PROJECT DESCRIPTION:

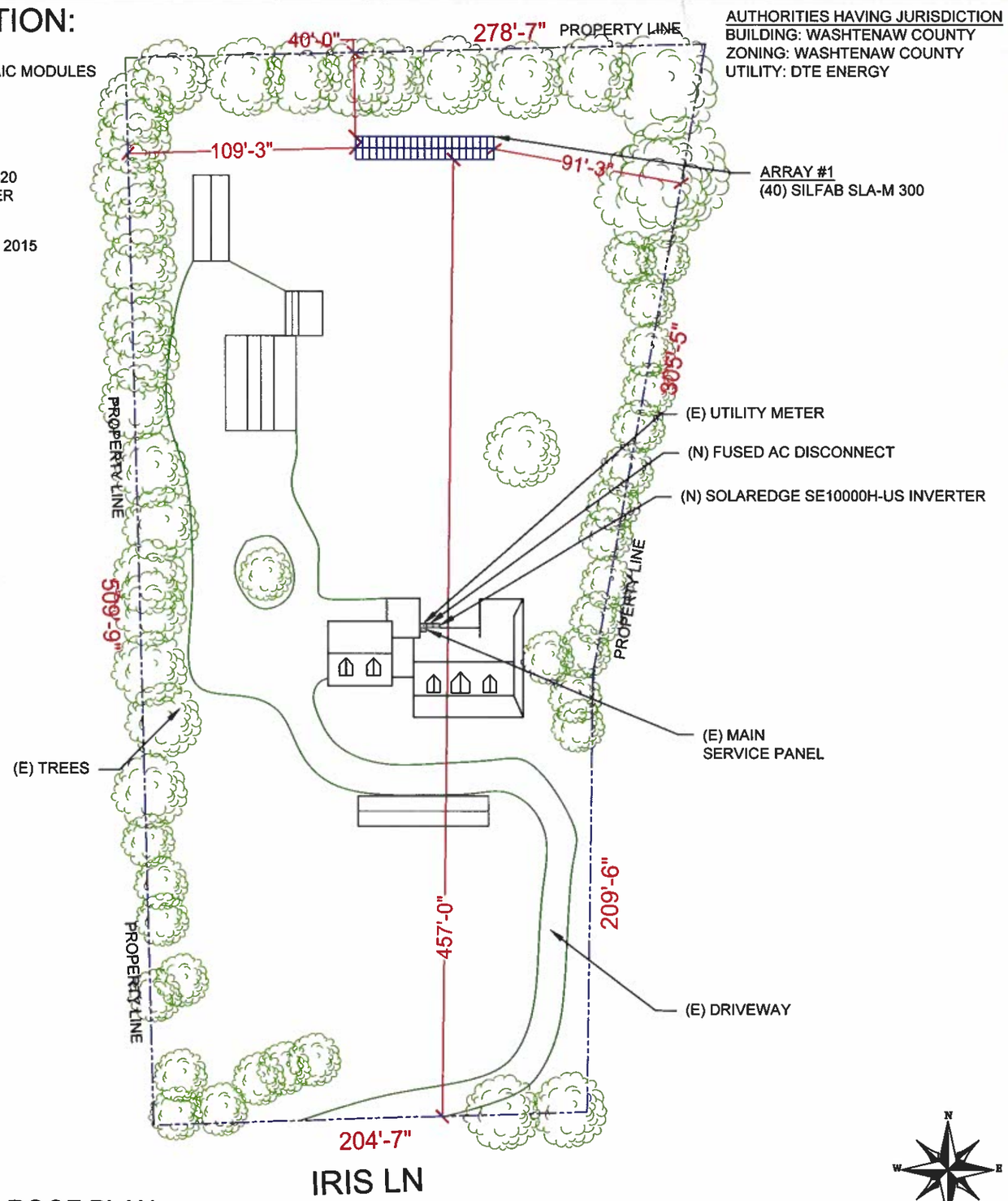
40 x SILFAB SLA-M 300 MODULES
GROUND MOUNTED SOLAR PHOTOVOLTAIC MODULES
SYSTEM SIZE: 12 kW DC STC
ARRAY AREA:ROOF #1- 703.2 SQ FT.

EQUIPMENT SUMMARY
40 SILFAB SLA-M 300 MODULES
40 SOLAREDGE POWER OPTIMIZER P320
01 SOLAREDGE SE10000H-US INVERTER

APPLICABLE CODES & STANDARDS
BUILDING: MICHIGAN RESIDENTIAL CODE 2015
ELECTRICAL: NEC 2017

DESIGN SPECIFICATIONS
OCCUPANCY: II
CONSTRUCTION: SINGLE-FAMILY
ZONING: RESIDENTIAL
GROUND SNOW LOAD: 20 PSF
WIND EXPOSURE: B
WIND SPEED: 115 PSF

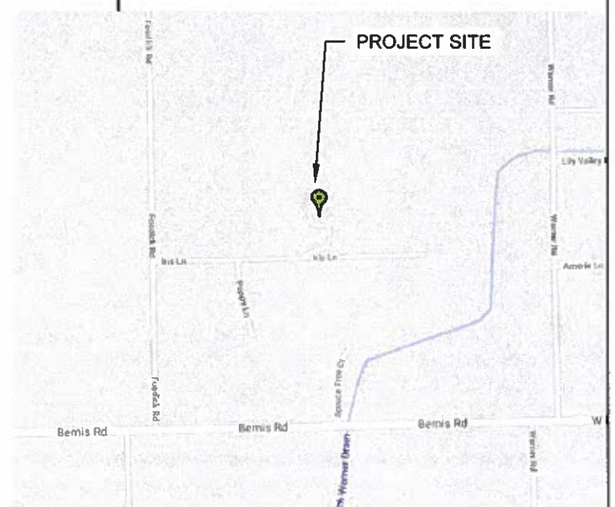
AUTHORITIES HAVING JURISDICTION
BUILDING: WASHTENAW COUNTY
ZONING: WASHTENAW COUNTY
UTILITY: DTE ENERGY



1 PLOT PLAN WITH ROOF PLAN
PV-1 SCALE: 1/32"=1'-0"

NOTE: GROUNDMOUNT LOCATION TBD ON-SITE

2 HOUSE PHOTO
PV-1 SCALE: NTS



3 VICINITY MAP
PV-1 SCALE: NTS

SHEET INDEX

PV-1	PLOT PLAN & VICINITY MAP
PV-2	ROOF PLAN & MODULES
PV-2A	STRING LAYOUT
PV-3	RACKING DETAILS
PV-3A	RACKING DETAILS
PV-4	ELECTRICAL LINE DIAGRAM
PV-5	WIRING CALCULATIONS
PV-6	SOLAREDGE OPTIMIZER CHART
PV-7 to 10	EQUIPMENT SPECIFICATIONS

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POWER HOME SOLAR, LLC
"POWER YOUR FUTURE"
919 N. MAIN ST.
MOORESVILLE, NC 28115
Phone: 704-800-6591 (OFFICE)
Email: info@powerhome.com
Web: www.powerhome.com

REVISIONS

DESCRIPTION	DATE	REV
REVISION	03/11/2019	A

Signature with Seal

DATE: 02/05/2019

PROJECT NAME & ADDRESS

CHRIS LEADBETTER RESIDENCE
400 IRIS LN
SALINE MI 48176

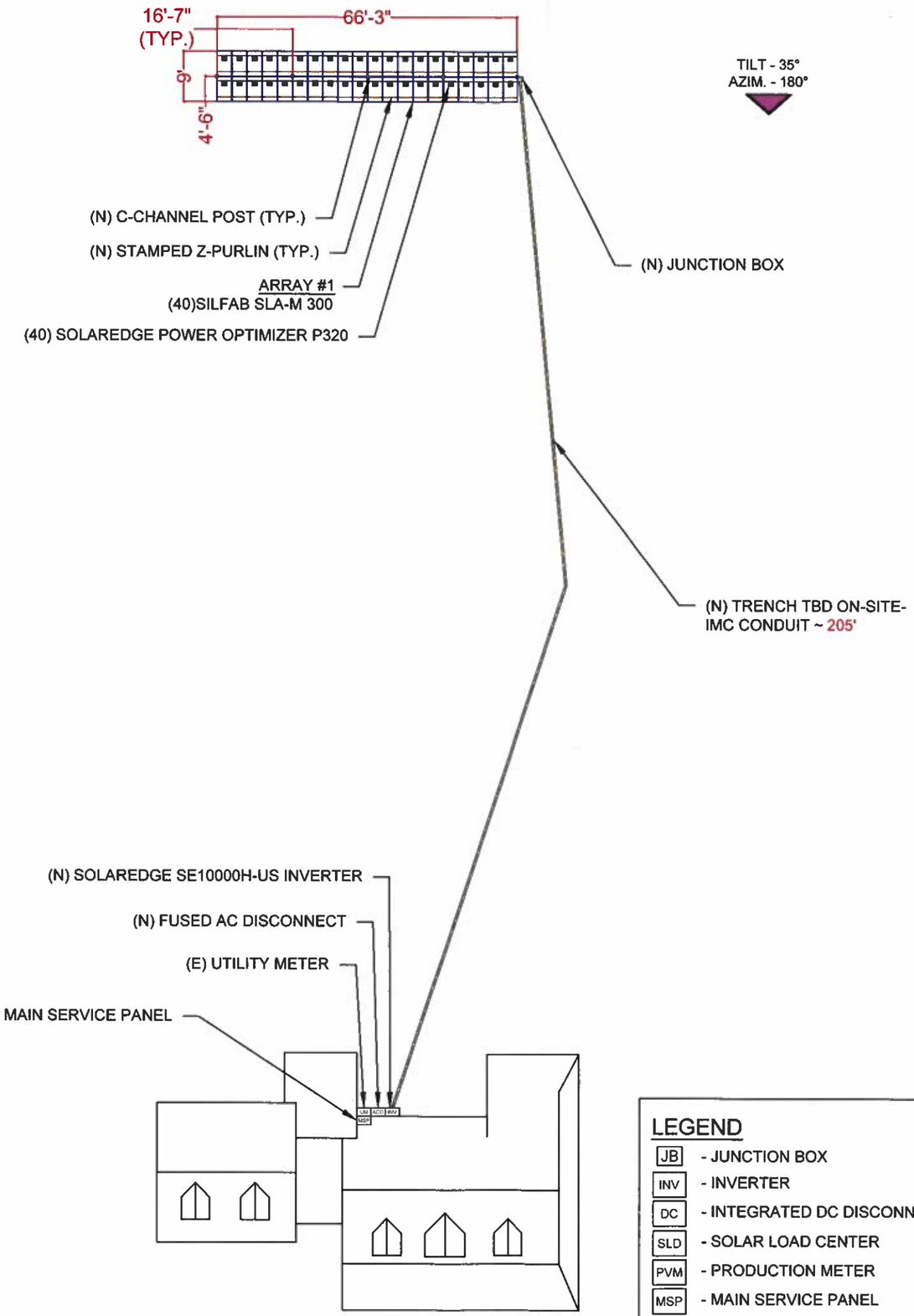
SHEET NAME
PLOT PLAN & VICINITY MAP

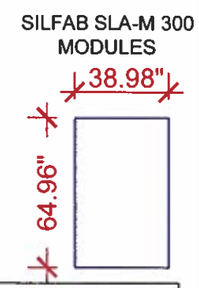
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 40 MODULES
MODULE TYPE = SILFAB SLA-M 300 MODULES
MODULE WEIGHT = 41.89 LBS / 19 KG.
MODULE DIMENSIONS = 64.96"x 38.98" = 17.58 SF





LEGEND

JB	- JUNCTION BOX		- VENT, ATTIC FAN (ROOF OBSTRUCTION)
INV	- INVERTER		- ROOF ATTACHMENT
DC	- INTEGRATED DC DISCONNECT		- RAFTERS
SLD	- SOLAR LOAD CENTER		- CONDUIT
PVM	- PRODUCTION METER	CB	- COMBINER BOX
MSP	- MAIN SERVICE PANEL		

1 ROOF PLAN & MODULES
PV-2 SCALE: 1/32"=1'-0"

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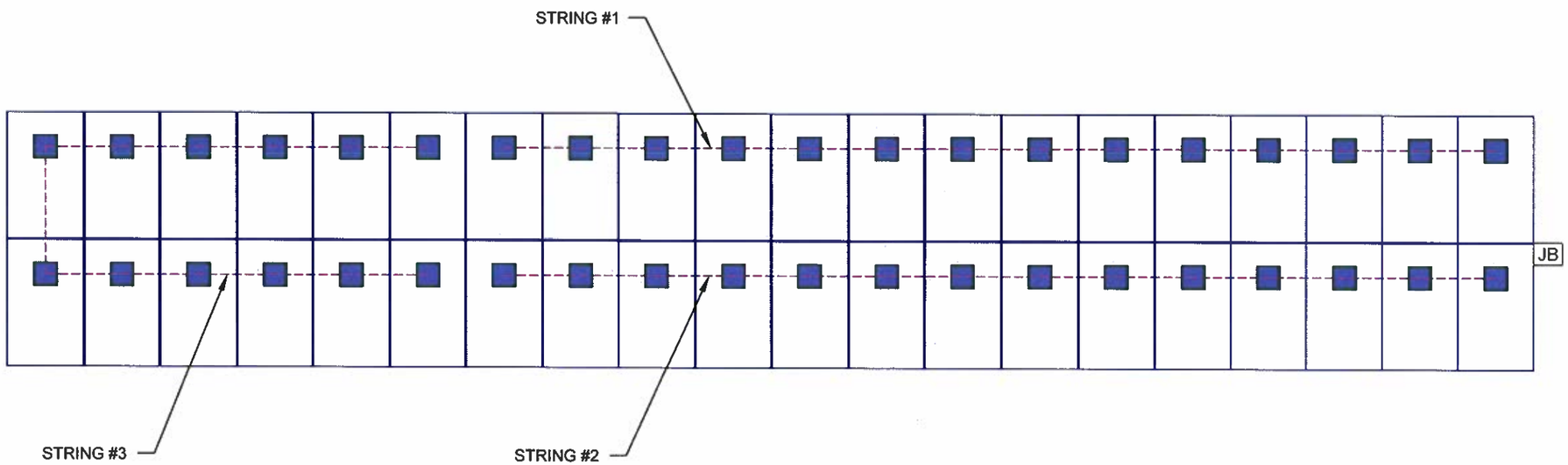
CHRIS LEADBETTER RESIDENCE
400 IRIS LN
SALINE MI 48176

SHEET NAME
ROOF PLAN & MODULES

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2



1 ROOF PLAN WITH STRING LAYOUT

PV-2A

SCALE: 0.014477

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400 IRIS LN
SALINE MI 48176

SHEET NAME

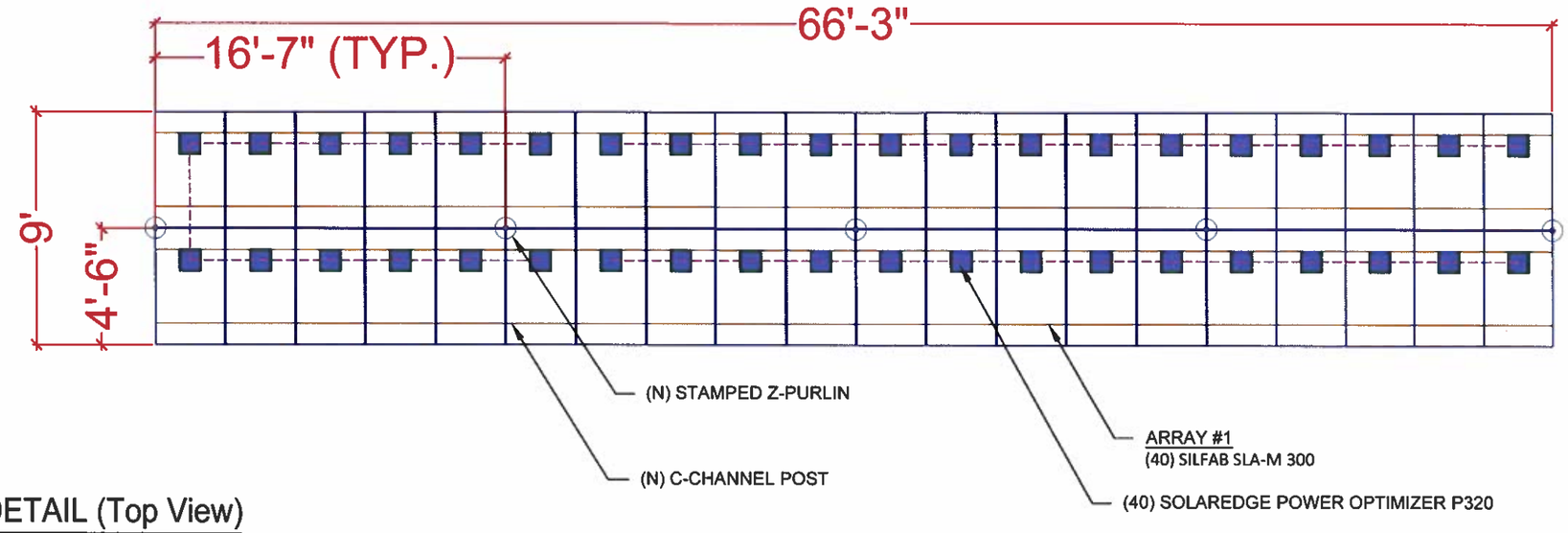
STRING LAYOUT

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

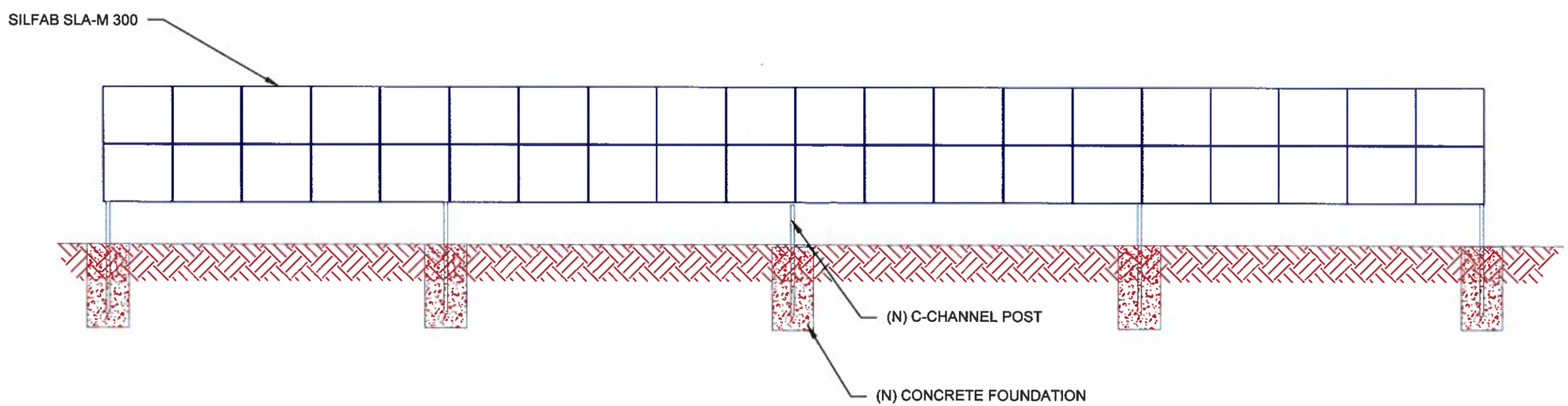
PV-2A



1 RACKING DETAIL (Top View)

PV-3

SCALE: 37/256" = 1'-0"



2 RACKING DETAIL (Front View)

PV-3

SCALE: 11/64" = 1'-0"

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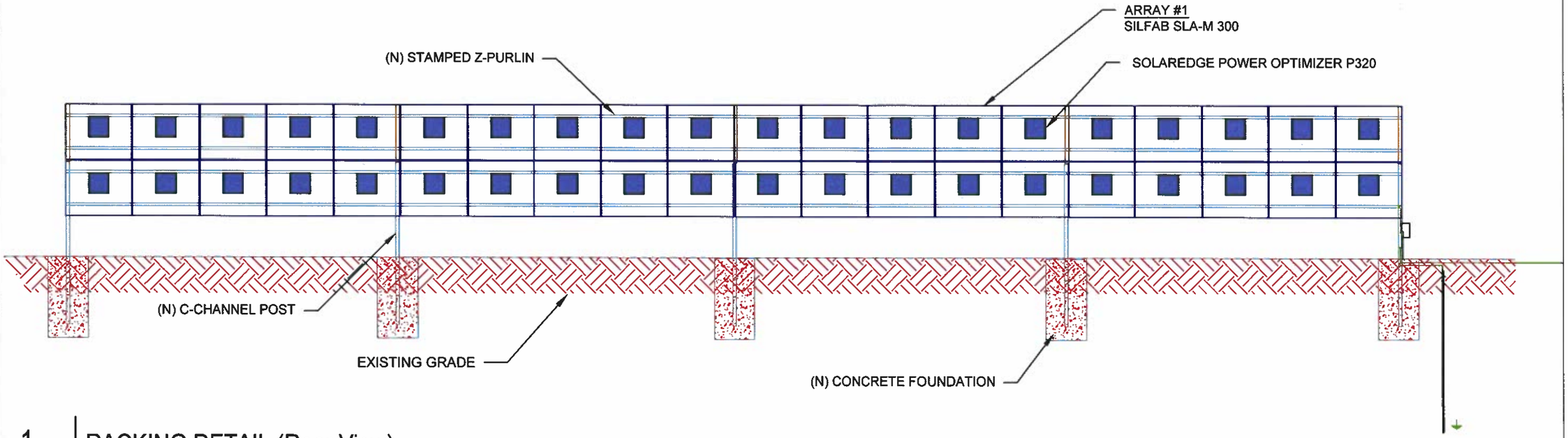
CHRIS LEADBETTER RESIDENCE

400 IRIS LN
SALINE MI 48176

SHEET NAME
GROUNDING DETAIL

SHEET SIZE
ANSI B
11" X 17"

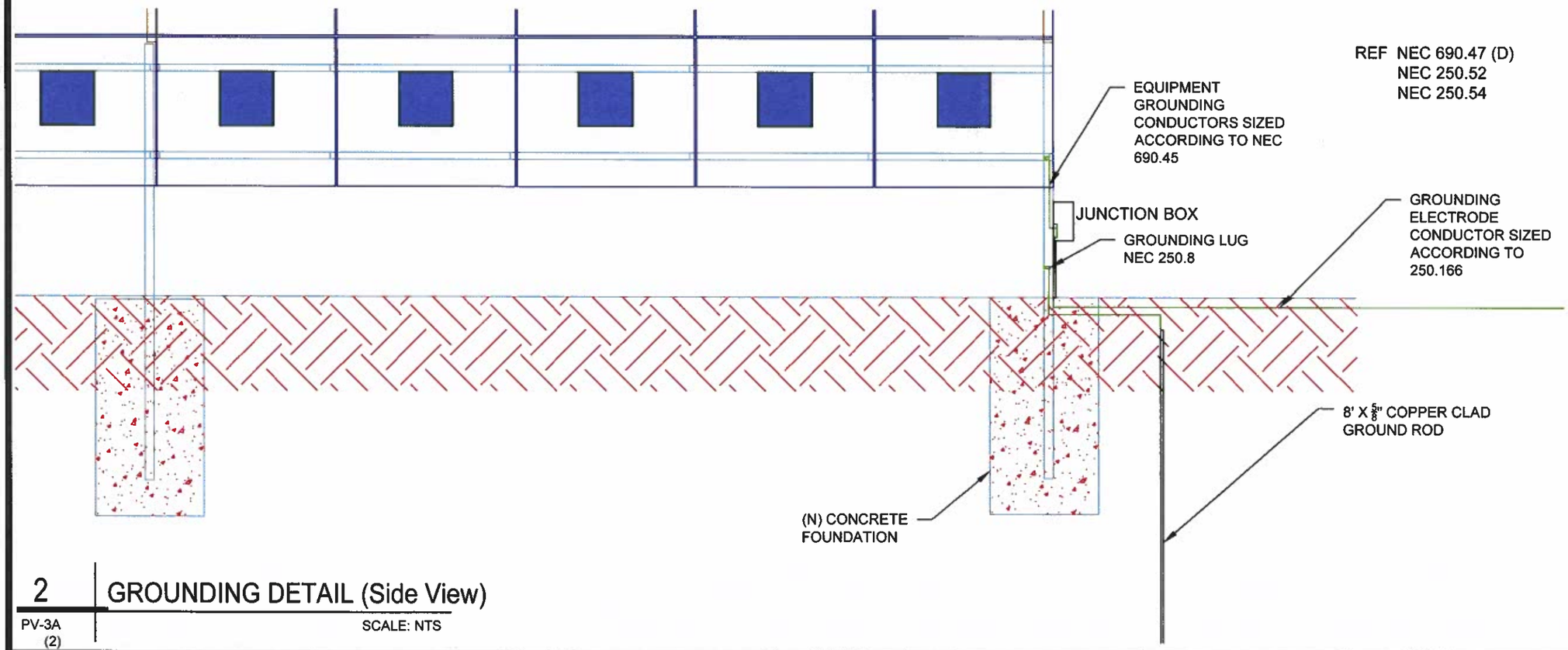
SHEET NUMBER
PV-3



1 RACKING DETAIL (Rear View)

PV-3A (2)

SCALE: 49/256" = 1'-0"



2 GROUNDING DETAIL (Side View)

PV-3A (2)

SCALE: NTS

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400 IRIS LN
SALINE MI 48176

SHEET NAME

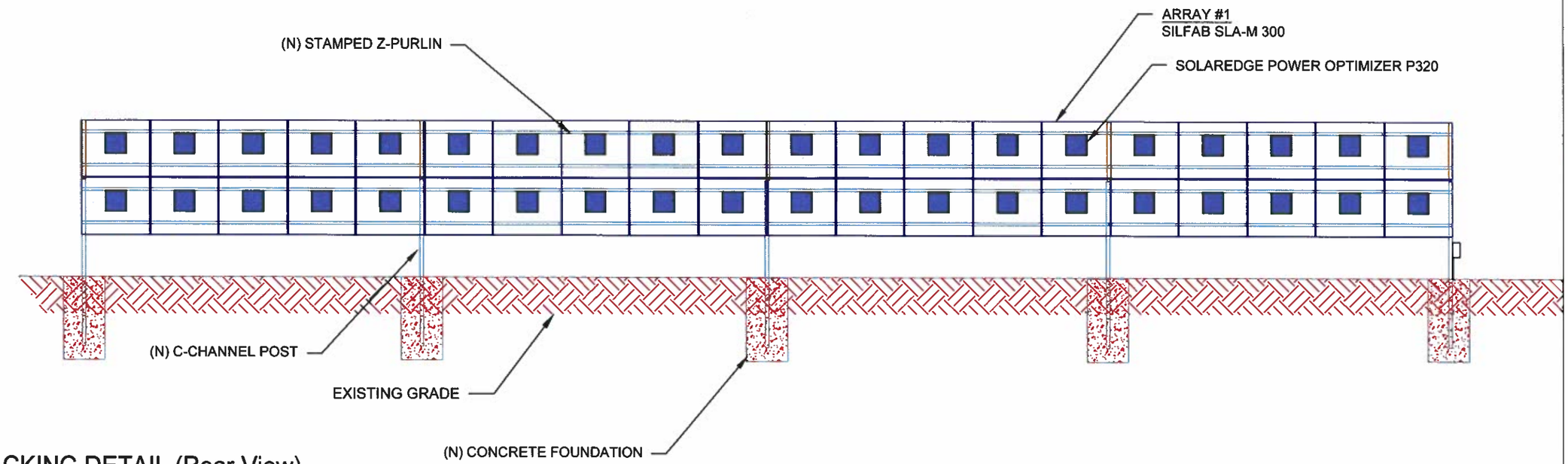
GROUNDING DETAIL

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

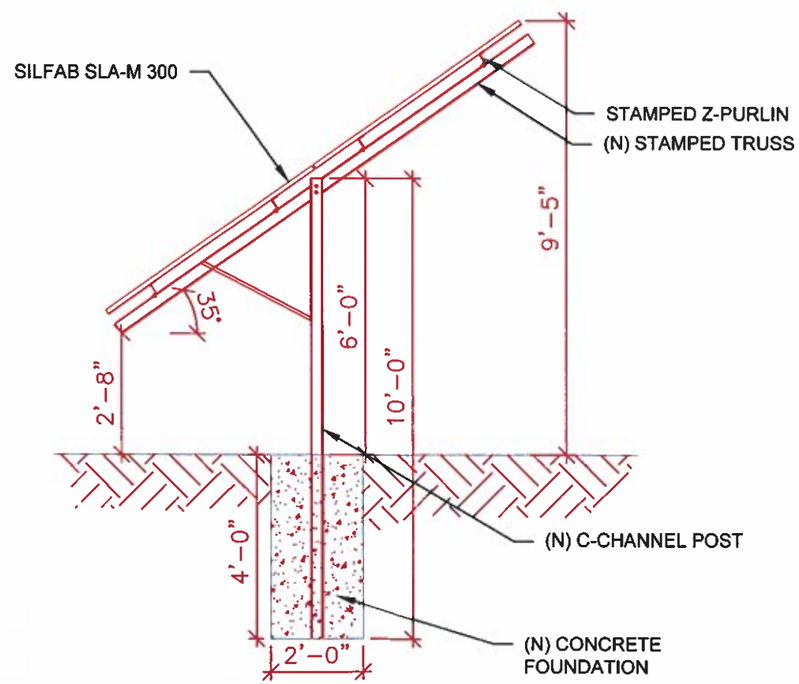
PV-3A (2)



1 RACKING DETAIL (Rear View)

PV-3A

SCALE: 23/128" = 1'-0"



2 RACKING DETAIL (Side View)

PV-3A

SCALE: NTS

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CHRIS LEADBETTER RESIDENCE

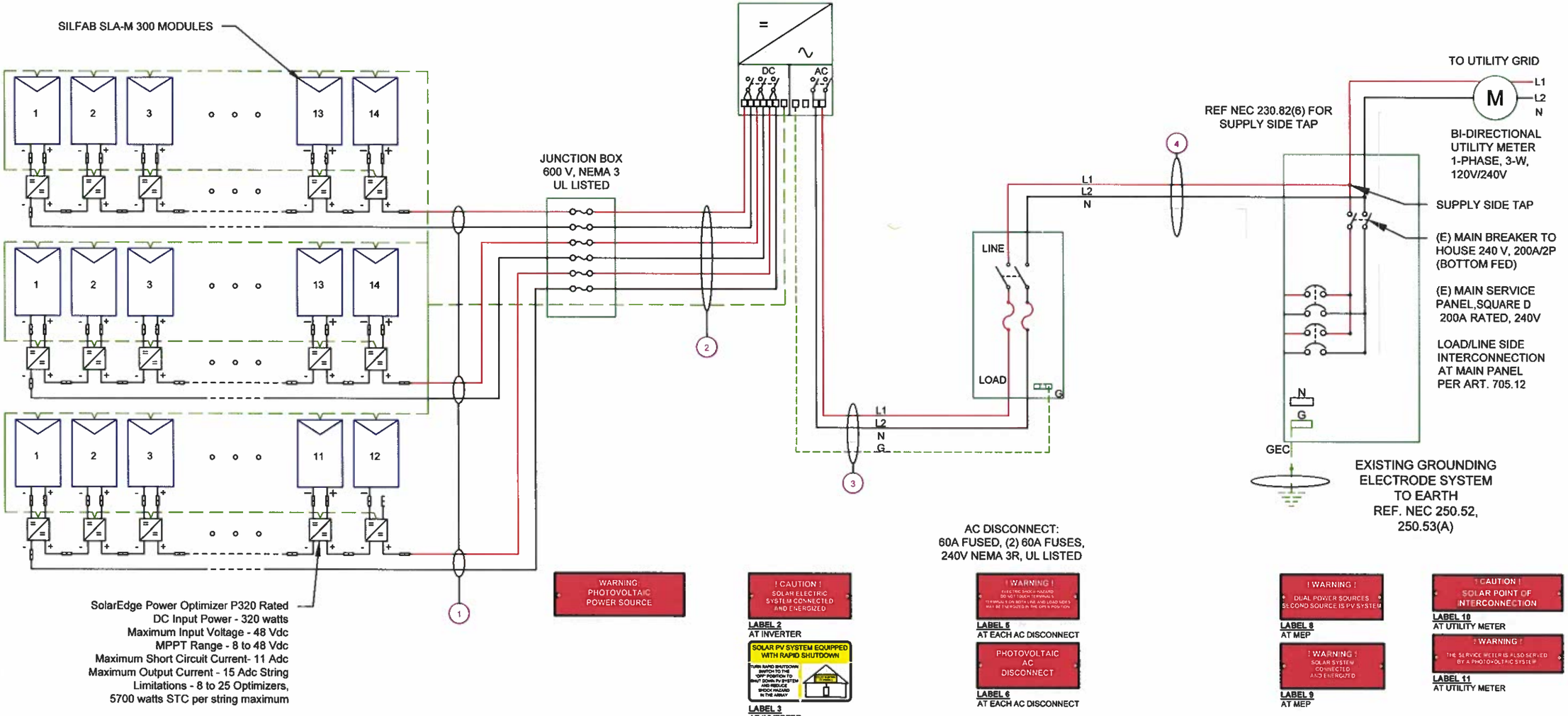
400 IRIS LN
SALINE MI 48176

SHEET NAME
GROUNDING DETAIL

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3A

(40) MISSION SOLAR MSE305 SQ5T
(1) STRING OF 12 MODULES CONNECTED IN SERIES
(2) STRING OF 14 MODULES CONNECTED IN SERIES



AC DISCONNECT:
60A FUSED, (2) 60A FUSES,
240V NEMA 3R, UL LISTED

WARNING
PHOTOVOLTAIC
POWER SOURCE

! CAUTION !
SOLAR ELECTRIC
SYSTEM CONNECTED
AND ENERGIZED

LABEL 2
AT INVERTER

SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN

LABEL 3
AT INVERTER

PHOTOVOLTAIC
DC DISCONNECT

LABEL 4
AT EACH DC DISCONNECT

! WARNING !
ELECTRIC SHOCK HAZARD
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH LINE AND LOAD SIDES
MAY BE ENERGIZED IN THE OPEN POSITION

LABEL 5
AT EACH AC DISCONNECT

PHOTOVOLTAIC
AC
DISCONNECT

LABEL 6
AT EACH AC DISCONNECT

NOTE: AC DISCONNECT
WITHIN 5' OF METER PER DTE
REQUIREMENT.

! WARNING !
DUAL POWER SOURCES
SECOND SOURCE IS PV SYSTEM

LABEL 8
AT MEP

! WARNING !
SOLAR SYSTEM
CONNECTED
AND ENERGIZED

LABEL 9
AT MEP

! CAUTION !
SOLAR POINT OF
INTERCONNECTION

LABEL 10
AT UTILITY METER

! WARNING !
THE SERVICE METER IS ALSO SERVED
BY A PHOTOVOLTAIC SYSTEM

LABEL 11
AT UTILITY METER

	QTY	CONDUCTOR INFORMATION		CONDUIT TYPE	CONDUIT SIZE
1	(6)	#10AWG -	PV WIRE/USE-2	N/A	N/A
	(1)	#6AWG -	BARE COPPER IN FREE AIR		
2	(6)	#6AWG -	THWN-2	IMC OR PVC IN TRENCH	3/4"
	(1)	#6AWG -	THWN-2 GND		
3	(3)	#6AWG -	THWN-2	PVC OR LFNC	3/4"
	(1)	#6AWG -	THWN-2 GND		
4	(3)	#6AWG -	THWN-2	PVC OR LFNC	3/4"

SERVICE INFO

UTILITY PROVIDER:	DTE ENERGY
MAIN SERVICE VOLTAGE:	240V
MAIN PANEL BRAND:	
MAIN SERVICE PANEL:	200A
MAIN CIRCUIT BREAKER RATING:	200A
MAIN SERVICE LOCATION:	WEST
SERVICE FEED SOURCE:	OVERHEAD

1 ELECTRICAL LINE DIAGRAM
PV-4
SCALE: NTS

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CHRIS LEADBETTER RESIDENCE
400 IRIS LN
SALINE MI 48176

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	SILFAB SLA-M 300
VMP	32.8V
IMP	9.16A
VOC	39.85V
ISC	9.71A
TEMP. COEFF. VOC	-0.30%/°C
MODULE DIMENSION	64.96"L x 38.98"W x 1.49"D (In Inch)

INVERTER #1 SPECIFICATIONS	
MANUFACTURER / MODEL #	SOLAREDGE SE10000H-US
NOMINAL AC POWER	10 KW
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	42A

POWER OPTIMIZER (OPTIMIZER P320-2NM4ARS)	
MAXIMUM INPUT POWER	320W
MINIMUM INPUT VOLTAGE	8 VDC
MAXIMUM INPUT VOLTAGE	48VDC
MAXIMUM MODULE ISC	11 ADC
MAXIMUM OUTPUT CURRENT	15 ADC

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
.80	4-6
.70	7-9
.50	10-20

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-11°
AMBIENT TEMP (HIGH TEMP 2%)	34°
CONDUIT HEIGHT	0.5"
ROOF TOP TEMP	56°
CONDUCTOR TEMPERATURE RATE	90°
MODULE TEMPERATURE COEFFICIENT OF Voc	-0.318%/°C

DC CONDUCTOR AMPACITY CALCULATIONS: ARRAY TO JUNCTION BOX:

EXPECTED WIRE TEMP (In Celsius)	56°
TEMP. CORRECTION PER TABLE (310.16)	0.71
NO. OF CURRENT CARRYING CONDUCTORS	6
CONDUIT FILL CORRECTION PER NEC 310.15(B)(3)(a)	0.8
CIRCUIT CONDUCTOR SIZE	10 AWG
CIRCUIT CONDUCTOR AMPACITY	40A

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A&B)	18.75A
1.25 X Isc	
DERATED AMPACITY OF CIRCUIT CONDUCTOR PER NEC TABLE 310.16	22.72A
TEMP. CORRECTION PER TABLE (310.16) X CONDUIT FILL CORRECTION PER NEC 310.15(B)(3)(a) X CIRCUIT CONDUCTOR AMPACITY	
Result should be greater than (14.85A) otherwise less the entry for circuit conductor size and ampacity	

DC CONDUCTOR AMPACITY CALCULATIONS: FROM JUNCTION BOX TO INVERTER:

AMBIENT TEMPERATURE ADJUSTMENT FOR EXPOSED CONDUIT PER NEC 310.15(B)(2)(c)	+22°
EXPECTED WIRE TEMP (In Celsius)	34°+22° = 56°
TEMP. CORRECTION PER TABLE (310.16)	0.71
NO. OF CURRENT CARRYING CONDUCTORS	6
CONDUIT FILL CORRECTION PER NEC 310.15(B)(2)(a)	0.8
CIRCUIT CONDUCTOR SIZE	6AWG
CIRCUIT CONDUCTOR AMPACITY	75A

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A&B)	18.75A
1.25 X Isc	
DERATED AMPACITY OF CIRCUIT CONDUCTOR PER NEC TABLE 310.16	42.6A
TEMP. CORRECTION PER TABLE (310.16) X CONDUIT FILL CORRECTION PER NEC 310.15(B)(2)(a) X CIRCUIT CONDUCTOR AMPACITY	
Result should be greater than (14.85A) otherwise less the entry for circuit conductor size and ampacity	

AC CONDUCTOR AMPACITY CALCULATIONS:

No. OF INVERTER	
EXPECTED WIRE TEMP (In Celsius)	34°
TEMP. CORRECTION PER TABLE (310.16)	0.96
NO. OF CURRENT CARRYING CONDUCTORS	3
CONDUIT FILL CORRECTION PER NEC 310.15(B)(2)(a)	1
CIRCUIT CONDUCTOR SIZE	6 AWG
CIRCUIT CONDUCTOR AMPACITY	75A

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(B)	52.5A
1.25 X MAX INVERTER OUTPUT CURRENT	
DERATED AMPACITY OF CIRCUIT CONDUCTOR PER NEC TABLE 310.16	72A
TEMP. CORRECTION PER TABLE (310.16) X CONDUIT FILL CORRECTION PER NEC 310.15(B)(2)(a) X CIRCUIT CONDUCTOR AMPACITY	
Result should be greater than (52.5A) otherwise less the entry for circuit conductor size and ampacity	

ELECTRICAL NOTES

1.) ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
2.) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.
3.) WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
4.) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
5.) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
6.) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
7.) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
8.) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
9.) MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEEB LUG OR ILSCO GBL-4DBT LAY-IN LUG.
10.) THE POLARITY OF THE GROUNDED CONDUCTORS IS NEGATIVE

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PROJECT NAME & ADDRESS

CHRIS LEADBETTER RESIDENCE

400 IRIS LN
SALINE MI 48176

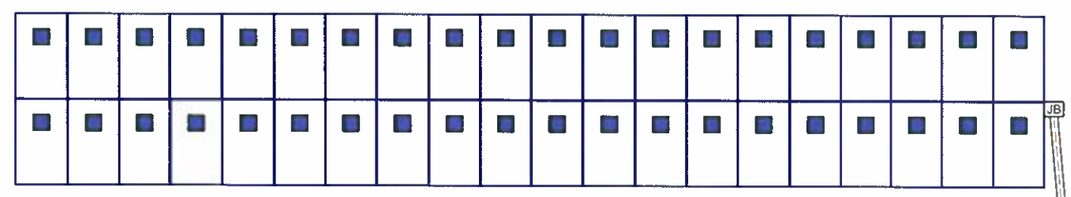
SHEET NAME
WIRING CALCULATIONS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-5

SOLAREDGE OPTIMIZER CHART

	1-10	11-20	21-30	31-40	41-50	51-60
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						



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400 IRIS LN
SALINE MI 48176

SHEET NAME
SOLAREDGE OPTIMIZER CHART

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-6

Silfab SOLAR

SLA-M
Monocrystalline

BAA ARRA · 30 · AUTOMATED · JUST-IN-TIME · DNV TOP PERFORMER · TIER 1 BANKABLE $$$ · HIGH

300 Wp 60 Cell

Monocrystalline PV Module

CE · IEC · TÜV · ETL · Fraunhofer

100% MAXIMUM POWER DENSITY
Silfab's SLA-M 300 ultra-high-efficiency modules are optimized for both Residential and Commercial projects where maximum power density is preferred.

100% NORTH AMERICAN QUALITY MATTERS
Silfab's fully-automated manufacturing facility ensures precision engineering is applied at every stage. Superior reliability and performance combine to produce one of the highest quality modules with the lowest defect rate in the industry.

NORTH AMERICAN CUSTOMIZED SERVICE
Silfab's 100% North American based team leverages just-in-time manufacturing to deliver unparalleled service, on-time delivery and flexible project solutions.

ENSURES MAXIMUM EFFICIENCY
60 of the highest efficiency, premium quality monocrystalline cells result in a maximum power rating of 300Wp.

ADVANCED PERFORMANCE WARRANTY
25-year linear power performance guarantee to 82%

ENHANCED PRODUCT WARRANTY
12-year product/workmanship warranty

BUILT BY INDUSTRY EXPERTS
With over 35 years of industry experience, Silfab's technical team are pioneers in PV technology and are dedicated to an innovative approach that provides superior manufacturing processes including: infra-red cell sorting, glass washing, automated soldering and meticulous cell alignment.

POSITIVE TOLERANCE
(-0/+5W) All positive module sorting ensures maximum performance

44 PPM DEFECT RATE*
Total automation ensures strict quality control during each step of the process at our certified ISO manufacturing facility.
*As of December 31, 2016

LIGHT AND DURABLE
Over-engineered to weather low load bearing structures up to 5400 Pa. Light-weight frame exclusively designed with wide-ranging racking compatibility and durability.

PID RESISTANT
Proven in accordance to IEC 62804-1

AVAILABLE IN
All Black

MADE IN NORTH AMERICA

Electrical Specifications		SILFAB SLA Monocrystalline	
Test Conditions		STC	NOCT
Module Power (Pmax)	Wp	300	227
Maximum power voltage (Vpmax)	V	32.8	29.5
Maximum power current (Ipmax)	A	9.16	7.69
Open circuit voltage (Voc)	V	39.85	36.9
Short circuit current (Isc)	A	9.71	7.96
Module efficiency	%	18.4	17.3
Maximum system voltage (VDC)	V	1000	
Series fuse rating	A	15	
Power Tolerance	Wp	+/- 1	

Measurement conditions: STC 1000 W/m2 • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ≤ 3%
• Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by +/- 1.

Temperature Ratings		SILFAB SLA Monocrystalline
Temperature Coefficient Isc	%/K	0.03
Temperature Coefficient Voc	%/K	-0.30
Temperature Coefficient Pmax	%/K	-0.38
NOCT (± 2°C)	°C	45
Operating temperature	°C	-40/+85

Mechanical Properties and Components		SILFAB SLA Monocrystalline
Module weight (± 1 kg)	kg	19
Dimensions (H x L x D; ± 1mm)	mm	1650 x 990 x 38
Maximum surface load (wind/snow)*	N/m²	5400
Hail impact resistance		ø 25 mm at 83 km/h
Cells		60 - Si monocrystalline - 4 or 5 busbar - 156.75 x 156.75 mm
Glass		3.2 mm high transmittance, tempered, antireflective coating
Backsheet		Multilayer polyester-based
Frame		Anodized Al
Bypass diodes		3 diodes-45V/12A, IP67/IP68
Cables and connectors (See installation manual)		1200 mm ø 5.7 mm (4 mm2), MC4 compatible

Warranties	SILFAB SLA Monocrystalline
Module product warranty	12 years
Linear power performance guarantee	25 years ≥ 97% end of 1st year ≥ 90% end of 12th year ≥ 82% end of 25th year

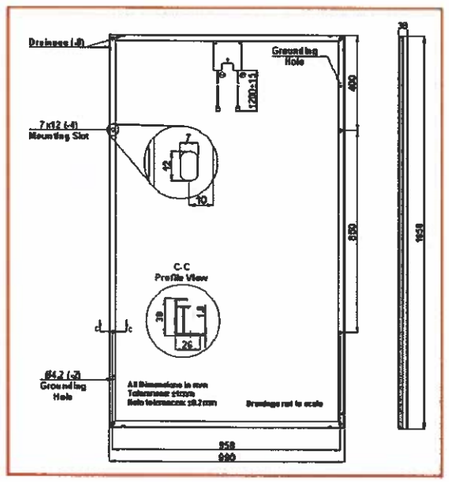
Certifications	SILFAB SLA Monocrystalline
Product	ULC ORD C1703, UL 1703, IEC 61215, IEC 61730, IEC 61701, CEC listed UL Fire Rating: Type 2 (Type 1 on request)
Factory	ISO 9001:2008

Warning: Read the installation and User Manual before handling, installing and operating modules.

Third-party generated pan files from PV Evolution Labs available for download at: www.silfab.ca/downloads

TOP PERFORMER 2017 · DNV·GL · PV MODULE RELIABILITY SCORECARD

Pallet Count: 26
Container Count: 936



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REVISIONS

DESCRIPTION	DATE	REV
REVISION	03/11/2019	A

Signature with Seal

DATE: 02/05/2019

PROJECT NAME & ADDRESS

CHRIS LEADBETTER RESIDENCE
400 IRIS LN
SALINE MI 48176

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-7

solaredge

Single Phase Inverter
with HD-Wave Technology for North America

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

INVERTERS

Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- High reliability without any electrolytic capacitors
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

HD wave

www.solaredge.us

solaredge

Single Phase Inverter
with HD-Wave Technology for North America

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

	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400	VA
Max. AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400	VA
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	-	Vac
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5[1]							Hz
Maximum Continuous Output Current 208V	-	16	-	24	-	-	-	A
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
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	-	-	-	
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current 208V	-	9	-	13.5	-	-	-	
Maximum Input Current @240V	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600kΩ Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99							%
Nighttime Power Consumption	< 2.5							W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Data, ANSI C12.20	Optional[2]							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	3/4" minimum / 14-6 AWG					3/4" minimum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	3/4" minimum / 1-2 strings / 14-6 AWG					3/4" minimum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10	25.1 / 11.4		26.2 / 11.9		38.8 / 17.6		lb / kg
Noise	< 25				<50			dBA
Cooling	Natural Convection				Natural convection			
Operating Temperature Range	-13 to +140 / -25 to +60[3] (-40°F / -40°C option)[4]							°F / °C
Protection Rating	NEMA 3R (Inverter with Safety Switch)							

[1] For other regional settings please contact SolarEdge support
[2] Revenue grade inverter P/N: SE xxxxH-US000NNC2
[3] For power de-rating information refer to: https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf
[4] -40 version P/N: SEXXXXH-US000NNU4

RoHS

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PROJECT NAME & ADDRESS

CHRIS LEADBETTER RESIDENCE

400 IRIS LN
SALINE MI 48176

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8

solaredge

Power Optimizer

P320 / P370 / P400 / P405 / P505

POWER OPTIMIZER

PV power optimization at the module-level

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

www.solaredge.us

solaredge

Power Optimizer

P320 / P370 / P400 / P405 / P505

OPTIMIZER MODEL (typical module compatibility)	P320 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	P505 (for higher current modules)	
INPUT						
Rated Input DC Power[1]	320	370	400	405	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48	60	80	125	83	Vdc
MPPT Operating Range	8 - 48	8 - 60	8 - 80	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11		10.1		14	Adc
Maximum DC Input Current	13.75		12.63		17.5	Adc
Maximum Efficiency	99.5					%
Weighted Efficiency	98.8				98.6	%
Overvoltage Category	II					
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREDGE INVERTER)						
Maximum Output Current	15					Adc
Maximum Output Voltage	60			85		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREDGE INVERTER OR SOLAREDGE INVERTER OFF)						
Safety Output Voltage per Power Optimizer	1 ± 0.1					Vdc
STANDARD COMPLIANCE						
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3					
Safety	IEC62109-1 (class II safety), UL1741					
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)	128 x 152 x 28 / 5 x 5.97 x 1.1		128 x 152 x 36 / 5 x 5.97 x 1.42	128 x 152 x 50 / 5 x 5.97 x 1.96	128 x 152 x 59 / 5 x 5.97 x 2.32	mm / in
Weight (including cables)	630 / 1.4		750 / 1.7	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4[2]					
Output Wire Type / Connector	Double Insulated; MC4					
Output Wire Length	0.95 / 3.0	1.2 / 3.9				m / ft
Operating Temperature Range	-40 - +85 / -40 - +185					°C / °F
Protection Rating	IP68 / NEMA6P					
Relative Humidity	0 - 100					%

[1] Rated STC power of the module. Module of up to +5% power tolerance allowed.
[2] For other connector types please contact SolarEdge

PV SYSTEM DESIGN USING A SOLAREDGE INVERTER[3][4]		SINGLE PHASE HD-WAVE	SINGLE PHASE	THREE PHASE 208V	THREE PHASE 480V	
Minimum String Length (Power Optimizers)	P320, P370, P400	8		10	18	
	P405 / P505	6		8	14	
Maximum String Length (Power Optimizers)		25		25	50[5]	
Maximum Power per String		5700 (6000 with SE7600-US - SE11400-US)	5250	6000	12750	W
Parallel Strings of Different Lengths or Orientations		Yes				

[3] For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf.
[4] It is not allowed to mix P405/P505 with P320/P370/P400/P600/P700/P800 in one string.
[5] A string with more than 30 optimizers does not meet NEC rapid shutdown requirements; safety voltage will be above the 30V requirement

CE ETL

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CHRIS LEADBETTER RESIDENCE
400 IRIS LN
SALINE MI 48176

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-9

PatriotSolarGroup

Atlas 2 High

10 Panel Ground Mount

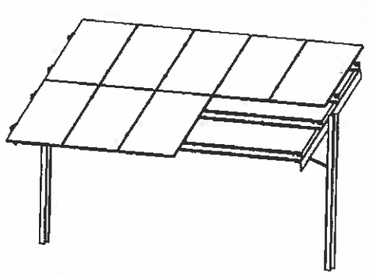
Atlas - 2 Portrait

2 - High Post Driven Ground Mount

Superior Cost Savings

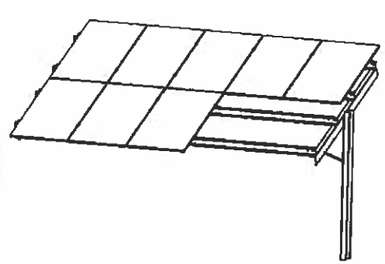
The Atlas is a fixed tilt ground mount solution designed for commercial and utilty scale installations, with slide-in panel rails, pre-punched hole locations, UL 467 grounding mid clamps and only three major components. Atlas dramatically lowers overall project installation and racking costs by up to 30%.

Start Section



Rail Attachment

Add-on Section



Key Features

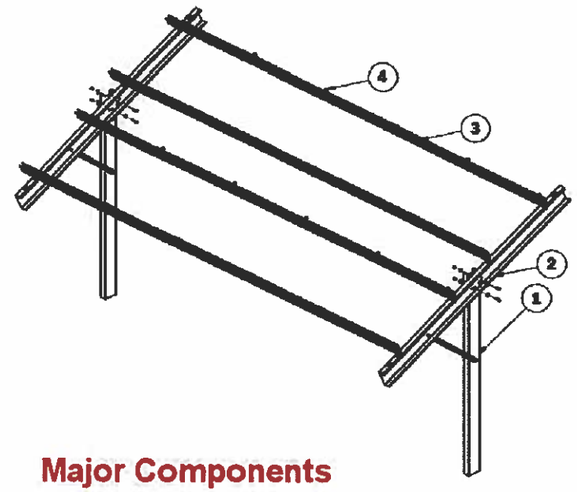
- Simple convenient panel installation
- UL 467 grounding mid clamps
- Only 3 main components. No on-site Welding
- Universal hardware for all assembly
- 5° - 40° angles available
- All components are galvanized roll-formed steel
- C-Channel posts are pile driven into ground
- Accomodates terrain up to 5° EW

"Your Single Solar Source"

SLR-MTGRD200-P2 REV1 / 10-14

Atlas - 2

2-High Post Driven Ground Mount



Technical Specifications

Application	Open Field Layout
Foundation	Pile Driven
Module Orientation	Portrait
Module Compatibility	All Major Brands - 60 & 72 Cell Modules
Tilt Angle Available	5° - 40°
Ground Clearance	Standard - 24"
Grade of Terrain	EW = 5°
Wind Load	Up to 100 MPH *
Snow Load	Up to 60 PSF *
Purlin Length	207"
Material Composition	Galvanized Steel G-90 - Post, Truss & Rails
Warranty	20 Years
Manufacturing	Made in USA

Major Components

1 C-Channel Post

Available in multiple lengths for various soils and height clearances. Other Post Options include Helical, I-Beam, and Ground Screw.

2 Stamped Truss

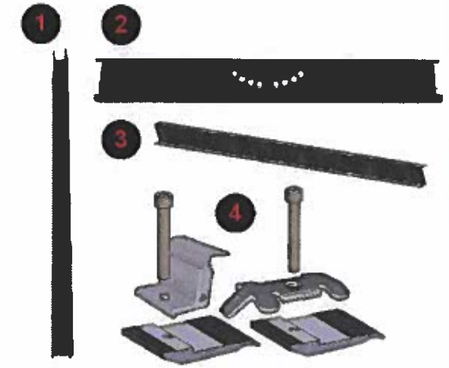
Pre-punched truss design allows for faster connection to post and varying truss angles.

3 Stamped Z-Purlin

Quick assembly with easy adjustment. Swedge add-on rail into preceding rail section without the need for additional assembly hardware or splice bar.

4 Panel Clamps and Grounding

Mid clamps come complete with UL 467 Grounding solution. Clamp design allows for quick and easy assembly.



1.	C-Channel Post	2 pcs	1 pc
2.	Stamped Truss	2 pcs	1 pc
3.	Stamped Z-Purlin 207", 11 Ga.	4 pcs	4 pcs
4.	Clamps with Grounding	24 pcs	24 pcs
All assembly hardware included.			

*Snow loads are ground snow loads estimated at 40 deg.
*wind loads are estimated at 10 deg.
*Loading is single factor snow only or wind only.
*All specifications subject to change without notice.

PatriotSolarGroup

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11" X 17"

SHEET NUMBER
PV-10