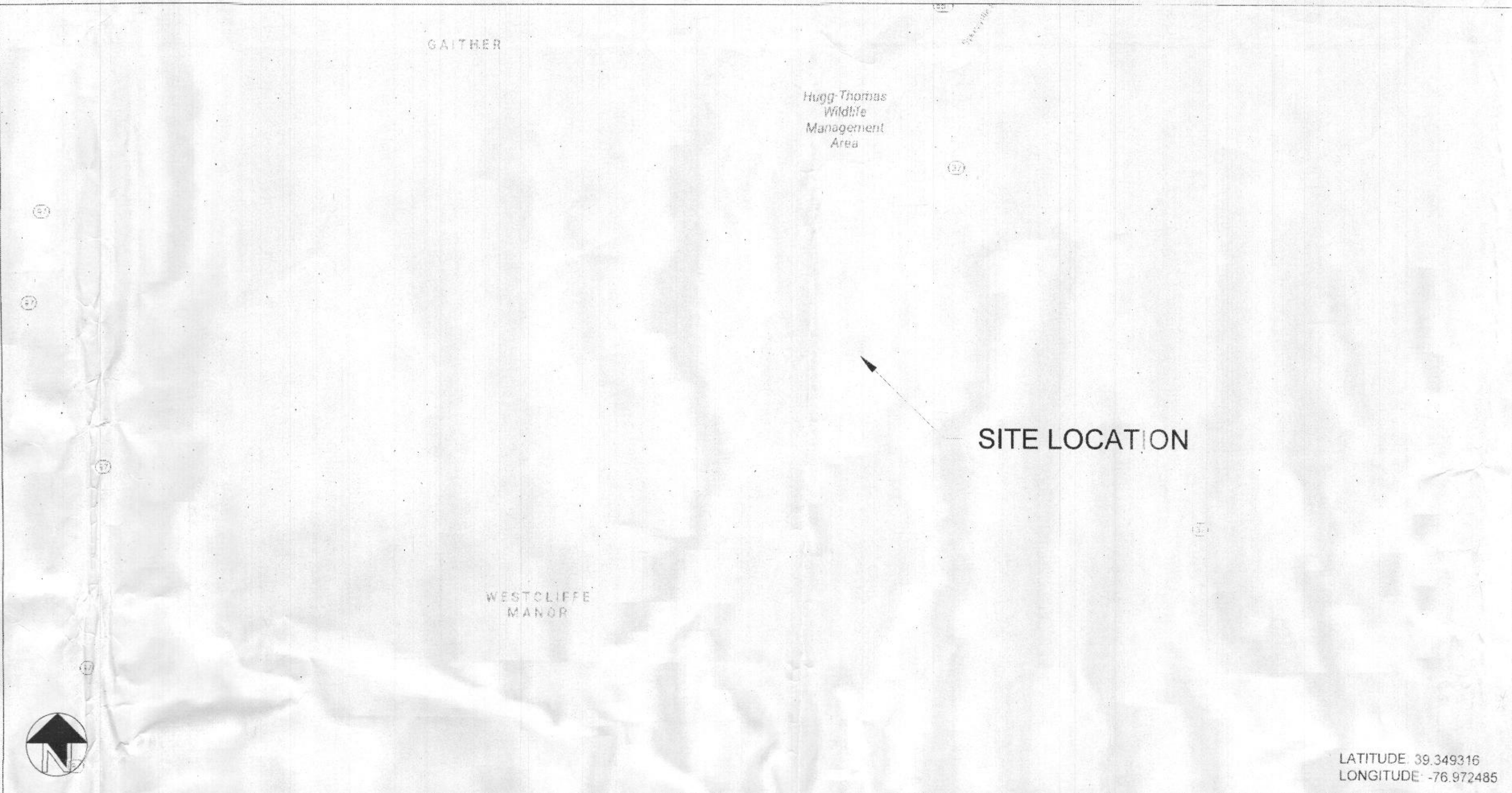


PROJECT NOTES:

- CONSULT STANDARD SOLAR ENGINEERING BEFORE DEVIATING FROM THIS DRAWING PACKAGE. REFER TO LATEST VERSION OF STANDARD SOLAR DESIGN AND INSTALLATION SPECIFICATION FOR PHOTOVOLTAIC SYSTEMS.
- PRIOR TO SUBMISSION OF THE BID, THE SUBCONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ATTENTION OF SSI PRIOR TO SUBMISSION OF THE BID AND IF NOT RESOLVED TO SATISFACTION, SHALL BE SUBMITTED AS A WRITTEN QUALIFICATION OF THE ABOVE BID. SUBMISSION OF A BID SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE.
- THE DRAWINGS INDICATE THE INTENT OF THE DESIGN AND SHALL BE CONSIDERED AS DIAGRAMMATIC ONLY. EXACT EQUIPMENT LOCATIONS AND CONDITIONS MAY VARY. EXACT INSTALLATION MEANS AND METHODS SHALL BE DETERMINED BY THE SUBCONTRACTOR AT THE SITE. DEVIATION FROM THE DRAWING SET REQUIRES NOTIFICATION AND APPROVAL FROM SSI. AS WORK PROGRESSES DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED BY SSI AND THE SUBCONTRACTOR. FINAL AS-BUILT CONDITIONS SHALL BE REDLINED ON EXISTING CONSTRUCTION SET AND RETURNED TO SSI.
- ALL WORK SHALL COMPLY WITH REQUIREMENTS OF THE APPLICABLE STATE ELECTRICAL CODE, APPLICABLE STATE BUILDING CODE, BUILDING/ SITE MANAGEMENT, ALL AUTHORITIES HAVING JURISDICTION AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK.
- WHEN ALL WORK UNDER THIS CONTRACT HAS BEEN COMPLETED AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN AND IS READY FOR FINAL INSPECTION, THE SUBCONTRACTOR SHALL DEMONSTRATE THAT ALL WORK HAS BEEN COMPLETED IN A NEAT AND WORKMAN-LIKE MANNER IN ACCORDANCE WITH NEC 110-12, MEETING ANY AND ALL QUALITY STANDARDS AS DETERMINED BY SSI AND THE REQUIREMENTS OF THESE DRAWINGS HAVE BEEN MET TO THE SATISFACTION OF SSI.
- THE SUBCONTRACTOR IS ADVISED THAT ALL DRAWINGS AND COMPONENT MANUALS ARE TO BE UNDERSTOOD PRIOR TO INSTALLATION. SUBCONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL MANUALS AND DIGITAL COPIES MAY BE REQUESTED FROM SSI ENGINEERING.
- IN THE EVENT A CONFLICT IN THE DRAWINGS THAT HAS NOT BEEN ADDRESSED BEFORE THE BID, OR THE DOCUMENTS ARE UNCLEAR, THE MORE STRINGENT SITUATION SHALL APPLY.
- DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE FIELD VERIFIED. REPORT ANY DIMENSIONAL CONFLICTS IMMEDIATELY TO SSI.
- ALL FURNISHED AND INSTALLED ELECTRICAL COMPONENTS AND MATERIALS SHALL BE LISTED FOR ITS PURPOSE. SUBCONTRACTOR IS TO INFORM SSI OF ANY EXISTING WORK OR MATERIALS WHICH MAY VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE SUBCONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED AT SUBCONTRACTORS EXPENSE AND AT NO EXPENSE TO SSI.
- ALL EQUIPMENT, SUPPORTS, PARTS, MATERIALS, ACCESSORIES, AND LABOR THAT IS NECESSARY FOR PROPER PERFORMANCE AND INSTALLATION OF THE SYSTEM. ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL WITHOUT ADDITIONAL COST.
- THIS SYSTEM IS INTENDED TO BE OPERATED IN PARALLEL WITH THE UTILITY SERVICE PROVIDER. ANTI-ISLANDING PROTECTION IS A REQUIREMENT OF UL 1741 AND IS INTENDED TO PREVENT THE OPERATION OF THE PV SYSTEM WHEN THE UTILITY GRID IS NOT OPERATIONAL.
- THIS SYSTEM IS INTENDED TO CONNECT TO THE ELECTRICITY SYSTEM AT ONE POINT, POINT OF COMMON COUPLING (POCC). THIS CONNECTION SHALL BE IN COMPLIANCE WITH THE NEC ARTICLE 705.12 "POINT OF CONNECTION".
- PERMISSION TO OPERATE THE SYSTEM IS NOT AUTHORIZED UNTIL FINAL INSPECTIONS AND APPROVALS ARE OBTAINED FROM THE LOCAL AUTHORITY HAVING JURISDICTION AND THE LOCAL UTILITY SERVICE PROVIDER.
- SUBCONTRACTOR IS RESPONSIBLE FOR PROVIDING LOCATION, FOR BOTH PUBLIC AND PRIVATE UNDERGROUND UTILITIES, PRIOR TO ANY GROUND DISTURBANCE. IF ANY UTILITY CONFLICTS ARISE THE CONTRACTOR SHALL CONTACT SSI ENGINEERING.
- DURING DAYLIGHT HOURS, THIS PV SYSTEM (SOLAR ELECTRIC) WILL PROVIDE ELECTRICITY IN PARALLEL WITH THE LOCAL UTILITY SERVICE PROVIDER.



SYSTEM DESCRIPTION

MODULE TYPE:	HYUNDAI HIS-S390PI
QUANTITY:	7,290 MODULES (270 STRINGS 27)
SYSTEM SIZE (DC):	2,843.1 kW
MOUNTING SYSTEM:	ARRAY TECHNOLOGIES DURATRACK V3
TILT ANGLE:	-52° TO 52°
ARRAY AZIMUTH:	180°
MONITORING SYSTEM:	ALSOENERGY
INVERTERS:	[16] DELTA M125HV
SYSTEM SIZE (AC):	2,000 kW

Drawing Index:

PAGE #	PAGE TITLE
T0.0	TITLE PAGE
T0.1	SYMBOLS & ABBREVIATIONS
E0.0	GENERAL NOTES - 1500V
E1.0	SITE PLAN
E1.1	ELECTRICAL PLAN
E1.2	PARTIAL ELECTRICAL A
E1.3	PARTIAL ELECTRICAL B
E1.4	PARTIAL ELECTRICAL C
E1.5	PARTIAL ELECTRICAL D
E1.6	PARTIAL ELECTRICAL E
E1.7	PARTIAL ELECTRICAL F
E1.8	GROUNDING PLAN
E2.1	INVERTER RACK ELEVATIONS
E3.1	TRENCH DETAILS
E3.3	CONDUIT MOUNTING DETAILS
E3.4	GROUNDING DETAILS - SINGLE AXIS TRACKER
E3.5	SITE MONITORING DETAILS - TRACKER
E3.6	STRING WIRING DETAILS
E4.1	ONE-LINE DIAGRAM
E4.2	THREE LINE DIAGRAM
E5.1	MARKINGS AND LABELS
E5.2	MARKINGS AND LABELS

CODE REFERENCES:

- IBC 2018
- NFPA 1
- NFPA 70E
- NEC 2017
- NEC 2018
- CARROLL COUNTY CODE

FOR OFFICIAL USE ONLY:

UTILITY INFORMATION:

UTILITY: BALTIMORE GAS & ELECTRIC
 ACCOUNT #: TED
 S/R: 04900945

AHJ INFORMATION:

AHJ: CARROLL COUNTY
 ADDRESS: 225 NORTH CENTER STREET, WESTMINSTER, MD 21157
 PHONE NUMBER: (410) 386-2400

COMMERCIAL CONSTRUCTION DESIGN PARAMETERS:

EXPOSURE CATEGORY:	B
OCCUPANCY CATEGORY:	I
HIGH TEMPERATURE:	34° C
LOW TEMPERATURE:	-15° C
ELEVATION ABOVE SEA LEVEL:	558'
ULTIMATE DESIGN WIND SPEED:	115 MPH
DESIGN SNOW LOAD:	40 PSF
SEISMIC DESIGN CATEGORY:	A
FROST DEPTH (in.):	30 in.

SIGNATURE BLOCK

	NAME:	SIGNATURE:	DATE:
PROJECT ENGINEER:			
PROJECT MANAGER:			
QA/QC INSPECTOR:			
GENERAL CONTRACTOR PM:			
SITE FOREMAN:			

PROJECT TEAM:

CONTRACTOR: Standard Solar, Inc. 530 Gaither Road, Suite 900 Rockville, MD 20850 (301) 944-1200	CIVIL ENGINEER: Robert H. Vogel, P.E. Vogel Engineering & Timmons Group 3300 North Ridge Road, Suite 110, Ellicott City, MD 21043 (410) 461-7666 License #: 16193 09/27/20 2
ELECTRICAL ENGINEER: Gabriel Velicu, P.E. AMRO Construction Services 3619 Highland Place Fairfax, VA 22033 (517) 203-0218 License #: 45433 05/19/2022	RACKING ENGINEER: Innova Technologies Robert Naples 1432 S. Jones Blvd. Las Vegas, NV 89146 (702) 220-6640 License #: 41219 11/30/20 1



PROFESSIONAL ENGINEER CERTIFICATION

[Signature]

EXPIRES: 05/31/2022

PROJECT TITLE: OER - METALMARK
 PROJECT ADDRESS: 688 SYKESVILLE ROAD, SYKESVILLE, MD 21784
 SHEET TITLE: TITLE PAGE

ISSUED SET / REVISIONS

REV	DATE
30%	4/6/2021
50%	6/8/2021
IFP	6/24/2021

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PROJECT NUMBER: 20-228
 DRAWN BY: TJA
 APPROVED BY: NAG
 DATE: 6/24/2021
 ORIGINAL SHEET SIZE: 36x24
 SHOULD MEASURE 1"

SCALE: NO SCALE
 DRAWING: T0.0

OER METALMARK - PERMIT SET PHOTOVOLTAIC SYSTEM

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 LICENSES & PERMITS DIVISION

SYMBOLS - LINE DIAGRAMS:

	BUS CONNECTION		BREAKER		CONTACTOR
	FUSE		POTENTIAL TRANSFORMER		CURRENT TRANSFORMER
	DISCONNECT		FUSED DISCONNECT		GROUND CONNECTION
	DC TO AC INVERTER		DC TO DC PV OPTIMIZER		REVENUE GRADE METER
	BOM TEMP SENSOR		REFERENCE CELL		DELTA TO WYE GROUNDED TRANSFORMER
	WYE GROUNDED WYE GROUNDED TRANSFORMER		120V RECEPTACLE (SINGLE, DUPLEX)		EQUIPMENT LIST ITEM NUMBER
	CIRCUIT SCHEDULE CALLOUT		CONDUIT OR CABLE NUMBER		DIESEL GENERATOR

SYMBOLS - PLANS:

	AREA TO BE ENLARGED		CROSS SECTION / DRAWING NUMBER		TRUE NORTH
	REVISION CLOUD AND REVISION NUMBER		PULL BOX WITH METAL ENCLOSURE, RATED FOR USE		GROUND ROD
	STRING POSITIVE LEAD		STRING NEGATIVE LEAD		GRAVEL
	SAND		GRASS		UNDISTURBED EARTH
	BRICK		CONCRETE FILL		NATIVE SOIL BACK FILL
	GLASS				

ABBREVIATIONS:

A	AMPERE	NEC	NATIONAL ELECTRIC CODE
AC	ALTERNATING CURRENT	NEG	NEGATIVE
ACSR	ALUMINUM CONDUCTOR STEEL REINFORCED	NF	NON FUSED
AHJ	AUTHORITY HAVING JURISDICTION	NREL	NATIONAL RENEWABLE ENERGY LABORATORY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY
AWG	AMERICAN WIRE GAUGE	NTS	NOT TO SCALE
BKR	BREAKER	OCPD	OVER CURRENT PROTECTION DEVICE
BOS	BALANCE OF SYSTEM	P	POLE
°C	DEGREE CELSIUS	PB	PULL BOX
CB	COMBINER BOX	Pcoeff	POWER TEMPERATURE COEFFICIENT
CKT	CIRCUIT	PH, Φ	PHASE
CMU	CONCRETE MASONRY UNIT	POCC	POINT OF COMMON COUPLING
DATA	DATA COMMUNICATIONS	POI	POINT OF INTERCONNECTION
CT	CURRENT TRANSFORMER	POS	POSITIVE
CU	COPPER	lb	POUND
cu. yd	CUBIC YARD	PSI	POUNDS PER SQUARE INCH
DAS	DATA ACQUISITION SYSTEM	PSF	POUNDS PER SQUARE FOOT
DC	DIRECT CURRENT	PWR	POWER
DWG	DRAWING	Pmax	MAXIMUM POWER
EC	ELECTRICAL CONTRACTOR	PV	PHOTOVOLTAIC
EGC	EQUIPMENT GROUNDING CONDUCTOR	PVC	POLYVINYL CHLORIDE
EM	EMERGENCY	REF.	REFERENCE DIMENSION
EMT	ELECTRICAL METALLIC TUBING	RCM	RESIDUAL CURRENT MONITORING
ETR	EXISTING TO REMAIN	RMC	RIGID METAL CONDUIT
ft.	FOOT	SC	SERVICE CENTER
GEC	GROUNDING ELECTRODE CONDUCTOR	SCH	SCHEDULE
GEN	GENERATOR	SS	SUB STATION
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR	SSI	STANDARD SOLAR, INC.
GND,G	GROUND	STC	STANDARD TEST CONDITIONS
GOAB	GANG OPERATED AIR BREAK	SWBD	SWITCH BOARD
HSLAS	HIGH STRENGTH LOW ALLOY STEEL	SWGR	SWITCH GEAR
HZ	HERTZ	sqft	SQUARE FOOT
in.	INCH	TBD	TO BE DETERMINED
INV	INVERTER	TEL	TELEPHONE
IMC	INTERMEDIATE METALLIC CONDUIT	TYP	TYPICAL
Imp	MAX. POWER CURRENT	UL	UNDERWRITERS LABORATORIES
Isc	SHORT CIRCUIT CURRENT	UG	UNDER GROUND
J BOX, JB	JUNCTION BOX	V	VOLTS
kVA	KILO VOLT AMPERE	VA	VOLT-AMPERE(S)
kW	KILO WATT	Vcoeff	VOLTAGE TEMPERATURE COEFFICIENT
kWh	KILOWATT HOUR	VIF	VERIFY IN FIELD
kcmil	1000 CIRCULAR MILS	Vmp	MAX. POWER VOLTAGE
LF	LINEAR FEET	Voc	OPEN CIRCUIT VOLTAGE
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT	W	WATTS
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT	Wh	WATT HOUR
m	METER	WP	WEATHER PROOF
mA	MILLIAMPERE	XFMR	TRANSFORMER
MB/ MCB	MAIN BREAKER/ MAIN CIRCUIT BREAKER	yd	YARD
MLO	MAIN LUG ONLY	1200AF/800AT	1200AMP FRAME/800AMP TRIP
MPPT	MAXIMUM POWER POINT TRACKING	20A, 3P	20 AMPERE, 3 POLE
MW	MEGA WATT		
N	NEUTRAL		
NC/NO	NORMALLY CLOSED/ NORMALLY OPEN		

REV	DATE
30%	4/8/2021
60%	6/8/2021
IFP	8/24/2021

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PROJECT NUMBER
20-228

DRAWN BY
TJA

APPROVED BY
NAG

DATE
6/24/2021

ORIGINAL SHEET SIZE
 36x24
 SHOULD MEASURE 1"

SCALE
NO SCALE

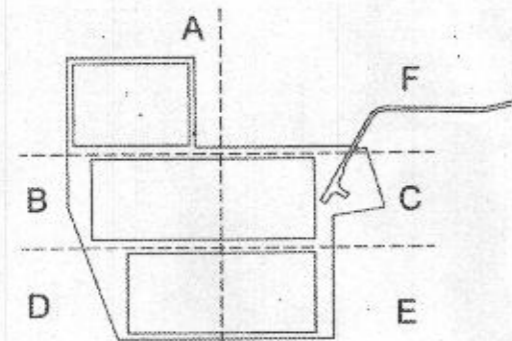
DRAWING
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SYSTEM DESCRIPTION

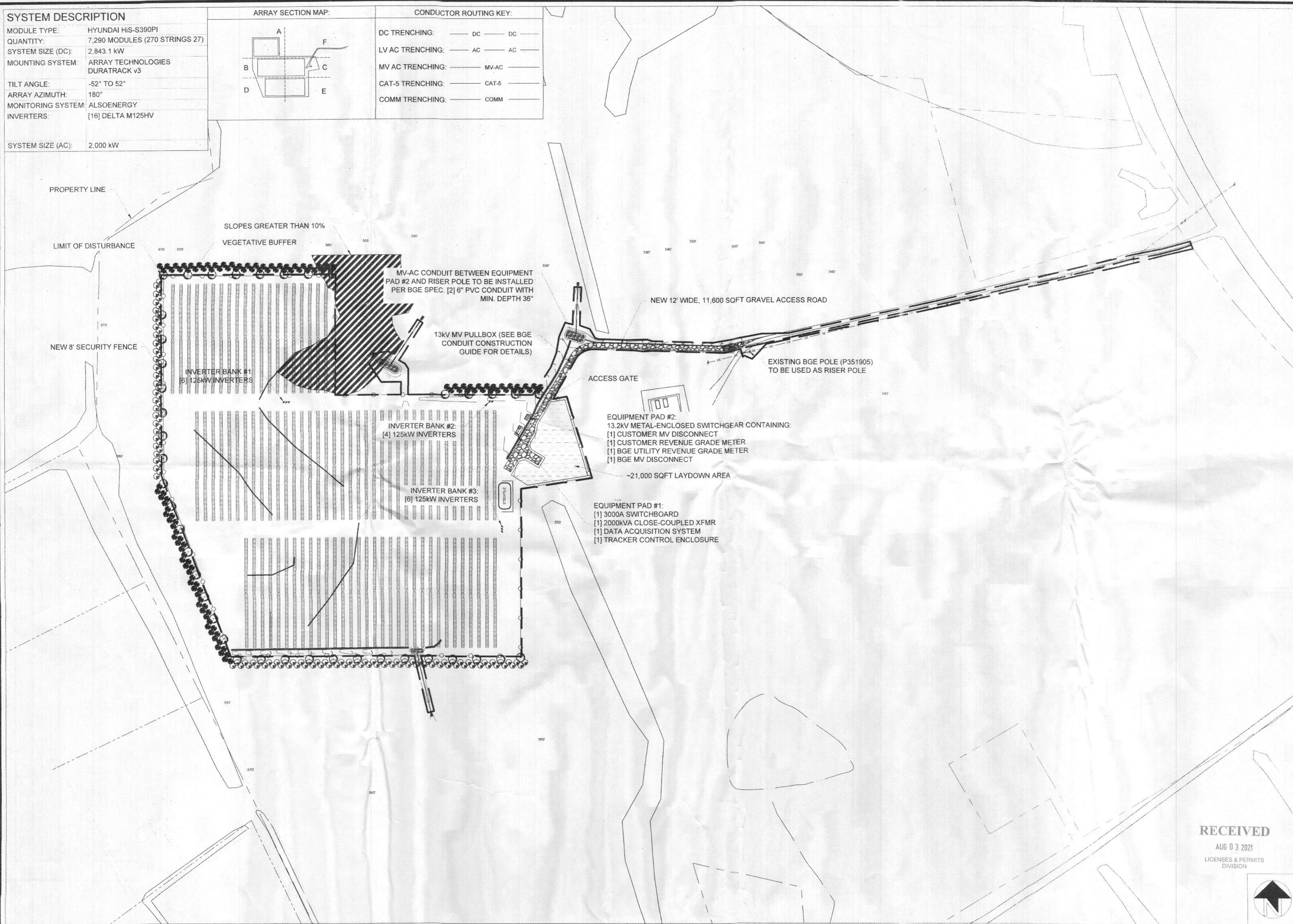
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ARRAY AZIMUTH:	180°
MONITORING SYSTEM:	ALSOENERGY
INVERTERS:	[16] DELTA M125HV
SYSTEM SIZE (AC):	2,000 KW

ARRAY SECTION MAP:



CONDUCTOR ROUTING KEY:

DC TRENCHING:	— DC —	— DC —
LV AC TRENCHING:	— AC —	— AC —
MV AC TRENCHING:	— MV-AC —	— MV-AC —
CAT-5 TRENCHING:	— CAT-5 —	— CAT-5 —
COMM TRENCHING:	— COMM —	— COMM —



STANDARD SOLAR
 Clean Energy. Smart Business.
 530 Gaither Road, Suite 400
 Rockville, MD 20850
 301-944-1200
 www.StandardSolar.com

PROFESSIONAL ENGINEER
 CERTIFICATION

 I CERTIFY THAT THESE DOCUMENTS
 WERE PREPARED OR APPROVED BY
 ME, OR THAT I AM A QUALIFIED LICENSED
 PROFESSIONAL ENGINEER UNDER
 THE LAWS OF THE STATE OF
 MARYLAND.
 LICENSE # 45431
 EXP. DATE: 05/15/2022

PROJECT TITLE
 OER - METAL MARK
 PROJECT ADDRESS
 688 SYKESVILLE ROAD, SYKESVILLE, MD 21784
 SHEET TITLE
 SITE PLAN

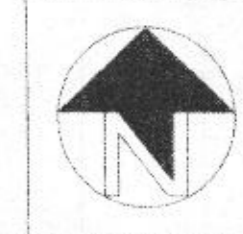
ISSUED SET / REVISIONS

REV	DATE
30%	4/5/2021
90%	6/8/2021
IFP	6/24/2021
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 STANDARD SOLAR, INC.

PROJECT NUMBER
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 TJA
 APPROVED BY
 NAG
 DATE
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 36"x24"
 SHOULD MEASURE 1"
 SCALE
 1" = 100'
 DRAWING

RECEIVED
 AUG 03 2021
 LICENSES & PERMITS
 DIVISION



E1.0