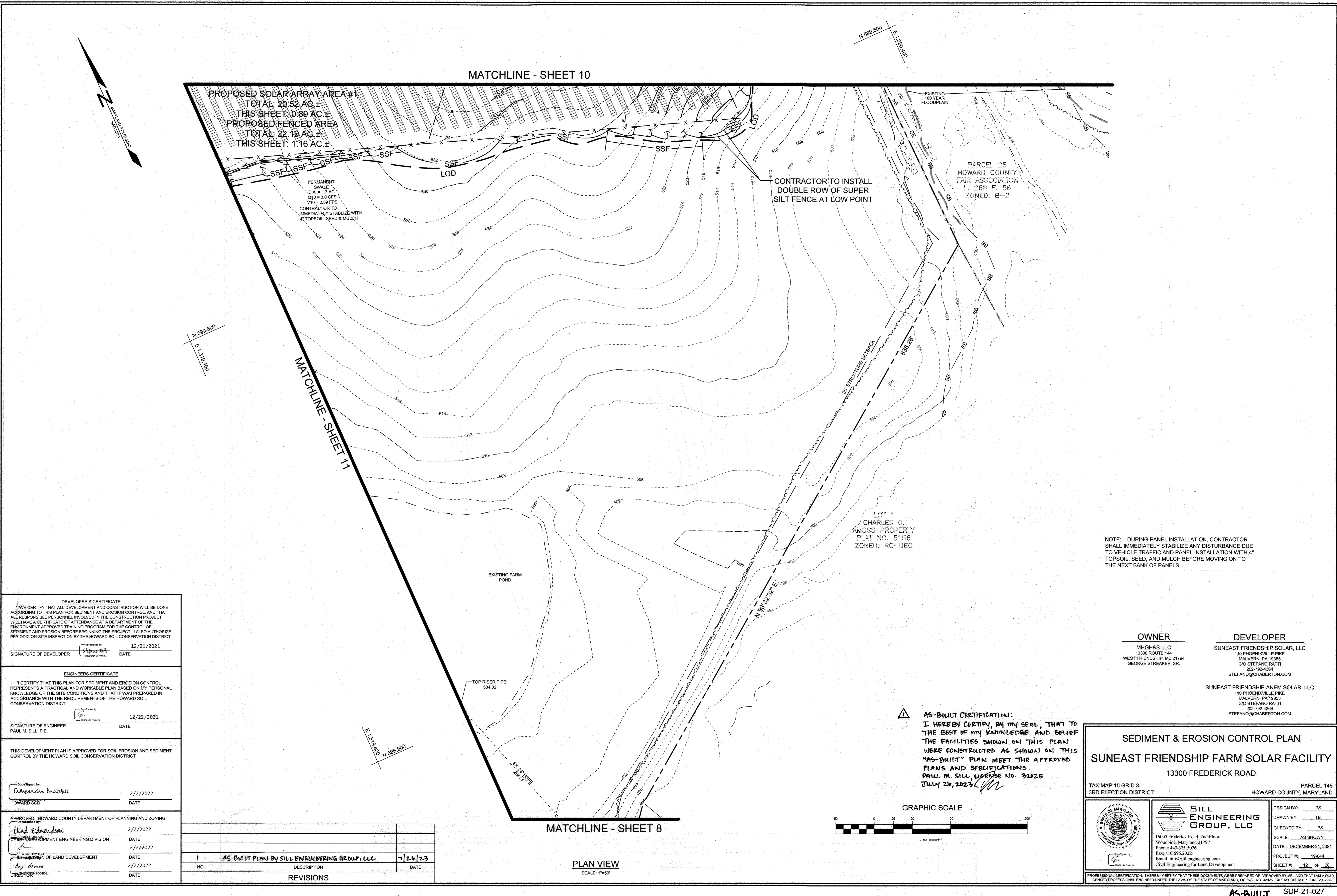
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
2/7/2022
DATE

ENGINEERS CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
1/28/2022
DATE

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
1/28/2022
DATE

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/26/23

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. 32025, EXPIRATION DATE: JUNE 30, 2023.



NOTE: DURING PANEL INSTALLATION, CONTRACTOR SHALL IMMEDIATELY STABILIZE ANY DISTURBANCE DUE TO VEHICLE TRAFFIC AND PANEL INSTALLATION WITH 4" TOPSOIL, SEED, AND MULCH BEFORE MOVING ON TO THE NEXT BANK OF PANELS.

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Developed by: Stefano Ratti DATE: 12/21/2021
SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Developed by: Paul M. Sill DATE: 12/22/2021
SIGNATURE OF ENGINEER DATE
PAUL M. SILL, P.E.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

Developed by: Alexander Bratek DATE: 2/7/2022
HOWARD SCD DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edmondson DATE: 2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION DATE

Angy Brown DATE: 2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT DATE

Angy Brown DATE: 2/7/2022
DIRECTOR DATE

NO.	DESCRIPTION	DATE
1	AS BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/26/23

PLAN VIEW
SCALE: 1"=50'

OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21794
GEORGE STRECKER, SR.

DEVELOPER
SUNEAST FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

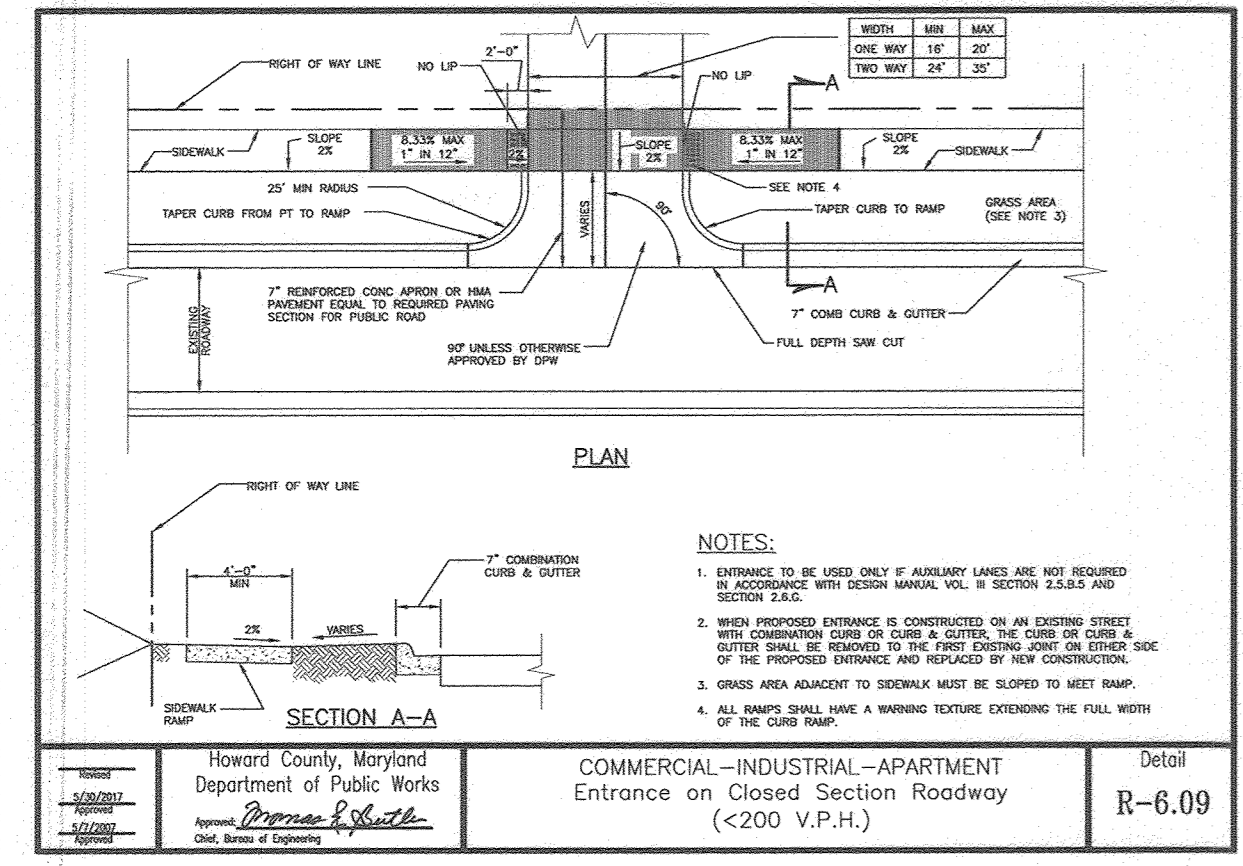
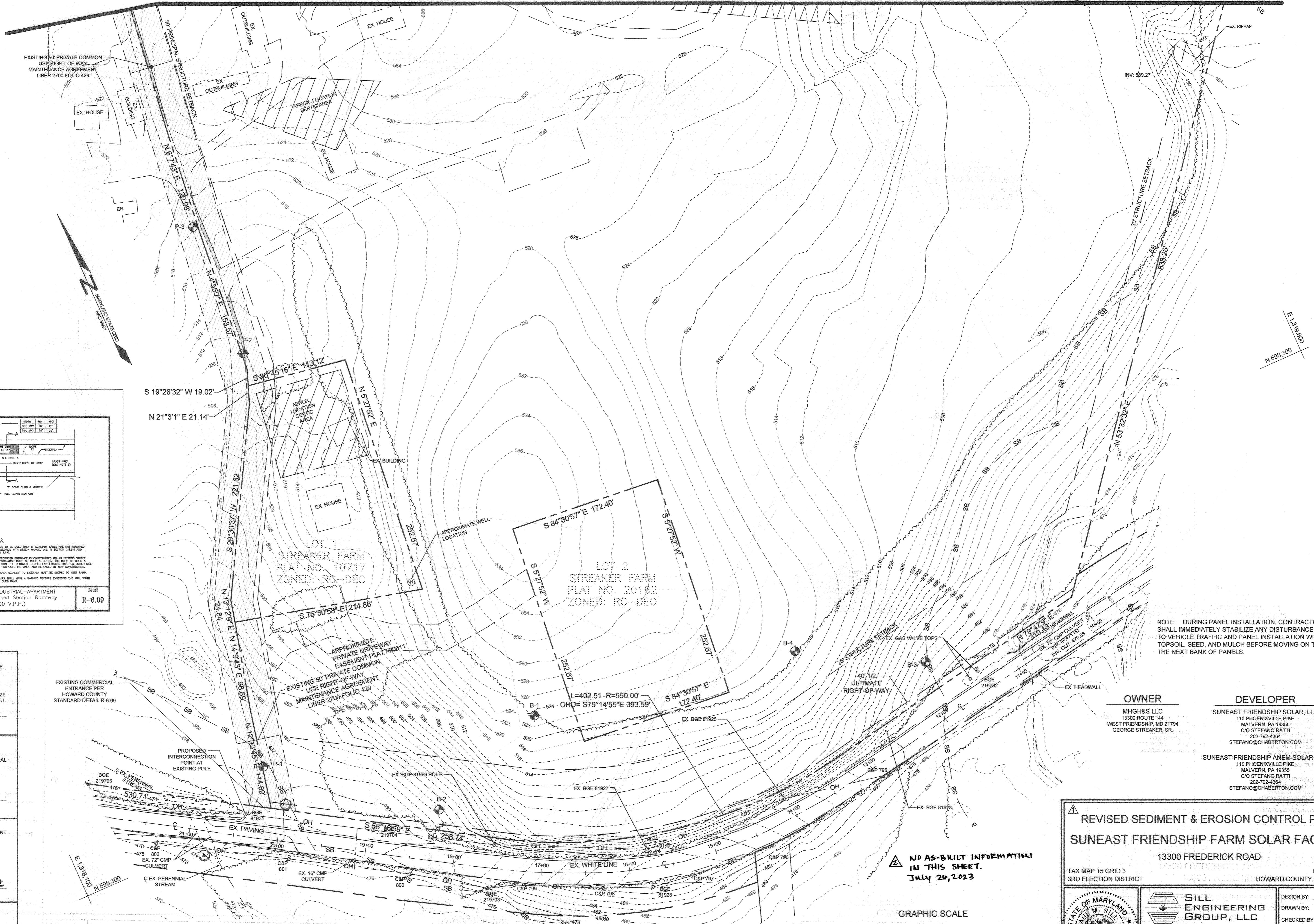
SUNEAST FRIENDSHIP ANEM SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SEDIMENT & EROSION CONTROL PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
PARCEL 146
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DESIGNED BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 12 of 28

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

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. 32025, EXPIRATION DATE: JUNE 30, 2023.



DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: *[Signature]* DATE: 5/31/2022

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: *[Signature]* DATE: 6/9/22
 PAUL M. SILL, P.E.

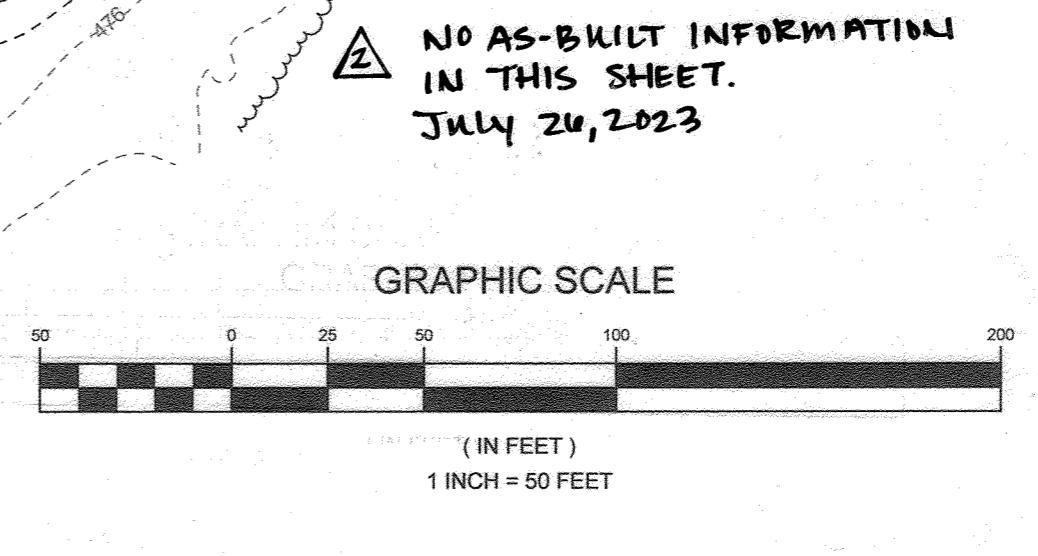
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 DATE: 06/29/22

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 DATE: 7/14/22
 DATE: 7/22/22
 DATE: 7-25-22

NO.	DESCRIPTION	DATE
2	AS-BUILT PLAN SILL ENGINEERING GROUP, LLC	7/24/23
1	REMOVE THE ROAD IMPROVEMENTS ALONG ROUTE 144 AND REVISE THE TITLE BLOCK ON THIS SHEET.	04/01/2022

FREDERICK ROAD (MARYLAND ROUTE 144)
 SCENIC ROAD
 MINOR ARTERIAL
 80' R/W (ULTIMATE)



NOTE: DURING PANEL INSTALLATION, CONTRACTOR SHALL IMMEDIATELY STABILIZE ANY DISTURBANCE DUE TO VEHICLE TRAFFIC AND PANEL INSTALLATION WITH 4" TOPSOIL, SEED, AND MULCH BEFORE MOVING ON TO THE NEXT BANK OF PANELS.

OWNER
 MHGS&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21784
 C/O STEFANO RATTI
 GEORGE STREAKER, SR.

DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4384
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
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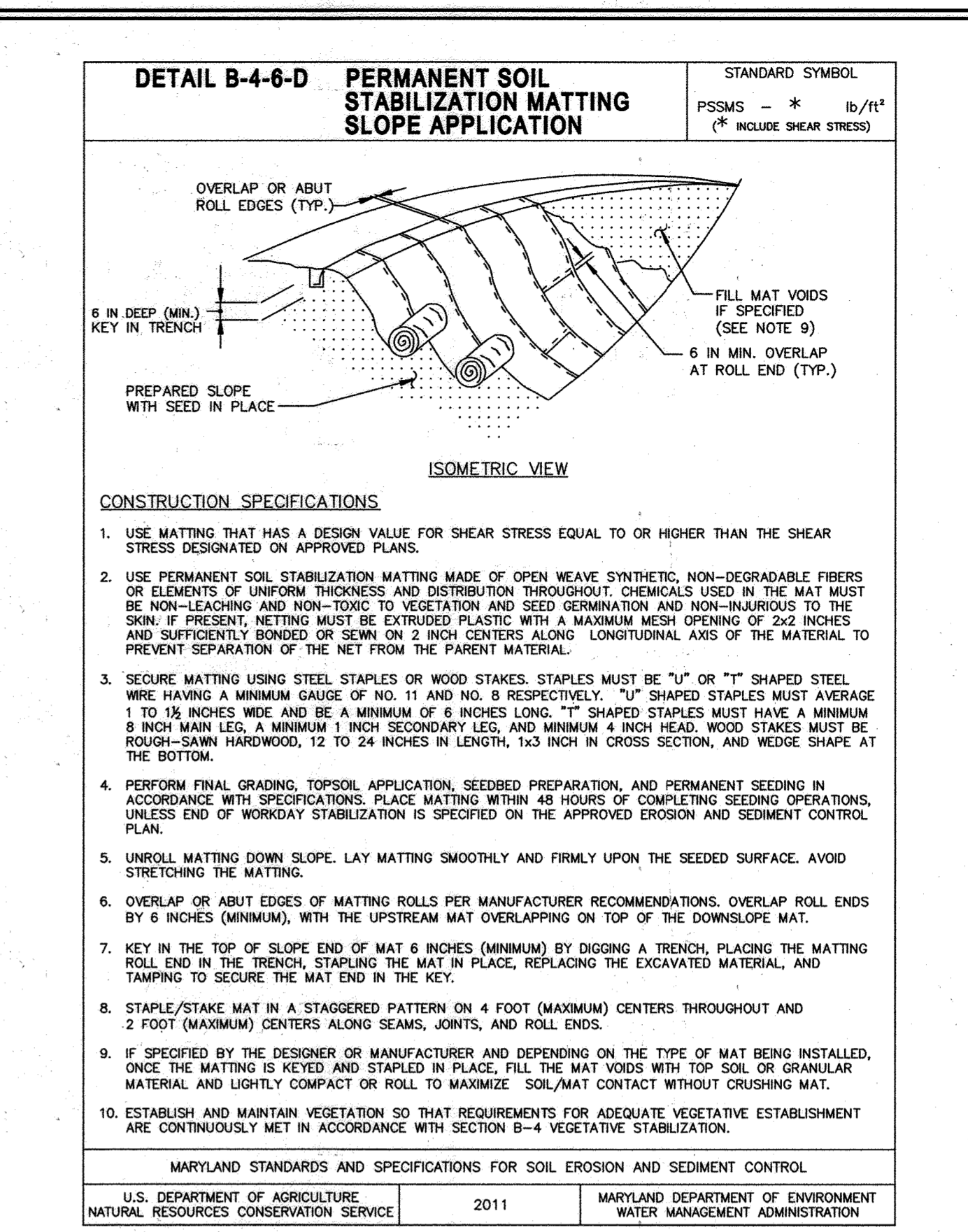
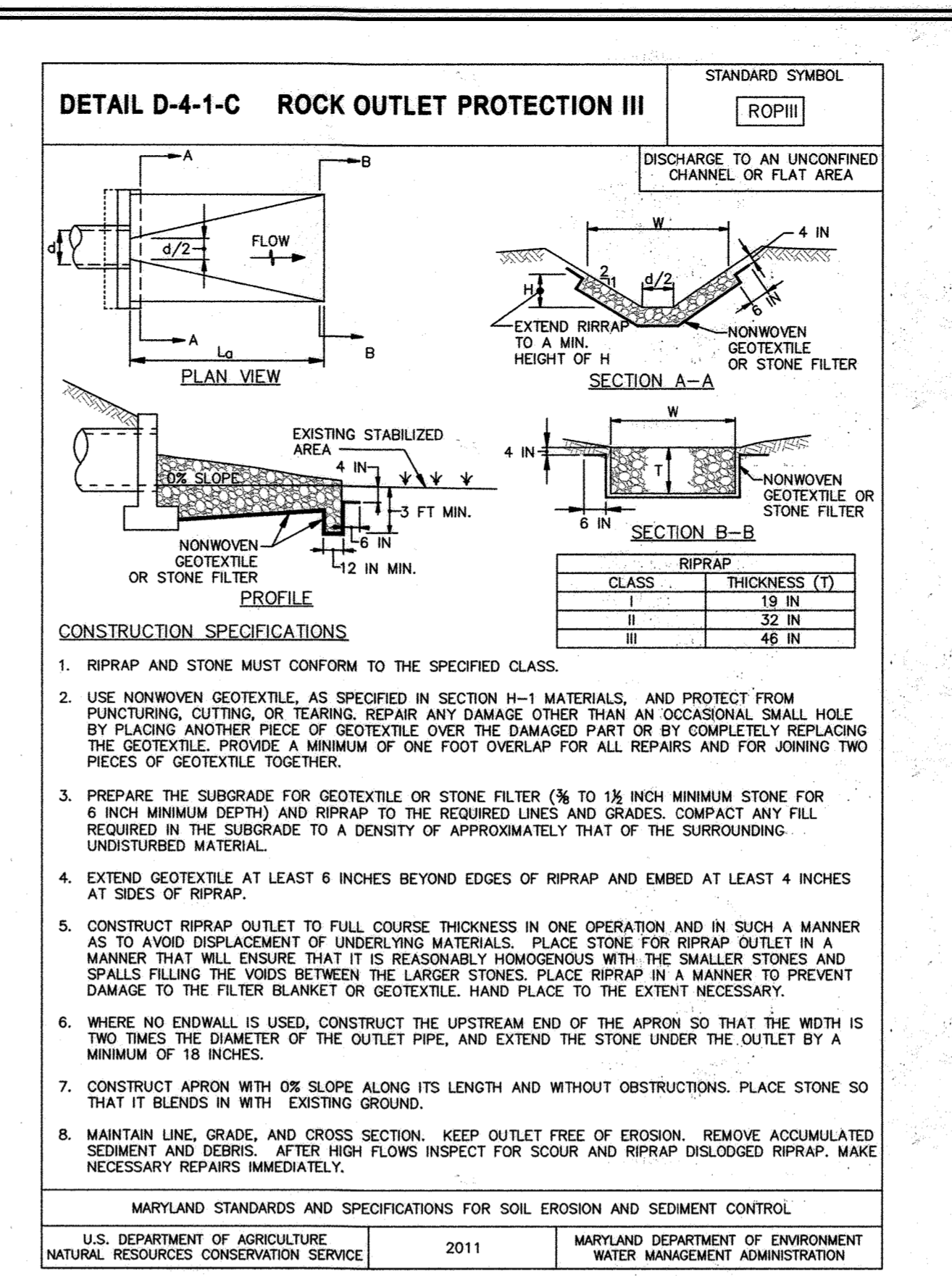
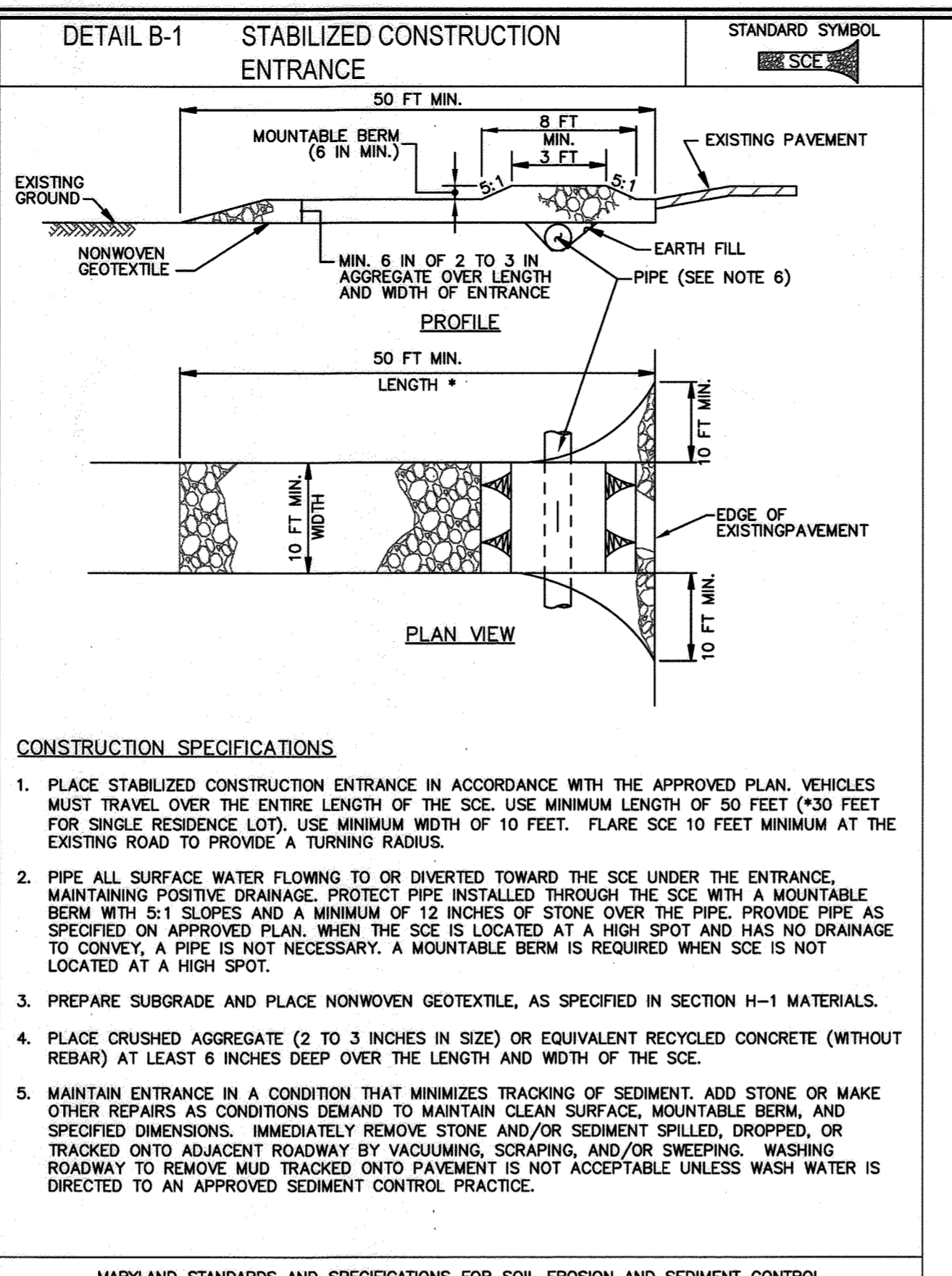
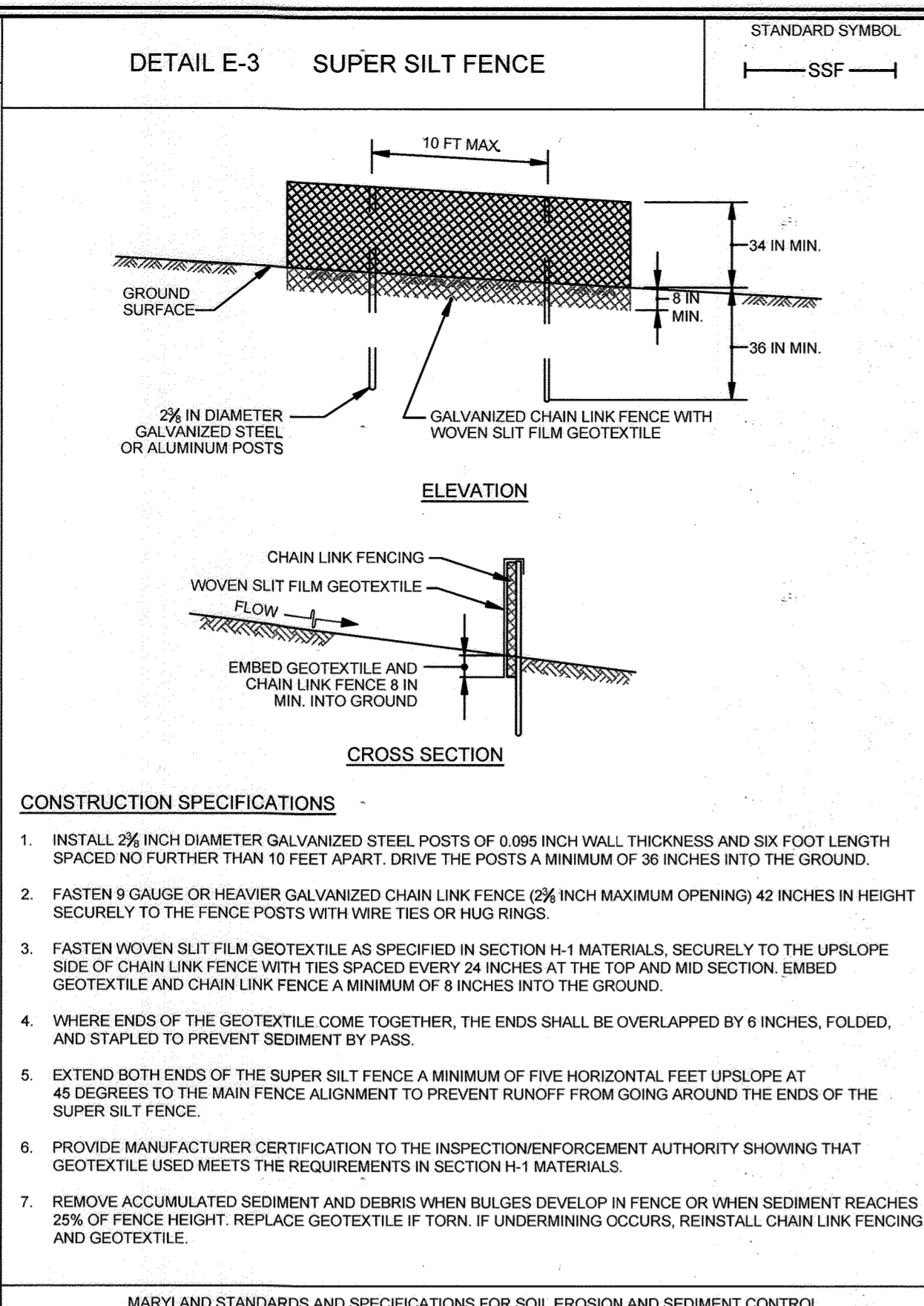
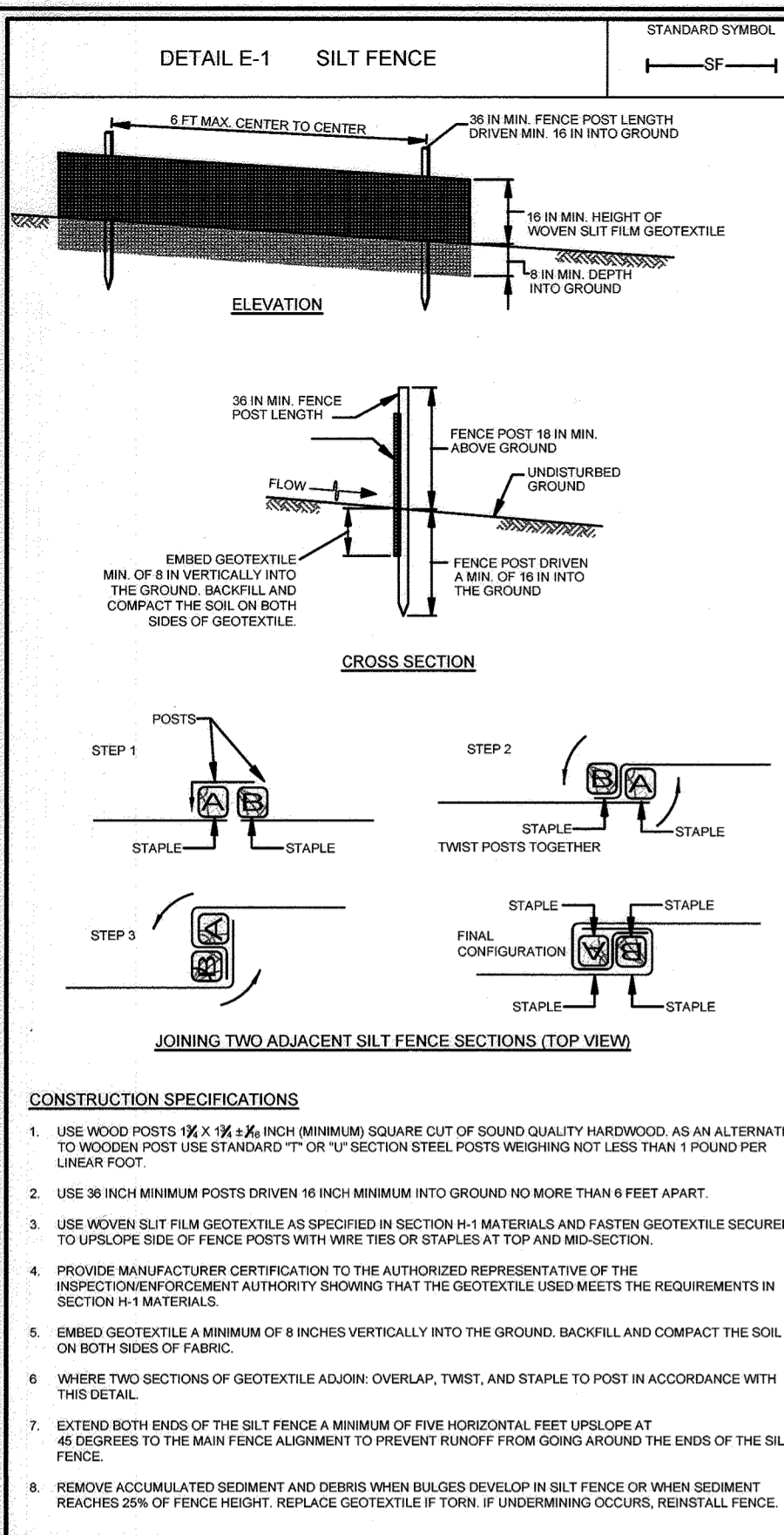
REVISED SEDIMENT & EROSION CONTROL PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 PARCEL 146
 TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: MAY 31, 2022
 PROJECT #: 19-044
 SHEET #: 13 of 28

SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

STATE OF MARYLAND
 PAUL M. SILL
 No. 32025
 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. 32025, EXPIRATION DATE: JUNE 23, 2023.



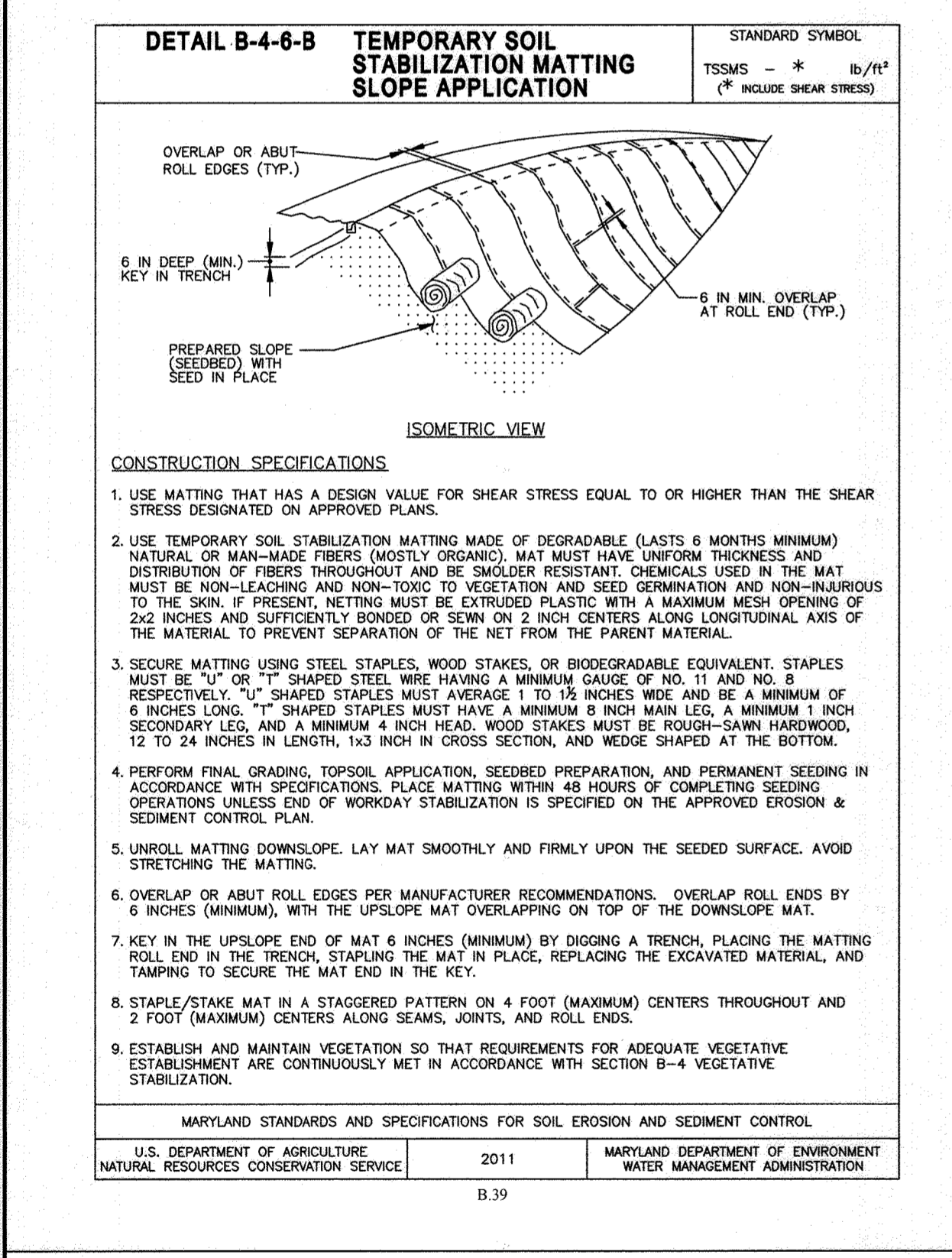
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

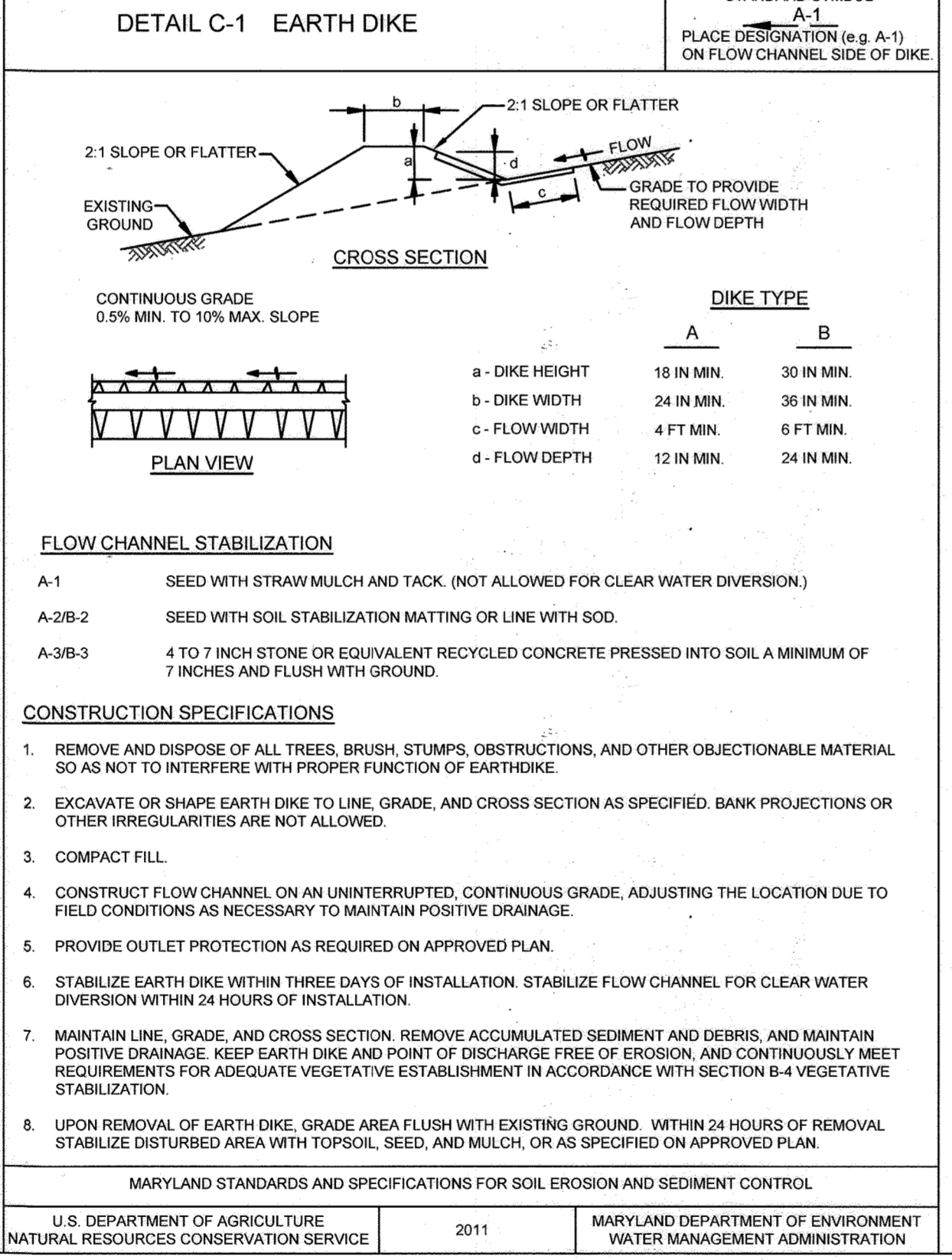
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF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

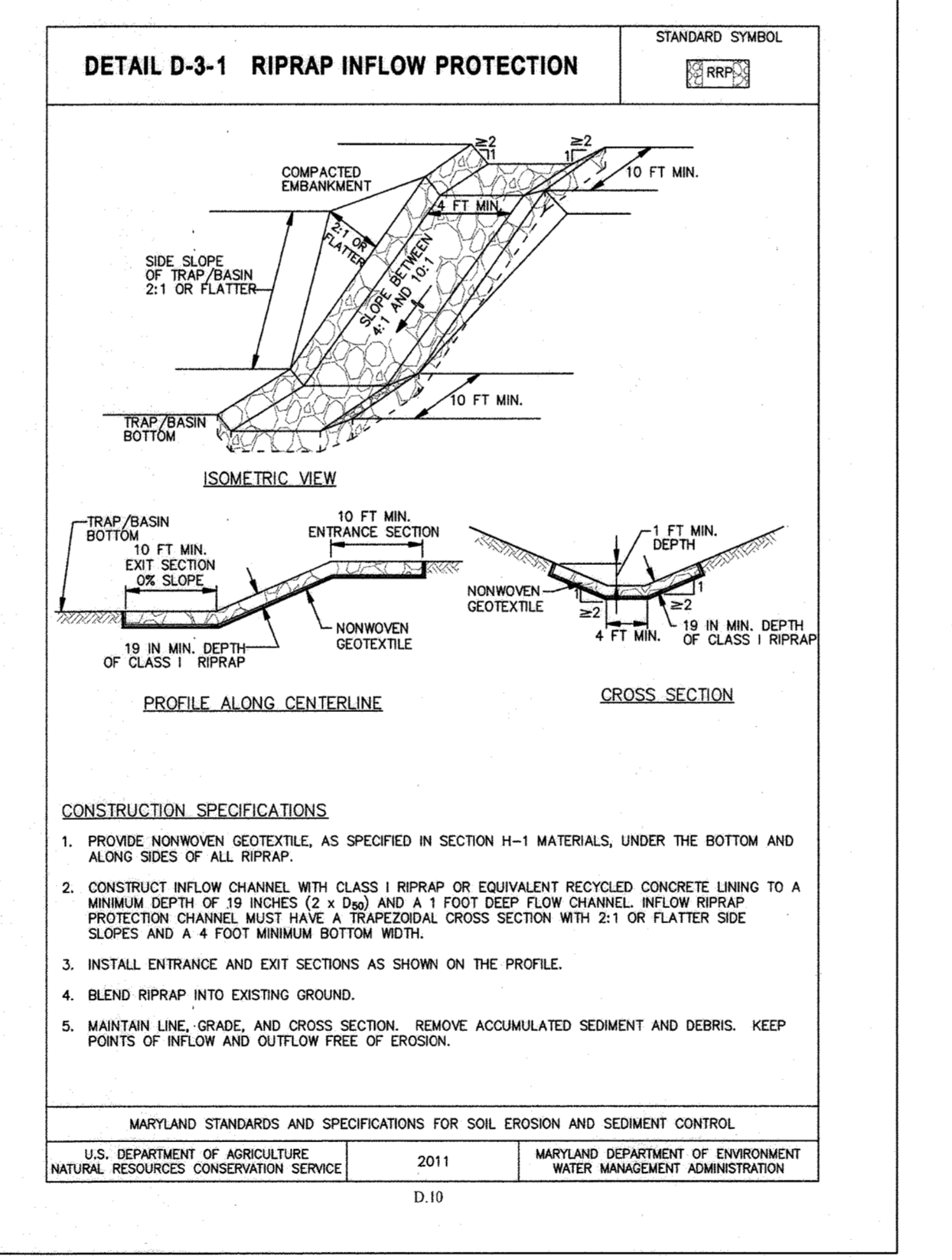
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



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



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



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

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Ulad Edmondson 2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION
DATE 2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT
DATE 2/7/2022
DIRECTOR
DATE 2/7/2022

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
DocuSigned by:
Alexander Bratichie 2/7/2022
HOWARD SCD DATE

ENGINEERS CERTIFICATE
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
DocuSigned by:
Paul M. Sill, P.E. 12/22/2021
SIGNATURE OF ENGINEER PAUL M. SILL, P.E. DATE

DEVELOPER'S CERTIFICATE
"I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
DocuSigned by:
Stefano Ratti 12/21/2021
SIGNATURE OF DEVELOPER STEFANO RATTI DATE

NO.	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	DATE
1		7/24/23
	DESCRIPTION	
	REVISIONS	

NO AS-BUILT INFORMATION IN THIS SHEET. JULY 24, 2023
OWNER: MHG&S LLC, 13300 ROUTE 144, WEST FRIENDSHIP, MD 21784, GEORGE STRECKER, SR.
DEVELOPER: SUNEAST FRIENDSHIP SOLAR, LLC, 110 PHOENIXVILLE PIKE, MALVERN, PA 19355, C/O STEFANO RATTI, 202-792-4384, STEFANO@CHABERTON.COM
SUNEAST FRIENDSHIP ANEM SOLAR, LLC, 110 PHOENIXVILLE PIKE, MALVERN, PA 19355, C/O STEFANO RATTI, 202-792-4384, STEFANO@CHABERTON.COM

SEDIMENT AND EROSION CONTROL DETAILS
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
PARCEL 146
HOWARD COUNTY, MARYLAND

DESIGN BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 14 OF 28

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

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. 20205, EXPIRATION DATE: JUNE 29, 2023.

AS-BUILT SDP-21-027

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

DEFINITION
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER 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 OR EROSION CONTROL.

- CRITERIA**
1. 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 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATTER ON ANY PROJECT REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TESTS MUST BE AVAILABLE TO THE CONTRACTOR UPON REQUEST. THE SEEDING RATE OF SEED AND SEEDING DEPTH MUST BE APPLIED TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING OR EROSION CONTROL.
 2. INCULCANTS: THE INCULCANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OR NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INCULCANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INCULCANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INCULCANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INCULCANT LESS EFFECTIVE.
 3. SEED OR SEED MIXTURE NOT 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.

- APPLICATION**
1. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS. INCORPORATE SEED INTO THE SUBSTRATE AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.4. 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. LEVEL THE SEEDING AREA WITH A WEIGHTED ROD TO PROVIDE GOOD SEED TO SOIL CONTACT.
 2. DRILL OR CULTIVATOR SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. CULTIVATING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDING MUST BE FROM AFTER PLANTING.
 3. HYDROSEEDING: APPLIED SEED UNIFORMITY 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; PHOSPHORUS, 200 POUNDS PER ACRE; POTASSIUM, 200 POUNDS PER ACRE. MULCH: ONLY GRASS MULCH IS TO BE USED. SPREAD IT OVER ALL SEEDING 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.

- 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, MOLLY, 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.
 - c. 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 UNIFORMITY SPREAD.
 - d. WCFM INCLUDING DYE MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - e. 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 LIGHTWEIGHT 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.
 - f. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - g. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH IN 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 SEEDING AREAS IMMEDIATELY AFTER SEEDING.
 - b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDING 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 THE FERTILIZER 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 70 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO 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 TACK II, TERRA TACK 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 GATCHES MULCH. SUCH AS IN VALLEYS AND ON CRISTS 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 4'x4' 15 FEET WIDE AND 50 TO 100 POUND TENSILE STRENGTH.

- TABLE B.1: TEMPORARY SEEDING FOR SITE STABILIZATION**
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.
 2. 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 OCCURS IN VERY LATE FALL. SEEDING RATES FOR OTHER PLANTS, IF IT MUST BE USED AS A NURSE CROP, SHOULD BE AT 1/3 OF THE RATE LISTED ABOVE. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
 3. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
 4. THE PLANTING DATES LISTED ABOVE ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

PLANT SPECIES	SEEDING RATE LB/AC	SEEDING DEPTH (INCHES)	RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE		
			5b & 6a	6b	7a & 7b
COOL-SEASON GRASSES					
ANNUAL RYEGRASS (<i>LOLIUM PERENNIS</i> SSP. MULTICOLORUM)	40	1.0	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
BARLEY (<i>HORDEUM VULGARE</i>)	96	2.2	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
OATS (<i>Avena SATIVA</i>)	72	1.7	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
	120	2.8	MARCH 15 TO MAY 31; AUG 1 TO SEP 30	MARCH 1 TO MAY 15; AUG 1 TO OCT 15	FEB 15 TO APR 30; AUG 15 TO NOV 30
	112	2.8	MARCH 15 TO MAY 31; AUG 1 TO OCT 31	MARCH 1 TO MAY 15; AUG 1 TO NOV 15	FEB 15 TO APR 30; AUG 15 TO DEC 15
PEARL MILLET (<i>Pennisetum GLAUCUM</i>)	30	0.7	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14
	20	0.5	JUN 1 TO JUL 31	MAY 16 TO JUL 31	MAY 1 TO AUG 14

FERTILIZER RATE (10-0-20): 436 LB/AC (10LB/1000SF) LIME RATE: 2 TONS/AC (90LB/1000SF)

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.
2. 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 OCCURS IN VERY LATE FALL. SEEDING RATES FOR OTHER PLANTS, IF IT MUST BE USED AS A NURSE CROP, SHOULD BE AT 1/3 OF THE RATE LISTED ABOVE. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.
3. FOR SANDY SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.
4. THE PLANTING DATES LISTED ABOVE ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO REFLECT LOCAL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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.

TABLE B.5: RECOMMENDED PLANTING DATES FOR PERMANENT COVER IN MARYLAND

TYPE OF PLANT MATERIAL	PLANT HARDINESS ZONES		
	5b & 6a	6b	7a & 7b
SEEDS - COOL-SEASON GRASSES (INCLUDES MIXES WITH FORBS AND/OR LEGUMES)	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 OCT 31
SEEDS - WARM-SEASON COOL-SEASON GRASS MIXES (INCLUDES MIXES WITH FORBS AND/OR LEGUMES)	MAR 15 TO MAY 31 JUN 1 TO JUN 30*	MAR 1 TO MAY 15 MAY 16 TO JUN 30*	FEB 15 TO APR 30 MAY 1 TO MAY 31**
SOD - COOL-SEASON	MAR 15 TO MAY 31 JUN 1 TO AUG 31* SEP 15 TO NOV 15*	MAR 1 TO MAY 15 MAY 16 TO SEP 14* SEP 15 TO NOV 15*	FEB 15 TO APR 30 MAY 1 TO SEP 30* OCT 1 TO DEC 1*
UNROOTED WOODY MATERIALS; BARE-ROOT PLANTS; BULBS, RHIZOMES, CORMS AND TUBERS	MAR 15 TO MAY 31 JUN 1 TO JUN 30*	MAR 1 TO MAY 15 MAY 16 TO JUN 30*	FEB 15 TO APR 30 MAY 1 TO JUN 30*
CONTAINERIZED STOCK; BALLED-AND-BURLAPPED STOCK	MAR 15 TO MAY 31 JUN 1 TO JUN 30* SEP 1 TO NOV 15*	MAR 1 TO MAY 15 MAY 16 TO JUN 30* SEP 15 TO NOV 30*	FEB 15 TO APR 30 MAY 1 TO JUN 30* OCT 1 TO DEC 15*

PERMANENT SEEDING SUMMARY				FERTILIZER RATE (10-0-20)				LIME RATE		
SEED MIXTURE (HARDINESS ZONE 7A AND 6B)				N				P	K	90 LB/1000SF
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P	K			
9	TALL FESCUE	60	3/1 - 5/15	0.5 IN.	1.0 LB/1000 SF	2.0 LB/1000 SF	2.0 LB/1000 SF	90 LB/1000SF		
	KENTUCKY BLUE GRASS	40	8/15 - 11/15	0.5 IN.	1.0 LB/1000 SF	2.0 LB/1000 SF	2.0 LB/1000 SF	90 LB/1000SF		

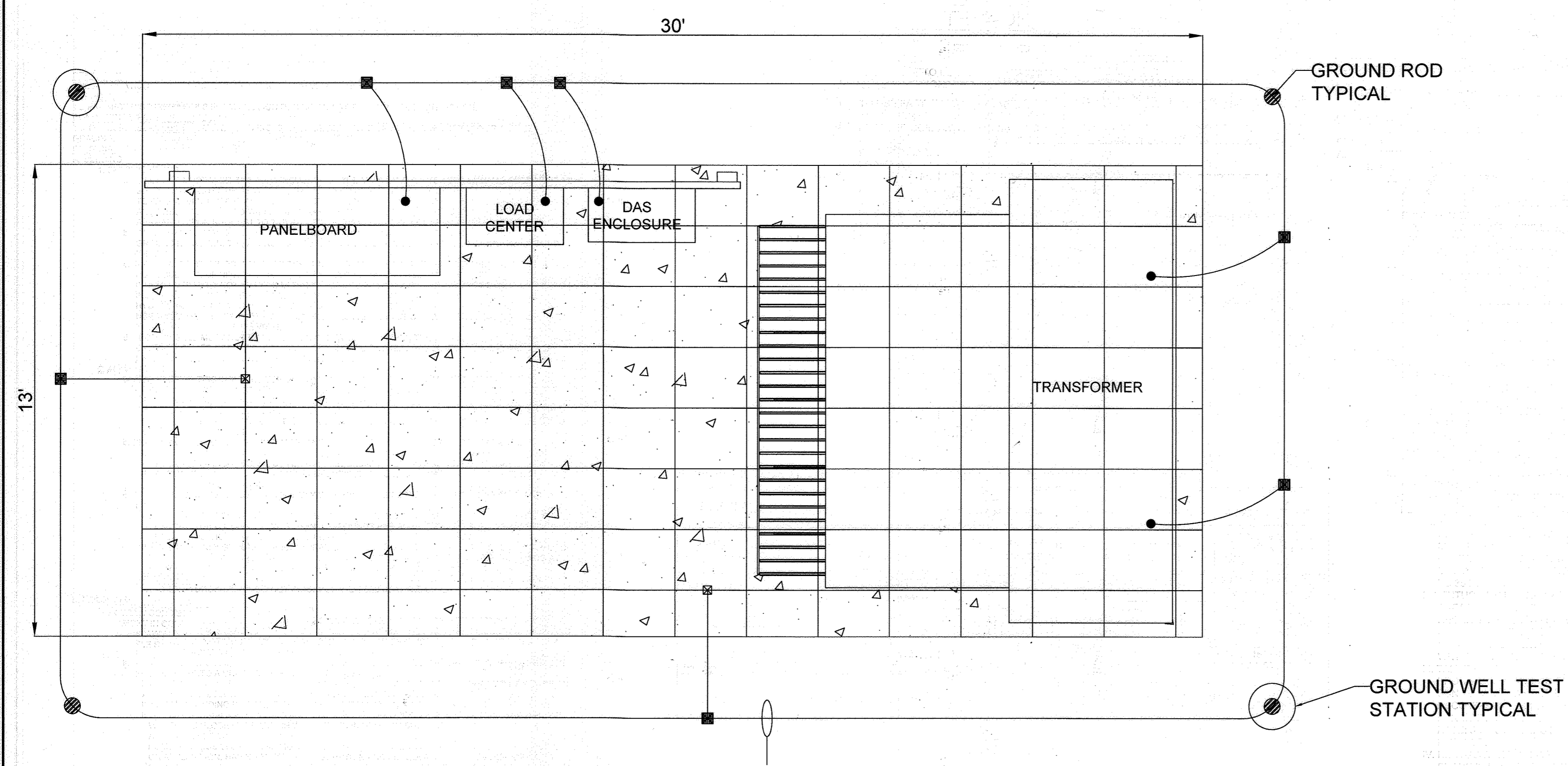
- GENERAL NOTES:**
1. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES: WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5b, 6A) CENTRAL MD: MARCH 15 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) DISTRICT OF COLUMBIA: MARCH 15 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
 2. TALL GRASSES 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 1/4 INCH IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
 3. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (5 TO 10 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE ESTABLISHED. WATER IS ESPECIALLY CRITICAL WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN AN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.
 4. SOIL TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
 5. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 6. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH PLUS OR MINUS 1/8 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.
 7. WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH.
 8. 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.
 9. 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
 10. CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 11. 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.
 12. 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 HOUR OF THE DAY TO PREVENT WILTING.
 - b. AFTER THE FIRST WEEK, SO 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.
 13. NOTES:
 - a. 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 WITHIN 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.
 - b. WHEN PLANTED DURING THE GROWING SEASON, MOST OF THESE MATERIALS MUST BE PURCHASED AND KEPT IN DORMANT CONDITION UNTIL PLANTING. BARE-ROOT GRASSES ARE THE EXCEPTION - THEY MAY BE SUPPLIED AS GROWING (NON-DORMANT) PLANTS.
 - c. ADDITIONAL PLANTING DATES FOR THE LOWER COSTA RICA, AS NOTED ON ANNUAL RAINFALL AND TEMPERATURE TRENDS, RECOMMEND ADDING A NURSE CROP, AS LISTED ABOVE, IF PLANTING DURING THIS PERIOD.
 - d. WARM-SEASON GRASSES NEED A SOIL TEMPERATURE OF AT LEAST 60 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 RISK/REWARD OF HAVING SUFFICIENT MOISTURE FOR LATER PLANTINGS, ESPECIALLY ON DROUGHTY SITES.
 - e. ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT.
 - f. 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, SOIL 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.

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

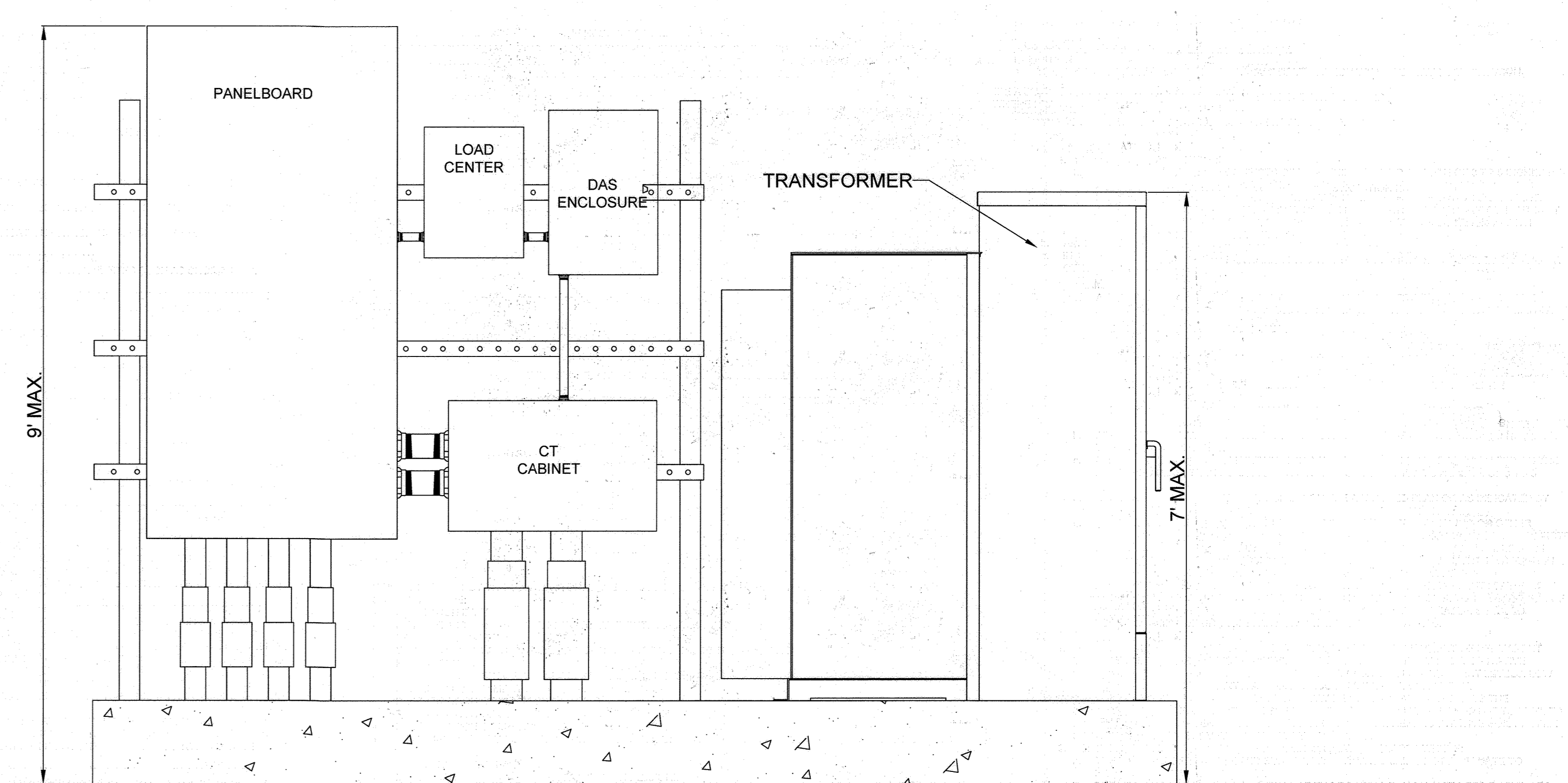
- PURPOSE**
- TO USE LONG-LEAF PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.
 - CONDITIONS WHERE PRACTICE APPLIES
 - EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.
- CRITERIA**
- A. SEED MIXTURES
1. GENERAL USE:
 - a. SELECT ONE OR MORE OF THE 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.
 - b. SUMMARY: THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - c. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTED 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.
 - d. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
 - e. 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:
 - 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 ABOVE 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 MAINTENANCE. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL AND SOUTHWESTERN MARYLAND. 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.
 - ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE B.2.2 RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MAINTENANCE. CERTIFIED PERENNIAL RYEGRASS CULTIVARS: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS: 2.0 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 TOLERANT AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MAINTENANCE IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT AND CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT.
 - iv. KENTUCKY BLUEGRASS/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 FESCUE 60 TO 70 PERCENT. SEEDING RATE: 1.5 TO 2 POUNDS PER 1000 SQUARE FEET.
 - v. 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.
 3. 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 15 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) DISTRICT OF COLUMBIA: MARCH 15 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
 4. TALL GRASSES 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 1/4 INCH IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
 5. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (5 TO 10 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE ESTABLISHED. WATER IS ESPECIALLY CRITICAL WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN AN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.
 6. SOIL TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
 7. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 8. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH PLUS OR MINUS 1/8 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.
 9. WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH.
 10. 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.
 11. 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
 12. CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 13. 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.
 14. 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 HOUR OF THE DAY TO PREVENT WILTING.
 - b. AFTER THE FIRST WEEK, SO 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.
 15. NOTES:
 - a. 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 WITHIN 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.
 - b. WHEN PLANTED DURING THE GROWING SEASON, MOST OF THESE MATERIALS MUST BE PURCHASED AND KEPT IN DORMANT CONDITION UNTIL PLANTING. BARE-ROOT GRASSES ARE THE EXCEPTION - THEY MAY BE SUPPLIED AS GROWING (NON-DORMANT) PLANTS.
 - c. ADDITIONAL PLANTING DATES FOR THE LOWER COSTA RICA, AS NOTED ON ANNUAL RAINFALL AND TEMPERATURE TRENDS, RECOMMEND ADDING A NURSE CROP, AS LISTED ABOVE, IF PLANTING DURING THIS PERIOD.
 - d. WARM-SEASON GRASSES NEED A SOIL TEMPERATURE OF AT LEAST 60 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 RISK/REWARD OF HAVING SUFFICIENT MOISTURE FOR LATER PLANTINGS, ESPECIALLY ON DROUGHTY SITES.
 - e. ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT.
 - f. 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, SOIL 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.

- SEDIMENT CONTROL NOTES**
1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
 - a. PRIOR TO THE START OF EARTH DISTURBANCE
 - b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING
 - c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT
 - d. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES
 2. OTHER BUILDING OR GRADING INSPECTION APPROVALS WILL NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
 3. ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
 4. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND SEVER (7:1) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN (PERMANENT STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH 15% OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STRUCTURE ARE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
 6. STOCKPILE AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN (PERMANENT STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH 15% OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STRUCTURE ARE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
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 8. STOCKPILES MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND



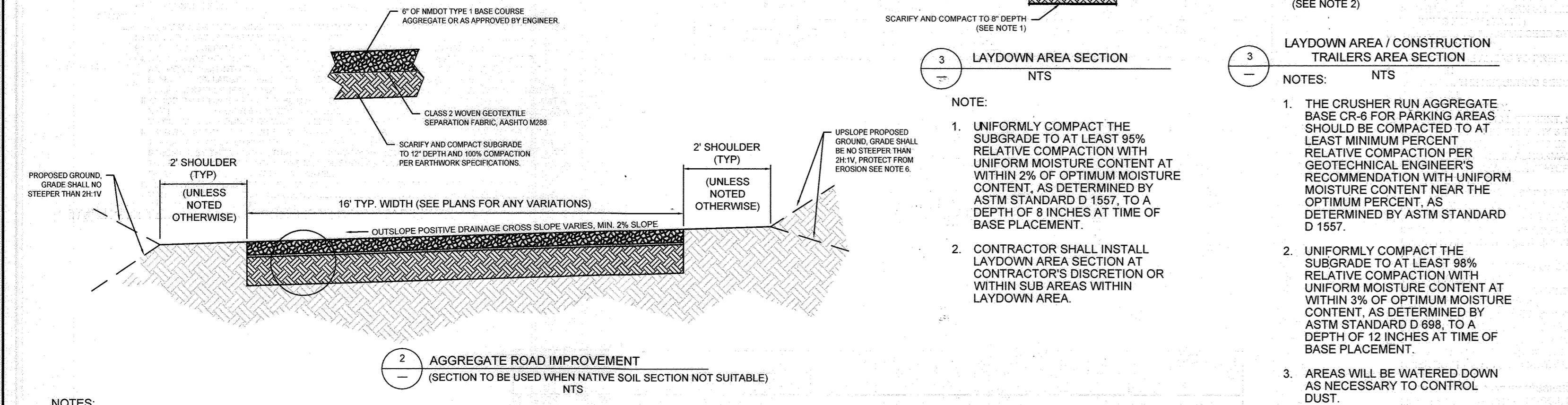
NOTES:
 1. DETAIL FOR REFERENCE ONLY.
 2. FINAL DESIGN MAY BE ADJUSTED PRIOR TO CONSTRUCTION.

EQUIPMENT PAD PLAN VIEW
 NOT TO SCALE



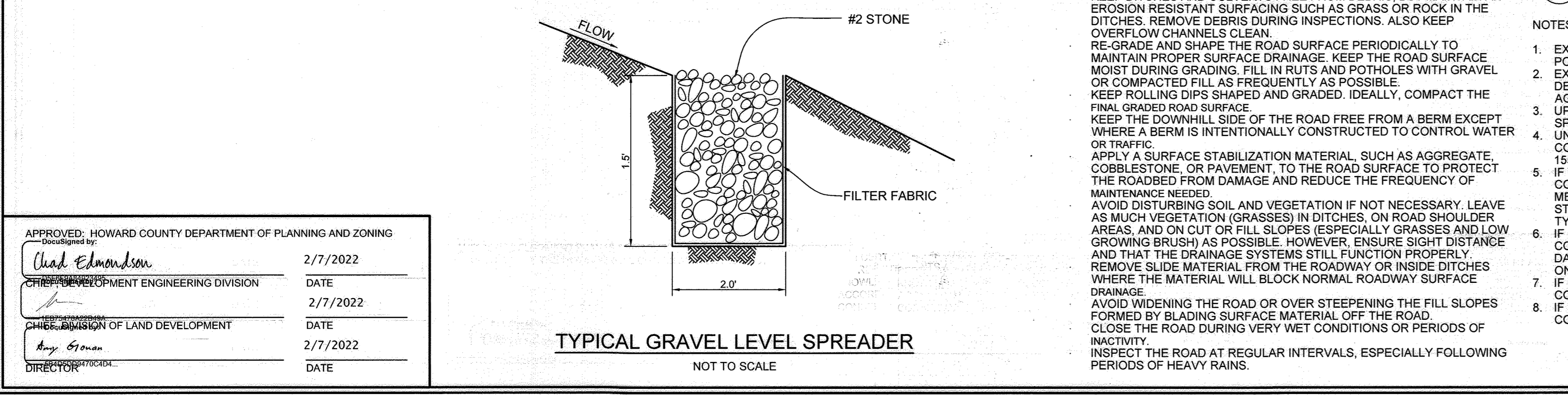
NOTES:
 1. DETAIL FOR REFERENCE ONLY.
 2. FINAL DESIGN MAY BE ADJUSTED PRIOR TO CONSTRUCTION.

EQUIPMENT PAD ELEVATION VIEW
 NOT TO SCALE

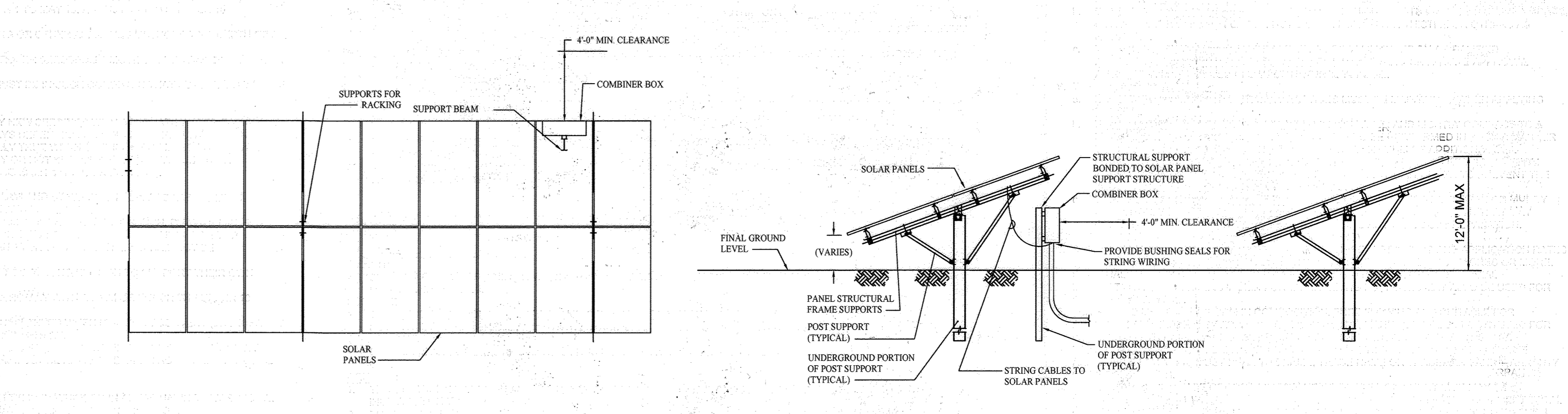


NOTES:
 1. EXISTING OR NEWLY PLACED DIRT ROADS THAT ARE FAILING DUE TO RUTS, WASHBOARDS, AND/OR POTHOLES MAY EITHER BE RE-BLADED OR BE UPGRADED TO AN AGGREGATE ROAD.
 2. EXISTING OR NEWLY PLACED DIRT ROADS THAT FAIL PROOF ROLLING OR HAVE A LOW IN PLACE DENSITY OBSERVATION MAY EITHER BE SCARIFIED AND RE-COMPACTED OR BE UPGRADED TO AN AGGREGATE ROAD.
 3. UPGRADE THE DIRT ROAD SHALL BE DONE IN ACCORDANCE THE EARTHWORK CONSTRUCTION SPECIFICATIONS SHOWN ON SHEET C-804.
 4. UNIFORMLY COMPACT THE SUBGRADE TO 100% RELATIVE COMPACTION WITH UNIFORM MOISTURE CONTENT AT WITHIN 2% OF OPTIMUM MOISTURE CONTENT, AS DETERMINED BY ASTM STANDARD D 1557, TO A DEPTH OF 12 INCHES AT TIME OF BASE PLACEMENT.
 5. IF THE DIRT ROAD IS FAILING DUE TO STORM WATER RUNOFF CAUSING THE DIRT ROAD TO MUCK UP CONTRACTOR SHOULD REMOVE AT LEAST SIX INCHES OF SOIL, SCARIFY AND COMPACT SOILS TO MEET SPECIFICATIONS WITHIN SECTION 3.14.2, FORM SUBGRADE TO DAYLIGHT AND LOCALLY DRAIN STORM WATER RUNOFF AT FINISHED GRADE, AND THEN PLACE A MINIMUM OF SIX INCHES OF NMDOT TYPE 1 BASE COURSE OR ENGINEER APPROVED EQUIVALENT.
 6. IF CONTRACTOR IS REQUIRED TO RAISE ELEVATION OF UPSLOPE OF OUTSLOPED UPGRADED ROAD CONTRACTOR SHOULD EITHER PLACE A ROCKLINED DIVERSION AROUND RAISED SHOULDER TO DAYLIGHT BACK TO ROAD AT MATCHING ELEVATION OR BUILD SHOULDER UP WITH ASTM 448 NUMBER ONE AGGREGATE WITH A LAYER OF DUMPED RIP RAP ON FAR UPSLOPE SIDE OF SHOULDER.
 7. IF CONTRACTOR EMPLOYS AGGREGATE ROAD IMPROVEMENTS, CONTRACTOR SHALL INSTALL STORM CONTROL BMPs AS REQUIRED BY THE SWPPP.
 8. IF ROAD PROBLEMS PERSIST AFTER CONSTRUCTION OF AGGREGATE ROAD IMPROVEMENT CONTRACTOR IS ENCOURAGED TO CONTACT ENGINEER FOR FURTHER ADVISEMENT.

DIRT ROAD RECOMMENDED PRACTICES:
 PERFORM MAINTENANCE WHEN NEEDED. DO NOT WAIT! THE LONGER YOU WAIT, THE MORE DAMAGE WILL OCCUR AND REPAIRS WILL BE MORE COSTLY.
 KEEP DITCHES AND CULVERTS FREE FROM DEBRIS. BUT MAINTAIN AN EROSION RESISTANT SURFACING SUCH AS GRASS OR ROCK IN THE DITCHES. REMOVE DEBRIS DURING INSPECTIONS. ALSO KEEP OVERFLOW CHANNELS CLEAN.
 RE-GRADE AND SHAPE THE ROAD SURFACE PERIODICALLY TO MAINTAIN PROPER SURFACE DRAINAGE. KEEP THE ROAD SURFACE MOIST DURING GRADING. FILL IN RUTS AND POTHOLES WITH GRAVEL OR COMPACTED FILL AS FREQUENTLY AS POSSIBLE.
 KEEP ROLLING DIPS SHAPED AND GRADED. IDEALLY, COMPACT THE FINAL GRADED ROAD SURFACE.
 KEEP THE DOWNHILL SIDE OF THE ROAD FREE FROM A BERM EXCEPT WHERE A BERM IS INTENTIONALLY CONSTRUCTED TO CONTROL WATER OR TRAFFIC.
 APPLY A SURFACE STABILIZATION MATERIAL, SUCH AS AGGREGATE, COBBLESTONE, OR PAVEMENT, TO THE ROAD SURFACE TO PROTECT THE ROADBED FROM DAMAGE AND REDUCE THE FREQUENCY OF MAINTENANCE NEEDED.
 AVOID DISTURBING SOIL AND VEGETATION IF NOT NECESSARY. LEAVE AS MUCH VEGETATION (GRASSES) IN DITCHES, ON ROAD SHOULDER AREAS, AND ON CUT OR FILL SLOPES (ESPECIALLY GRASSES AND LOW GROWING BRUSH) AS POSSIBLE. HOWEVER, ENSURE SIGHT DISTANCE AND THAT THE DRAINAGE SYSTEMS STILL FUNCTION PROPERLY.
 REMOVE SLIDE MATERIAL FROM THE ROADWAY OR INSIDE DITCHES WHERE THE MATERIAL WILL BLOCK NORMAL ROADWAY SURFACE DRAINAGE.
 AVOID WIDENING THE ROAD OR OVER STEEPENING THE FILL SLOPES FORMED BY BLADING SURFACE MATERIAL OFF THE ROAD.
 CLOSE THE ROAD DURING VERY WET CONDITIONS OR PERIODS OF INACTIVITY.
 INSPECT THE ROAD AT REGULAR INTERVALS, ESPECIALLY FOLLOWING PERIODS OF HEAVY RAINS.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 2/7/2022
 CHIEF DEVELOPMENT ENGINEERING DIVISION
 [Signature] 2/7/2022
 CHIEF DIVISION OF LAND DEVELOPMENT
 [Signature] 2/7/2022
 DIRECTOR



NOTES:
 1. THE CRUSHER RUN AGGREGATE BASE CR-6 FOR PARKING AREAS SHOULD BE COMPACTED TO AT LEAST MINIMUM PERCENT RELATIVE COMPACTION PER GEOTECHNICAL ENGINEER'S RECOMMENDATION WITH UNIFORM MOISTURE CONTENT NEAR THE OPTIMUM PERCENT, AS DETERMINED BY ASTM STANDARD D 1557.
 2. UNIFORMLY COMPACT THE SUBGRADE TO AT LEAST 88% RELATIVE COMPACTION WITH UNIFORM MOISTURE CONTENT AT WITHIN 3% OF OPTIMUM MOISTURE CONTENT, AS DETERMINED BY ASTM STANDARD D 698, TO A DEPTH OF 12 INCHES AT TIME OF BASE PLACEMENT.
 3. AREAS WILL BE WATERED DOWN AS NECESSARY TO CONTROL DUST.
 4. FOR CRUSHER RUN AGGREGATE CR-6 SPECIFICATIONS, SEE TABLES BELOW. PRIOR TO PURCHASE SEND QUARRY INFORMATION TO ENGINEER FOR APPROVAL.

DIRT ROAD RECOMMENDED PRACTICES:
 PERFORM MAINTENANCE WHEN NEEDED. DO NOT WAIT! THE LONGER YOU WAIT, THE MORE DAMAGE WILL OCCUR AND REPAIRS WILL BE MORE COSTLY.
 KEEP DITCHES AND CULVERTS FREE FROM DEBRIS. BUT MAINTAIN AN EROSION RESISTANT SURFACING SUCH AS GRASS OR ROCK IN THE DITCHES. REMOVE DEBRIS DURING INSPECTIONS. ALSO KEEP OVERFLOW CHANNELS CLEAN.
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 AVOID WIDENING THE ROAD OR OVER STEEPENING THE FILL SLOPES FORMED BY BLADING SURFACE MATERIAL OFF THE ROAD.
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 INSPECT THE ROAD AT REGULAR INTERVALS, ESPECIALLY FOLLOWING PERIODS OF HEAVY RAINS.

NOTES:
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 8. IF ROAD PROBLEMS PERSIST AFTER CONSTRUCTION OF AGGREGATE ROAD IMPROVEMENT CONTRACTOR IS ENCOURAGED TO CONTACT ENGINEER FOR FURTHER ADVISEMENT.

SOLAR PANEL DETAIL
 NOT TO SCALE

NOTES:
 1. PROVIDE EDGE GUARD OR ADEQUATE PROTECTION FOR PV WIRES AND SHARP EDGES OF RACKING SYSTEM.
 2. PROVIDE DRIP LOOP AND SUPPORT.
 3. DETAIL FOR REFERENCE ONLY.
 4. MAX HEIGHT OF PANEL NOT TO EXCEED 12'-0". FINAL DESIGN MAY BE ADJUSTED PRIOR TO CONSTRUCTION. MAXIMUM HEIGHT NOT TO BE INCREASED WITHOUT APPROVAL FROM THE ENGINEER AND HOWARD COUNTY.

OWNER: MHG&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21794
 GEORGE STRECKER, SR.

DEVELOPER: SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

NO AS-BUILT INFORMATION IN THIS SHEET. JULY 21, 2023

SITE DETAILS
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD

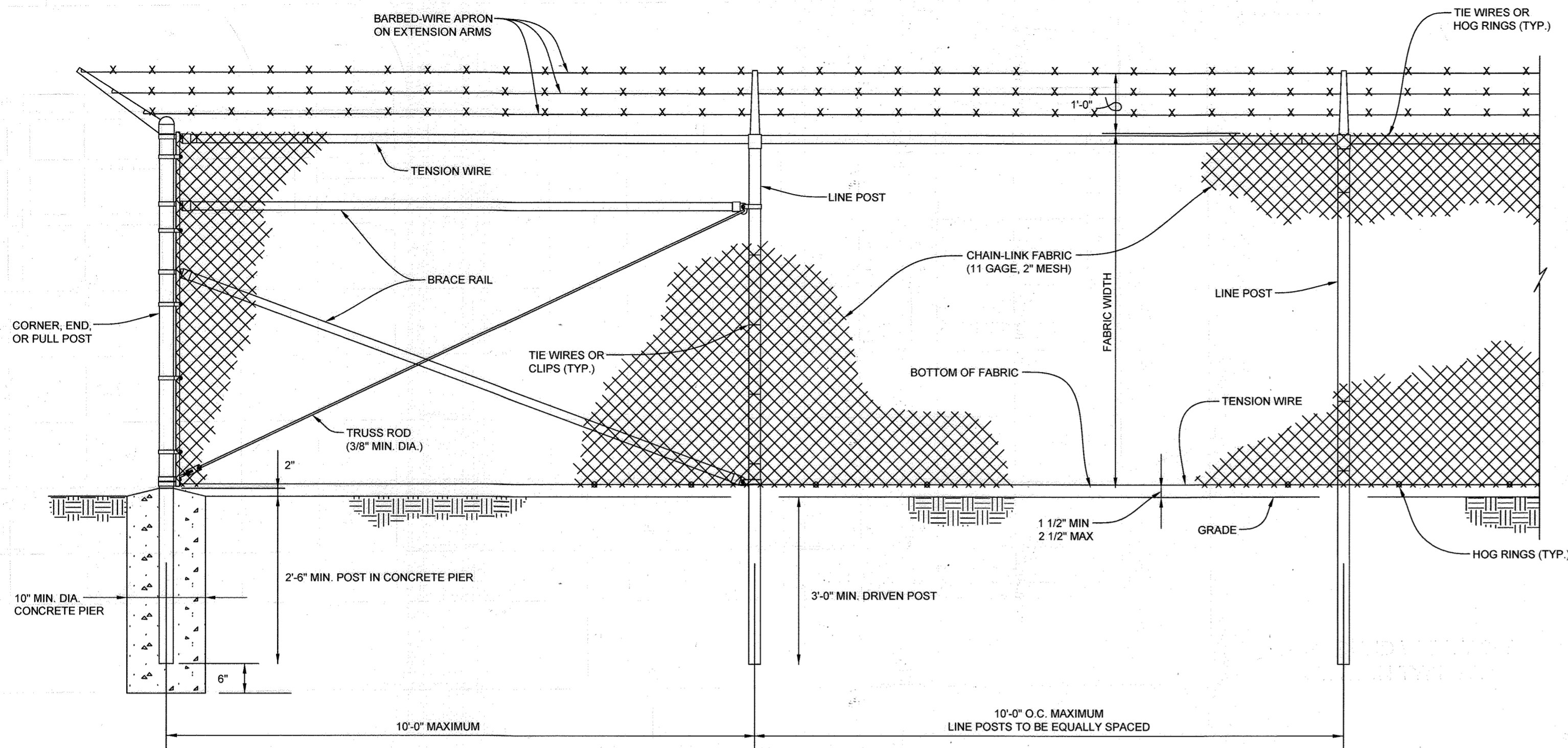
TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT
 PARCEL 146
 HOWARD COUNTY, MARYLAND

	DESIGN BY: PS
	DRAWN BY: TB
	CHECKED BY: PS
	SCALE: AS SHOWN
DATE: DECEMBER 21, 2021	
PROJECT #: 19-044	
SHEET #: 16 of 28	

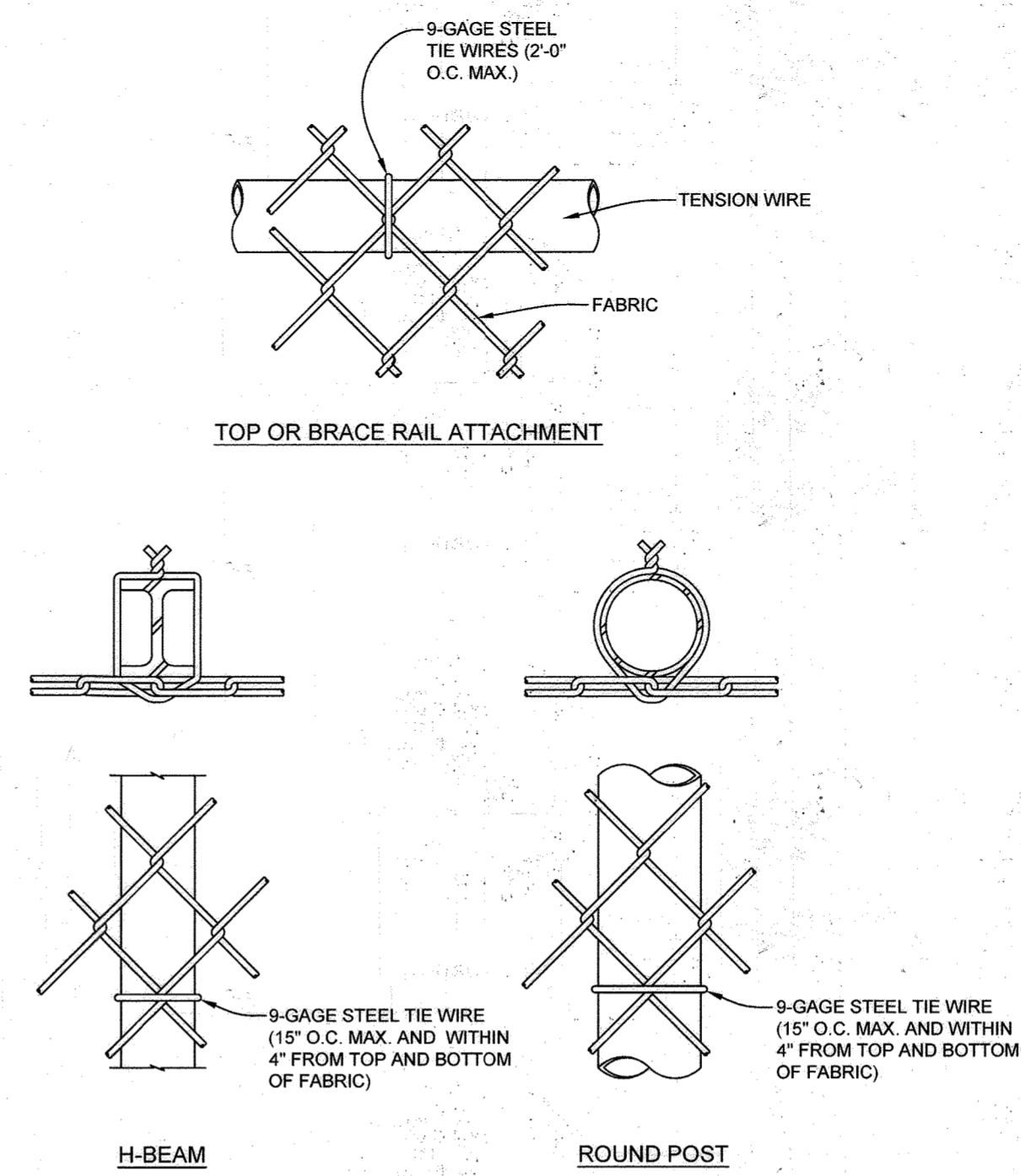
16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

N.D.	REVISION	DATE
	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/21/23

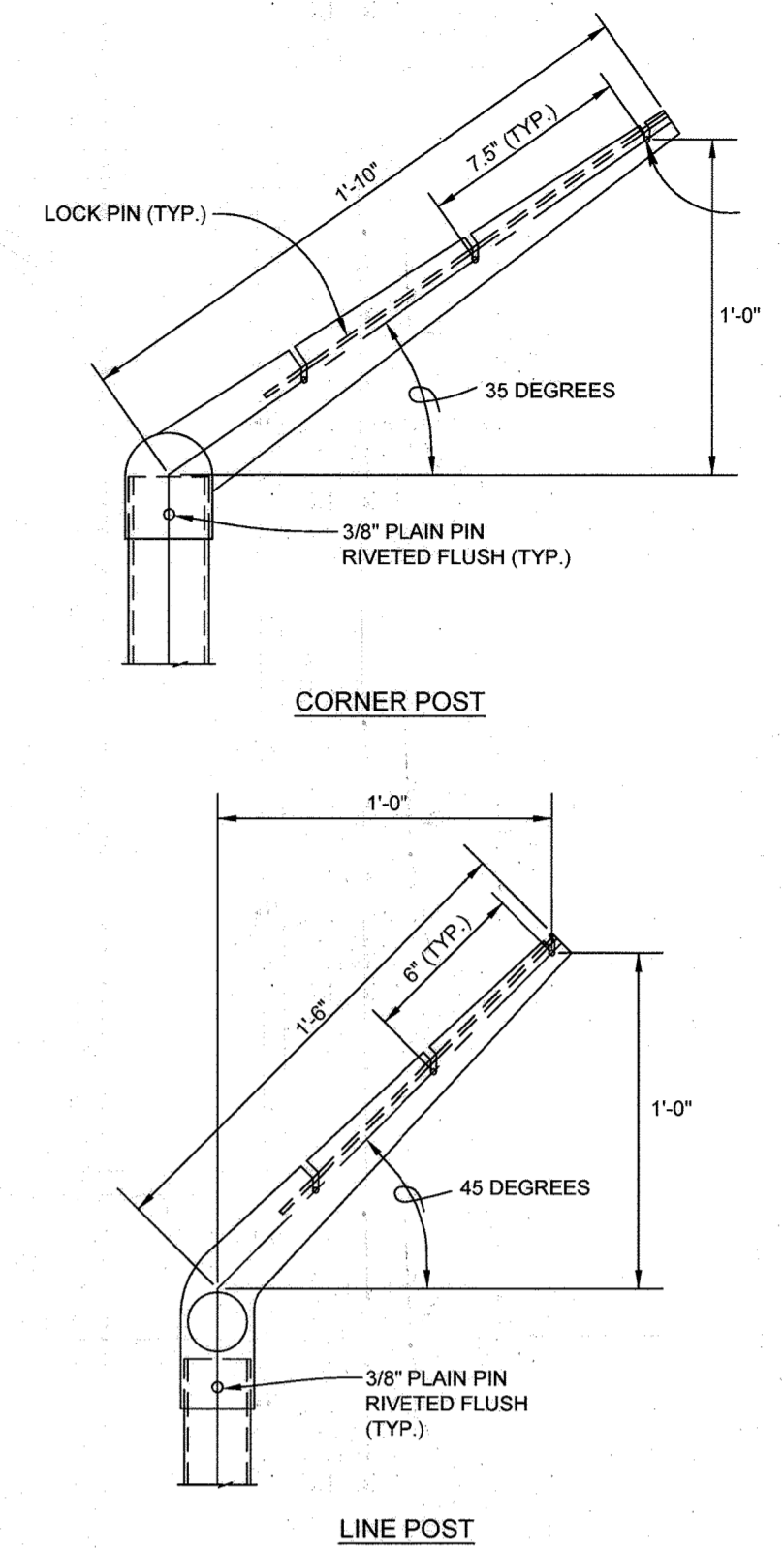
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20205, EXPIRATION DATE: JUNE 30, 2023.



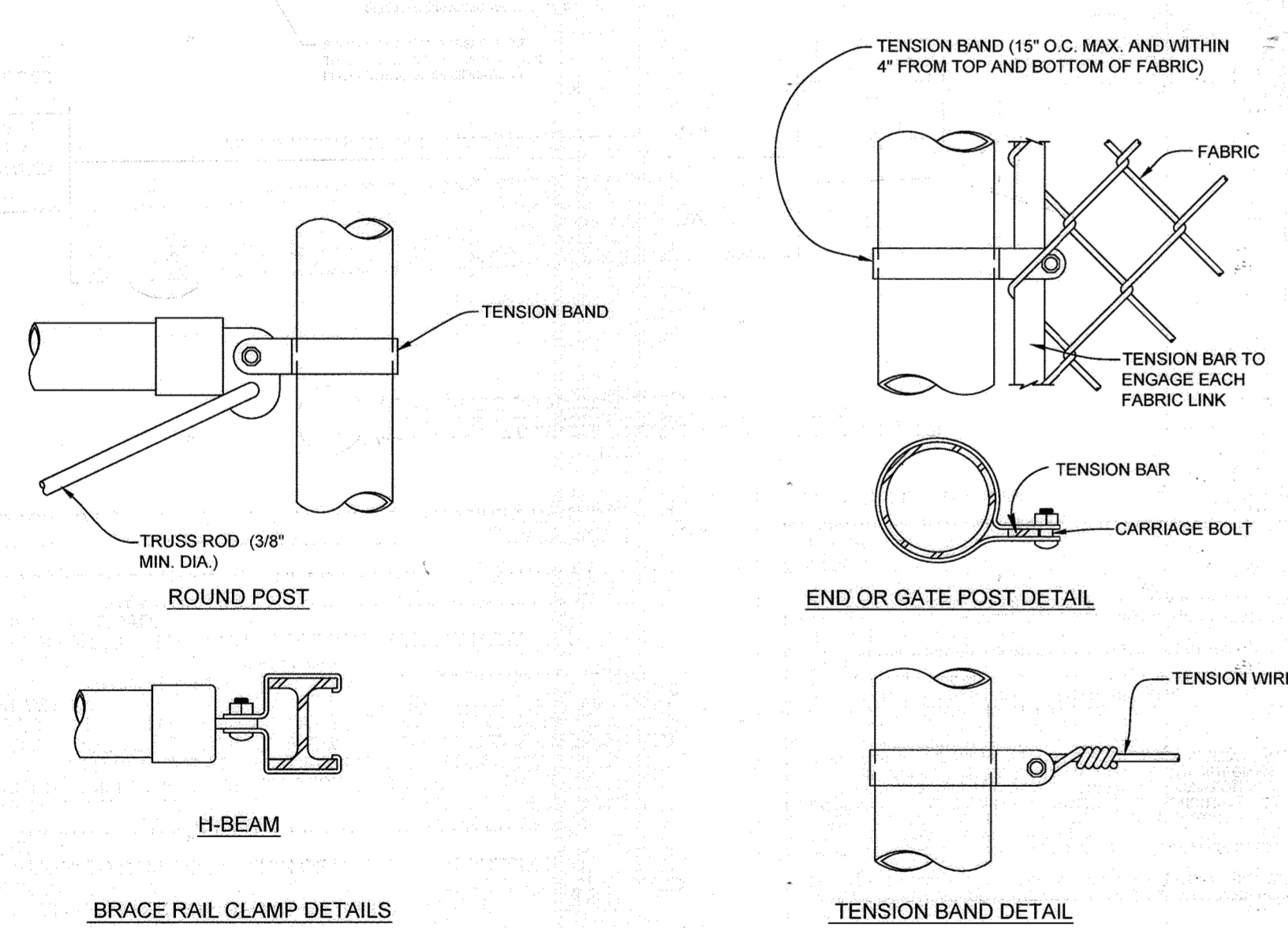
CHAIN-LINK SECURITY FENCE DETAIL
NO SCALE



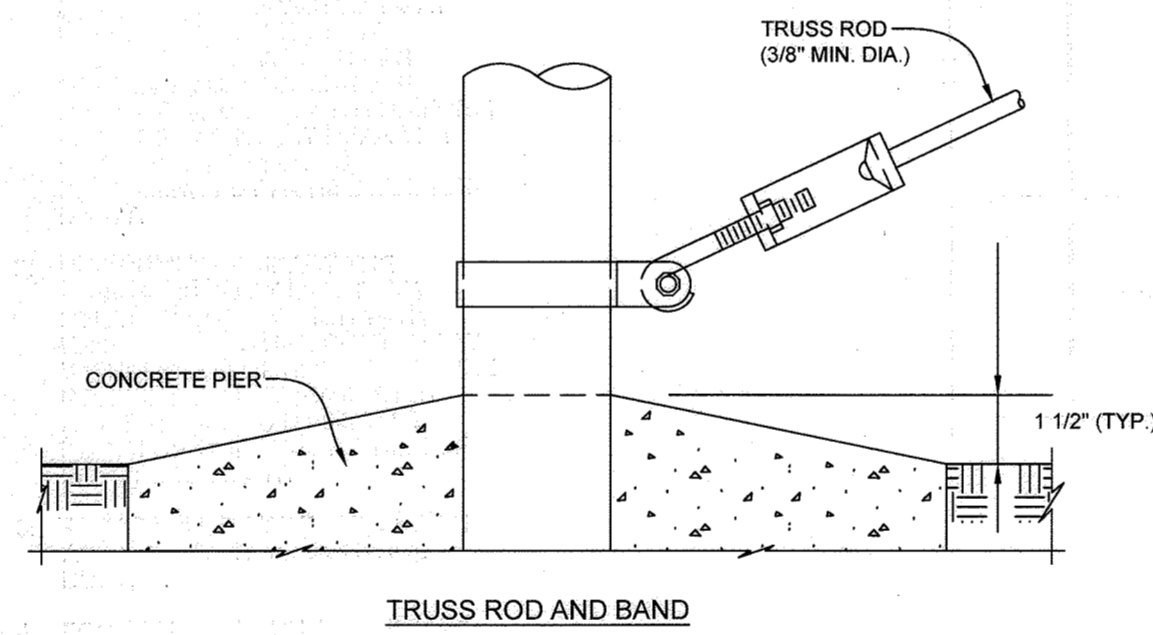
LINE POST ATTACHMENTS
NO SCALE



EXTENSION ARM DETAILS
NO SCALE



FASTENING DETAILS
NO SCALE

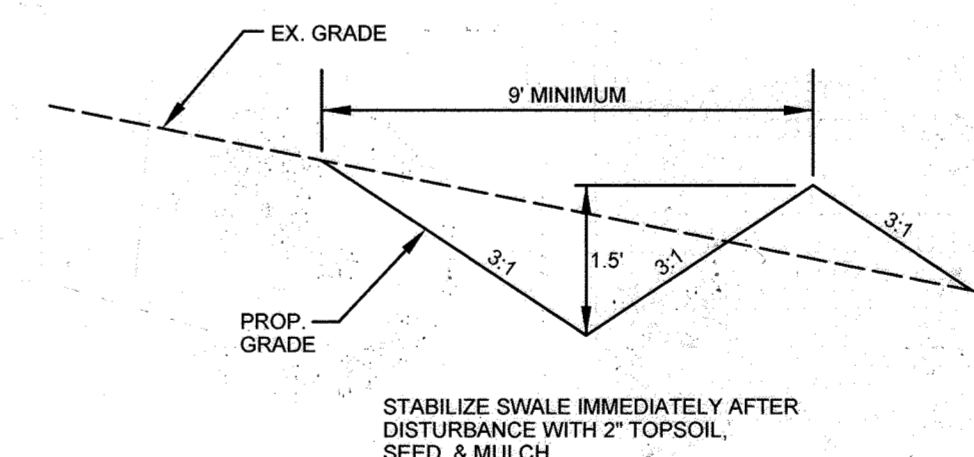


TRUSS ROD AND BAND

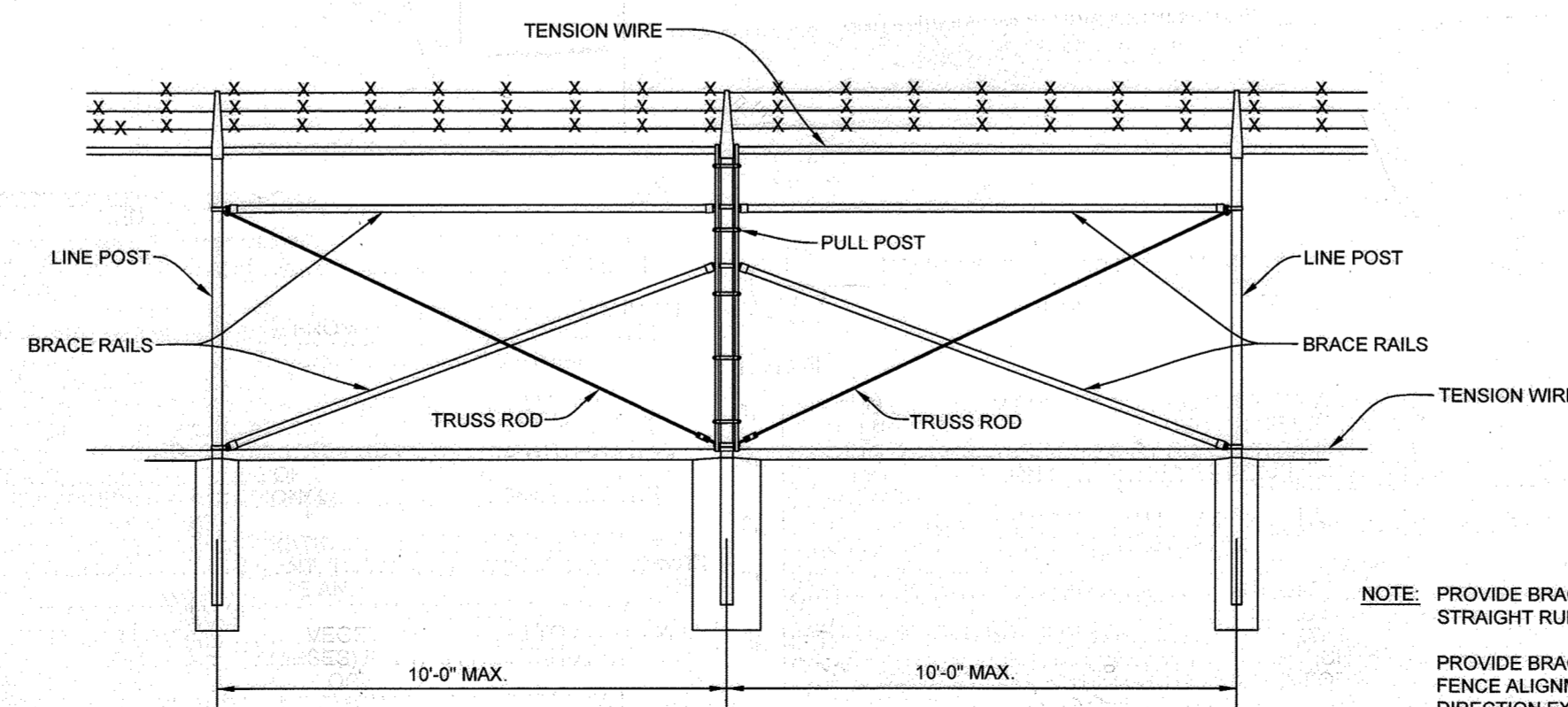
STEEL POST SCHEDULE	
USE AND SECTION	MINIMUM OUTSIDE DIMENSIONS (NOMINAL)
FABRIC WIDTH 72"	
CORNER, END & PULL POSTS	2.375" O.D.
TUBULAR - ROUND	
LINE POSTS	1.90" O.D.
TUBULAR - ROUND	
TOP, BOTTOM & BRACE RAILS	1.66" O.D.
TUBULAR - ROUND	

FENCE NOTES:

1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT OTHER TYPES OF FENCE SECTIONS AND METHODS OF INSTALLATION THAT COMPLY WITH THE SPECIFICATIONS.
2. WIRE TIES, RAILS, POSTS, AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE THE SECURE AREA.
3. UNLESS SPECIFICALLY SHOWN OR SPECIFIED, ALL FENCE SHALL HAVE AN APRON EXTENDED OUTWARD FROM THE AREA BEING PROTECTED.



PERMANENT GRASS SWALE
NOT TO SCALE



BRACE PANEL DETAIL
NO SCALE

NOTE: PROVIDE BRACE PANEL WHENEVER STRAIGHT RUNS EXCEED 900 FEET.
PROVIDE BRACE PANEL WHENEVER FENCE ALIGNMENT CHANGE IN DIRECTION EXCEEDS 15 DEGREES.

*FOR ADDITIONAL DETAILS, SEE MANUFACTURER SPECIFICATIONS

<p>OWNER MHG&S LLC 13300 ROUTE 144 WEST FRIENDSHIP, MD 21794 GEORGE STRECKER, SR.</p>	<p>DEVELOPER SUNEAAT FRIENDSHIP SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM</p> <p>SUNEAAT FRIENDSHIP ANEM SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM</p>
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NO AS-BUILT INFORMATION IN THIS SHEET. JULY 26, 2023

SITE DETAILS
SUNEAAT FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD

TAX MAP 15 GRID 3
3RD ELECTION DISTRICT

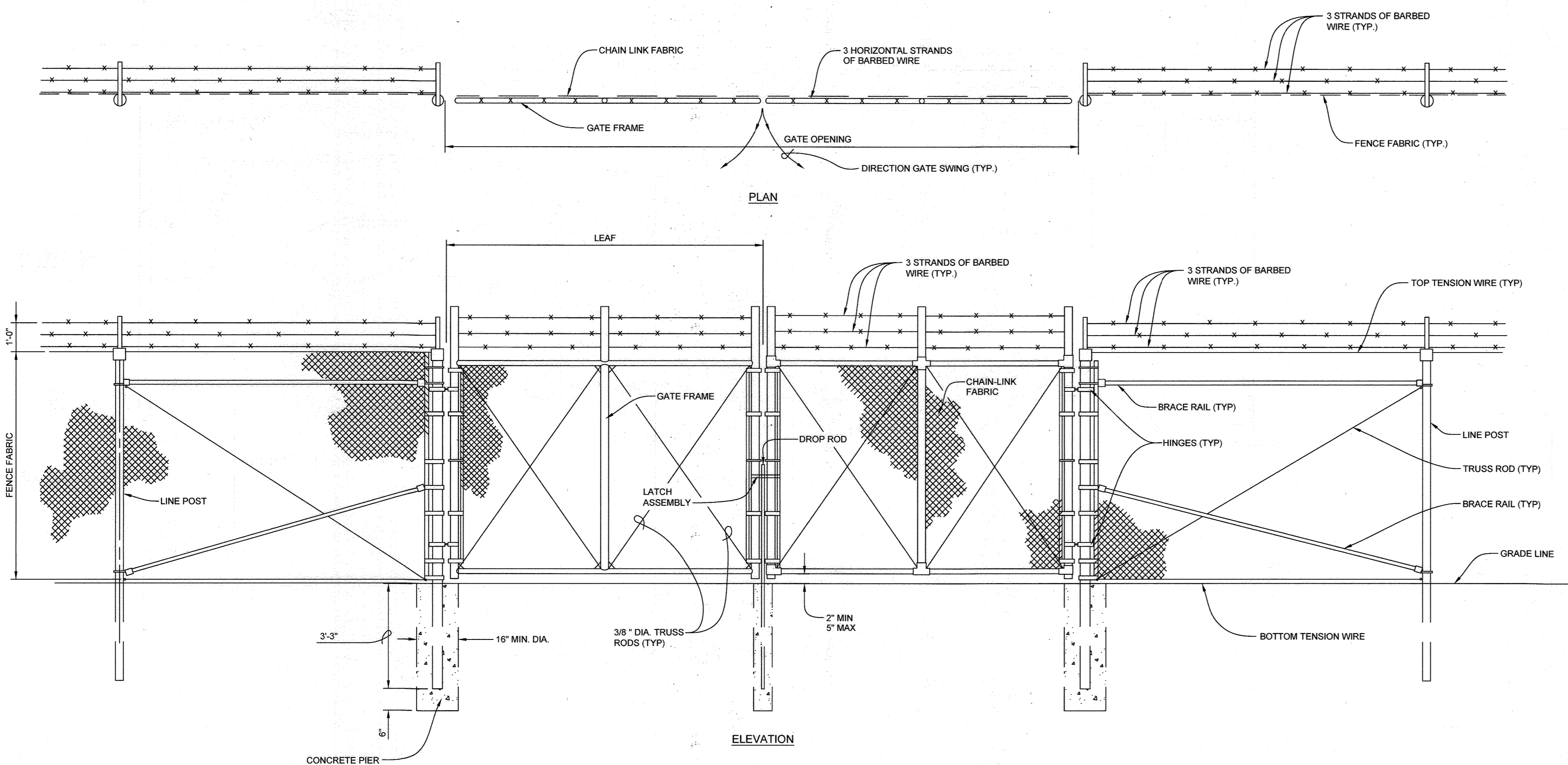
PARCEL 146
HOWARD COUNTY, MARYLAND

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Chad Edmondson</i>	2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Angy Green</i>	2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT	DATE
DIRECTOR	DATE

NO.	REVISION	DATE
1	AS-BUILT PLAN BY SILL	7/26/23
	ENGINEERING GROUP, LLC	

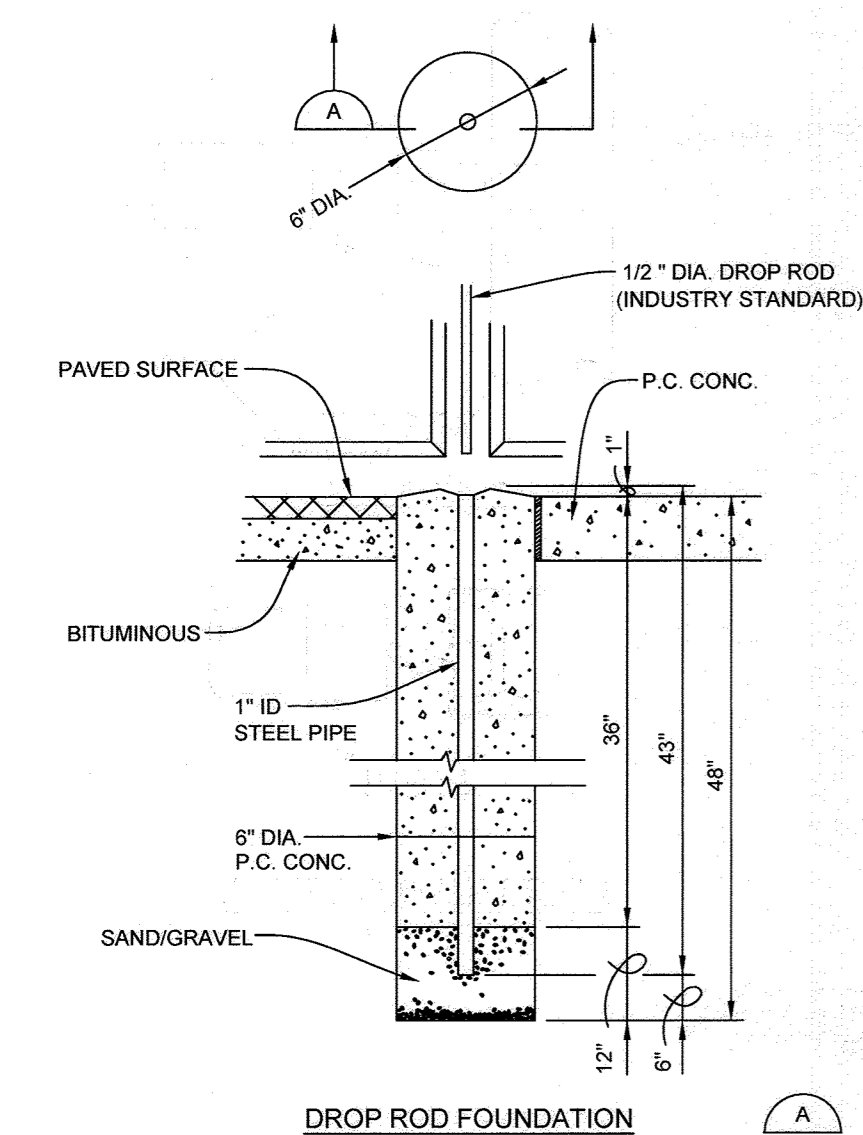
	<p>SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 410.696.2022 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development</p>	DESIGN BY: PS
		DRAWN BY: TB
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: DECEMBER 21, 2021
		PROJECT #: 19-044
		SHEET #: 17 of 28

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. 30203, EXPIRATION DATE: JUNE 30, 2023.

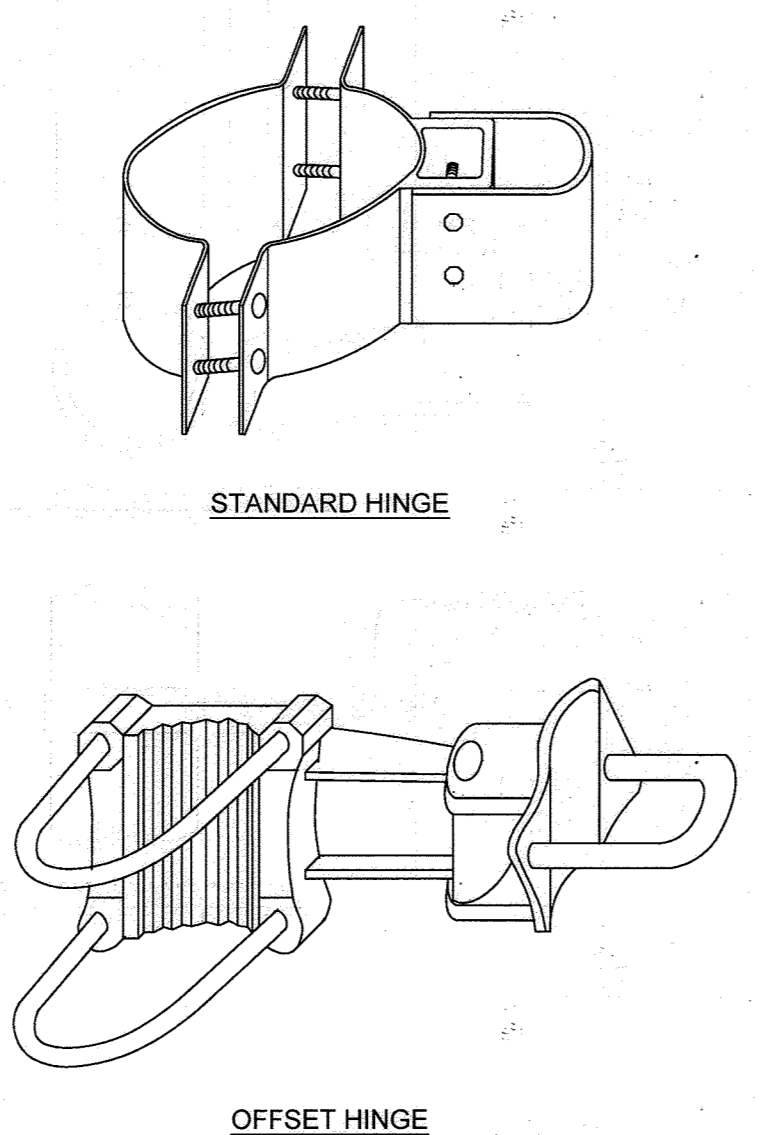


DOUBLE SWING GATE
NO SCALE

GATE POST SCHEDULE	
GATE LEAF WIDTH (NOMINAL)	OUTSIDE DIMENSIONS (NOMINAL)
	FABRIC WIDTH 72"
5' MAX. (PERSONNEL GATE)	2.875" OD 2.8' SQ.
12'	4.0' OD

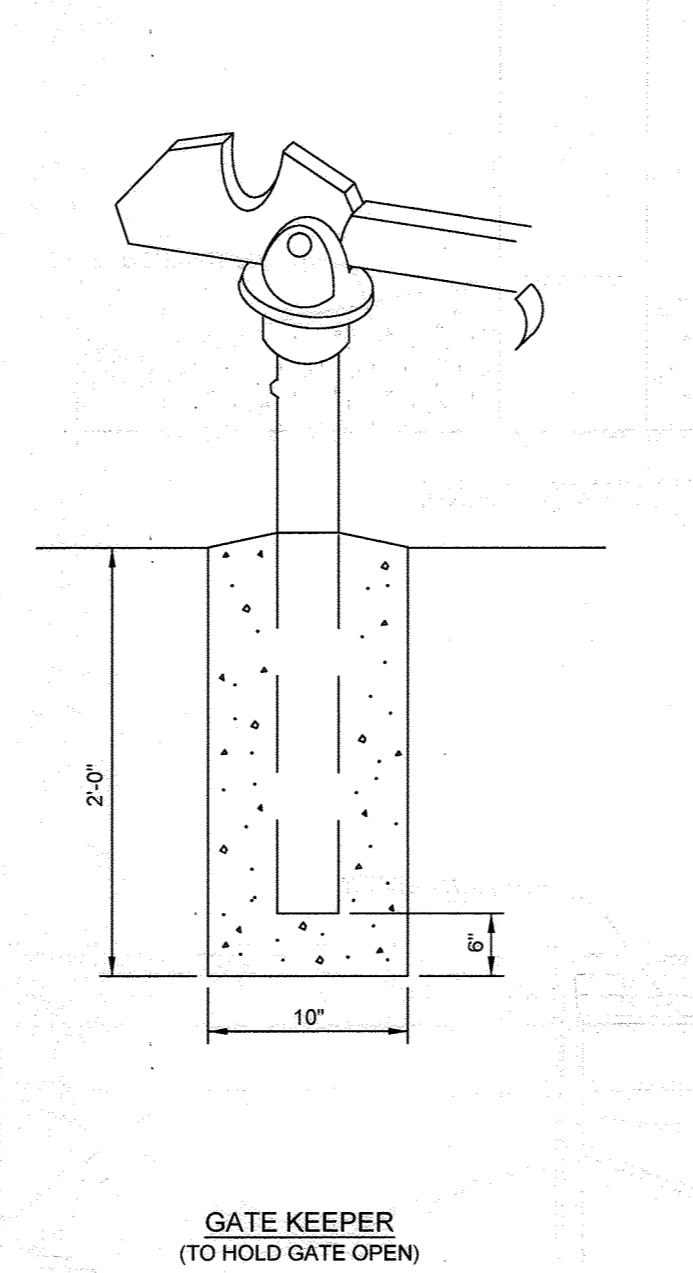


DROP ROD FOUNDATION

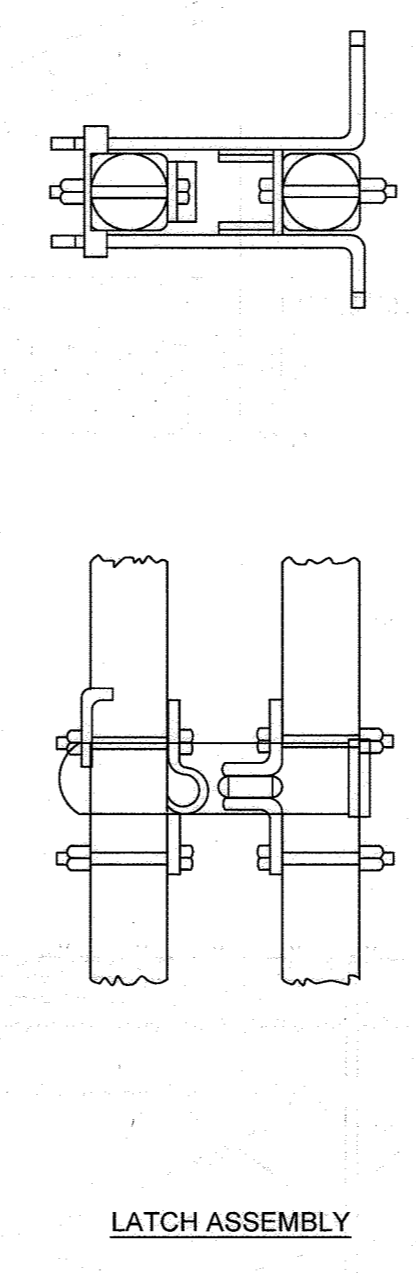


STANDARD HINGE

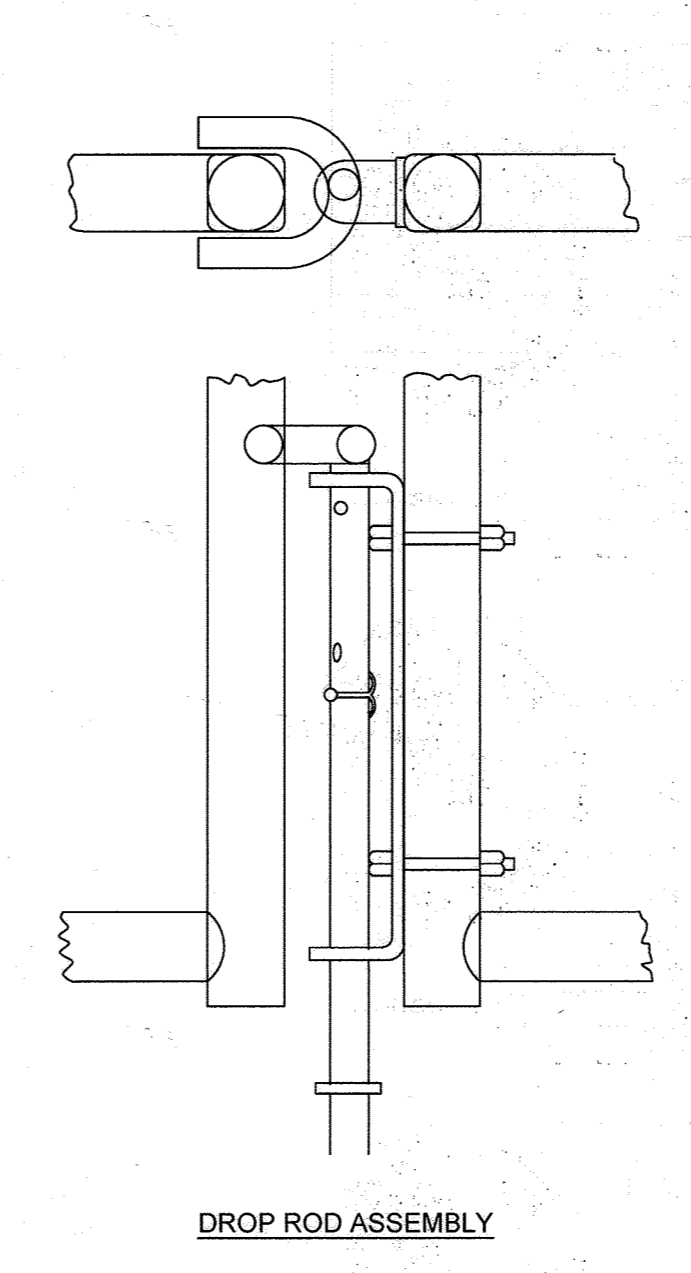
OFFSET HINGE



GATE KEEPER (TO HOLD GATE OPEN)



LATCH ASSEMBLY



DROP ROD ASSEMBLY

SWING GATE DETAILS
NO SCALE

GATE NOTES:

- FOR NON-SENSORED FENCES, DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS METHODS OF INSTALLATION WHICH COMPLY WITH THE SPECIFICATIONS.
- SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY AND GATE KEEPERS EXCEPT AS NOTED.
- ALL GATE FRAMES SHALL MEET THE MINIMUM REQUIREMENTS OF ASTM F900 1.90" NOMINAL (ROUND) OR 2.00" NOMINAL (SQUARE). GATE FRAMES SHALL BE OF WELDED CONSTRUCTION OR SHALL BE ASSEMBLED USING HEAVY FITTINGS. AT CONTRACTOR'S OPTION A WELDED HORIZONTAL BRACE MAY BE USED IN LIEU OF TRUSS RODS TO BRACE ALL-WELDED GATE FRAMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.
- GATES SHALL BE DESIGNATED AS FOLLOWS:

FENCE HEIGHT	- INCHES
TYPE OPENING	- SD (SINGLE) - DO (DOUBLE)
HINGE	- RA (STANDARD) - HO (OFFSET)
OPENING	- FEET (CLEAR OPENING BETWEEN GATE POSTS)

*FOR ADDITIONAL DETAILS, SEE MANUFACTURER SPECIFICATIONS

NOTE:

ANY GATE INSTALLED AT THE PROJECT ENTRANCE SHALL BE REVIEWED BY THE PBES DEPARTMENT AND THE FIRE DEPARTMENT TO ASSURE THAT THE DESIGN ALLOWS LARGE VEHICLES, SUCH AS MOTORHOMES, TO TURN AROUND IF THE GATE IS CLOSED WITHOUT BACKING INTO THE PUBLIC ROADWAY, AND THAT FIRE SUPPRESSION ACCESS IS AVAILABLE AT ALL TIMES. IF THE GATE IS PART OF AN ENTRY STRUCTURE AN ADDITIONAL PERMIT SHALL BE REQUIRED PURSUANT TO THE COUNTY CODE AND IN ACCORDANCE WITH THE NAPA COUNTY ROADS AND STREET STANDARDS. A SEPARATE ENTRY STRUCTURE PERMIT IS NOT REQUIRED IF THE ENTRY STRUCTURE IS CONSISTENT WITH ENTRY STRUCTURE PLANS SUBMITTED, REVIEWED, AND APPROVED AS PART OF THIS PERMIT APPROVAL.

*FOR ADDITIONAL DETAILS, SEE MANUFACTURER SPECIFICATIONS

OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21794
GEORGE STRECKER, SR.

DEVELOPER
SUNEAAT FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

NO AS-BUILT INFORMATION IN THIS SHEET. JULY 24, 2023
SUNEAAT FRIENDSHIP ANEM SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SITE DETAILS
SUNEAAT FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
PARCEL 146
HOWARD COUNTY, MARYLAND

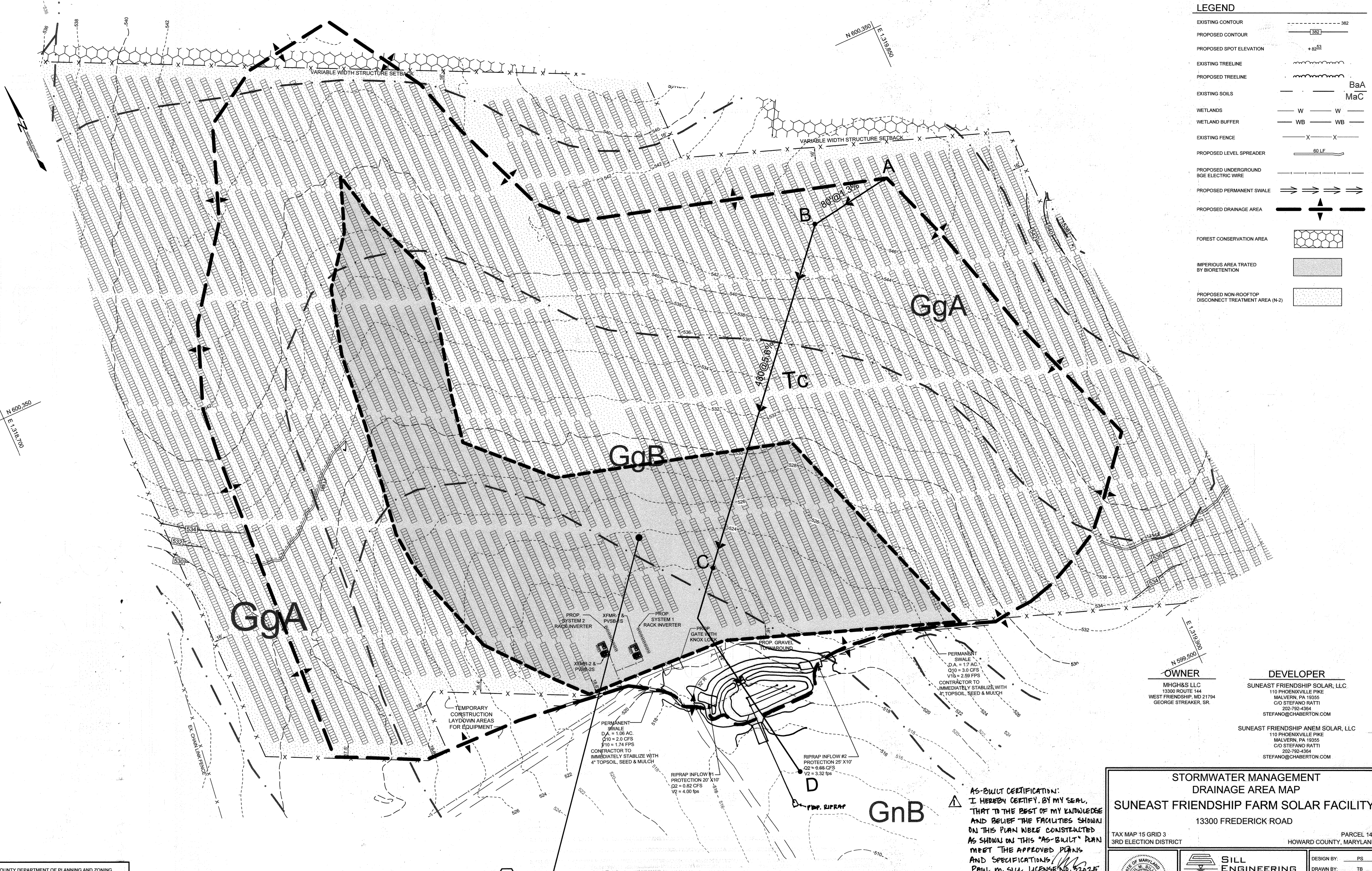
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Developed by: *Chad Edmondson* 2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION DATE
2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT DATE
2/7/2022
DIRECTOR DATE

NO.	REVISION	DATE
1	AS-BUILT PLAN BY SILL	7/20/23
	ENGINEERING GROUP, LLC	

	SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS
		DRAWN BY: TB
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: DECEMBER 21, 2021
		PROJECT #: 19-044
		SHEET #: 18 of 28

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. 30209, EXPIRATION DATE: JUNE 30, 2023.

LEGEND	
EXISTING CONTOUR	--- 382
PROPOSED CONTOUR	--- 382
PROPOSED SPOT ELEVATION	+ 82.53
EXISTING TREELINE	~~~~~
PROPOSED TREELINE	~~~~~
EXISTING SOILS	--- BaA --- MaC
WETLANDS	--- W --- W
WETLAND BUFFER	--- WB --- WB
EXISTING FENCE	--- X --- X
PROPOSED LEVEL SPREADER	--- 60 LF ---
PROPOSED UNDERGROUND BGE ELECTRIC WIRE	--- ---
PROPOSED PERMANENT SWALE	==> ==> ==>
PROPOSED DRAINAGE AREA	--- + ---
FOREST CONSERVATION AREA	~~~~~
IMPERIOUS AREA TRATED BY BIORETENTION	--- ---
PROPOSED NON-ROOFTOP DISCONNECT TREATMENT AREA (N-2)	--- ---



OWNER
 MHG&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21794
 GEORGE STREAKER, SR.

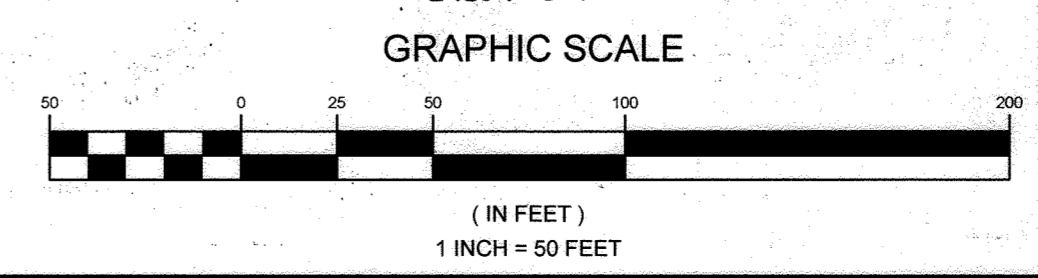
DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

STORMWATER MANAGEMENT DRAINAGE AREA MAP
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT
 PARCEL 146
 HOWARD COUNTY, MARYLAND

	SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.3022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS DRAWN BY: TB CHECKED BY: PS SCALE: AS SHOWN DATE: DECEMBER 21, 2021 PROJECT #: 19-044 SHEET #: 19 of 28
	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. 52025, EXPIRATION DATE: JUNE 20, 2023	
	AS-BUILT SDP-21-027	
	(Professional Engineer Seal)	

AS-BUILT CERTIFICATION:
 I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
 PAUL M. SILL, LICENSE NO. 52025
 JULY 20, 2023



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Decided by: *Chad Edmondson*
 DATE: 2/7/2022
 CHIEF DIVISION OF LAND DEVELOPMENT
 DATE: 2/7/2022
 DIRECTOR: *Angy Green*

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/26/23
REVISIONS		

A = 14.34 Ac
 Pe = 1.0'
 Z = RC-DEO
 P = 1%
 'B' SOIL

PLAN VIEW
 SCALE: 1"=50'

**BALTIMORE NATIONAL PIKE
(INTERSTATE 70/U.S. ROUTE 40)**

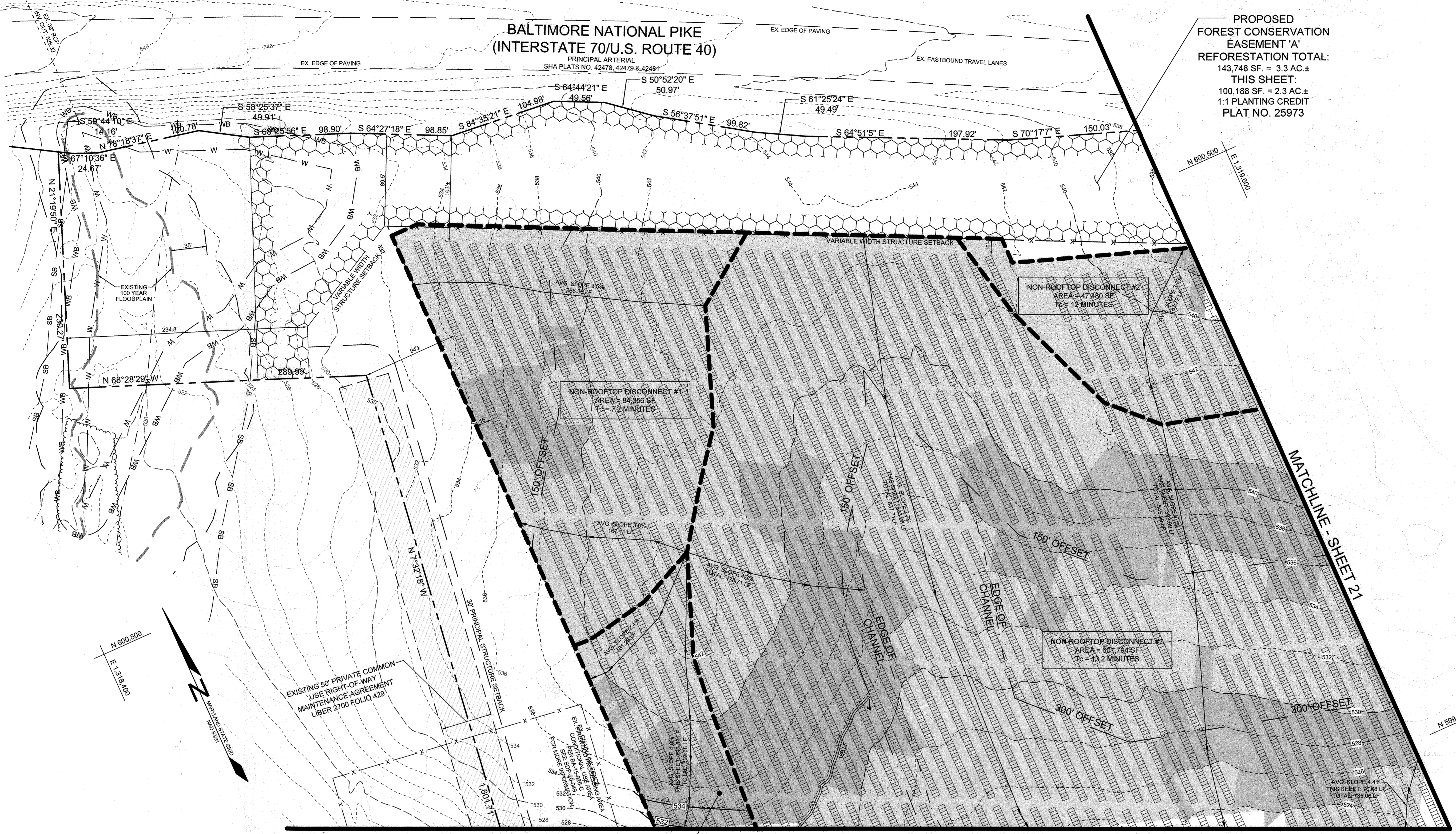
PRINCIPAL ARTERIAL
SHA PLATS NO. 42478, 42479 & 42481

**PROPOSED
FOREST CONSERVATION
EASEMENT 'A'
REFORESTATION TOTAL:**
143,748 SF. = 3.3 AC.±
THIS SHEET:
100,188 SF. = 2.3 AC.±
1:1 PLANTING CREDIT
PLAT NO. 25973

LEGEND

- EXISTING GIS CONTOUR
- EXISTING FIELD RUN CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING WETLAND
- EXISTING 25' WETLAND BUFFER
- EXISTING STREAM
- EXISTING 100' STREAM BUFFER
- PROPOSED 7' HIGH CHAIN LINK SECURITY FENCE (NO BARBED WIRE)
- EXISTING ZONING BOUNDARY
- EXISTING 100-YEAR FLOODPLAIN & UTILITY EASEMENT
- PROPOSED LEVEL SPREADER
- PROPOSED UNDERGROUND 6GE ELECTRIC WIRE
- PROPOSED PERMANENT SWALE
- RIDGELINE OFFSETS (150' & 300')
- EDGE OF CHANNEL
- PROPOSED GATE
- PROPOSED NON-ROOFTOP DISCONNECT TREATMENT AREA (N-2)
- SLOPES (0% TO 5%)
- SLOPES (5% TO 10%)

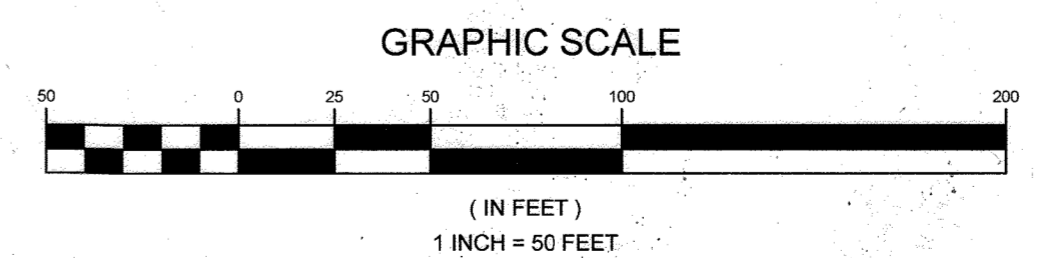
NOTE: SLOPES SHOWN ARE THOSE CONTAINED WITHIN THE SOLAR ARRAY USE AREA.



NON-ROOFTOP DISCONNECT #8
AREA = 45,721 SF
Tc = 9 MINUTES

PLAN VIEW
SCALE: 1"=50'

AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, LICENSE NO. 72025
JULY 24, 2023



OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21754
GEORGE STRECKER, SR.

DEVELOPER
SUNEA FRIENDSHIP SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

SUNEA FRIENDSHIP ANEM SOLAR, LLC
110 PHOENIXVILLE PIKE
MALVERN, PA 19355
C/O STEFANO RATTI
202-792-4364
STEFANO@CHABERTON.COM

STORMWATER MANAGEMENT PLAN
SUNEA FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD
PARCEL 146
3RD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Developed by: *Chad Edmondson*
2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION
DATE: 2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT
DATE: 2/7/2022
DIRECTOR: *Angy Green*

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23

TAX MAP 15 GRID 3
3RD ELECTION DISTRICT

PARCEL 146
HOWARD COUNTY, MARYLAND

DESIGNED BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 20 of 28

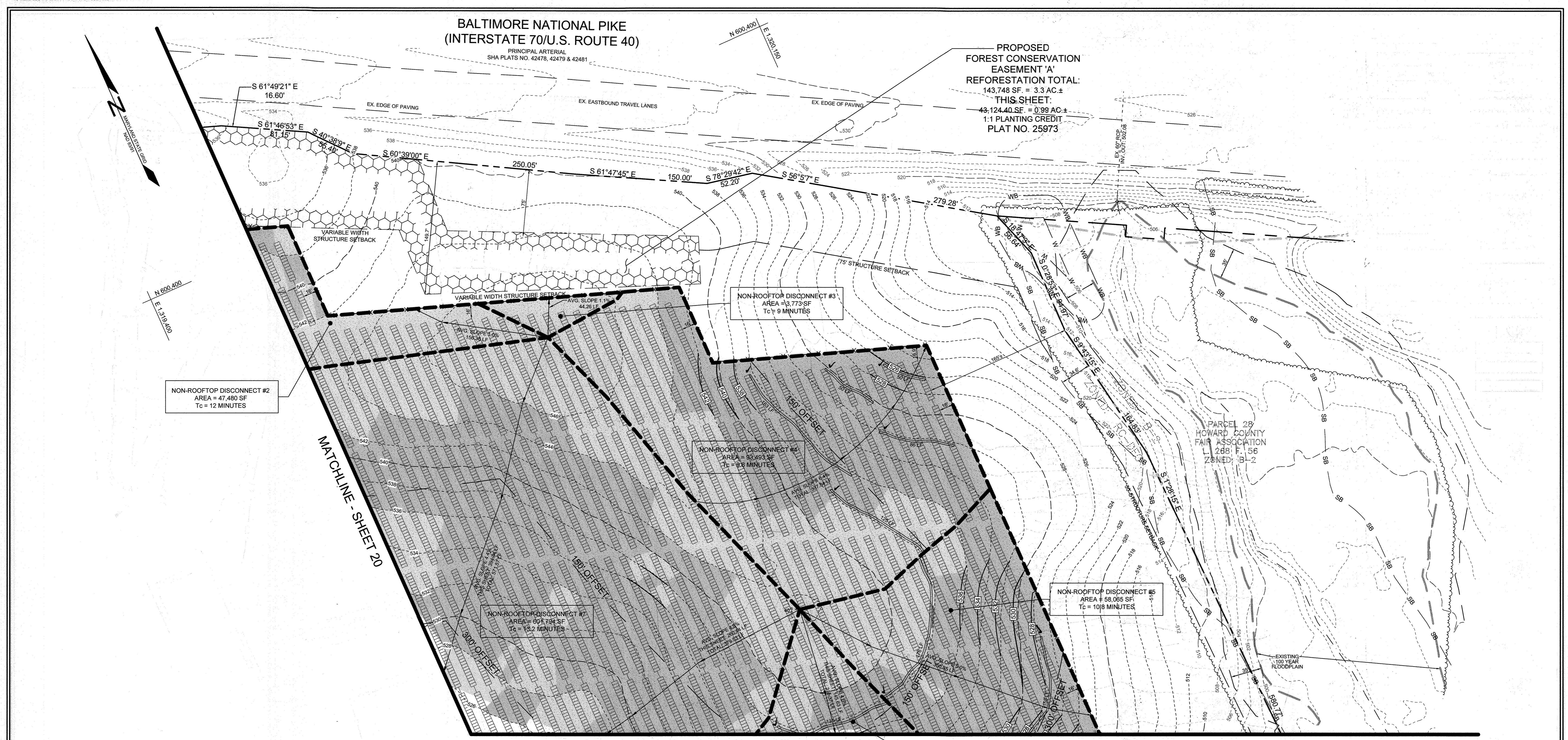
SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 413.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

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. 33029, EXPIRATION DATE: JUNE 20, 2023.

**BALTIMORE NATIONAL PIKE
(INTERSTATE 70/U.S. ROUTE 40)**

PRINCIPAL ARTERIAL
SHA PLATS NO. 42478, 42479 & 42481

PROPOSED
FOREST CONSERVATION
EASEMENT 'A'
REFORESTATION TOTAL:
143,748 SF. = 3.3 AC.±
THIS SHEET:
43,124.40 SF. = 0.99 AC.±
1:1 PLANTING CREDIT
PLAT NO. 25973



NON-ROOFTOP DISCONNECT #2
AREA = 47,480 SF
Tc = 12 MINUTES

NON-ROOFTOP DISCONNECT #3
AREA = 3,773 SF
Tc = 9 MINUTES

NON-ROOFTOP DISCONNECT #4
AREA = 33,493 SF
Tc = 9.8 MINUTES

NON-ROOFTOP DISCONNECT #5
AREA = 58,055 SF
Tc = 10.8 MINUTES

NON-ROOFTOP DISCONNECT #7
AREA = 60,794 SF
Tc = 13.2 MINUTES

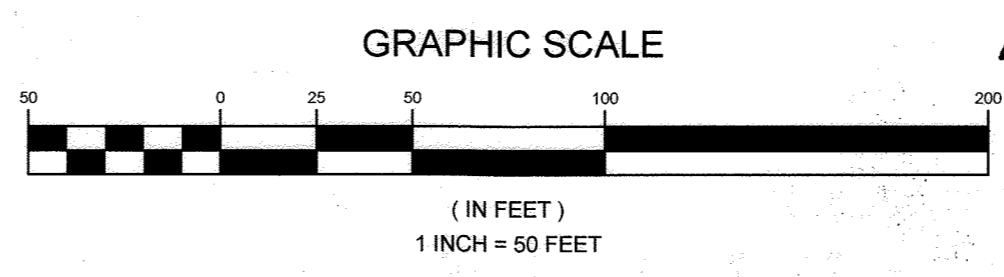
NON-ROOFTOP DISCONNECT #6
AREA = 29,150 SF
Tc = 10.8 MINUTES

MATCHLINE - SHEET 20

MATCHLINE - SHEET 23

PARCEL 28
HOWARD COUNTY
FARM ASSOCIATION
L. 288 F. 56
ZONED: B-2

PLAN VIEW
SCALE: 1"=50'



AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS 'AS-BUILT' PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, LICENSE NO. 32025
JULY 24, 2023

OWNER	DEVELOPER
MHGH&S LLC 13300 ROUTE 144 WEST FRIENDSHIP, MD 21784 C/O STEFANO RATTI GEORGE STRECKER, SR.	SUNEAAT FRIENDSHIP SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM
	SUNEAAT FRIENDSHIP ANEM SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM

**STORMWATER MANAGEMENT PLAN
SUNEAAT FRIENDSHIP FARM SOLAR FACILITY**

13300 FREDERICK ROAD
TAX MAP 15 GRID 3
3RD ELECTION DISTRICT
PARCEL 146
HOWARD COUNTY, MARYLAND

		DESIGN BY: PS
		DRAWN BY: TB
		CHECKED BY: PS
		SCALE: AS SHOWN
		DATE: DECEMBER 21, 2021
PROJECT #: 19-044 SHEET # 21 of 28		

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Developed by: *Chad Edmondson*
2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION
DATE: 2/7/2022
CHIEF DIVISION OF LAND DEVELOPMENT
DATE: 2/7/2022
DIRECTOR: *Amy Green*
DATE:

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23



AS-BUILT CERTIFICATION:
 I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS OF PAUL M. SILL, LICENSE NO. 32025 JULY 24, 2023

OWNER
 MHG&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21784
 GEORGE STREAKER, SR.

DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

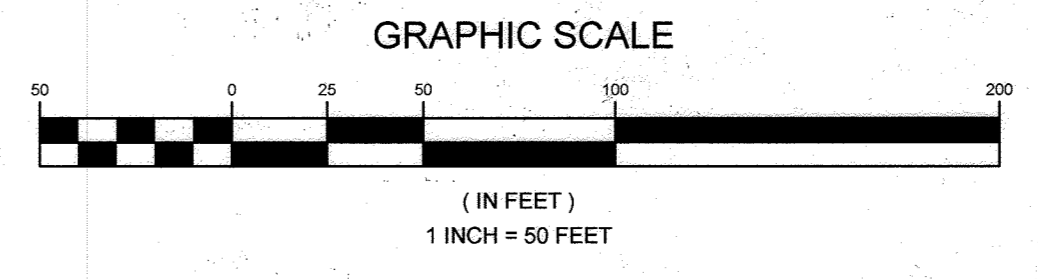
STORMWATER MANAGEMENT PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 TAX MAP 15 GRID 3 3RD ELECTION DISTRICT
 PARCEL 146 HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Developed by: *Chad Edmondson* 2/7/2022
 CHIEF DEVELOPMENT ENGINEERING DIVISION
 DATE: 2/7/2022
 CHIEF DIVISION OF LAND DEVELOPMENT
 DATE: 2/7/2022
 DIRECTOR: *Amy Green*

PROPOSED BG&E INTERCONNECTION SUBSTATION 110'x100' PER SUNEAST CLEAR VIEW FARM SOLAR FACILITY SDP-21-025

PLAN VIEW
 SCALE: 1"=50'

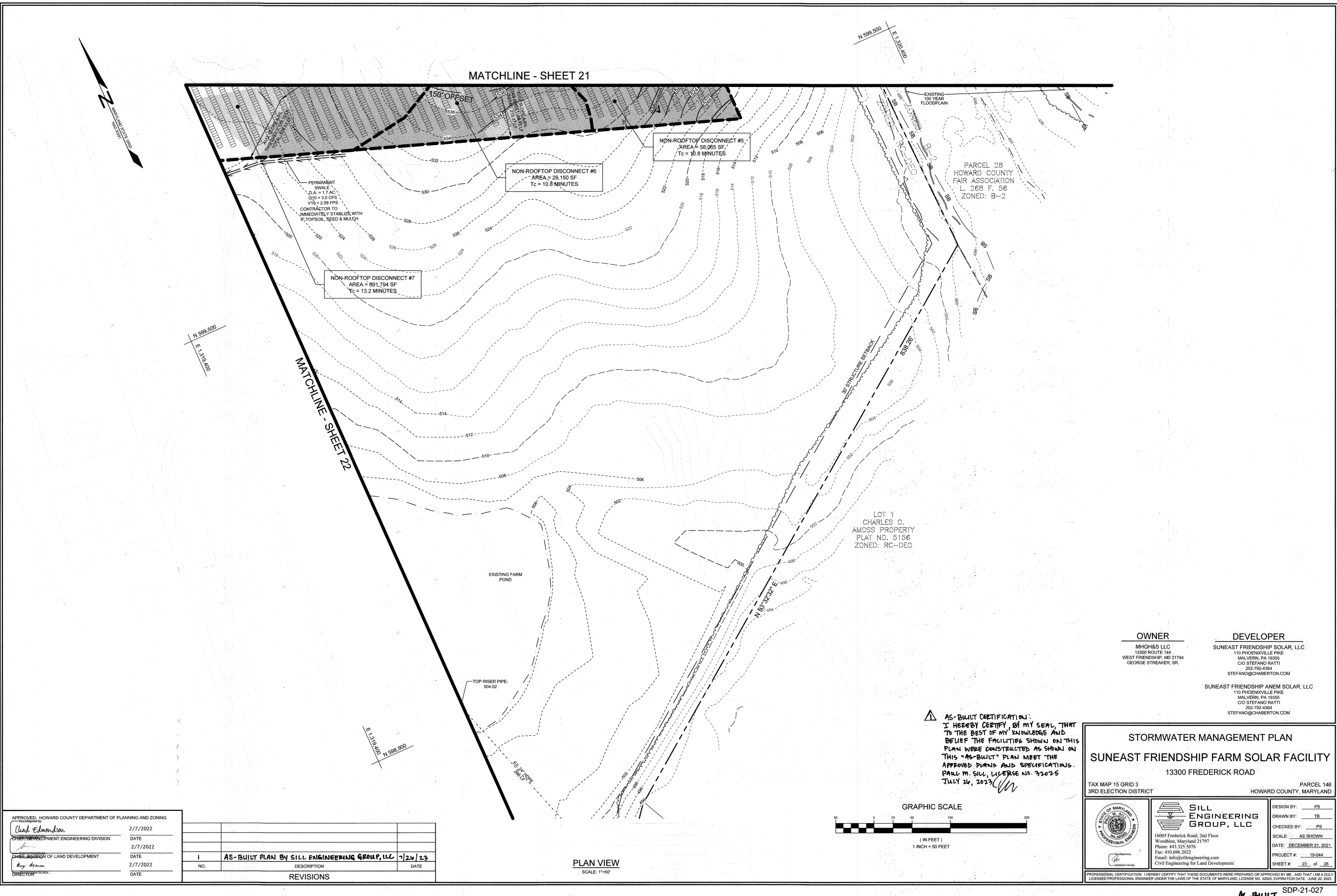
NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23



SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: DECEMBER 21, 2021
 PROJECT #: 19-044
 SHEET #: 22 of 28

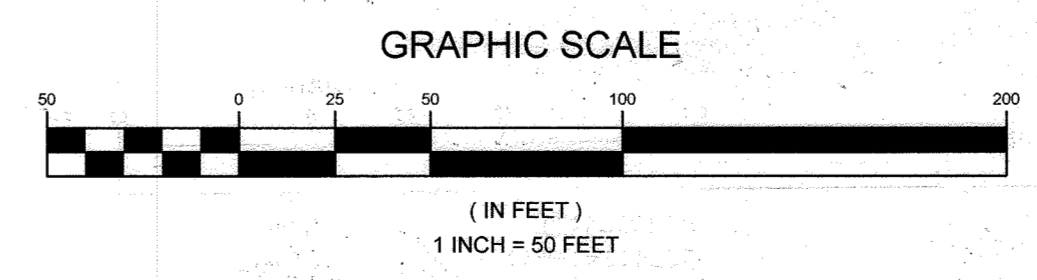
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2023.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Developed by: *Chad Edmondson* 2/7/2022
 CHIEF DEVELOPMENT ENGINEERING DIVISION DATE
 2/7/2022
 CHIEF DIVISION OF LAND DEVELOPMENT DATE
 2/7/2022
 DIRECTOR: *Amy Stroman*

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23

PLAN VIEW
 SCALE: 1"=50'



AS-BUILT CERTIFICATION:
 I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
 PAUL M. SILL, LICENSE NO. 32025
 JULY 24, 2023

OWNER
 MHG&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21794
 GEORGE STREAKER, SR.
 STEFANO@CHABERTON.COM

DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

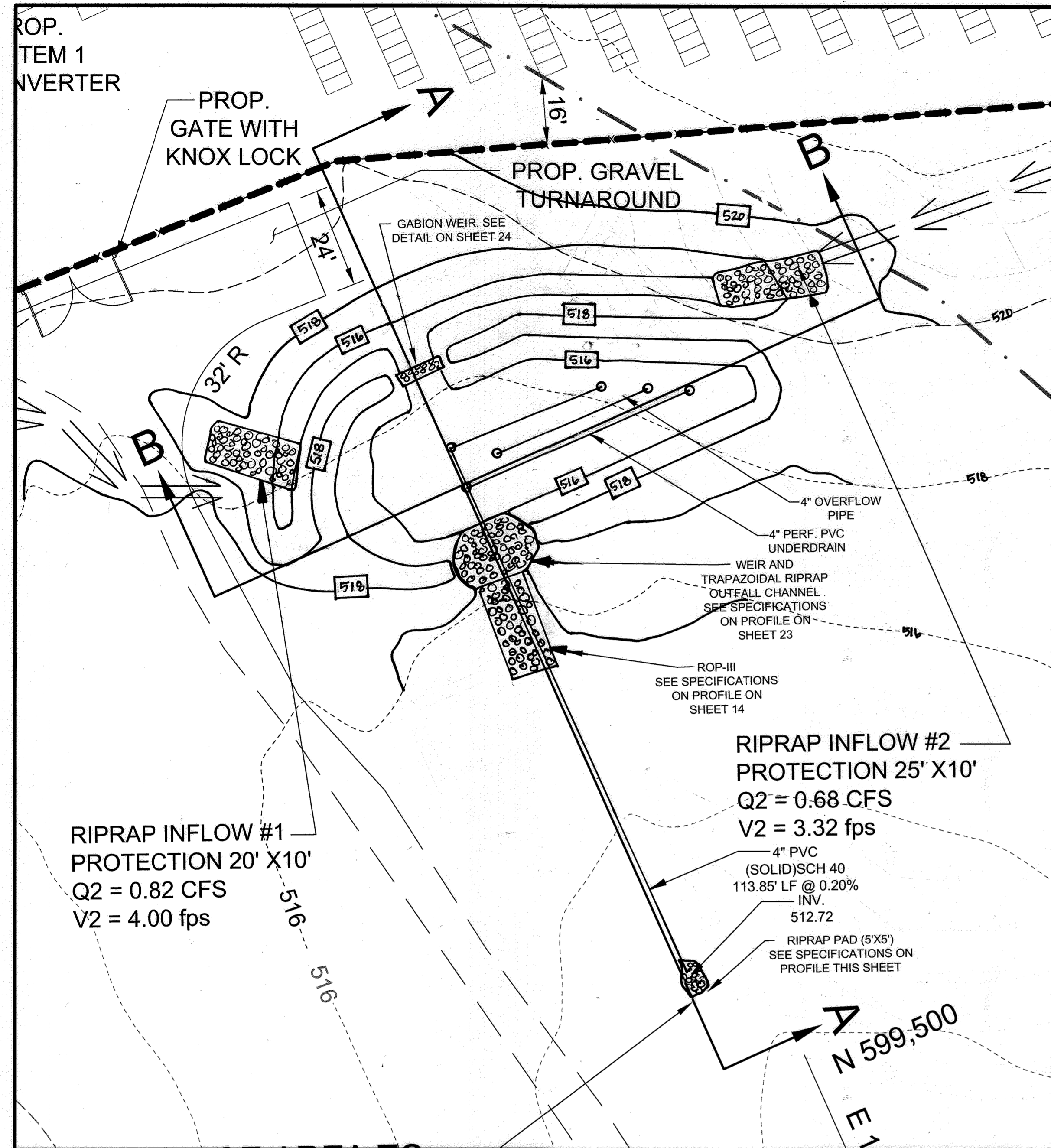
STORMWATER MANAGEMENT PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 3RD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TAX MAP 15 GRID 3
 PARCEL 146

16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

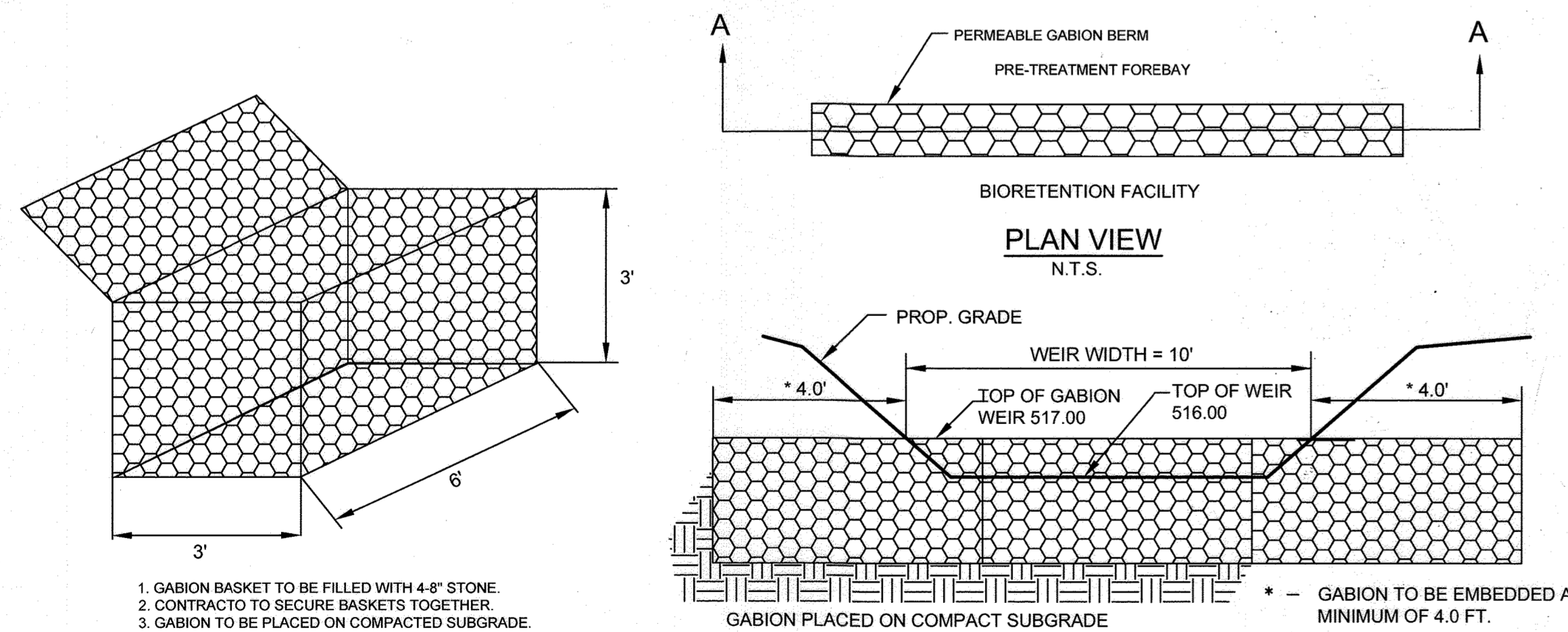
DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: DECEMBER 21, 2021
 PROJECT #: 19-044
 SHEET #: 23 of 28

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. 32025, EXPIRATION DATE: JUNE 25, 2023.



PLAN VIEW - BIORETENTION FACILITY #1 (F-6)

SCALE: 1"=20'



PERMEABLE GABION WEIR DETAIL

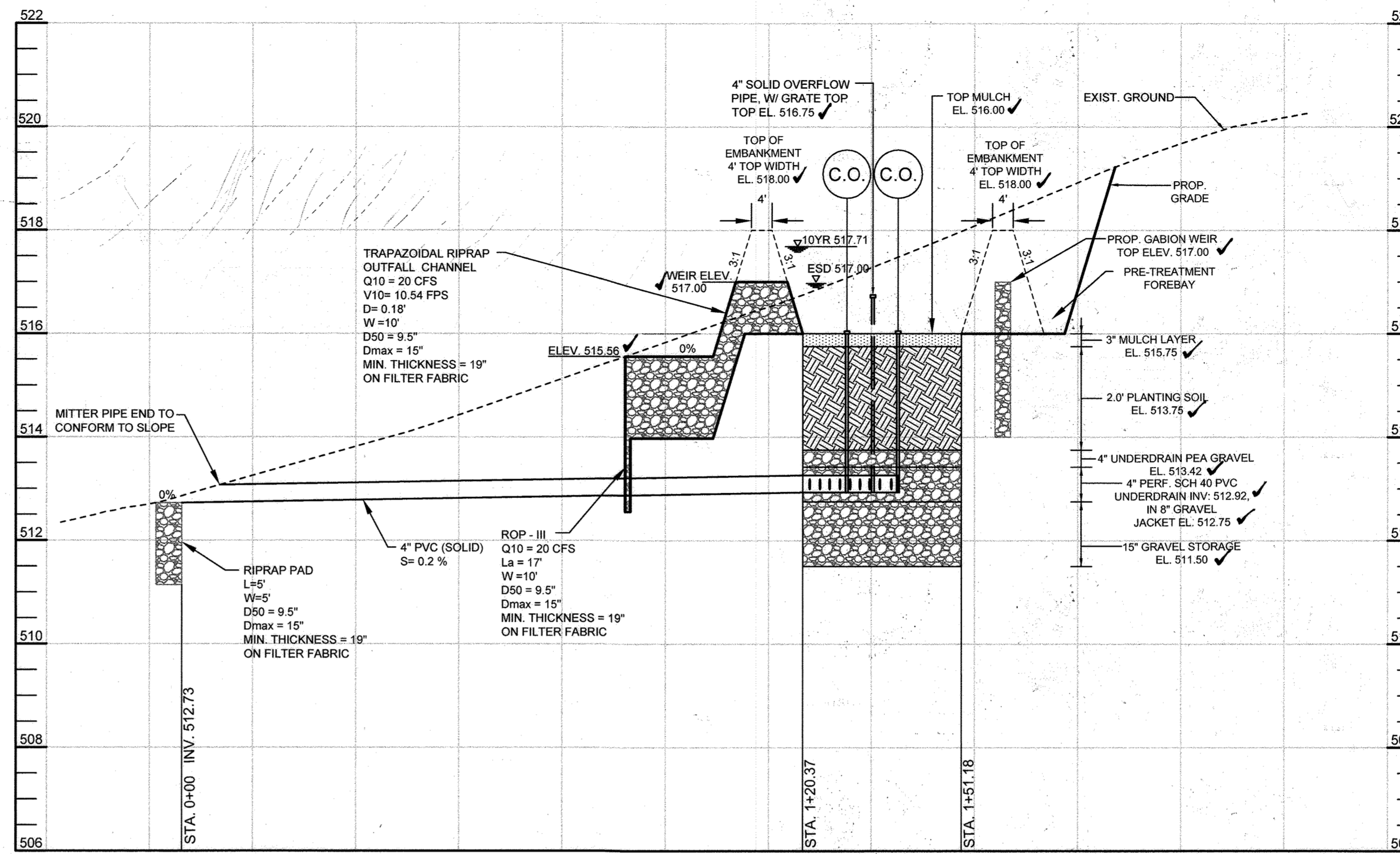
N.T.S.

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

2/7/2022
 2/7/2022
 2/7/2022

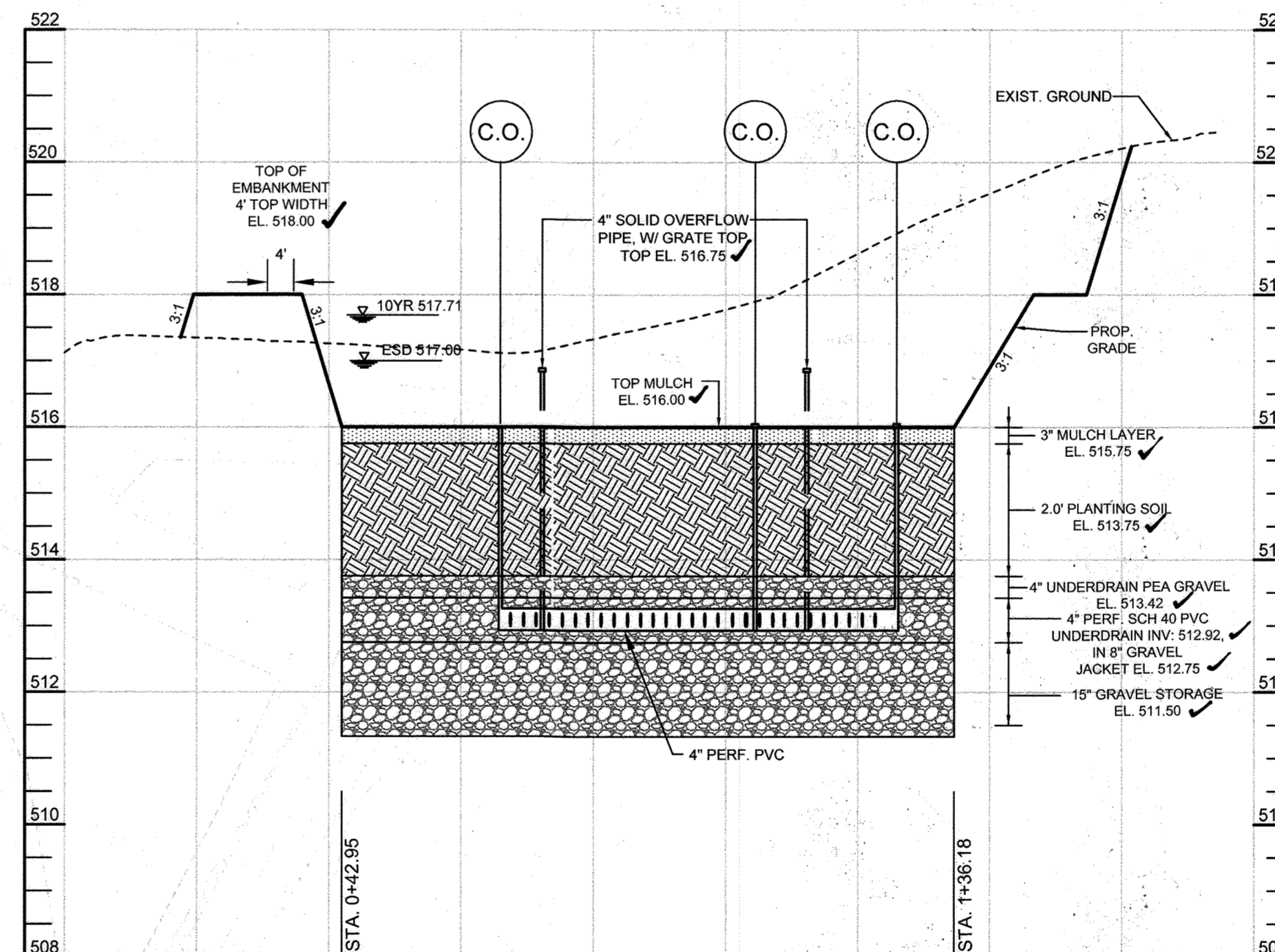
NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23

REVISIONS



BIORETENTION FACILITY #1 (F-6) - PROFILE (A-A)

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



BIORETENTION FACILITY #1 (F-6) - PROFILE (B-B)

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

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
4" PRIVATE	PVC SCH 40	278 LF

OWNER
 MHG&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21784
 C/O STEFANO RATTI
 202-792-4364

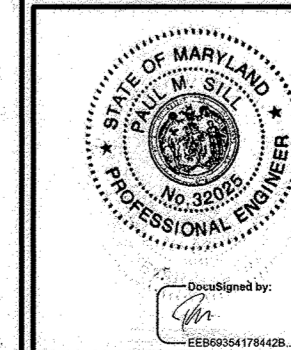
DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

AS-BUILT CERTIFICATION:
 I HEREBY CERTIFY, BY MYSELF,
 THAT TO THE BEST OF MY KNOWLEDGE
 AND BELIEF THE FACILITIES SHOWN
 ON THIS PLAN WERE CONSTRUCTED
 AS SHOWN ON THIS "AS-BUILT" PLAN
 MEET THE APPROVED PLANS AND
 SPECIFICATIONS.
 PAUL M. SILL, LICENSE NO. 32026
 JULY 24, 2023

STORMWATER MANAGEMENT PROFILE,
 NOTES AND DETAILS
 SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD

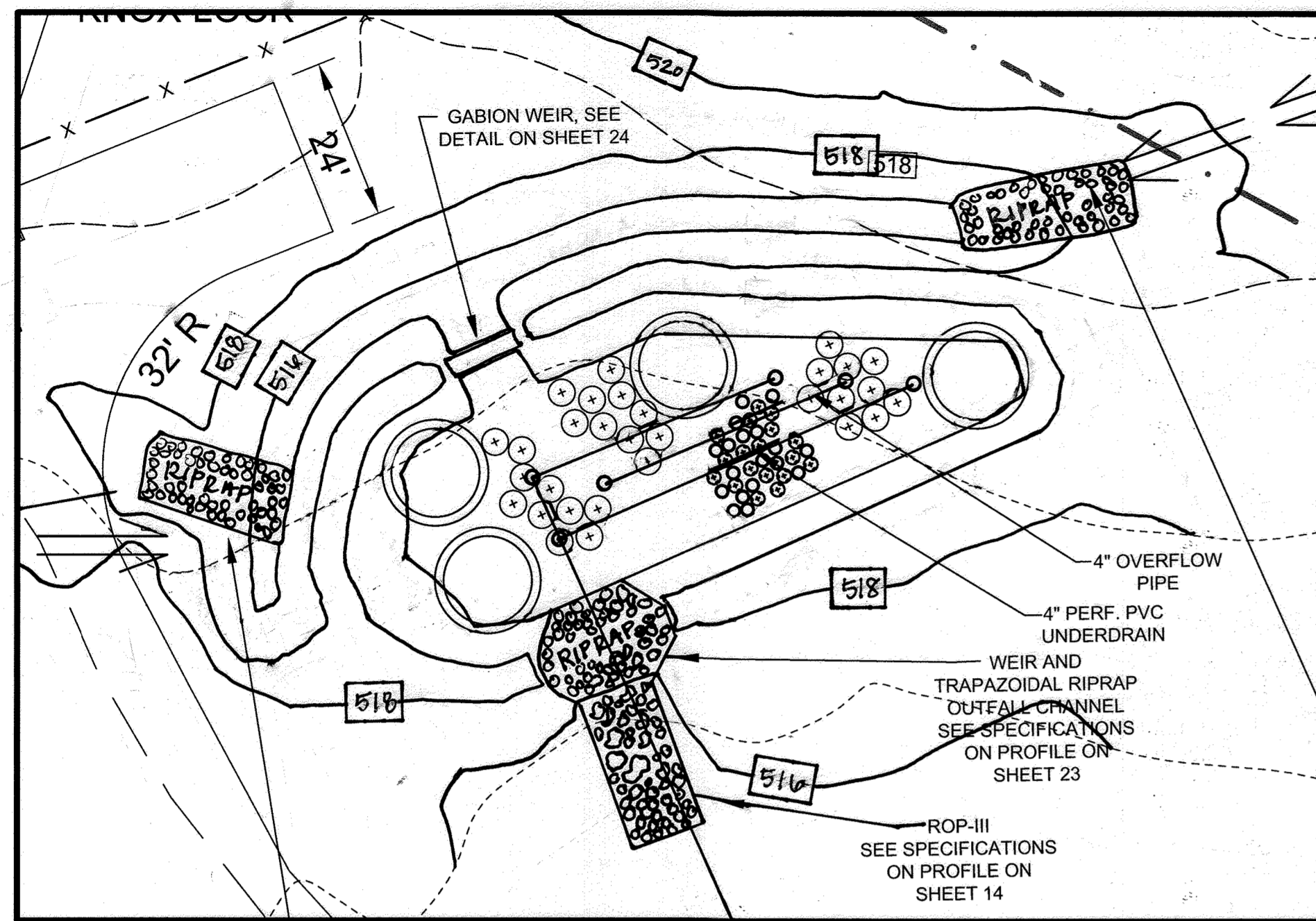
TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT
 PARCEL 146
 HOWARD COUNTY, MARYLAND



SILL ENGINEERING GROUP, LLC
 16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: DECEMBER 21, 2021
 PROJECT #: 19-044
 SHEET #: 24 OF 28

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. 32026, EXPIRATION DATE: JUNE 30, 2023



BIORETENTION FACILITY #1 (F-6) LANDSCAPE PLAN

SCALE: 1"=20'

BIORETENTION PLANT LIST						
SHRUBS						
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QUANTITY
+	ILEX VERTICILLATA	WINTERBERRY	AS SHOWN (MIN. 4' O.C.)	24"-36" HT.	1 MALE PLANT PER GROUPING, PLACE IN CENTER	30
○	HAMMAMELIS X INTERMEDIA 'ARNOLD PROMISE'	WITCH HAZEL 'ARNOLD PROMISE'	AS SHOWN (MIN. 15' O.C.)	3-4 FEET	B & B	4
PERENNIALS						
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QUANTITY
⊕	ECHINACEA PURPUREA	PURPLE CONEFLOWER	AS SHOWN (MIN. 2' O.C.)	1 GAL		18
○	RUDEBECKIA HIRTA	BLACK EYED SUSAN	AS SHOWN (MIN. 2' O.C.)	1 GAL		18

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITIES (F-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

MATERIALS SPECIFICATIONS FOR BIORETENTION, RAIN GARDEN & LANDSCAPE INFILTRATION

MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLANT LIST THIS SHEET	N/A	PLANTINGS ARE SITE-SPECIFIC, SEE PLANT LIST THIS SHEET
PLANTING SOIL	LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)		
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
CURTAIN DRAIN (IF REQUIRED)	ORNAMENTAL STONE: WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE, 3/8" PERFOR. @ 6" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES; PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH.
POURED IN PLACE CONCRETE (IF REQUIRED)	MSHA MX NO. 3; F _c 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED, REINFORCING TO MEET ASTM-615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND; DESIGN TO INCLUDE MEETING ACI CODE 309.4R89; VERTICAL LOADING (H-10 OR H-20); ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
SAND	AASHTO-M-6 OR ASTM-C-33	0.025" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDENS, LANDSCAPE INFILTRATION & INFILTRATION BERMS

- MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- FILTERING MEDIA OR PLANTING SOIL
THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDERANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
 • ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
 • CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
 • PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOILLING) BASE.
WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDS THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
 • PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OR HDPE).
 • PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 1/2" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/2" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
 • GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
 • THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
 • A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
 • A 4" LAYER OF PEA GRAVEL (1/2" TO 3/4" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED

OWNER	DEVELOPER
MHG&S LLC 13300 ROUTE 144 WEST FRIENDSHIP, MD 21784 GEORGE STRECKER, SR.	SUNEAAT FRIENDSHIP SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM
	SUNEAAT FRIENDSHIP ANEM SOLAR, LLC 110 PHOENIXVILLE PIKE MALVERN, PA 19355 C/O STEFANO RATTI 202-792-4364 STEFANO@CHABERTON.COM

AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
PAUL M. SILL, LICENSE NO. 32025
JULY 24, 2023

STORMWATER MANAGEMENT PROFILE, NOTES AND DETAILS
SUNEAAT FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 PARCEL 146

 PAUL M. SILL LICENSE NO. 32025 JULY 24, 2023	 SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS DRAWN BY: TB CHECKED BY: PS SCALE: AS SHOWN DATE: DECEMBER 21, 2021 PROJECT #: 19-044 SHEET #: 25 OF 28
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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. 32025, EXPIRATION DATE: JUNE 26, 2023.

AS-BUILT SDP-21-027

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

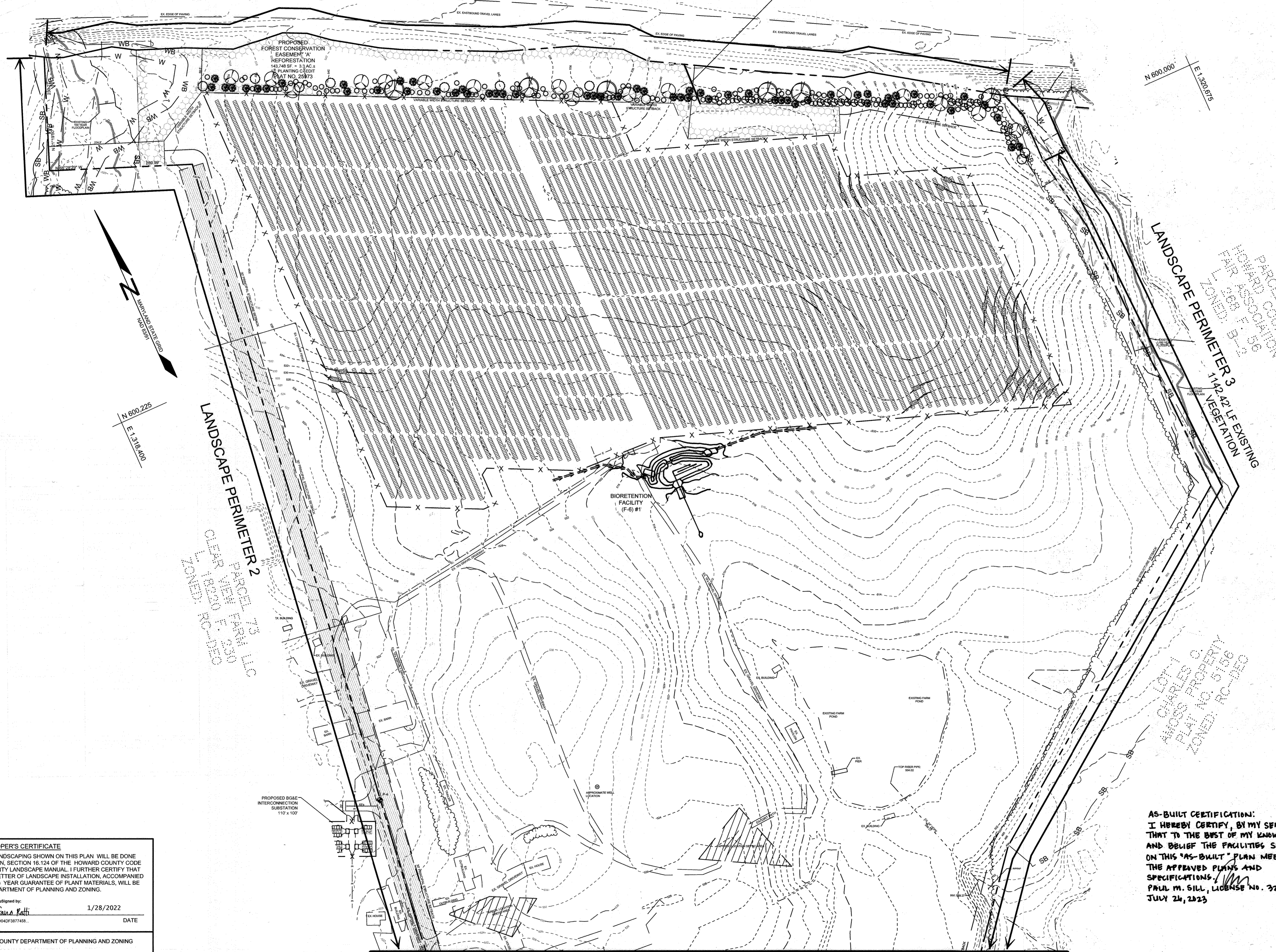
Approved by: CHIEF DEVELOPMENT ENGINEERING DIVISION	DATE: 2/7/2022	
Approved by: CHIEF DIVISION OF LAND DEVELOPMENT DIRECTOR	DATE: 2/7/2022	

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/24/23

**BALTIMORE NATIONAL PIKE
(INTERSTATE 70/U.S. ROUTE 40)**
PRINCIPAL ARTERIAL
SHA PLATS NO. 42478, 42479 & 42481

LANDSCAPE PERIMETER 1

TREES TO THE WEST OF LINE ARE 20% OF THE FOREST CONSERVATION EASEMENT, AND TREES TO THE EAST ARE THE REMAINDER OF THE LANDSCAPING PERIMETER REQUIREMENT.



LEGEND

EXISTING CONTOUR GIS	---	382
EXISTING CONTOUR FIELD RUN	---	382
PROPOSED CONTOUR	---	382
EXISTING SPOT ELEVATION	○	382.3
PROPOSED SPOT ELEVATION	○	+82.53
DIRECTION OF FLOW	→	
EXISTING TREELINE	~	
PROPOSED TREELINE	~	
EXISTING WETLAND	W	
EXISTING 25' WETLAND BUFFER	WB	
EXISTING STREAM	---	
EXISTING 100' STREAM BUFFER	SB	
EXISTING 100-YEAR FLOODPLAIN & UTILITY EASEMENT	---	
PROPOSED FENCE LINE	X X	
PROPOSED UTILITY	E E E	
EXISTING SPECIMEN TREE	ST#6	
EXISTING SPECIMEN TREE TO BE REMOVED	X	
PROPOSED SOLAR PANELS	▭	
PROPOSED GATE	W	
PROPOSED OVERHEAD WIRE	OH	
PROPOSED PERMANENT SWALE	⇒ ⇒ ⇒	
LANDSCAPE PERIMETER INDICATOR	LANDSCAPE PER. 2	
EXISTING VEGETATION INDICATOR	286 L.F. EXISTING VEGETATION	
PROPOSED EVERGREEN TREES	IO OJV TO	
PROPOSED DECIDUOUS TREES	DR PO NS	

DEVELOPER'S CERTIFICATE
I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.04 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

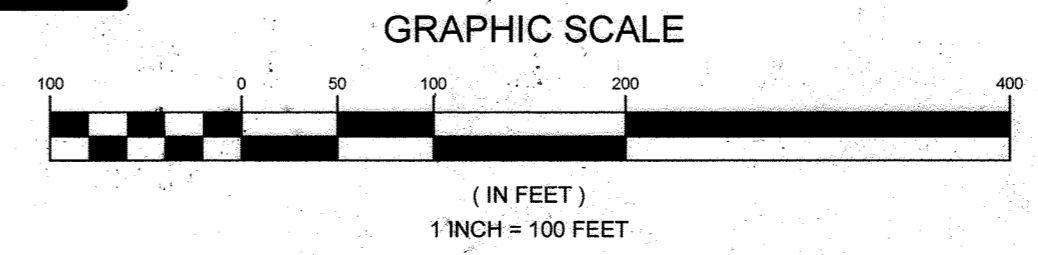
Developed by: Stefano Ratti 1/28/2022
DEVELOPER DATE

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad Edmondson 2/7/2022
CHIEF DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Angy Simon 2/7/2022
DIRECTOR DATE

NO.	DESCRIPTION	DATE
I	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/26/23

MATCHLINE - SHEET 27
PLAN VIEW
SCALE: 1"=100'



AS-BUILT CERTIFICATION:
I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS "AS-BUILT" PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
Paul M. Sill
PAUL M. SILL, LICENSE NO. 32825
JULY 24, 2023

OWNER
MHG&S LLC
13300 ROUTE 144
WEST FRIENDSHIP, MD 21784
C/O STEFANO RATTI
GEORGE STRECKER, SR.

DEVELOPER
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LANDSCAPING PLAN
SUNEA FRIENDSHIP FARM SOLAR FACILITY
13300 FREDERICK ROAD

TAX MAP 15 GRID 3
3RD ELECTION DISTRICT

PARCEL 146
HOWARD COUNTY, MARYLAND

DESIGNED BY: PS
DRAWN BY: TB
CHECKED BY: PS
SCALE: AS SHOWN
DATE: DECEMBER 21, 2021
PROJECT #: 19-044
SHEET #: 28 of 28

SILL ENGINEERING GROUP, LLC
16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

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. 33026, EXPIRATION DATE: JUNE 20, 2023.

GENERAL LANDSCAPE AND SEEDING NOTES

- THE LANDSCAPE PLAN AND DETAILS ARE FOR LANDSCAPING INFORMATION ONLY. PLEASE REFER TO THE SITE LAYOUT PLAN, GRADING PLAN AND/OR UTILITIES PLAN FOR ALL OTHER INFORMATION.
- THE CONTRACTOR SHALL MONITOR AND GUARANTEE THAT ALL PLANTS, TREES, AND SHRUBS SHALL BE HEALTHY AND FREE OF DISEASE FOR THE LIFETIME OF THE PROJECT AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER. CONTRACTOR SHALL REPLACE ANY DEAD OR UNHEALTHY PLANTS AT CONTRACTOR'S EXPENSE. FINAL ACCEPTANCE SHALL BE MADE IF ALL PLANTS MEET THE GUARANTEE REQUIREMENTS INCLUDING MAINTENANCE, MAINTENANCE RESPONSIBILITIES INCLUDE INVASIVE SPECIES MONITORING, REMOVAL, AND SUPPLEMENTATION. MONITORING OF THE PROJECT SITE SHALL OCCUR IN THE SPRING AND THE FALL TO DETERMINE THE PRESENCE OF INVASIVE SPECIES. SHOULD ANY INVASIVE SPECIES BE IDENTIFIED WITHIN THE PROJECT SITE, THE INVASIVE SPECIES SHALL BE REMOVED ACCORDING TO METHODS MOST LIKELY TO BE EFFECTIVE IN CONTROLLING THAT SPECIES AND SUPPLEMENTING ITS REPLACEMENT WITH APPROPRIATE VEGETATION AND SEED MIX IDENTIFIED (AND APPROVED) ON THIS PLAN AND/OR AN APPROVED EQUAL. ADDITIONAL MAINTENANCE RESPONSIBILITIES INCLUDE: APPROVED GULFWATERING, SPRAYING, WEEDING, WATERING, TIGHTENING OF TREE STRAP GUYS, PRUNING, FERTILIZING, MULCHING, AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN PLANT VIABILITY. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND CONTINUE FOR THE DURATION OF SOLAR ARRAY USE BY THE OWNER/OPERATOR AFTER FINAL ACCEPTANCE. WATERING OF THE LANDSCAPE BUFFER AREAS SHALL BE IMPLEMENTED BY THE USE OF A WATERING TRUCK.
- THE CONTRACTOR SHALL SUPPLY ALL LABOR, PLANTS, APPROVED SEEDING MIX, AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWING(S) AND LISTED IN THE PLANT SCHEDULE(S) AND/OR SEEDING TABLE(S). IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT SCHEDULE AND/OR SEEDING TABLE AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER SHALL APPLY. ALL PLANTS SHALL BE ACCUMULATED BY THE SUPPLY NURSERY TO THE LOCAL HARDINESS ZONE AND BE CERTIFIED THAT THE PLANTING MATERIAL HAS BEEN GROWN FOR A MINIMUM OF (2) TWO YEARS AT THE SOURCE AND OBTAINED WITHIN 200 MILES OF PROJECT SITE UNLESS OTHERWISE APPROVED BY OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT.
- THE LOCATIONS FOR PLANT MATERIAL ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO SLOPE, VEGETATION, AND SITE FACTORS SUCH AS THE LOCATION OF ROCK OUTCROPS. PRIOR TO PLANTING THE CONTRACTOR SHALL ACCURATELY STAKE OUT THE LOCATIONS FOR ALL PLANTS. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL APPROVE THE FIELD LOCATIONS OR ADJUSTMENTS OF THE PLANT MATERIAL.
- ALL SHRUB MASSING SHALL BE MULCHED TO A DEPTH OF 2" AND SHREDDED HARDWOOD BARK MULCH SHALL BE USED FOR SHRUB MASSING AREAS.
- NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE CONTRACTOR. STAKING THE LOCATION OF ALL TREES AND SHRUBS SHALL BE COMPLETED PRIOR TO PLANTING FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT. STAKING OF THE INSTALLED TREE MUST BE COMPLETED THE SAME DAY AS IT IS INSTALLED. ALL TREES SHALL BE STAKED OR GUYED AS PER THE DETAIL. SEE LANDSCAPING PLANS FOR PLANTING DETAILS.
- COORDINATE PLANT MATERIAL LOCATIONS WITH SITE UTILITIES. SEE SITE LAYOUT, GRADING AND/OR UTILITY PLANS FOR STORM, SANITARY, GAS, ELECTRIC, TELEPHONE AND WATER LINES. UTILITY LOCATIONS ARE APPROXIMATE. EXERCISE CARE WHEN DIGGING IN AREAS OF POTENTIAL CONFLICT WITH UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE DUE TO CONTRACTOR'S NEGLIGENCE AND SHALL REPLACE OR REPAIR ANY DAMAGE AT CONTRACTOR'S EXPENSE.
- LANDSCAPE PLANTING PITS MUST BE FREE DRAINING, PAVEMENT, COMPACTED SUBGRADE, AND BLASTED ROCK SHALL BE REMOVED TO A DEPTH OF 2" OR TO A GREATER DEPTH IF REQUIRED BY PLANTING DETAILS OR SPECIFICATIONS. REPLACE SOIL WITH MODERATELY COMPACTED LOAM OR SANDY LOAM FREE FROM STONES AND RUBBISH 1" OR GREATER IN DIAMETER AND ANY OTHER MATERIAL HARMFUL TO PLANT GROWTH AND DEVELOPMENT. PLANTING INSTALLATION SHALL BE AS DETAILED AND CONTAIN PLANTING MIX AS SPECIFIED UNLESS RECOMMENDED OTHERWISE BY SOIL ANALYSIS.

PLANTING SOIL MIXTURE:
 2 PARTS PEAT MOSS
 5 PARTS TOPSOIL

MYCORRHIZA INOCULANT - "TRANSPLANT 1-STEP" AS MANUFACTURED BY ROOTS, INC. OR APPROVED EQUAL. USE PER MANUFACTURER'S RECOMMENDATIONS FOR TREES AND SHRUBS. FERTILIZER/MIX APPLY AS RECOMMENDED BY SOIL ANALYSIS.

TREES AND SHRUBS: TREES AND SHRUBS SHALL BE NURSERY-GROWN UNLESS OTHERWISE NOTED AND HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCATION OF THE PROJECT. THEY SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, WITH NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY AND WELL-DEVELOPED ROOT SYSTEMS. ALL TREES SHALL HAVE STRAIGHT SINGLE TRUNKS WITH THEIR MAIN LEADER INTACT UNLESS OTHERWISE STATED. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, LANDSCAPE ARCHITECT, HOWARD COUNTY PLANNING AND ZONING BOARD SHALL ONLY PERMIT SUBSTITUTIONS UPON WRITTEN APPROVAL. THEIR SIZES SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE DRAWINGS. PLANTS LARGER THAN SPECIFIED ON THE DRAWINGS MAY BE USED IF APPROVED. THE USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. ALL TREES AND SHRUBS SHALL BE MULCHED IN ACCORDANCE WITH THE RESPECTIVE PLANTING DETAILS PROVIDED IN THE LANDSCAPING PLAN.

PRUNING SHALL CONFORM TO THE TREE CARE INDUSTRY ASSOCIATION (TCA) ANSI A300 (PART 1).
 2017 PRUNING STANDARDS: PRUNING STANDARDS SHALL RECOGNIZE BUT ARE NOT LIMITED TO, THE FOLLOWING PRUNING OBJECTIVES: MANAGE RISK, MANAGE HEALTH, DEVELOP STRUCTURE, PROVIDE CLEARANCE, MANAGE SIZE OR SHAPE, IMPROVE AESTHETICS, MANAGE PRODUCTION OF FRUIT, FLOWERS, OR OTHER PRODUCTS, AND/OR MANAGE WILDLIFE HABITAT. DEVELOPING STRUCTURE SHALL IMPROVE BRANCH AND TRUNK ARCHITECTURE. PROMOTE OR SUBORDINATE CERTAIN LEADERS, STEMS, OR BRANCHES; PROMOTE DESIRABLE BRANCH SPACING; PROMOTE OR DISCOURAGE GROWTH IN A PARTICULAR DIRECTION (DIRECTIONAL PRUNING); MINIMIZE FUTURE INTERFERENCE WITH TRAFFIC LINES OF SIGHT; INFRASTRUCTURE, OR OTHER PLANTS; RESTORE PLANTS FOLLOWING DAMAGE; AND/OR REVEGETATE SHRUBS. PROVIDING CLEARANCE SHALL ENSURE SAFE AND RELIABLE UTILITY SERVICES; MINIMIZE CURRENT INTERFERENCE WITH TRAFFIC LINES OF SITE, INFRASTRUCTURE, OR OTHER PLANTS; RAISE CROWNS FOR MOVEMENT OF TRAFFIC OR LIGHT PENETRATION; ENSURE LINES OF SIGHT OR DESIRED VIEWS; PROVIDE ACCESS TO SITES, BUILDINGS, OR OTHER STRUCTURES; AND/OR COMPLY WITH REGULATIONS.

TOPSOIL SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. CONTRACTOR SHALL SUBMIT TOPSOIL TO A CERTIFIED TESTING LABORATORY TO DETERMINE PH, FERTILITY, ORGANIC CONTENT AND MECHANICAL COMPOSITION. THE CONTRACTOR SHALL SUBMIT THE TEST RESULTS FROM REGIONAL EXTENSION OFFICE OF USDA TO THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INCORPORATE AMENDMENTS FOR GOOD PLANT GROWTH AND PROPER SOIL ACIDITY RECOMMENDED FROM THE TOPSOIL TEST.
 NO PHOSPHOROUS SHALL BE USED AT PLANTING TIME UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY A HORTICULTURAL TESTING LAB AND SOIL TESTS SPECIFICALLY INDICATE A PHOSPHOROUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS/GRASSES AND PLANTINGS FROM ESTABLISHING PROPERLY.
 IF SOIL TESTS INDICATE A PHOSPHOROUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHOROUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL APPLICABLE STANDARDS, REQUIREMENTS, AND/OR REGULATIONS.
 ALL SLOPES GREATER THAN 3:1 RECEIVING A WILDFLOWER, WETLAND, AND/OR GRASS SEEDING MIXTURE SHALL BE COVERED WITH AN EROSION CONTROL BLANKET.
 ALL WILDFLOWERS AND GRASSES SOWN SHALL BE ALLOWED TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS WHENEVER POSSIBLE. NATIVE WILDFLOWERS AND/OR GRASSES CAN BE MAINTAINED WITHIN ACCEPTABLE AREAS IDENTIFIED AND/OR APPROVED BY APPROPRIATE REGULATORY AGENCIES AS OFTEN AS NEEDED TO KEEP THE VEGETATION AT A DESIRED AND/OR MANAGEABLE/MANICURED HEIGHT.

NON-NATIVE PLANT SPECIES SHALL NOT TOTAL MORE THAN 50% OF ALL PLANTINGS. INVASIVE SPECIES SHALL NOT BE PERMITTED.

DEVELOPER'S CERTIFICATE
 I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DEVELOPER: *[Signature]* DATE: 5/31/2022
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION BY: *[Signature]* DATE: 7/14/22
 CHIEF, DIVISION OF LAND DEVELOPMENT BY: *[Signature]* DATE: 7/20/22
 DIRECTOR: *[Signature]* DATE: 7-25-22

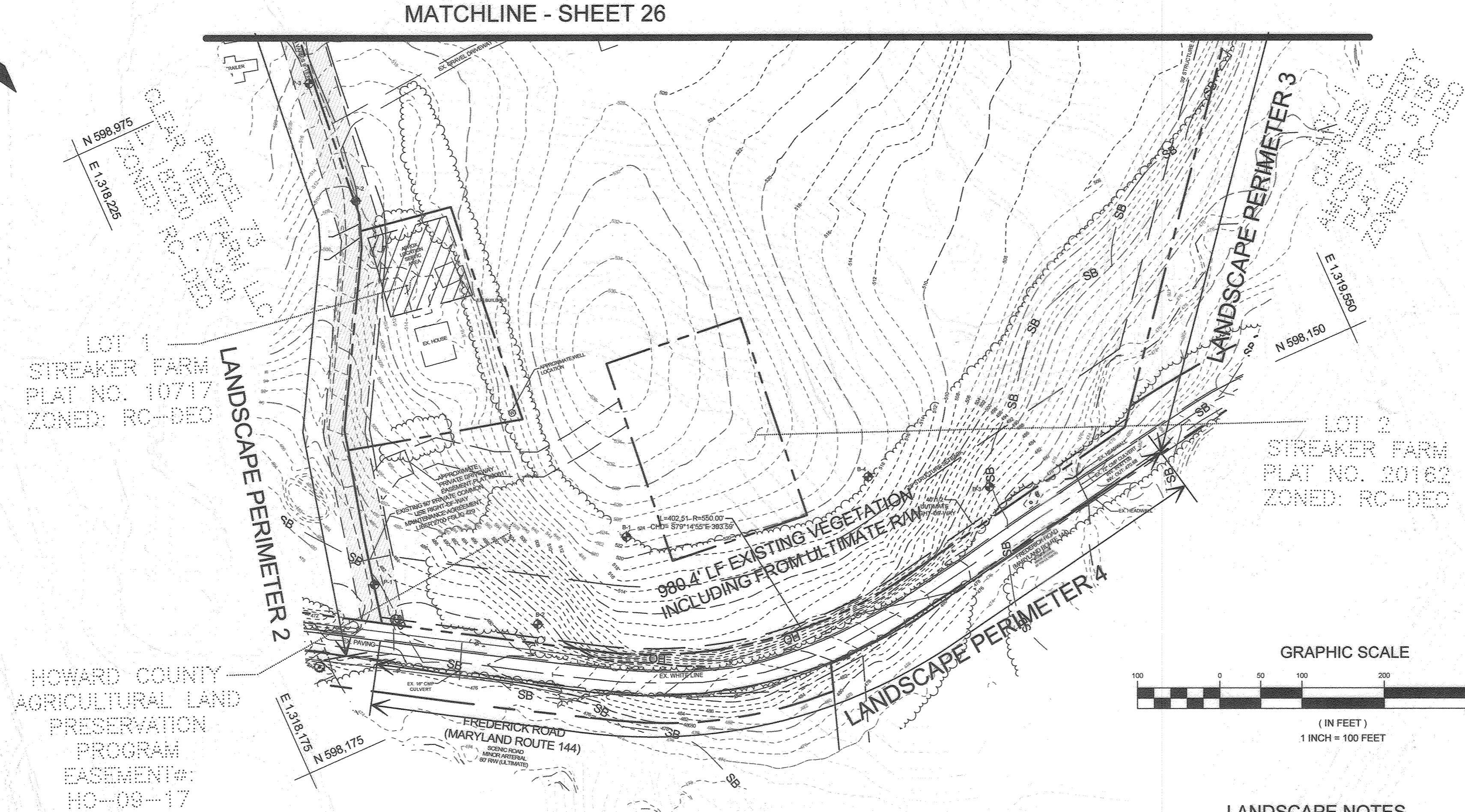
NO.	DESCRIPTION	DATE
2	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/20/23
1	REMOVE THE ROAD IMPROVEMENTS ALONG ROUTE 144 AND REVISE THE TITLE OF THIS SHEET.	04/01/2022
NO.	DESCRIPTION	DATE

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	NOTE
SHADE TREES					
PO	16	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 1/2"-3" CAL.	B & B FULL HEAD
NS	11	NYSSA SYLVATICA	BLACK TUPELO	2 1/2"-3" CAL.	B & B
QR	6	QUERCUS RUBRA	NORTHERN RED OAK	2 1/2" CAL.	B & B
EVERGREEN TREES					
IO	57	ILEX OPACA	AMERICAN HOLLY	5'-6" HT.	B & B, FULL
JV	112	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	6'-8" HT.	B & B, FULL
TO	18	THUJA OCCIDENTALIS	ARBORVITAE	5'-6" HT.	B & B, FULL

NOTE: PER THE FOREST CONSERVATION MANUAL, 6'-8" HT. AT LOCATIONS WITHIN THE FOREST CONSERVATION EASMENTS. NOTE: IF THERE IS A CONFLICT BETWEEN THE PLANT LIST AND THE PLANS, THE LARGER NUMBER PREVAILS.

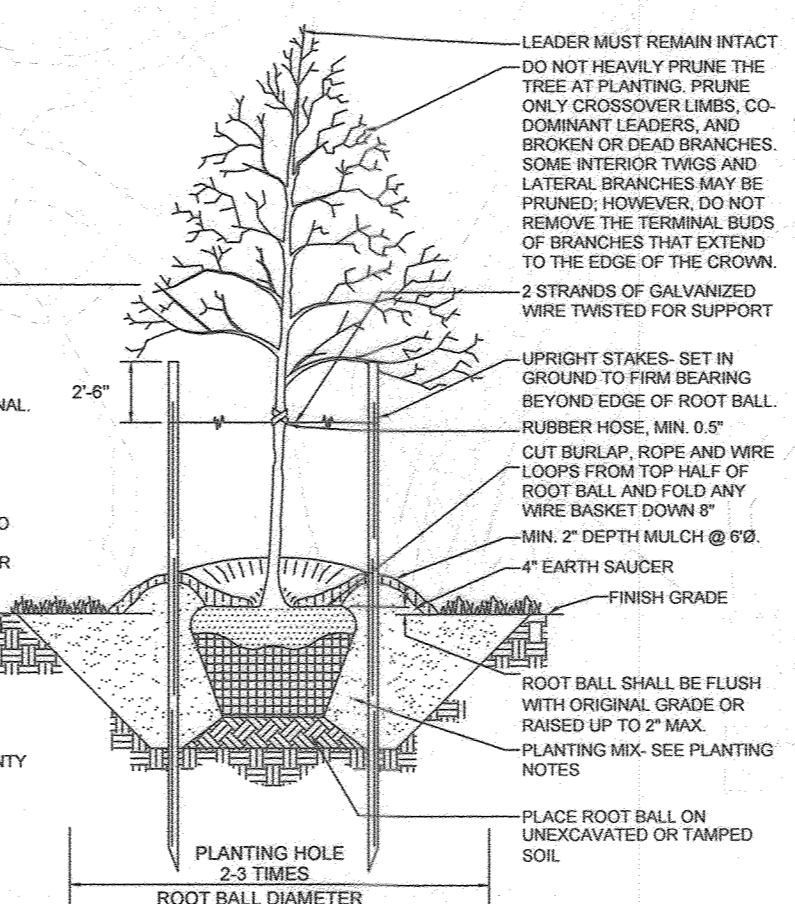
CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
PERIMETER FRONTAGE DESIGNATION	1	4
LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	1724.67(D)	980.4 (D)
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	YES
REMAINING PERIMETER LENGTH CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	NO	NO
REMAINING PERIMETER LENGTH NUMBER OF PLANTS REQUIRED	180=29	180=0
SHADE TREES	110=173	140=0
EVERGREEN TREES	-	140=0
SHRUBS	-	140=0
NUMBER OF PLANTS PROVIDED	180=29	180=0
SHADE TREES	110=173	140=0
EVERGREEN TREES	-	140=0
SHRUBS	-	140=0

PER BA-19-045C, ALL PERIMETERS TO BE A TYPE 'D'
 *NO PERIMETER PLANTING REQUIRED FOR PERIMETER 2, SINCE THIS IS A JOINT DEVELOPMENT WITH PARCEL 73, SDP-18-014.
 **A PORTION OF THESE TREES ARE IN THE ALLOWABLE 20% OF THE FOREST CONSERVATION PLAN.
 ***AN ALTERNATIVE COMPLIANCE HAS BEEN GRANTED TO THE HOWARD COUNTY LANDSCAPE MANUAL TO ALLOW FOR THE USE OF THE ADJACENT RIPARIAN BUFFER AS THE PERIMETER PLANTING REQUIREMENTS AT PERIMETER 3.

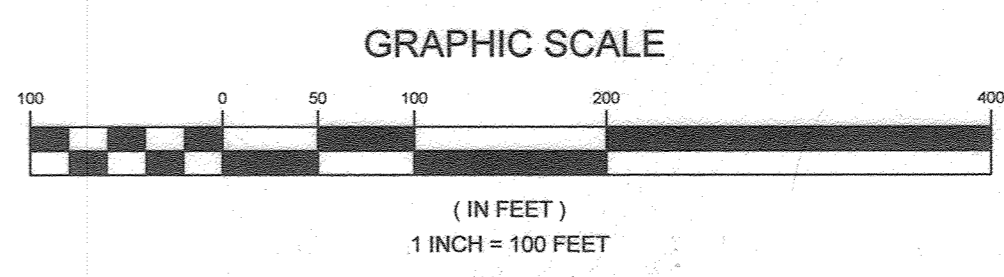


PLAN VIEW
 SCALE: 1"=100'

NOTE: NATIVE POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE AN EXCELLENT WILDLIFE FOOD AND SHELTER THAT WILL ATTRACT A VARIETY OF POLLINATORS AND SONGBIRDS. THE NATIVE WILDFLOWERS AND GRASSES IN THIS MIX PROVIDE AN ATTRACTIVE DISPLAY OF COLOR FROM SPRING TO FALL. POLLINATOR SEED MIXES ARE INTENDED TO PROVIDE NECTAR AND FOOD SOURCES FOR A VARIETY OF POLLINATORS AND LARVA. THESE MIXES ARE COMPRISED OF A FAIRLY EVEN MIX OF NATIVE AND/OR INDIGENOUS WILDFLOWERS.



TYPICAL TREE PLANTING AND STAKING
 DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

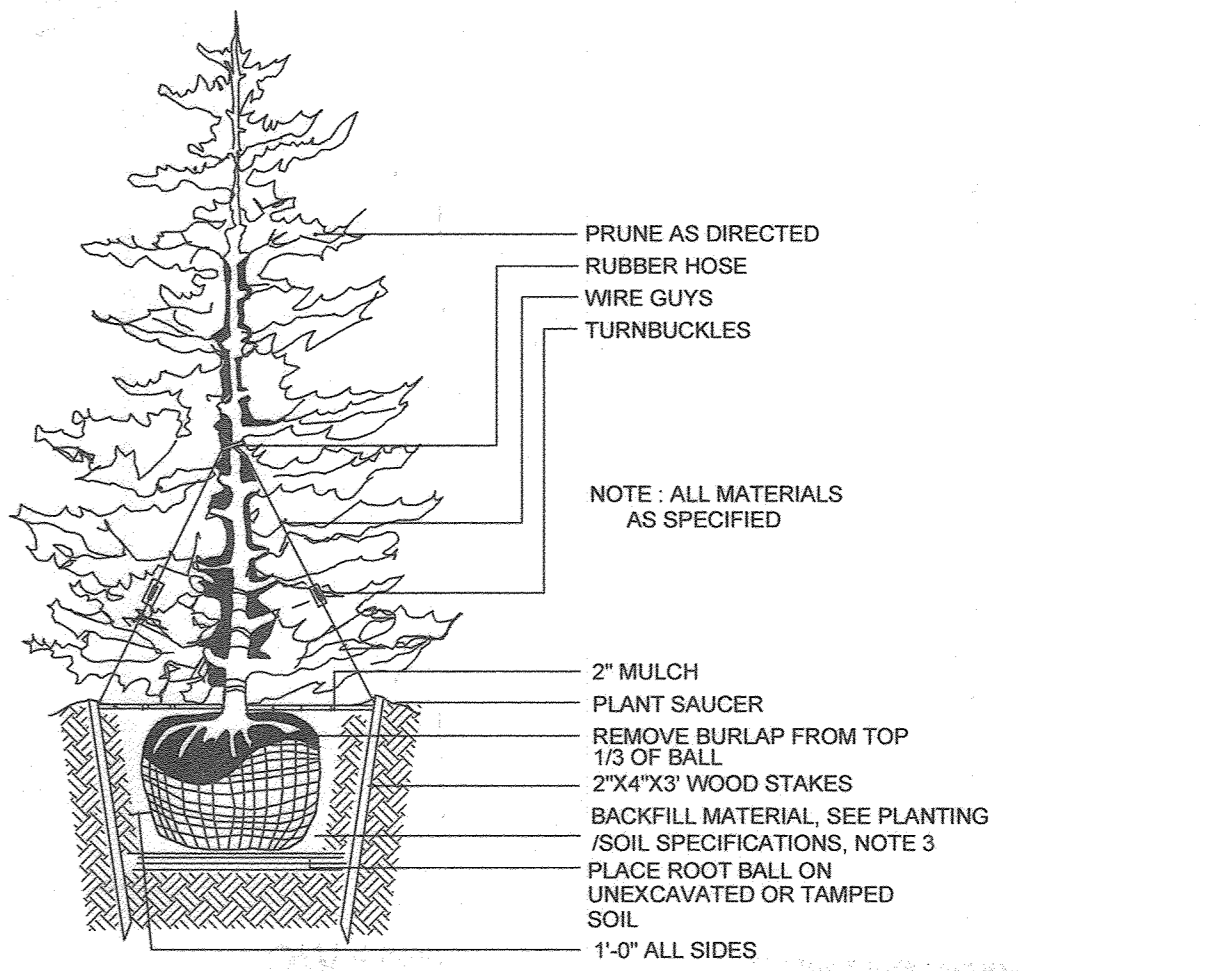


LANDSCAPE NOTES

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT. \$3,000.00 FOR THE REQUIRED TEN (10) LANDSCAPING SHADE TREES AND \$14,850.00 FOR THE NINETY NINE (99) EVERGREEN TREES, FOR A TOTAL OF \$17,850.00.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- PER BA-19-044C, ALL PERIMETER LANDSCAPE PLANTING HAS BEEN APPROVED AND IS TO BE A TYPE 'D' PERIMETER.

LEGEND

- EXISTING TREELINE
- LANDSCAPE PERIMETER INDICATOR
- EXISTING VEGETATION INDICATOR
- PROPOSED EVERGREEN TREE
- PROPOSED DECIDUOUS TREE
- EXISTING CONTOUR GIS
- EXISTING CONTOUR FIELD RUN
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING WETLAND
- EXISTING 25' WETLAND BUFFER
- EXISTING STREAM
- EXISTING 100' STREAM BUFFER
- EXISTING 100-YEAR FLOODPLAIN & UTILITY EASEMENT
- PROPOSED FENCE LINE
- PROPOSED UTILITY
- PROPOSED PERMANENT SWALE
- EXISTING SPECIMEN TREE
- EXISTING SPECIMEN TREE TO BE REMOVED
- PROPOSED SOLAR PANELS
- PROPOSED GATE



TYPICAL EVERGREEN TREE PLANTING DETAIL
 NOT TO SCALE

OWNER
 MHGH&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21784
 GEORGE STREAKER, SR.

DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

REVISED LANDSCAPING PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD
 TAX MAP 15 GRD 3
 3RD ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 PARCEL 146

DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: MAY 31, 2022
 PROJECT #: 19-044
 SHEET #: 27 OF 28

16005 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 No. 92026

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. 20206, EXPIRATION DATE: JUNE 29, 2023.

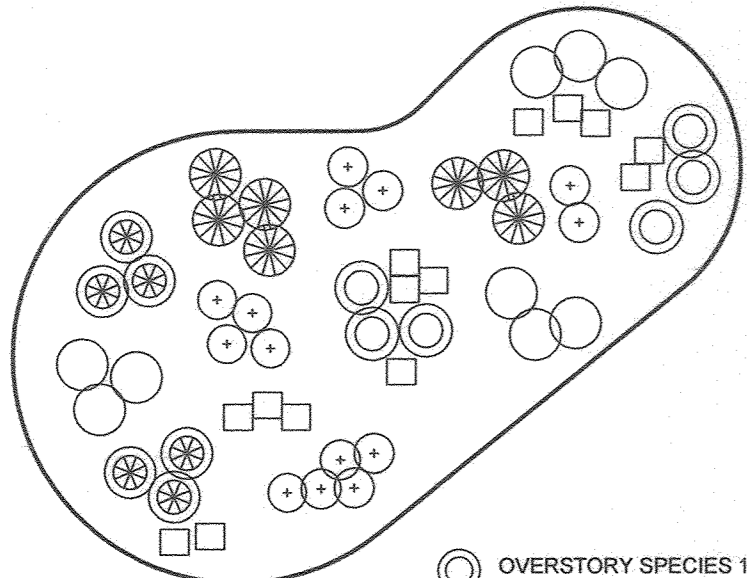
REFORESTATION PLANTING SCHEDULE

FCE A - 3.3 ACRES, OR 143,748 SQ. FT. LESS 20% (28,749.6 SF) FOR LANDSCAPE PERIMETER CREDIT:
 2.64 AC OR 114,988.4 SF TOTAL
 PLANTING UNITS REQUIRED: 1,056
 PLANTING UNITS PROVIDED: 1,056

QUANTITY	SPECIES	SIZE	SPACING	EQUIVALENT AREA/TREE	TOTAL FCA
264	ACER RUBRUM - RED MAPLE	1 GAL.	10' x 10'	108.9 sftree	28,749.6
264	LIRIODENDRON TULIPIFERA - TULIP POPLAR	1 GAL.	10' x 10'	108.9 sftree	28,749.6
264	PRUNUS SEROTINA - BLACK CHERRY	1 GAL.	10' x 10'	108.9 sftree	28,749.6
264	QUERCUS ALBA - WHITE OAK	1 GAL.	10' x 10'	108.9 sftree	28,749.6
1,056	TOTAL 1 GAL. TREES				
TOTAL CREDIT					114,988.4 SF.

PLANTING NOTES:

- PLANTING DENSITY BASED ON 400 PLANTING UNITS PER ACRE, 1 GAL., 10' x 10' SPACING, OR 100 SQ. FT. PER PLANT.
- PLANTING SHALL BE MADE IN A CURVILINEAR FASHION ALONG CONTOUR. THE PLANTING SHOULD AVOID A GRID APPEARANCE BUT SHOULD BE SPACED TO FACILITATE MAINTENANCE.
- MULTIFLORA ROSE/HEAVY BRUSH REMOVAL/CONTROL MAY BE REQUIRED PRIOR TO INSTALLATION OF PLANTING.
- ALL 1 GAL. CONTAINER TREES ARE INSTALLED WITH TREE SHELTERS PER HOWARD COUNTY FCA REQUIREMENTS. SHELTERS ARE NOT REQUIRED FOR 1" CALIPER TREES BUT ARE RECOMMENDED TO REDUCE DEER DAMAGE.



THIS DIAGRAM SHOWS A TYPICAL DISPERSAL OF SPECIES WITHIN PLANTING AREA. THE SPACING SHALL BE IN ACCORDANCE WITH THE APPROVED PLANTING SCHEDULE. WHERE THE SIZE OF THE PLANTING STOCK VARIES, THE PLANTING UNITS SHALL BE INSTALLED AT AVERAGED SPACING TO PROVIDE APPROXIMATELY UNIFORM COVERAGE.

REFORESTATION RANDOM PLANTING DISTRIBUTION PLAN

NOT TO SCALE

FOREST CONSERVATION WORKSHEET FOR FRIENDSHIP FENCE ONLY

MHGH&S SOLAR

Net Tract Area		A =	22.0
A.	Total (Gross) Tract Area	B =	0.0
B.	Area within 100-year Floodplain	C =	0.0
C.	Other Deductions (Identify)	D =	22.0
D.	Net Tract Area		

Land Use Category

Insert the number "1" under the appropriate land use (limit to only one entry)

Resid. LD	Resid. MD	Resid. Suburban	Inst./Linear	Realt/Ind./Office	Mixed Use/PLUD
0	0	0	0	1	0

E.	Aforestation Threshold (Net Tract Area x 15%)	E =	3.3
F.	Reforestation Threshold (Net Tract Area x 15%)	F =	3.3

Existing Forest Cover		G =	0.0
G.	Existing Forest Cover within the Net Tract Area	H =	0.0
H.	Area of Forest above Aforestation Threshold	I =	0.0
I.	Area of Forest above Reforestation Threshold		

Break Even Point		J =	0.0
J.	Break Even Point	K =	0.0
K.	Forest Clearing Permitted without Mitigation		

Proposed Forest Clearing		L =	0.0
L.	Total Area of Forest to be Cleared	M =	0.0
M.	Total Area of Forest to be Retained		

Planting Requirements Inside Watershed		N =	0.0
N.	Reforestation for Clearing above the Reforestation Threshold	P =	0.0
P.	Reforestation for Clearing below the Reforestation Threshold	Q =	0.0
Q.	Credit for Retention above the Reforestation Threshold	R =	0.0
R.	Total Reforestation Required	S =	3.3
S.	Total Aforestation Required	T =	3.3
T.	Total Reforestation and Aforestation Requirement	U =	2.5
U.	75% of Total Obligation (Retention + Planting)	V =	2.5
V.	Planting Required Onsite to meet 75% Obligation		

Planting Requirements Outside Watershed		W =	0.0
W.	Total Planting within Development Site Watershed	X =	3.3
X.	Total Aforestation Required	Y =	0.0
Y.	Remaining Planting within Watershed for Reforestation Credit	Z =	0.0
Z.	Reforestation for Clearing above the Reforestation Threshold	AA =	0.0
AA.	Reforestation for Clearing below the Reforestation Threshold	BB =	0.0
BB.	Credit for Retention above the Reforestation Threshold	CC =	0.0
CC.	Total Reforestation Required	DD =	3.3
DD.	Total Aforestation and Reforestation Requirement		

Date: 09/01/21

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

W. A. L.
 CHIEF DEVELOPMENT ENGINEERING DIVISION
 DATE: 7/14/22

John M. S. & AC
 CHIEF DIVISION OF LAND DEVELOPMENT
 DATE: 7/22/22

Joanne Carey
 DIRECTOR
 DATE: 7-25-22

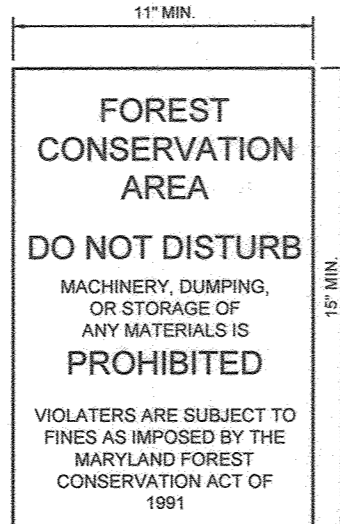
NO.	DESCRIPTION	DATE
2	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	7/26/23
1	REVISION TO ROAD IMPROVEMENTS ALONG ROUTE 144 AND REVISE THE TITLE OF THIS SHEET.	04/01/2022

REVISIONS

FOREST CONSERVATION SIGN DETAIL

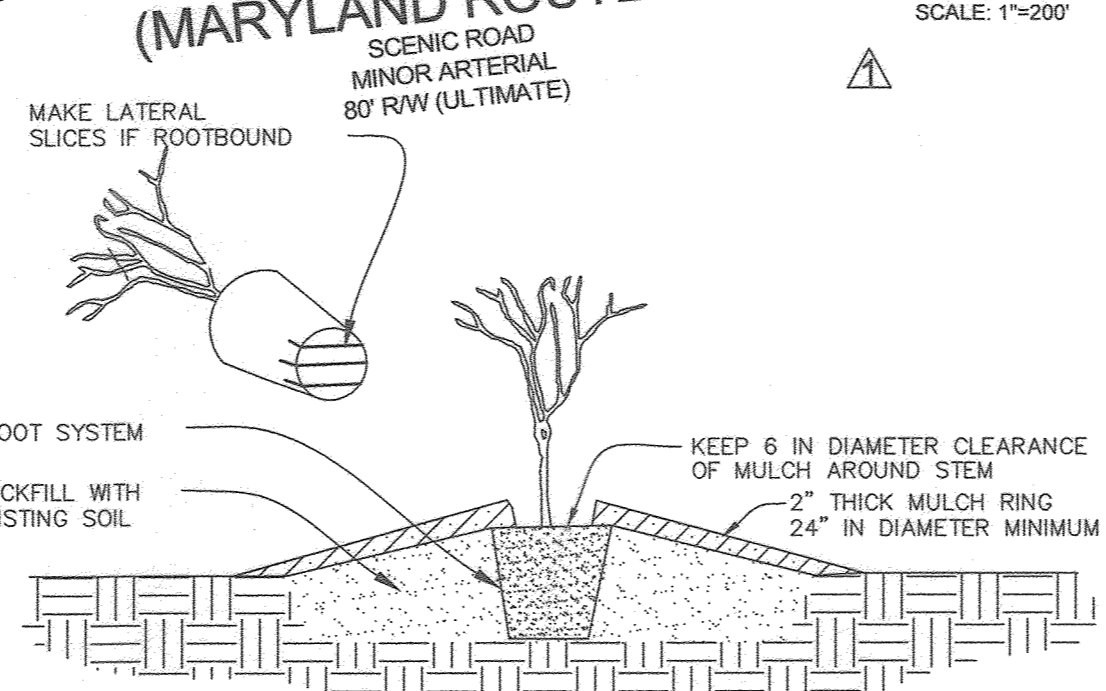
NOT TO SCALE

- NOTES:
- BOTTOM OF SIGN TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
 - SIGNS TO BE PLACED APPROXIMATELY 50' - 100' APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
 - ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
 - SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.



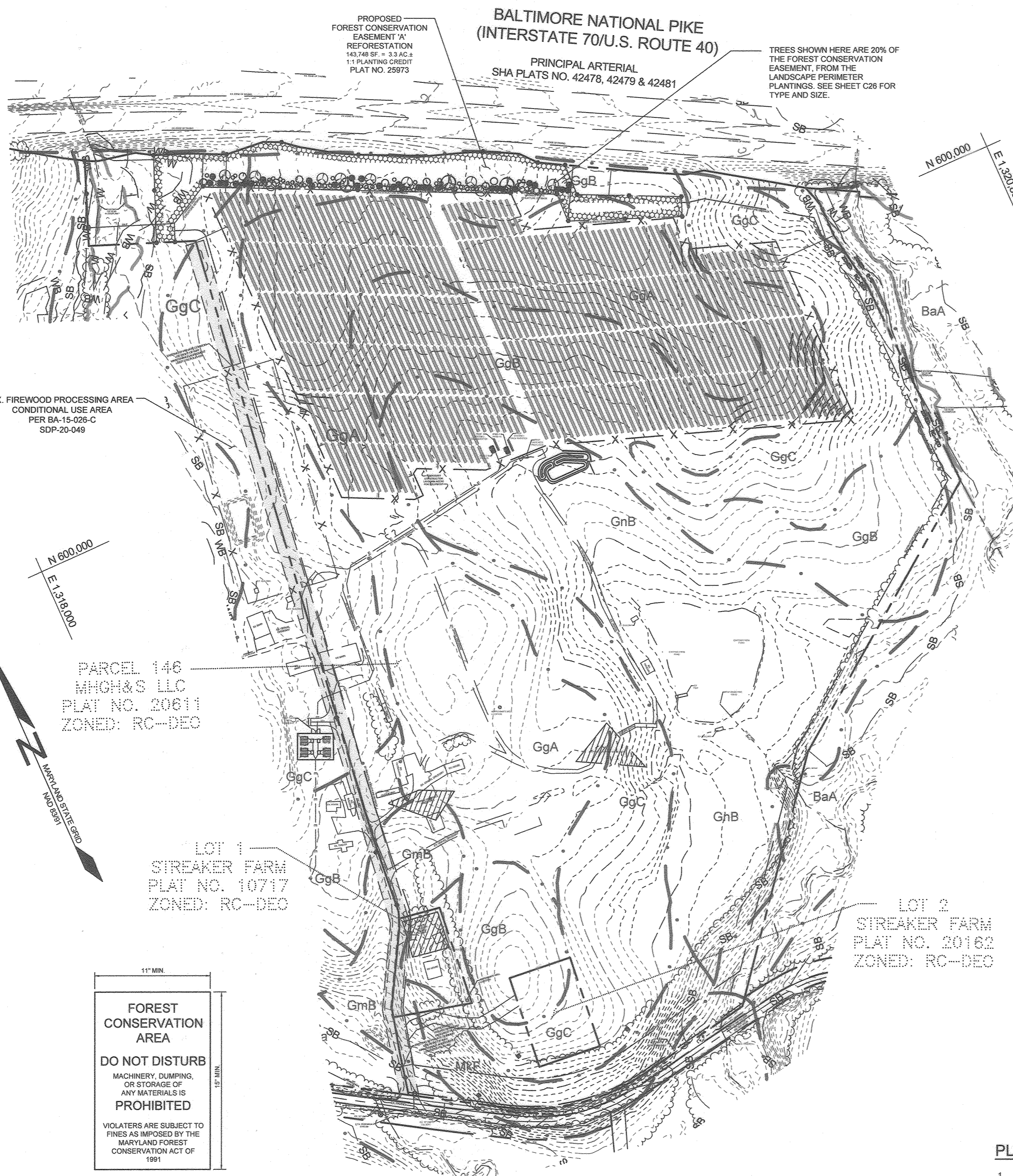
FREDERICK ROAD (MARYLAND ROUTE 144) PLAN VIEW

SCALE: 1"=200'



- ### CONTAINER PLANTING DETAIL
- REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CONTAINER
 - USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BALL
 - PLANT SHRUBS ON FORMED UP MOUNDS 4" ABOVE THE EXISTING GRADE WHEN HIGH WATER TABLE CONDITIONS EXIST, OTHERWISE PLANT FLUSH WITH EXISTING GRADE.
 - PLANTING HOLE TO BE 2-3 TIMES THE DIAMETER OF THE CONTAINER.
 - INSERT FERTILIZER TABLET, BACKFILL 2/3 OF THE ROOT BALL AND WATER.
 - AFTER WATER PERCOLATES, BACKFILL HOLE TO TOP OF ROOT BALL AND GENTLY TAMP SOIL TO FIRM CONTACT WITH PLANT.
 - APPLY MULCH RING AROUND PLANT KEEPING A 6 IN CLEARANCE FROM STEM.

CONTAINER PLANTING DETAIL



FOREST CONSERVATION NOTE

- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION AND THE FOREST CONSERVATION MANUAL BY THE ON-SITE AFForestation OR REFORESTATION OF 3.3 ACRES OF FOREST. FINANCIAL SURETY WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT AT \$0.50 PER SQUARE FOOT, OR \$71,874.00.
- NO RARE, THREATENED OR ENDANGERED SPECIES, OR THEIR HABITATS, WERE OBSERVED ON THE PROPERTY.
- SURROUNDING LAND USE IS PRIMARILY RURAL RESIDENTIAL DEVELOPMENT.
- FOREST IS PRESENT WITHIN THE LIMITS OF THE SUBJECT PROPERTY.
- THE SITE IS LOCATED WITHIN THE MIDDLE PATUXENT WATERSHED (02-12-09). THIS SECTION OF THE WATERSHED IS CLASSIFIED AS A USE IV-P.
- THERE ARE NO KNOWN HISTORIC STRUCTURES AND NO CEMETERIES ARE KNOWN TO OCCUR ON THE PROPERTY.
- A 100 YEAR FLOODPLAIN IS PRESENT ON THE PROPERTY.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION WITH AREAS DEFINED AS FOREST CONSERVATION EASEMENTS.
- NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS NON-DISTURBANCE AREAS.
- TEMPORARY FENCING, SUPER SILT FENCE, SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. SUPER SILT FENCE SHALL BE INSTALLED ALONG LIMITS OF DISTURBANCE OCCURRING WITHIN 50 FEET OF THE PROPOSED FOREST RETENTION LIMITS. PERMANENT SIGNAGE SHALL BE INSTALLED ALONG THE FOREST CONSERVATION EASEMENT BOUNDARY TO PREVENT FUTURE ENROACHMENT INTO THE AREA. SIGNAGE SHALL BE PLACED AT 50-100 FOOT INTERVALS ALONG THE BOUNDARY.

FOREST PROTECTION GENERAL NOTES

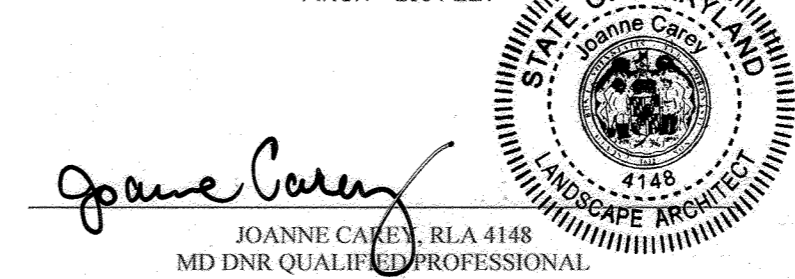
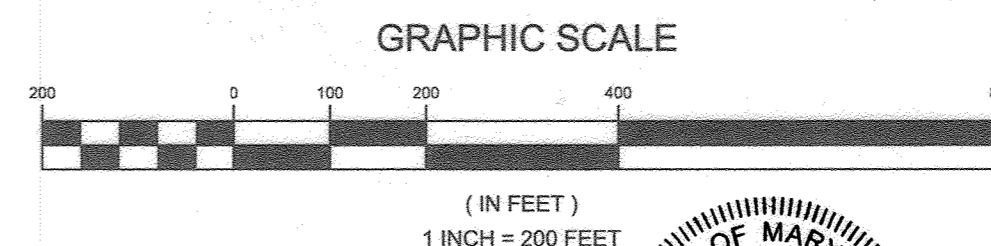
- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY DEMOLITION, LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
- THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
- INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOOTHERING, FLOODING, EXCESSIVE WETTING FROM DEWATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
- THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE. LIMIT OF GRADING, OR TREE PROTECTIVE FENCING WITHIN AND ADJACENT TO ALL SPECIMEN TREES AND EASEMENT AREAS TO BE PRESERVED, AS NECESSARY. ALL POSSIBLE PRECAUTIONS SHALL BE TAKEN TO NOT DAMAGE ROOTS ADJACENT TO DEMOLITION AREAS WHEN BUILDING WALLS OR FOUNDATIONS ARE BEING REMOVED, AND ESPECIALLY WITH PAVEMENT REMOVAL, WHERE ROOTS LIKELY EXIST WITHIN SUBBASE GRAVEL.

FOREST CONSERVATION EASEMENTS

EASEMENTS ARE A LEGAL MEANS OF PROVIDING PERMANENT PROTECTION OF FORESTS, FARMLAND AND OPEN SPACE. IN ACCORDANCE WITH THE CRITERIA OUTLINED IN THE HOWARD COUNTY FOREST CONSERVATION MANUAL, A FOREST CONSERVATION EASEMENT WILL BE RECORDED FOR THE RETENTION AREAS OF THE SUBJECT PROPERTY. SUBMISSION OF THE EASEMENTS FOR RECORDATION WILL OCCUR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

PLANTING/SOIL SPECIFICATIONS

- INSTALLATION OF B&B / CONTAINER STOCK SHALL BE PERFORMED MARCH 15 - MAY 30 OR SEPTEMBER 15 - NOVEMBER 15
- DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.
- BAREROOT PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP EXISTING GRADE. ROOTS SHALL BE DIPPED IN AN ANTI-DESICCANT GEL PRIOR TO PLANTING. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL AND 1 PART PINE FINES OR EQUIVALENT.
- FERTILIZER SHALL CONSIST OF AGRIFORM 22-8-2, OR EQUIVALENT, APPLIED AS PER MANUFACTURERS' SPECIFICATIONS. FOR WOODY PLANTS, HERBACEOUS PLANTS SHALL BE FERTILIZED WITH OSMOOCOTE 8-6-12.
- PLANTS SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
- ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.



LEGEND

- Moderate Slopes (15% to 25%)
- Steep Slopes (Over 25%)
- Existing Contour
- Proposed Contour
- Existing Spot Elevation
- Proposed Spot Elevation
- Direction of Flow
- Existing Specimen Tree
- Existing Specimen Tree to be Removed
- Existing Treeline
- Proposed Treeline
- Limit of Disturbance
- Wetland Buffer
- Stream Buffer
- Existing 100-Year Floodplain & Utility Easement
- Soil Boundary
- Proposed Permanent Swale
- Forest Conservation Sign
- Forest Conservation Area

OWNER
 MHGH&S LLC
 13300 ROUTE 144
 WEST FRIENDSHIP, MD 21784
 GEORGE STREAKER, SR.

DEVELOPER
 SUNEAST FRIENDSHIP SOLAR, LLC
 110 PHOENIXVILLE PIKE
 MALVERN, PA 19355
 C/O STEFANO RATTI
 202-792-4364
 STEFANO@CHABERTON.COM

SUNEAST FRIENDSHIP ANEM SOLAR, LLC
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 MALVERN, PA 19355
 C/O STEFANO RATTI
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 STEFANO@CHABERTON.COM

NO AS-BUILT INFORMATION IN THIS SHEET.

REVISED FOREST CONSERVATION PLAN
SUNEAST FRIENDSHIP FARM SOLAR FACILITY
 13300 FREDERICK ROAD

TAX MAP 15 GRID 3
 3RD ELECTION DISTRICT

PARCEL 146
 HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: TB
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: MAY 31, 2022
 PROJECT #: 19-044
 SHEET #: 28 OF 28

SILL ENGINEERING GROUP, LLC
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 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

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. 32025, EXPIRATION DATE: JUNE 29, 2023.