

## City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue • Portland, Oregon 97201 | 503-823-7300 | www.portland.gov/bds



# Permit Revision Submittal Requirements and Application

A Permit Revision is required when there are proposed changes to the project after the permit has been issued. This may arise due to discrepancies between the city-approved permit drawings and actual field conditions, or the customer has changed their mind about an aspect of the project. In all cases, a revision to the existing permit must be submitted, reviewed and approved.

Minimum Submittal Requirements (check all boxes and sign below):

A copy of this application.

One PDF copy of plans for electronic submittals or three copies for paper submittals.

All plans must clearly reflect the proposed change(s). Changes must be bubbled.

Drawings and calculations must be stamped and signed by the Architect and/or the Engineer of Record, if applicable.

Project narrative for extensive revisions.

20-217819 REV 01 RS

One PDF copy of calculations and other supporting documents for electronic submittals or two copies for paper submittals.

Copy of Inspector's correction notice, if the revision is due to an inspection correction. One PDF copy for electronic submittals and two copies for paper submittals.

## Applicant Information:

Applicant Name Hannah Webb

Street Address 1403 N Research Way City/State/ZIP Orem, Utah 84097

Email permitting.department@blueravensolar.com Phone 385-482-0045

Value of Proposed Revision 5,485.38 Issued Permit # 2020-217819-000-00-RS

Job Site Address 5119 SE 46th Avenue, Portland, Oregon, 972(City/State/ZIP\_

Description of Revision The revised plans now show the updated layout and system size to be installed.

Haunah Webb

Date\_03/18/2021

## Fees:

An invoice with permit fees will be sent to the applicant once minimum submittal requirements have been verified. Permit Revisions are subject to fees associated with plan review, processing and any increase in project value.

The Bureau of Development Services fee schedule is on the BDS web site: www.portlandoregon.gov/bds/article/102792

## **Helpful Information:**

**Applicant Signature** 

Bureau of Development Services |City of Portland, Oregon 1900 SW 4th Avenue, Portland, OR 97201 For Hours Call 503-823-7310 or visit www.portlandoregon.gov/bds

## Important Telephone Numbers:

503-823-7310
503-823-1456
503-823-7000
503-823-7388
503-823-7357
503-823-7526
503-823-6868

Date: 03/16/2021 Permit #: 2020-217819-000-00-RS Project Name: As-Built (REVC) Amy Espinor Address: 5119 SE 46th Avenue - Portland, Oregon 97206

# 20-217819 REV-01-RS

To whom it may concern,

The revised permits now show the updated layout and system size to be installed. Interconnection method has been updated to a supply-side tap, showing two PV disconnects on the plans, one (fused) to be installed next to the interior MSP at the point of interconnection, and a second (non-fused) to be installed adjacent to the utility meter. Module type has been updated to Jinko 325, module count has been reduced to 18, and all wire sizing/electrical calculations have been re-run and updated.

Layout changes were necessitated by new structural information. Sideview sketches and mounting information have correspondingly been updated.

Please reach out to me directly if you have any questions.

Devin Bartholomew PV Design Engineering devin.bartholomew@blueravensolar.com design@blueravensolar.com 385-498-6700 Elizabeth Kellam PV Design Manager Elizabeth.kellam@blueravensolar.com design@blueravensolar.com 385-498-6700





## **GENERAL NOTES**

## **AERIAL VIEW**

#### CODES AND STANDARDS

1. ALL WORK SHALL COMPLY WITH 2017 OREGON ELECTRIC SPECIALTY CODE (OESC), 2019 OREGON STRUCTURAL SPECIALTY CODE, 2017 OREGON RESIDENTIAL SPECIALTY CODE, AND ALL STATE AND LOCAL BUILDING AND ELECTRICAL CODES.

2. DRAWINGS HAVE BEEN DETAILED ACCORDING TO UL LISTING REQUIREMENTS.

#### SITE NOTES / OSHA REGULATION

1 A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS 2. THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES

3. THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS

4. ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SHALL SERVE TO PROTECT THE BUILDING OR STRUCTURE.

5. NO. OF SHINGLE LAYERS : 2

#### SOLAR CONTRACTOR

1. MODULE CERTIFICATIONS WILL INCLUDE UL1703, IEC61646, IEC61730

2. IF APPLICABLE, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE MARKED GROUNDING LUG HOLES PER THE MANUFACTURERS' INSTALLATION REQUIREMENTS.

3. AS INDICATED BY DESIGN, OTHER NRTL LISTED MODULE GROUNDING DEVICES MAY BE USED IN PLACE OF STANDARD GROUNDING LUGS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ.

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. CONDUIT POINT OF PENETRATION FROM EXTERIOR TO INTERIOR TO BE INSTALLED AND SEALED WITH A SUITABLE SEALING COMPOUND.

6. DC WIRING LIMITED TO MODULE FOOTPRINT W/ ENPHASE AC SYSTEM

7. ENPHASE WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY W/ SUITABLE WIRING CLIPS

8. MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC UNLESS NOT AVAILABLE

9. ALL INVERTERS, MOTOR GENERATORS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AC PHOTOVOLTAIC MODULES, DC COMBINERS, DC-TO-DC CONVERTERS, SOURCE CIRCUIT COMBINERS, AND CHARGE CONTROLLERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (B).

10. ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE

11. TERMINALS AND LUGS WILL BE TIGHTENED TO MANUFACTURER TORQUE SPECIFICATIONS (WHEN PROVIDED) IN ACCORDANCE WITH NEC CODE 110.14(D) ON ALL ELECTRICAL CONNECTIONS.

#### EQUIPMENT LOCATIONS

1. PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION [NEC 110.26].

2. EQUIPMENT INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY [NEC 690.31 (A)] AND [NEC TABLE 310.15 (B)].

3. ADDITIONAL AC DISCONNECTS SHALL BE PROVIDED WHERE THE INVERTER IS NOT ADJACENT TO THE UTILITY AC DISCONNECT, OR NOT WITHIN SIGHT OF THE UTILITY AC DISCONNECT. 4. ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO

NEC APPLICABLE CODES. 5. ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

Sealed For Existing Roof & Attachment Only

Digitally signed by John A. Calvert Date: 2021.03.17 14:43:08 -06'00' 3/17/2021 Exp: 12/31/21



<sup>7</sup> 1. AC DISCONNECT TO BE LOCATED WITHIN 10 FT. OF METER 2. ROOF ATTACHMENTS SHALL BE SPACED NO GREATER THAN 24 IN. ON CETNER IN ANY DIRECTION WHERE LOCATED WITHIN 3 FT. OF A ROOF EDGE, HIP, EAVE, OR RIDGE OSSC 3111.5.3 ITEM

3.3





Structural upgrades required on MP1 and the

existing rafters. See structural details and

Structural upgrades required on MP2&3.

See structural details and calculations

package for additional info.

Install new DFL#2 2x4 onto existing rafters.

calculations package for additional info.

opposite side of MP1. Install new DFL#2 2x4 onto

## LEGEND





PAGE NUMBER

PV2

REVISION

С









BLUE RAVEN

OREM, UT 84097







#### INTERCONNECTION NOTES

1. SUPPLY SIDE INTERCONNECTION ACCORDING TO [NEC705.12(A)] WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH [NEC 240.21(B)]

#### DISCONNECT NOTES

 DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING LIVE ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS)
 AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH



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3) JinKO Solar Eagle JKM325M-60HL	Ę	HERE	IN CONTAIN	IED SHALL	NOT BE
phase IQ7-60-2-US MICRO INVERTERS	$\langle \rangle$	U	SED FOR TH ANYONF	E BENEFIT	OF
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7	MODULE SPECIFICATIONS	REC Solar REC325TP3M	DESIGN LOCATION AND TEMPERATURES							CONDUCTOR SIZE CA	LCULATIONS
	RATED POWER (STC)	325 W	TEMPERATURE DATA SOURCE			AS	SHRAE 2%	AVG. HIG	SH TEMP	MICROINVERTER TO	MAX. SHORT CIRCU
(	MODULE VOC	39.5 V DC	STATE						Oregon	JUNCTION BOX (1)	MAX. CL
	MODULEVMP	34.1 V DC	CITY					F	Portland	57.5	CONDUCTOR (TC-E
7	MODULE IMP	9.54 A DC	WEATHER STATION			POR	LAND INT	ERNATIC	DNAL AP		co
	MODULEISC	10.36 A DC	ASHRAE EXTREME LOW TEMP (°C)						-6		AMB. TEMP. A
X	VOC CORRECTION	-0.28 %/*C	ASHRAE 2% AVG. HIGH TEMP (°C)						32		
(	VMP CORRECTION	-0.37 %/°C								JUNCTION BOX TO	MAX. SHORT CIRCU
	SERIES FUSE RATING	20 A DC	SYSTEM ELECTRICAL SPECIFICATIONS	CIR 1	CIR 2	CIR 3	CIR 4	CIR 5	CIR 6	JUNCTION BOX (2)	MAX. CL
$\left.\right>$	ADJ. MODULE VOC @ ASHRAE LOW TEMP	42.9 V DC	NUMBER OF MODULES PER MPPT	9	9						CONDUCTOR (UF-
(	ADJ. MODULE VMP @ ASHRAE 2% AVG. HIG	H TEMP 29.2 V DC	DC POWER RATING PER CIRCUIT (STC)	2925	2925						CO
			TOTAL MODULE NUMBER			18 MOI	DULES				COL
$\geq$	MICROINVERTER SPECIFICATIONS Eng	phase IQ7 Microinverters	STC RATING OF ARRAY			5850V	V DC				AMB. TEMP. A
(	POWER POINT TRACKING (MPPT) MIN/MAX	22 - 48 V DC	AC CURRENT @ MAX POWER POINT (IMP)	9.0	9.0						
X	MAXIMUM INPUT VOLTAGE	48 V DC	MAX. CURRENT (IMP X 1.25)	11.25	11.25					JUNCTION BOX TO	MAX. SHORT CIRCU
7	MAXIMUM DC SHORT CIRCUIT CURRENT	15 A DC	OCPD CURRENT RATING PER CIRCUIT	20	20					COMBINER BOX (3)	MAX. CL
	MAXIMUM USABLE DC INPUT POWER	350 W	MAX. COMB. ARRAY AC CURRENT (IMP)			18.	.0		-		CONDUCTOR (UF-
$\overline{\mathbf{x}}$	MAXIMUM OUTPUT CURRENT	1 A AC	MAX. ARRAY AC POWER			4320V	VAC				CO
(	AC OVERCURRENT PROTECTION	20 A									COL
	MAXIMUM OUTPUT POWER	240 W	AC VOLTAGE RISE CALCULATIONS	DIST (FT)	COND.	VRISE(V)	VEND(V)	%VRISE	IQ7-9		AMB. TEMP.
$\geq$	CEC WEIGHTED EFFICIENCY	97 %	VRISE SEC. 1 (MICRO TO JBOX)	32.4	12 Cu.	1.18	241.18	0.49%			
(			VRISE SEC. 2 (JBOX TO COMBINER BOX)	35	12 Cu.	1.27	241.27	0.53%		COMBINER BOX TO	INVE
	AC PHOTOVOLATIC MODULE MARKING (NEC	C 690.52)	VRISE SEC. 3 (COMBINER BOX TO POI)	15	10 Cu.	0.69	240.69	0.29%		MAIN PV OCPD (15)	MAX. CURRENT (R
7	NOMINAL OPERATING AC VOLTAGE	240 V AC	TOTAL VRISE			3.14	243.14	1.31%		CONDU	ICTOR (THWN-2, COP
	NOMINAL OPERATING AC FREQUENCY	47 - 68 HZ AC									co
X	MAXIMUM AC POWER	240 VA AC	PHOTOVOLTAIC AC DISCONNECT OUTPUT	LABEL (N	EC 690.54	)					COL
(	MAXIMUM AC CURRENT	1.0 A AC	AC OUTPUT CURRENT					18.0	A AC		AMB. TEMP.
	MAXIMUM OCPD RATING FOR AC MODULE	20 A AC	NOMINAL AC VOLTAGE					240	V AC		
1				~ /				$\wedge$	$\wedge$		

### **GROUNDING NOTES**

1. A GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH [NEC 690-47] AND [NEC 250-50] THROUGH [NEC 250-60] SHALL BE PROVIDED. PER NEC, GROUNDING ELECTRODE SYSTEM OF EXISTING BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, OR IS ONLY METALLIC WATER PIPING, A SUPPLEMENTAL GROUNDING ELECTRODE WILL BE USED AT THE INVERTER LOCATION CONSISTING OF A UL LISTED 8 FT GROUND ROD WITH ACORN CLAMP.

2. THE GROUNDING ELECTRODE CONDUCTOR SHALL BE PROTECTED FROM PHYSICAL DAMAGE BETWEEN THE GROUNDING ELECTRODE AND THE PANEL (OR INVERTER) IF SMALLER THAN #6 AWG COPPER WIRE PER NEC 250-64B. THE GROUNDING ELECTRODE CONDUCTOR WILL BE CONTINUOUS, EXCEPT FOR SPLICES OR JOINTS AT BUSBARS WITHIN LISTED EQUIPMENT PER [NEC 250.64C.].

3. GROUNDING ELECTRODE CONDUCTORS SHALL BE NO LESS THAN #8 AWG AND NO GREATER THAN #6 AWG COPPER AND BONDED TO THE EXISTING GROUNDING ELECTRODE TO PROVIDE FOR A COMPLETE SYSTEM.

4. PV SYSTEM SHALL BE GROUNDED IN ACCORDANCE TO [NEC 250.21], [NEC TABLE 250.122], AND ALL METAL PARTS OR MODULE FRAMES ACCORDING TO [NEC 690.46].

5. MODULE SOURCE CIRCUITS SHALL BE GROUNDED IN ACCORDANCE TO [NEC 690.42].

6. THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDED CONDUCTOR TO ANOTHER MODULE.

7. EACH MODULE WILL BE GROUNDED USING THE SUPPLIED CONNECTIONS POINTS IDENTIFIED IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

8. ENCLOSURES SHALL BE PROPERLY PREPARED WITH REMOVAL OF PAINT/FINISH AS APPROPRIATE WHEN GROUNDING EQUIPMENT WITH TERMINATION GROUNDING LUGS.

9. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVISES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR DIRECT BURIAL

10. GROUNDING AND BONDING CONDUCTORS SHALL BE COPPER, SOLID OR

STRANDED, AND BARE WHEN EXPOSED.

11. EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZE ACCORDING TO [NEC 690.45] AND BE A MINIMUM OF #10AWG WHEN NOT EXPOSED TO DAMAGE (#6AWG SHALL BE USED WHEN EXPOSED TO DAMAGE).

 12. GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLOR CODED GREEN (OR MARKED GREEN IF #4 AWG OR LARGER)
 13. ALL CONDUIT BETWEEN THE UTILITY AC DISCONNECT AND THE POINT OF CONNECTION SHALL HAVE GROUNDED BUSHINGS AT BOTH ENDS.
 14. SYSTEM GEC SIZED ACCORDING TO [NEC 690.47], [NEC TABLE 250.66], DC SYSTEM GEC SIZED ACCORDING TO [NEC 250.166], MINIMUM #8AWG WHEN

INSULATED, #6AWG WHEN EXPOSED TO DAMAGE. 15. EXPOSED NON-CURRENT CARRYING METAL PARTS OF MODULE FRAMES, EQUIPMENTS, AND CONDUCTOR ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH 250.134 OR 250.136(A) REGARDLESS OF VOLTAGE.

### WIRING & CONDUIT NOTES

1. ALL CONDUIT SIZES AND TYPES, SHALL BE LISTED FOR ITS PURPOSE AND APPROVED FOR THE SITE APPLICATIONS

2. BOLTED CONNECTION REQUIRED IN DC DISCONNECTS ON THE WHITE GROUNDED CONDUCTOR (USE POLARIS BLOCK OR NEUTRAL BAR)

3. ANY CONNECTION ABOVE LIVE PARTS MUST BE WATERTIGHT. REDUCING WASHERS DISALLOWED ABOVE LIVE PARTS, MEYERS HUBS RECOMMENDED

4. UV RESISTANT CABLE TIES(NOT ZIP TIES) USED FOR PERMANENT WIRE MANAGEMENT OFF THE ROOF SURFACE IN ACCORDANCE WITH NEC 110.2,110.3(A-B). 300.4

5. SOLADECK JUNCTION BOXES MOUNTED FLUSH W/ROOF SURFACE TO BE USED FOR WIRE MANAGEMENT AND AS FLASHED ROOF PENETRATIONS FOR INTERIOR CONDUIT RUNS.

6. ALL PV CABLES AND HOMERUN WIRES BE TYPE USE-2, AND SINGLE-CONDUCTOR CABLE LISTED AND IDENTIFIED AS PV WIRE, TYPE TC-ER, OR EQUIVALENT; ROUTED TO SOURCE CIRCUIT COMBINER BOXES AS REQUIRED

GROUNDING DEVISES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR DIRECT BURIAL. 7. ALL CONDUCTORS AND OCPD SIZES AND TYPES SPECIFIED ACCORDING TO [NEC

690.8] FOR MULTIPLE CONDUCTORS 8. ALL PV DC CONDUCTORS IN CONDUIT EXPOS AT LEAST 7/8" ABOVE THE ROOF SURFACE AND 310.15 (B)(2)(a), NEC TABLE 310.15(B)(3)(a),& NEC 9. EXPOSED ROOF PV DC CONDUCTORS SHALL RESISTANT, AND UL LISTED RATED FOR 600V, U USED TO PROTECT WIRE FROM SHARP EDGES 10. PHASE AND NEUTRAL CONDUCTORS SHALL INSULATED, 90°C RATED, WET AND UV RESISTAI 11. 4-WIRE DELTA CONNECTED SYSTEMS HAVE VOLTAGE TO GROUND MARKED ORANGE OR IDE 12. ALL SOURCE CIRCUITS SHALL HAVE INDIVID 13. VOLTAGE DROP LIMITED TO 2% FOR DC CIR 14. NEGATIVE GROUNDED SYSTEMS DC CONDU FOLLOWS: DC POSITIVE- RED (OR MARKED RED 15. POSITIVE GROUNDED SYSTEMS DC CONDUC DC POSITIVE- GREY (OR MARKED GREY), DC NE 16. AC CONDUCTORS >4AWG COLOR CODED OF PHASE A OR L1- BLACK, PHASE B OR L2- RED, PH WHITE/GRAY \* USE-2 IS NOT INDOOR RATED BUT PV CABLE IS

BE USED INSIDE \*\* USE-2 IS AVAILABLE AS UV WHITE

17. RIGID CONDUIT, IF INSTALLED, (AND/OR NIP PROTECT WIRES.

18. IF CONDUIT DETERMINED TO BE RAN THROU BE EITHER EMT, FMC, OR MC CABLE IF <u>DC</u> CURF 250.118(10). DISCONNECTING MEANS SHALL COI 19. CONDUIT RAN THROUGH ATTIC WILL BE AT COMPLYING WITH NEC 230.6(4) AND SECURED N 330.30(B).

IT CURRENT (ISC) = 9.0 A AC JRRENT (ISCX125) = 11.3 A AC SR COPPER (90°C)) = 12 AWG ADJUSTED AMP. 28.8 ≥ 11.3 IT CURRENT (ISC) = 9.0 A AC JRRENT (ISCX125) = 11.3 A AC B, COPPER (60°C)) = 12 AWG NDUCTOR RATING = 20. A NDUIT FILL DERATE = 1 ADJUSTED AMP. = 19.2 > 11.3 A AC B, COPPER (60°C)) = 12 AWG NDUCTOR RATING = 20. A NDUIT FILL DERATE = 1 ADJUSTED AMP. = 19.2 > 11.3 A AC B, COPPER (60°C)) = 12 AWG NDUCTOR RATING = 20. A NDUIT FILL DERATE = 0.8 NMP. CORRECTION = 0.96 ADJUSTED AMP. = 15.36 > 11.3 ATED AMPS 1.25) = 2.5 A AC FPER (75°C TERM.)) = 10 AWG NDUCTOR RATING = 35 A NDUIT FILL DERATE = 1 MMP. CORRECTION = 0.96 ADJUSTED AMP. = 15.36 > 11.3 RTER RATED AMPS 1.8.0 A AC ATED AMPS X1.25) = 22.5 A AC PFER (75°C TERM.)) = 10 AWG NDUCTOR RATING = 35 A NDUIT FILL DERATE = 1 MMP. CORRECTION = 0.96 ADJUSTED AMP. = 33.6 > 22.5 ADJUSTED AMP. = 33.6 > 23.5 ADJUS		( )		-		
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B, COPPER (BCC))       I2 AWG         NDUCTOR RATING =       20 A         NMP. CORRECTION =       0.96         ADJUSTED AMP. =       19.2 >         ADJUSTED AMP. =       19.2 >         JRCENTRAL. THE INFORMATION HEREIN CONTAINED SHALL NOT BE USE POR THE BENEFT OF ADJUSTED AMP. =       19.2 >         JRRENT (ISC X1.25) =       11.3 AAC         B, COPPER (6°C)) =       12 AWG         NDUCTOR RATING =       20 A         NDUTT FILL DERATE =       0.8         AMP. CORRECTION =       0.96         ADJUSTED AMP. =       15.36 >         ANDUCTOR RATING =       20 A         NDUCTOR RATING =       20 A         NDUCTOR RATING =       20 A         NDUCTOR RATING =       20 A         AMP. CORRECTION =       0.96         ADJUSTED AMP. =       10 AWG         NDUCTOR RATING =       35 A         NDUTT FILL DERATE =       1         AMP. CORRECTION =       0.96         ADJUSTED AMP. =       33.6 >         ADJUSTED AMP. =       33.6 >         SEE DTO SUNLIGHT SHALL BE INSTALLED       DES FIELD OPS         City of BactBando       GUPY INTROLTICIN         DERATED ACCORDING TO INEC TABLE       US CITOR SOLAC	JRRENT (ISC X1.25) = 11.3 A AC		ww	800-37 W.BLUERA)	77-4480 VENSOLAR	.COM
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EXERCIT (ISC X1.25) = 11.3 A AC         PRENT (ISC X1.25) = 11.3 A AC         PB, COPPER (60°C)) = 12 AWG         NDUCTOR RATING = 20 A         NDUIT FILL DERATE = 0.8         AMP. CORRECTION = 0.96         ADJUSTED AMP. = 15.36 > 11.3         ATED AMPS X1.25) = 22.5 A AC         PPER (75°C TERM.)) = 10 AWG         NDUCTOR RATING = 35 A         NDUIT FILL DERATE = 1         AMP. CORRECTION = 0.96         ADJUSTED AMP. = 33.6 > 22.5         ADJUSTED AMP. = 33.6 > 22.5         BE DUAL RATED THHIN/THWN-2         NATE ARATED FOR 600V         THE PHASE WITH THE HIGHER         ENTIFIED BY OTHER EFFECTIVE MEANS.         NULL SOURCE CIRCUIT PROTECTION         UCUTS AND 3% FOR AC CIRCUITS         JCTORS SHALL BE COLOR CODED AS         ND. DC NEGATIVE- GREY (OR MARKED BLACK)         R MARKED:         HASE C OR L3- BLUE, NEUTRAL-         S RATED THWIN/THWN-2 AND MAY         PLES) MUST HAVE A PULL BUSHING TO         UGH ATTIC IN FIELD THEN CONDULT WILL         RENTIFIED BUOW ROOF SURFACE         NO GREAT	$\frac{11.3}{11.3}$		P/ RE	ART TO OTH ECIPIENTS C	IERS OUTS RGANIZAT	IDE ION,
Be COPPER (60°C)) = 12 AWG         NDUCTOR RATING = 20 A         NDUTT FILL DERATE = 0.8         AMP. CORRECTION = 0.96         ADJUSTED AMP. = 15.36 > 11.3         RTER RATED AMPS = 18.0 A AC         ATED AMPS X1.25) = 22.5 A AC         PPER (75°C TERM.)) = 10 AWG         NDUCTOR RATING = 35 A         NDUTT FILL DERATE = 1         AMP. CORRECTION = 0.96         ADJUSTED AMP. = 33.6 > 22.5         ADJUSTED AMP. = 33.6 > 22.5         ADJUSTED AMP. = 33.6 > 22.5         CONTRACTOR:         BRS FIELD OPS         City of & Drewiewed for Code Compliance         DERATED ACCORDING TO [NEC TABLE 2]         DERATED ACCORDING TO [NEC TABLE 2]         DERATED ACCORDING TO [NEC TABLE 2]         DEARATED ACCORDING TO [NEC TABLE 2]         DEARATED ACCORDING TO [NEC TABLE 2]         DEARATED ACCORDING TO [NEC TABLE 2]         BE DUAL RATED THHN/THWN-2         NT, RATED FOR 600V         THE PHASE WITH THE HIGHER         ENTIFIED BY OTHER EFFECTIVE MEANS.         NUAL SOURCE CIRCUIT PROTECTION         COURCE CIRCUIT PROTECTION         CUE AG         MARKED:         HASE C OR L3- BLUE, NEUTRAL-         S RATED THWN/THWN-2 AND MAY         PLES) MUST HAVE A	(RRENT(ISCX1.25) = 11.3 A AC		EXCE	PT IN CONN	EC TION WI	TH THE
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PPER (75°C TERM.)) = 10 AWG NDUCTOR RATING = 35 A NDUIT FILL DERATE = 1 AMP. CORRECTION = 0.96 ADJUSTED AMP. = 33.6 > 22.5       CONTRACTOR: BRS FIELD OPS City of & Borthando Reviewed for Code Compliance DerateD ACCORDING TO [NEC TABLE 20.217819-REV-01-RS         SED TO SUNLIGHT <u>SHALL BE INSTALLED</u> DERATED ACCORDING TO [NEC TABLE 20.217819-REV-01-RS       O Reviewed for Code Compliance Date: 04/16/21         BE DUAL RATED THIN/THWN-2 SID TO SUNLIGHT SHALL BE DERATED ACCORDING TO [NEC TABLE 20.217819-REV-01-RS       O Reviewed for Code Compliance Date: 04/16/21         BE DUAL RATED THIN/THWN-2 SID TO SUNLIGHT SHALL BE SID TO SUNLIGHT SHALL BE CUITS AND 3% FOR AC CIRCUITS JCTORS SHALL BE COLOR CODED AS 0), DC NEGATIVE- GREY (OR MARKED GREY) CTORS COLOR CODED CI GGATIVE- BLACK (OR MARKED BLACK) R MARKED: HASE C OR L3- BLUE, NEUTRAL- S RATED THWN/THWN-2 AND MAY       D RAWING BY Devin Bartholomew         DATE DIG MARKED: HASE C OR L3- BLUE, NEUTRAL- S RATED THWN/THWN-2 AND MAY       D RAWING BY Devin Bartholomew         DATE DATE DELEC. CALCS.       D RAWING BY DEVIN BARTHOLOMEW         DATE DATE DATE DEVIN BARTHOLOMEW       D RAWING BY DEVIN BARTHOLOMEW	ATED AMPS X1.25) = 22.5 A AC		)			אוע ו
NDUCTOR RATING =       35 A         NDUIT FILL DERATE =       1         MP. CORRECTION =       0.96         ADJUSTED AMP. =       33.6 >         ADJUSTED AMP. =       33.6 >         ADJUSTED AMP. =       33.6 >         SED TO SUNLIGHT SHALL BE INSTALLED       DerateD ACCORDING TO [NEC TABLE :         SED TO SUNLIGHT SHALL BE INSTALLED       Date:         DERATED ACCORDING TO [NEC TABLE :       310.15(B)(3)(c)].         BE DUAL RATED THHN/THWN-2       WI         NT, RATED FOR 600V       III 900 0         THE PHASE WITH THE HIGHER       IIII 900 0         ENTIFIED BY OTHER EFFECTIVE MEANS.       IIII 900 0         JUCLUSS AND 3% FOR AC CIRCUITS       JUCLUS AND 3% FOR AC CIRCUITS         JUCTORS SHALL BE COLOR CODED AS       IIIII 900 0         JD C NEGATIVE- GREY (OR MARKED GREY)       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	PPER (75°C TERM.)) = 10 AWG	$\mathbb{V}$		Scott	Gurney	-
NDUIT FILL DERATE =       1         MP. CORRECTION =       0.96         ADJUSTED AMP. =       33.6       22.5         Image: State of the state of	NDUCTOR RATING = 35 A			# PV-011	/10_115266	
AMP. CORRECTION = 0.96       BRS FIELD OPS         ADJUSTED AMP. = 33.6 > 22.5       City of Borthando         ADJUSTED AMP. = 33.6 > 22.5       Reviewed for Code Compliance         Deter 10 SUNLIGHT SHALL BE INSTALLED       Decarted According to [Nec Table         DERATED ACCORDING TO [Nec Table       Dete: 04/16/21         SED TO SUNLIGHT SHALL BE INSTALLED       Dete: 04/16/21         DERATED ACCORDING TO [Nec Table       Dete: 04/16/21         SED TO SUNLIGHT SHALL BE       Second Content and UV         VN RATED SPIRAL WRAP SHALL BE       Second Content and UV         NV RATED FOR 600V       THE PHASE WITH THE HIGHER         ENTIFIED BY OTHER EFFECTIVE MEANS.       DUAL SOURCE CIRCUIT PROTECTION         CUITS AND 3% FOR AC CIRCUITS       DUAL SOURCE CORED:         CATIVE- BLACK (OR MARKED BLACK)       March 16, 2021         PLES) MUST HAVE A PULL BUSHING TO       Date         UGH ATTIC IN FIELD THEN CONDUIT WILL       PROJECT NUMBER         RENTIFIED THAVE A PULL BUSHING TO       DATE         UGH ATTIC IN FIELD THEN CONDUIT WILL       PROJECT NUMBER         RESTER       SHEET NAME         ELEC. CALCS.       PAGE NUMBER         NUMBER       REVISION	NDUIT FILL DERATE = 1			CONTR	ACTOR:	
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