

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY. ALL WORK AND MATERIALS SHALL COMPLY WITH D.S.H.A. STANDARDS.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING:
  - AT&T 1-800-252-1133
  - BGE (CONSTRUCTION SERVICES) 410-637-8713
  - BGE (EMERGENCY) 410-685-0123
  - BUREAU OF UTILITIES 410-313-4900
  - COLORADO PIPELINE CO 410-786-1390
  - MISS UTILITY 1-800-257-7777
  - STATE HIGHWAY ADMINISTRATION 410-331-5533
  - VERIZON 1-800-743-0033
- SITE ANALYSIS:**
  - TOTAL PARCEL AREA: 144.69 AC.
  - PRESENT ZONING: RC-DEO
  - USE OF STRUCTURE: SOLAR PANEL FARM
  - TOTAL COVERAGE: 14,511 SF (0.33 AC. OR 1.91% OF GROSS AREA)
  - PAVED PARKING LOT/AREA ON SITE: 0 SF (0 AC. OR 0.00% OF GROSS AREA)
  - AREA OF LANDSCAPE ISLAND: 0 SF (0 AC. OR 0.00% OF GROSS AREA)
  - AREA OF WETLAND AND BUFFERS: 8,741 SF OR 0.15 AC.
  - AREA OF STREAM AND BUFFERS: 80,509 SF OR 1.84 AC.
  - AREA OF EXISTING FOREST: 706,653 SF OR 16.22 AC.
  - AREA OF NRCS/MDE/HSCD STEEP SLOPES (20% OR GREATER): 0.00 AC.
  - AREA OF STEEP SLOPES (25% OR GREATER): 422,532 SF OR 9.7 AC.
  - AREA OF ERODIBLE SOILS: 1,263,416 SF OR 29.00 AC.
  - AREA OF FLOODPLAIN: 0.00 AC.
  - LIMIT OF DISTURBED AREA: 17.43 AC.
  - CUT: 1.188 CY
  - FILL: 182 CY
- PROJECT BACKGROUND:**
  - LOCATION: SYKESVILLE, MD.; TAX MAP 9, BLOCK 3, PARCEL 94
  - ZONING: RC-DEO
  - SUBDIVISION: N/A
  - SECTION/AREA: N/A
  - SITE AREA: 17.43 AC.
  - DPZ REFERENCES: SDP-03-089, BA-19-008C, ECP-20-036
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE SUBJECT PROPERTY IS ZONED "RC-DEO" IN ACCORDANCE WITH THE 10/16/13 ZONING REGULATIONS, AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
- THE PROJECT BOUNDARY SHOWN HEREON IS BASED ON THE SURVEY PERFORMED BY VOGEL ENGINEERING+TIMMONS GROUP ON SEPTEMBER 2019.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY VOGEL ENGINEERING+TIMMONS GROUP DATED SEPTEMBER 2019. OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 09A8 AND 09B1 WERE USED FOR THIS PROJECT.
- STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF NON-STRUCTURAL PRACTICES AND MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. NON-STRUCTURAL PRACTICES INCLUDE NON-ROOFTOP DISCONNECTION (N-2), MICRO-SCALE PRACTICES INCLUDE MICRO-BIORETENTION (M-6). THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
- THERE ARE EXISTING DWELLINGS/STRUCTURES LOCATED ON THIS SITE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
  - A) WIDTH - 12 FEET (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
  - B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.)
  - C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT TURNING RADIUS
  - D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (425 LADING)
  - E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
  - F) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
- ALL DRIVEWAY ENTRANCES SHALL UTILIZE HOWARD COUNTY STANDARD DETAIL NO. R-6.06.
- SYKESVILLE ROAD (MD ROUTE 32) IS CLASSIFIED AS AN INTERMEDIATE ARTERIAL ROAD AND DAY ROAD IS A LOCAL ROAD. NEITHER IS CONSIDERED A SCENIC ROAD.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS) OR THEIR SUBSIDIES, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
- THIS PROPERTY IS NOT WITHIN THE METROPOLITAN DISTRICT.
- WATER FOR THIS PROJECT IS PRIVATE.
- SEWER FOR THIS PROJECT IS PRIVATE. THE HEALTH DEPARTMENT HAS NOT APPROVED THIS PROPERTY FOR WASTEWATER DISCHARGE.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS OR CEMETERIES LOCATED ON THIS PROPERTY OR THE COUNTY'S CEMETERY SITE MAP.
- WETLANDS AND STREAMS SHOWN ONSITE ARE BASED ON ENVIRONMENTAL REPORT BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, DATED AUGUST 23, 2019.
- THE REQUIRED FOREST CONSERVATION OBLIGATION PER SECTION 3.2.3 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL OF 3.0 ACRES SHALL MEET THE INTENT OF SECTION 16.117 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. FOREST CONSERVATION REQUIREMENTS ARE BASED ON COUNCIL BILL CB82-2019. THE REQUIRED FOREST CONSERVATION WILL BE PROVIDED BY A PURCHASE IN AN OFFSITE FOREST BANK. THE FOREST BANK MUST BE COMPLETED PRIOR TO SIGNATURE OF THE SITE DEVELOPMENT PLAN.
  - 1) THE PURCHASE OF 2.5 ACRES OF AFFORESTATION CREDIT IN THE MILLERS MILL FOREST BANK; SDP-18-052.
  - 2) THE PURCHASE OF 1.0 ACERS (1.0 / 2 = 0.5) OF RETENTION CREDIT IN THE MILLERS MILL FOREST BANK; SDP-18-052.
- A TRAFFIC STUDY IS NOT REQUIRED. THE PROPOSED SOLAR FACILITY WILL GENERATE ONE TO TWO TRIPS PER MONTH FOR MAINTENANCE.
- A NOISE STUDY IS NOT REQUIRED. THE PROPOSED PROJECT IS NOT FOR RESIDENTIAL USE.
- CERTIFIED TEST PITS HAVE BEEN PROVIDED TO VERIFY THE LOCATIONS OF THE GROUNDWATER AND/OR ROCK. OPEN TEST PITS WERE OBSERVED BY VOGEL ENGINEERING + TIMMONS GROUP, INC. NOVEMBER 13, 2020.
- THE PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON JUNE 25, 2019 AT THE FRIENDSHIP BAPTIST CHURCH.
- THE ENVIRONMENTAL CONCEPT PLAN (ECP-20-036) WAS APPROVED PER LETTER DATED OCTOBER 30, 2020.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- A FINANCIAL SURETY IN THE AMOUNT OF \$86,000 SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
- PERIMETER PLANTINGS IN THE AMOUNT OF \$16,500 FOR THE REQUIRED 58 SHADE TREES, AND \$49,500 FOR THE REQUIRED 330 EVERGREEN TREES.
- THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT IMPACT ENVIRONMENTAL FEATURES OR BUFFERS.
- SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE USDA NRCS WEB SOIL SURVEY.
- FLOODPLAINS ARE NOT LOCATED ONSITE.
- STEEP SLOPES OVER 20.00% SF CONTIGUOUS ARE SHOWN HEREON.
- A KNOCK LOCK SHALL BE LOCATED AT THE MAIN ENTRANCE.
- ALL GATES SHALL NOT BE LOCATED CLOSER THAN 30 FT FROM AN INTERSECTION AND SHALL OPEN IN THE DIRECTION OF EMERGENCY VEHICLE TRAVEL.
- PRIMARY ELECTRICAL DISCONNECT ARE THE SWITCHGEARS. THE SECONDARY DISCONNECT ARE THE TRANSFORMERS.
- AN ELECTRICAL HAZARD SIGN AND EMERGENCY CONTACT INFORMATION FOR SITE REPRESENTATIVES SHALL BE LOCATED AT THE ENTRANCE.
- PANEL LISTINGS AND FLAME SPREAD RATINGS SHALL BE LISTED AT THE ENTRANCE.
- THE DEVELOPER SHALL PROVIDE TRAININGS TO THE FIRE DEPARTMENT FOR EVERY SOLAR SITE.
- THIS PROJECT IS SUBJECT TO ZONING AND LAND USE BOARD OF APPEALS CASE BA-19-008C, ON OCTOBER 5, 2020. THE ZONING AND LAND USE BOARD OF APPEALS GRANTED THE PETITION OF ONEENERGY DEVELOPMENT, LLC PROVIDED THAT THE PETITIONER MEET CERTAIN CONDITIONS. THE PETITION IS GRANTED PROVIDED THAT THE PETITIONER MEET THE FOLLOWING CONDITIONS:
  - 1. 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 REVISED CONDITIONAL USE PLAN DATED JUNE, 2019, AND NOT TO ANY OTHER ACTIVITIES USE, OR STRUCTURES ON THE PROPERTY.
  - 2. PETITIONER SHALL COMPLY WITH ALL CONDITIONAL USE STANDARDS.
  - 3. THE SITE DEVELOPMENT PLAN, OR ITS EQUIVALENT, SHALL INCLUDE A NOTE CONTAINING ALL CONDITIONS OF APPROVAL.
  - 4. PETITIONER SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
  - 5. THE SYSTEMS SHALL COMPLY WITH APPLICABLE LOCAL, STATE, AND FEDERAL LAWS AND PROVISIONS.
  - 6. 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.
  - 7. 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 COMPLIANCE WITH THIS PROVISION SHALL BE WITH ALL PARTIES HAVING A LEASE OR OWNERSHIP INTEREST IN THE COMMERCIAL SOLAR FACILITY.
  - 8. 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 LOCATION OF THE SOLAR COLLECTORS AND THE PANEL DISCONNECT.
  - 9. TREE REMOVAL SHALL BE MINIMIZED AND REFORESTATION SHALL BE DONE IN ACCORDANCE WITH SECTION 16.1026 OF HOWARD COUNTY CODE. ALL REQUIRED LANDSCAPING SHALL BE PROVIDED WITHIN 6 MONTHS OF INSTALLATION OF THE SOLAR PANELS.
- THE HOWARD COUNTY AGRICULTURAL PRESERVATION BOARD REVIEWED THIS PROPOSAL ON OCTOBER 1, 2018, AND FOUND IT TO BE CONSISTENT WITH THEIR SOLAR FACILITIES POLICY.
- THE REQUIREMENTS OF AGRICULTURAL PRESERVATION EASEMENT HO-85-04-E SHALL BE CONSIDERED WITH THE DEVELOPMENT OF THE PROPERTY.
- THE SOLAR FARM MANAGER AND/OR OWNER IS REQUIRED TO SUBMIT A VEGETATION MANAGEMENT PLAN TO THE HOWARD COUNTY FIRE DEPARTMENT OFFICE OF THE FIRE MARSHAL WHICH WILL BE MAINTAINED ON FILE AND ENFORCED.
- UPON DECOMMISSIONING OF THE SOLAR FACILITY THE PETITIONER/OPERATOR WILL REMOVE LANDSCAPING AND STORMWATER MANAGEMENT PRACTICES AND RESTORE ACCORDINGLY (AT THE REQUEST OF THE PROPERTY OWNER).

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-16-21

*[Signature]*  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12/28/21

*[Signature]*  
 DIRECTOR  
 DATE: 12/29/21

**PARKING TABULATION**

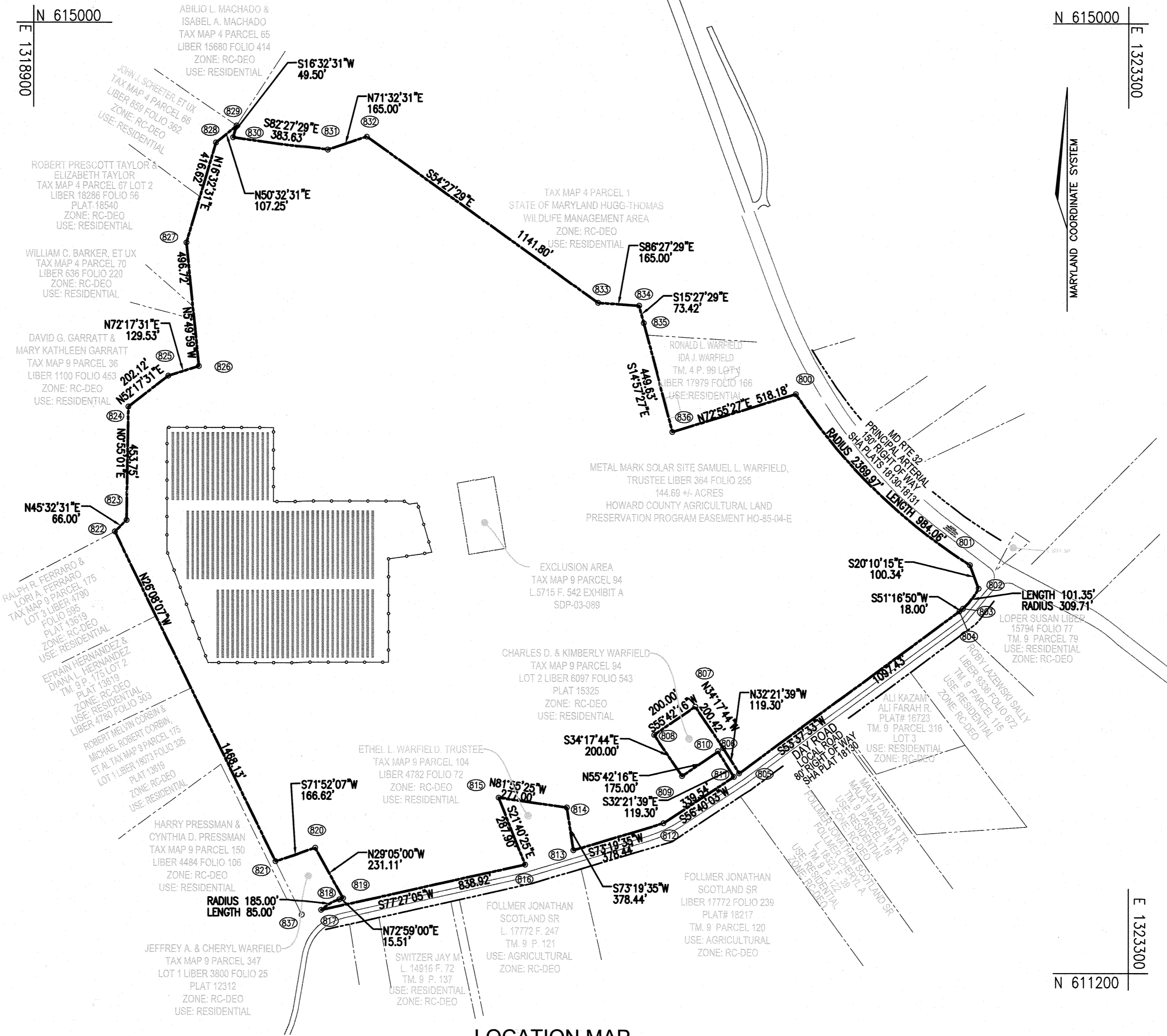
REQUIRED:	REQUIRED:
2 SPACES PER BA CASE NO. 18-013C	2 SPACES
TOTAL PARKING SPACES REQUIRED:	2 SPACES
TOTAL PARKING SPACES PROVIDED:	2 SPACES

# SITE DEVELOPMENT PLAN

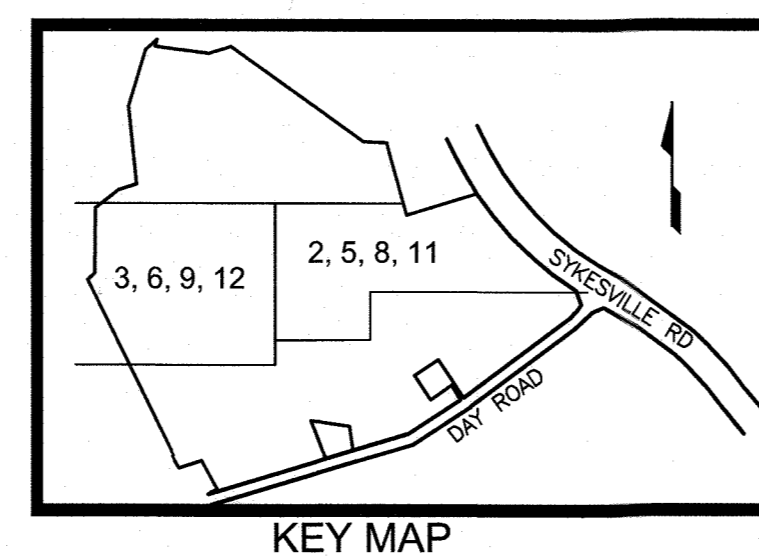
## METAL MARK SOLAR

### 700 SYKESVILLE ROAD

### HOWARD COUNTY, MARYLAND



**LOCATION MAP**  
 SCALE: 1"=300'



**STORMWATER MANAGEMENT PRACTICES**

PARCEL NO.	STREET ADDRESS	FACILITY TYPE & MDE NO.	PUBLIC	PRIVATE	MAINTENANCE BY
94	700 SYKESVILLE ROAD	NON-ROOFTOP DISCONNECT (N-2), MICRO-BIORETENTION (M-6)			X OWNER

**ADDRESS CHART**

BUILDING NO.	STREET ADDRESS
700	SYKESVILLE ROAD

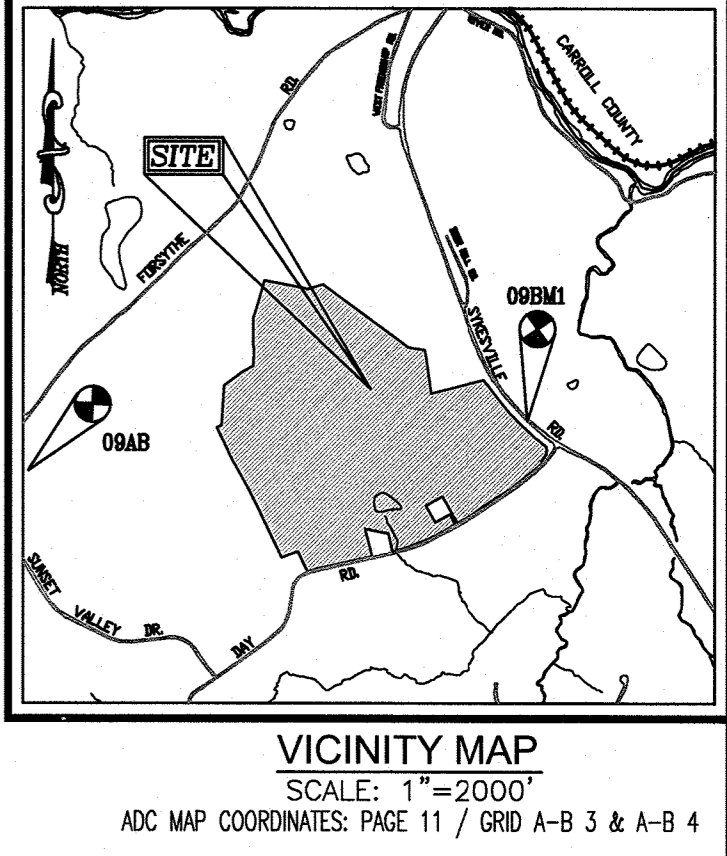
**PERMIT INFORMATION CHART**

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NUMBER
METALMARK SOLAR	-	94

**PLAT OR L/F** L5715/F:542  
**GRID NO.** 3  
**ZONING** RC-DEO  
**TAX MAP NO.** 9  
**ELECT. DIST.** 3RD  
**CENSUS TR.** 603003

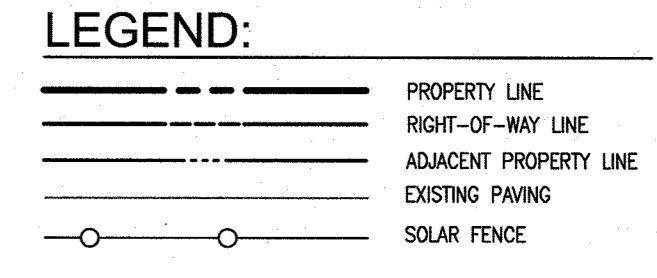
**BENCHMARKS**

HOWARD COUNTY BENCHMARK 09B1	N 600,761.020	E 1,332,632.438	ELEV. 459.104
HOWARD COUNTY BENCHMARK 09A8	N 612,167.152	E 1,316,859.812	ELEV. 606.406



**COORDINATE TABLE**

POINT	NORTH	EAST
800	613415.43	1321961.20
801	612831.96	1322663.39
802	612127.79	1322854.55
803	612655.60	1322632.43
804	612591.34	1322618.39
805	611955.50	1321754.79
806	612027.26	1321670.63
807	612765.85	1321500.46
808	612150.16	1321392.77
809	611884.93	1321300.46
810	612083.54	1321240.71
811	611882.76	1321173.69
812	611796.19	1321430.21
813	61189.20	1321069.69
814	611858.15	1321041.66
815	611897.07	1320761.41
816	611624.92	1320742.69
817	611447.25	1320054.86
818	611489.60	1320127.69
819	611494.14	1320142.69
820	611895.11	1320000.19
821	611444.26	1319974.54
822	612825.28	1318924.14
823	612008.51	1318722.25
824	612582.90	1318692.25
825	612585.83	1318439.42
826	612625.23	1318562.81
827	612119.88	1318542.43
828	612418.76	1318630.35
829	612486.92	1318713.76
830	612323.52	1318663.39
831	612489.12	1320079.97
832	612421.36	1320226.48
833	612527.83	1321165.26
834	613867.44	1321330.24
835	613795.87	1321249.81
836	613422.27	1321465.69



**SHEET INDEX**

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**DEVELOPER**  
 ONEENERGY DEVELOPMENT, LLC  
 2003 WESTERN AVENUE  
 SUITE 225  
 SEATTLE, WA 98121  
 PH: 206-922-7072  
 ATTENTION: KATE LARKIN

**OWNER**  
 METALMARK SOLAR, LLC  
 C/O STANDARD SOLAR, INC.  
 530 GATHER ROAD, SUITE 900  
 ROCKVILLE, MD 20850  
 PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**COVER SHEET**  
**METALMARK SOLAR**  
 700 SYKESVILLE RD  
 SYKESVILLE, MD 21784

TAX MAP 9, BLOCK 3  
 3RD ELECTION DISTRICT

ZONED RC-DEO  
 PARCEL 94  
 HOWARD COUNTY, MARYLAND

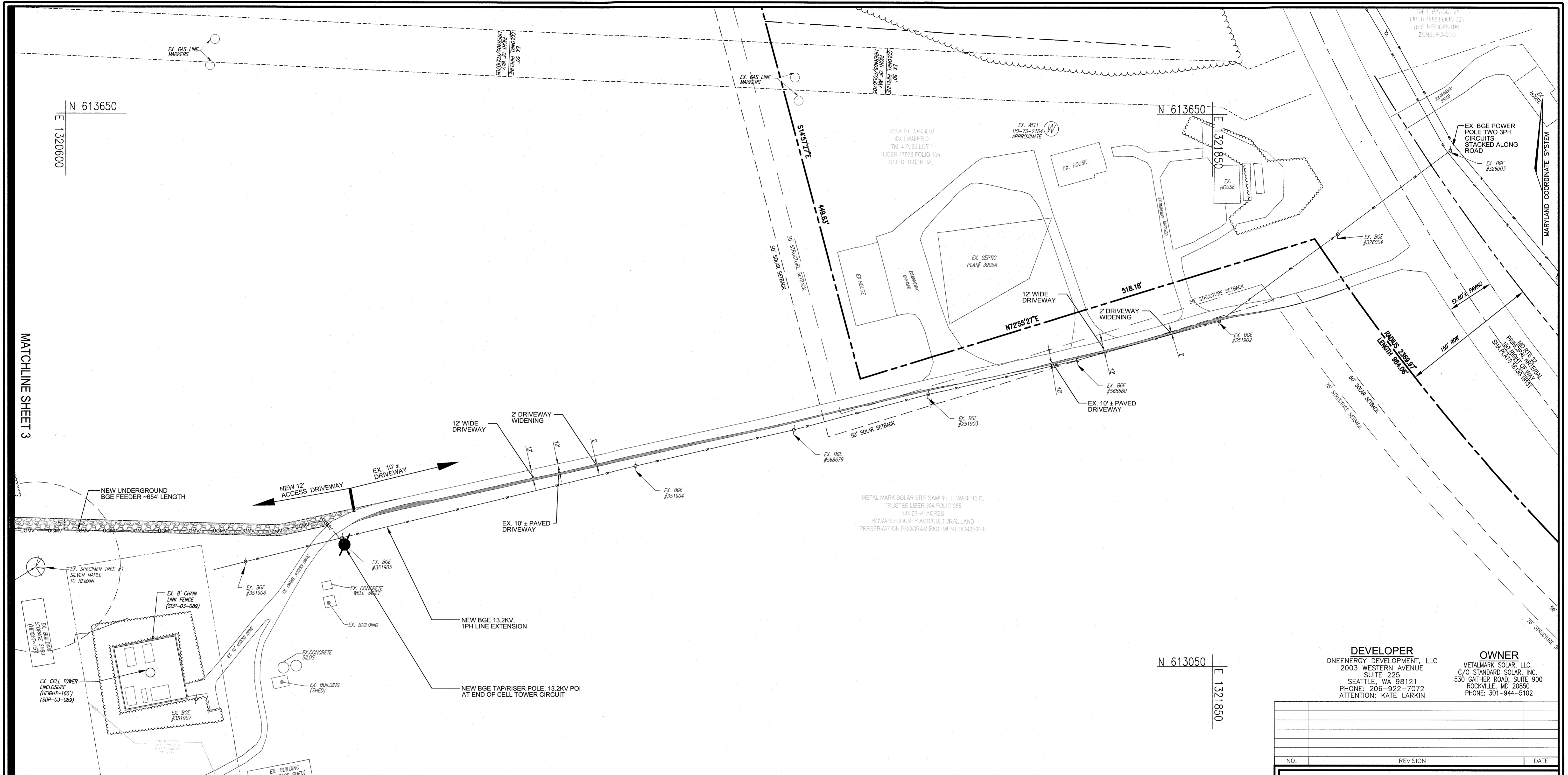
**VOGEL ENGINEERING**  
 +  
**TIMMONS GROUP**  
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21143  
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

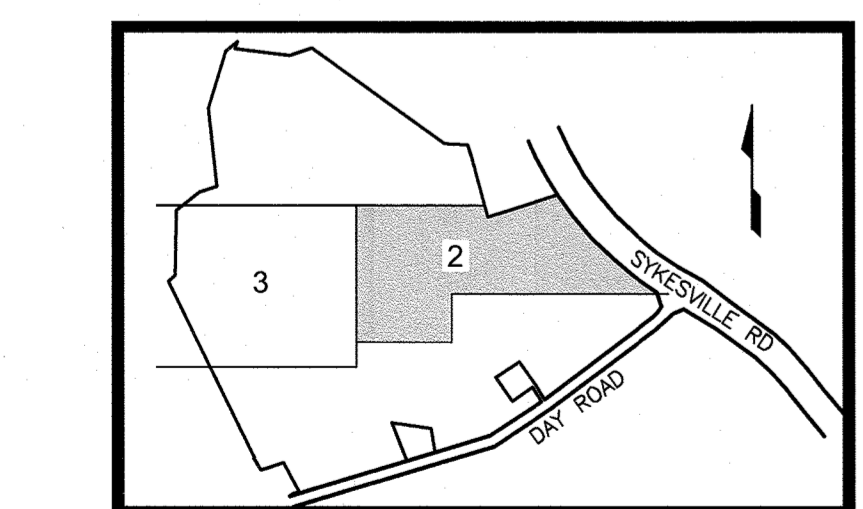
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. MY LICENSE NUMBER IS 171972. EXPIRATION DATE: 09-27-2022

DESIGN BY: RHY  
 DRAWN BY: IMH/KG  
 CHECKED BY: RHY  
 DATE: SEPTEMBER 2021  
 SCALE: AS SHOWN  
 W.O. NO.: 41993

1 SHEET OF 17

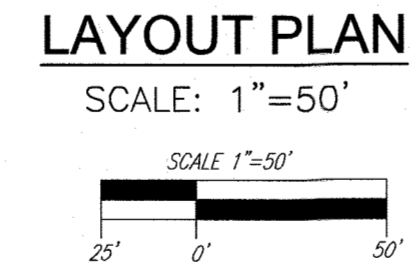


MATCHLINE SHEET 3



KEY MAP  
NOT TO SCALE

- LEGEND:**
- PROPERTY LINE
  - EXISTING TREELINE
  - OVERHEAD LINE
  - UNDERGROUND BGE FEEDER
  - ACCESS ROAD WIDENING
  - PROPOSED ACCESS DRIVEWAY
  - SPECIMEN TREES



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Chad E. ...* 12/16/21  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Anna ...* 12/28/21  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Amy ...* 12/29/21  
DIRECTOR DATE

**DEVELOPER**  
ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE  
SUITE 225  
SEATTLE, WA 98121  
PHONE: 206-922-7072  
ATTENTION: KATE LARKIN

**OWNER**  
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C/O STANDARD SOLAR, INC.  
530 GATHER ROAD, SUITE 900  
ROCKVILLE, MD 20850  
PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**LAYOUT PLAN**

**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

ZONED RC-DEO  
PARCEL 84  
HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**

**TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LANS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 09-27-2022

DESIGN BY:   RHY  

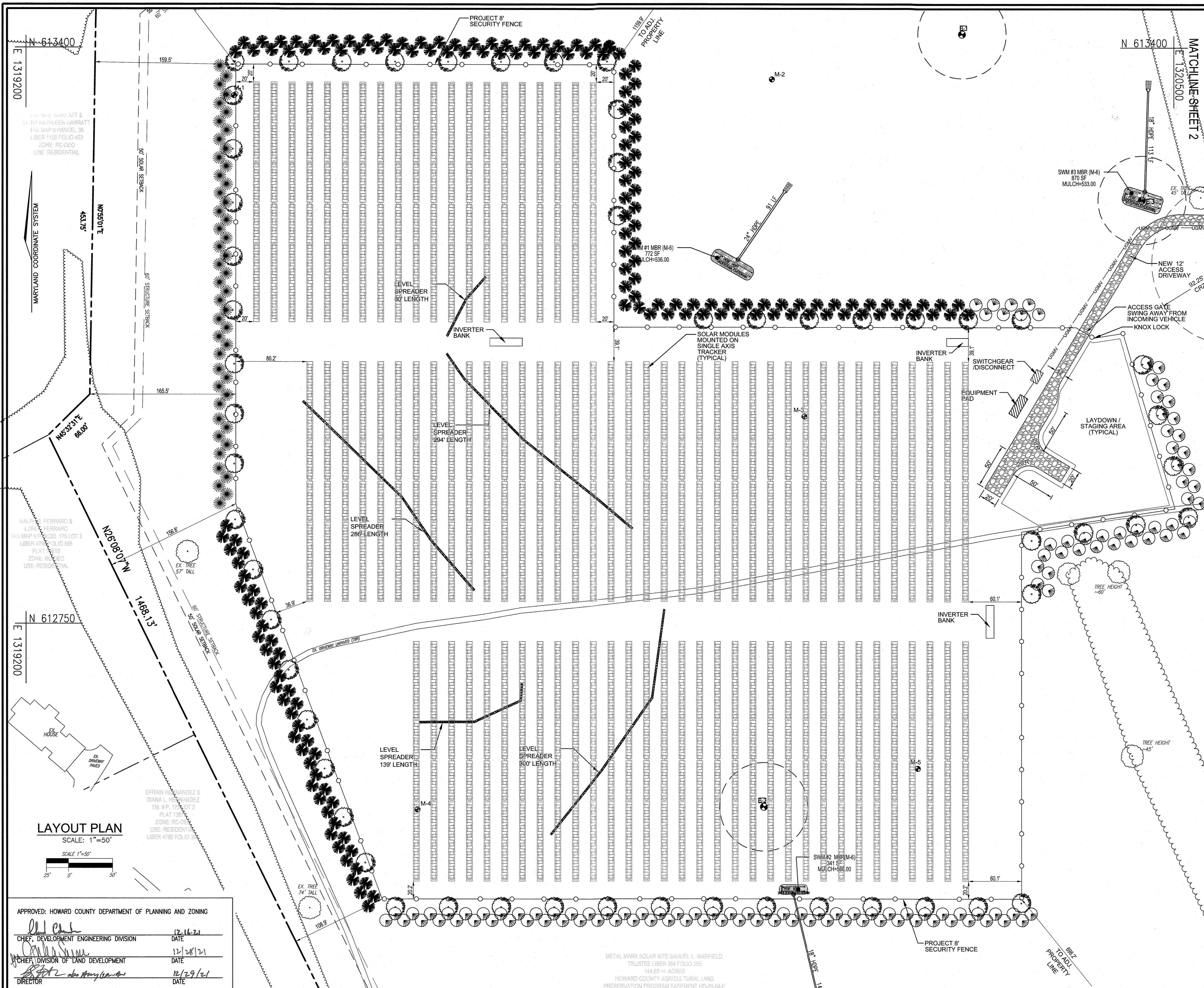
DRAWN BY:   IMH/KG  

CHECKED BY:   RHY  

DATE:   SEPTEMBER 2021  

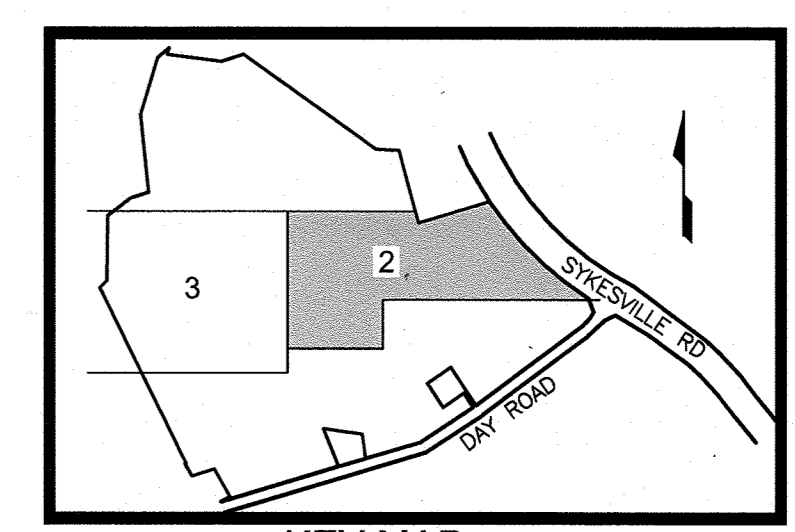
SCALE:   AS SHOWN  

W.O. NO.:   41993



**LEGEND:**

- PROPERTY LINE
- PROJECT SETBACK
- EXISTING TREELINE
- UGMV UNDERGROUND BGE FEEDER
- UNDERGROUND DC COLLECTION
- 8' SECURITY FENCE
- PROPOSED ACCESS DRIVEWAY
- PROPOSED LANDSCAPING
- EXISTING TREES

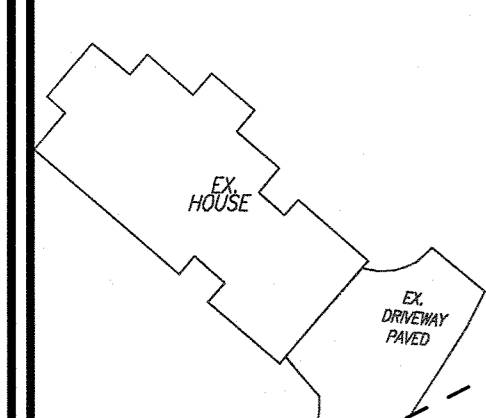


11-10-13 GARRATT &  
11-10-13 KATHLEEN GARRATT  
PLAT MAP 9 PARCEL 36  
LIBER 1100 FOLIO 453  
ZONE: RC-DEO  
USE: RESIDENTIAL

MARYLAND COORDINATE SYSTEM  
N 59° 01' E  
453.75'  
N 65° 31' E  
86.00'

RAULI G. FERRARO &  
LORNA FERRARO  
PLAT MAP 9 PARCEL 175 LOT 3  
LIBER 4782 FOLIO 585  
PLAT 135-18  
ZONE: RC-DEO  
USE: RESIDENTIAL

N 612° 50'  
E 131° 92' 00"



**LAYOUT PLAN**  
SCALE: 1"=50'

SCALE 1"=50'  
25' 0' 50'

ERRAIN HERNANDEZ &  
DIANA L. HERNANDEZ  
TRUSTEES  
PLAT 135-18  
ZONE: RC-DEO  
USE: RESIDENTIAL  
LIBER 4780 FOLIO 30

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division  
12/16/21  
DATE

Chief, Division of Land Development  
12/28/21  
DATE

Director  
12/29/21  
DATE

METAL MARK SOLAR SITE SAMUEL L. WARFIELD  
TRUSTEE LIBER 384 FOLIO 255  
144.63 +/- ACRES  
HOWARD COUNTY AGRICULTURAL LAND  
PRESERVATION PROGRAM EASEMENT NO. 85-04-G

**DEVELOPER**  
ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE  
SUITE 225  
SEATTLE, WA 98121  
PHONE: 206-922-7072  
ATTENTION: KATE LARKIN

**OWNER**  
METALMARK SOLAR, LLC  
C/O STANDARD SOLAR, INC.  
530 GATHER ROAD, SUITE 900  
ROCKVILLE, MD 20850  
PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN  
LAYOUT PLAN**

**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
3RD ELECTION DISTRICT

ZONED RC-DEO  
PARCEL 94  
HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**

**TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

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. 18183, EXPIRATION DATE: 06-27-2022.

DESIGN BY: RHV  
DRAWN BY: IMH/KG  
CHECKED BY: RHV  
DATE: SEPTEMBER 2021  
SCALE: AS SHOWN  
W.O. NO.: 41993

ROBERT H. VOGEL, PE No. 18193

3 SHEET OF 17

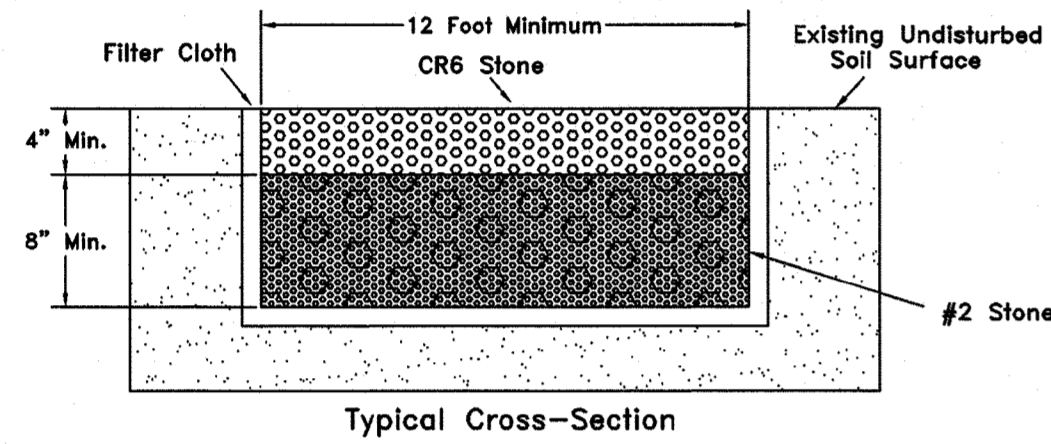
DESIGN CRITERIA FOR BASIC ACCESS ROADS

UG 501-17

An access road is defined to be a stone-base road with entry off of a paved street or highway. It is used to permit construction and maintenance vehicles access to an isolated location of pad-mounted equipment.

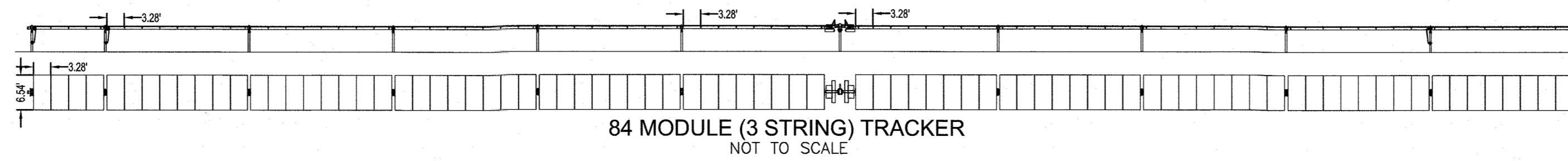
The following guidelines should be used to design such a road.

1. An access road shall be constructed to H-20 highway loading with a maximum of 8% grade. Wherever possible, the access road should be straight without curves, and be a minimum of 12' wide. The location and plans for the access road must be approved by BGE prior to construction.
2. The access road shall extend a minimum of 20' from the public highway to the pad-mounted equipment, unless separated by guardrails or Jersey walls. This distance allows sufficient length for the vehicle operator to park away from the flow of traffic off the public highway.
3. At the location of the pad-mounted equipment, the roadway shall widen to allow construction and maintenance trucks an area to turn around when exiting the site. This widened area shall be a minimum of 20' x 20'.
4. The roadway shall be excavated to a minimum depth of 12" and constructed of two layers of stone. Before the first layer is installed, the bottom and sides of the excavated roadway shall be lined with non-woven filter cloth.
5. The base layer shall be a minimum of 8" of #2 stone. The top layer shall be a minimum of 4" of CR6 stone. The top layer of the roadway shall be at "grade." These minimum depths may have to be increased depending on the existing soil conditions to obtain the H-20 highway loading.
6. Curbs and gutters are not required.
7. Guard rails should be installed when the slope of the road is steeper than a 3:1 ratio.
8. If the access road is gated, BGE must have independent 24-hour admittance, i.e. double locks.

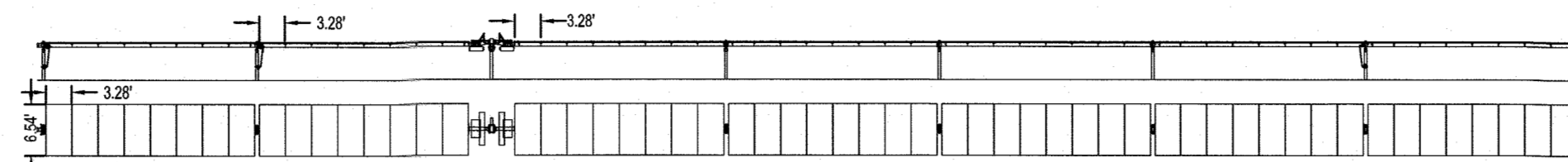


Typical Cross-Section

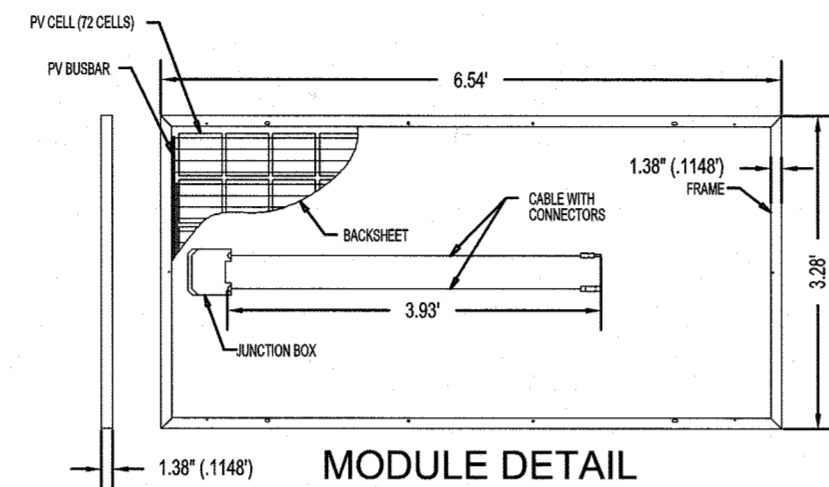
**BGE** UNDERGROUND CONSTRUCTION STANDARDS  
 LATEST REVISION: NEW STANDARD  
 APP. DATE: 12/21/10 APPROVAL: *Cam*



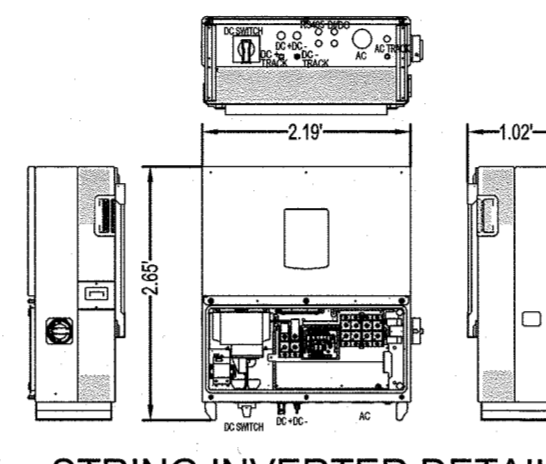
84 MODULE (3 STRING) TRACKER  
NOT TO SCALE



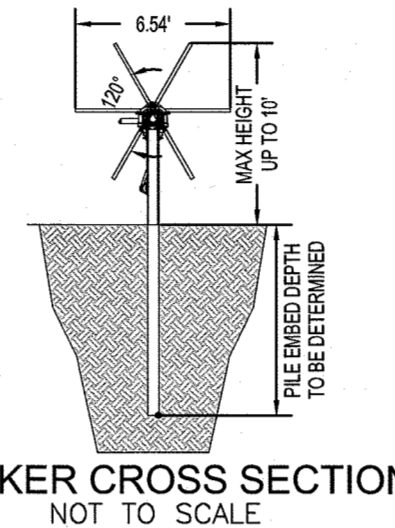
56 MODULE (2 STRING) TRACKER  
NOT TO SCALE



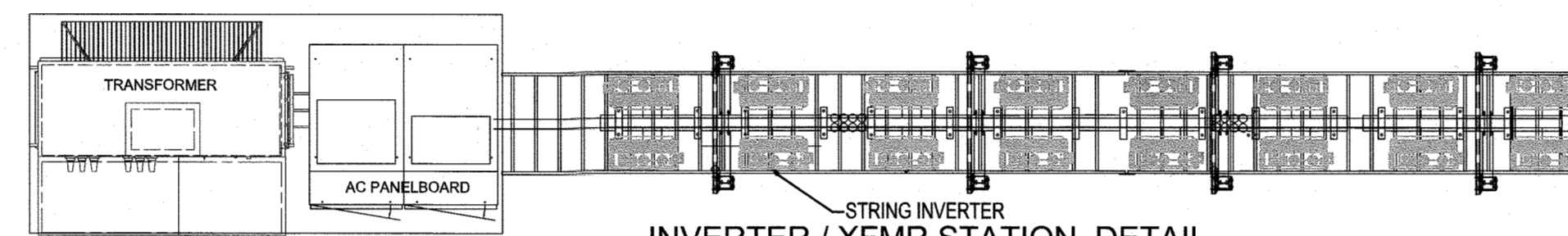
MODULE DETAIL  
NOT TO SCALE



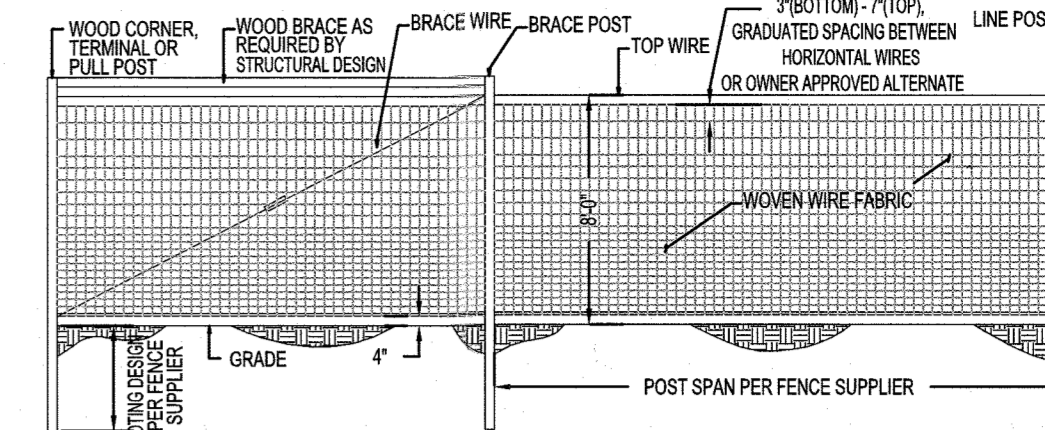
STRING INVERTER DETAIL  
NOT TO SCALE



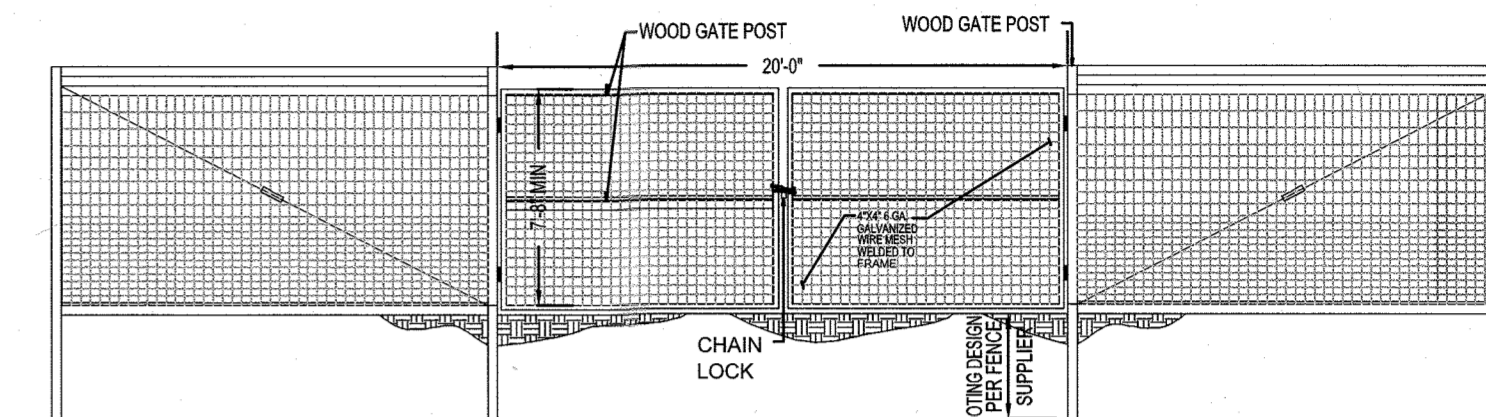
TRACKER CROSS SECTION  
NOT TO SCALE



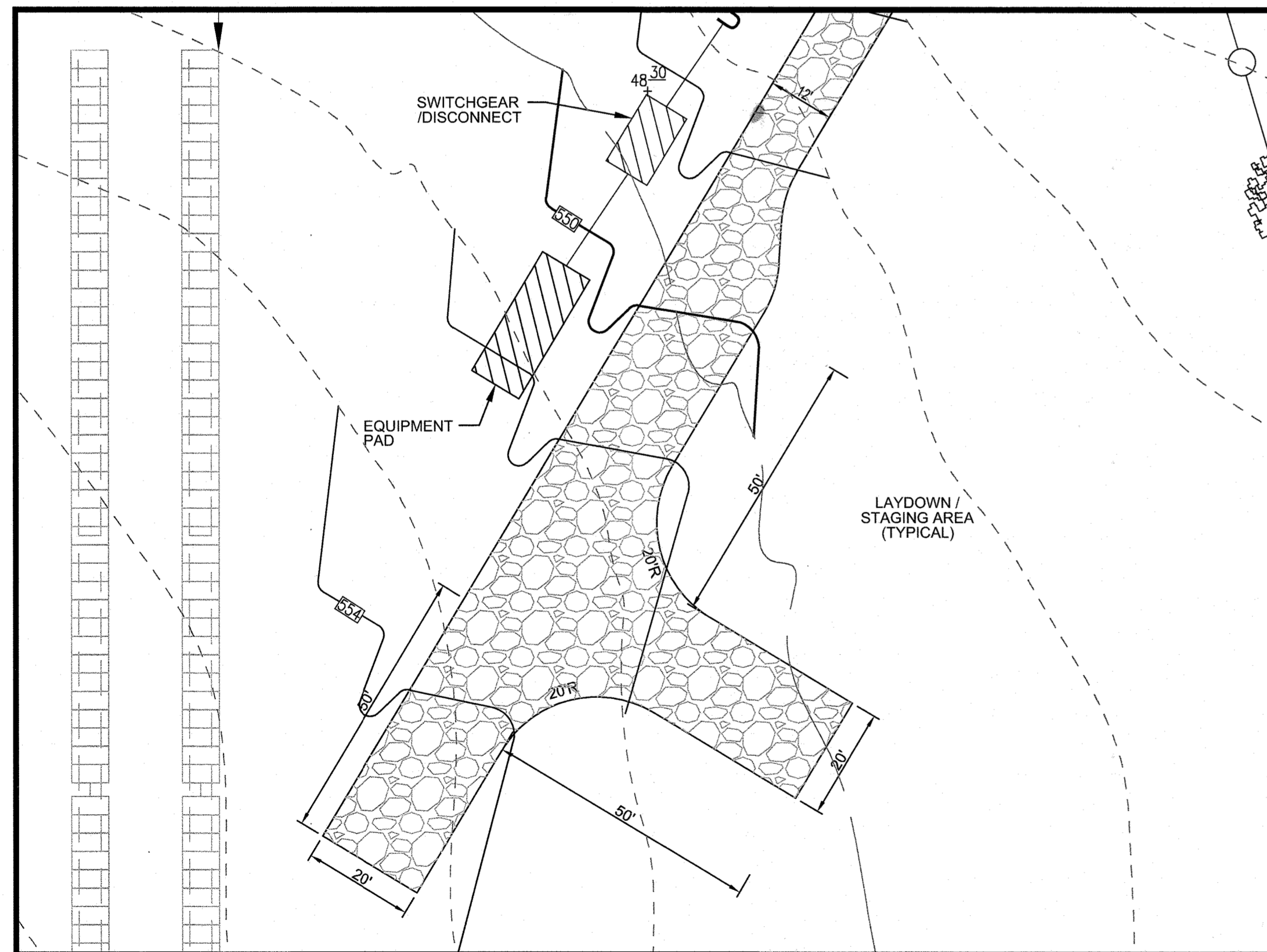
INVERTER / XFMR STATION DETAIL  
NOT TO SCALE



- NOTES:
1. STRUCTURAL DESIGN TO BE PROVIDED BY FENCE SUPPLIER. SEE SUPPLIER DRAWING FOR ADDITIONAL DETAILS.
  2. ALL POSTS SHALL BE TREATED WOOD.
  3. ALL METALLIC PARTS SHALL BE GALVANIZED.



SECURITY FENCE DETAIL  
NOT TO SCALE



TURN AROUND PLAN VIEW  
SCALE: 1" = 20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Oliver*  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 12/16/21  
 DATE  
*Anna*  
 CHIEF, DIVISION OF LAND DEVELOPMENT 12/28/21  
 DATE  
*2 also Army*  
 DIRECTOR 12/29/21  
 DATE

**DEVELOPER**  
 ONEENERGY DEVELOPMENT, LLC  
 2003 WESTERN AVENUE  
 SUITE 225  
 SEATTLE, WA 98121  
 PHONE: 206-922-7072  
 ATTENTION: KATE LARKIN

**OWNER**  
 METALMARK SOLAR, LLC  
 C/O STANDARD SOLAR, INC.  
 530 GATHER ROAD, SUITE 900  
 ROCKVILLE, MD 20850  
 PHONE: 301-944-5102

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN  
SITE DETAILS

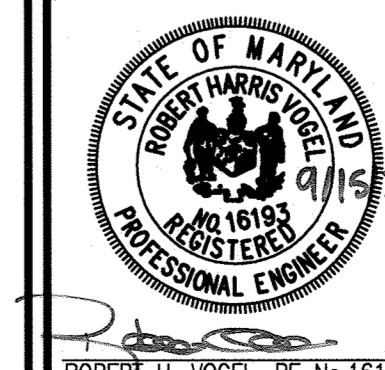
**METALMARK SOLAR**  
 700 SYKESVILLE RD  
 SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3 3RD ELECTION DISTRICT ZONED RC-DE0 PARCEL 94 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**

**TIMMONS GROUP**

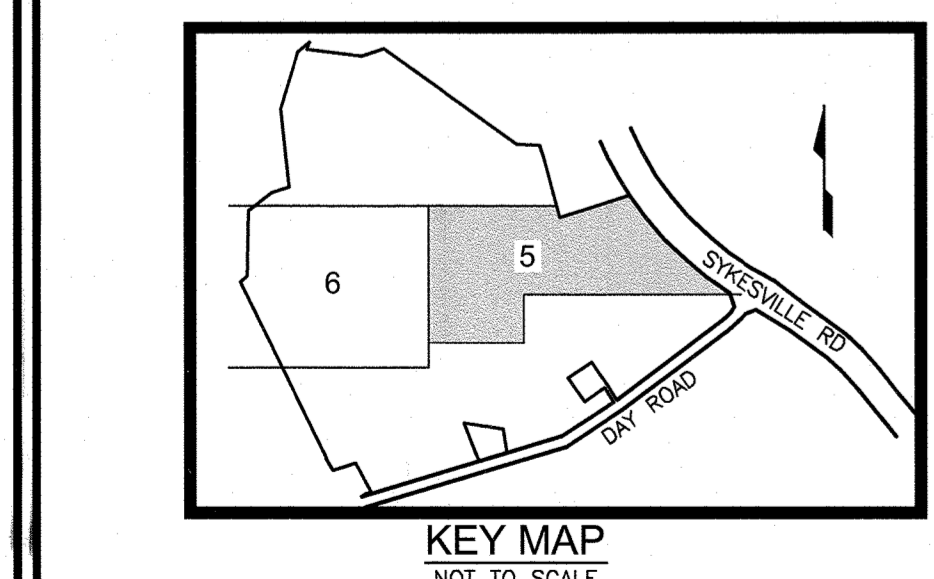
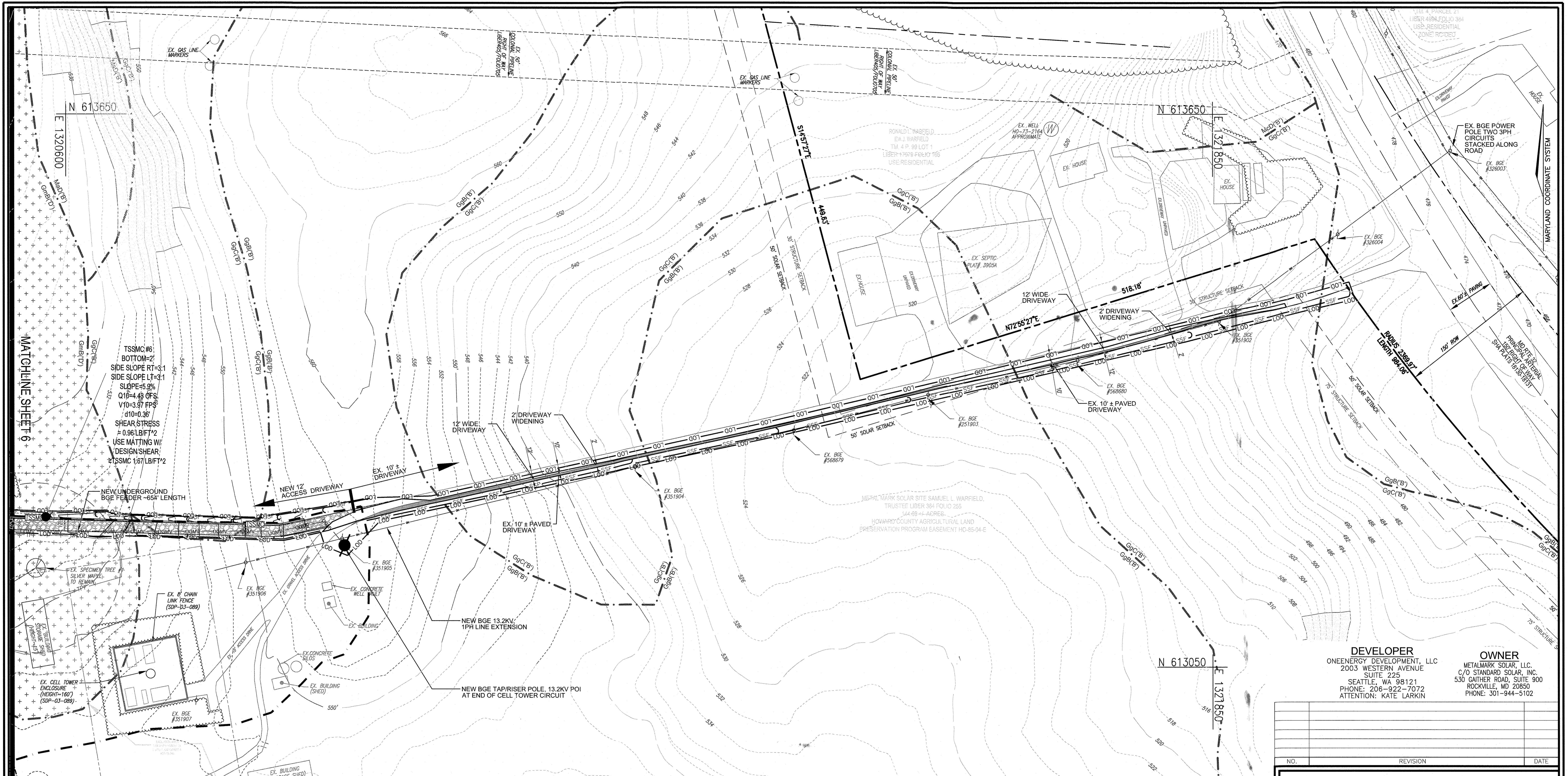
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
 P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY: RHY  
 DRAWN BY: IMH/KG  
 CHECKED BY: RHY  
 DATE: SEPTEMBER 2021  
 SCALE: AS SHOWN  
 W.O. NO.: 41993

PROFESSIONAL CERTIFICATE  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 08-27-2022

4 SHEET OF 17

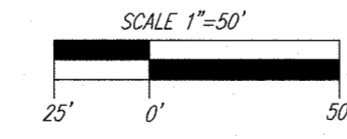


**LEGEND:**

---	PROPERTY LINE	+	PROPOSED LANDSCAPING	+	ERODIBLE SOILS
---	PROJECT SETBACK	+	EXISTING TREES	+	TEMPORARY SOIL STABILIZATION MATTING
---	MAJOR CONTOUR (10')	+	EXISTING SPECIMEN TREE CRITICAL ROOT ZONE	+	
---	MINOR CONTOUR (2')	+		+	
---	SOILS BOUNDARY	+		+	
---	EXISTING TREELINE	+		+	
---	UNDERGROUND BGE FEEDER	+		+	
---	UNDERGROUND DC COLLECTION	+		+	
---	8" SECURITY FENCE	+		+	
---	SILT FENCE	+		+	
---	SUPER SILT FENCE	+		+	
---	PROPOSED CONTOUR	+		+	
---	PROPOSED SPOT ELEVATION	+		+	

**SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN**

SCALE: 1"=50'



CONTRACTOR SHALL ADJUST ACCESS DRIVEWAY AS NECESSARY TO LIMIT DISTURBANCE TO CRITICAL ROOT ZONE.

**SOILS LEGEND**

SYMBOL	NAME/ DESCRIPTION	GROUP	K-FACTOR	ERODIBLE	HYDRIC
GcB	GLENNEL LOAM, 3 TO 8 PERCENT SLOPES	B	0.24	NO	NO
GcC	GLENNEL LOAM, 8 TO 15 PERCENT SLOPES	B	0.24	NO	NO
GmA	GLENNVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES	C	0.73	YES	YES
GmB	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37	YES	YES
GmC	GLENNVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES	C	0.43	YES	NO
GmD	GLENNVILLE-SHALE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43	YES	YES
MmC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.28	NO	NO
MmD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.28	NO	NO
MmF	MANOR BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCKY	B	0.32	NO	NO

**NOTE:**  
 - SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.  
 - SILT FENCE SHALL BE CURLED UPHILL. NO MORE THAN 35 FEET APART.  
 - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

**NOTE:**  
 THE LIMIT OF DISTURBANCE SHOWN ON THIS PLAN INCLUDES THE CONSTRUCTION OF THE SOLAR ARRAY. THIS PROCESS INVOLVED PILE DRIVING, THE SEDIMENT CONTROLS ADDRESS AREAS OF GRADING ONLY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12/16/21  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE

*[Signature]* 12/28/21  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE

*[Signature]* 12/29/21  
 DIRECTOR  
 DATE

**OWNER/DEVELOPER CERTIFICATION:**  
 I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

*[Signature]* 12/16/2021  
 OWNER/DEVELOPER SIGNATURE  
 DATE

*[Signature]* 12/16/2021  
 PRINTED NAME & TITLE

**DESIGN CERTIFICATION:**  
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 9/15/21  
 DESIGNER'S SIGNATURE  
 DATE

ROBERT H. VOGEL  
 PRINTED NAME  
 MD REGISTRATION NO. 15193  
 (E) R.L.S. OR R.L.A. (circle one)

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

*[Signature]* 09/22/21  
 HOWARD S.C.D.  
 DATE

**DEVELOPER**  
 ONEENERGY DEVELOPMENT, LLC  
 2003 WESTERN AVENUE  
 SUITE 225  
 SEATTLE, WA 98121  
 PHONE: 206-922-7072  
 ATTENTION: KATE LARKIN

**OWNER**  
 METALMARK SOLAR, LLC  
 C/O STANDARD SOLAR, INC.  
 530 GATHER ROAD, SUITE 900  
 ROCKVILLE, MD 20850  
 PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN**  
**METALMARK SOLAR**  
 700 SYKESVILLE RD  
 SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
 3RD ELECTION DISTRICT

ZONED RC-DEO  
 PARCEL 54  
 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

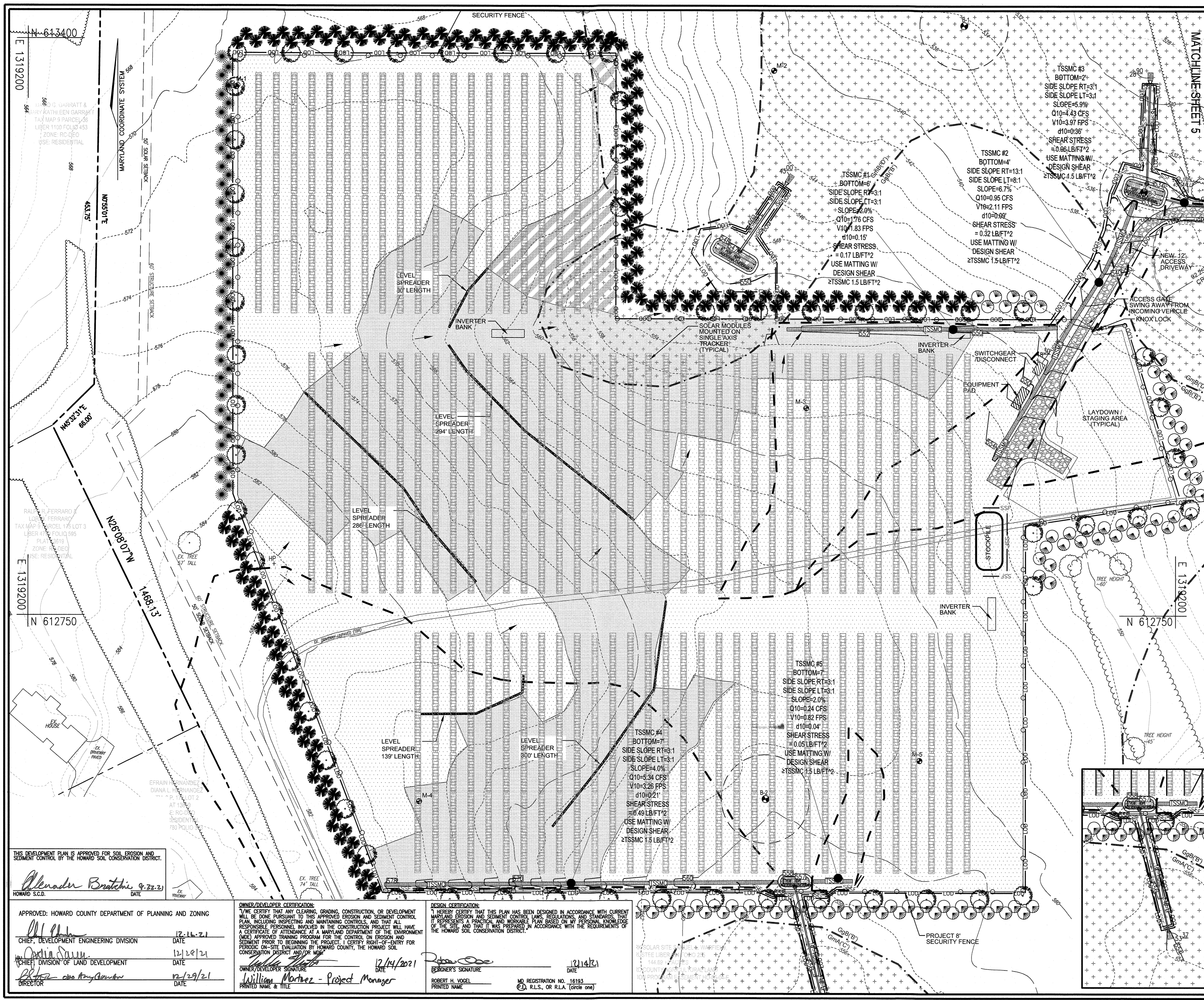
**TIMMONS GROUP**

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV  
 DRAWN BY: IMH/KG  
 CHECKED BY: RHV  
 DATE: SEPTEMBER 2021  
 SCALE: AS SHOWN  
 W.O. NO.: 41993

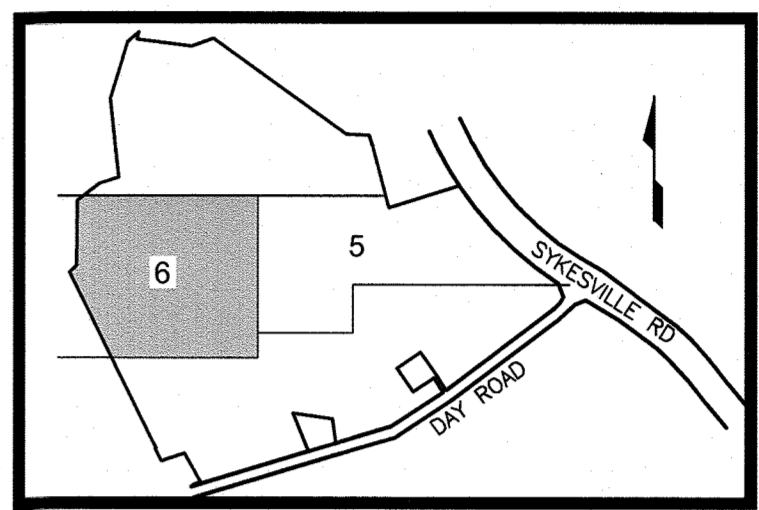
ROBERT H. VOGEL, PE No.16193

5 SHEET OF 17



**LEGEND:**

—	PROPERTY LINE	○	PROPOSED LANDSCAPING
---	PROJECT SETBACK	○	EXISTING TREES
---	MAJOR CONTOUR (10')	○	EXISTING SLOPES <5%
---	MINOR CONTOUR (2')	○	EXISTING SLOPES 5%-10%
---	SOILS BOUNDARY	○	EXISTING SLOPES >10%
---	EXISTING TRENLINE	○	LOD
---	UGMV	○	LIMIT OF DISTURBED AREA
---	UNDERGROUND BOE FEEDER	○	EXISTING SLOPES 5%-10%
---	UNDERGROUND DC COLLECTION	○	EXISTING SLOPES >10%
---	8" SECURITY FENCE	○	ERODIBLE SOILS
---	SILT FENCE	○	TEMPORARY SOIL STABILIZATION MATTING
---	PROPOSED CONTOUR	○	EXISTING SPECIMEN TREE CRITICAL ROOT ZONE
---	PROPOSED SPOT ELEVATION	○	
---	DRAINAGE DIVIDE	○	



**NOTE:**

- SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART.
- DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

CONTRACTOR SHALL ADJUST ACCESS DRIVEWAY AS NECESSARY TO LIMIT DISTURBANCE TO CRITICAL ROOT ZONE.

**SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN**

**NOTE:**  
THE LIMIT OF DISTURBANCE SHOWN ON THIS PLAN INCLUDES THE CONSTRUCTION OF THE SOLAR ARRAYS. THIS PROCESS INVOLVED PILE DRIVING, THE SEDIMENT CONTROLS ADDRESS AREAS OF GRADING ONLY.

SCALE: 1"=50'

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	ERODIBLE	HYDRC
GgB	GLENNVILLE LOAM, 3 TO 8 PERCENT SLOPES	B	0.24	NO	NO
GgC	GLENNVILLE LOAM, 8 TO 15 PERCENT SLOPES	B	0.24	NO	NO
GmA	GLENNVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES	C	0.73	YES	YES
GmB	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.43	YES	YES
GmC	GLENNVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES	C	0.43	YES	NO
GmD	GLENNVILLE-BALE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43	YES	YES
MdC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.28	NO	NO
MdD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.28	NO	NO
MdF	MANOR BRINKLOW COMPLEX, 25 TO 85 PERCENT SLOPES, VERY ROCKY	B	0.32	NO	NO

**SOILS NOTE:**  
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.

**DEVELOPER**  
ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE  
SUITE 225  
SEATTLE, WA 98121  
PHONE: 206-922-7072  
ATTENTION: KATE LARKIN

**OWNER**  
METALMARK SOLAR, LLC  
C/O STANDARD SOLAR, INC.  
530 GATHER ROAD, SUITE 900  
ROCKVILLE, MD 20850  
PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN**  
**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
3RD ELECTION DISTRICT

ZONED RC-DEO  
PARCEL 94  
HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
**TIMMONS GROUP**  
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
P: 410.461.7666 F: 410.461.8961 www.timmons.com

**PROFESSIONAL CERTIFICATE**

DESIGN BY: RHV  
DRAWN BY: IMH/KG  
CHECKED BY: RHV  
DATE: SEPTEMBER 2021  
SCALE: AS SHOWN  
W.O. NO.: 41993

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. 16193 EXPIRATION DATE: 09-27-2022.

6 SHEET OF 17

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

Alexander Bratchis 9.22.21  
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

12.16.21  
12/16/21  
12/29/21  
12/29/21

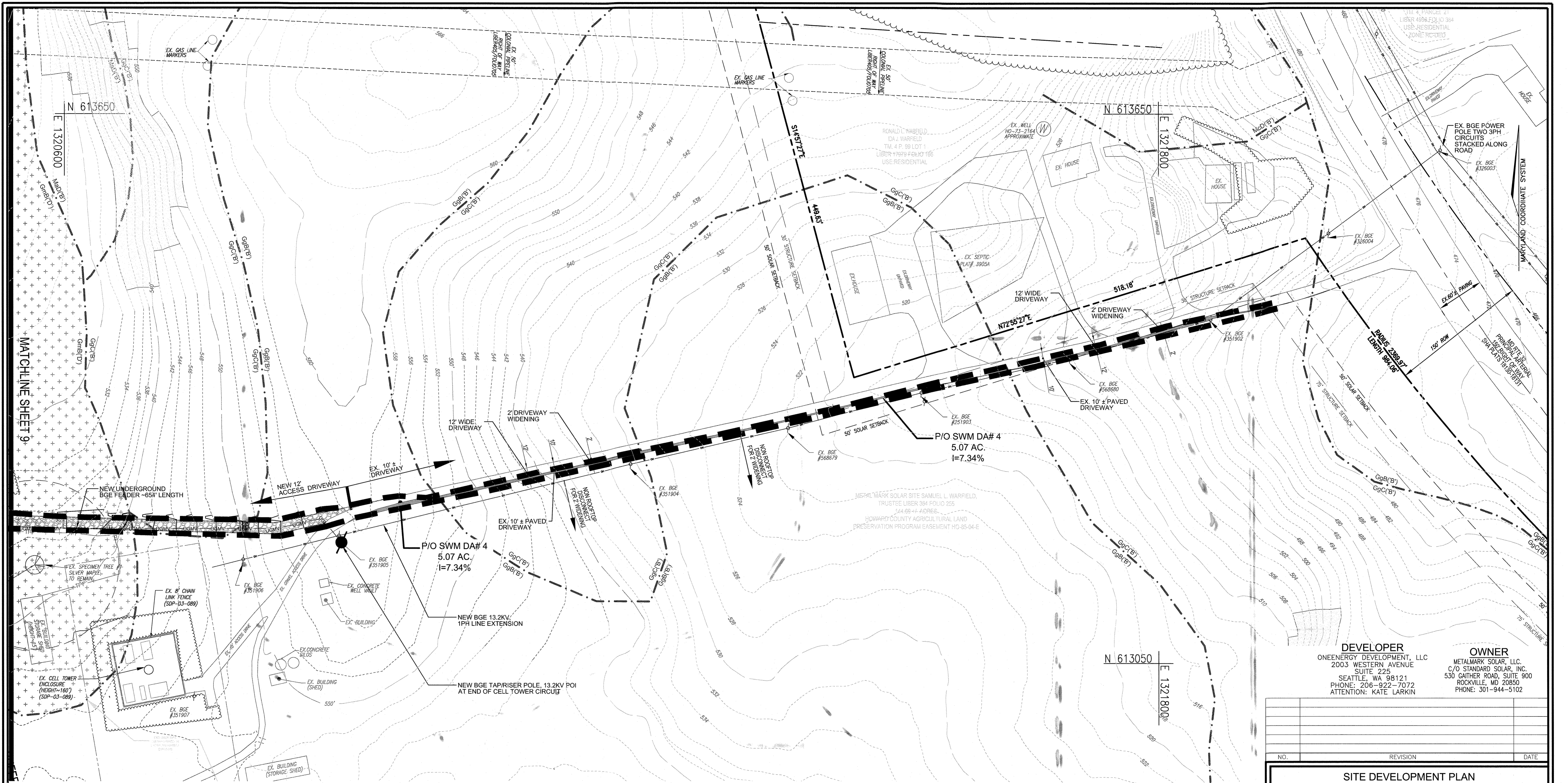
**OWNER/DEVELOPER CERTIFICATION:**  
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William Martinez - Project Manager  
DATE: 12/14/2021

**DESIGN CERTIFICATION:**  
I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ROBERT H. VOGEL  
DATE: 12/14/21  
MD REGISTRATION NO. 16193  
R.L.S. OR R.L.A. (circle one)

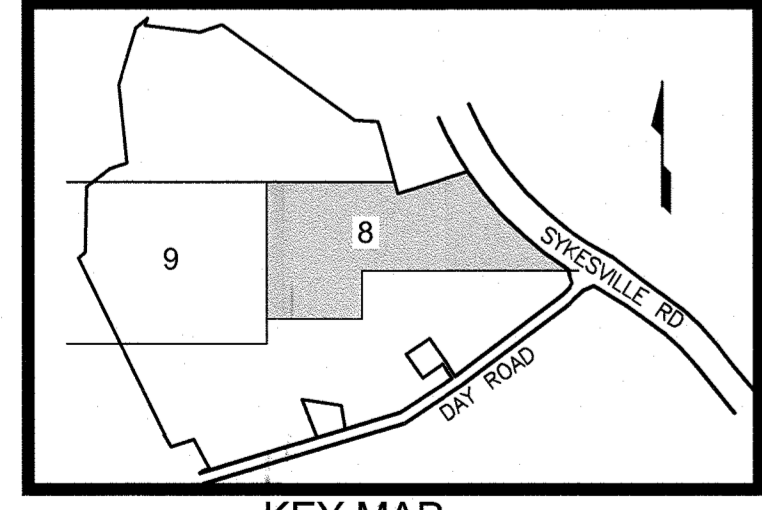




**DEVELOPER**  
 ONEENERGY DEVELOPMENT, LLC  
 2003 WESTERN AVENUE  
 SUITE 225  
 SEATTLE, WA 98121  
 PHONE: 206-922-7072  
 ATTENTION: KATE LARKIN

**OWNER**  
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 C/O STANDARD SOLAR, INC.  
 530 GATHER ROAD, SUITE 900  
 ROCKVILLE, MD 20850  
 PHONE: 301-944-5102

NO.	REVISION	DATE



- LEGEND:**
- PROPERTY LINE
  - MAJOR CONTOUR (10')
  - MINOR CONTOUR (2')
  - SOILS BOUNDARY
  - - - EXISTING TREELINE
  - OVERHEAD LINE
  - UGMV — UGMV UNDERGROUND BGE FEEDER
  - PROPOSED CONTOUR
  - + 40288 PROPOSED SPOT ELEVATION
  - ACCESS ROAD WIDENING
  - PROPOSED ACCESS DRIVEWAY
  - SPECIMEN TREES
  - DRAINAGE AREA DIVIDE

**STORMWATER MANAGEMENT DRAINAGE AREA MAP**  
 SCALE: 1"=50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12-16-21  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 12/28/21  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 12/29/21  
 DIRECTOR DATE

**SITE DEVELOPMENT PLAN**  
**STORMWATER MANAGEMENT DRAINAGE AREA MAP**  
**METALMARK SOLAR**  
 700 SYKESVILLE RD  
 SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
 3RD ELECTION DISTRICT

ZONED RC-DEO  
 PARCEL 9A  
 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
 +  
**TIMMONS GROUP**  
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

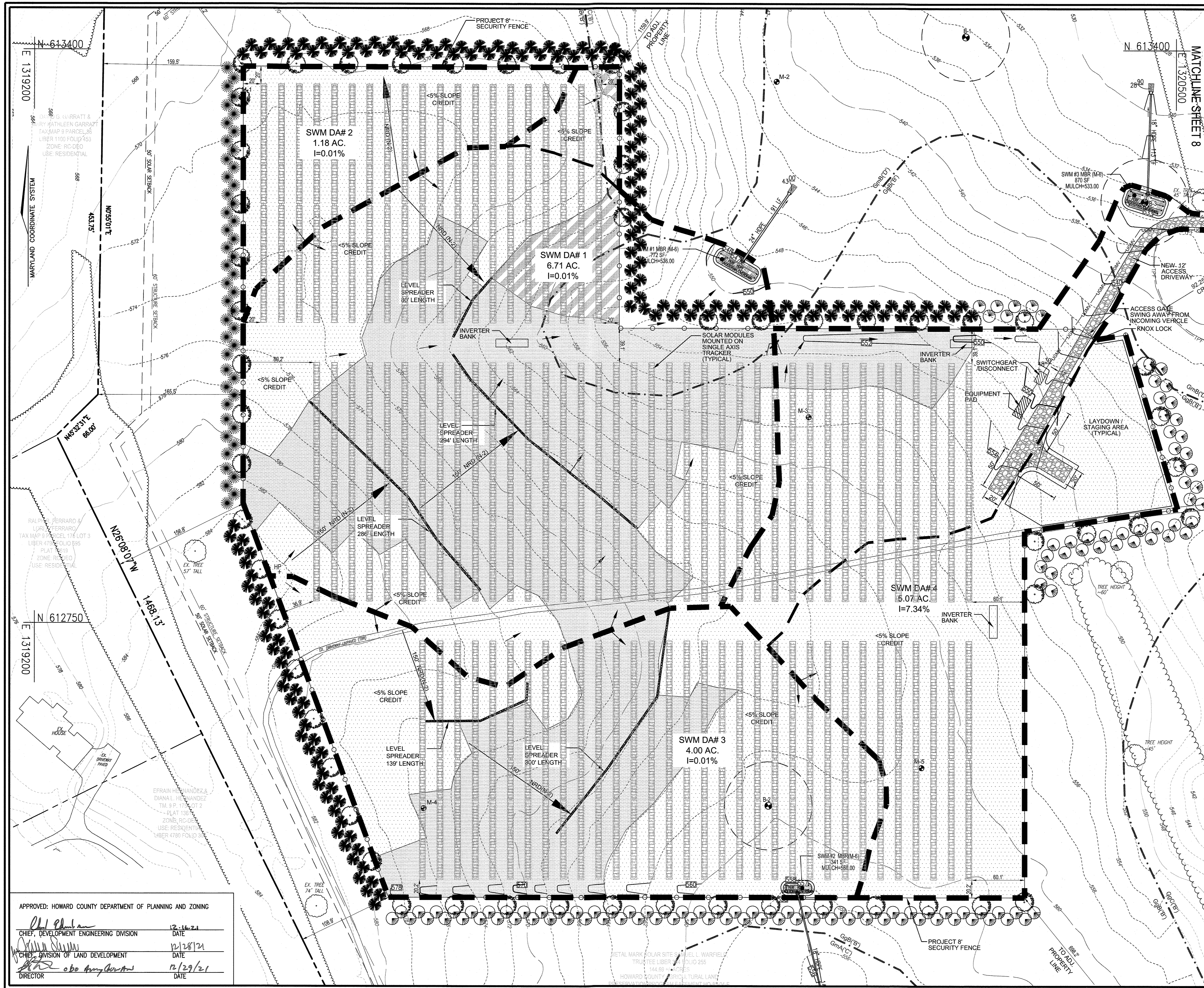
PROFESSIONAL CERTIFICATE

DESIGN BY: RHY  
 DRAWN BY: IMH/KG  
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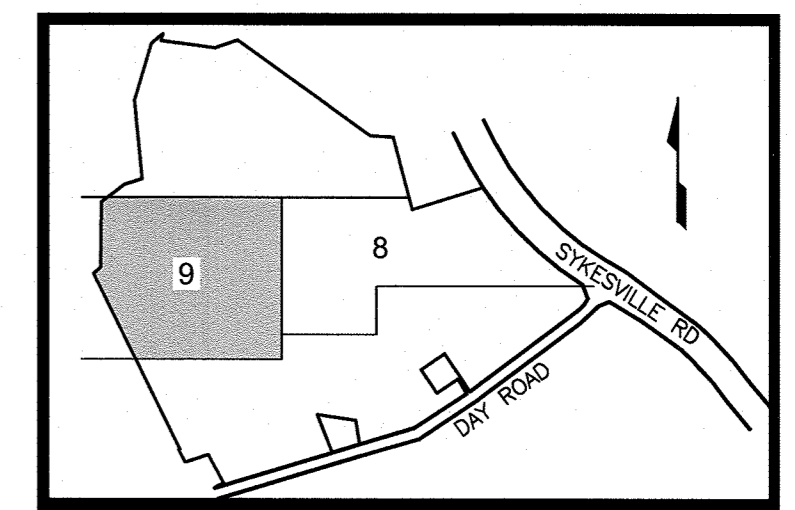
8 SHEET OF 17





**LEGEND:**

---	PROPERTY LINE	○	PROPOSED LANDSCAPING
- - -	PROJECT SETBACK	○	EXISTING TREES
---	MAJOR CONTOUR (10')	○	EXISTING SLOPES <5%
---	MINOR CONTOUR (2')	○	EXISTING SLOPES 5%-10%
---	SOILS BOUNDARY	○	EXISTING SLOPES >10%
---	EXISTING TREELINE	○	
---	UNDERGROUND BGE FEEDER	○	
---	UGM V	○	
---	UNDERGROUND DC COLLECTION	○	
---	8' SECURITY FENCE	○	
---	DRAINAGE AREA DIVIDE	○	
---	PROPOSED CONTOUR	○	
---	PROPOSED SPOT ELEVATION	○	



**SCALE 1"=50'**

**STORMWATER MANAGEMENT DRAINAGE AREA MAP**  
SCALE: 1"=50'

**DEVELOPER:** ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE, SUITE 225, SEATTLE, WA 98121  
PHONE: 206-922-7072, ATTENTION: KATE LARKIN

**OWNER:** METALMARK SOLAR, LLC  
C/O STANDARD SOLAR, INC., 530 CANTER ROAD, SUITE 900, ROCKVILLE, MD 20850  
PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**STORMWATER MANAGEMENT DRAINAGE AREA MAP**  
**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3, 3RD ELECTION DISTRICT  
ZONED RC-DE0 PARCEL 62  
HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
**TIMMONS GROUP**  
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
P: 410.461.7666 F: 410.461.8961 www.timmons.com

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12/16/21

CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12/28/21

DIRECTOR  
DATE: 12/29/21

**PROFESSIONAL CERTIFICATE**

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. 16193, EXPIRATION DATE: 09-27-2022

DESIGN BY: RHY  
DRAWN BY: IMH/KG  
CHECKED BY: RHY  
DATE: SEPTEMBER 2021  
SCALE: AS SHOWN  
W.O. NO.: 41993

9 SHEET OF 17

**APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS**

**1. MATERIAL SPECIFICATIONS**

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. OTHER THAN THE SUBSTRATE, IT 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 BELEMNIA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER 'MATERIAL SPECIFICATIONS'. THE PLANTING SOIL SHALL BE ORGANIC AND SHALL MEET THE FOLLOWING CRITERIA:

- SOIL COMPONENT – LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION).
- ORGANIC CONTENT – MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (80%) AND COMPOST (20%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
- CLAY CONTENT – SHOULD BE BETWEEN 5% - 7.0%. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.
- PH RANGE – SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO 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 STOCKPILE TOPSOIL, IF TOPSOIL IS USED. THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

**2. FILTERING MEDIA OR PLANTING SOIL**

THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. OTHER THAN THE SUBSTRATE, IT 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 BELEMNIA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER 'MATERIAL SPECIFICATIONS'. THE PLANTING SOIL SHALL BE ORGANIC AND SHALL MEET THE FOLLOWING CRITERIA:

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- PH RANGE – SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO 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 STOCKPILE TOPSOIL, IF TOPSOIL IS USED. 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 THE BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EQUIPMENT HOES TO REMOVE ORIGINAL SOIL IF PRACTICES ARE EXCAVATED USING LOADERS. 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 LIPS, 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 AVOIDED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFURRE 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. ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDING WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SANDS 12 TO 18 INCHES DEEP WITH 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 2.1.

**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". SHREDED OR CHIPPED MULCH IS THE ONLY ACCEPTED MULCH. FINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDED 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 1/8TH OF THE BALL'S 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 STOCKPILE FOR THE ENTIRE PLANTING PROCESS. THROUGHOUT WATER GROUND 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 LEAVY SEED SHALL BE PLANTED TO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLOTS 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 THROUGH FERTILIZATION. BENTONITE CLAY IMPOSES A WATER BARRIER AND BENTONITE OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL 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 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HOPE).
- PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 AWG) 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 PE4 GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

**7. MISCELLANEOUS**

THIS MAIN COLLECTOR PIPE UNDERDRAIN SYSTEM 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).

**N-2. DISCONNECTION OF NON ROOFTOP RUNOFF**

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:

- EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF
- SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARPING OR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.

INSPECTION:

A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

**MAINTENANCE CRITERIA:**

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

HOWARD COUNTY - OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF NON ROOFTOP RUNOFF (N-2)

A. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

**OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIOTENTION SWALE (M-8), AND ENHANCED FILTERS (M-9)**

1. 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 PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.

2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND 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.

3. 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.

4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

**Appendix B.4. Construction Specifications for Environmental Site Design Practices**

**Table B.4.1 Materials Specifications for Micro-Bioretenation, Rain Gardens & Landscape Infiltration**

Material	Specifications	Notes
Planting soil [7' to 4' deep]	see Appendix A, Table A.4 loamy sand (60-65%) & compost (35-40%) or sandy loam (30%), coarse sand (30%), and compost (40%)	plantings are site-specific USDA soil type 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
Per gravel diaphragm	per gravel: ASTM D-448	
Curb/retain wall	ornamental stone; washed cobblets	stone: 2" to 5"
Geotextile	AASHTO M-43	PE Type I nonwoven
Gravel (underdrains and infiltration berms)		
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35
Poured in place concrete (if required)	MSHA Mix No. 3; $F_c = 3500$ psi @ 28 days, normal weight, air-entrained, reinforcing to meet ASTM-615-60	Slotted or perforated pipe, 3" or 4" on center, 4 holes per row; minimum of 2" of gravel over pipes; not necessary unless testing of poured-in-place concrete required: 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 308.8R; vertical loading [1-10 or 11-20]; allowable horizontal loading (based on soil pressure); and analysis of potential cracking.
Sand	AASHTO-M-6 or ASTM-C-33	0.075" to 0.04"

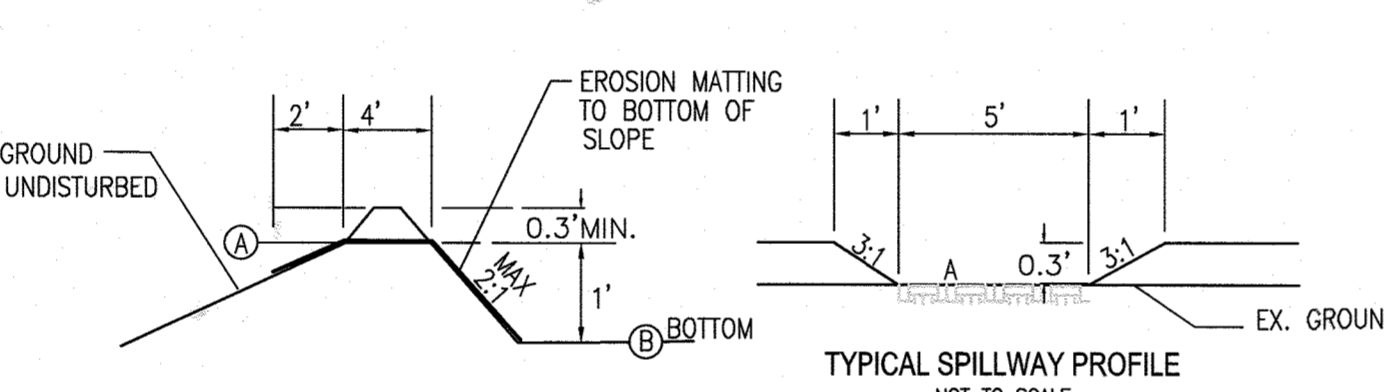
**TEST PIT DATA**

BORING #	APPROX. EXIST GROUND ELEV.	APPROX. PROP GROUND ELEV.	INVERT FACILITY / PRACTICE	TEST PIT DEPTH	BOTTOM PIT	NOTES
B-1	534.40	533.00	529.00	8.00	526.40	DRY, NO ROCK
B-2	560.40	560.00	556.00	8.00	552.40	DRY, NO ROCK
B-3	534.96	533.00	529.00	8.00	526.96	DRY, NO ROCK

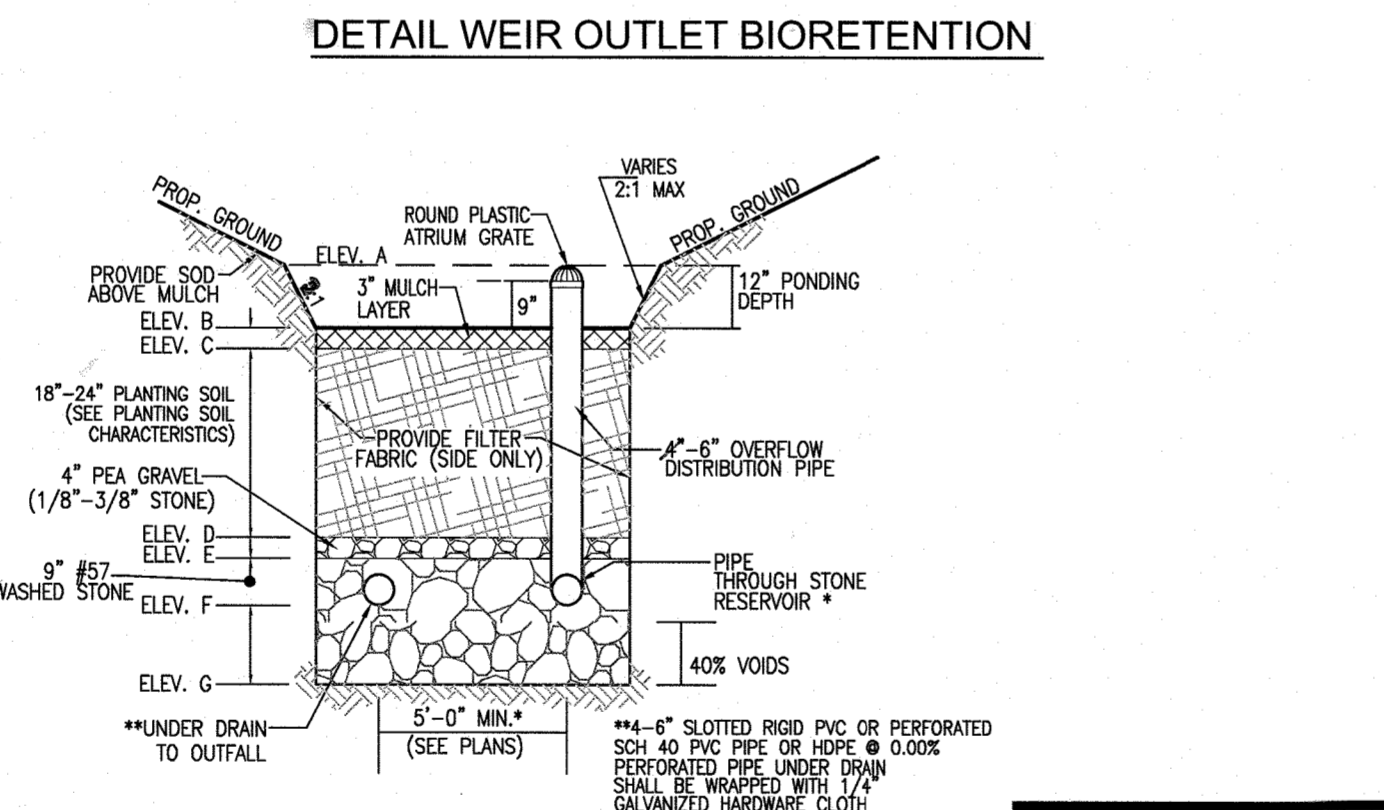
**MICRO-BIORETENTION FACILITY - DESIGN ELEVATION CHART**

MBR/BR FACILITY #	ESD WSEL		TOP MULCH PLANT SOIL		BOTTOM PLANT SOIL		BOTTOM PE4 GRAVEL		INV PIPE (1)	INV STONE	SURFACE AREA SF	APPROX DIM
	A	B	C	D	E	F	G	H				
1	548.00	547.00	546.75	544.75	544.42	543.67	542.67	772			SEE PLAN	
2	558.00	557.00	556.75	555.25	554.92	554.17	553.17	341			SEE PLAN	
3	534.00	533.00	532.75	530.75	530.42	529.67	528.67	870			SEE PLAN	

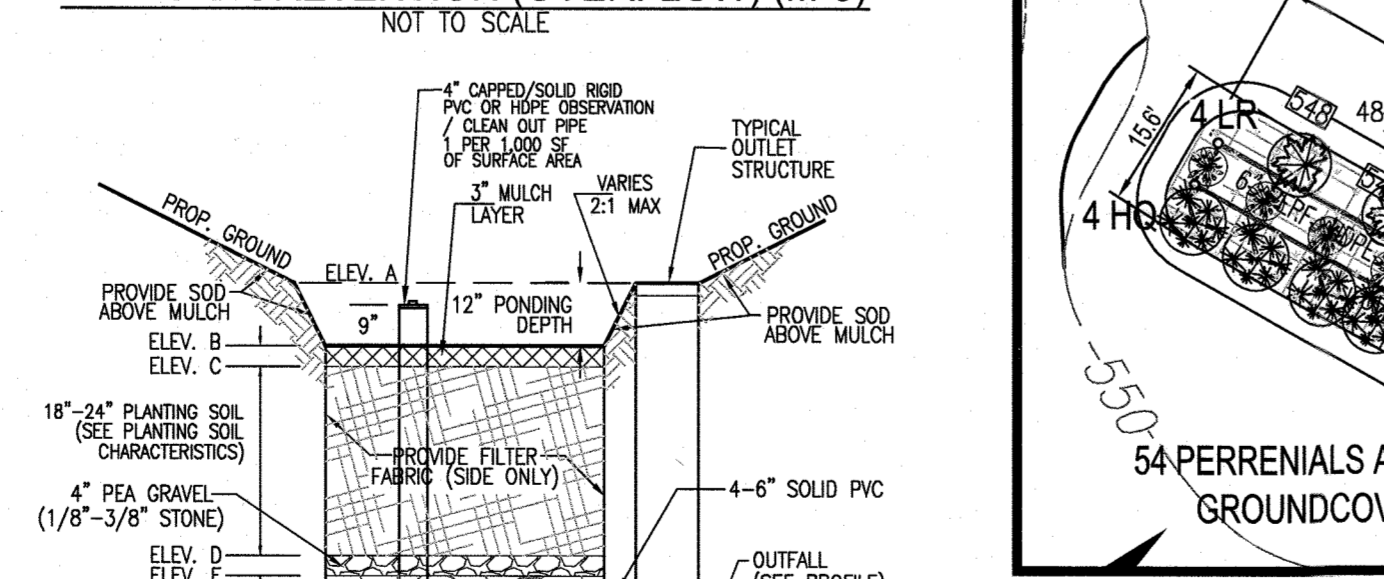
**(1) UNDERDRAIN PIPE AND OVERFLOW DISTRIBUTION PIPE**



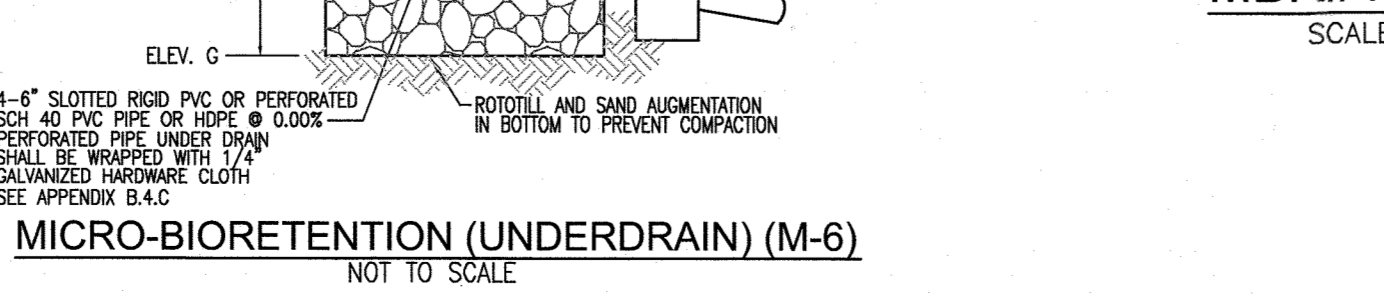
**DETAIL WEIR OUTLET BIORETENTION**



**MICRO-BIORETENTION (OVERFLOW) (M-6)**



**MICRO-BIORETENTION (UNDERDRAIN) (M-6)**



**Appendix A. Landscaping Guidance for Stormwater BMPs - Specific Landscaping Criteria**

**Table A.4 Commonly Used Species for Bio-retention Areas**

Tree	Shrub	Herbaceous Species
<i>River birch</i>	<i>Asterisks multiflorus</i>	<i>Andropogon virginicus</i>
<i>Red Maple</i>	<i>Borrichia hirsuta</i>	<i>Bromus</i>
<i>Basswood</i>	<i>Cephalanthus occidentalis</i>	<i>Impatiens capensis</i>
<i>Japanese linden</i>	<i>Hemlock</i>	<i>Joe Pye Weed</i>
<i>Chionodoxa virginica</i>	<i>Hammelia virginiana</i>	<i>Scirpus pappus</i>
<i>Prunella virginica</i>	<i>Witch Hazel</i>	<i>Tris Square Indurata</i>
<i>Nyssa obovata</i>	<i>Vaccinium corymbosum</i>	<i>Thuja occidentalis</i>
<i>Black Gum</i>	<i>Witch Ham</i>	<i>Lobelia cardinalis</i>
<i>Desmodium illinoense</i>	<i>Ilex verticillata</i>	<i>Cornus</i>
<i>Passiflora</i>	<i>Wisteria</i>	<i>Panicum virginicum</i>
<i>Staphylea trifolia</i>	<i>Viburnum dentatum</i>	<i>Scilla maritima</i>
<i>Styracis</i>	<i>Astragalus</i>	<i>Broomrape Grass</i>
<i>Quercus pedunculata</i>	<i>Lindera benzoin</i>	<i>Judaea caroliniana</i>
<i>Pine Oak</i>	<i>Spiraea</i>	<i>Tall Cowwheat</i>
<i>Quercus phellos</i>	<i>Mirrica pennsylvanica</i>	<i>Scirpus opertus</i>
<i>White Oak</i>	<i>Bayberry</i>	<i>Woodgrass</i>
<i>Sweetgum</i>		<i>Verbena novaeboracensis</i>
<i>Black Willow</i>		<i>New York Ironweed</i>

Note 1: For more options on plant selection for bio-retention, consult Bio-retention Manual (ETAB, 1993) or the Design of Stormwater Filtering Systems (Clayton and Scholer, 1997).

- TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II - APPENDIX A."
- CONTRACTOR SHALL BE FAMILIAR WITH APPENDIX B.4.C. CONSTRUCTION SPECIFICATIONS AND TABLE B.4.1. MATERIAL SPECIFICATIONS. IN ADDITION TO THE "2000 MARYLAND STORMWATER DESIGN MANUAL - VOLUME II - APPENDIX A OFFERS ADDITIONAL HELPFUL INFORMATION."
- NO TREES SHALL BE PLANTED WITHIN A MICRO-BIORETENTION FACILITY. USE ONLY SHRUB OR HERBACEOUS SPECIES.
- ABOVE TABLE A.4. IS FOR INFORMATIONAL PURPOSES ONLY. LANDSCAPE CONTRACTOR SHALL INSTALL PLANTINGS SPECIFIED OR USE APPROVED EQUAL SPECIES WHICH ARE TOLERANT TO FLUCTUATING WATER LEVELS.
- PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.

**"MICRO-BIORETENTION/RAINGARDEN" PLANTING SCHEDULE NOTES:**

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY. BE WELL FORMED AND SYMMETRICAL. CONFORM TO THE MOST CURRENT AN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.
- MICRO-BIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0227 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDF SUMMARY.
- FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH.

**BIORETENTION PLANTING SCHEDULE (SHRUB/ORNAMENTAL GRASSES)**

LEGEND KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
IG	7	ILEX GLABRA "SHAMROCK" INKBERRY HOLLEY	1 GALLON	
IV	7	ITEA VIRGINICA "HENRY'S GARNETT" VIRGINIA SWEETSPICE	1 GALLON	
HQ	10	HYDRANGEA QUERCIFOLIA OAKLEAF HYDRANGEA	1 GALLON	
LR	11	LEUCOPTHE RACEMOSA FETTERBUSH	1 GAL.	
PV	11	PANICUM VIRGATUM SWITCHGRASS	1 GAL.	

**BIORETENTION PERENNIALS/GROUND COVER PLANTING SCHEDULE**

LEGEND	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
	68	BAPTISIA AUSTRALIS FALSE INDIGO	4" POT	12"-15" O.C. FOR SIDES AND BOTTOM OF MBR. MIX ALL VARIETIES IN A NATURALIZED RANDOM PATTERN THROUGHOUT.
	68	ACORIS GRAMINEUS "ODON" GOLDEN VARIATED SWEET FLAG	1 QT.	PLANT IN GROUPS OF NO LESS THAN 9 PLANTS PER CLUMP

**MICRO-BIORETENTION PLANTING REQUIREMENTS**

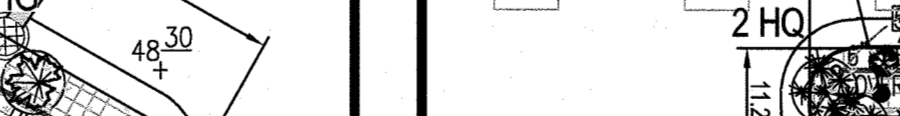
MBR #	LF	AREA	STEMS REQUIRED (0.0227)	PLANTINGS PROVIDED					PERENNIALS/GROUND COVER PROVIDED		
				IG	IV	HQ	LR	PV	BA	AG	TOTAL
MBR #1	51	772	18	3	3	4	4	4	27	27	54
MBR #2	32	341	8	1	1	2	2	2	11	11	22
MBR #3	39	870	20	3	3	4	5	5	30	30	60
<b>TOTALS :</b>	<b>122</b>	<b>1983</b>	<b>46</b>	<b>7</b>	<b>7</b>	<b>10</b>	<b>11</b>	<b>11</b>	<b>68</b>	<b>68</b>	<b>136</b>

BIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.0227 STEMS PER SQUARE FOOT).



**MBR#1 PLANTING**

SCALE: 1"=20'



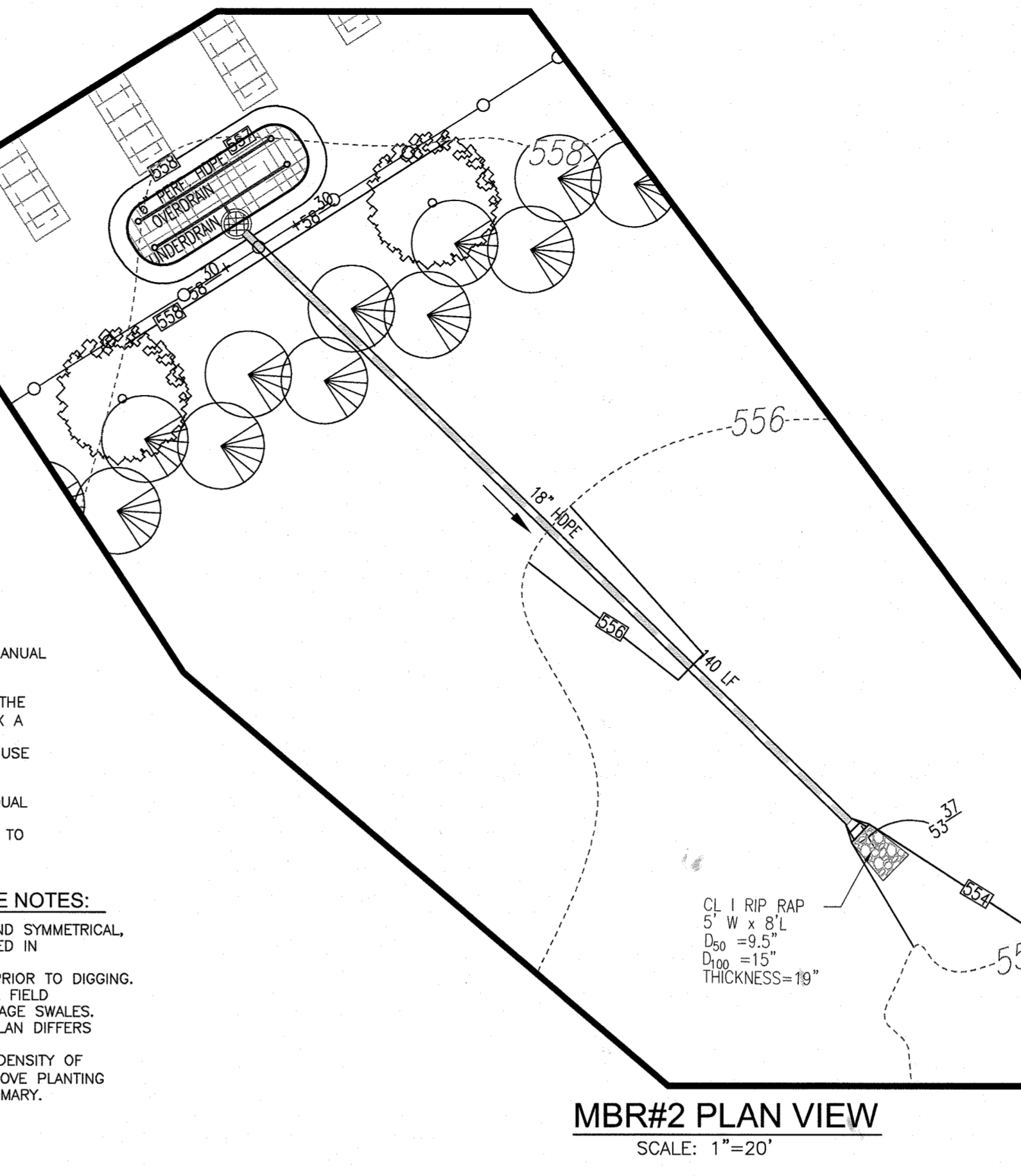
**MBR#2 PLANTING**

SCALE: 1"=20'



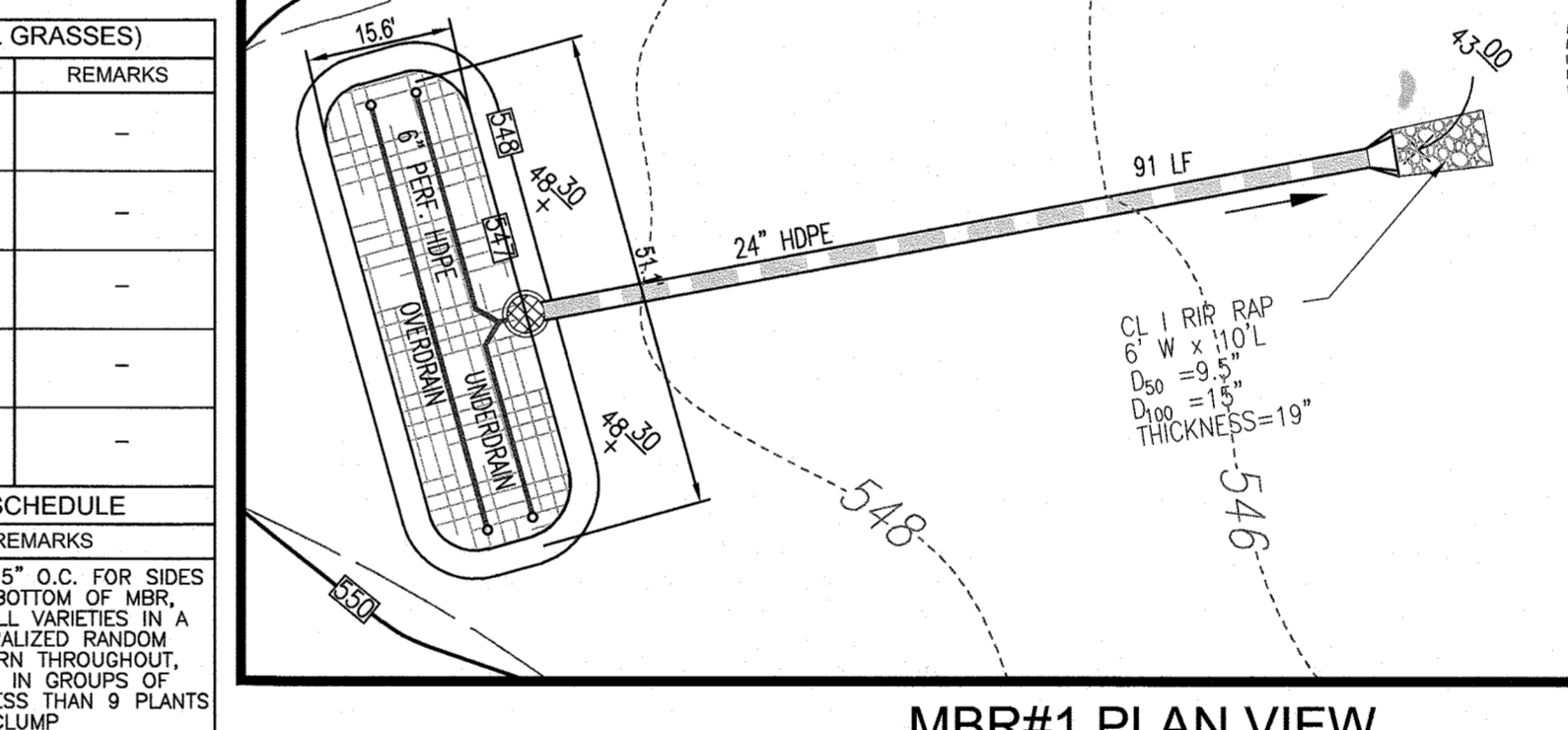
**MBR#3 PLANTING**

SCALE: 1"=20'



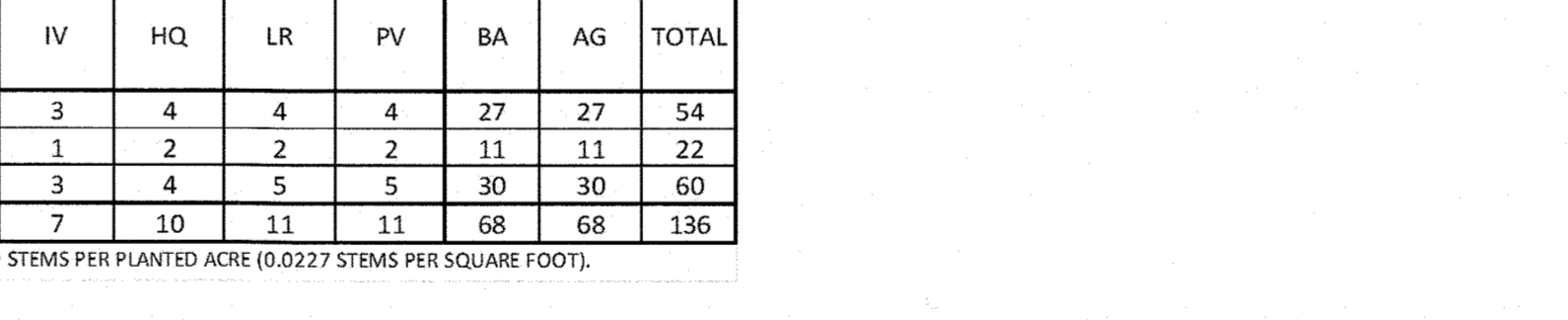
**MBR#2 PLAN VIEW**

SCALE: 1"=20'



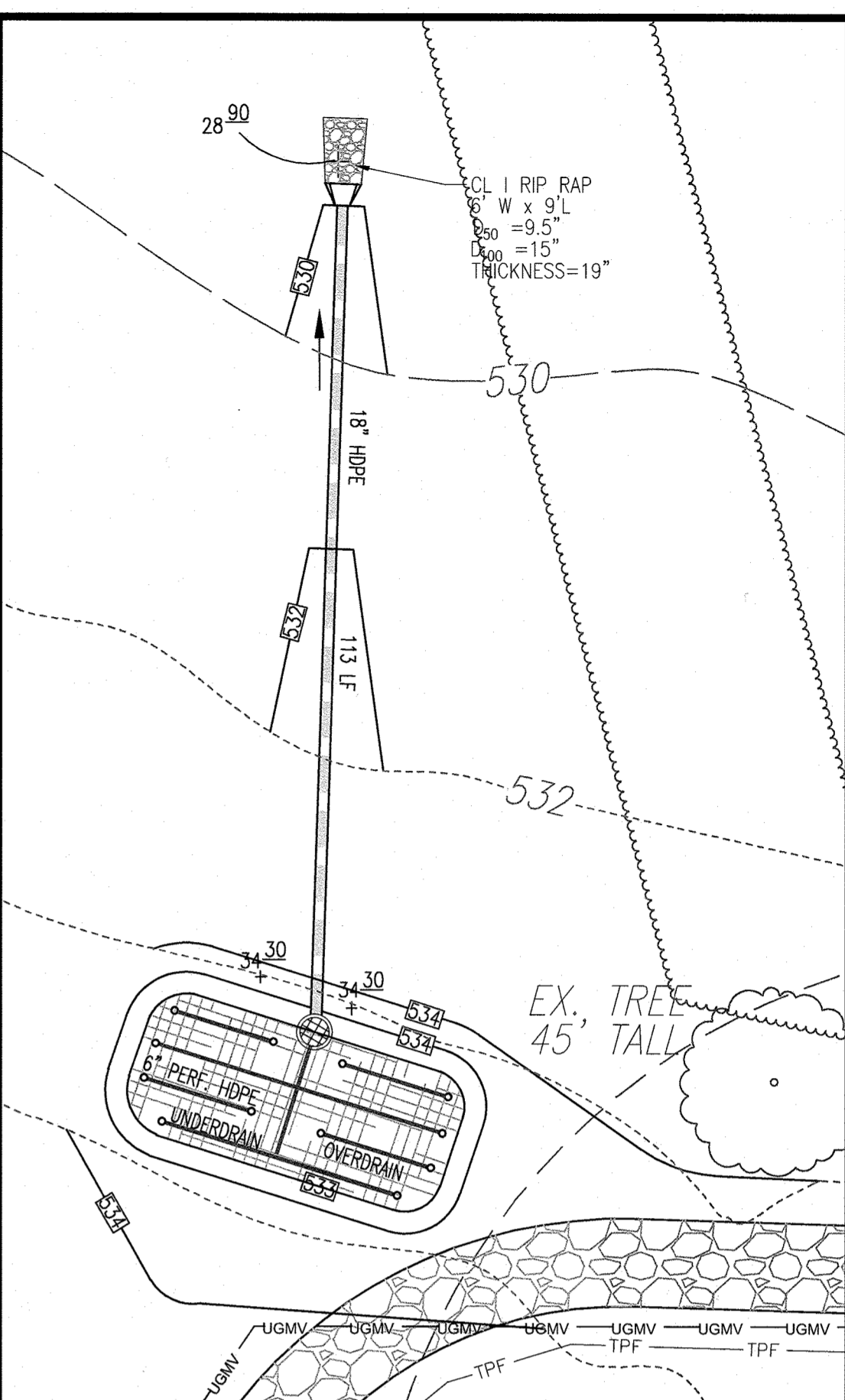
**MBR#1 PLAN VIEW**

SCALE: 1"=20'



**MBR#3 PLANTING**

SCALE: 1"=20'



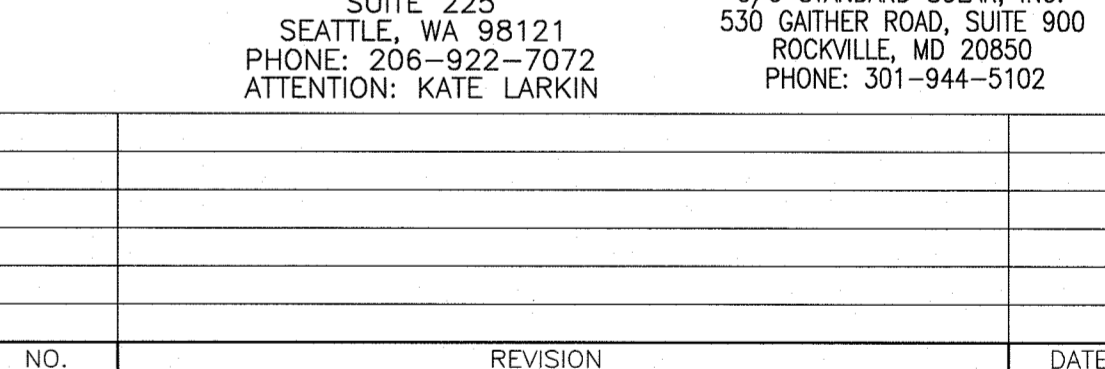
**MBR#3 PLAN VIEW**

SCALE: 1"=20'



**MBR#1 PLAN VIEW**

SCALE: 1"=20'



**MBR#3 PLANTING**

SCALE: 1"=20'

DEVELOPER: ONEENERGY DEVELOPMENT, LLC 2003 WESTERN AVENUE SUITE 225 SEATTLE, WA 98121 PHONE: 206-922-7072 ATTENTION: KATE LARKIN

OWNER: METALMARK SOLAR, LLC. C/O STANDARD SOLAR, INC. 530 GATHER ROAD, SUITE 900 ROCKVILLE, MD 20850 PHONE: 301-944-5102

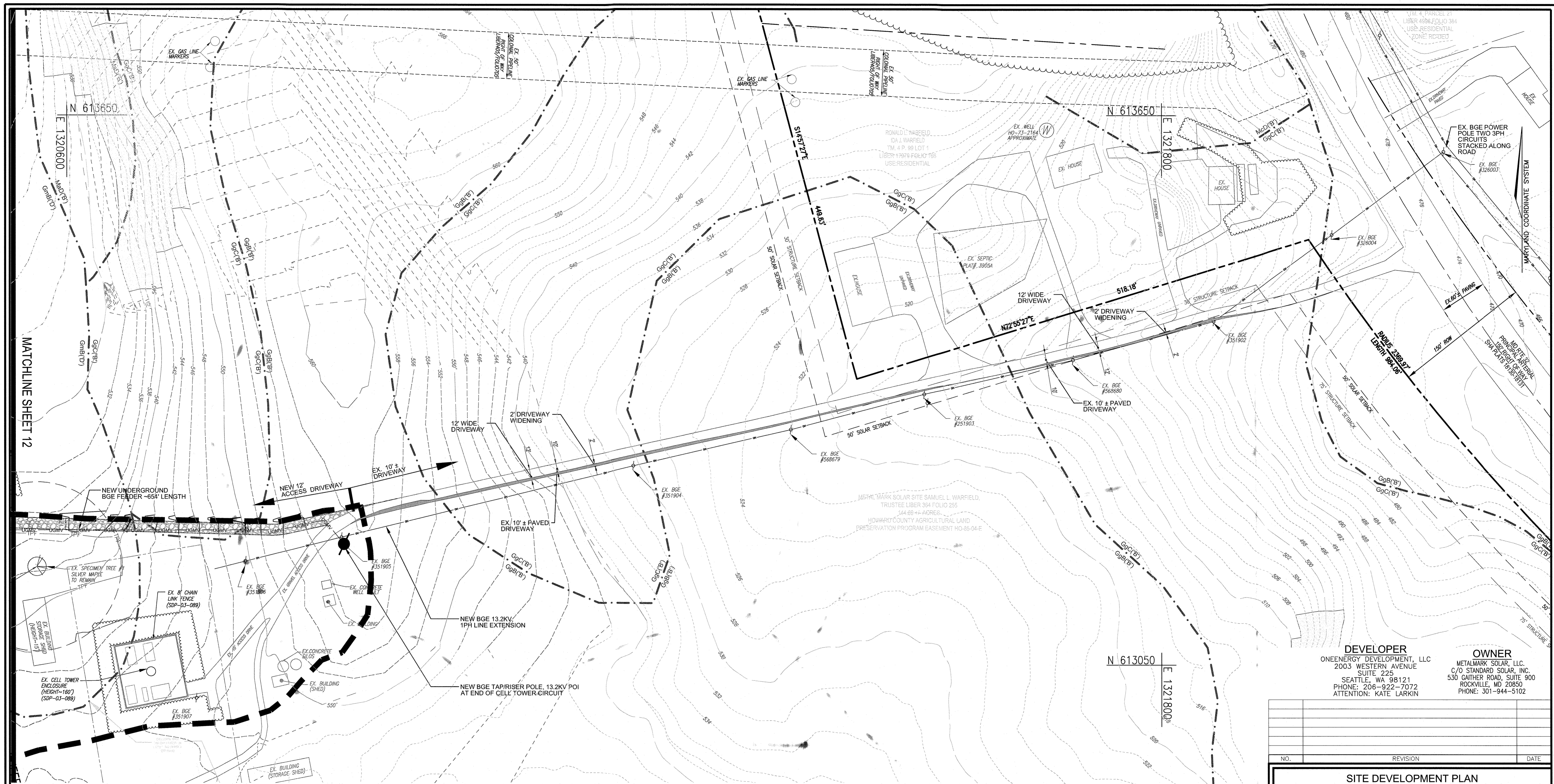
**VOGEL ENGINEERING**

**TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
P: 410.461.7666 F: 410.461.8961 www.timmons.com

TAX MAP 9 BLOCK 3 3RD ELECTION DISTRICT ZONED RC-DEO PARCEL 94 HOWARD COUNTY, MARYLAND

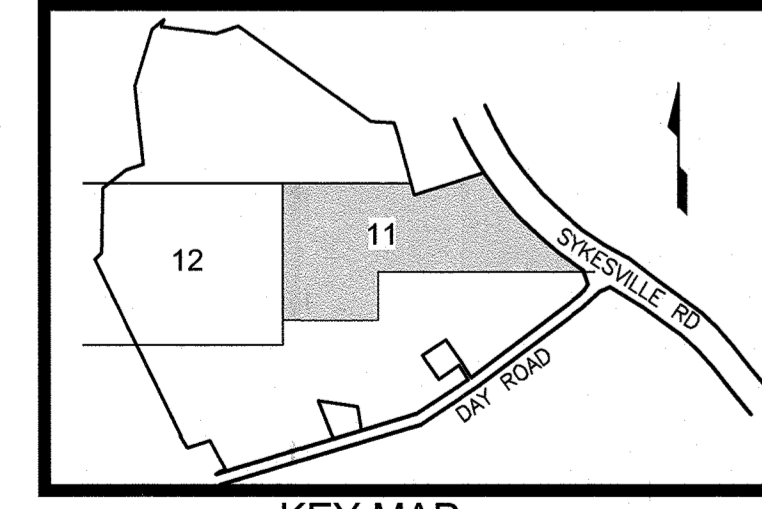
DESIGN BY: RHV  
DRAWN BY: IMH/KG  
CHECKED BY: R



MATCHLINE SHEET 12

**DEVELOPER**  
 ONEENERGY DEVELOPMENT, LLC  
 2003 WESTERN AVENUE  
 SUITE 225  
 SEATTLE, WA 98121  
 PHONE: 206-922-7072  
 ATTENTION: KATE LARKIN

**OWNER**  
 METALMARK SOLAR, INC.  
 530 GAITHER ROAD, SUITE 900  
 ROCKVILLE, MD 20850  
 PHONE: 301-944-5102



- LEGEND:**
- PROPERTY LINE
  - MAJOR CONTOUR (10')
  - MINOR CONTOUR (2')
  - SOILS BOUNDARY
  - EXISTING TREELINE
  - OVERHEAD LINE
  - UNDERGROUND BGE FEEDER
  - EXISTING ACCESS ROAD
  - PROPOSED ROAD WIDENING
  - SPECIMEN TREES
  - DRAINAGE AREA DIVIDE

**STORM DRAIN DRAINAGE AREA MAP**  
 SCALE: 1"=50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-16-21

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12/28/21

DIRECTOR  
 DATE: 12/29/21

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN DRAINAGE AREA MAP**  
**METALMARK SOLAR**  
 700 SYKESVILLE RD  
 SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
 3RD ELECTION DISTRICT

ZONED RC-DEO  
 PARCEL 04  
 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
**TIMMONS GROUP**  
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

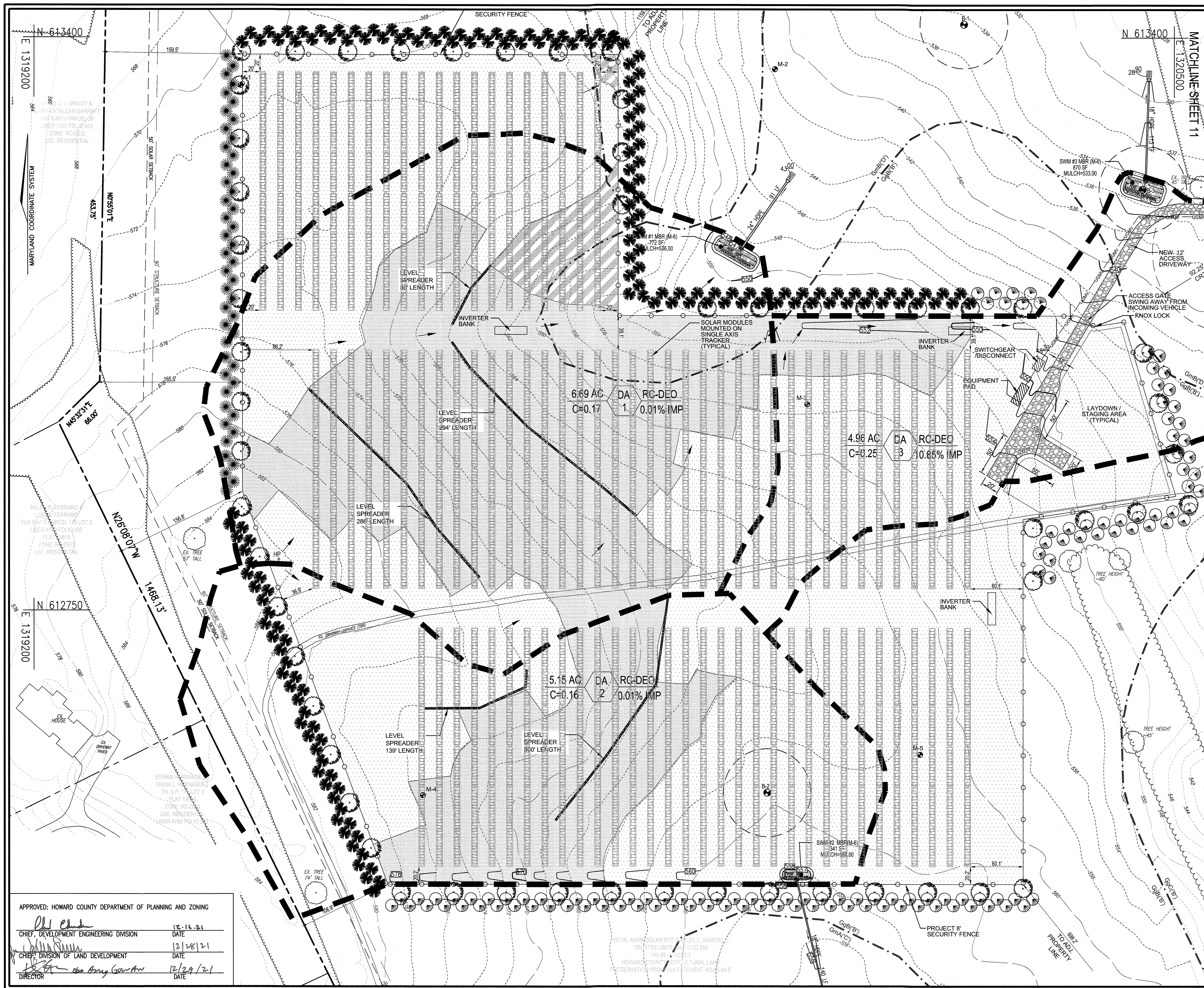
PROFESSIONAL CERTIFICATE

DESIGN BY: RHY  
 DRAWN BY: IMH/KG  
 CHECKED BY: RHY  
 DATE: SEPTEMBER 2021  
 SCALE: AS SHOWN  
 W.O. NO.: 41993

STATE OF MARYLAND  
 ROBERT H. VOGEL  
 REGISTERED PROFESSIONAL ENGINEER  
 NO. 16193

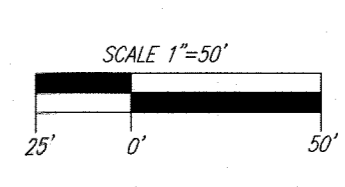
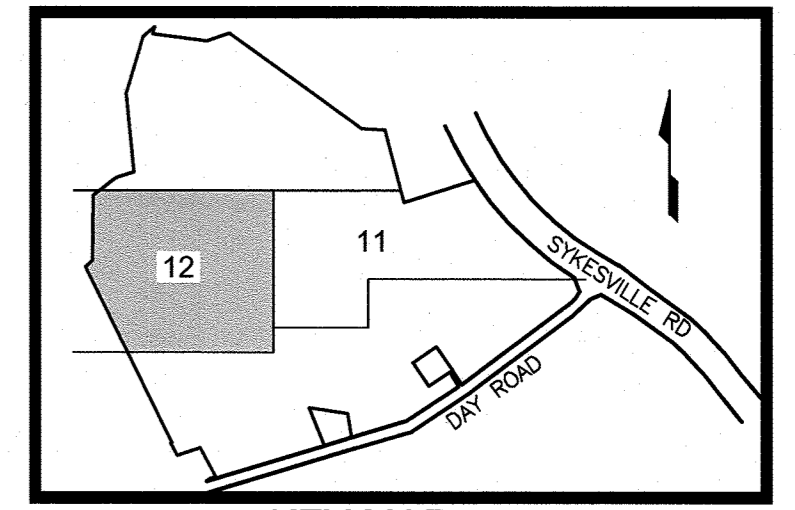
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRES DATE 09-27-2022

11 SHEET OF 17



**LEGEND:**

	PROPERTY LINE		PROPOSED LANDSCAPING
	PROJECT SETBACK		EXISTING TREES
	MAJOR CONTOUR (10')		EXISTING SLOPES <5%
	MINOR CONTOUR (2')		EXISTING SLOPES 5%-10%
	SOILS BOUNDARY		EXISTING SLOPES >10%
	EXISTING TREELINE		
	UGMV - UGMV		
	UNDERGROUND DC COLLECTION		
	8' SECURITY FENCE		
	DRAINAGE AREA DIVIDE		



**STORMWATER MANAGMENT DRAINAGE AREA MAP**  
SCALE: 1"=50'

**DEVELOPER**  
ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE  
SUITE 225  
SEATTLE, WA 98121  
PHONE: 206-922-7072  
ATTENTION: KATE LARKIN

**OWNER**  
METALMARK SOLAR, LLC  
C/O STANDARD SOLAR, INC.  
530 GATHER ROAD, SUITE 900  
ROCKVILLE, MD 20850  
PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN DRAINAGE AREA MAP**  
**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
3RD ELECTION DISTRICT

ZONED RC-DEO  
PARCEL 84  
HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
**TIMMONS GROUP**  
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV  
DRAWN BY: IMH/KG  
CHECKED BY: RHV  
DATE: SEPTEMBER 2021  
SCALE: AS SHOWN  
W.O. NO.: 41993

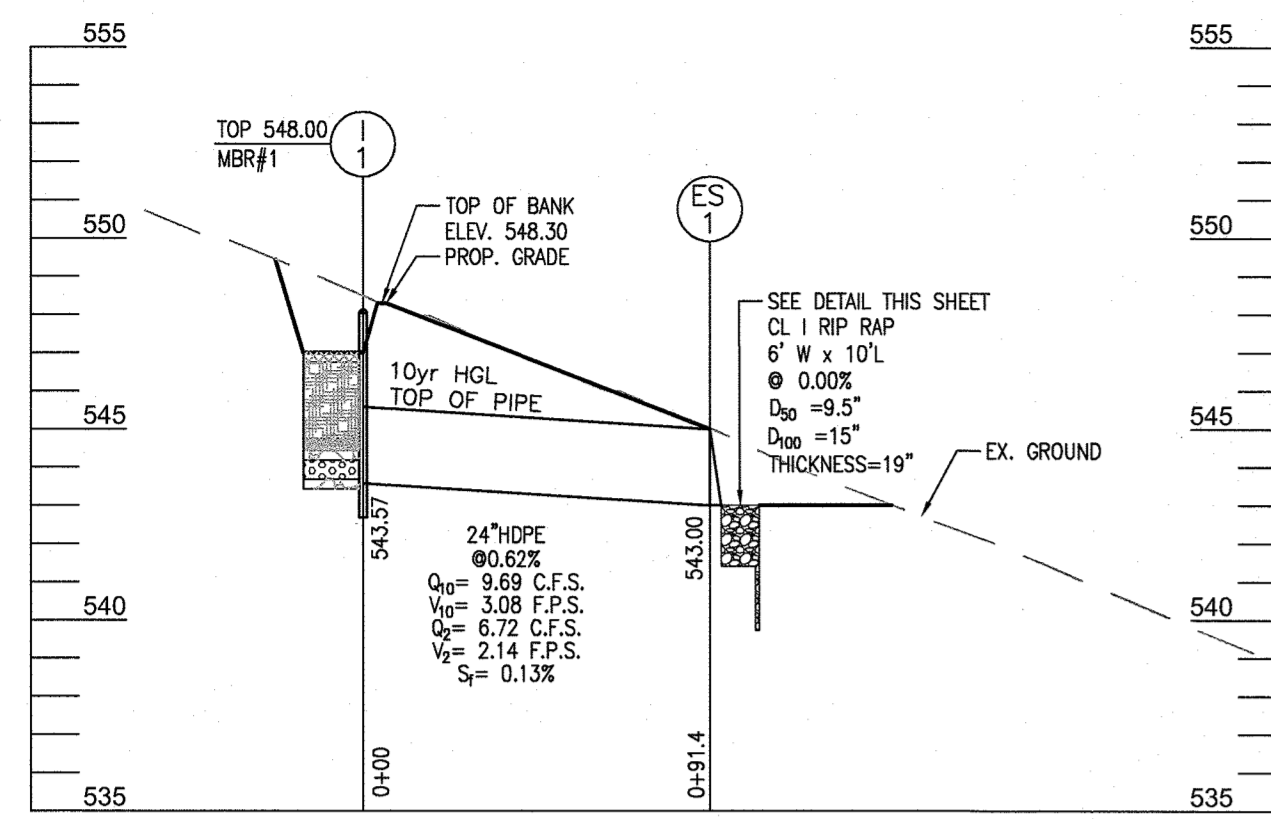
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12 SHEET OF 17

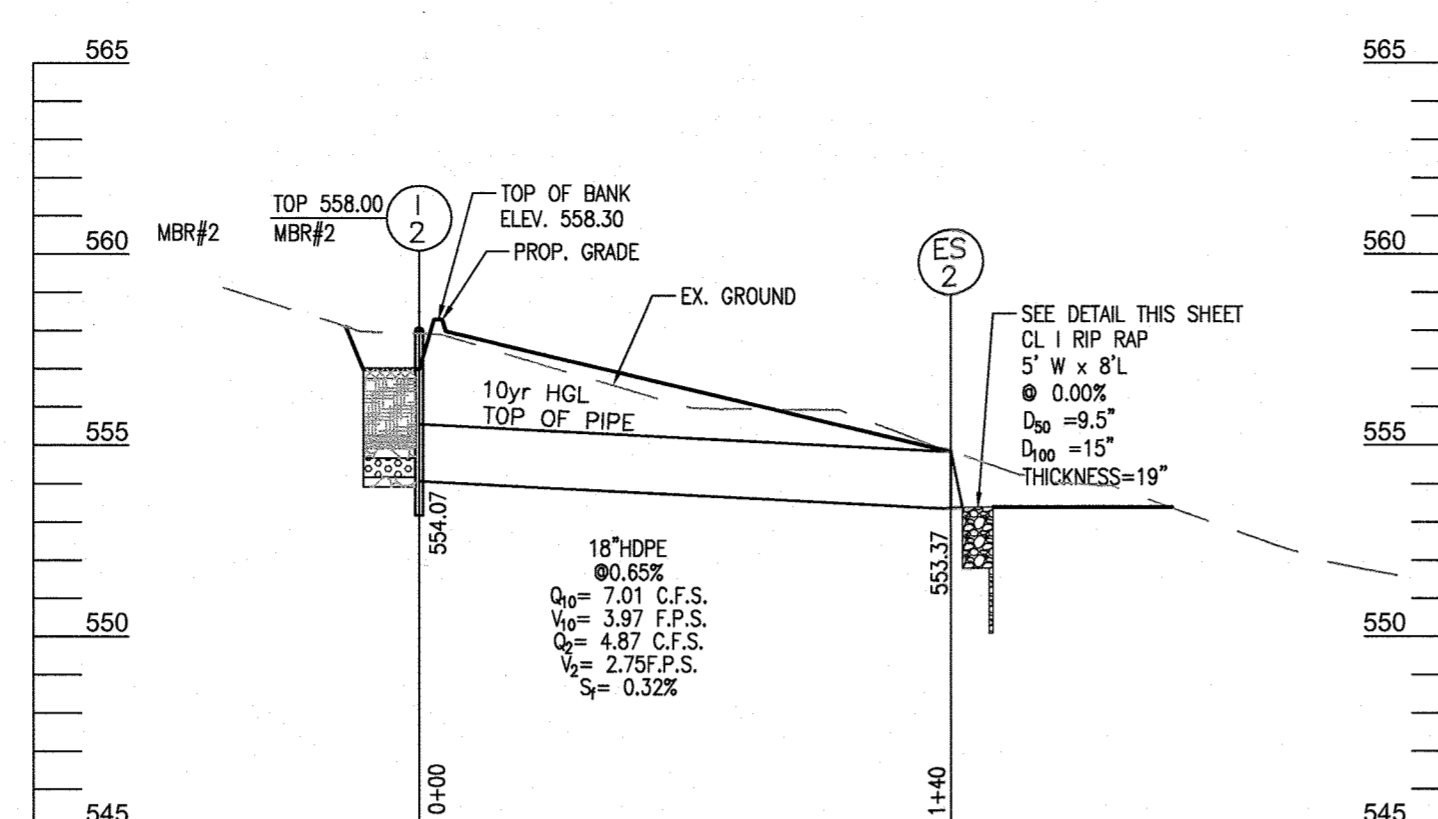
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 12-16-21  
DATE: 12/18/21  
DATE: 12/29/21

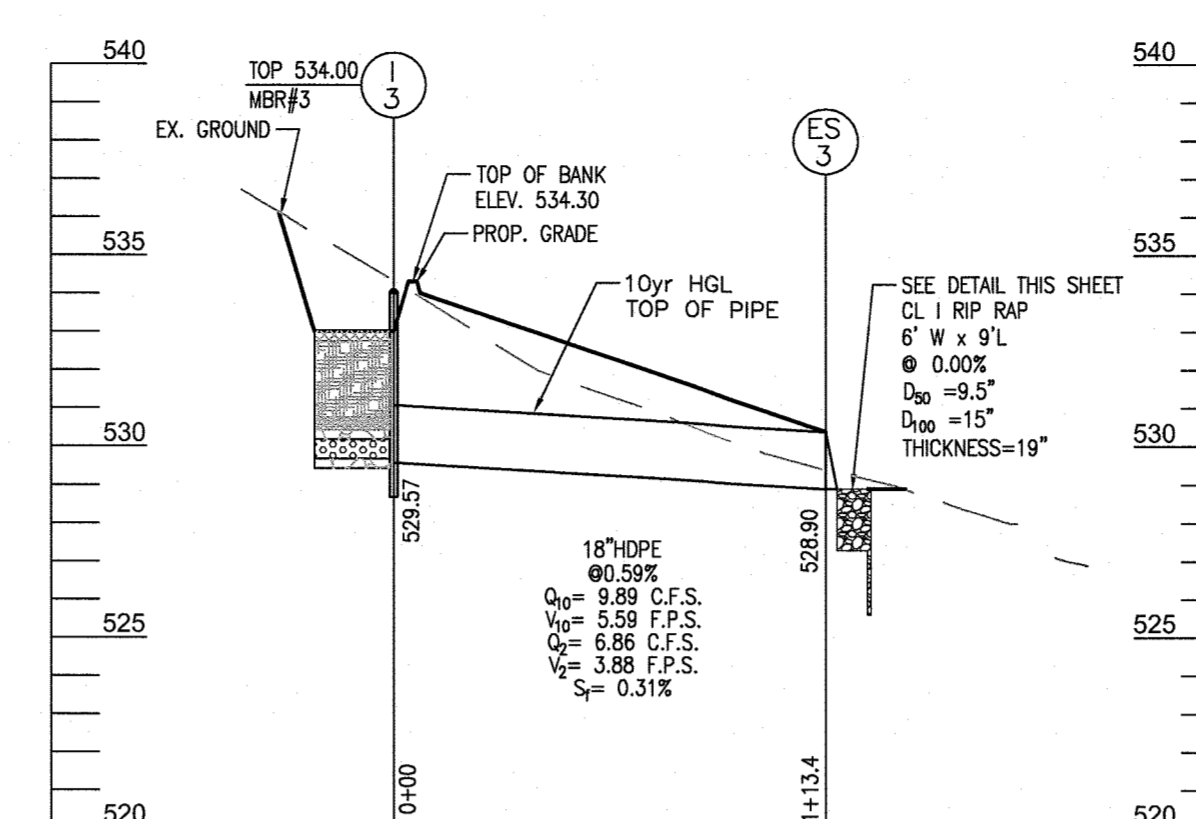
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR



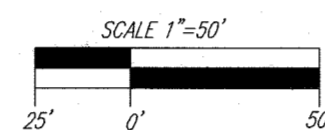
**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



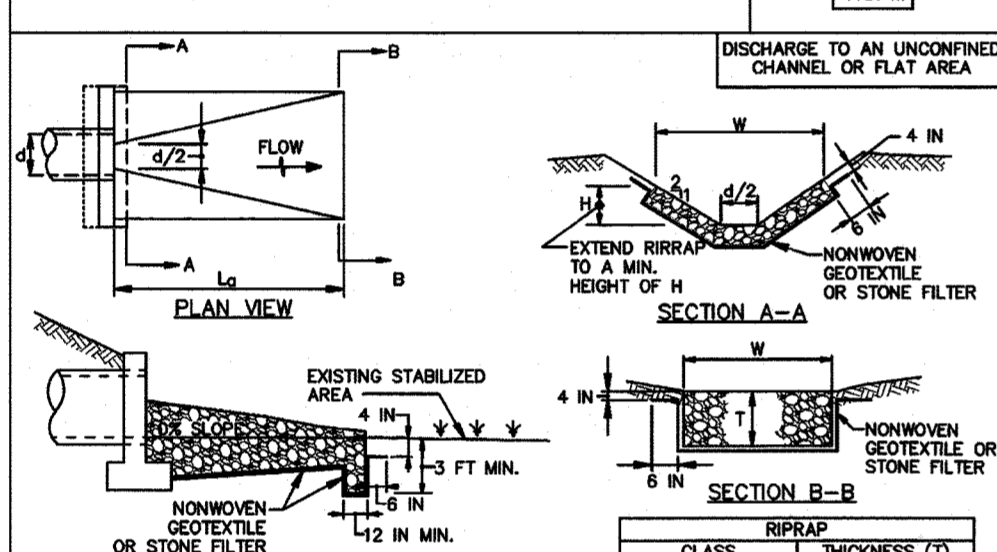
**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HORIZONTAL - 1"=50'  
VERTICAL - 1"=5'



**DETAIL D-4-1-C ROCK OUTLET PROTECTION III**



CLASS	THICKNESS (I)
I	18 IN
II	32 IN
III	48 IN

- CONSTRUCTION SPECIFICATIONS**
1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
  2. USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
  3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (1/2 TO 3/4 INCH MINIMUM STONE FOR 8 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
  4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
  5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE Voids BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
  6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
  7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
  8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLOOSED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL  
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION  
D.22

ADS, Inc. Drainage Handbook

Specifications • 1-38

**ADS FLARED END SECTION SPECIFICATION**

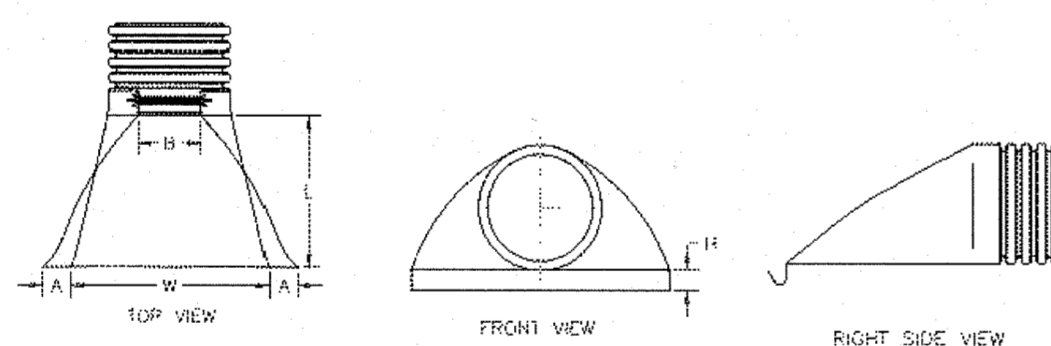
**Scope**  
This specification describes 12- through 36-inch (300 to 900mm) ADS Flared End Sections for use in culvert and drainage outlet applications.

**Requirements**  
The ADS Flared End Section shall be high density polyethylene meeting ASTM D3350 minimum cell classification 213320C; contact manufacturer for additional cell classification information. When provided, the metal threaded fastening rod shall be stainless steel.

**Installation**  
Installation shall be in accordance with ADS installation instructions and with those issued by state or local authorities. Contact your local ADS representative or visit [www.ads-usa.com](http://www.ads-usa.com) for the latest installation instructions.

Diameter	PIPE DIAMETER, in (mm)					
	12	15	18	24	30	36
(in (mm))	(300)	(375)	(450)	(600)	(750)	(900)
A	6.5	8.5	7.5	7.5	7.5	7.5
in (mm)	(165)	(165)	(191)	(191)	(191)	(191)
B	10.0	10.0	16.0	16.0	22.0	25.0
in (mm)	(254)	(254)	(381)	(415)	(559)	(635)
H	6.5	6.5	6.5	6.5	6.6	6.6
in (mm)	(165)	(165)	(165)	(165)	(169)	(169)
L	25.0	25.0	32.0	36.0	50.0	50.0
in (mm)	(635)	(635)	(813)	(914)	(1270)	(1270)
W	24.0	26.0	33.0	45.0	63.0	63.0
in (mm)	(610)	(660)	(838)	(1143)	(1600)	(1600)

\*Product detail may differ slightly from actual product appearance



**PIPE SCHEDULE**

SIZE	PUBLIC/PRIVATE	CLASS	LENGTH
18"	PRIVATE	HDPE	289
24"	PRIVATE	HDPE	91

**STRUCTURE SCHEDULE**

STR #	TYPE	INV. IN	INV. OUT	*TOP ELEV	DETAIL	LOCATION	REMARKS
I-1	30" DRAIN BASIN W/ DOME	---	543.57	548.00	NYLOPLAST	N 613160.63 E 1320006.24	(1) PRIVATE
I-2	30" DRAIN BASIN W/ DOME	---	554.07	558.00	NYLOPLAST	N 612444.29 E 1320069.06	(1) PRIVATE
I-3	30" DRAIN BASIN W/ DOME	---	529.57	534.00	NYLOPLAST	N 613237.7 E 1320467.21	(1) PRIVATE

\* TOP ELEV. IS FLOW LINE OF DRAIN BASIN WHICH IS BOTTOM OF DOME GRATE.

**STRUCTURE SCHEDULE**

STR #	TYPE	INV. IN	INV. OUT	TOP OR UPPER/LOWER	DETAIL	LOCATION	REMARKS
ES-1	24" HDPE	---	543.00	544.00	HDPE	N 613235.98 E 1320057.97	(2) PRIVATE
ES-2	18" HDPE	---	553.37	554.37	HDPE	N 612308.20 E 1320101.82	(2) PRIVATE
ES-3	18" HDPE	---	529.90	529.90	HDPE	N 613351.04 E 1320470.98	(2) PRIVATE

- (1) Coordinate for Proposed Structure = Centerline of Structure
- (2) Coordinate for End Section = Centerline of Pipe @ Downstream Face

**DEVELOPER**  
ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE  
SUITE 225  
SEATTLE, WA 98121  
PHONE: 206-922-7072  
ATTENTION: KATE LARKIN

**OWNER**  
METALMARK SOLAR, LLC  
C/O STANDARD SOLAR, INC.  
530 GAITHER ROAD, SUITE 900  
ROCKVILLE, MD 20850  
PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**STORM DRAIN PROFILES**

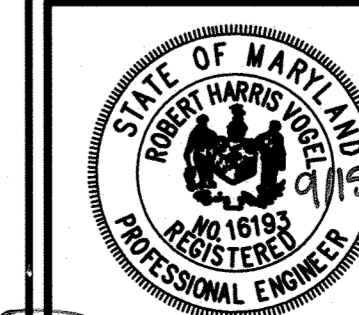
**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3 3RD ELECTION DISTRICT ZONED RC-DEO PARCEL 94 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**

**TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
P: 410.461.7666 F: 410.461.8961 www.timmons.com



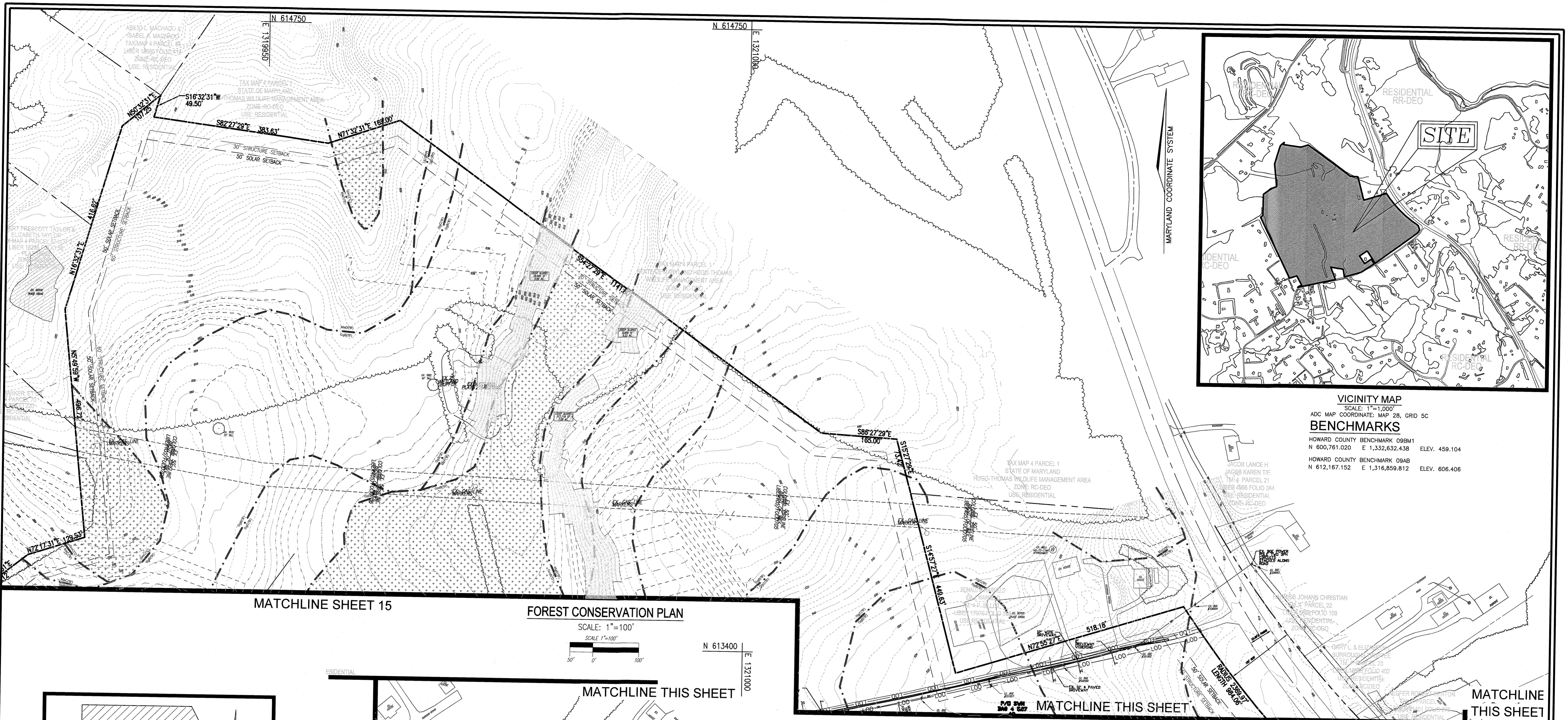
DESIGN BY: RHY  
DRAWN BY: IMH/KG  
CHECKED BY: RHY  
DATE: SEPTEMBER 2021  
SCALE: AS SHOWN  
W.O. NO.: 41993

PROFESSIONAL CERTIFICATE  
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. 16193 EXPIRATION DATE: 09-27-2022

13 SHEET OF 17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 12/16/21  
Chief, Division of Land Development 12/18/21  
Director 12/29/21



**VICINITY MAP**  
 SCALE: 1"=1,000'  
 ADC MAP COORDINATE: MAP 28, GRID 5C

**BENCHMARKS**  
 HOWARD COUNTY BENCHMARK 09B1  
 N 600,761.020 E 1,332,632.438 ELEV. 459.104  
 HOWARD COUNTY BENCHMARK 09AB  
 N 612,167.152 E 1,316,859.812 ELEV. 606.406

MATCHLINE SHEET 15

**FOREST CONSERVATION PLAN**

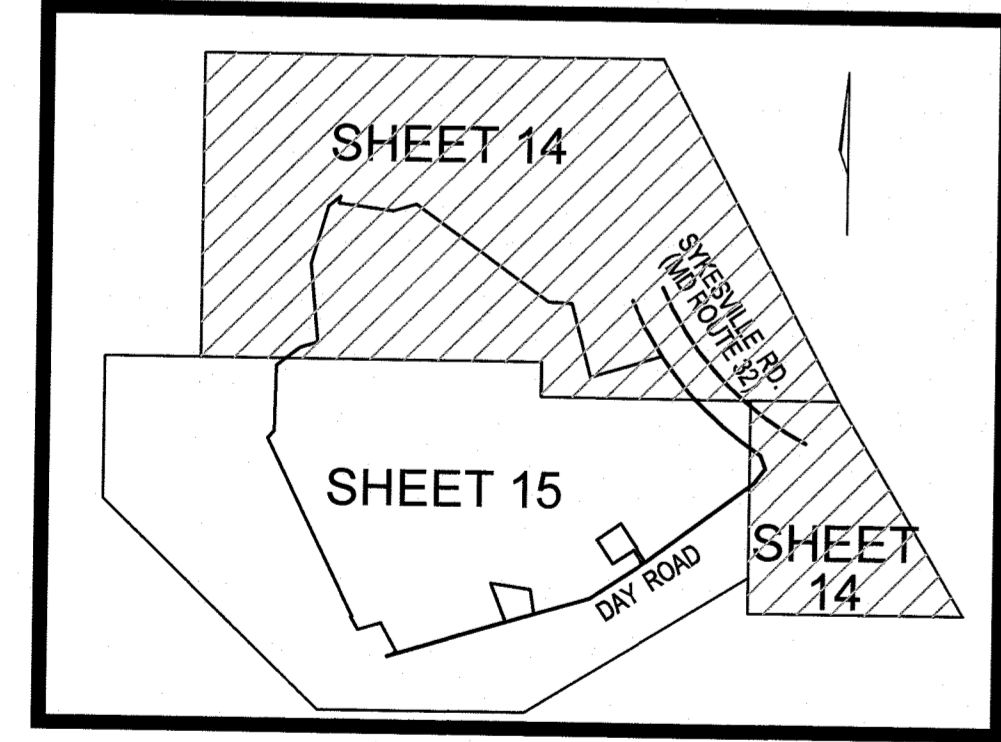
SCALE: 1"=100'

N 613400  
 E 1321000

MATCHLINE THIS SHEET

MATCHLINE THIS SHEET

MATCHLINE THIS SHEET



**KEY MAP**  
 NOT TO SCALE

MATCHLINE SHEET 15

- LEGENDS:**
- PARCEL BOUNDARY
  - - - PROJECT ZONING OFFSET
  - STREAM CENTERLINE
  - MAJOR CONTOUR (10')
  - MINOR CONTOUR (2')
  - EXISTING UTILITY POLE
  - SOILS BOUNDARY
  - EXISTING TREELINE
  - EXISTING 3 PHASE UTILITY LINE
  - EXISTING 1 PHASE UTILITY LINE
  - EX. 50' ROW EASEMENT  
L. 405 F. 705
  - EXISTING SPECIMEN TREE
  - CRITICAL ROOT ZONE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12-18-21  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 12/28/21  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 12/29/21  
 DIRECTOR DATE

**Eco-Science Professionals, Inc.**  
 CONSULTING GEOLOGISTS  
 1200 WEST 10TH AVENUE SUITE 200  
 SEATTLE, WA 98108  
 PHONE: 206-461-8961 FAX: 206-461-8961

**DEVELOPER**  
 ONEENERGY DEVELOPMENT, LLC  
 2003 WESTERN AVENUE  
 SUITE 225  
 SEATTLE, WA 98121  
 PHONE: 206-922-7072  
 ATTENTION: KATE LARKIN

**OWNER**  
 SAMUEL L. WARFIELD TRUSTEE  
 C/O RONALD L. WARFIELD  
 700 ROUTE 32  
 SKYESVILLE, MD 21784

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**FOREST CONSERVATION PLAN**  
**METALMARK SOLAR**  
 700 SYKESVILLE RD  
 SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
 3RD ELECTION DISTRICT

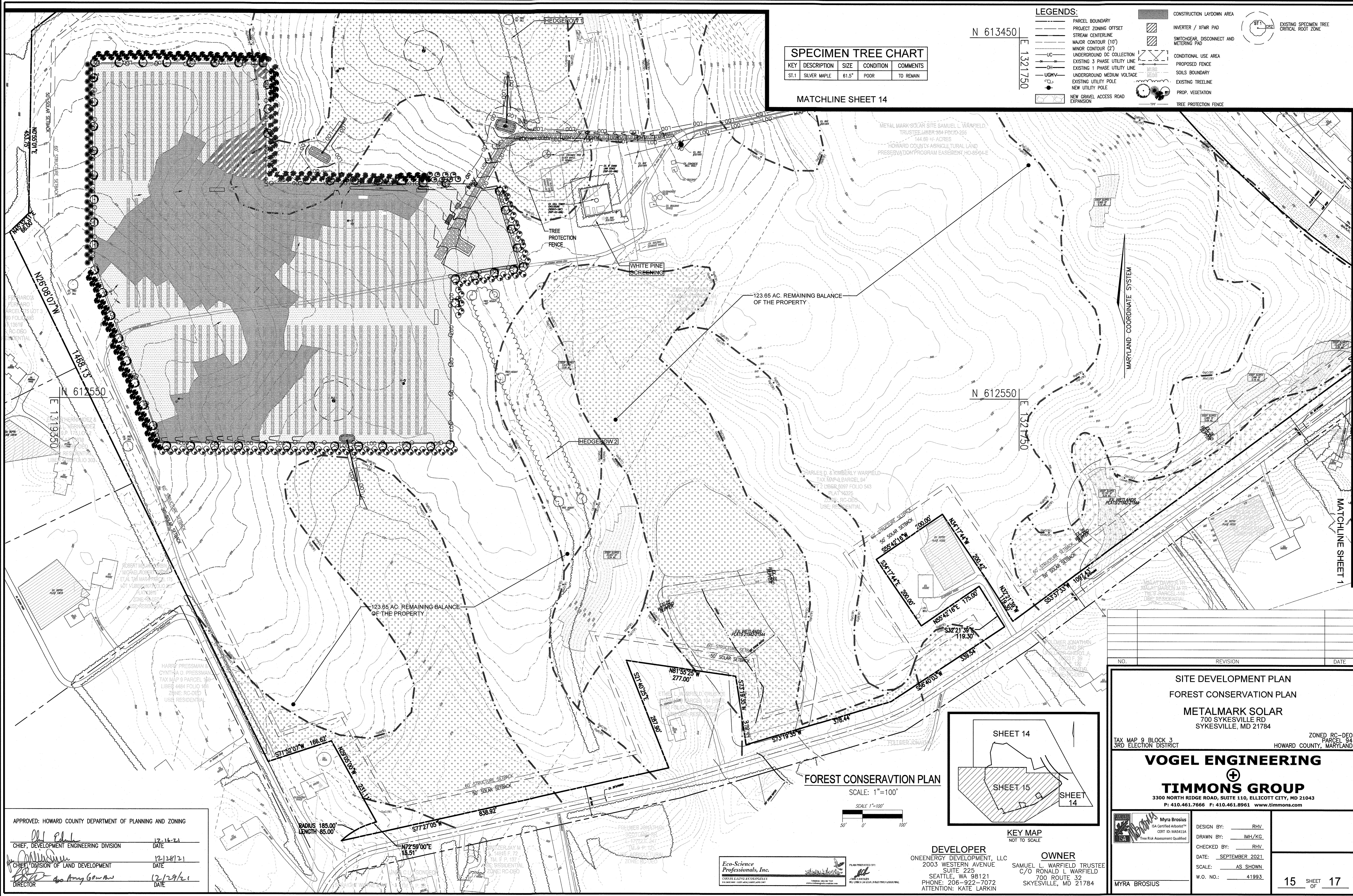
ZONED RC-DEO  
 PARCEL 94  
 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
 +  
**TIMMONS GROUP**  
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

**Myra Brosius**  
 RA Certified Arborist™  
 CERT ID: MA5413A  
 Tree-Risk Assessment Qualified

DESIGN BY: RHY  
 DRAWN BY: IMH/KG  
 CHECKED BY: RHY  
 DATE: SEPTEMBER 2021  
 SCALE: AS SHOWN  
 W.O. NO.: 41993

MYRA BROSIOUS



**SPECIMEN TREE CHART**

KEY	DESCRIPTION	SIZE	CONDITION	COMMENTS
ST.1	SILVER MAPLE	61.5"	POOR	TO REMAIN

- LEGENDS:**
- PARCEL BOUNDARY
  - PROJECT ZONING OFFSET
  - STREAM CENTERLINE
  - MAJOR CONTOUR (10')
  - MINOR CONTOUR (2')
  - UNDERGROUND DC COLLECTION
  - EXISTING 3 PHASE UTILITY LINE
  - EXISTING 1 PHASE UTILITY LINE
  - UNDERGROUND MEDIUM VOLTAGE
  - EXISTING UTILITY POLE
  - NEW UTILITY POLE
  - NEW GRAVEL ACCESS ROAD EXPANSION
  - CONSTRUCTION LAYDOWN AREA
  - INVERTER / XFMR PAD
  - SWITCHGEAR, DISCONNECT AND METERING PAD
  - CONDITIONAL USE AREA
  - PROPOSED FENCE
  - SOILS BOUNDARY
  - EXISTING TREELINE
  - PROP. VEGETATION
  - TREE PROTECTION FENCE
  - EXISTING SPECIMEN TREE
  - CRITICAL ROOT ZONE

MATCHLINE SHEET 14

N 613450  
E 1321750

N 612550  
E 1321750

N 612550  
E 1319350

N 610807 W  
1768.13

MATCHLINE SHEET 1

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

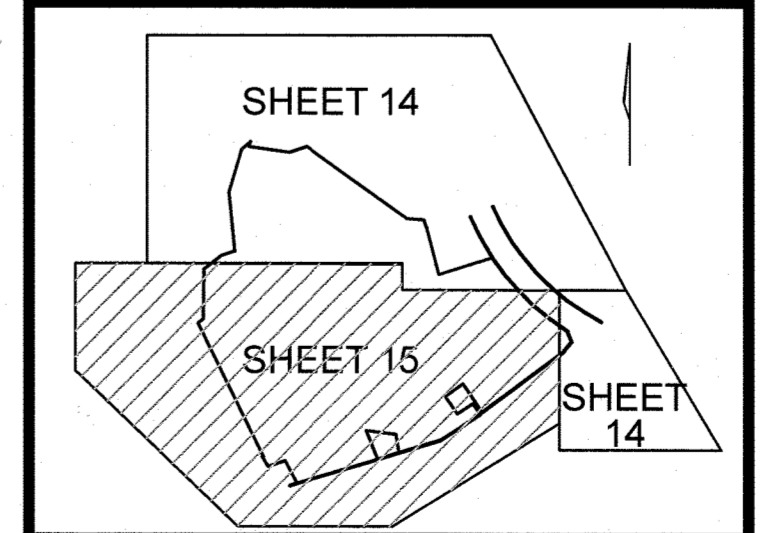
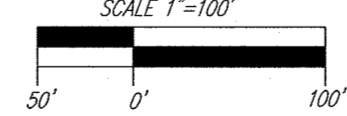
*Cheryl Edwards*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-16-21

*David G. Gorman*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12-28-21

*David G. Gorman*  
DIRECTOR  
DATE: 12-29-21

FOREST CONSERVATION PLAN

SCALE: 1"=100'



KEY MAP  
NOT TO SCALE

**DEVELOPER**  
ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE  
SUITE 225  
SEATTLE, WA 98121  
PHONE: 206-922-7072  
ATTENTION: KATE LARKIN

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700 ROUTE 32  
SKYESVILLE, MD 21784

**Eco-Science Professionals, Inc.**  
CONSULTING ECOLOGISTS  
PLANNED BY: [Signature]  
DATE: [Date]

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN  
FOREST CONSERVATION PLAN  
**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
WARD ELECTION DISTRICT

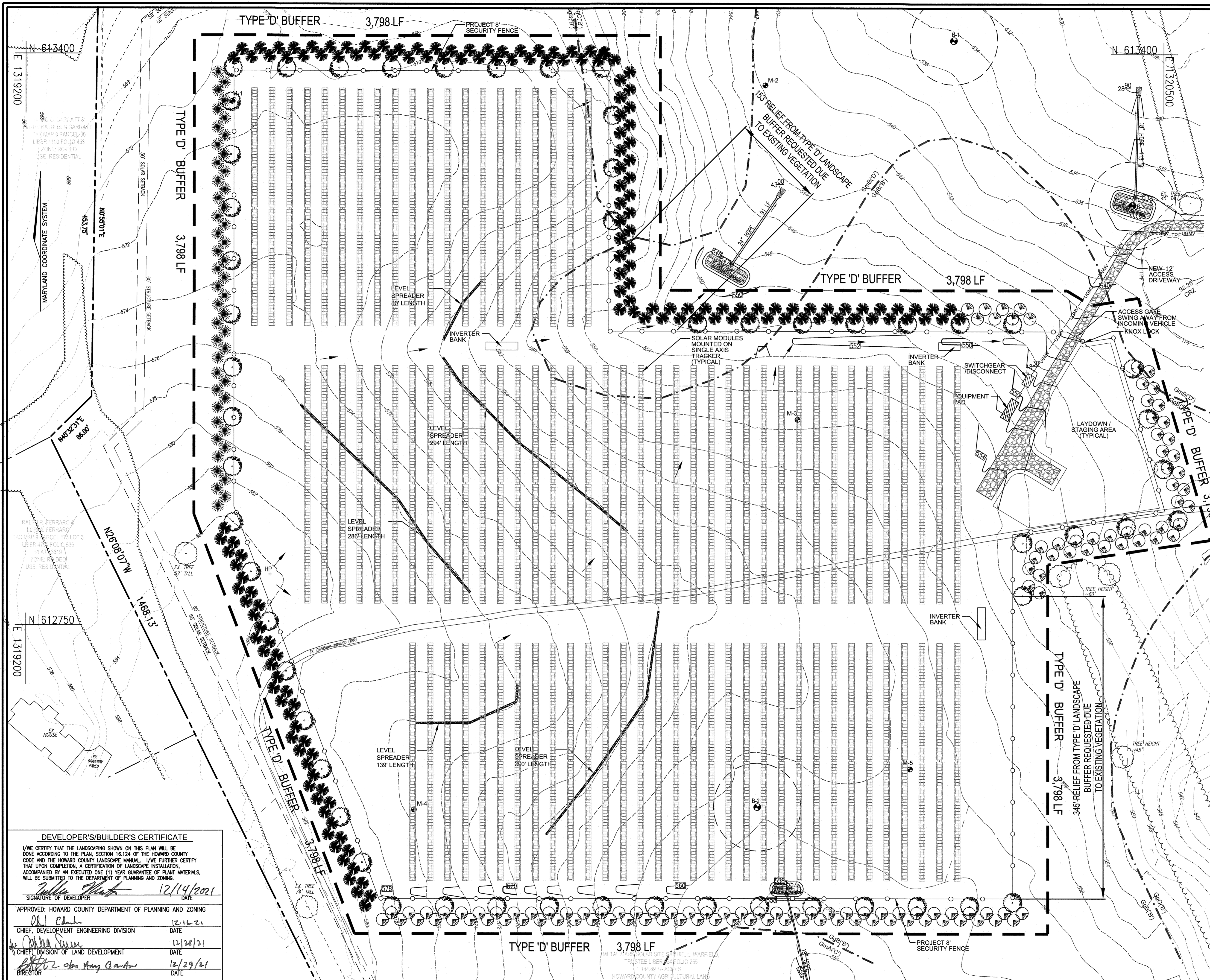
ZONED RC-DEO  
PARCEL 96  
HOWARD COUNTY, MARYLAND

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DESIGN BY: RHY  
DRAWN BY: IMH/KG  
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DATE: SEPTEMBER 2021  
SCALE: AS SHOWN  
W.O. NO.: 41993

MYRA BROSIUS

15 OF 17



**LEGEND:**

- PROPERTY LINE
- PROJECT SETBACK
- MAJOR CONTOUR (10')
- MINOR CONTOUR (2')
- SOILS BOUNDARY
- EXISTING TREELINE
- UGM-V UNDERGROUND BGE FEEDER
- UNDERGROUND DC COLLECTION
- 8" SECURITY FENCE
- PROPOSED CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED LANDSCAPING
- EXISTING TREES

**SPECIMEN TREE CHART**

KEY	DESCRIPTION	SIZE	CONDITION	COMMENTS
ST.1	SILVER MAPLE	81.5"	POOR	TO REMOVE

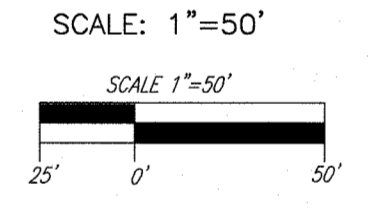
  

**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP	K-FACTOR	ERODIBLE	HYDRC
GpB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.24	NO	NO
GpC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24	NO	NO
GmA	GLENVILLE SILT LOAM, 0 TO 3 PERCENT SLOPES	C	0.73	YES	YES
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37	YES	YES
GmC	GLENVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES	C	0.43	YES	NO
GmD	GLENVILLE-SILT SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43	YES	YES
MdC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.28	NO	NO
MdD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.28	NO	NO
MdF	MANOR BRINKLOW COMPLEX, 25 TO 65 PERCENT SLOPES, VERY ROCKY	B	0.32	NO	NO

**SOILS NOTE:**  
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.

**LANDSCAPE PLAN**



**DEVELOPER**  
ONEENERGY DEVELOPMENT, LLC  
2003 WESTERN AVENUE  
SUITE 225  
SEATTLE, WA 98121  
PHONE: 206-922-7072  
ATTENTION: KATE LARKIN

**OWNER**  
METALMARK SOLAR, LLC  
C/O STANDARD SOLAR, INC.  
530 GATHER ROAD, SUITE 900  
ROCKVILLE, MD 20850  
PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN  
LANDSCAPE PLAN**

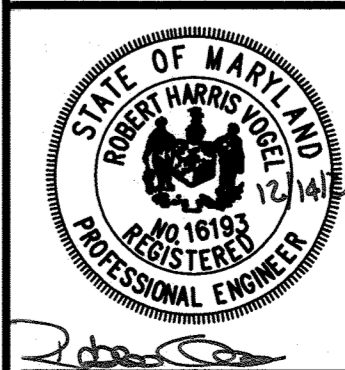
**METALMARK SOLAR**  
700 SYKESVILLE RD  
SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3 3RD ELECTION DISTRICT  
ZONED RC-DEO PARCEL 94 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**

**TIMMONS GROUP**

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21143  
P: 410.461.7666 F: 410.461.8961 www.timmons.com



PROFESSIONAL CERTIFICATE  
DESIGN BY: RHV  
DRAWN BY: IMH/KG  
CHECKED BY: RHV  
DATE: SEPTEMBER 2021  
SCALE: AS SHOWN  
W.O. NO.: 41993

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16193 EXPIRATION DATE: 09-27-2022

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
I/WE 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/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature of Developer: [Signature] DATE: 12/14/2021  
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
Chief, Development Engineering Division DATE: 12/16/21  
Chief, Division of Land Development DATE: 12/28/21  
Director DATE: 12/29/21



**GENERAL NOTES**

WATERSHED NAME: PATAPSCO RIVER  
 WATERSHED NUMBER: 02130905

A. GROSS SITE AREA: 144.69 AC.  
 NET SITE AREA: 19.91 AC.

B. AREA OF 100-YEAR FLOODPLAIN: 0.00 AC. DFIRM

C. AREA OF WETLANDS AND BUFFERS(ONSITE): 0.15 AC.  
 AREA OF STREAM AND BUFFERS(ONSITE): 1.84 AC.

D. AREA OF > 25% STEEP SLOPES: 9.70 AC.

E. EXISTING FOREST: 0.00 AC.

F. ZONED: RC-DEO

G. EXISTING USE: AGRICULTURE (19.91 AC.)

H. PROPOSED USE: SOLAR PANEL FARM (19.91 AC.)

- NO WETLANDS, STREAMS OF BUFFERS ARE PRESENT WITHIN OR IMMEDIATELY ADJACENT TO THE 20.5+/- ACRE PROJECT AREA. WATER RESOURCES ARE PRESENT ON THE BALANCE OF THE WARFIELD PROPERTY. THE PROJECT AREA AND THE OVERALL WARFIELD PROPERTY ARE LOCATED WITHIN THE USE I WATERSHED OF THE SOUTH BRANCH OF THE PATAPSCO RIVER (02-13-09).
- NO 100 YEAR FLOODPLAIN IS PRESENT ON THE PROJECT AREA.
- NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THE PROJECT AREA.
- STEEP SLOPES ARE PRESENT ON THE PROJECT AREA.
- NO HISTORIC ELEMENTS OR CEMETERIES ARE KNOWN TO OCCUR ON THE PROJECT AREA.

**\*\*FOREST CONSERVATION WORKSHEET BASED ON COUNCIL BILL CB62-2019\*\***

**FOREST CONSERVATION WORKSHEET FOR METALMARK SOLAR**

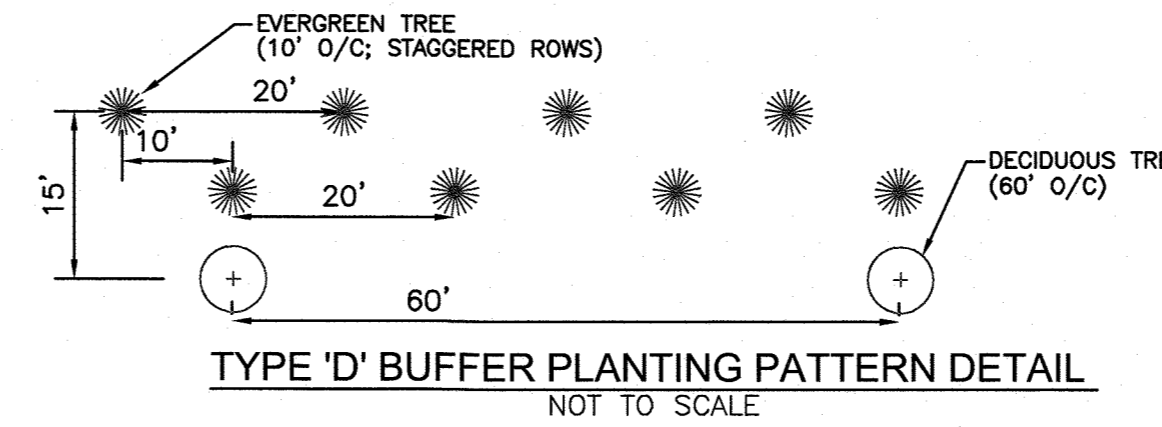
<b>Net Tract Area</b>		
A. Total (Gross) Tract Area	A =	144.69
B. Area within 100-year Floodplain	B =	0.00
C. Other Deductions (Identify)	C =	0.00
D. Net Tract Area	D =	144.69
<b>Land Use Category</b>		
Insert the number "1" under the appropriate land use (limit to only one entry)		
Resid.	Resid.	Resid.
Rural LD	Rural MD	Suburban
Inst/	Retail/Ind/	Mixed Use/
Office	Office	PUD
E. Afforestation Threshold (Net Tract Area x 15%) E = 3.00		
F. Reforestation Threshold (Net Tract Area x 15%) F = 3.00		
<b>Existing Forest Cover</b>		
G. Existing Forest Cover within the Net Tract Area	G =	0.00
H. Area of Forest above Afforestation Threshold	H =	0.00
I. Area of Forest above Reforestation Threshold	I =	0.00
<b>Break Even Point</b>		
J. Break Even Point	J =	0.00
K. Forest Clearing Permitted without Mitigation	K =	0.00
<b>Proposed Forest Clearing</b>		
L. Total Area of Forest to be Cleared	L =	0.00
M. Total Area of Forest to be Retained	M =	0.00
<b>Planting Requirements Inside Watershed</b>		
N. Reforestation for Clearing above the Reforestation Threshold	N =	0.00
P. Reforestation for Clearing below the Reforestation Threshold	P =	0.00
Q. Credit for Retention above the Reforestation Threshold	Q =	0.00
R. Total Reforestation Required	R =	0.00
S. Total Afforestation Required	S =	3.00
T. Total Reforestation and Afforestation Requirement	T =	3.00
U. 75% of Total Obligation (Retention + Planting)	U =	2.25
V. Planting Required Onsite to meet 75% Obligation	V =	2.25
<b>Planting Requirements Outside Watershed</b>		
W. Total Planting within Development Site Watershed	W =	0.00
X. Total Afforestation Required	X =	3.00
Y. Remaining Planting within Watershed for Reforestation Credit	Y =	0.00
Z. Reforestation for Clearing above the Reforestation Threshold	Z =	0.00
AA. Reforestation for Clearing below the Reforestation Threshold	AA =	0.00
BB. Credit for Retention above the Reforestation Threshold	BB =	0.00
CC. Total Reforestation Required	CC =	0.00
DD. Total Afforestation and Reforestation Requirement	DD =	3.00

THE FOREST CONSERVATION OBLIGATION REQUIRED PER SECTION 3.2.5 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL OF 3.0 ACRES SHALL MEET THE INTENT OF SECTION 16.117 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. FOREST CONSERVATION REQUIREMENTS ARE BASED ON COUNCIL BILL CB62-2019. THE REQUIRED FOREST CONSERVATION WILL BE PROVIDED BY A PURCHASE IN AN OFFSITE FOREST BANK.

- TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT TO BE FULFILLED BY:
- THE PURCHASE OF 2.5 ACRES OF AFFORESTATION CREDIT IN THE MILLERS MILL FOREST BANK; SDP-18-052.
  - THE PURCHASE OF 1.0 ACRES (1.0 / 2 = 0.5) OF RETENTION CREDIT IN THE MILLERS MILL FOREST BANK; SDP-18-052.

**GENERAL NOTES**

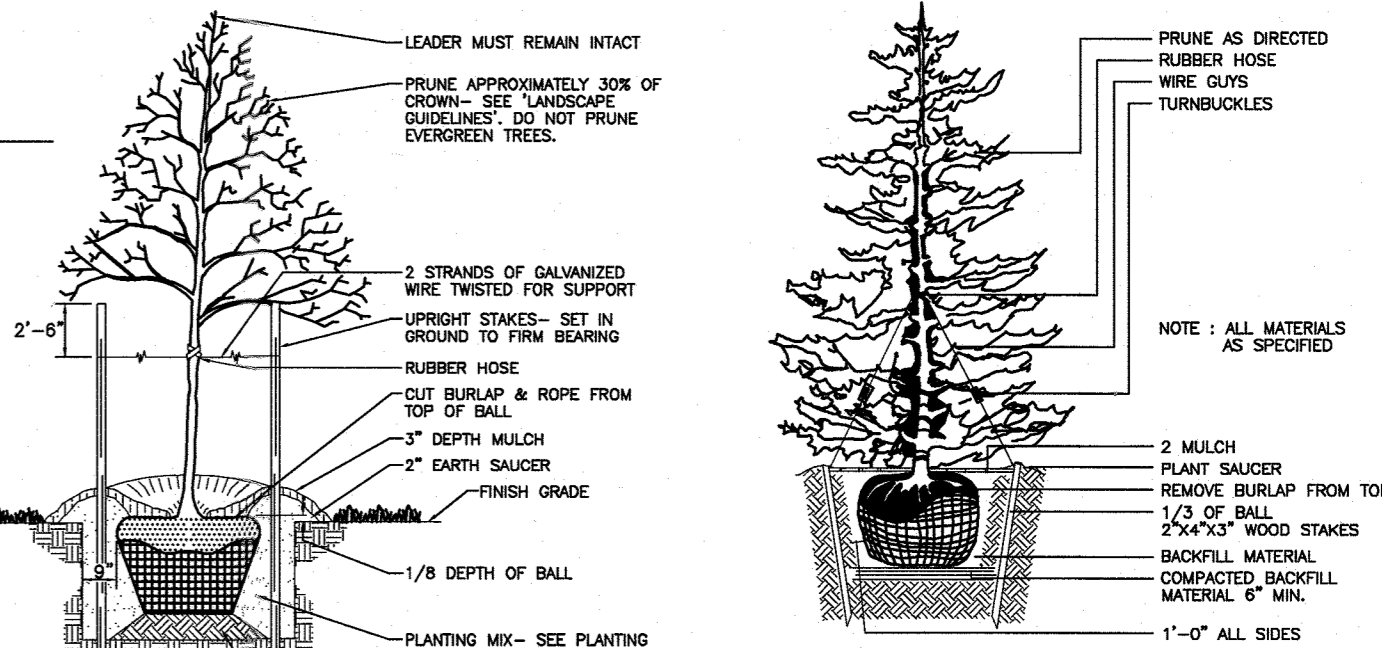
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$68,000 FOR THE REQUIRED LANDSCAPING (REQUIRED 55 SHADE TREES \$16,500, AND 330 EVERGREEN TREES \$19,500) SHALL BE POSTED WITH THE FINAL DEVELOPERS AGREEMENT.
- IN A LETTER AND PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED AUGUST 23, 2019 MR. JOHN CANOLES IDENTIFIED THE ONSITE FOREST, WETLANDS AND STREAMS. - MR. CANOLES IDENTIFIED ONE (1) SPECIMEN TREE. NO SPECIMEN TREES SHALL BE DISTURBED.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100-YEAR FLOODPLAIN.
- TYPE 'D' BUFFER TREES SHALL CONSIST OF A DOUBLE ROW OF OFFSET EVERGREEN TREES PLANTED AT INTERVALS OF 10' ON CENTER; ROWS OFFSET 15'; AND DECIDUOUS TREES PLANTED AT 60' ON CENTER.



**TYPE 'D' BUFFER PLANTING PATTERN DETAIL**  
NOT TO SCALE

**NOTES**

- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE" WASHINGTON METROPOLITAN AREA FOR ALL MATERIALS, PRODUCT, AND PROCEDURE SPECIFICATIONS.
- SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWERAGE FACILITIES.



**TREE PLANTING AND STAKING**

DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

**SCHEDULE A PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS AND PERIMETER PROPERTIES	TOTAL
PERIMETER/FRONTAGE DESIGNATION	D	
LANDSCAPE TYPE		3786
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER		
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	498	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	
NUMBER OF PLANTS REQUIRED		
SHADE TREES	1:80 = 55	55
EVERGREEN TREES	1:10 = 330	330
SHRUBS		
NUMBER OF PLANTS PROVIDED		
SHADE TREES	55	55
EVERGREEN TREES	330	330
OTHER TREES (2:1 SUBSTITUTION)	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-
EX. SPECIMEN TREES TO REMAIN	-	-
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED		

**LANDSCAPE SCHEDULE NOTES:**

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAS SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HSD PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

**PERIMETER LANDSCAPE EDGE LANDSCAPE SCHEDULE**

KEY	QUAN	BOTANICAL NAME	SIZE	REM.
<b>SHADE-55</b>				
AR	55	ACER RUBRUM 'OCTOBER GLORY' / OCTOBER GLORY RED MAPLE	2 1/2"-3" CAL.	B & B
<b>EVERGREEN-330</b>				
PS	48	PINUS STROBUS / EASTERN WHITE PINE	6'-8" HGT.	B & B
GJ	160	THUJA PLICATA / GYANT ARBOVITAE 'GREEN GIANT'	6'-8" HGT.	B & B
AH	122	ILEX OPACA / AMERICAN HOLLY	6'-8" HGT.	B & B

NOTE:  
 WITH PERMISSION FROM HOWARD COUNTY, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN APPENDIX B & C OF THE HOWARD COUNTY LANDSCAPE MANUAL.  
 - CONDITIONAL USE APPROVED SPECIES:  
 - CYPRESS OCCUPANS LITLAND / LITLAND CYPRESS (6'-8" HGT.)  
 - ACER CINNABAL / AMER MAPLE (2 1/2"-3" CAL.)  
 - BETULA NIGRA HERITAGE / HERITAGE CLUMP BIRCH (2 1/2"-3 1/2" CAL.)

**LANDSCAPE NOTES**

- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE 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 THE APPLICABLE PLANS.
- THE FACILITY OPERATOR 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.
- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
- SURETY FOR THE PROPOSED LANDSCAPING SHALL BE BASED ON THE NUMBER OF PLANTINGS REQUIRED.

**DEVELOPER**  
 ONEENERGY DEVELOPMENT, LLC  
 2003 WESTERN AVENUE  
 SUITE 225  
 SEATTLE, WA 98121  
 PHONE: 206-922-7072  
 ATTENTION: KATE LARKIN

**OWNER**  
 METALMARK SOLAR, LLC.  
 C/O STANDARD SOLAR, INC.  
 530 GAITHER ROAD, SUITE 900  
 ROCKVILLE, MD 20850  
 PHONE: 301-944-5102

NO.	REVISION	DATE

**SITE DEVELOPMENT PLAN**  
**FOREST CONSERVATION AND LANDSCAPE**  
**NOTES AND DETAILS**  
**METALMARK SOLAR**  
 700 SYKESVILLE RD  
 SYKESVILLE, MD 21784

TAX MAP 9 BLOCK 3  
 3RD ELECTION DISTRICT

ZONED RC-DEO  
 PARCEL 94  
 HOWARD COUNTY, MARYLAND

**VOGEL ENGINEERING**  
  
**TIMMONS GROUP**  
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

DESIGN BY: RHY  
 DRAWN BY: IMH/KG  
 CHECKED BY: RHY  
 DATE: SEPTEMBER 2021  
 SCALE: AS SHOWN  
 W.O. NO.: 41993

PROFESSIONAL CERTIFICATE  
 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.  
 EXPIRATION DATE: 09-27-2022

17 SHEET OF 17

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 12-14-21  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 12/29/21  
 DIRECTOR DATE: 12/29/21

**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/WE 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/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER DATE: 12/14/2021