



PERMIT #: BLD-26-62

ISSUE DATE: April 3, 2026

General Questions: 503.537.1240
Email Address: building@newbergoregon.gov

BUILDING PERMIT

BUILDING DEPARTMENT

SITE ADDRESS:	414 N WASHINGTON ST Newberg, OR 97132,	PARCEL #:	R3218DD 08300	TYPE OF CONSTRUCTION:	N/A
TYPE OF WORK:	Residential Alteration to Existing Structure /	TOTAL SQ. FT.:		BUILDING USE:	N/A
DETAILED DESCRIPTION OF WORK:		Installation of solar panels on existing residential roof. 5.28 kW. Addition of (1) 0-20A circuits. 12 panels. Upgrade Electrical Service from Existing No Main Breaker/200A to New 200/200A 120/240V Single Phase. Temporary disconnect/reconnect required.			
ZONING:	R-2	TOTAL VALUE OF WORK:		\$	
PROJECT NAME (if applicable):		TOTAL PERMIT FEE'S PAID:		\$223.21	

APPLICANT:	ION Developer LLC SOLAR	PHONE #:	8887817074
MAILING ADDRESS:	44 E 800 N, Orem Utah. 84057		

OWNER:	GARCIA LUIS JR
MAILING ADDRESS:	414 N WASHINGTON ST, NEWBERG OR. 97132

CONTRACTORS INVOLVED IN PERMIT

(if applicable)

PRIMARY CONTRACTOR:	ION DEVELOPER LLC	CCB #:	230394
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ADDITIONAL INFORMATION/CONDITIONS OF APPROVAL/COMMENTS

ALL WORK IS TO CONFORM TO THE CURRENT EDITION OF THE ORSC & OSCC.

INSPECTIONS REQUESTED **PRIOR TO 7AM** WILL BE COMPLETED THE **SAME** BUSINESS DAY.

INSPECTION RECEIVED **AFTER 7AM** WILL BE SCHEDULED FOR THE **NEXT** BUSINESS DAY.

Schedule or track inspections at www.newbergor.portal.opengov.com OR
Call 503.554.7714 leave PERMIT # BLD-26-62, address & type of Insp.

THIS PERMIT EXPIRES 6 MO FROM ISSUE DATE: September 30, 2026 IF WORK IS NOT STARTED OR IF WORK IS SUSPENDED OR ABANDONED FOR 180 DAYS OR LONGER AFTER WORK HAS COMMENCED.	8.15.150 UNNECESSARY NOISE--PERMITTED EXCEPTIONS. UNREASONABLE NOISE AND EXCEPTIONS. 3. The following acts are declared to be per se violations of this section. This enumeration does not constitute an exclusive list: j. Construction or Repair of Buildings, or Excavation of Streets and Highways. The construction, demolition, alteration or repair of any building or the excavation of streets and highways other than between the hours of 7:00 a.m. and 7:00 p.m. on weekdays. In cases of emergency, construction or repair noises are exempt from this provision. In nonemergency situations, the city may issue a permit, upon application, if the city determines that the public health and safety, as affected by loud and raucous noise caused by construction or repair of buildings or excavation of streets and highways between the hours of 7:00 p.m. and 7:00 a.m. will not be impaired, and if the city further determines that loss or inconvenience would otherwise result. The permit shall grant permission in nonemergency cases for a period of not more than three days. The permit may be renewed once for a period of three days or less.
A copy of the building permit & 1 set of approved construction documents are to be available for review at the work site.	
All persons or entities performing work under this permit are required to be licensed unless exempted by ORS 701.010 (Structural/Mechanical), and ORS 693.010-020 (Plumbing).	

NEWBERG CITY HALL

414 E FIRST ST

Web address:
newbergoregon.gov



PERMIT #: BLD-26-62

ISSUED DATE: May 18, 2026

CERTIFICATE OF COMPLETION

All inspections have been conducted and, as of the issuance of this certificate, the permitted work is in full compliance with all applicable codes and regulations.

THE PERMITTED WORK IS DEEMED SATISFACTORY AND COMPLETE

SITE ADDRESS:

414 N WASHINGTON ST, Newberg, OR, 97132

PARCEL #: R3218DD 08300

CONSTRUCTION TYPES:

Alteration to Existing Structure /

PERMIT TYPE: Residential

FIRE SPRINKLER REQUIRED BY CODE:

No

FIRE SPRINKLER INSTALLED/ALTERED:

DETAILED DESCRIPTION OF WORK: Installation of solar panels on existing residential roof. 5.28 kW. Addition of (1) 0-20A circuits. 12 panels. Upgrade Electrical Service from Existing No Main Breaker/200A to New 200/200A 120/240V Single Phase. Temporary disconnect/reconnect required.

AUTHORIZED PERMIT HOLDERS

Owner: GARCIA LUIS JR , NEWBERG, OR. 97132

Contractor: ION DEVELOPER LLC **CCB License #:** 230394

CONDITIONS

ALL FINAL INSPECTIONS HAVE BEEN COMPLETED, AND THE PERMITTED WORK HAS BEEN FOUND TO MEET ALL REQUIRED STANDARDS AND IS HEREBY DEEMED COMPLETE.

THIS CERTIFICATE MAY BE REVOKED BY THE City of Newberg, OR UPON VIOLATION OF ANY OF ITS RULES AND REGULATIONS.

To view permit details, scan this barcode or visit newbergor.viewpointcloud.com/#/records/5294



City of Newberg, OR

Inspection Report

Inspection: RESIDENTIAL BUILDING FINAL INSPECTION

Inspector: BLD-Mariah Lemen

Inspection Date: May 15, 2026

Record: *Building Permit #BLD-26-62

Location: 414 N WASHINGTON ST, Newberg, OR 97132

Applicant: ION Developer LLC SOLAR

BUILDING FINAL INSP

Overall Result: Pass

AERIAL SITE VIEW



SCOPE OF WORK

INSTALLATION OF UTILITY INTERACTIVE FIXED-TILT, PHOTOVOLTAIC SOLAR SYSTEM,

5.28 kW DC & 3.8 kW AC PHOTOVOLTAIC SOLAR ARRAY

PV MODULES: (12) SILFAB SOLAR SIL-440 QD DCA3

INVERTER(S): (1) SOLAREEDGE SE3800H-US

ROOF TYPE: COMPOSITION SHINGLE - 1 LAYER(S)

PV MOUNTING HARDWARE: UNIRAC NXT DOM CON GL

SHEET LIST

G-1	COVER SHEET
V-2	SITE PLAN (AD. LIB)
S-3	ROOF PLAN
S-4	STRUCTURAL DETAILS
S-5	STRUCTURAL CALCULATIONS 1
S-6	STRUCTURAL CALCULATIONS 2
E-7	ELECTRICAL DETAILS (LINE DIAGRAM)
E-8	ELECTRICAL CALCULATIONS & NOTES
E-9	ELECTRICAL LOAD CALCULATIONS (AD. LIB)
E-10	ELECTRICAL LABELS & LOCATIONS
E-11	ELECTRICAL DIRECTORY PLACARD (AD. LIB)
E-12	ELECTRICAL LOAD ANALYSIS (AD. LIB)

JURISDICTION CODES AND STANDARDS

GOVERNING CODES

- I. ALL WORK SHALL COMPLY WITH:
- 2023 OREGON ELECTRICAL SPECIALTY CODE (OESC)
- 2022 OREGON STRUCTURAL SPECIALTY CODE (OSSC)
- 2023 OREGON RESIDENTIAL SPECIALTY CODE (ORSC)
- 2022 OREGON FIRE CODE (IFC)

AND ALL STATE AND LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.

SITE CLASSIFICATION NOTES, OSHA REGULATION

OCCUPANCY CLASS: SFR

CONSTRUCTION CLASS: V-B

ZONING TYPE: RESIDENTIAL

- I. A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
2. MODULES HAVE AN ANTI-REFLECTIVE COATING TO PREVENT GLARE
3. FOR PROJECTS SUBMITTED FOR PRESCRIPTIVE REVIEW, ROOF ATTACHMENTS SHALL BE SPACED NO GREATER THAN 24" ON CENTER IN ANY DIRECTION WHERE LOCATED WITHIN 3' OF A ROOF EDGE, HIP, EAVE, OR RIDGE OSSC 3III.3.5.3 ITEM 5 EXCEPTION I.2
- JUNCTION BOXES UNDER PV ARRAY SHALL BE INSTALLED TO BE CONSIDERED ACCESSIBLE BY OESC 690.34

ELECTRICAL CRITERIA, NOTES

TEMPERATURE SOURCE: ASHRAE

WEATHER STATION: AURORA STATE AP

EXTREME MIN. TEMPERATURE: -5

ASHRAE 0.4% HIGH TEMP: 37

- I. DRAWINGS HAVE BEEN DETAILED ACCORDING TO UL LISTING REQUIREMENTS.
2. TERMINALS AND LUGS WILL BE TIGHTENED TO MANUFACTURER TORQUE SPECIFICATIONS (WHEN PROVIDED) IN ACCORDANCE WITH NEC 110.14(D) ON ALL ELECTRICAL.
3. PV MODULE CERTIFICATIONS WILL INCLUDE UL1703, IEC61646, IEC61730.
4. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING AS REQUIRED BY FIELD CONDITIONS.
5. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION [NEC 110.26].
6. WHERE PV CABLES ON ROOFTOP WOULD OTHERWISE BE EXPOSED TO PHYSICAL DAMAGE, 3/4" EMT SHALL BE USED TO PROTECT CABLES

STRUCTURAL CRITERIA, NOTES

DESIGN LOAD STANDARD: ASCE 7-16

WIND EXPOSURE CATEGORY: B

WIND SPEED (3-SEC GUST): 96 MPH

GROUND SNOW LOAD: 36 PSF

DESIGN ROOF SNOW LOAD: 25 PSF

SEISMIC DESIGN CATEGORY: D

SEISMIC RISK FACTOR: II

3/20/2026

REGISTERED PROFESSIONAL

ENGINEER

98950PE

OREGON

JAN 11, 2022

ALAN ROWLEY

EXPIRES:12/31/26

STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.

NABCEP

BOARD CERTIFIED

PV Installation Professional

Alan Rowley

RPV-120425-014240

EXP. 12-4-2028

ION DEVELOPER LLC
DAVID STANLEY CONRAD
C - ELECTRICAL CONTRACTOR
CI524



ION SOLAR
44 E 800 N
OREM, UTAH 84057
888.781.7074

PROJECT ID
00H511

SITE OWNER
ULEILIACHRISTINA & LUIS A GARCIA

SITE ADDRESS
414 N WASHINGTON ST
NEWBERG, OREGON 97132

EQUIP.
(12) SILFAB SOLAR SIL-440 QD DCA3
(1) SOLAREEDGE SE3800H-US

SYSTEM SIZE
5.28KW DC
3.8KW STC-AC, 4.932KW CEC-AC

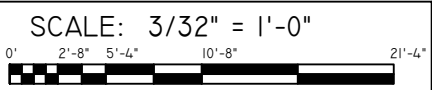
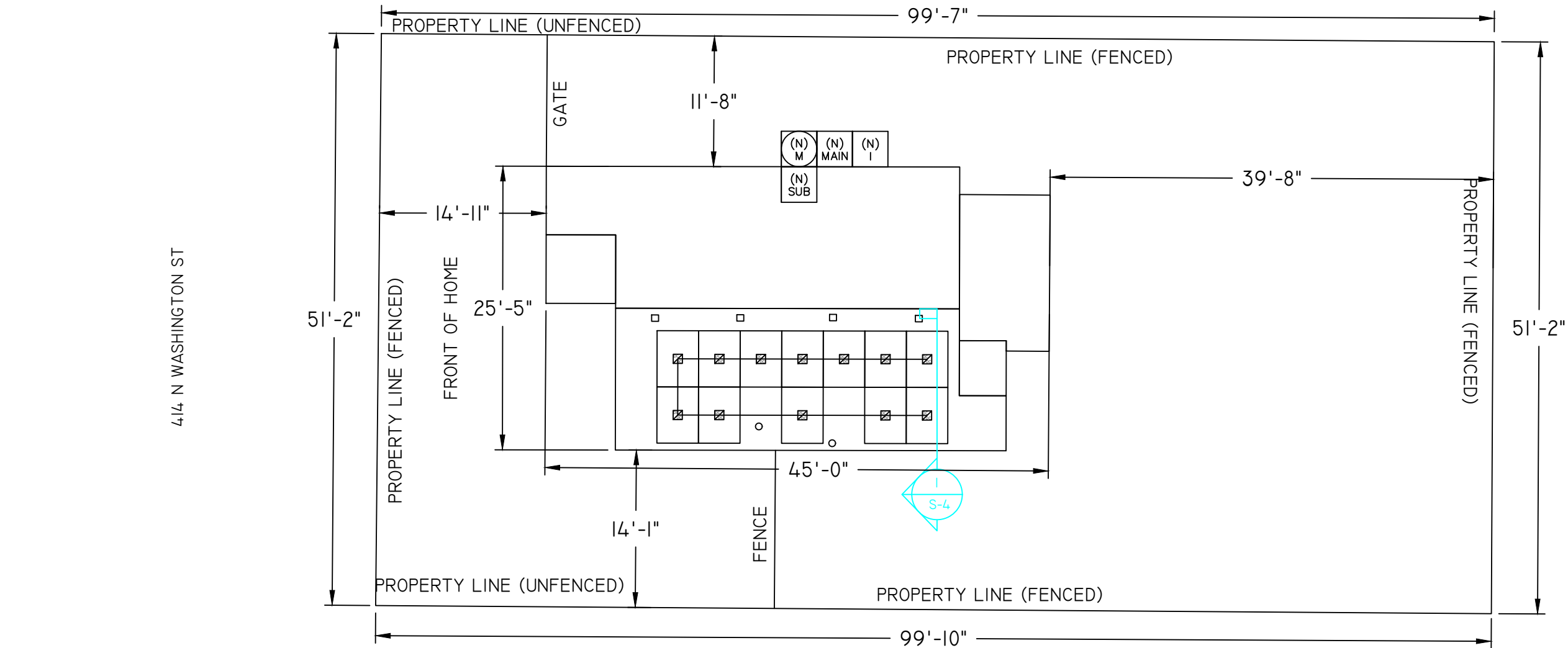
PROJECT DESIGNER
JHERWIN LACERNA

DATE
19-MAR-2026

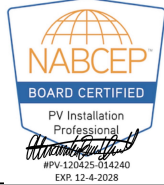
SHEET NAME
COVER SHEET

SHEET #
G-1

REV
0



STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.



ION DEVELOPER LLC
DAVID STANLEY CONRAD
C - ELECTRICAL CONTRACTOR
CI524



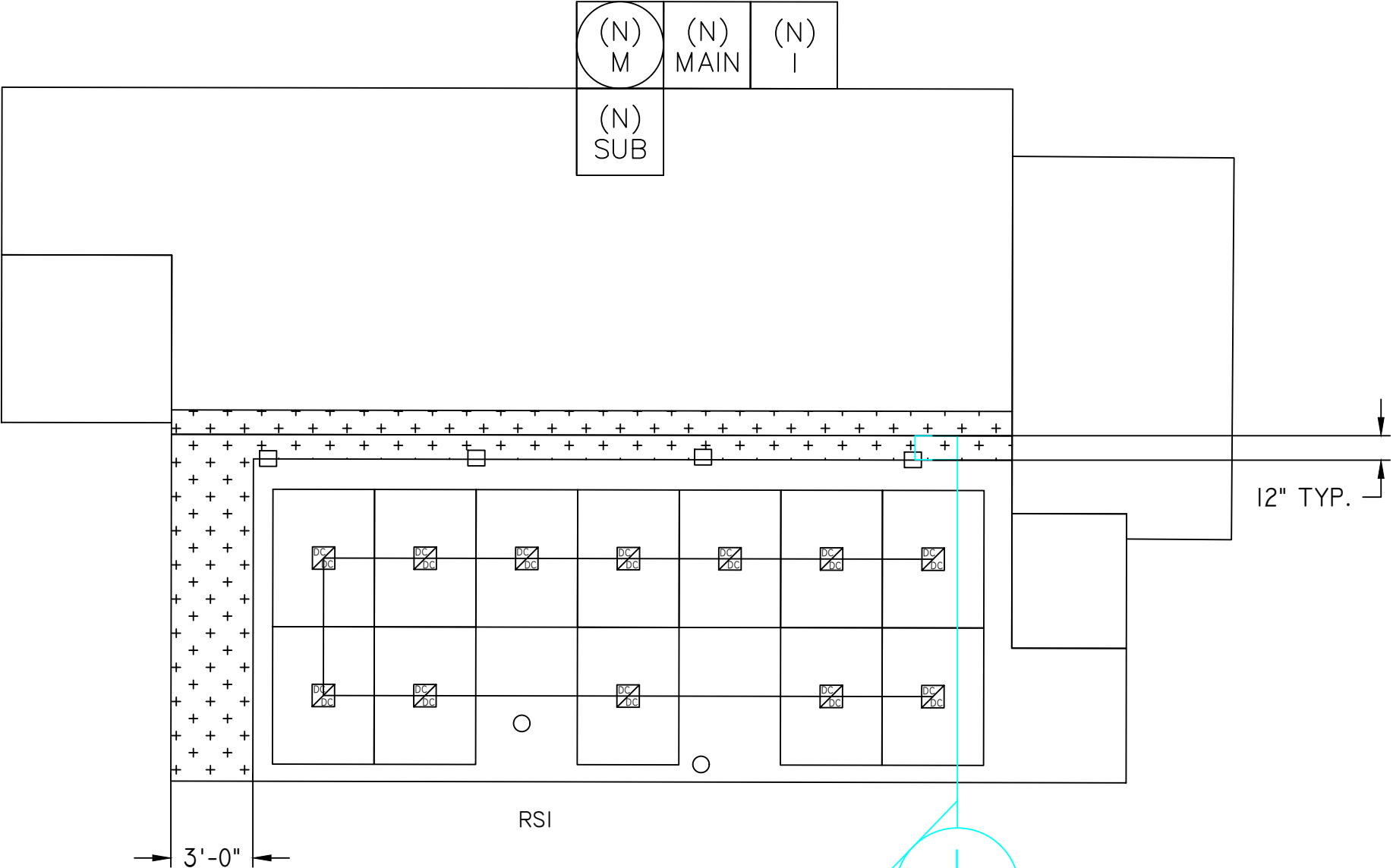
ION SOLAR
44 E 800 N
OREM, UTAH 84057
888.781.7074

PROJECT ID		00H511
SITE OWNER		ULEILIACHRISTINA & LUIS A GARCIA
SITE ADDRESS		414 N WASHINGTON ST NEWBERG, OREGON 97132
EQUIP.		(12) SILFAB SOLAR SIL-440 QD DCA3 (1) SOLAREEDGE SE3800H-US
SYSTEM SIZE		5.28KW DC 3.8KW STC-AC, 4.932KW CEC-AC
PROJECT DESIGNER		JHERWIN LACERNA
DATE		19-MAR-2026
SHEET NAME		SITE PLAN
SHEET #	REV	0
V-2		

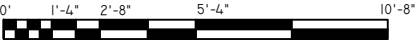
FOR PROJECTS SUBMITTED FOR PRESCRIPTIVE REVIEW, ROOF ATTACHMENTS SHALL BE SPACED NO GREATER THAN 24" ON CENTER IN ANY DIRECTION WHERE LOCATED WITHIN 3' OF A ROOF EDGE, HIP, EAVE, OR RIDGE OSSC 3III.3.5.3 ITEM 5 EXCEPTION 1.2
JUNCTION BOXES UNDER PV ARRAY SHALL BE INSTALLED TO BE CONSIDERED ACCESSIBLE BY OESC 690.34
FOR ANY METER UPGRADES, ENSURE THAT THE UTILITY METER IS LOCATED WITHIN 10FT OF THE FRONT/STREET-SIDE OF THE HOUSE. PLEASE ADD A LABEL SHOWING THE DISTANCE FROM THE FRONT CORNER OF THE HOUSE.

414 N WASHINGTON ST

FRONT OF HOME



SCALE: 3/16" = 1'-0"



SYSTEM LEGEND

	(N) UTILITY METER / MAIN SERVICE PANEL		(N) PV COMBINER PANEL		(N) JUNCTION BOX		S# SUNEYE LOCATION
	(N) MAIN SERVICE PANEL		(N) PV LOAD CENTER		(N) AC DISCONNECT (VISIBLE-OPEN LOCKABLE LABELED DISCONNECT)		FIRE SETBACK
	(N) SUBPANEL		(N) PV PRODUCTION METER		(N) DC-DC OPTIMIZER		(N) PV MODULE
			(N) DC-DC / STRING INVERTER		(N) DC DISCONNECT		STRUCTURALLY DISQUALIFIED

ROOF SECTION CRITERIA AND SPECIFICATIONS

ROOF SECTION	PV MODULE QTY	AZIMUTH	PITCH	TSRF
RSI	12	180	27	88%



3/20/2026

REGISTERED PROFESSIONAL
ENGINEER
98950PE
OREGON
JAN 11, 2022
ALAN ROWLEY

EXPIRES:12/31/26

STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.

ION DEVELOPER LLC
DAVID STANLEY CONRAD
C - ELECTRICAL CONTRACTOR
CI524



ION SOLAR
44 E 800 N
OREM, UTAH 84057
888.781.7074

PROJECT ID

00H511

SITE OWNER

ULEILIACHRISTINA & LUIS A GARCIA

SITE ADDRESS

414 N WASHINGTON ST

NEWBERG, OREGON 97132

EQUIP.

(12) SILFAB SOLAR SIL-440 QD DCA3

(1) SOLAREEDGE SE3800H-US

SYSTEM SIZE

5.28KW DC

3.8KW STC-AC, 4.932KW CEC-AC

PROJECT DESIGNER

JHERWIN LACERNA

DATE

19-MAR-2026

SHEET NAME

ROOF PLAN

SHEET #

S-3

REV

0

STRUCTURAL INSTALLATION SCHEDULE AND CRITERIA

ROOF MEMBRANE		SPAN AREA	TAG	SPAN
ROOF TYPE:	COMPOSITION SHINGLE	RAIL - PORTRAIT - MODULE ORIENTATION		
ROOF SHEATHING TYPE:	LUMBER	X- SPACING	P-X1	48 IN. O.C. MAX.
		X-CANTILEVER	P-X2	23 IN. MAX.
		Y- SPACING	P-Y1	40.2 IN. MIN. - 55.9 IN. MAX.
		Y-CANTILEVER	P-Y2	6 IN. MIN. - 13.8 IN. MAX.
ARRAY PARAMETERS		RAIL - LANDSCAPE - MODULE ORIENTATION		
TOTAL ROOF AREA (SQ. FT.)	1124.6	X- SPACING	L-X1	48 IN. O.C. MAX.
TOTAL PV MODULE AREA (SQ. FT.)	252	X-CANTILEVER	L-X2	23 IN. MAX.
% PV MODULE ROOF COVERAGE	22.41%	Y- SPACING	L-Y1	24.9 IN. MIN. - 28.9 IN. MAX.
		Y-CANTILEVER	L-Y2	7.9 IN. MIN. - 9.8 IN. MAX.
PV RACKING				
RACKING:	UNIRAC NXT DOM CON GL			
RACKING TYPE:	RAIL			
	UNIRAC STRONGHOLD BUTYL ATT KIT #14S			
STANDOFF:	MILL			
STANDOFF TYPE:	L-FOOT & BUTYL TAPE MASTIC			
FASTENER:	3" #14-14 AB SCREW			
STRUCTURAL FRAMING				
ROOF SECTION	STRUCTURE TYPE	RAFTER / TC SIZE (IN)	RAFTER / TC SPACING (IN)	STRUCTURAL UPGRADE
RSI	CONVENTIONAL FRAMING	2x4	24	UPGRADE - UPSIZED FULL SISTER (2.5x) 2x6, FULL LENGTH
				UPGRADE SIZE & LENGTH (FT)

PV ARRAY DETAIL, FRONT VIEW

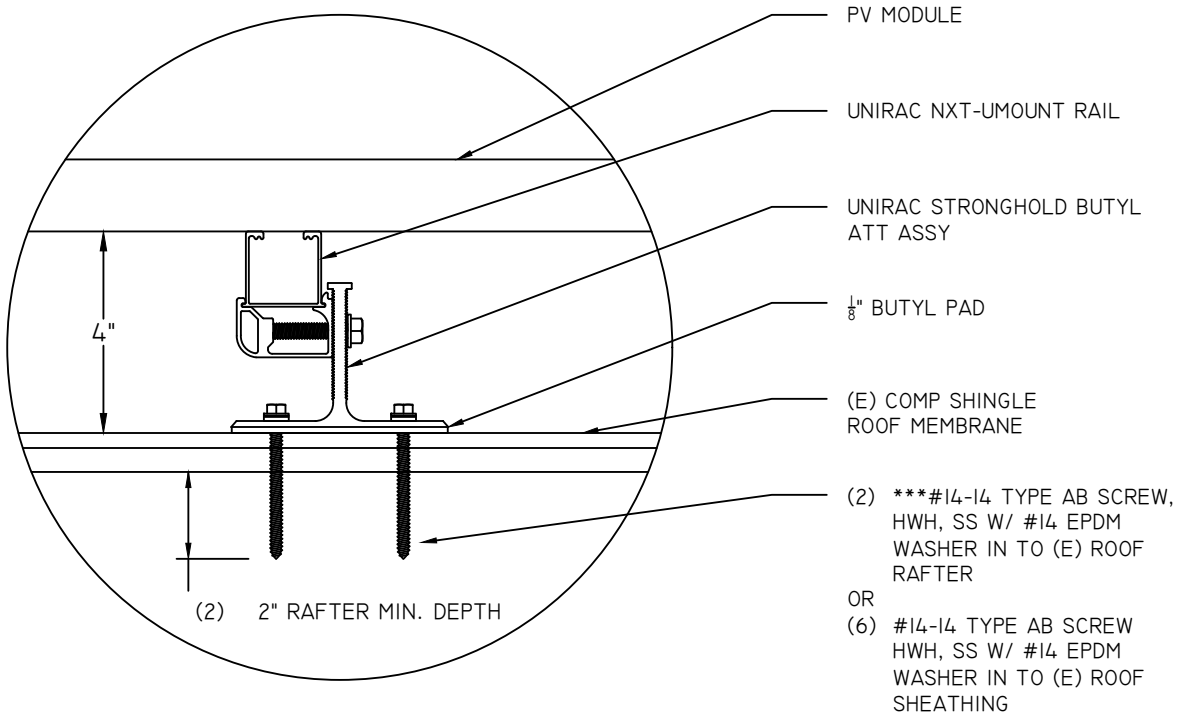
SCALE: 3/8" = 1'-0"

PV ARRAY DETAIL, SIDE VIEW

SCALE: 3/8" = 1'-0"

RACKING ATTACHMENTS TO BE STAGGERED BY SHIFTING EACH SUBSEQUENT ROW OF ATTACHMENTS ONE RAFTER OVER TO DISTRIBUTE LOAD ACROSS ALL FRAMING MEMBERS UNDER PV ARRAY.

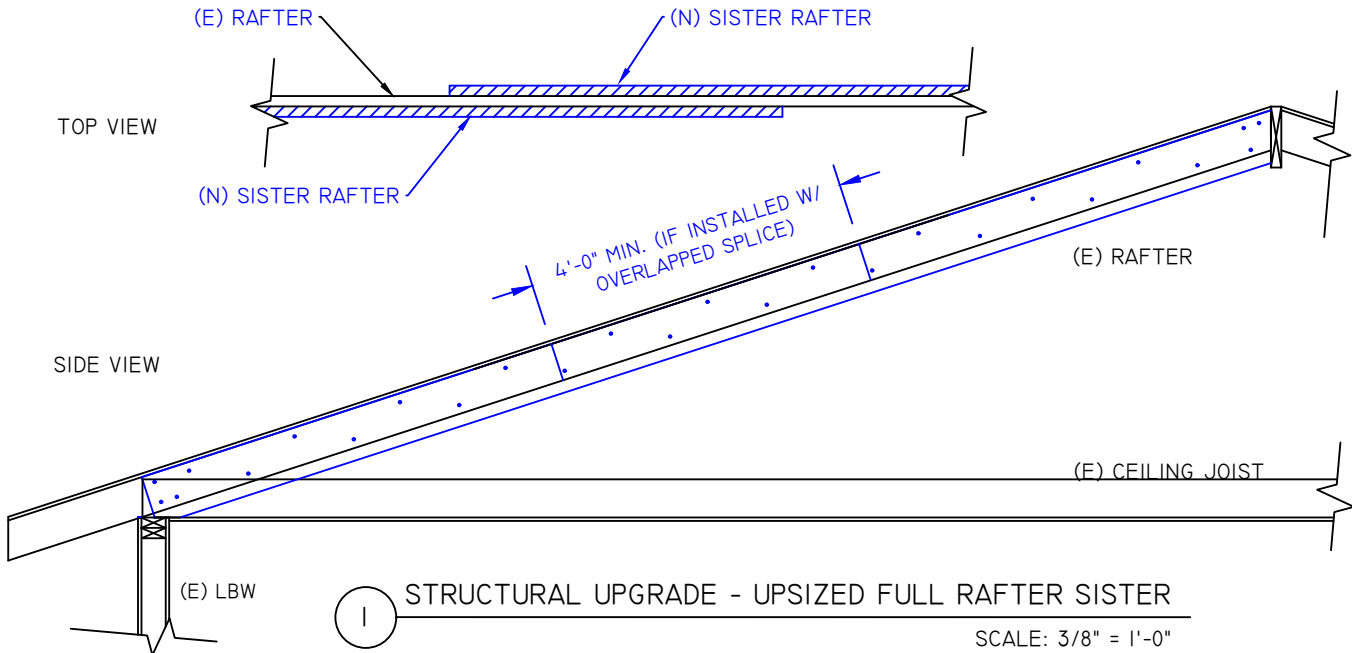
*** ONLY 2 FASTENERS REQUIRED IN TO (E) ROOF RAFTER/TOP CHORD. IF DURING INSTALLATION THE (E) RAFTER/TOP CHORD IS MISSED, CONTINUE TO DRIVE FASTENER UNTIL 2 LAND IN TO THE (E) RAFTER/TOP CHORD. IF ALL MISS, (6) IN (E) SHEATHING ONLY ARE SUFFICIENT AS LONG AS ATTACHMENTS SPAN NO GREATER THAN 24" OC.



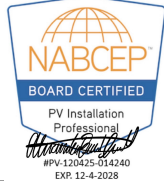
A COMP SHINGLE - STRONGHOLD BUTYL ATT KIT - STANDOFF DETAIL
SCALE: 3" = 1'-0"

STRUCTURAL UPGRADE REQUIRED - FULL RAFTER SISTER

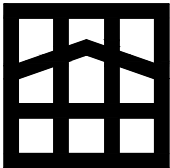
1. INSTALL (N) FULL SISTER FULL LENGTH OR OVERLAPPED W/ SPLICE TO (E) RAFTERS TO OCCUR ONLY UNDER PV ARRAY.
2. SECURE WITH (N) 10D SINKERS @ 6" O.C. STAGGERED.
3. IF RIDGE BOARD PRESENT SECURE EACH END WITH 3 SCREWS OR NAILS GROUPED WITHIN 6" OF EACH END.



STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.



ION DEVELOPER LLC
DAVID STANLEY CONRAD
C - ELECTRICAL CONTRACTOR
CI524



ION SOLAR
44 E 800 N
OREM, UTAH 84057
888.781.7074

PROJECT ID		00H511
SITE OWNER		ULEILIACHRISTINA & LUIS A GARCIA
SITE ADDRESS		414 N WASHINGTON ST NEWBERG, OREGON 97132
EQUIP.		(12) SILFAB SOLAR SIL-440 QD DCA3 (1) SOLAREEDGE SE3800H-US
SYSTEM SIZE		5.28KW DC 3.8KW STC-AC, 4.932KW CEC-AC
PROJECT DESIGNER		JHERWIN LACERNA
DATE		19-MAR-2026
SHEET NAME		STRUCTURAL DETAILS
SHEET #	REV	0
S-4		

PV SYSTEM STRUCTURAL SPECIFICATIONS AND CALCULATIONS

DESIGN LOCATION AND SITE SPECIFICATIONS

JURISDICTION	CITY OF NEWBERG
STATE	OREGON
ADOPTED LOAD STANDARD	ASCE 7-16
OCCUPANCY / RISK CATEGORY	II
BASIC WIND SPEED (MPH (3-SEC GUST))	96
WIND EXPOSURE CATEGORY	B
GROUND SNOW LOAD (PSF) (Pg)	36
BASE ELEVATION (FT)	180
STRUCTURE TYPE	INHABITED - GABLE / FLAT ROOF
MIN. ROOF SLOPE (DEG.)	27
MEAN ROOF HEIGHT (FT.)	11

RACKING AND ATTACHMENT SPECIFICATIONS

MODULE MANUFACTURER / TYPE	SILFAB SOLAR SIL-440 QD DCA3
SOLAR MODULE WEIGHT (LBS)	46.3
SOLAR MODULE LENGTH (IN.)	67.8
SOLAR MODULE WIDTH (IN.)	44.6
SOLAR MODULE AREA (SQ. FT)	21
PV RACKING	UNIRAC NXT DOM CON GL
PV RACKING TYPE	RAIL
PV ROOF ATTACHMENT	UNIRAC STRONGHOLD BUTYL ATT KIT #14S MILL
PV ROOF ATTACHMENT FASTENER	(2) 3" #14-14 AB SCREWS(S)
MANUFACTURER UPLIFT CAPACITY (LBS)	779
MANUFACTURER LATERAL CAPACITY (LBS)	320
PORTRAIT ATT. SPACING (IN. O.C.)	48
LANDSCAPE ATT. SPACING (IN. O.C.)	48
MAX PORTRAIT RAIL CANTILEVER SPACING (IN. O.C.)	23
MAX LANDSCAPE RAIL CANTILEVER SPACING (IN. O.C.)	23
# OF ATTACHMENT POINTS	32
RACKING DEAD LOAD (PSF)	0.8
SOLAR MODULE DEAD LOAD (PSF)	2.20
TOTAL PV ARRAY DEAD LOAD (PSF)	3.00
MAX. ROOF POINT DEAD LOAD (PSF)	34.0

DESIGNED VELOCITY PRESSURE CALCULATIONS

VELOCITY PRESSURE (PSF) = QH = 0.00256(Kh)(Kzt)(Kd)(Ke)(V^2)	EQN. 26.10-1
TERRAIN EXPO. CONSTANT (a) = 7.0	TABLE 26.11-I
TERRAIN EXPO. CONSTANT (Zg)(FT) = 1200	TABLE 26.11-I
VP EXPOSURE COEFFICIENT (Kh) = 0.70	TABLE 26.10-I
TOPOGRAPHIC FACTOR (Kzt) = 1.0	EQN. 26.8-I
WIND DIRECTIONALITY FACTOR (Kd) = 0.9	TABLE 26.6-I
GROUND ELEVATION FACTOR (Ke) = 1.0	TABLE 26.9-I
QH (PSF) = 14.0	

DESIGNED ROOF SNOW LOAD CALCULATIONS

	ASCE 7-16
	= Ps = (Cs)(0.7)(Ce)(Ct)(Is) (Pg)
SLOPED ROOF SNOW LOAD (PSF)	EQN. 7.4-1
EXPOSURE FACTOR (Ce) =	TABLE 7.3-1
IMPORTANCE FACTOR (Is) =	TABLE 1.5-2
GROUND SNOW LOAD (PSF) (Pg) = 36.0	
NO PV - WARM NON SLIPPERY SURFACE	
THERMAL FACTOR (Ct) =	TABLE 7.3-2
SLOPE FACTOR (Cs) =	FIG. 7.4-1
Ps (PSF) = 25	
PV - COLD SLIPPERY SURFACE	
THERMAL FACTOR (Ct) =	TABLE 7.3-2
SLOPE FACTOR (Cs) =	FIG. 7.4-1
Ps (PSF) = 25	

RACKING - ATTACHMENT AND FASTENER, CONNECTION ZONE WIND PRESSURE AND POINT LOAD

GABLE ROOF 20° < θ ≤ 27°	FIGURE 30.3-2C				
DESIGN WIND PRESSURE (PSF) = W = qh(GCp)(ye)(ya)	EQN. 26.10-1				
ARRAY EDGE FACTOR (Ye) = 1	EQN. 29.4-7				
	UPLIFT	COMPRESSION	LATERAL		
	ZONE 1	ZONE 2R	ZONE 2E	ALL ZONES	ALL ZONES
RAIL - PORTRAIT MODULE ORIENTATION	48 IN. O.C.	48 IN. O.C.	48 IN. O.C.	48 IN. O.C.	48 IN. O.C.
SOLAR PANEL PRESSURE EQ. FACTOR (ya) =	0.80	0.80	0.80	0.80	0.80
EXTERNAL PRESSURE COEFF. (GcP) =	-1.4	-2.5	-3.6	0.5	-3.6
ASD PRESSURE (W)(PSF) =	-16.00	-28.08	-40.43	5.84	18.35
PV DEAD LOAD (D) =	3.00	3.00	3.00	3.00	0.00
SNOW OR LIVE LOAD (S OR L)(PSF) =	0.00	0.00	0.00	25.00	20.00
MAX. TRIBUTARY AREA (SQ. FT) =	11.3	11.3	8.5	11.3	11.3
GOV. LOAD COMBINATION (2.4.1) =	0.6D+0.6W	0.6D+0.6W	0.6D+0.6W	D+0.45W+0.75S	D+0.75L+0.45W
MAX. LOAD (LBS) =	-88.1	-170.0	-190.3	248.7	108.3
RAIL - LANDSCAPE MODULE ORIENTATION	48 IN. O.C.	48 IN. O.C.	48 IN. O.C.	48 IN. O.C.	48 IN. O.C.
SOLAR PANEL PRESSURE EQ. FACTOR (ya) =	0.80	0.80	0.80	0.80	0.80
EXTERNAL PRESSURE COEFF. (GcP) =	-1.4	-2.5	-3.6	0.7	-3.6
ASD PRESSURE (0.6P)(PSF) =	-16.00	-28.08	-40.43	7.86	18.35
PV DEAD LOAD (D) =	3.00	3.00	3.00	3.00	0.00
SNOW OR LIVE LOAD (S OR L)(PSF) =	0.00	0.00	0.00	25.00	20.00
TRIBUTARY AREA (SQ. FT) =	7.43	7.43	5.58	7.43	7.43
GOV. LOAD COMBINATION (2.4.1) =	0.6D+0.6W	0.6D+0.6W	0.6D+0.6W	D+0.45W+0.75S	D+0.75L+0.45W
MAX. LOAD (LBS) =	-58.0	-111.8	-125.2	170.4	76.4

RACKING - ATTACHMENT AND FASTENER, CAPACITY / DEMAND CHECK

LACKING - ATTACHMENT AND FASTENER, CAPACITY / DEMAND CHECK		NDS 12.2
UNIRAC STRONGHOLD BUTYL ATT KIT #14S MILL - (2) 3" #14-14 AB SCREW(S)		
LAG SCREW WITHDRAWAL DESIGN VALUE (LBS) = W = 1800(G*3/2)(D*3/4)		12.2.1
ROOF ATTACHMENT FASTENER (D) (IN.) = 6/25		TABLE 2.3.2
FASTENER QTY PER ATTACHMENT = 2		TABLE 12.3.3A
FASTENER EMBEDMENT DEPTH (IN.) = 2.0		
LUMBER SPECIFIC GRAVITY (G) = 0.5		
LOAD DURATION FACTOR (Cd) = 1.6		
PRYING COEFFICIENT = 1.4		
WITHDRAWAL DESIGN VALUE(W)(LBS / IN.) = 218.2		
LAG SCREW WITHDRAWL CAPACITY (LBS) = 997.6		
	UPLIFT	LATERAL
MANUFACTURER MAX. CAPACITY (LBS) = 779.0	779.0	320.0
MAX. LAG SCREW CAPACITY (LBS) = 997.6	997.6	
MAX. ATT. WITHDRAWL DEMAND (LBS) = 248.7	248.7	108.4
	OK	OK

RACKING - RAIL, SPAN AND CANTILEVER CHECK - ALL ZONES

UNIRAC NXT DOM CON GL			
MAX. HORIZONTAL RAIL SPAN (L)(FT.) =	4.0		
MAX. VERTICAL SPACING BETWEEN RAILS (FT.) =	4.7		
MAX. RAIL CANTILEVER SPAN (A)(X)(FT.) =	1.9		
	COMPRESSION	UPLIFT	LATERAL
GOV. LOAD COMBINATION (2.4.1) =	D+0.45W+0.75S	0.6D+0.6W	D+0.6W
TOTAL LOAD (PSF) =	28.1	6.6	8.4
TOTAL LINEAR LOAD (W)(LB. / FT.) =	70.7	18.7	10.8
RAIL - SPAN CHECK			(WL^2)/8
ALLOWABLE MANU. BENDING MOMENT (LB. / FT.) =	223	331	264
ACTUAL MAX. BENDING MOMENT (LB / FT.) =	141.3	37.4	21.6
			(W)(L)^4 / 185(E)(I)
ALLOWABLE DEFLECTION (IN.) =	0.80	0.80	0.80
ACTUAL MAX DEFLECTION (IN.) =	0.11	0.03	0.02
	OK	OK	OK
RAIL - CANTILEVER CHECK			
OVERHANG			(W/2)(A-X)^2
ALLOWABLE MANU. BENDING MOMENT (LB. / FT.) =	223	331	264
ACTUAL MAX BENDING MOMENT (LB / FT.) =	129.8	34.4	19.8
			(wx/24EI)(4LA^2-L^3+6xA^2-4ax^2+ax^3)
ALLOWABLE MANU. DEFLECTION (L/60)(IN.) =	0.38	0.38	0.38
ACTUAL MAX DEFLECTION (IN.) =	0.03	0.01	0.00
SPAN REACTION			(W/8L^2)(L+A)^2(L-A)^2
ALLOWABLE MANU. BENDING MOMENT (LB. / FT.) =	331	223	264
ACTUAL MAX BENDING MOMENT (LB / FT.) =	83.9	22.2	12.8
			(wx/24EI)(L^4-2L^2x^2+Lx^3-2A^2L^2+2A^2x^2)
ALLOWABLE MANU. DEFLECTION (L/60)(IN.) =	0.80	0.80	0.80
ACTUAL MAX DEFLECTION (IN.) =	0.01	0.00	0.00
ATTACHMENT / CONNECTION REACTION			(W/2L)(L+A)^2
UPLIFT CAPACITY (LBS) =	779.0	779.0	779.0
ACTUAL MAX REACTION UPLIFT FORCE (LBS) =	309.2	81.8	47.3
	OK	OK	OK

RACKING - MODULE CLAMPS CAPACITY / DEMAND CHECK

MID CLAMP: UNIRAC NXT UMOUNT COMBO CLAMP - DARK - CCLAMPDI-US
END CLAMP: UNIRAC NXT UMOUNT COMBO CLAMP - DARK - CCLAMPDI-US

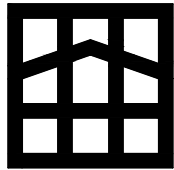
	UPLIFT	SLIDING	LATERAL
MANUFACTURER MAX. CAPACITY (LBS) =	1820.0	652.0	398.0
MAX. CLAMP WITHDRAWL DEMAND (LBS) =	190.3	108.4	108.4
	OK	OK	OK



STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.



ION DEVELOPER LLC
DAVID STANLEY CONRAD
C - ELECTRICAL CONTRACTOR
CI524



ION SOLAR
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OREM, UTAH 84057
888.781.7074

PROJECT ID	00H511
SITE OWNER	ULEIILACHRISTINA & LUIS A GARCIA
SITE ADDRESS	414 N WASHINGTON ST NEWBERG, OREGON 97132
EQUIP.	(12) SILFAB SOLAR SIL-440 QD DCA3 (1) SOLAREEDGE SE3800H-US
SYSTEM SIZE	5.28KW DC 3.8KW STC-AC, 4.932KW CEC-AC
PROJECT DESIGNER	JHERWIN LACERNA
DATE	19-MAR-2026
SHEET NAME	STRUCTURAL CALCULATIONS I
SHEET #	S-5
REV	0

PV SYSTEM STRUCTURAL SPECIFICATIONS AND CALCULATIONS

GRAVITY LOAD / FRAMING CALCULATIONS

DEAD LOAD (PSF)	RSI	
ROOF MEMBRANE	COMPOSITION SHINGLE	4.0
		2.3
SHEATHING PITCH (DEG)	LUMBER 27	
	CONVENTIONAL FRAMING - UPGRADE - UPSIZED FULL SISTER (2.5X) - RAFTER 2X4 @ 24 IN. O.C. - DF #2 @ 12.2 FT. MAX SPAN	2.2
PV ARRAY		3.0
TOTAL ROOF DEAD LOAD		11.5
ADJUSTED TO SLOPED ROOF		13.0
ROOF SNOW LOAD		25.0
LIVE LOAD (PSF)		0.0
TOTAL GREATEST LIVE OR PV LOAD (PSF)		38.0
IBC 1607.14.4.1		

RAFTER / TOP CHORD MEMBER PROPERITES	DF #2 - 2x4 - UPGRADE - UPSIZED FULL SISTER (2.5x)	
SECTION MODULUS (S)(IN^3)		10.13
MOMENT OF INERTIA (I)(IN^4)		22.78
TOTAL LOAD ON MEMBER (W) (PLF)		75.9
MEMBER SPAN 1 (L) (FT)		12.2
MEMBER SPAN 2 (K) (FT)		0
MIN. EAVE SPAN (V) (FT)		0.5
MODULUS OF ELASTICITY (E) (PSI)		1600000
SHEAR (Fv) (PSI)		180
AREA (A) (IN^2)		13.5

MAX BENDING STRESS CHECK	(Fb)(Cd)(Cf)(Cr)	
BENDING (Fb) (PSI)		900
LOAD DURATION FACTOR (Cd)		1.15
SIZE FACTOR (Cf)		1.40
REPETITIVE MEMBER FACTOR (Cr)		1.15

ALLOWABLE BENDING MOMENT (FT-LBS)	1406.0	
	(W/8L^2)((L+V)^2)((L-V)^2)/(S)	
ACTUAL MAX BENDING MOMENT (FT-LBS)	1408.0	
	100%	OK

MAX DEFLECTION CHECK - TOTAL LOAD	UNIFORM DISTRIBUTED L / 120	
ALLOWABLE DEFLECTION	1.220	IN.
ACTUAL MAX DEFLECTION (W)(L)^4 / 185(E)(I)	0.431	IN.
	35%	OK

MAX DEFLECTION CHECK - LIVE LOAD	L / 180	
ALLOWABLE DEFLECTION	0.610	IN.
ACTUAL MAX DEFLECTION (W)(L)^4 / 185(E)(I)	0.227	IN.
	37%	OK

MAX SHEAR CHECK		
ALLOWABLE SHEAR = Fv (A)	2430	LB S.
ACTUAL MAX SHEAR = (w)(L)/2	463	LB S.

3/20/2026

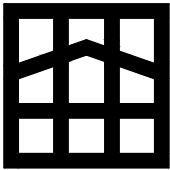


EXPIRES:12/31/26

STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.



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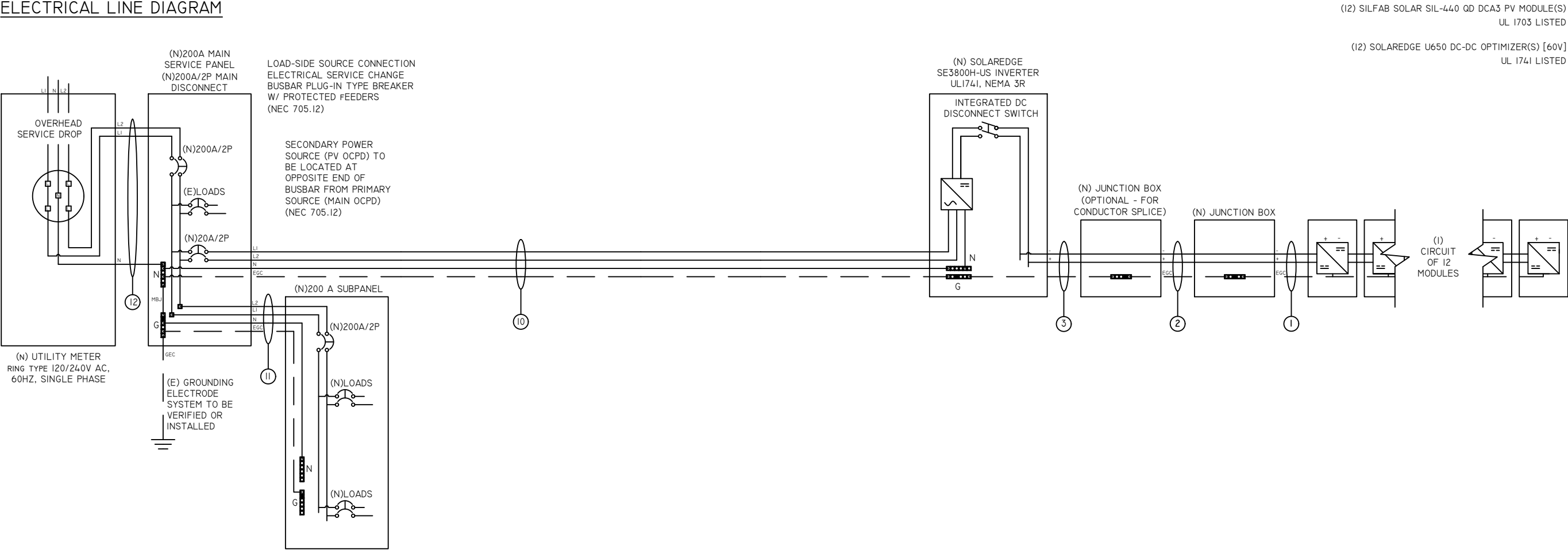
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OREM, UTAH 84057
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PROJECT ID	00H511
SITE OWNER	ULEILIACHRISTINA & LUIS A GARCIA
SITE ADDRESS	414 N WASHINGTON ST NEWBERG, OREGON 97132
EQUIP.	(12) SILFAB SOLAR SIL-440 QD DCA3 (1) SOLAREEDGE SE3800H-US
SYSTEM SIZE	5.28KW DC 3.8KW STC-AC, 4.932KW CEC-AC
PROJECT DESIGNER	JHERWIN LACERNA
DATE	19-MAR-2026
SHEET NAME	STRUCTURAL CALCULATIONS 2
SHEET #	REV S-60

CONDUCTOR AND RACEWAY SCHEDULE

TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V	TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V	TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V	TAG	QTY	SIZE - #	TYPE	DESIGNATOR	I / V
10	(1)	10 AWG	THHN / THWN-2, CU.	BLACK (L1)	16.0 A AC (MAX)							1	(1)	10 AWG	USE-2 / RHH / RHW-2	(-), (+)	15.0 A DC (ISC)						
	(1)	10 AWG	THHN / THWN-2, CU.	RED (L2)	240 V AC								(1)	6 AWG	SOLID BARE CU.	(EGC)	13.4 A DC (IMP)						
	(1)	10 AWG	THHN / THWN-2, CU.	WHITE (N)													480.0 V DC (VOC)						
	(1)	10 AWG	THHN / THWN-2, CU.	GREEN (EGC)													395.0 V DC (VMP)						
	(1)	3/4 IN.	EMT	(RACEWAY)	EXTERIOR												EXTERIOR						
11	(1)	4/0 AWG 3C, SE-R W/G, AL.		(L1), (L2), (N), (EGC)	149.2 A AC (MAX)							2	(1)	10 AWG 2C, MC W/G, CU.	(-), (+), (EGC)	15.0 A DC (ISC)							
		(CABLE)		(NO RACEWAY)	240 V AC									(CABLE)	(NO RACEWAY)	13.4 A DC (IMP)							
																	480.0 V DC (VOC)						
																	395.0 V DC (VMP)						
					INTERIOR												INTERIOR						
12	(1)	4/0 AWG	THHN / THWN-2, AL.	BLACK (L1)	149.2 A AC (MAX)							3	(1)	10 AWG	THHN / THWN-2, CU.	BLACK (-)	15.0 A DC (ISC)						
	(1)	4/0 AWG	THHN / THWN-2, AL.	RED (L2)	240 V AC								(1)	10 AWG	THHN / THWN-2, CU.	RED (+)	13.4 A DC (IMP)						
	(1)	4/0 AWG	THHN / THWN-2, AL.	WHITE (N)									(1)	10 AWG	THHN / THWN-2, CU.	GREEN (EGC)	480.0 V DC (VOC)						
													(1)	3/4 IN.	EMT	(RACEWAY)	395.0 V DC (VMP)						
	(1)	2 IN.	PVC SCH. 40	(RACEWAY)	EXTERIOR												EXTERIOR						

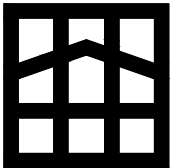
ELECTRICAL LINE DIAGRAM



STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.



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PROJECT ID	00H511
SITE OWNER	ULEILIACHRISTINA & LUIS A GARCIA
SITE ADDRESS	414 N WASHINGTON ST NEWBERG, OREGON 97132
EQUIP.	(12) SILFAB SOLAR SIL-440 QD DCA3 (1) SOLAREEDGE SE3800H-US
SYSTEM SIZE	5.28KW DC 3.8KW STC-AC, 4.932KW CEC-AC
PROJECT DESIGNER	JHERWIN LACERNA
DATE	19-MAR-2026
SHEET NAME	ELECTRICAL LINE DIAGRAM
SHEET #	E-7
REV	0

PV SYSTEM ELECTRICAL SPECIFCATIONS AND CALCULATIONS

DESIGN LOCATION AND TEMPERATURES

TEMPERATURE DATA SOURCE	ASHRAE
STATE	OREGON
JURISDICTION	CITY OF NEWBERG
WEATHER STATION	AURORA STATE AP
ASHRAE EXTREME LOW TEMP (°C)	-5
ASHRAE 0.4% HIGH TEMP (°C)	37
DESIGNED MAX. SYSTEM VDROP / VRISE	4.00%

PV MODULE SPECIFICATIONS

RATED POWER (P _{MAX}) (W DC)	440	SILFAB SOLAR SIL-440 QD DCA3
MAXIMUM POWER VOLTAGE (V _{MP} DC)	33.41	
MAXIMUM POWER CURRENT (I _{MP} DC)	13.17	
OPEN CIRCUIT VOLTAGE (V _{OC} DC)	38.97	
SHORT CIRCUIT CURRENT (I _{SC} DC)	14.22	
PMP/VMP TEMP. COEFFICIENT	-0.29	
VOC TEMP. COEFFICIENT	-0.24	
SERIES FUSE RATING (A DC)	25	
ADJ. MODULE VOC @ ASHRAE LOW TEMP (°C)	41.8	
ADJ. MODULE VMP @ ASHRAE 2% AVG. HIGH TEMP (°C)	29.1	

DC-DC OPTIMIZER

RATED INPUT POWER (W DC)	650	SOLAREEDGE U650
MAX VOLTAGE (ADJ. TEMP. VOC) (V DC)	60	
MAX INPUT CURRENT (I _{SC}) (A DC)	15	
CEC WEIGHTED EFFICIENCY (%)	98.6	
MAX OUTPUT CURRENT (A DC)	15	
MAX OUTPUT VOLTAGE (V DC)	60	
MIN STRING LENGTHS (PV MODULE / OPTIMIZER QTY)	8	
MAX STRING LENGTHS (PV MODULE / OPTIMIZER QTY)	25	
MAX NOMINAL POWER PER CIRCUIT (W DC)	6800	

INVERTER(S) SPECIFICATIONS

TYPE	DC-DC OPTIMIZER	SOLAREEDGE SE3800H-US
MAX. OR RECOMMENDED MODULE POWER (W)	7600	
MAXIMUM INPUT DC OPEN-CIRCUIT VOLTAGE (VOC)	480	
NOMINAL DC INPUT VOLTAGE (V)	395	
MAXIMUM DC START VOLTAGE(V)	480	
MAXIMUM INPUT CURRENT (I _{SC}) (A)	45	
MAX CONTINUOUS OUTPUT POWER (VA)	3800	
MAX. CONTINUOUS OUTPUT CURRENT (A)	16	
NOMINAL (L-L) OUTPUT VOLTAGE	240	
CEC WEIGHTED EFFICIENCY (%)	99.0%	

SYSTEM ELECTRICAL SPECIFICATIONS

NUMBER OF MODULES PER CIRCUIT	12	CIR 1
DC POWER RATING PER CIRCUIT (STC)(W DC)	5280	
TOTAL MODULE QUANTITY	12 PV MODULES	
STC DC POWER RATING OF ARRAY	5280W DC	
MAXIMUM DC INPUT CURRENT (I _{SC}) (A)	15	
NOMINAL DC INPUT CURRENT @ STC (I _{MP}) (A)	13.4	
INVERTER OCPD RATING (A)	20	
COMBINED INV. CONT. OUTPUT CURRENT x 125% (A AC)	20.0	
PV POWER PRODUCTION SYSTEM OCPD RATING (A)	20	
MAX. ARRAY STC-AC POWER (W)	3800	
MAX. ARRAY CEC-AC POWER (W)	4932	

DC/AC VOLTAGE DROP CALCULATIONS

	DIST (FT)	COND.	VDROP(V)	VEND(V)	%VDROP
VDROP SEC. 1 (DC-DC OPT. TO JBOX)	4.7	10 Cu.	1.7	393.3	0.43%
VDROP SEC. 2 (JBOX TO INVERTER)	20	10 Cu.	0.7	394.3	0.18%
VDROP SEC.4 (INVERTER TO POI)	36	10 Cu.	1.4	238.6	0.58%
TOTAL VDROP			3.8		1.19% OK

RACEWAY / CONDUCTOR CALCULATIONS

DC-DC OPTIMIZER TO JUNCTION BOX (1)

MAX COMBINED DC-DC OPTIMIZER CURRENT =	15.0 A DC	
CONDUCTOR SIZE / INSULATION / TYPE =	10 AWG	USE-2 / RHH / RHW-2
CONDUCTOR AMP. RATING @ 90°C =	40 A	
PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)		
MAX DC-DC OPTIMIZER CURRENT X125%= 18.8	A DC	
PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)		
AMB. TEMP. AMP. CORRECTION =	0.91	
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0	
ADJUSTED CONDUCTOR AMPACITY (A) =	36.4 A DC	
LARGER AMPACITY OF 690.8(B)(1) or (B)(2) =	18.8 < 36.4	
(B)(1) - W/OUT CORRECTION FACTORS		
LARGER AMPACITY COMPLIANCE =	40.0 > 18.8	OK
RACEWAY SIZE / TYPE =	3/4 IN.	EMT OR NO RACEWAY
CONDUCTOR(S) / CABLE(S) CROSS-SECTION AREA (IN.^2) =	0.088 IN.^2	
CROSS-SECTIONAL AREA OF RACEWAY(IN.^2) =	0.533 IN.^2	
% ALLOWABLE RACEWAY FILL (NEC CH. 9, TBL 1) =	40% > 17%	OK

JUNCTION BOX TO JUNCTION BOX (2)

MAX COMBINED DC-DC OPTIMIZER CURRENT =	15.0 A DC	
CONDUCTOR SIZE / INSULATION / TYPE =	10 AWG	2C, MC W/G, CU.
CONDUCTOR AMP. RATING @75°C =	35 A	
PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)		
MAX DC-DC OPTIMIZER CURRENT X125%= 18.8	A DC	
PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)		
AMB. TEMP. AMP. CORRECTION =	0.88	
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0	
ADJUSTED CONDUCTOR AMPACITY (A) =	30.8 A DC	
LARGER AMPACITY OF 690.8(B)(1) or (B)(2) =	18.8 < 30.8	
(B)(1) - W/OUT CORRECTION FACTORS		
LARGER AMPACITY COMPLIANCE =	35.0 > 18.8	OK
RACEWAY SIZE / TYPE =	CABLE	

JUNCTION BOX TO INVERTER(S) (3)

MAX COMBINED DC-DC OPTIMIZER CURRENT =	15.0 A DC	
CONDUCTOR SIZE / INSULATION / TYPE =	10 AWG	THHN / THWN-2, CU.
CONDUCTOR AMP. RATING @75°C =	35 A	
PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)		
MAX DC-DC OPTIMIZER CURRENT X125%= 19.0	A DC	
PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)		
AMB. TEMP. AMP. CORRECTION =	0.88	
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0	
ADJUSTED CONDUCTOR AMPACITY (A) =	30.8 A DC	
LARGER AMPACITY OF 690.8(B)(1) or (B)(2) =	19.0 < 30.8	
(B)(1) - W/OUT CORRECTION FACTORS		
LARGER AMPACITY COMPLIANCE =	35.0 > 19.0	OK
RACEWAY SIZE / TYPE =	3/4 IN.	EMT
CONDUCTOR(S) / CABLE(S) CROSS-SECTION AREA (IN.^2) =	0.063 IN.^2	
CROSS-SECTIONAL AREA OF RACEWAY(IN.^2) =	0.533 IN.^2	
% ALLOWABLE RACEWAY FILL (NEC CH. 9, TBL 1) =	40% > 12%	OK

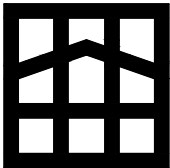
INVERTER TO MAIN PV_OCPD (10)

COMBINED INVERTER CONTINUOUS OUTPUT CURRENT =	16.0 A AC	
CONDUCTOR SIZE / INSULATION / TYPE =	10 AWG	THHN / THWN-2, CU.
CONDUCTOR AMP. RATING @75°C =	35 A	
PER NEC 690.8(B)(1)(W/OUT CORRECTION FACTORS)		
MAX COMBINED INVERTER CONT. OUTPUT CURRENT X125% = 20.0	A AC	
PER NEC 690.8(B)(2)(WITH CORRECTION FACTORS)		
AMB. TEMP. AMP. CORRECTION =	0.88	
# OF CONDUCTORS IN RACEWAY CORRECTION =	1.0	
ADJUSTED CONDUCTOR AMPACITY (A) =	30.8 A AC	
LARGER AMPACITY OF 690.8(B)(1) or (B)(2) =	20.0 < 30.8	
(B)(1) - W/OUT CORRECTION FACTORS		
LARGER AMPACITY COMPLIANCE =	35.0 > 20.0	OK
RACEWAY SIZE / TYPE =	3/4 IN.	EMT
CONDUCTOR(S) / CABLE(S) CROSS-SECTION AREA (IN.^2) =	0.084 IN.^2	
CROSS-SECTIONAL AREA OF RACEWAY(IN.^2) =	0.533 IN.^2	
% ALLOWABLE RACEWAY FILL (NEC CH. 9, TBL 1) =	40% > 16%	OK

STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.



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PROJECT ID
00H511

SITE OWNER
ULEILIACHRISTINA & LUIS A GARCIA

SITE ADDRESS
414 N WASHINGTON ST
NEWBERG, OREGON 97132

EQUIP.
(12) SILFAB SOLAR SIL-440 QD DCA3
(1) SOLAREEDGE SE3800H-US

SYSTEM SIZE
5.28KW DC
3.8KW STC-AC, 4.932KW CEC-AC

PROJECT DESIGNER
JHERWIN LACERNA

DATE
19-MAR-2026

SHEET NAME
ELECTRICAL CALCULATIONS

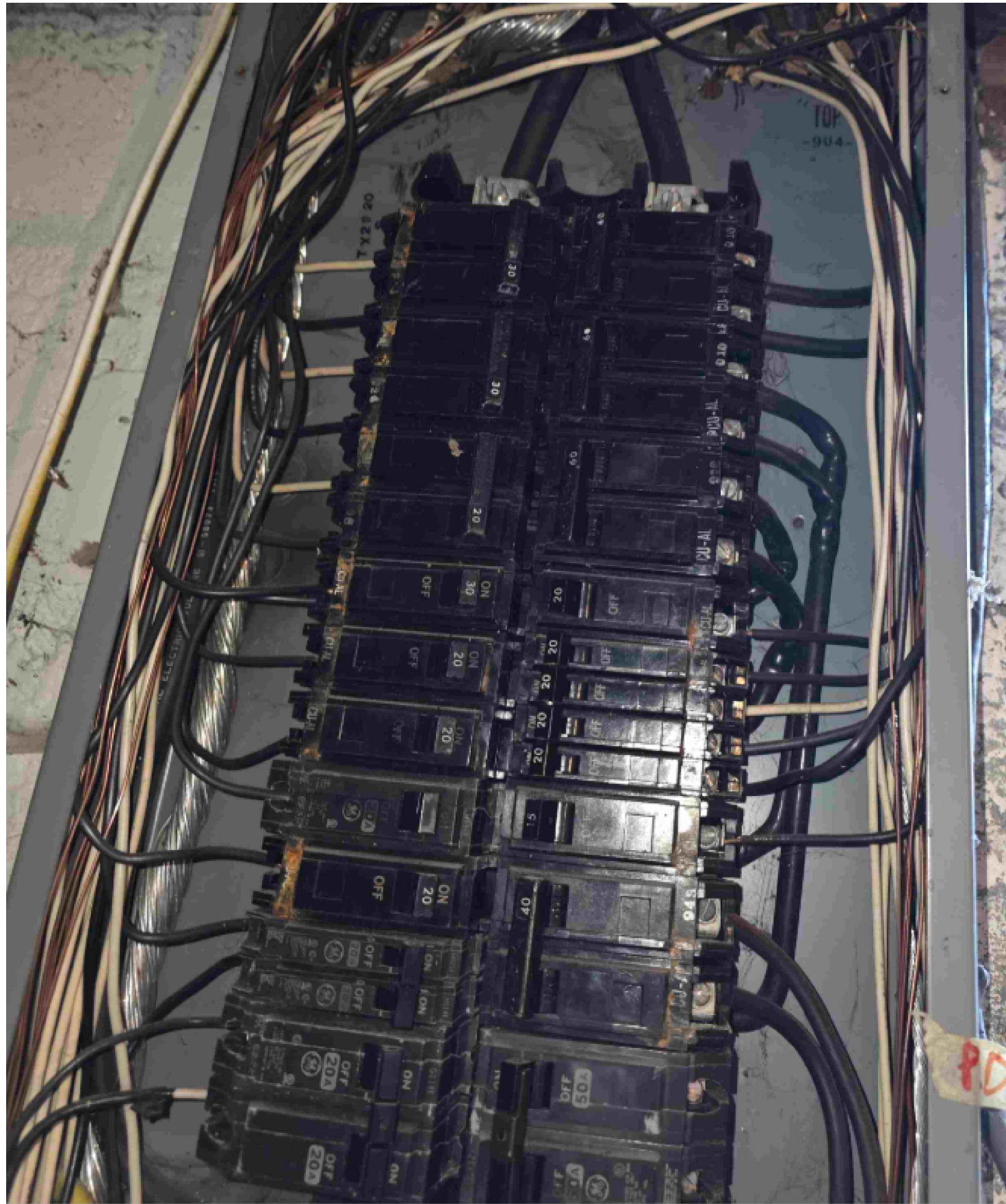
SHEET #	REV
E-8	0

OPTIONAL FEEDER AND SERVICE LOAD NEC 220.82

-2	SMALL APPLIANCE AND LAUNDRY		NEC 220.82(B)(2)	
	SMALL APPLIANCE (2-WIRE)	6	x 1500 VA =	9000 VA
	LAUNDRY	1	x 1500 VA =	1500 VA
				10500 VA

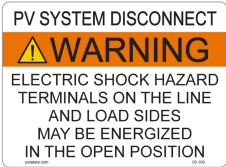
TOTAL GENERAL LOADS	4570I VA
TOTAL 100% FOR FIRST 10 kVA AND 40% REMAINDER	24280 VA

OK 149 A TOTAL LOAD < 200 A MAIN OCPD

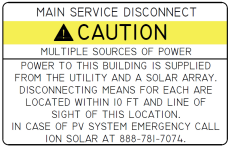


SHEET #	REV
E-9	0

ELECTRICAL FIELD-APPLIED HAZARD MARKINGS



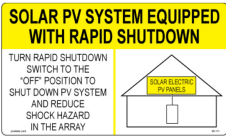
A FOR EACH PV DISCONNECTING MEANS WHERE ALL TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION.
[OESC 690.13(B), OESC 690.56, OESC 705.20]



N PERMANENT DIRECTORY TO BE LOCATED AT THE MAIN SERVICE EQUIPMENT IF ALL ELECTRICAL POWER SOURCE DISCONNECTING MEANS ARE GROUPED AND IN LINE OF SITE OF THE MAIN SERVICE DISCONNECTING MEANS.
[OESC 690.56 & OESC 705.10].



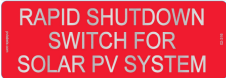
B PLACED ADJACENT TO PV SYSTEM PLUG-IN TYPE BREAKER TO A BUSBAR FOR A LOAD SIDE CONNECTION.
[OESC 705.12(B)(2)]



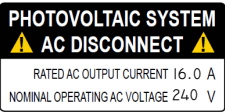
C FOR ELECTRICAL SERVICES CONNECTED TO PV SYSTEM. SIGN TO BE LOCATED AT EACH SERVICE EQUIPMENT LOCATION.
[OESC 690.12]



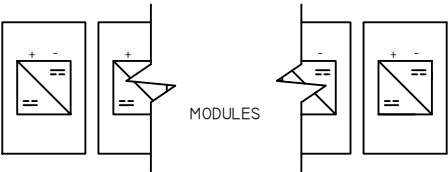
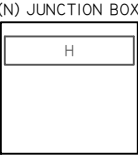
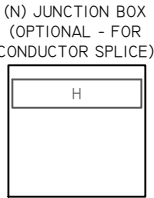
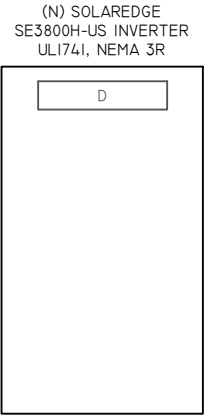
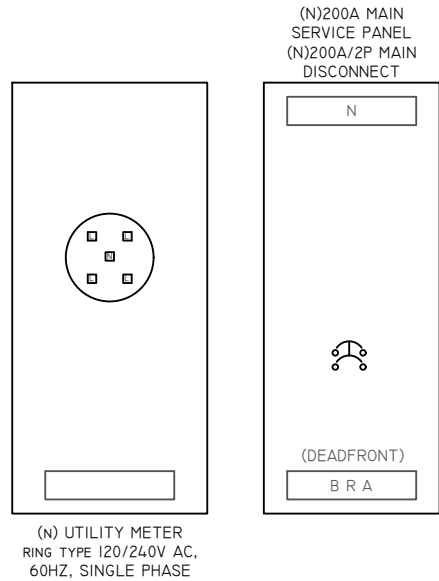
H FOR WIRING METHODS CONTAINING DC PV CIRUCITS (NOT TO BE CONFUSED WITH AC PV CIRCUITS). TO BE PLACED ON JUNCTION BOXES AND ALONG RACEWAYS NO GREATER THAN 10 FT. [NEC 690.12]



D FOR RAPID SHUTDOWN SWITCH INITIATION DEVICE LOCATED AT A READILY ACCESSIBLE OUTDOOR LOCATION. CAN BE THE SYSTEM PLUG-IN TYPE BREAKER OR A SAFETY SWITCH.
[OESC 690.12]



T AT EACH PV SYSTEM DISCONNECTING MEANS.
[UTILITY SPECIFIC LABEL]



STRUCTURAL UPGRADES REQUIRED.
SEE PAGE S-4 FOR DETAILS.



ION DEVELOPER LLC
DAVID STANLEY CONRAD
C - ELECTRICAL CONTRACTOR
CI524



ION SOLAR
44 E 800 N
OREM, UTAH 84057
888.781.7074

PROJECT ID
00H511

SITE OWNER
ULEILIACHRISTINA & LUIS A GARCIA

SITE ADDRESS
414 N WASHINGTON ST
NEWBERG, OREGON 97132

EQUIP.
(12) SILFAB SOLAR SIL-440 QD DCA3
(1) SOLAREEDGE SE3800H-US

SYSTEM SIZE
5.28KW DC
3.8KW STC-AC, 4.932KW CEC-AC

PROJECT DESIGNER
JHERWIN LACERNA

DATE
19-MAR-2026

SHEET NAME
ELECTRICAL LABELS

SHEET #
E-10

REV
0

- ALL CAUTION, WARNING, OR DANGER SIGNS OR LABELS SHALL:
1. COMPLY WITH ANSI Z535.4-2011 STANDARDS.
 2. BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HANDWRITTEN.
 3. SHALL BE OF SUFFICEINT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
 4. UNLESS OTHERS SPECIFIED MINIMUM TEXT HEIGHT TO BE 1/8" (3MM).