



TOWN OF DIGHTON
PLANNING BOARD
979 SOMERSET AVENUE
DIGHTON, MA 02715
Tel: (508) 669-6431, Ext. 114
Fax: (508) 669-4509

Jeff Carvalho, Chairman
Daniel Higgins, Vice Chairman
Christopher Cunha, Clerk
Joseph Figueiredo, Member
Robert J. Woods, Member

RECEIVED

Town Clerk-Dighton, MA

AUG 24 2023

Time: 11:52 AM
By: S.C.

LEGAL NOTICE
DIGHTON PLANNING BOARD
September 20, 2023 at 7:00 PM
Old Town Hall
1111 Somerset Avenue
Dighton, MA 02715

Notice is hereby given the Dighton Planning Board will conduct a Public Hearing on the Special Permit Application & Site Plan Review by Whaling City Solar to install 14.400 kW Small-Scale Ground-Mounted Solar PV System and a 3' retaining wall along the driveway edge, for property located at 2204 Maple Swamp Road being shown as Assessors Map 1, Lot 4, pursuant to Sections 4600, 5300 and 5400 of the Town of Dighton Zoning Bylaws.

Copies of the application and plan may be viewed in the Planning Board office during normal business hours or requested by email at keasterday@dighton-ma.gov. Any person wishing to be heard on the above application should appear at the time and place designated for the public hearing.

DIGHTON PLANNING BOARD
Jeff Carvalho, Chairman



11-23

TOWN OF DIGHTON
PLANNING BOARD
979 SOMERSET AVENUE
DIGHTON, MA 02740

PETITIONER: *Whaling City Solar*
NAME: *1213 Purchase St Unit 2*
ADDRESS: *New Bedford MA 02740*

LOCATION (from Assessors' Office)

PLAT AND

LOT NOS.

Map 1 Lot 4

PRESENT

First Record Date

ZONING

Planning Board Use Only

DATE OF THIS

FILE:

DOCUMENT

8/23/2023

TITLE:

APPLICATION FOR SITE PLAN REVIEW

File two (2) completed copies of this application with the Planning Board and within three (3) days thereafter submit a copy to the Board of Health, Board of Appeals, Building Commissioner, Town Engineer and Conservation Commission in accordance with the Zoning Bylaws. The filing fee as calculated by the Fee Schedule, made payable to the Town of Dighton.

To the Dighton Planning Board:

TITLE OF PLAN: PRAIRIE SITE PLAN

PLAN DATED: Jan 1, 2023

SUBJECT PROPERTY ADDRESS: 2204 Maple Swamp Road

ASSESSOR'S MAP/LOT(s): 1 / 4 (SUBDIV LOT 2)

ALL APPLICABLE ZONING DISTRICTS: 101 - RESIDENTIAL

PROPOSED USES FOR THIS PROPERTY:

Install single-phase ground-mount residential solar PV system, located 102.1' from Wetland Zone (no work within Riverfront Area), over 100' from any dwelling on adjacent parcels. Plus 3' retaining wall along driveway.

TOTAL LOT AREA: _____ TOTAL FRONTAGE: _____

EXISTING STRUCTURE(s) _____ S.F.

PROPOSED STRUCTURE(s) _____ S.F.

TOTAL # OF PARKING SPACES REQUIRED: _____

TOTAL # OF PARKING SPACES PROPOSED: _____

ATTACH A LIST OF VARIANCES REQUESTED, IF ANY. (Variances may require relief from the Zoning Board of Appeals)

SPECIAL PERMIT APPLICATION/FEES PURSUANT TO THE FEE SCHEDULE, IF APPLICABLE, SHALL BE SUBMITTED IN CONJUNCTION WITH THIS SITE PLAN REVIEW APPLICATION.

I HAVE READ SECTION 5400, SITE PLAN REVIEW OF THE DIGHTON ZONING BYLAWS, AND I AM SUBMITTING THIS APPLICATION WITH ACCOMPANYING PLANS AS REQUIRED. EXCEPT FOR THE ATTACHED LIST OF VARIANCES (IF ANY), IT IS MY BELIEF THAT THE PLANS COMPLY WITH SECTION 5400. I HAVE NOTIFIED TENANTS AND PARTIES (IF ANY) WHO HAVE AN INTEREST IN OR ARE AFFECTED BY THE PROPOSED PLAN.

RECEIVED

Received by the Planning Board:

Date:

Time: AUG 23 2023

Signature:

By: Dighton Planning Board

Applicant's Name

Applicant's Address

Applicant's Phone #

Signature:

Whaling City Solar

1213 Purchase St, #2-55

New Bedford, MA 02764

508-415-5661

Adam Gent

Owner's name, address and signature for authorization
(if other than applicant)

Owner's Name

Owner's Address

Owner's Phone#

Signature:

David Prairie

2204 Maple Swamp Rd

N. Dighton, MA 02764

774-991-2578

David Prairie

Received by the Town Clerk:

Date:

Time:

Signature:

Checklist of items to be submitted with application.

1. Application Form (x2)
2. Application Fee (please refer to Fee Schedule)
3. Project Review Fee (please refer to Fee Schedule) & Completed W-9
4. Tax Status Application Form
5. Plans (See applicable Zoning Bylaws for Specific Requirements)
6. Completed Receipt for Special Permit Application/Site Plan Review (within 3 working days of the submittal date)



11-23

TOWN OF DIGHTON
PLANNING BOARD
979 SOMERSET AVENUE
DIGHTON, MA 02740

PETITIONER: *Whaling City Solar*
NAME: *1213 Purchase St, Unit 2*
ADDRESS: *New Bedford, MA 02740*

LOCATION (from Assessors' Office)

PLAT AND
LOT NOS. *Map 1 Lot 4*

PRESENT	First Record Date
ZONING	Planning Board Use Only
DATE OF THIS DOCUMENT	FILE: TITLE:

Resid/Agri.

8/23/2023

APPLICATION FOR SPECIAL PERMIT

File two (2) completed copies of this application. One (1) copy with the Planning Board and one (1) copy with the Town Clerk in accordance with the Zoning Bylaws. The filing fee as calculated by Appendix A, made payable to the Town of Dighton.

To the Dighton Planning Board:

PROJECT NAME: Prairie Ground-Mount Solar
SUBJECT PROPERTY ADDRESS: 2204 Maple Swamp Road
ASSESSOR'S MAP/LOT(s): 1 / 4 (SUBDIV LOT 2)
ALL APPLICABLE ZONING DISTRICT: 101 - RESIDENTIAL
TITLE OF PLAN: PRairie Site Plan
PLAN DATED: Jan 1, 2023

DESCRIBE WHAT IS PROPOSED FOR THIS PROPERTY:

Install single-phase ground-mount residential solar PV system, located 102.1' from Wetland Zone (no work within Riverfront Area), over 100' from any dwelling on adjacent parcels. Plus 3' retaining wall along driveway edge.

STATE THE EXACT NATURE OF ACTION OR RELIEF REQUESTED BY THIS APPLICATION AND CITE THE APPLICABLE BYLAW(s) AND/OR BYLAW SECTION(s):

Pursuant Section 5422 - work described herein requires the approval of a site plan by the Planning Board pursuant to §5400 of the Zoning By-law. Any conditions imposed in such site plan approval shall also be conditions of this special permit/variance.

DESCRIBE HOW THIS APPLICATION MEETS THE CRITERIA FOR A SPECIAL PERMIT AS DESCRIBED IN THE APPLICABLE SECTION(s) OF THE DIGHTON ZONING BYLAWS:

Pursuant Section 5470 - work described herein meets all objectives, pursuant sections 5471 through 5479.

THE UNDERSIGNED HEREBY CERTIFIES THAT THE INFORMATION ON THIS APPLICATION AND PLANS SUBMITTED HEREWITH IS CORRECT, AND THAT THE APPLICATION COMPLIES WITH ALL APPLICABLE PROVISIONS OF STATUTES, REGULATIONS AND BYLAWS TO THE BEST OF HIS/HER KNOWLEDGE.

THE ABOVE IS SUBSCRIBED TO AN EXECUTED BY THE UNDERSIGNED UNDER THE PENALTIES OF PERJURY IN ACCORDANCE WITH M.G.L. Ch. 268, §1-A.

Received by the RECEIVED Board:

Date: _____

Time: _____

Signature: AUG 23 2023

By: Dighton Planning Board

Applicant's Name

Applicant's Address

Whaling City Solar

1213 Purchase St, #2-55

New Bedford, MA 02764

508-415-5661

Adam Gant

Applicant's Phone #

Signature:

Owner's name, address and signature for authorization
(if other than applicant)

Owner's Name

Owner's Address

David Prairie

2204 Maple Swamp Rd

N. Dighton, MA 02764

774-991-2578

David Prairie

Received by the Town Clerk:

Date: _____

Time: _____

Signature: _____

Checklist of items to be submitted with application.

1. Application Form (x2)
2. Application Fee (please refer to Fee Schedule)
3. Project Review Fee (please refer to Fee Schedule) & Completed W-9
4. Tax Status Application Form
5. Plans (See applicable Zoning Bylaws for Specific Requirements)
6. Certified Abutters List
7. Completed Receipt for Special Permit Application/Site Plan Review (within 3 working days of the submittal date)

Kerrie Easterday

From: Sgt. George L. Nichols
Sent: Wednesday, August 23, 2023 4:42 PM
To: Kerrie Easterday
Subject: Re: 2204 Maple Swamp - Ground-Mount Solar - Site Plan Review

No issues as well

On Aug 23, 2023, at 3:08 PM, Kerrie Easterday <keasterday@dighton-ma.gov> wrote:

Received, thanks Chief!

Kerrie J Easterday
Office Manager
Planning Board & Zoning Board of Appeals
(508) 669-6431, ext. 114

From: Chief Chris Maguy <cmaguy@dighton-ma.gov>
Sent: Wednesday, August 23, 2023 3:06 PM
To: Kai R.Hadley <kai@whalingcitysolar.com>; Sgt. George L. Nichols <gnichols@dighton-ma.gov>
Cc: Adam Gent <adam@whalingcitysolar.com>; Kerrie Easterday <keasterday@dighton-ma.gov>
Subject: RE: 2204 Maple Swamp - Ground-Mount Solar - Site Plan Review

All,

I have no issues with the solar array as shown on the plan set.

Chief Maguy

Christopher J. Maguy

Fire Chief/EMD
Dighton Fire Department
300 Main Street
Dighton, MA 02715
Office: 508-669-6611
Fax: 508-669-6861
www.dightonfire.com

THE DOCUMENTS ACCOMPANYING THIS EMAIL CONTAIN INFORMATION FROM THIS OFFICE WHICH MAY BE CONFIDENTIAL AND/OR LEGALLY PRIVILEGED. THE INFORMATION IS INTENDED ONLY FOR USE OF THE INDIVIDUAL OR ENTITY NAMED ON THIS EMAIL. IF YOU ARE NOT THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT DISCLOSURE, COPYING, DISTRIBUTION OR THE TAKING OF ANY ACTION IN RELIANCE ON THE CONTENTS OF THIS INFORMATION IS

Kerrie Easterday

From: Chief Chris Maguy
Sent: Wednesday, August 23, 2023 3:06 PM
To: Kai R.Hadley; Sgt. George L. Nichols
Cc: Adam Gent; Kerrie Easterday
Subject: RE: 2204 Maple Swamp - Ground-Mount Solar - Site Plan Review

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I have no issues with the solar array as shown on the plan set.

Chief Maguy

Christopher J. Maguy

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From: Kai R.Hadley <kai@whalingcitysolar.com>
Sent: Wednesday, August 23, 2023 2:09 PM
To: Chief Chris Maguy <cmaguy@dighton-ma.gov>; Sgt. George L. Nichols <gnichols@dighton-ma.gov>
Cc: Adam Gent <adam@whalingcitysolar.com>; Kerrie Easterday <keasterday@dighton-ma.gov>
Subject: Re: 2204 Maple Swamp - Ground-Mount Solar - Site Plan Review

Hello George & Chris - I am reaching out following written receipt of the Site Plan Review/Special Permit applications (thank you for accommodating my drop-ins) and planset this afternoon, for a small-scale residential solar PV system.

Could you each please confirm "no concerns" with the proposed array? If we can receive your "okay" with the planset by 4:00pm, we will verify a place for David Prairie on the Planning Board's 9/20 meeting agenda - it would be greatly appreciated by us and the client alike. Please copy Kerrie on any correspondences to ensure she receives the confirmation.

Thank you - Kai

GENERAL NOTES

1. PROJECT NOTES

- 1.1 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC 2020) ARTICLE 690, ALL MANUFACTURER'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.
- 1.2 GROUND FAULT DETECTION AND INTERRUPTION (GFDI) DEVICE IS INTEGRATED WITH THE INVERTER.
- 1.3 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION
- 1.4 ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS

2. SCOPE OF WORK

- 2.1 CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.

DESIGN SPECIFICATIONS

WIND SPEED: 125 MPH

GROUND SNOW LOAD: 30 PSF

EXPOSURE CATEGORY: B

AUTHORITIES HAVING JURISDICTION

ZONING: N. DIGHTON, MA
COUNTY: N. DIGHTON, MA

UTILITY: NATIONAL GRID

APPLICABLE CODES & STANDARDS

BUILDING: MASSACHUSETTS BUILDING CODE, 9TH EDITION, AS AMENDED (780 CMR), MASSACHUSETTS RESIDENTIAL BUILDING CODE, 9TH EDITION, AS AMENDED (780 CMR)
ELECTRICAL: NEC 2020
FIRE: MASSACHUSETTS COMPREHENSIVE FIRE SAFETY CODE (527 CMR 1.00)

3. WORK INCLUDES

- 3.1 PV ROOF ATTACHMENTS
3.2 PV RACKING SYSTEM INSTALLATION
3.3 PV MODULE AND INVERTER INSTALLATION
3.4 PV EQUIPMENT GROUNDING
3.5 PV SYSTEM WIRING TO A ROOF-MOUNTED JUNCTION BOX
3.6 PV INSTALLING SYSTEM MONITORING EQUIPMENT
3.7 PV LOAD CENTERS (IF NECESSARY)
3.8 PV METERING (IF NECESSARY)
3.8 PV DISCONNECTS
3.9 PV GROUNDING ELECTRODE & BONDING TO (E) GEC
3.10 PV FINAL COMMISSIONING
3.11 (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE
PV-1	COVER PAGE
PV-2	SITE PLAN
PV-3	PROJECT PLAN
PV-4	SIGNAGE
PV-5	THREE LINE DIAGRAM



01 VICINITY MAP
SCALE: NOT TO SCALE



02 AERIAL PHOTO
SCALE: NOT TO SCALE

CONTRACTOR
WHALING CITY SOLAR
ADDRESS: 1213 PURCHASE ST, NEW BEDFORD,
MA 02740
PHONE: 508-4155-661
LICENSE: CS-114248



DAVID PRAIRIE RESIDENCE

RESIDENTIAL GRID INTERACTIVE SOLAR INSTALLATION
2204 MAPLE SWAMP ROAD, N. DIGHTON, MA 02764
APN: DIGHM001B00004L00000

COVER PAGE

SYSTEM DC SIZE @ STC: 14.400 kW
(30) HANWHA Q-CELLS Q.PEAK DUO XL-G10.3/BFG 480
(1) SOLAR EDGE SE10000H-US (240V)

DRAWN BY: O.S. CHECKED BY: M.M. DATE: 09.01.2023 REV:

PAGE:

PV-1

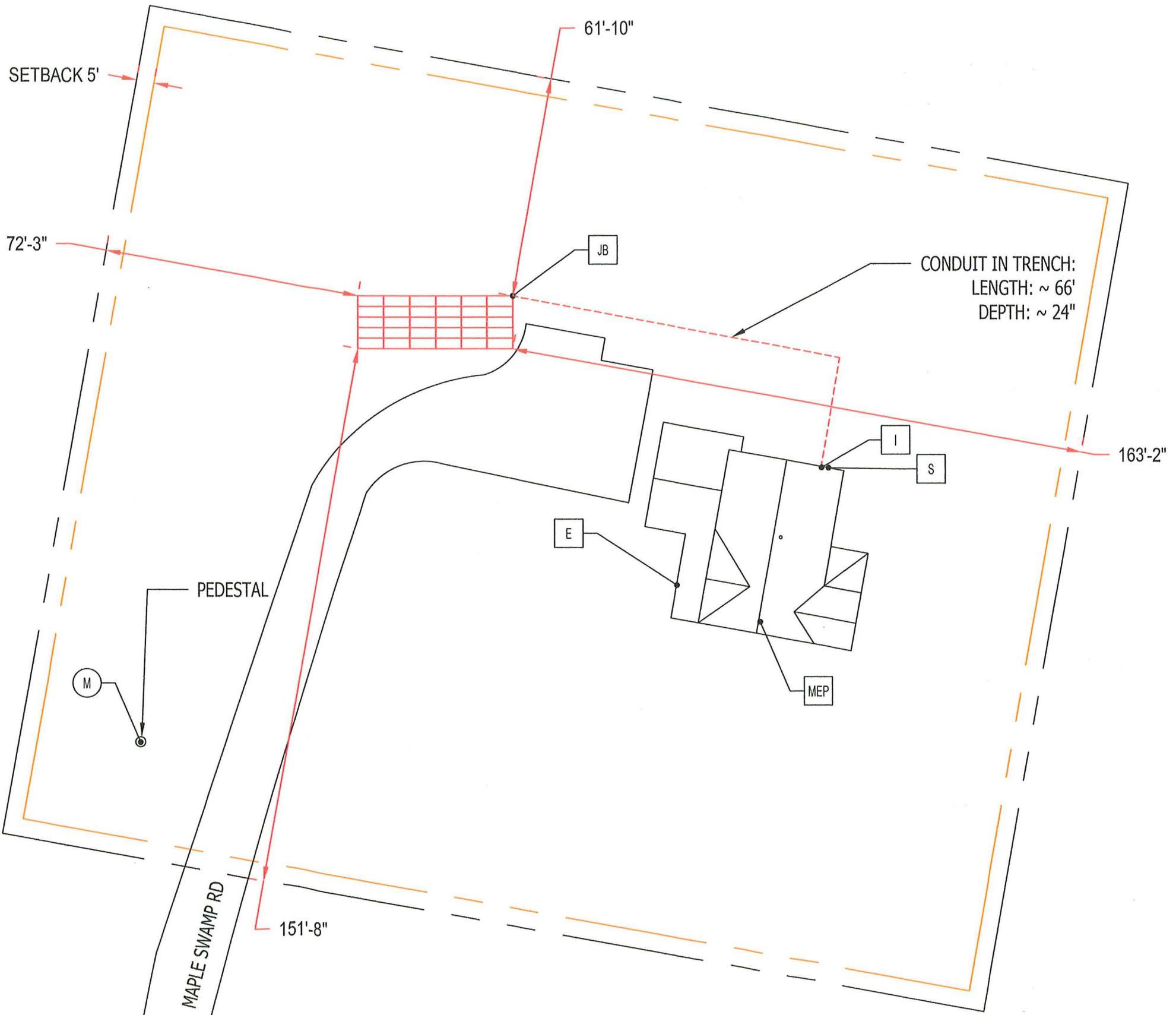
PLAN LEGEND

E	MAIN ENTRANCE DOOR	CONDUIT IN TRENCH
M	(E) UTILITY METER	PV MODULE
MEP	(E) MAIN ELECTRICAL PANEL	OBSTRUCTION
S	(N) AC DISCONNECT	PROPERTY LINE
JB	(N) JUNCTION BOX	SETBACK LINE
I	(N) INVERTER	

AC DISCONNECT IS EXTERNAL, LOCKABLE, TAGGABLE AND ACCESSIBLE 24/7.

NOTES:

1. ALL WORK TO COMPLY WITH MASSACHUSETTS BUILDING CODE, 9TH EDITION, AS AMENDED (780 CMR), NEC 2020, ARTICLE 690, AND ALL MANUFACTURER'S LISTINGS, AND INSTALLATION INSTRUCTIONS.
2. NOTIFY SERVING UTILITY BEFORE ACTIVATION OF PV SYSTEM
3. WHEN A BACKFEED BREAKER IS THE METHOD OF UTILITY INTERCONNECTION, BREAKER SHALL NOT READ "LINE AND LOAD"

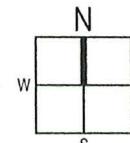


01 SITE PLAN

1/32" = 1'-0"

0

16'-0" 32'-0"



CONTRACTOR
WHALING CITY SOLAR
ADDRESS: 1213 PURCHASE ST, NEW BEDFORD,
MA 02740
PHONE: 508-4155-661
LICENSE: CS-114248



DAVID PRAIRIE RESIDENCE
RESIDENTIAL GRID INTERACTIVE SOLAR INSTALLATION
2204 MAPLE SWAMP ROAD, N. Dighton, MA 02764
APN: DIGHM001B00004L00000

SITE PLAN

SYSTEM DC SIZE @ STC: 14.400 kW
(30) HANWHA Q-CELLS Q.PEAK DUO XL-G10.3/BFG 480
(1) SOLAR EDGE SE10000H-US (240V)

DRAWN BY: O.S. CHECKED BY: M.M. DATE: 09.01.2023 REV:

PAGE:

PV-2

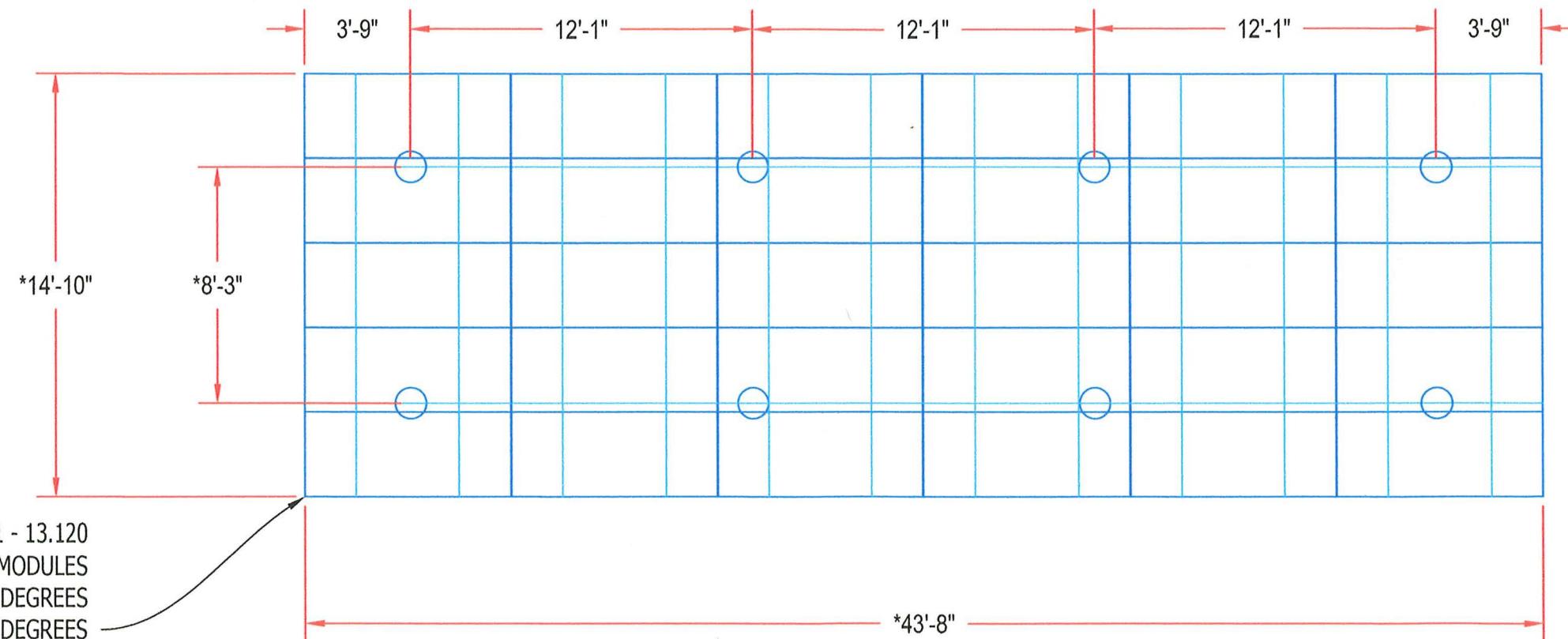
PLAN LEGEND



PV MODULE



* SHOULD BE CALCULATED BY
MANUFACTURER

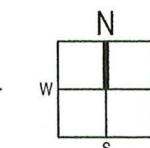


01

PROJECT PLAN

3/16" = 1'-0"

0 2'-8" 5'-4"



CONTRACTOR
WHALING CITY SOLAR
ADDRESS: 1213 PURCHASE ST, NEW BEDFORD,
MA 02740
PHONE: 508-4155-661
LICENSE: CS-114248



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PROJECT PLAN

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(30) HANWHA Q-CELLS Q.PEAK DUO XL-G10.3/BFG 480
(1) SOLAR EDGE SE10000H-US (240V)

DRAWN BY: O.S. CHECKED BY: M.M. DATE: 09.01.2023 REV:

PAGE:

PV-3

LABELING NOTES

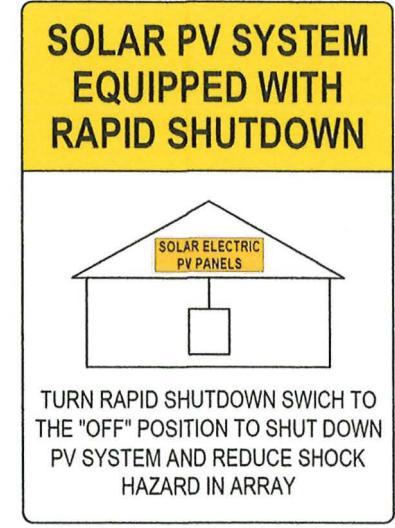
- 1.1 LABELING REQUIREMENTS BASED ON THE 2020 NATIONAL ELECTRICAL CODE, INTERNATIONAL FIRE CODE 605.11, OSHA STANDARD 1910.145, ANSI Z535
- 1.2 MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- 1.3 LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- 1.4 LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8" AND PERMANENTLY AFFIXED.
- 1.5 ALERTING WORDS TO BE COLOR CODED. "DANGER" WILL HAVE RED BACKGROUND; "WARNING" WILL HAVE ORANGE BACKGROUND; "CAUTION" WILL HAVE YELLOW BACKGROUND. [ANSI Z535]
- 1.6 ALL SIGNAGE MUST BE PERMANENTLY ATTACHED AND BE WEATHER RESISTANT/SUNLIGHT RESISTANT AND CANNOT BE HAND-WRITTEN PER NEC 110.21(B)



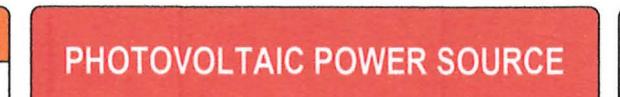
LABEL 1
AT EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT (2" X 4").
[NEC 690.13].



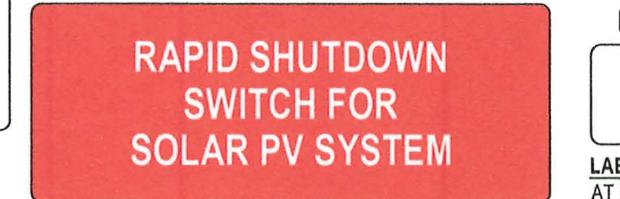
LABEL 2
AT POINT OF INTERCONNECTION OVERCURRENT DEVICE (2" X 4").
[NEC 705.12(B)(2)(3)(B)].



LABEL 3
AT RAPID SHUTDOWN SYSTEM (3 3/4" X 5 1/4"). [NEC 690.56(C)(1)(A)].



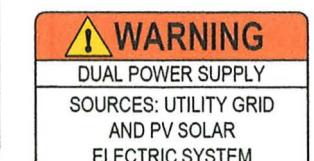
LABEL 4
AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10 FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS (5 3/4" X 1 1/8").
[NEC 690.31(G)]
LETTERS AT LEAST 3/8 INCH; WHITE ON RED BACKGROUND; REFLECTIVE
[IFC 605.11.1.1]



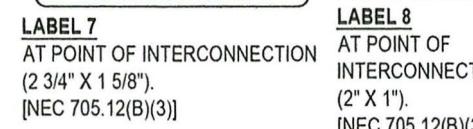
LABEL 5
AT RAPID SHUTDOWN DISCONNECT SWITCH (5 1/4" X 2").
[NEC 690.56(C)(3)].



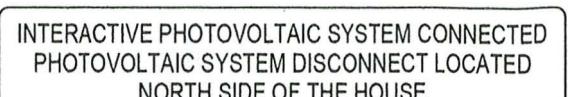
LABEL 6
AT UTILITY METER (5 3/4" X 1 1/8")
[NEC 690.56(B)].



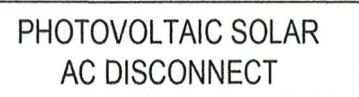
LABEL 7
AT POINT OF INTERCONNECTION (2 3/4" X 1 5/8").
[NEC 705.12(B)(3)].



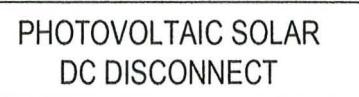
LABEL 8
AT POINT OF INTERCONNECTION (2" X 1").
[NEC 705.12(B)(3)].



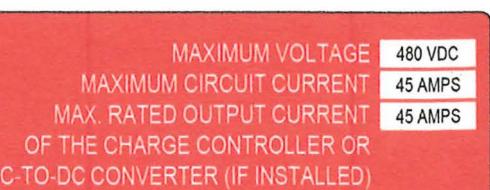
DIRECTORY
PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION (5 3/4" X 1 1/8").
[NEC 690.56(B)]
WHERE THE PV SYSTEMS ARE REMOTELY LOCATED FROM EACH OTHER, A DIRECTORY IN ACCORDANCE WITH 705.10 SHALL BE PROVIDED AT EACH PV SYSTEM DISCONNECTING MEANS.
PV SYSTEM EQUIPMENT AND DISCONNECTING MEANS SHALL NOT BE INSTALLED IN BATHROOMS
[NEC 690.4(D),(E)]



LABEL 9
AT EACH AC DISCONNECTING MEANS (4" X 1").
[NEC 690.13(B)].



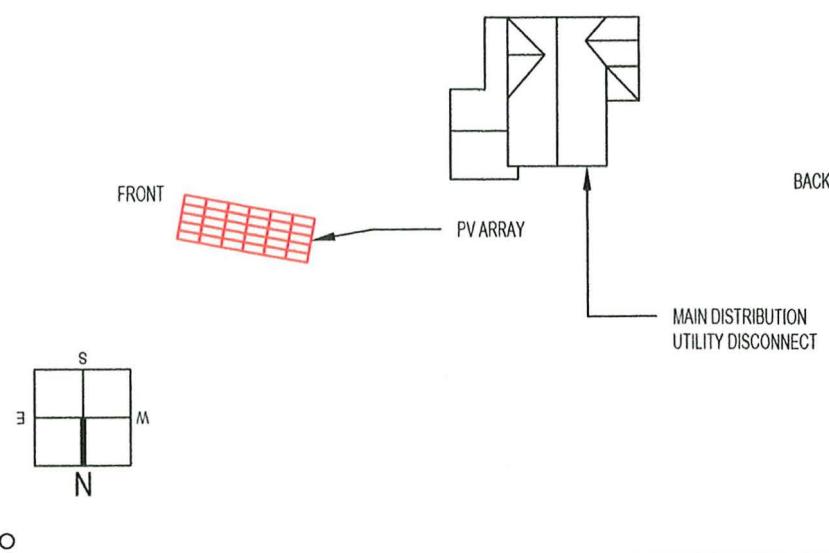
LABEL 10
AT EACH DC DISCONNECTING MEANS (4" X 1").
[NEC 690.13(B)].



LABEL 11
AT POINT OF INTERCONNECTION, MARKED AT DISCONNECTING MEANS (4" X 2").
[NEC 690.54]

LABEL 12
AT EACH DC DISCONNECTING MEANS (3" X 4").
[NEC 690.53].

!CAUTION!
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM GROUND MOUNTED SOLAR ARRAYS WITH SAFETY DISCONNECTS AS SHOWN:



CONTRACTOR
WHALING CITY SOLAR
ADDRESS: 1213 PURCHASE ST, NEW BEDFORD,
MA 02740
PHONE: 508-4155-661
LICENSE: CS-114248



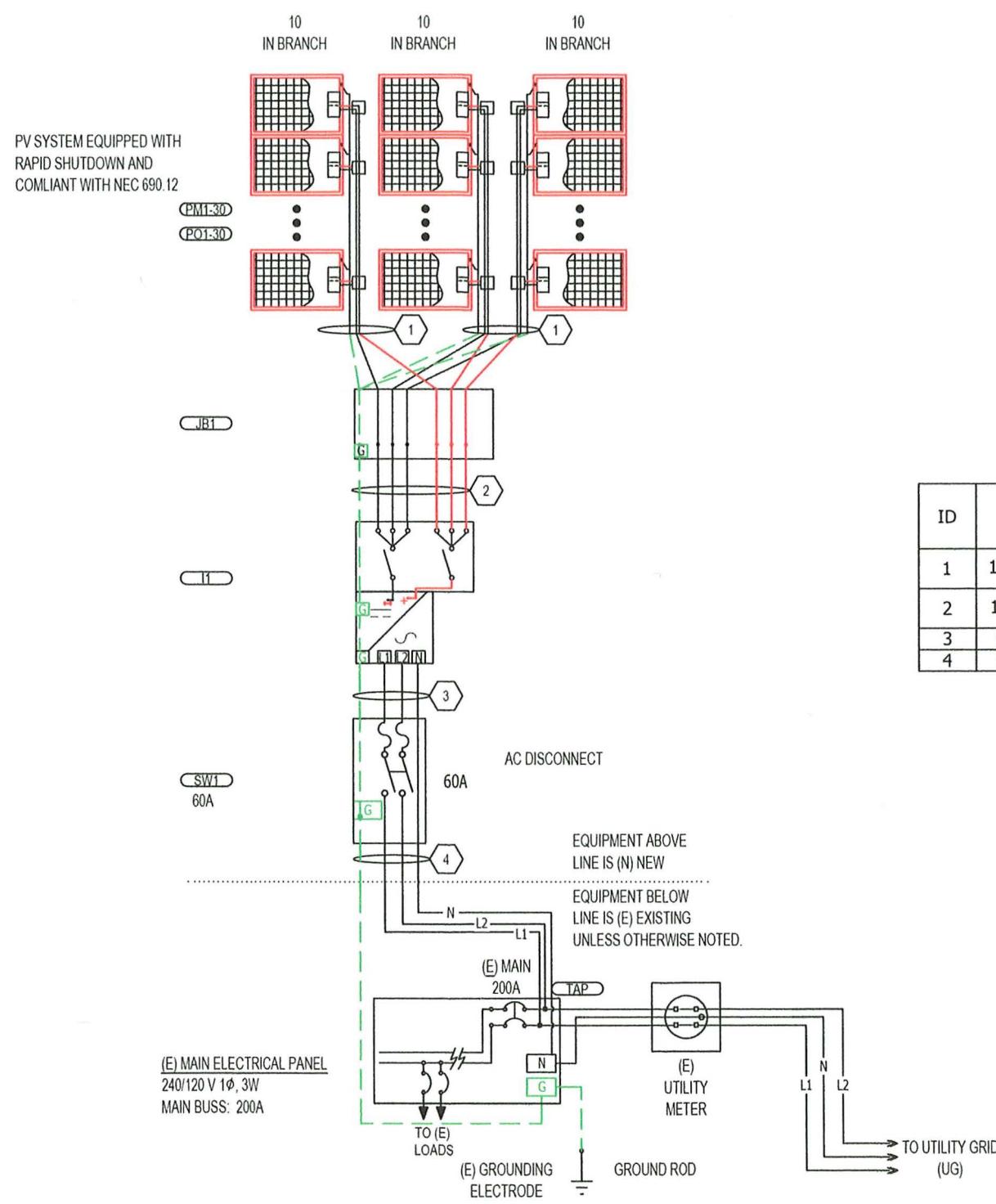
DAVID PRAIRIE RESIDENCE

RESIDENTIAL GRID INTERACTIVE SOLAR INSTALLATION
2204 MAPLE SWAMP ROAD, N. Dighton, MA 02764
APN: DIGHM001B00004L00000

SIGNAGE		
SYSTEM DC SIZE @ STC: 14.400 kW (30) HANWHA Q-CELLS Q.PEAK DUO XL-G10.3/BFG 480 (1) SOLAR EDGE SE1000H-US (240V)		
DRAWN BY: O.S.	CHECKED BY: M.M.	DATE: 09.01.2023
PAGE: PV-4		

EQUIPMENT DESCRIPTION

EQUIPMENT		
PM1-30	SOLAR MODULES BRAND	HANWHA Q-CELLS Q.PEAK DUO XL-G10.3/BFG 480 (480W), Voc:53.39V, Isc:11.12A
I1	INVERTER	SOLAR EDGE SE10000H-US (240V), RATED AC POWER:10000W
PO1-30	DC POWER OPTIMIZER	SOLAR EDGE P505
SW1	AC BLADE DISCONNECT	SQUARE D D222NRB, FUSED, 2-POLE, 60A, 240VAC
F1-2	FUSE	FUSE, 60A, 240VAC
JB1	JUNCTION BOX	TYP. 4"x4"



ID	CONDUCTOR	EGC	CONDUIT	NUMBER OF CONDUCTORS IN CONDUIT	CONDUIT FILL, %	TEMP. CORR. FACTOR	CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT (125%)	BASE AMP.	DERATED AMP.	VOLTAGE DROP
1	10 AWG PV WIRE, COPPER	6 AWG BARE, COPPER	FREE AIR	5	N/A	0.96 (32.5 °C)	1	15A	18.75A	55A	52.8A	
2	10 AWG THWN-2, COPPER	10 AWG THWN-2, COPPER	0.75" DIA PVC-40	7	29.09%	0.96 (32.5 °C)	0.8	15A	18.75A	40A	30.72A	1.02%
3	6 AWG THWN-2, COPPER	6 AWG THWN-2, COPPER	0.75" DIA EMT	4	38.03%	0.96 (32.5 °C)	1	42A	52.5A	75A	72A	
4	6 AWG THWN-2, COPPER	6 AWG THWN-2, COPPER	0.75" DIA EMT	4	38.03%	0.96 (32.5 °C)	1	42A	52.5A	75A	72A	

ELECTRICAL CHARACTERISTICS

INVERTER	(1) SOLAR EDGE SE10000H-US (240V)
MODULE	HANWHA Q-CELLS Q.PEAK DUO XL-G10.3/BFG 480 (480W)
NUMBER OF MODULES	30
ARRAY CIRCUITS	3 STRINGS OF 10
STC POWER OF ARRAY	14 400W
PTC POWER OF ARRAY	13 413W
DC STRING OPERATING CURRENT	12A, 12A, 12A
DC STRING MAX CURRENT	15A
ARRAY VMP	400V
NUMBER OF STRINGS	3
CEC POWER OUTPUT	10 000W
MAX AC OUTPUT CURRENT	42.0A

CONTRACTOR
WHALING CITY SOLAR
ADDRESS: 1213 PURCHASE ST, NEW BEDFORD,
MA 02740
PHONE: 508-4155-661
LICENSE: CS-114248



DAVID PRAIRIE RESIDENCE

RESIDENTIAL GRID INTERACTIVE SOLAR INSTALLATION
2204 MAPLE SWAMP ROAD, N. Dighton, MA 02764
APN: DIGHM001B00004L00000

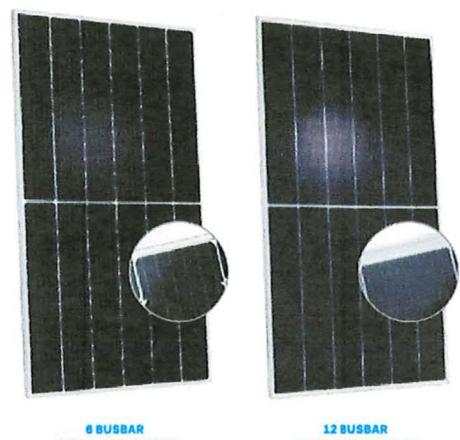
THREE LINE DIAGRAM

SYSTEM DC SIZE @ STC: 14.400 kW
(30) HANWHA Q-CELLS Q.PEAK DUO XL-G10.3/BFG 480
(1) SOLAR EDGE SE10000H-US (240V)

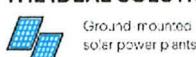
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PV-5



THE IDEAL SOLUTION FOR:



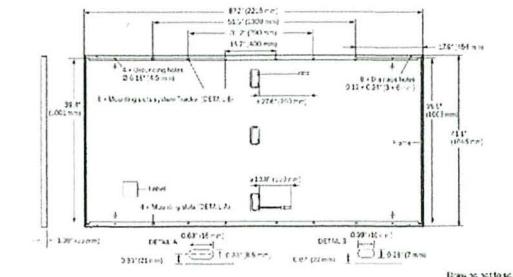
Ground-mounted solar power plants

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	87.2 in x 41.1 in x 1.38 in (including frame) (2216 mm x 1045 mm x 35 mm)
Weight	64.2 lbs (29.1 kg)
Front Cover	0.08 in (2.0 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.05 in (2.0 mm) semi-tempered glass
Frame	Anodized aluminum
Cell	6 x 26 monocrystalline Q.ANTUM solar half cells
Junction Box	2.09 x 3.98 in x 1.26 x 2.36 in x 0.59 x 0.71 in (53 x 101 mm x 32 x 60 mm x 15 x 18 mm), IP67, with bypass diodes
Cable	4 mm ² Solar cable; (1) ≥ 2.6 in (700 mm), (1) ≥ 13.8 in (350 mm)
Connector	Stäubli MC4, Stäubli MC4-Evo2, Hanwha Q CELLS HQC4, IP68



ELECTRICAL CHARACTERISTICS

POWER CLASS	475		480		485		490		
	MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ AND BSTC ¹ (POWER TOLERANCE +5W/-0W)		STC*		STC*		STC*		
Power at MPP ²	P _{MPP} [W]	475	519.6	480	525.0	485	530.5	490	536.0
Short Circuit Current ¹	I _{SC} [A]	11.08	12.12	11.12	12.17	11.16	12.21	11.20	12.26
Open Circuit Voltage ¹	V _{OC} [V]	53.15	53.34	53.39	53.58	53.63	53.82	53.86	54.06
Current at MPP	I _{MPP} [A]	10.56	11.54	10.59	11.58	10.63	11.63	10.67	11.67
Voltage at MPP	V _{MPP} [V]	45.03	45.02	45.33	45.32	45.63	45.62	45.93	45.92
Efficiency ¹	η [%]	≥ 20.5	≥ 22.4	≥ 20.7	≥ 22.7	≥ 20.9	≥ 22.9	≥ 21.2	≥ 23.1

Bifaciality of P_{MPP} and I_{SC} 70% ± 5% • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

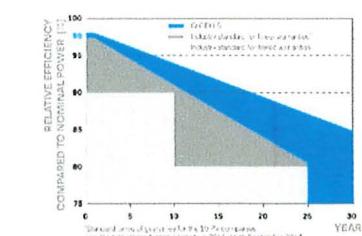
¹Measurement tolerances P_{MPP} ± 3%; I_{SC}, V_{OC} ± 5% at STC: 1000 W/m²; ± 5 °C; BSTC: 1300 W/m² - ϕ × 135 W/m²; ϕ = 70% ± 5%, 25 = 2°C, AM 1.5 according to IEC 60904-3

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²

Power at MPP	P _{MPP} [W]	357.6	361.4	365.1	368.9
Short Circuit Current	I _{SC} [A]	8.92	8.96	8.99	9.02
Open Circuit Voltage	V _{OC} [V]	50.27	50.49	50.72	50.95
Current at MPP	I _{MPP} [A]	8.30	8.34	8.37	8.40
Voltage at MPP	V _{MPP} [V]	43.06	43.35	43.63	43.92

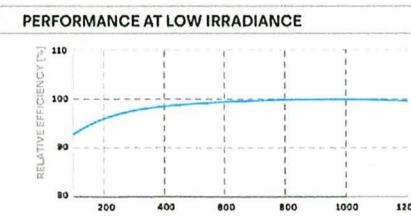
• 800 W/m², NMOT, spectrum AM 1.5

Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.45% degradation per year. At least 93.95% of nominal power up to 10 years. At least 84.9% of nominal power up to 30 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²)

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α [%/K]	+0.04	Temperature Coefficient of V _{OC}	β [%/K]	-0.27
Temperature Coefficient of P _{MPP}	γ [%/K]	-0.34	Nominal Module Operating Temperature NMOT	T [°F]	108 ± 5.4 (42 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V _{SS} [V]	1500	PV module classification	Class II
Maximum Series Fuse Rating [A DC]	20	Fire Rating based on ANSI/UL 61730	TYPE 20 ¹
Max. Design Load, Push / Pull ² [lbs/in ²]	75 (3600 Pa) / 33 (1600 Pa)	Permitted Module Temperature on Continuous Duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push / Pull ² [lbs/in ²]	113 (5400 Pa) / 50 (2400 Pa)		

¹See Installation Manual

²New Type is similar to Type 3 but with metallic frame

QUALIFICATIONS AND CERTIFICATES



Horizontal packaging	89.4 in	43.1 in	47.6 in	1975 lbs	20	20	29
	2270 mm	1095 mm	1210 mm	896 kg	pallets	pallets	
Vertical packaging	90.8 in	45.3 in	47.4 in	2013 lbs	20	20	30
	2305 mm	1150 mm	1205 mm	913 kg	pallets	pallets	

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.
400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / **SE10000H-US** / SE11400H-US



Optimized installation with HD-Wave technology

- ✓ Specifically designed to work with power optimizers
- ✓ Record-breaking 99% weighted efficiency
- ✓ Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- ✓ Fixed voltage inverter for longer strings
- ✓ Integrated arc fault protection and rapid shutdown for NEC 2014, NEC 2017 and NEC 2020 per article 690.11 and 690.12
- ✓ UL1741 SA certified, for CPUC Rule 21 grid compliance
- ✓ Small, lightweight, and easy to install both outdoors or indoors
- ✓ Built-in module-level monitoring
- ✓ Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

solaredge.com

INVERTERS

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / **SE10000H-US** / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (21 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)					59.3 - 60 - 60.5 ⁽¹⁾			Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor					1, Adjustable - 0.85 to 0.85			
GFDI Threshold					1			A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds					Yes			
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded					Yes			
Maximum Input Voltage				480				Vdc
Nominal DC Input Voltage			380			400		Vdc
Maximum Input Current @240V ⁽²⁾	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V ⁽²⁾	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current				45				Adc
Reverse-Polarity Protection					Yes			
Ground-Fault Isolation Detection					600mA Sensitivity			
Maximum Inverter Efficiency	99				99.2			%
CEC Weighted Efficiency				99			99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption				< 2.5				W

(1) For other regional settings please contact SolarEdge support

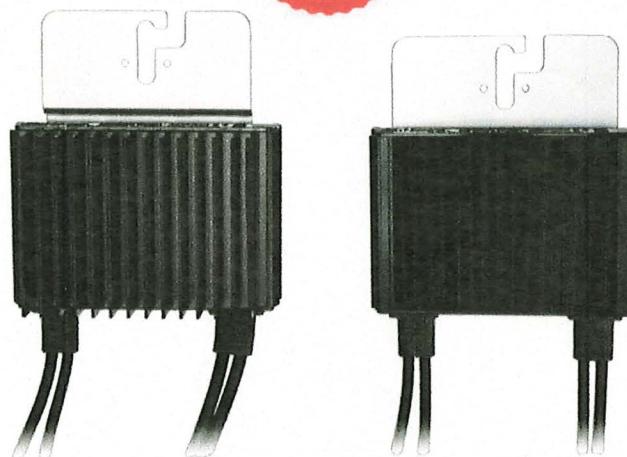
(2) A higher current source may be used, the inverter will limit its input current to the values stated

solaredge

Power Optimizer For North America

P370 / P400 / P401 / P485 / **P505**

25
YEAR
WARRANTY



PV power optimization at the module level

- ✓ Specifically designed to work with SolarEdge inverters
- ✓ Fast installation with a single bolt
- ✓ Up to 25% more energy
- ✓ Next generation maintenance with module-level monitoring
- ✓ Superior efficiency (99.5%)
- ✓ Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- ✓ Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- ✓ Module-level voltage shutdown for installer and firefighter safety
- ✓ Flexible system design for maximum space utilization

POWER OPTIMIZER

Power Optimizer

For North America

P370 / P400 / P401 / P485 / **P505**

Optimizer model (typical module compatibility)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P401 (for high power 60 and 72-cell modules)	P485 (for high-voltage modules)	P505 (for higher current modules)
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INPUT

Rated Input DC Power ⁽¹⁾	370	400	430	485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	60	80	60	125 ⁽²⁾	83 ⁽²⁾	Vdc
MPPT Operating Range	8 - 60	8 - 80	8 - 60	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11	10.1	12.5	11	14	Adc
Maximum DC Input Current	13.75	12.5	14.65	12.5	17.5	
Maximum Efficiency			99.5			%
Weighted Efficiency			98.8			%
Overvoltage Category			II			

OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)

Maximum Output Current	15	Adc
Maximum Output Voltage	60	Vdc

OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)

Safety Output Voltage per Power Optimizer	1 ± 0.1	Vdc
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STANDARD COMPLIANCE

EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3			
Safety	IEC62109-1 (class II safety), UL1741, NEC/PVRSS			
Material	UL94 V-0, UV Resistant			
RoHS	Yes			

INSTALLATION SPECIFICATIONS

Maximum Allowed System Voltage	1000				Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters				
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 153 x 29.5 / 5.1 x 6 x 1.16	129 x 159 x 49.5 / 5.1 x 6.3 x 1.9	129 x 162 x 59 / 5.1 x 6.4 x 2.3
Weight (including cables)	630 / 1.4	750 / 1.7	655 / 1.5	845 / 1.9	1064 / 2.3
Input Connector	MC4 ⁽³⁾	MC4 ⁽³⁾	MC4 ⁽³⁾	MC4 ⁽³⁾	MC4 ⁽³⁾
Input Wire Length ⁽⁴⁾	0.16 / 0.5				m / ft
Output Wire Type / Connector	Double Insulated / MC4				
Output Wire Length	1.2 / 3.9				m / ft
Operating Temperature Range ⁽⁵⁾	-40 to +85 / -40 to +185				
Protection Rating	IP68 / NEMA6P				
Relative Humidity	0 - 100				

(1) Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed.

(2) NEC 2017 requires max input voltage be not more than 80V

(3) For other connector types please contact SolarEdge

(4) Longer inputs wire lengths are available for use. For 0.9m input wire length order P401-xxxLxx

(5) For ambient temperature above +85 °C / +185 °F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details: <https://www.solaredge.com/sites/default/files/se-temperature-de-rating-note-n.pdf>

PV System Design Using a SolarEdge Inverter ⁽⁶⁾⁽⁷⁾	Single Phase HD-Wave	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid
Minimum String Length (Power Optimizers)	P370, P400, P401 P485, P505	8	10	18
Maximum String Length (Power Optimizers)		6	8	14
Maximum Power per String	5700 ⁽⁸⁾ (6000 with SE7600-US - SE11400-US)	5250 ⁽⁹⁾	6000 ⁽⁸⁾	12750 ⁽¹⁰⁾
Parallel Strings of Different Lengths or Orientations		Yes		

(6) For detailed string sizing information, refer to http://www.solaredge.com/sites/default/files/string_sizing.pdf

(7) It is not allowed to mix P485/P505 with P370/P400/P401 in one string

(8) A string with more than 30 optimizers does not meet NEC rapid shutdown requirements, safety voltage will be above the 30V requirement

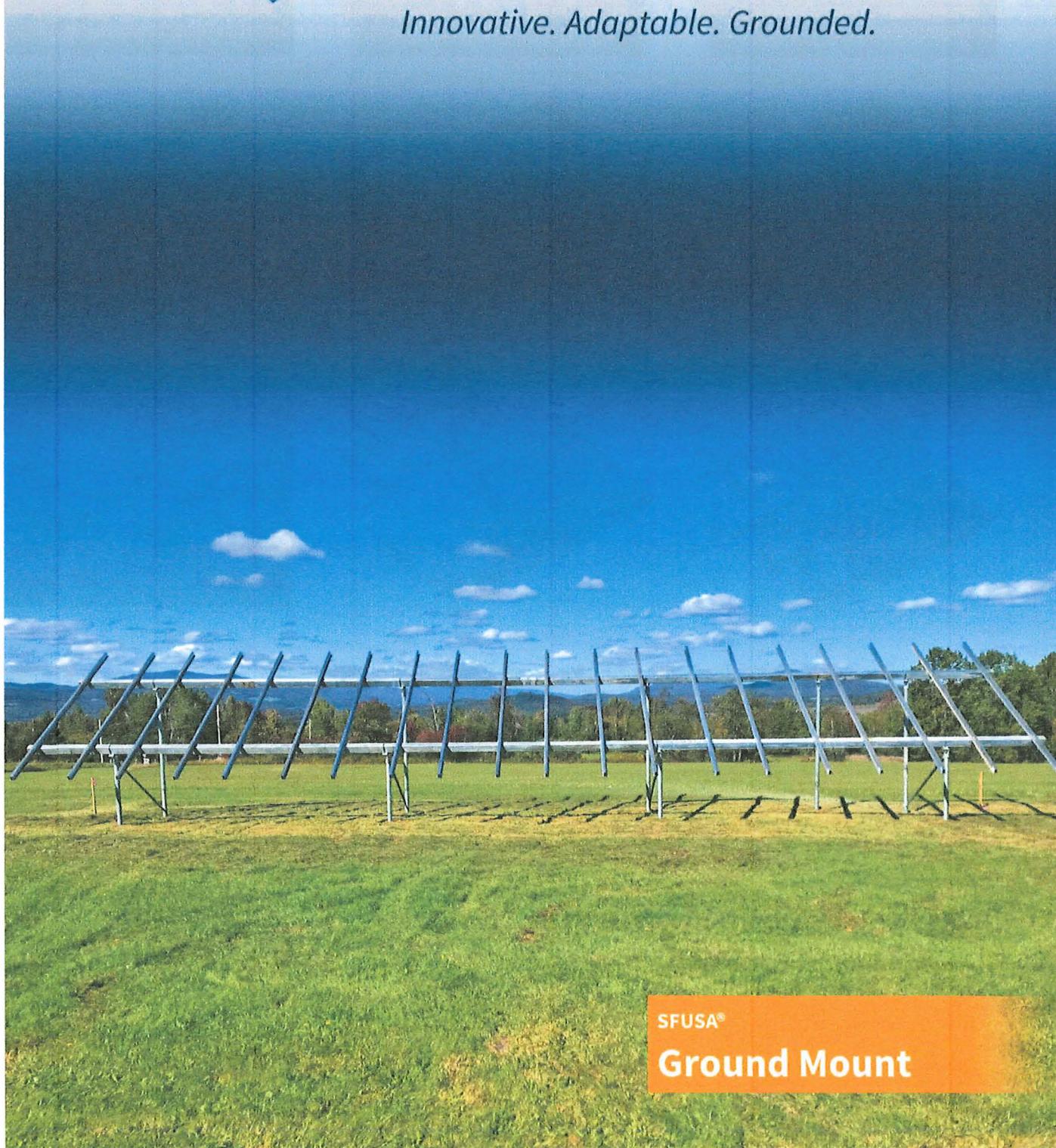
(9) For the 208V grid, it is allowed to install up to 6,500W per string when the maximum power difference between each string is 1,000W

(10) For 277/480V grid, it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W



Solar Foundations® USA

Innovative. Adaptable. Grounded.



SFUSA®

Ground Mount

Adaptable Ground Screw Fixed Tilt System

The SFUSA® Ground Mount system is the optimal solution for residential and light commercial solar projects. By custom designing and manufacturing components in-house, Solar Foundations' structure fits and functions together seamlessly, installs in far less time and with greater strength. The highest quality materials such as high-grade steel fully galvanized in accordance with ASTM standards and high-strength aluminum alloys for our panel support rails are utilized for long-term durability. Designed to withstand high snow and wind areas, the UL 2703 classified system has an expected lifespan that exceeds multiple panel lifecycles. Thus, Solar Foundations' product maximizes the residual investment of your ground mount structure.

Features

Solar Foundations' patented rail design offers a simple connection detail between the panel support rail and the horizontal support beams.

The patented telescopic design of the SFUSA Wind Brace allows quick and easily adaptable length changes to match installation conditions where significant adjustability is required.

Our foundations feature wider spans between support columns and stronger members. We engineered our system to obtain a better balance between all of the system components, resulting in less ground penetrations, a lower installed cost and has allowed us to offer further cost optimizations and array configurations that are not typically available in the industry.

A two-man crew can typically install up to about a 25kW residential structure in a single day.

SFUSA has developed processes and equipment that permits the installation of our patent pending ground screws in any soil conditions including solid rock.



✓ Allows for mounting panels in four-, five- or six-high in landscape orientation and can be adapted to custom configurations

✓ Durable design enables any wind speed and snow load

✓ 0° to 40° tilt with multiple inter-row spacing options

✓ Compatible with a wide range of modules

✓ Pile verification report available after the installation has been completed

✓ 25-year guarantee against failure



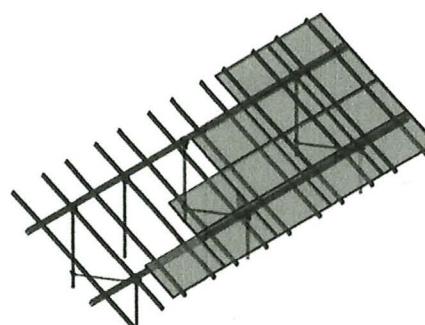
SFUSA®

Ground Mount

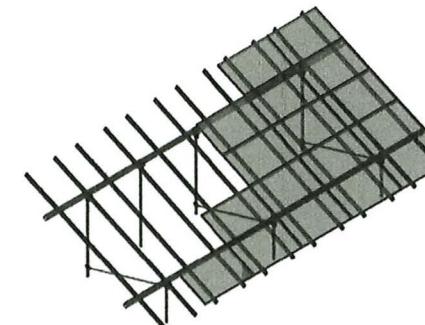
Let us simplify your **ground mount** structure process.

We're more than just a **racking company**.

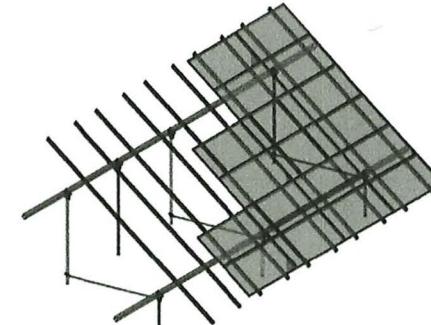
FT4L
Fixed Tilt 4 Landscape



FT5L
Fixed Tilt 5 Landscape

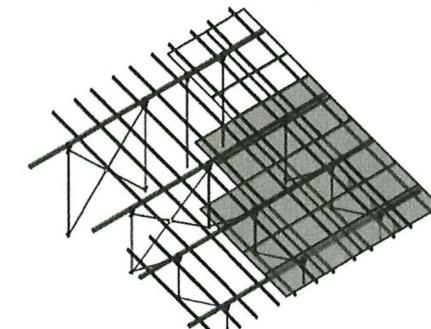
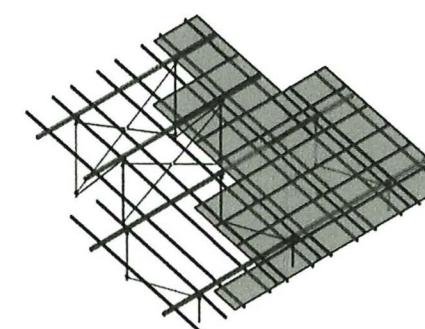


FT6L
Fixed Tilt 6 Landscape



Custom

SFUSA® has the ability to come up with creative structures and products outside of our standard systems for unique situations.



Materials	Hot-dipped galvanized steel, aluminum, stainless-steel mounting hardware
Tilt Angle	0° - 40°
Module Orientation	Landscape
Finishes	Galvanized
Foundation Options	Ground Screw - All soils including rock drilling
Grounding	Integrated or WEEB Bonding
Maximum Grade of Terrain	15°
Design Services	Signed & sealed structural drawings
Certifications	UL 2703
Warranty	25 years
Installation Services	Material, foundations, racking

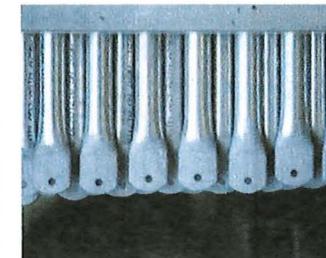
**LESS PILES
LARGER SPANS**
**UP TO 15°
TERRAIN SLOPES**

Substructure Assembly

Horizontal Support Beam



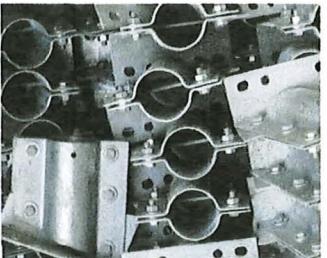
Diagonal Wind Brace and Insert



Diagonal Wind Brace Column Connector



Column Caps



We provide maximum support for our structure by utilizing high yield strength hollow structural steel sections on our racking systems.

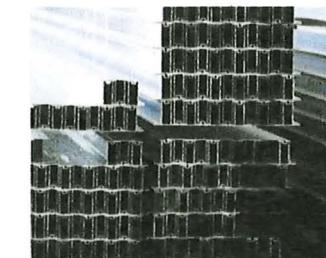
Our patented telescopic design allows quick and easily adaptable length changes to match installation conditions.

Solar Foundations' hot-dipped galvanized custom Wind Brace Column Connectors fasten the Diagonal Wind Brace to a vertical column.

Our unique design allows a straightforward connection to the horizontal steel support beam.

Racking Assembly

Ground Mount Rail



Module End Clamp



Module Mid Clamp



Grounding



Solar Foundations' patented rail design offers a simple connection detail between the panel support rail and the horizontal support beams, allowing 6 modules per column in landscape orientation.

Our end clamp design securely fastens the top and bottom edges of a column of solar panels to the SF Rail.

The mid clamp fastens two adjoining solar panels in a column of solar panels to the SF Rail. Our sleek design with multiple serrations increases the holding power of the modules to our SF Rails.

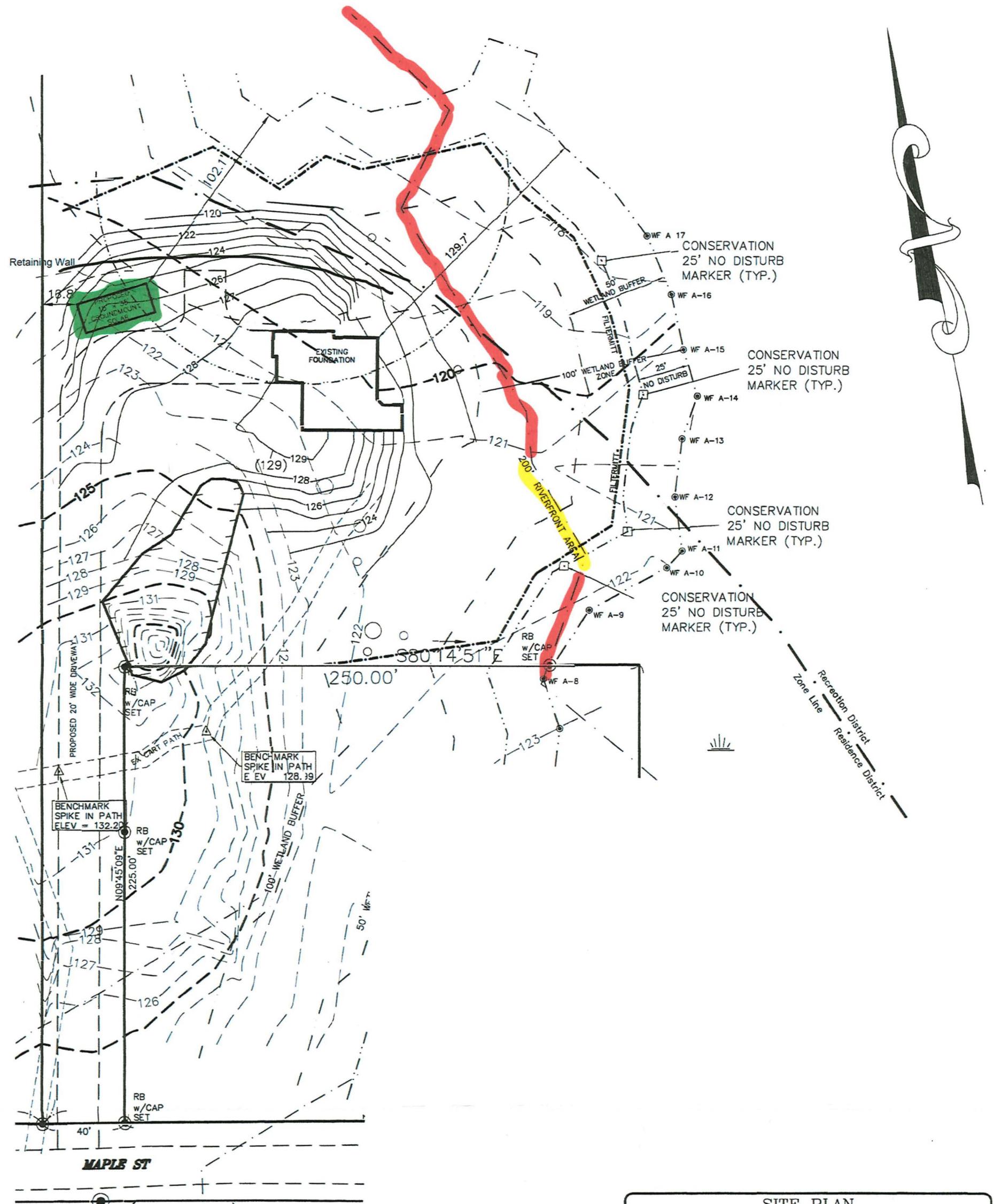
Our UL 2703 Certification encompasses the rail to beam and beam to pile connections, permitting the use of a single grounding lug for the entire racking system.

Contact us at info@solarfoundationsusa.com or (855) 738-7200.

Solar Foundations USA®, Inc.
1142 River Road, New Castle, DE 19720
Phone (855) 738-7200
Fax (866) 644-5665
www.solarfoundationsusa.com

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 **Solar Foundations®**
USA



SITE PLAN

PREPARED FOR: DAVID PRARIE 2204 MAPLE SWAMP RD DIGHTON MA 02764		SCALE: 1" = 30' DATE: 5/1/2023 DRAWN: M.H. DESIGN: TC CHECKED: TC
		PROJECT NO. 19-280
		SHEET NO. 1 OF 1