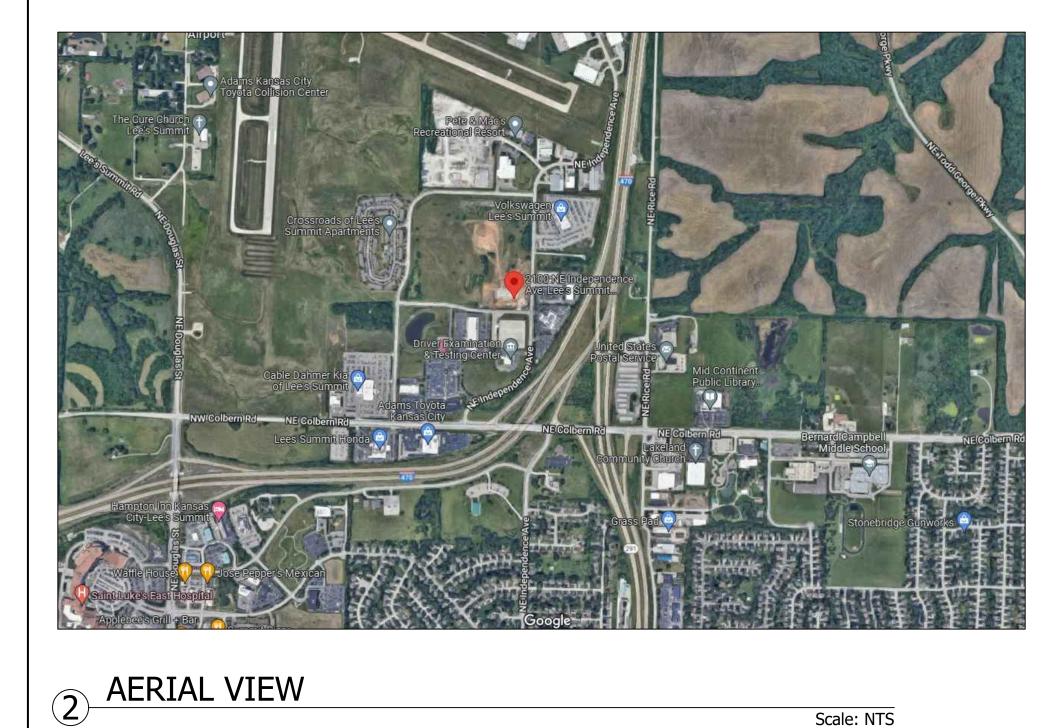
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94.05 KW DC ROOFTOP PHOTOVOLTAIC SYSTEM 2100 NE INDEPENDENCE AVE, LEE'S SUMMIT, MO 64064, USA

VICINITY MAP

Scale: NTS

Scale: NTS



PROJECT INFORMATION

SCOPE OF WORK:

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THE PROJECT IS TO INSTALL A ROOF MOUNT PHOTOVOLTAIC SYSTEM AND ALL ASSOCIATED POWER EQUIPMENT AT A COMMERCIAL PROPERTY.SYSTEM WILL BE INTERCONNECTED TO THE ELECTRICAL UTILITY GRID PER THE REQUIREMENTS OF THE UTILITY COMPANY AND ALL APPLICABLE LOCAL AND NATIONAL CODES.

SYSTEM SPECIFICATIONS

ZNSHINESOLAR MODULE -TOTAL MODULE COUNT NOMINAL POWER TOTAL DC SYSTEM RATING 94.05 kW DC

INVERTER -FRONIUS (SYMO 24.0-3 480) TOTAL INVERTER COUNT

TOTAL INVERTER OUTPUT 48 KW AC

FRONIUS (SYMO 20.0-3 480) INVERTER -TOTAL INVERTER COUNT

TOTAL INVERTER OUTPUT 20 KW AC

DESIGN CRITERIA

DC DESIGN WILL BE BASED ON A 1000V DC. ASHRAE DATA AVAILABLE FOR LEE'S SUMMIT MUNICIPAL IS AS FOLLOWS:

2% AVERAGE HIGHEST TEMP 38°C -17.7°C **EXTREME MINIMUM**

BUILDING NOTES

NO. OF STORIES **BUILDING HEIGHT**

NOTES

MODULE TILT ROOFTOP MOUNTING TYPE 4298.4 SQ. FT SOLAR ARRAY FOOTPRINT

LIST OF DRAWINGS / DOCUMENTS

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DRAWINGS:

COVER SHEET LEGENDS & GEN. NOTES SITE PLAN STRING DIAGRAM SINGLE LINE DIAGRAM WIRE SCHEDULE & CALCULATION LABELS **EQUIPMENT DETAILS EQUIPMENT DETAILS** STRUCTURAL DRAWINGS **EQUIPMENT DATA SHEETS** D-1 D-2 **EQUIPMENT DATA SHEETS EQUIPMENT DATA SHEETS** D-3

DOCUMENTS:

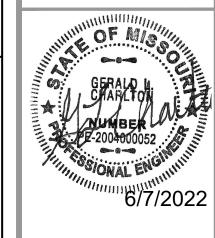
CALCULATIONS

GENERAL NOTES

THE DRAWINGS, SPECIFICATIONS AND ELECTRICAL DIAGRAMS CONTAINED HEREIN HAVE BEEN PREPARED BY DESIGN PROFESSIONALS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THE STATE OF MISSOURI, AND HAVE BEEN EXAMINED FOR:

- DESIGN INTENT
- APPLICABLE CODES, REGULATIONS, AND STANDARDS
- COORDINATION OF THE WORK SHOWN ON RELATED PLANS

THE WORK IS DETERMINED TO BE ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.



Solar

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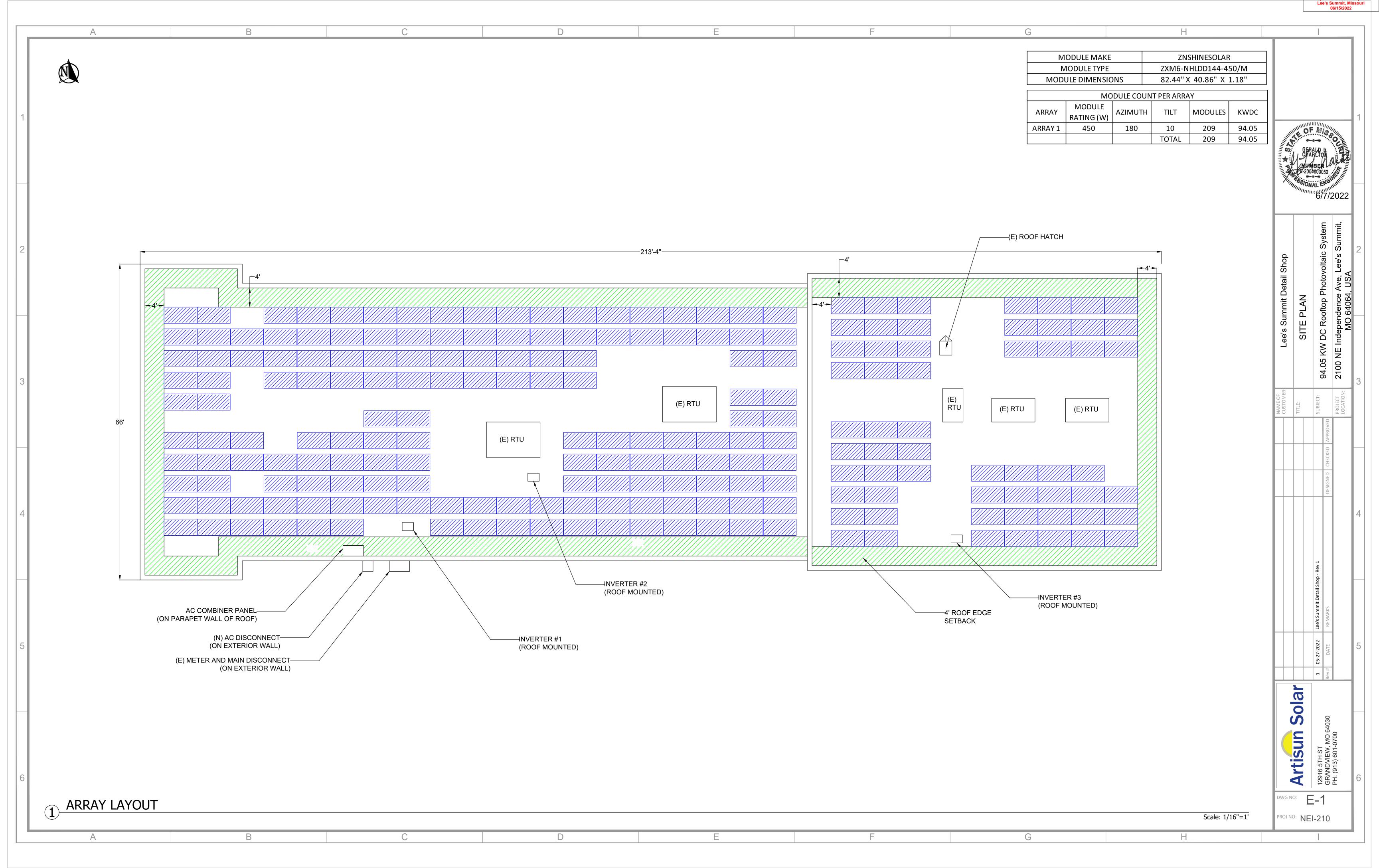
MARCH TO CARDIO AND MARCH TO AND	BREVIATIONS	SYMBOLS LEGEND	SYSTEM NOTES	GENERAL NOTES	
POINT OF COMMERCTION POINT POINT OF COMMERCTION POINT OF COMMERCTION POINT POINT OF COMMERCTION POINT POINT OF COMMERCTION POINT	AMPERE ALTERNATING CURRENT ARC-FAULT CIRCUIT INTERRUPTER AUTHORITY HAVING JURISDICTION AMERAGE INTERRUPTION CAPACITY AUTOMATIC TRANSFER SWITCH AMERICAN WIRE GAUGE COMBINER BOX DATA AQUISITION SYSTEM DIRECT CURRENT DRAWING ELECTRICAL METALLIC TUBE GROUND FAULT CIRCUIT INTERRUPTER GROUND FAULT PROTECTION GROUND GROUNDING ELECTRODE CONDUCTOR INTERNATIONAL BUILDING CODE INTERNATIONAL FIRE CODE KILOWATT MAIN CIRCUIT BREAKER MAIN DISTRIBUTION PANEL MAIN LUG ONLY MANUAL TRANSFER SWITCH NEUTRAL NATIONAL ELECTRICAL CODE NOT TO SCALE ON CENTER D. OVERCURRENT PROTECTION DEVICE POLE	ELECTRICAL BREAKER ELECTRICAL DISCONNECT SWITCH ELECTRICAL FUSE ELECTRICAL FUSED DISCONNECT SWITCH METER SYSTEM OR EQUIPMENT GROUND CONDUIT DOWN CONTINUATION OF CONDUIT PHOTOVOLTAIC (PV) MODULE DC/AC INVERTER POWER TRANSFORMER CONNECTED CONDUCTOR APPLICABLE CODES	CONNECTED IN SERIES. 2. ARRAYS HAVE BEEN PLACED TO MINIMIZE OR ELIMINATE SHADING IMPACT FROM ADJACENT STRUCTURES AND/OR OBSTRUCTIONS. 3. ALL ARRAY LAYOUTS ADHERE TO LOCAL AHJ REQUIREMENTS FOR SETBACKS AND PATHWAYS. 4. MINIMUM 3 FOOT CLEARANCE PROVIDED FOR ALL ROOF TOP HVAC UNITS AND SERVICEABLE EQUIPMENT. MINIMUM 4 FOOT SETBACK TO ROOF EDGE. 5. INVERTERS SHALL BE TRANSFORMERLESS STRING INVERTERS, LOCATION PER PLAN. SITE INFORMATION UTILITY COMPANY: Evergy	1. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A QUALIFIED LICENSED ELECTRICIAN AND/OR APPRENTICES WORKING UNDER THE DIRECT SUPERVISION OF THE LICENSED CONTRACTOR. 2. ALL WORK CARRIED OUT SHALL COMPLY WITH THE SPECIFICATIONS, APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS. 3. PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF AN DISCREPANCIES NOTED AMONG SITE CONDITIONS, MANUPACTURER RECOMMENDATIONS, OR AUTHORITY HAVING JURISDICTION. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD A WRITTEN "RFI" (REQUEST FOR INFORMATION) PROPOSING AN ALTERNATIVE OR SEEKING CLARIFICATION. 4. THE CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES. 5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, ACCESSORIES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS. 6. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL INSTALLATIONS AS INDICATED ON THE PERFORMANCE OF WORK. 7. THE CONTRACTOR SHALL INSTALLATIONS THE PERFORMANCE OF WORK. 8. CONTRACTOR SHALL INSTALLATION AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE. 8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION. 9. FALL ARREST PROTECTION PER OSHA REQUIREMENTS SHALL BE PROVIDED FOR ALL ROOF WORK. 10. WHEN INSTALLING IN FIRE RATED AREAS, SEAL ALL PENETRATIONS WITH ULLISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION. ALL DEBRIS AND OTHER REFUSE SHALL BE REMOVED F	GERAL CHAIR
THE PY ELECTRIC SYSTEM IS INTENDED TO BE OPERATED IN PARALLEL WITH THE UTILITY ELECTRICAL SERVICE AND WILL BE CONNECTED TO THE EXISTING FACILITY POWER SYSTEM AT A SINGLE POC. THIS CONNECTION SHALL BE IN COMPLIANCE WITH NEC 705,12. ALL INVERTERS AND PANELBOARDS SHALL BE SECURED FROM UNAUTHORIZED ACCESS BY LOCK OR LOCATION. ALL INVERTERS AND PANELBOARDS SHALL BE SECURED FROM UNAUTHORIZED ACCESS BY LOCK OR LOCATION. SYSTEM SHALL BE GOTTOM ENTRY ONLY TO ANY ENCLOSURE. FEEDERS SHALL BE BOTTOM ENTRY ONLY TO ANY ENCLOSURE. FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL BE AS FOLLOWS: FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON WHICH THE FEEDERS ARE CONNECTED. COLOR CODING SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE AS FOLLOWS: FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE AS FOLLOWS: FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON SHALL BE SHALL BE PROVIDED. AND SHALL BE RECEIVED AND BONDED TO A LOCATION APPROVED BY THE GROUNDED ON THE SHALL BE CONNECTED. COLOR CORNECTION TO ACCORDANCE WITH NEC 690.43. FEEDERS SHALL BE GROUNDED ON SHALL BE SHALL BE LECTRICALLY BONDED ON THE SYSTEM SHALL BE LECTRICALLY BONDED ON THE WITH A MEANS OF BONDING LICETOR SYSTEM SHALL BE LIBETOR TO LUZ703. SYSTEM SHALL BE LIBETOR TO LUZ703. ALL COMPONENTS MUST BE LECTRICALLY BONDED ON THE WIRE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON THE WIRE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON THE WIRE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON THE WIRE AS FOLLOWS: FEEDERS SHALL BE GROUNDED ON THE WIRE AS FOLL	POINT OF CONNECTION PHOTOVOLTAIC RIGID METALLIC CONDUIT SOURCE CIRCUIT TYPICAL UNDERWRITERS LABORATORY VOLT OR VOLTAGE WATT	INTERNATIONAL BUILDING CODE (IBC), 2018 INTERNATIONAL MECHANICAL CODE, 2018 INTERNATIONAL PLUMBING CODE, 2018 INTERNATIONAL FUEL GAS CODE, 2018 INTERNATIONAL FIRE CODE (IFC), 2018 ICC/ANSI A117.1-2009 AS AMENDED AND ADOPTED BY THE CITY OF LEE'S SUMMIT CONSTRUCTION TYPE: TYPE 2 OCCUPANCY TYPE: B		DURING INSTALLATION AND SERVICE BY SHORT CIRCUITING, OPEN CIRCUITING, OR COVERING ARRAY WITH AN OPAQUE COVER ACCORDING TO MANUFACTURER'S INSTRUCTION. 15. CONSTRUCTION LOADING ON THE ROOF, SUCH AS MATERIAL STAGED ON THE ROOF, SHALL BE LIMITED TO 20 PSF. CONCENTRATED LOADING	
CONNECTED TO THE EXISTING FACILITY POWER SYSTEM AT A SINGLE POC. THIS CONNECTION SHALL BE IN COMPLIANCE WITH NEC 705.12. ALL INVERTERS AND PANELBOARDS SHALL BE SECURED FROM UNAUTHORIZED ACCESS BY LOCK OR LOCATION. ALL INVERTERS AND PANELBOARDS SHALL BE SCURED FROM UNAUTHORIZED ACCESS BY LOCK OR LOCATION. CONDUITS AND CABLES SHALL BE BOTTOM ENTRY ONLY TO ANY ENCLOSURE. CONDUITS AND CABLES SHALL BE BOTTOM ENTRY ONLY TO ANY ENCLOSURE. CONDUITS AND CABLES SHALL BE GROUNDED WITH EQUIPMENT GROUNDING CONDUCTORS BONDED TO A LOCATION APPROVED BY THE MANUFACTURER WITH A MEANS OF BONDING LISTED FOR THIS PURPOSE. FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL BE AS FOLLOWS: FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL BE AS FOLLOWS: A GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. FEEDERS SHALL BE GROUNDED IN ACCORDANCE WITH NEC 550.21 AND ALL METAL PARTS OR MODULE FRAMES ACCORDING TO NEC 690.43. A GROUNDED CONDUCTOR WHITE WHITE GROUND GREEN GREEN PV STRING HOME RUNS MUST BE LABELED AT ALL TERMINATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE	ECTRICAL NOTES			GROUNDING NOTES	
CONDUITS AND CABLES SHALL BE BOTTOM ENTRY ONLY TO ANY ENCLOSURE. 5. MODULES SHALL BE GROUNDED WITH EQUIPMENT GROUNDING CONDUCTORS BONDED TO A LOCATION APPROVED BY THE MANUFACTURER WITH A MEANS OF BONDING LISTED FOR THIS PURPOSE. FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL MATCH BUS OR CABLE ARRANGEMENTS IN EQUIPMENT TO WHICH THE FEEDERS ARE CONNECTED. COLOR CODING SHALL BE AS FOLLOWS: FEEDERS SHALL MAINTAIN PHASE RELATIONSHIP THROUGHOUT THE SYSTEM. PHASES SHALL MATCH BUS OR CABLE ARRANGEMENTS IN EQUIPMENT TO WHICH THE FEEDERS ARE CONNECTED. COLOR CODING SHALL BE AS FOLLOWS: FEEDERS SHALL BE GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC 250.50 THROUGH NEC 250.50 THRO	CONNECTED TO THE EXISTING FACILITY PO 705.12.	OWER SYSTEM AT A SINGLE POC. THIS CONNECTION SHALL B	E IN COMPLIANCE WITH NEC	2. RACKING AND STRUCTURAL COMPONENTS MUST BE ELECTRICALLY BONDED TOGETHER BY AN ACCEPTABLE MEANS. RACKING	
ARRANGEMENTS IN EQUIPMENT TO WHICH THE FEEDERS ARE CONNECTED. COLOR CODING SHALL BE AS FOLLOWS: THE GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. 1000VDC PHASE A BLACK BROWN POSITIVE RED PHASE B RED ORANGE NEGATIVE BLACK PHASE C BLUE YELLOW GROUNDED CONDUCTOR WHITE GROUNDED CONDUCTOR WHITE WHITE GROUND GREEN PV STRING HOME RUNS MUST BE LABELED AT ALL TERMINATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE THE GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. THE GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. THE GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. THE GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. THE GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. THE GROUNDING ELECTRODE SYSTEM OF THE BUILDING MAY BE USED AND BONDED TO AT THE SERVICE ENTRANCE. 5. PV SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250.21 AND ALL METAL PARTS OR MODULE FRAMES ACCORDING TO NEC 690.43. 6. ALL CONDUIT BETWEEN THE UTILITY AC DISCONNECT AND THE POC SHALL HAVE GROUNDED BUSHINGS AT BOTH ENDS OR OTHER METHODS AS APPROVED IN NEC 250.92. PV STRING HOME RUNS MUST BE LABELED AT ALL TERMINATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE					
PHASE A BLACK BROWN POSITIVE RED PHASE B RED ORANGE NEGATIVE BLACK PHASE C BLUE YELLOW GROUNDED CONDUCTOR WHITE GROUNDED CONDUCTOR WHITE WHITE GROUND GREEN PV STRING HOME RUNS MUST BE LABELED AT ALL TERMINATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE 5. PV SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250.21 AND ALL METAL PARTS OR MODULE FRAMES ACCORDING TO NEC 690.43. 6. ALL CONDUIT BETWEEN THE UTILITY AC DISCONNECT AND THE POC SHALL HAVE GROUNDED BUSHINGS AT BOTH ENDS OR OTHER METHODS AS APPROVED IN NEC 250.92. PV STRING HOME RUNS MUST BE LABELED AT ALL TERMINATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE	ARRANGEMENTS IN EQUIPMENT TO WHICH	THE FEEDERS ARE CONNECTED. COLOR CODING SHALL BE	AS FOLLOWS:		
GROUNDED CONDUCTOR WHITE WHITE GROUND GREEN GROUND GREEN GREEN PV STRING HOME RUNS MUST BE LABELED AT ALL TERMINATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE	PHASE A BLACK PHASE B RED	BROWN POSITIVE RED ORANGE NEGATIVE BLACK		NEC 690.43.	
FURNISHING MATERIALS, EQUIPMENT, ACCESSURIES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON	GROUNDED CONDUCTOR WHITE GROUND GREEN PV STRING HOME RUNS MUST BE LABELED	WHITE GROUND GREEN GREEN AT ALL TERMINATIONS. UNLESS NOTED OTHERWISE, THE WO	DRK SHALL INCLUDE		rtis

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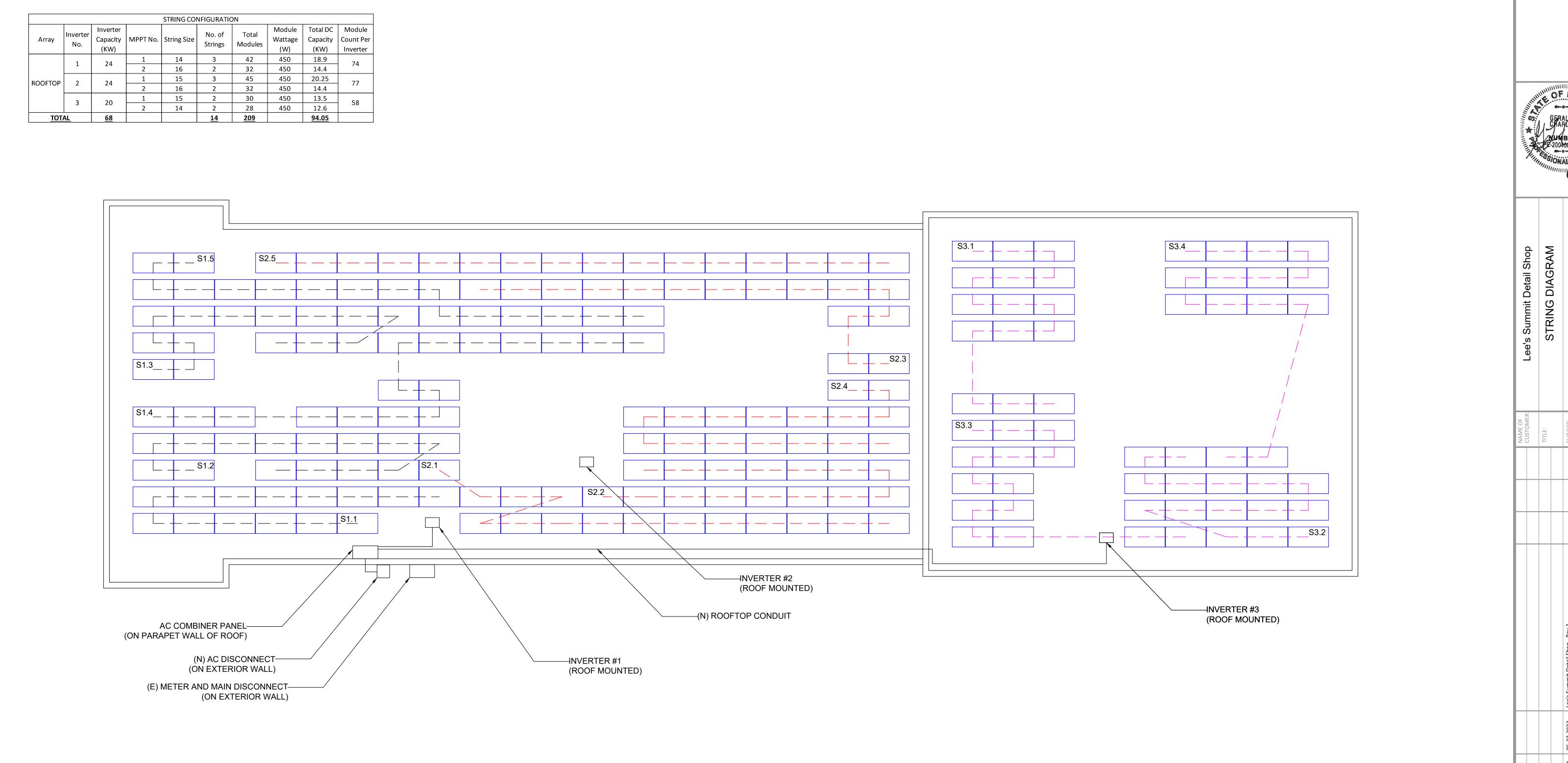
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STRING DIAGRAM

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Scale: 1/8"=1'

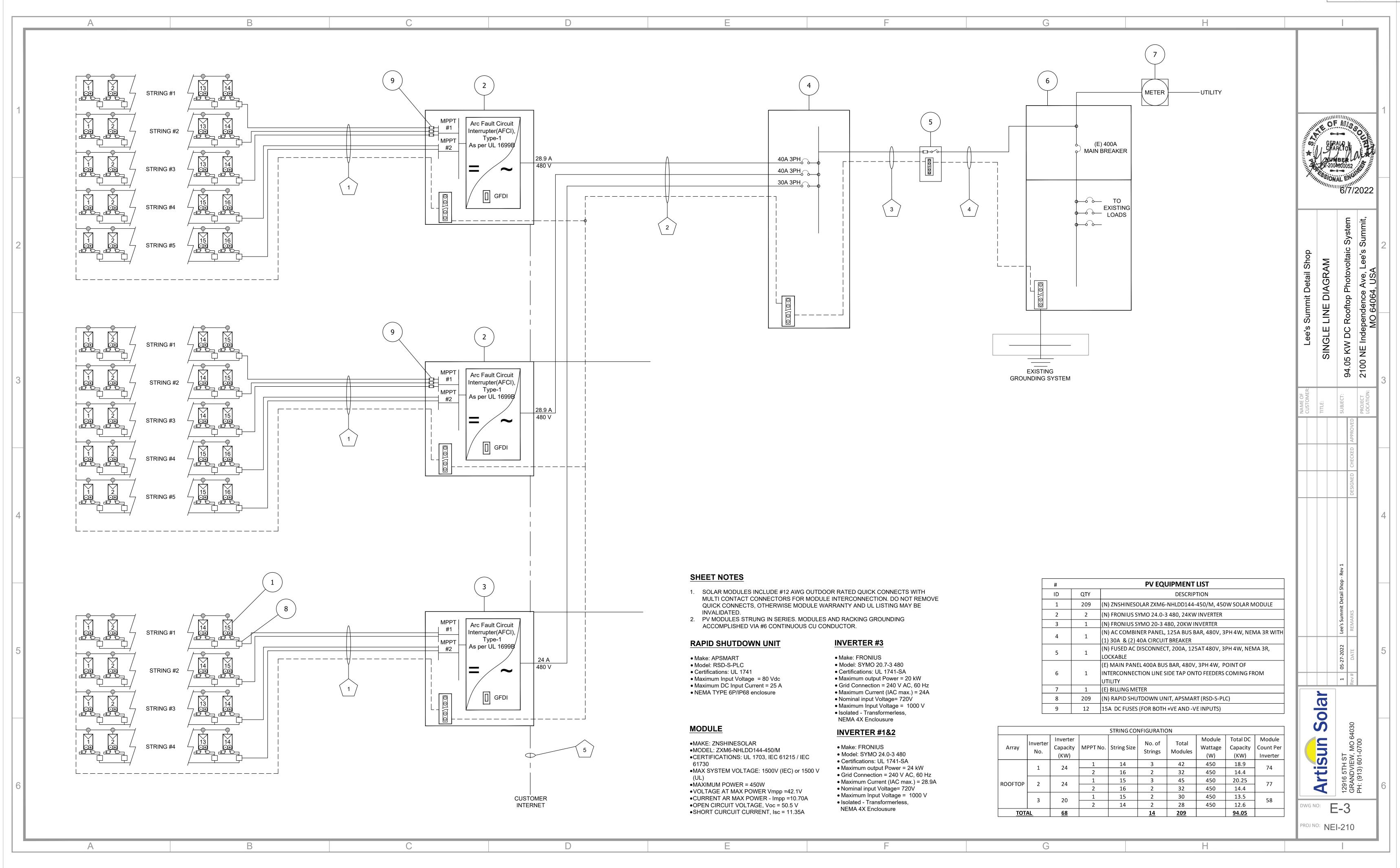
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Artisun

DWG NO: E-2

PROJ NO: NEI-210





RELEASED FOR
CONSTRUCTION
As Noted on Plans Review

Development Services Department Lee's Summit, Missouri 06/15/2022

				WIR	ES AND (CONDUIT SCHED	ULE								
INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTORS PER CONDUIT	CONDUIT	CONDUIT FILL %	OCPD	EGC PER CONDUIT			# OF CURRENT CARYING CONDUCTORS	CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT	BASE AMP	DERATED AMP	TERM. TEMP. RATING
ARRAY	INVERTER	(2) 12 AWG PV WIRE COPPER*	FREE AIR	NA	NA	(1) 6 AWG THWN-2 COPPER	0.91	38°C	NA	NA	9.43	15	30	27.3	90°C
INVERTER #1, #2	AC COMBINER PANEL	(3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER	0.75" DIA. RIGID	25.35%	40	(1) 6 AWG THWN-2 COPPER	0.91	38°C	3	1	28.9	36.125	40	36.4	90°C
INVERTER #3	AC COMBINER PANEL	(3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER	0.75" DIA. RIGID	25.35%	30	(1) 6 AWG THWN-2 COPPER	0.91	38°C	3	1	24	30	40	36.4	90°C
AC COMBINER PANEL	AC DISCONNECT	(3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER	1.25" DIA RIGID	29.41%	125	(1) 6 AWG THWN-2 COPPER	0.91	38°C	3	1	82	102.25	115	104.65	90°C
AC DISCONNECT	MSP	(3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER	1.25" DIA RIGID	29.41%	125	(1) 6 AWG THWN-2 COPPER	0.91	38°C	3	1	82	102.25	115	104.65	90°C
	LOCATION ARRAY INVERTER #1, #2 INVERTER #3 AC COMBINER PANEL	LOCATION ARRAY INVERTER INVERTER #1, #2 AC COMBINER PANEL INVERTER #3 AC COMBINER PANEL AC COMBINER PANEL AC DISCONNECT	LOCATION LOCATION LOCATION INVERTER (2) 12 AWG PV WIRE COPPER* (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER INVERTER #3 AC COMBINER PANEL AC COMBINER PANEL AC COMBINER PANEL AC DISCONNECT AC DISCONNECT CONDUCTORS PER CONDUIT (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER	LOCATION LOCATION LOCATION LOCATION CONDUCTORS PER CONDUIT FREE AIR 0.75" DIA. RIGID THWN-2 COPPER AC COMBINER PANEL AC DISCONNECT AC DISCONNECT MSP CONDUIT FREE AIR 0.75" DIA. RIGID 1.25" DIA RIGID 1.25" DIA RIGID 1.25" DIA RIGID	INITIAL CONDUCTOR LOCATION FINAL CONDUCTOR CONDUCTORS PER CONDUIT ARRAY INVERTER (2) 12 AWG PV WIRE COPPER* FREE AIR NA INVERTER #1, #2 AC COMBINER PANEL (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER AC COMBINER PANEL (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER AC DISCONNECT (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (4) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (5) #3 PHASE, (1) #3 NEUTRAL, THYN-2 COPPER (6) #3 PHASE, (1) #3 NEUTRAL, THYN-2 COPPER (7) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (8) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (9) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (10) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (11) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (12) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (13) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (14) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (15) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (16) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (17) #4 PHASE, (1) #4 NEUTRAL, THYN-2 COPPER (18) #4 PHASE, (1) #4 PHASE, THYN-2 COPPER (18) #4	INITIAL CONDUCTOR LOCATION CONDUCTORS PER CONDUIT CONDUIT CONDUIT FILL % OCPD ARRAY INVERTER (2) 12 AWG PV WIRE COPPER* FREE AIR NA NA INVERTER #1, #2 AC COMBINER PANEL (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER AC COMBINER PANEL AC COMBINER PANEL AC DISCONNECT (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (4) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (5) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (6) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (7) #4 PHASE PANEL AC DISCONNECT MSP	INITIAL CONDUCTOR LOCATION ARRAY INVERTER (2) 12 AWG PV WIRE COPPER* FREE AIR NA NA (1) 6 AWG THWN-2 COPPER INVERTER #1, #2 AC COMBINER PANEL INVERTER #3 AC COMBINER PANEL AC COMBINER PANEL AC COMBINER PANEL AC COMBINER PANEL (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER AC COMBINER PANEL AC COMBINER PANEL AC DISCONNECT AC DISCONNECT MSP (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (1) 6 AWG THWN-2 COPPER	LOCATION LOCATION CONDUCTORS PER CONDUIT CONDUIT CONDUIT FILL% OCPD EGC PER CONDUIT FAC ARRAY INVERTER (2) 12 AWG PV WIRE COPPER* FREE AIR NA NA (1) 6 AWG THWN-2 COPPER 0.91 INVERTER #1, #2 AC COMBINER PANEL (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER 0.75" DIA. RIGID 25.35% 40 (1) 6 AWG THWN-2 COPPER 0.91 INVERTER #3 AC COMBINER PANEL (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER 0.75" DIA. RIGID 25.35% 30 (1) 6 AWG THWN-2 COPPER 0.91 AC COMBINER PANEL AC DISCONNECT (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER 1.25" DIA RIGID 29.41% 125 (1) 6 AWG THWN-2 COPPER 0.91 AC DISCONNECT MSP (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER 1.25" DIA RIGID 29.41% 125 (1) 6 AWG THWN-2 COPPER 0.91	INITIAL CONDUCTOR LOCATION CONDUCTORS PER CONDUIT CONDUIT CONDUIT FILL% OCPD EGC PER CONDUIT TEMP. CORR. FACTOR ARRAY INVERTER (2) 12 AWG PV WIRE COPPER* FREE AIR NA NA (1) 6 AWG THWN-2 COPPER O.91 38°C INVERTER #1, #2 AC COMBINER PANEL INVERTER #3 AC COMBINER PANEL (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER AC COMBINER PANEL (3) #10 PHASE, (1) #10 NEUTRAL, THWN-2 COPPER AC COMBINER PANEL AC COMBINER PANEL (3) #3 PHASE, (1) #3 NEUTRAL, THWN-2 COPPER (1) 6 AWG THWN-2 COPPER (2) 91 38°C	INITIAL CONDUCTOR LOCATION CONDUCTORS PER CONDUIT CONDUI	INITIAL CONDUCTOR LOCATION CONDUCTORS PER CONDUIT CONDUIT CONDUIT CONDUIT FILL % OCPD EGC PER CONDUIT TEMP. CORR. FACTOR CONDUIT FILL % COPPER CONDUIT FILL % CONDUIT FILL % CONDUIT FILL % COPPER CONDUIT FILL % COPPER CONDUIT FILL % CONDUIT FILL % COPPER CONDUIT FILL % CONDUIT FILL % COPPER COPPER	INITIAL CONDUCTOR FINAL CONDUCTOR CONDUCTORS PER CONDUIT CONDUIT CONDUIT CONDUIT FILL % OCPD EGC PER CONDUIT TEMP. CORR. FACTOR CARYING CONDUCTORS CON	INITIAL CONDUCTOR CONDUCTOR CONDUCTOR CONDUCTORS PER CONDUIT CONDU	INITIAL CONDUCTOR LOCATION CONDUCTORS PER CONDUIT CONDUIT CONDUIT CONDUIT FILL CONDUIT CONDUIT CONDUIT FACTOR CARYING CONDUCTORS CONDUIT CONDUIT	INITIAL CONDUCTOR LOCATION CONDUCTORS PER CONDUIT CONDUIT CONDUIT FILL CONDUIT FILL CONDUCTORS CONDUCTORS

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* 1000V RATED

SYSTEM	PROPERTIES	
No Of Modules	209	Nos
Max. Ambient temp @ Site	38	°C
Min Ambient Temp @ site	-17.7	°C
STC Temp	25	°C
No of Modules in a String	16	Nos
Ambient temp (for cable sizin	36-40	°C

Module	ZNSHINE SOLAR	
Module Power	450	W
Module Voc	50.5	V
Module Vmp	42.1	V
Module Isc	11.35	Α
Module Imp	10.7	Α
Temp Coeffeicient for Voc	-0.29%	%/∘C
Temp Coeffeicient for Vmp	-0.29%	%/∘C
Temp Coeffeicient for Isc	0.05%	%/∘C
Max. System Voltage	1500	V

Maximum Sy	stem Voltage	
No of Modules in a String	16	
No of Strings	4	Nos
Voc @ Max. Ambient	48.60	V
Voc@ Min. Ambient	56.75	V
Vmp @ Max. Ambient	40.51	V
Vmp @ Min. Ambient	47.31	V
MPPT Lower Range	648.21	V
MPPT Upper Range	757.01	V
Min. Operating Voltage	648.21	V
Max. Operating Voltage	757.01	V
ISC/String	11.35	А
Isc @ Max. Ambient	11.42	А
Isc @ Min. Ambient	11.11	А
Max. System Voltage	908.05	V

C

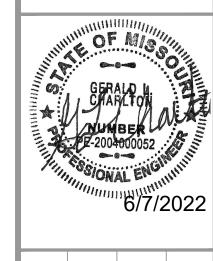
В

Maximum S	ystem Voltage	
No of Modules in a String	15	
No of Strings	5	Nos
Voc @ Max. Ambient	48.60	V
Voc@ Min. Ambient	56.75	V
Vmp @ Max. Ambient	40.51	V
Vmp @ Min. Ambient	47.31	V
MPPT Lower Range	607.69	V
MPPT Upper Range	709.70	V
Min. Operating Voltage	607.69	V
Max. Operating Voltage	709.70	V
ISC/String	11.35	Α
Isc @ Max. Ambient	11.42	Α
Isc @ Min. Ambient	11.11	А
Max. System Voltage	851.30	V

Maximum Sy	stem Voltage	
No of Modules in a String	14	
No of Strings	5	Nos
Voc @ Max. Ambient	48.60	V
Voc@ Min. Ambient	56.75	V
Vmp @ Max. Ambient	40.51	V
Vmp @ Min. Ambient	47.31	V
MPPT Lower Range	567.18	V
MPPT Upper Range	662.39	V
Min. Operating Voltage	567.18	V
Max. Operating Voltage	662.39	V
ISC/String	11.35	А
Isc @ Max. Ambient	11.42	А
Isc @ Min. Ambient	11.11	А
Max. System Voltage	794.55	V

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WIRE SCHEDULE & CALCULATIONS
94.05 KW DC Rooftop Photovoltaic System
2100 NE Independence Ave, Lee's Summit,
MO 64064, USA

Artisun Solar

DWG NO: **E-4**PROJ NO: **NEI-210**

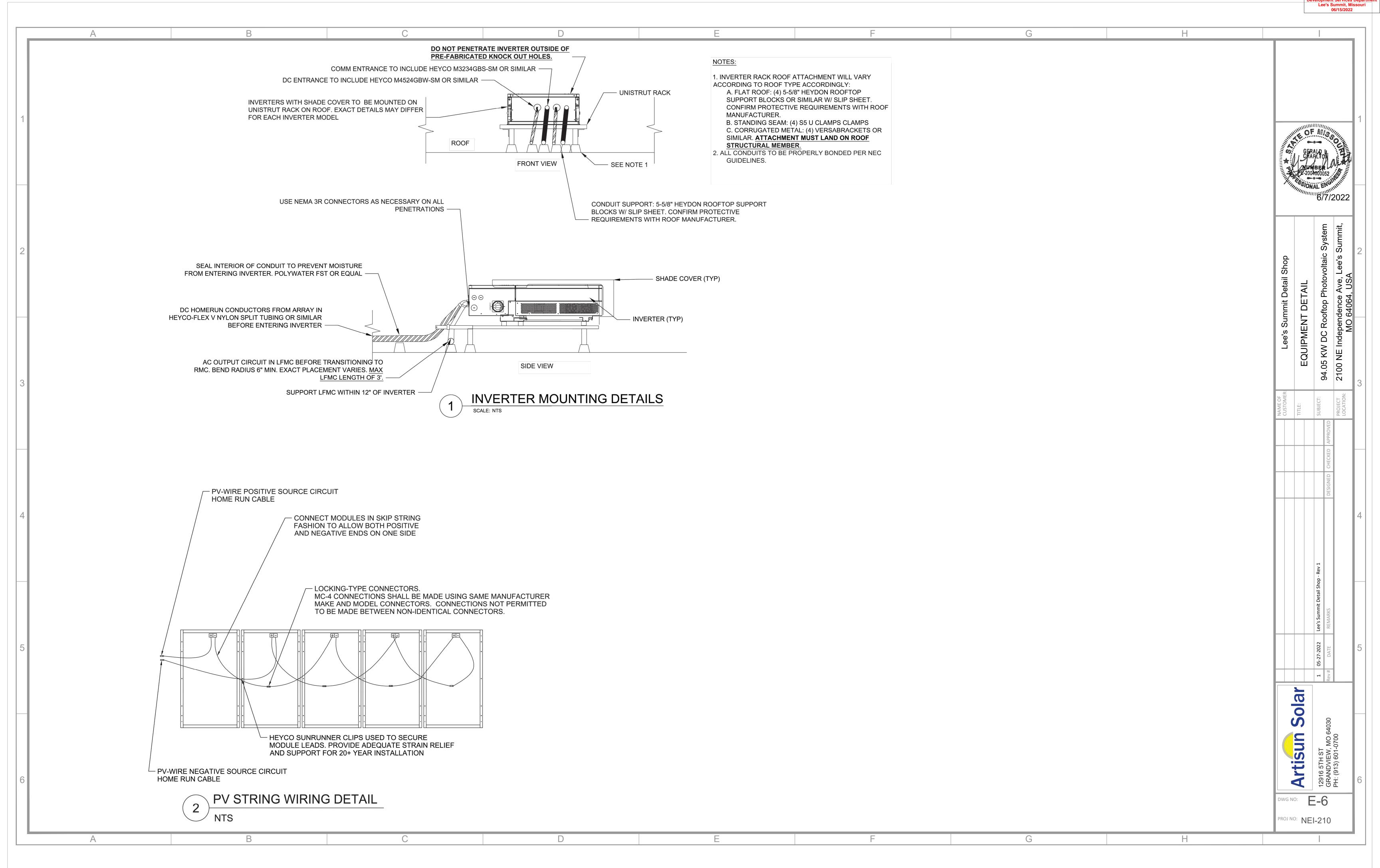
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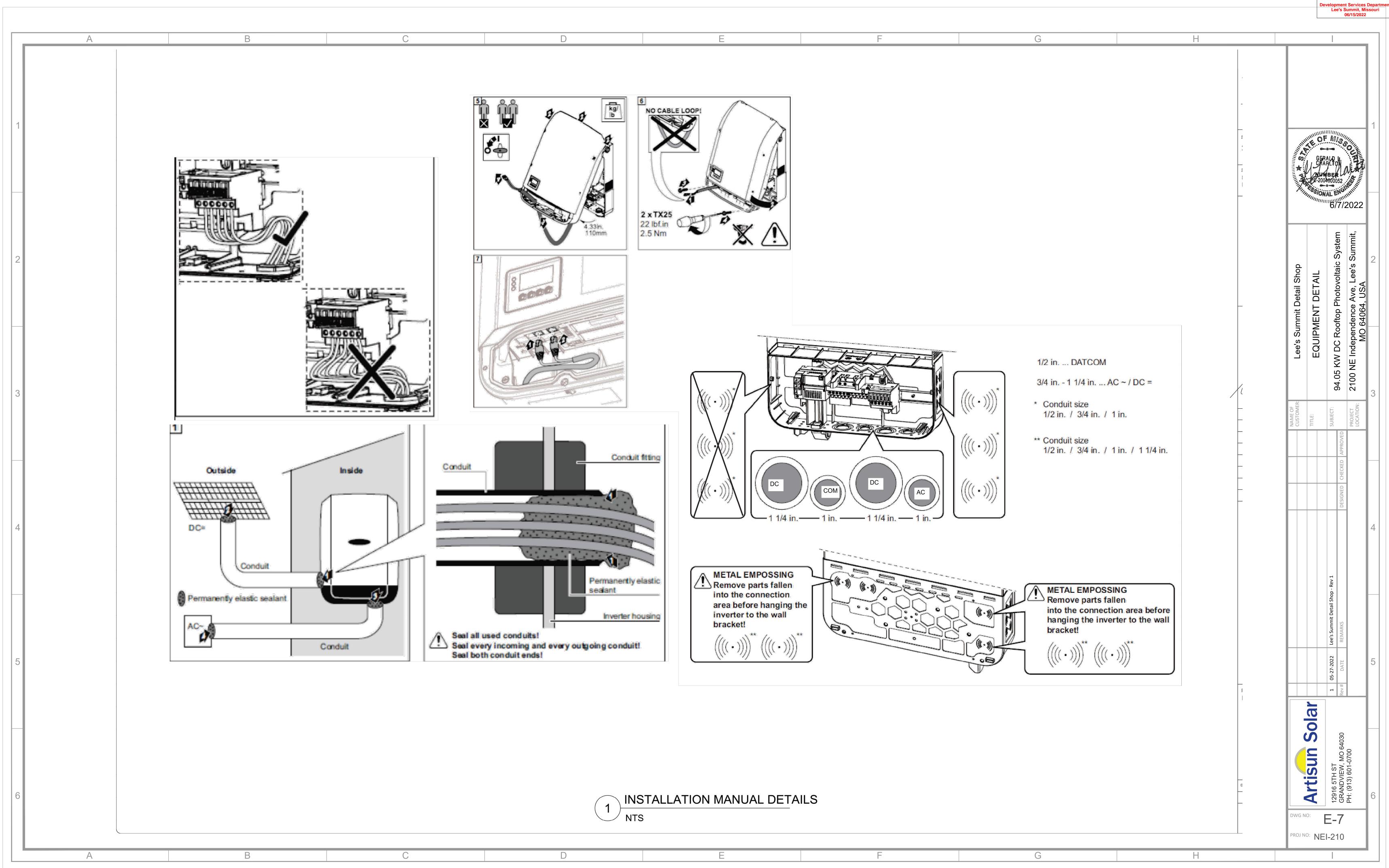
G D Н ALL LABEL MATERIAL SHALL BE WEATHER RESISTANT AND SUITABLE FOR THE ENVIRONMENT. LETTERS SHALL BE CAPITALIZED WITH A MIN. HEIGHT OF 3/8" (9.5MM) WHITE ON RED BACKGROUND. NOT ALL LABLES WILL BE APPLICABLE TO EVERY PROJECT INCLUDE THE FOLLOWING LABELS ON POINT OF INCLUDE THE FOLLOWING LABELS ON ALL ROOFTOP DC INCLUDE THE FOLLOWING LABELS ON AC DISCONNECTS **INCLUDE THE FOLLOWING LABELS ON INVERTERS** INCLUDE THE FOLLOWING LABELS ON ALL CONDUIT INTERCONNECTION EQUIPMENT **JUNCTION BOXES** CONTAINING DC CONDUCTORS PVLABELS.COM LABEL 03-110 PVLABELS.COM LABEL 03-102 PLACE EVERY 10' AND AFTER EACH BEND ON CONDUIT PVLABELS.COM PLACARD 02-329 PVLABELS.COM LABEL 03-116 PVLABELS.COM LABEL 03-211 **INVERTER #1** ${f ext{\it A}}$ WARNING ${f ext{\it A}}$ SYSTEM #1 **CAUTION: SOLAR CIRCUIT AWARNING A** PHOTOVOLTAIC SYSTEM **DUAL POWER SUPPLY** SOURCES: UTILITY GRID AND **INCLUDE THE FOLLOWING LABELS ON ALL SERVICEABLE** ⚠ DC DISCONNECT ⚠ PHOTOVOLTAIC SYSTEM PV SOLAR ELECTRIC SYSTEM **EQUIPMENT** ELECTRIC SHOCK HAZARD AC DISCONNECT PVLABELS.COM LABEL 03-344 OPERATING VOLTAGE 702.5 VDC PVLABELS.COM LABEL 05-580 DO NOT TOUCH TERMINALS OPERATING CURRENT 53.5 PV SOLAR BREAKER **AWARNING AWARNING** TERMINALS ON BOTH THE LINE AND MAX SYSTEM VOLTAGE 908.05 VDC DO NOT RELOCATE LOAD SIDES MAY BE ENERGIZED SHORT CIRCUIT CURRENT 56.75 AMPS **DUAL POWER SUPPLY** ARC FLASH AND ependence Ave, L MO 64064, USA THIS OVERCURRENT IN THE OPEN POSITION Madels com DEVICE SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM CHARGE CONTROLLER MAX SHOCK HAZARD PHOTOVOLTAIC MODULES PRODUCE DC VOLTAGE **ELECTRIC SHOCK HAZARD** Appropriate Personal Protection PVLABELS.COM LABEL 03-326 WHENEVER THEY ARE EXPOSED TO SUNLIGHT **INVERTER #2** DO NOT TOUCH TERMINALS Equipment Required DO NOT DISCONNECT TERMINALS ON BOTH THE LINE AND LOAD SIDES PHOTOVOLTAIC SYSTEM MAY BE ENERGIZED IN THE OPEN POSITION. **⚠** UNDER LOAD **⚠ INCLUDE THE FOLLOWING LABELS ON UTILITY METER** ⚠ DC DISCONNECT OPERATING VOLTAGE OPERATING VOLTAGE 702.5 VDC OPERATING CURRENT 81.8 A SITE DIRECTORY PLAQUE SHALL BE LOCATED ON OR BESIDE THE OPERATING CURRENT 53.5 CAUTION: POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH A DISCONNECT LOCATED AS SHOWN MAX SYSTEM VOLTAGE 908.05 VDC PVLABELS.COM LABEL 02-316 56.75 AMPS SHORT CIRCUIT CURRENT RAPID SHUTDOWN CHARGE CONTROLLER MAX SWITCH FOR **INVERTER #**3 SOLAR PV SYSTEM PHOTOVOLTAIC SYSTEM $oldsymbol{\Lambda}$ DC DISCONNECT $oldsymbol{\Lambda}$ - MAIN PANEL SOLAR SERVICE DISCONNECT ROOFTOP PV OPERATING VOLTAGE 657.2 VDC SOLAR PV SYSTEM EQUIPPED OPERATING CURRENT 42.8 AMPS WITH RAPID SHUTDOWN MAX SYSTEM VOLTAGE 851.30 VDC TURN RAPID SHUTDOWN SHORT CIRCUIT CURRENT 45.4 SWITCH TO THE CHARGE CONTROLLER MAX "OFF" POSITION TO SOLAR ELECTRI PV PANELS SHUT DOWN PV SYSTEM PVLABELS.COM LABEL 03-211 AND REDUCE SHOCK HAZARD PVLABELS.COM LABEL 03-102 **♠ WARNING** ♠ IN THE ARRAY DUAL POWER SUPPLY **AWARNING** SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM Solar **ELECTRIC SHOCK HAZARD** DO NOT TOUCH TERMINALS TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION PHOTOVOLTAIC MODULES PRODUCE DC VOLTAGE WHENEVER THEY ARE EXPOSED TO SUNLIGHT E-5 PROJ NO: NEI-210

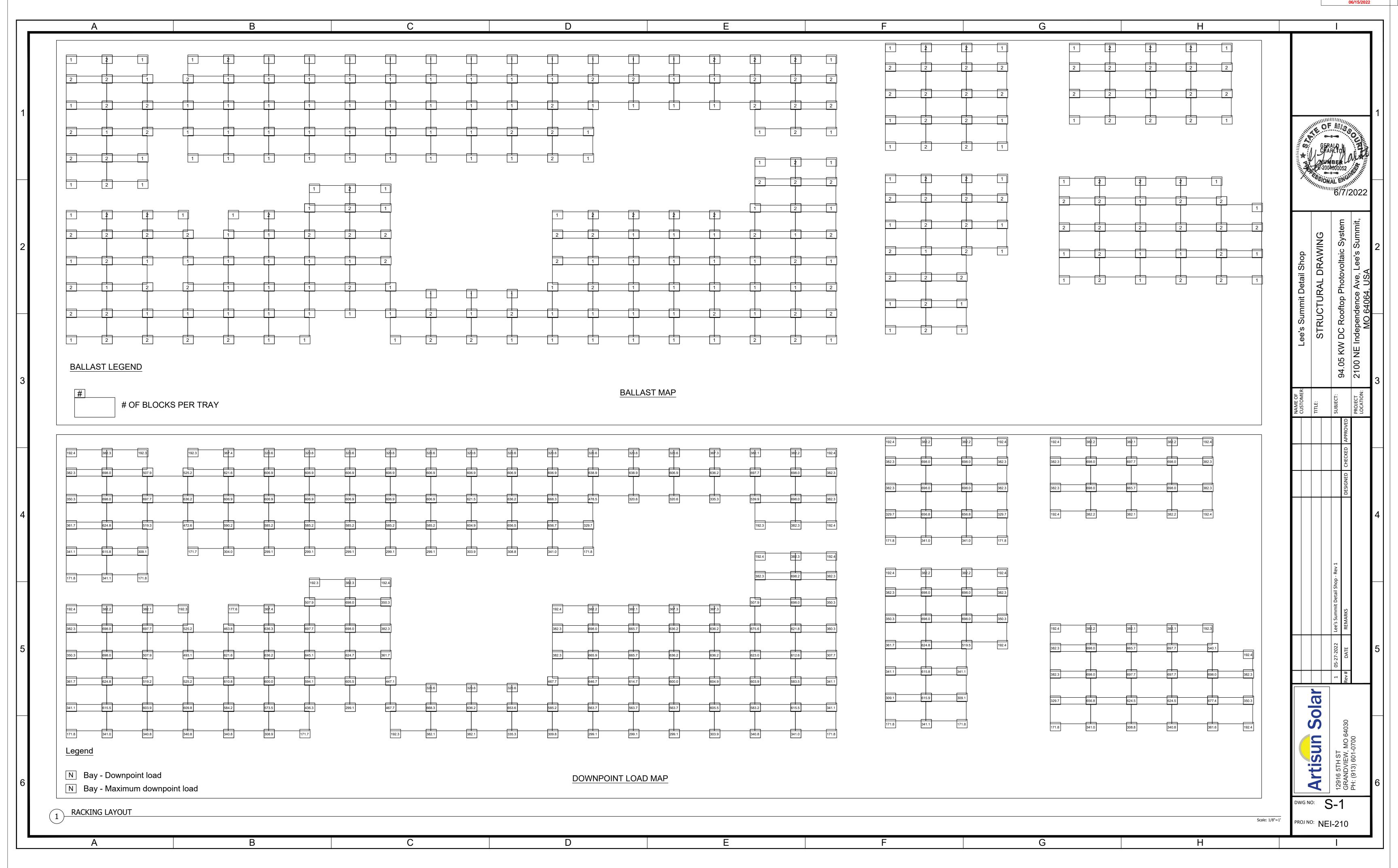
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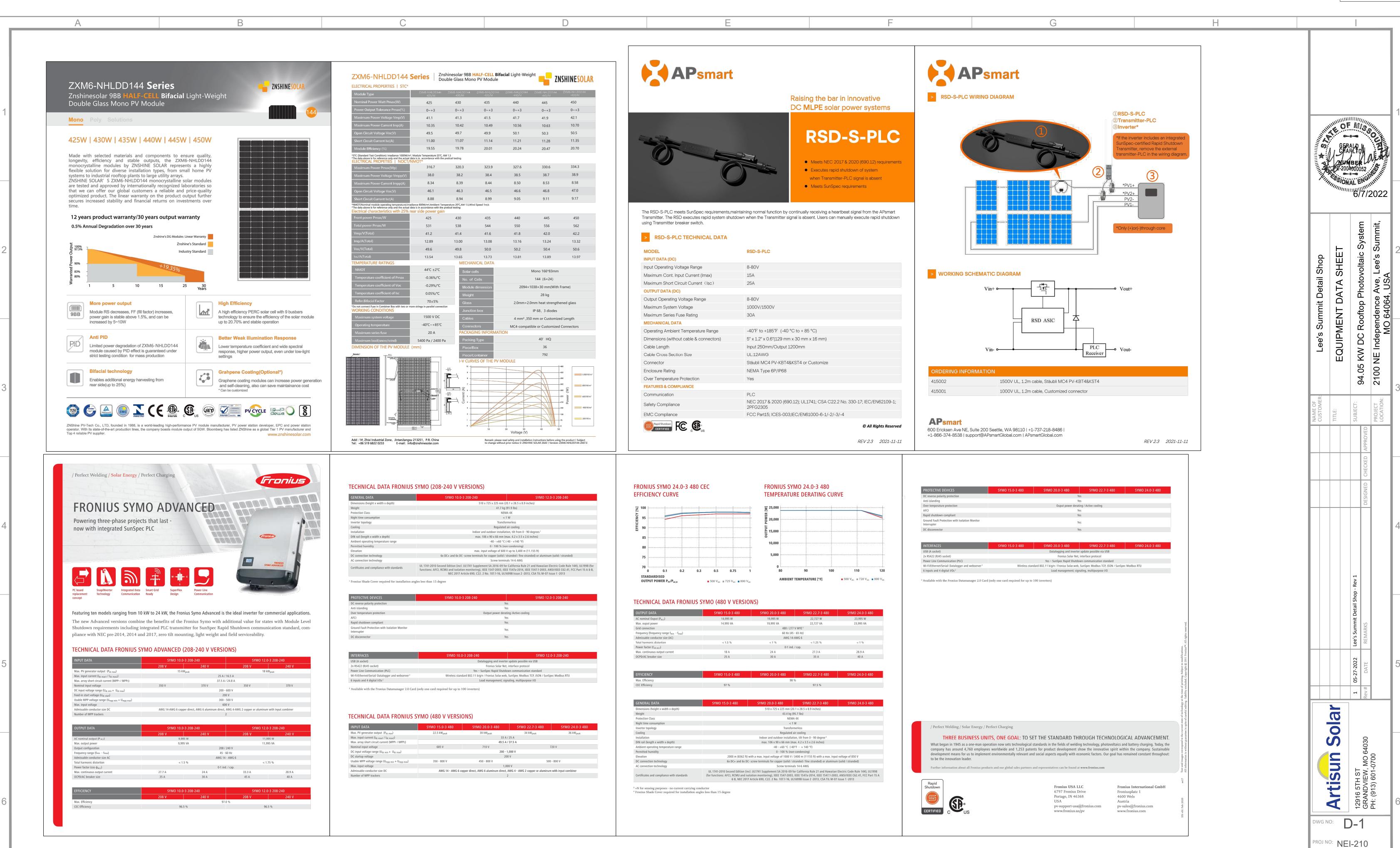
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Development Services Departme
Lee's Summit, Missouri
06/15/2022

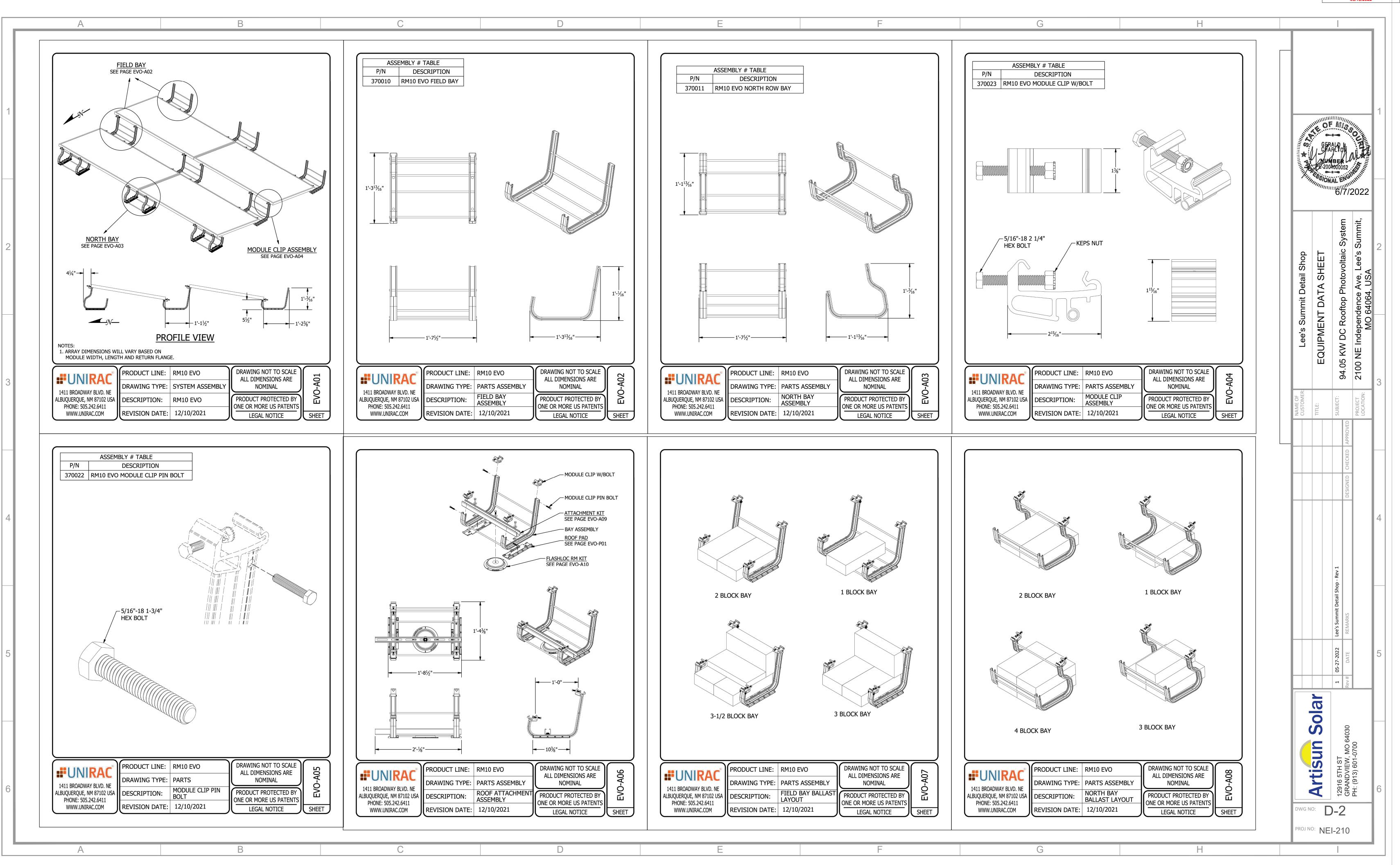


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CONSTRUCTION
As Noted on Plans Review

Development Services Department



RELEASED FOR

