

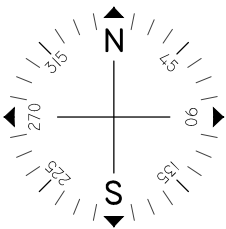
INSTALLATION OF NEW ROOF MOUNTED 2.04kW PV SYSTEM 1 DOGWOOD HILL ROAD WARREN, NJ 07059

DOGWOOD HILL ROAD ●



 VICINITY MAP
SCALE: NTS

SITE



Issued / Revisions

R1	MODULES ADJUSTMENT	2/19/2016
P1	ISSUED TO TOWNSHIP FOR PERMIT	2/17/2016
NO.	DESCRIPTION	DATE

Project Title:

STRECKER, LEOPOLD
TRINITY ACCT #: 2012-22928

Project Address:

1 DOGWOOD HILL ROAD
WARREN, NJ 07059

Drawing Title:

PROPOSED 2.04kW
SOLAR SYSTEM

Drawing Information

DRAWING DATE:	2/17/2016
DRAWN BY:	JC
REVISED BY:	JC

System Information:

TOTAL SYSTEM SIZE:	2.04kW
TOTAL MODULE COUNT:	8
MODULES USED:	SUNTECH 255
MODULE SPEC #:	STP255S-20/WD
UTILITY COMPANY:	PSE&G
UTILITY ACCT #:	6530773304
UTILITY METER #:	126871893
DEAL TYPE:	

Rev. No.

R1

Sheet

PV - 1



2211 Allenwood Road
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GENERAL NOTES

1. THE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL EQUIPMENT AND FOLLOWING ALL DIRECTIONS AND INSTRUCTIONS CONTAINED IN THE DRAWING PACKAGE AND INFORMATION RECEIVED FROM TRINITY.
2. THE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL EQUIPMENT AND FOLLOWING ALL DIRECTIONS AND INSTRUCTION CONTAINED IN THE COMPLETE MANUAL.
3. THE INSTALLATION CONTRACTOR IS RESPONSIBLE FOR READING AND UNDERSTANDING ALL DRAWINGS, COMPONENT AND INVERTER MANUALS PRIOR TO INSTALLATION. THE INSTALLATION CONTRACTOR IS ALSO REQUIRED TO HAVE ALL COMPONENT SWITCHES IN THE OFF POSITION AND FUSES REMOVED PRIOR TO THE INSTALLATION OF ALL FUSES BEARING SYSTEM COMPONENTS.
4. ONCE THE PHOTOVOLTAIC MODULES ARE MOUNTED, THE INSTALLATION CONTRACTOR SHOULD HAVE A MINIMUM OF ONE ELECTRICIAN WHO HAS ATTENDED A SOLAR PHOTOVOLTAIC INSTALLATION COURSE ON SITE.
5. FOR SAFETY, IT IS RECOMMENDED BY THE MANUFACTURE THAT THE INSTALLATION CREW ALWAYS HAVE A MINIMUM OF TWO PERSONS WORKING TOGETHER AND THAT EACH OF THE INSTALLATION CREW MEMBERS BE TRAINED IN FIRST AID AND CPR.
6. THIS SOLAR PHOTOVOLTAIC SYSTEM IS TO BE INSTALLED FOLLOWING THE CONVENTIONS OF THE NATIONAL ELECTRIC CODE. ANY LOCAL CODE WHICH MAY SUPERSEDE THE NEC SHALL GOVERN.
7. ALL SYSTEM COMPONENTS TO BE INSTALLED WITH THIS SYSTEM ARE TO BE "UL" LISTED. ALL EQUIPMENT WILL BE NEMA 3R OUTDOOR RATED UNLESS INDOORS.

GENERAL NOTES

IF ISSUED DRAWING IS MARKED WITH A REVISION CHARACTER OTHER THAN "A", PLEASE BE ADVISED THAT FINAL EQUIPMENT AND/OR SYSTEM CHARACTERISTICS ARE SUBJECT TO CHANGE DUE TO AVAILABILITY OF EQUIPMENT.

GENERAL NOTES CONTINUED

8. THE DC VOLTAGE FROM THE PANELS IS ALWAYS PRESENT AT THE DC DISCONNECT ENCLOSURE AND THE DC TERMINALS OF THE INVERTER DURING DAYLIGHT HOURS. ALL PERSONS WORKING ON OR INVOLVED WITH THE PHOTOVOLTAIC SYSTEM ARE WARNED THAT THE SOLAR MODULES ARE ENERGIZED WHENEVER THEY ARE EXPOSED TO LIGHT.
9. ALL PORTIONS OF THIS SOLAR PHOTOVOLTAIC SYSTEM SHALL BE MARKED CLEARLY IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE ARTICLE 690.
10. PRIOR TO THE INSTALLATION OF THIS PHOTOVOLTAIC SYSTEM, THE INSTALLATION CONTRACTOR SHALL ATTEND A PRE-INSTALLTION MEETING FOR THE REVIEW OF THE INSTALLATION PROCEDURES, SCHEDULES, SAFETY AND COORDINATION.
11. PRIOR TO THE SYSTEM START UP THE INSTALLATION CONTRACTOR SHALL ASSIST IN PERFORMING ALL INITIAL HARDWARE CHECKS AND DC WIRING CONDUCTIVITY CHECKS.
12. FOR THE PROPER MAINTENANCE AND ISOLATION OF THE INVERTS REFER TO THE ISOLATION PROCEDURES IN THE OPERATION MANUAL.
13. THE LOCATION OF PROPOSED ELECTRIC AND TELEPHONE UTILITIES ARE SUBJECT TO FINAL APPROVAL OF THE APPROPRIATE UTILITY COMPANIES AND OWNERS.
14. ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION FOR THE SITE IMPROVEMENTS SHOWN HEREIN SHALL BE IN ACCORDANCE WITH:
 - A) CURRENT PREVAILING MUNICIPAL AND/OR COUNTY SPECIFICATIONS, STANDARDS AND REQUIREMENTS

GENERAL NOTES CONTINUED

14. B) CURRENT PREVAILING UTILITY COMPANY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
15. THIS SET OF PLANS HAVE BEEN PREPARED FOR THE PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DRAWINGS UNTIL REVISED TO INDICATE "ISSUED FOR CONSTRUCTION".
16. ALL INFORMATION SHOWN MUST BE CERTIFIED PRIOR TO USE FOR CONSTRUCTION ACTIVITIES.

ABBREVIATIONS

AMP	AMPERE
AC	ALTERNATING CURRENT
AL	ALUMINUM
AF	AMP. FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AWG	AMERICAN WIRE GAUGE
C	CONDUIT (GENERIC TERM OF SPECIFIED)
CB	COMBINER BOX
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DISC	DISCONNECT SWITCH
DWG	DRAWING
EC	ELECTRICAL SYSTEM INSTALLER
EMT	ELECTRICAL METALLIC TUBING
FS	FUSIBLE SWITCH
FU	FUSE
GND	GROUND
GFI	GROUND FAULT INTERRUPTER
HZ	FREQUENCY (CYCLES PER SECOND)

ABBREVIATIONS CONTINUED

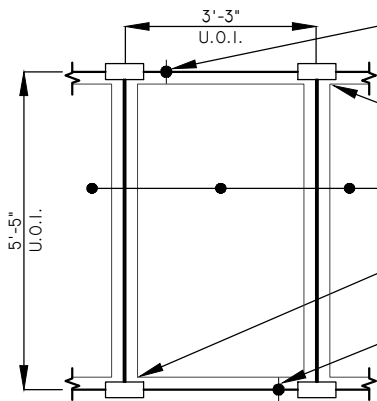
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILO-VOLT AMPERE
KW	KILO-WATT
KWH	KILO-WATT HOUR
L	LINE
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUG ONLY
MTD	MOUNTED
MTG	MOUNTING
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NO #	NUMBER
NTS	NOT TO SCALE
OCP	OVER CURRENT PROTECTION
P	POLE
PB	PULL BOX
PH ∅	PHASE
PVC	POLY-VINYL CHLORIDE CONDUIT
PWR	POWER
QTY	QUANTITY
RGS	RIGID GALVANIZED STEEL
SN	SOLID NEUTRAL
JSWBD	SWITCHBOARD
TYP	TYPICAL
U.O.I.	UNLESS OTHERWISE INDICATED
WP	WEATHERPROOF
XFMR	TRANSFORMER
+72	MOUNT 72 INCHES TO BOTTOM OF ABOVE FINISHED FLOOR OR GRADE

SHEET INDEX

- PV-1 COVER SHEET W/ SITE INFO & NOTES
PV-2 ROOF PLAN W/ MODULE LOCATIONS
PV-3 ELECTRICAL 3 LINE DIAGRAM

APPROVED

By **DESIGN DEPARTMENT** at 10:19 am, Mar 17, 2016



ATTACHMENT & CLIP DETAIL
SCALE: NOT TO SCALE

NEW ECO X ATTACHMENT KIT / CLAMP ASSEMBLY, TYPICAL (REFER TO ECO X SPECIFICATON / DATA SHEET FOR FURTHER DETAILS)

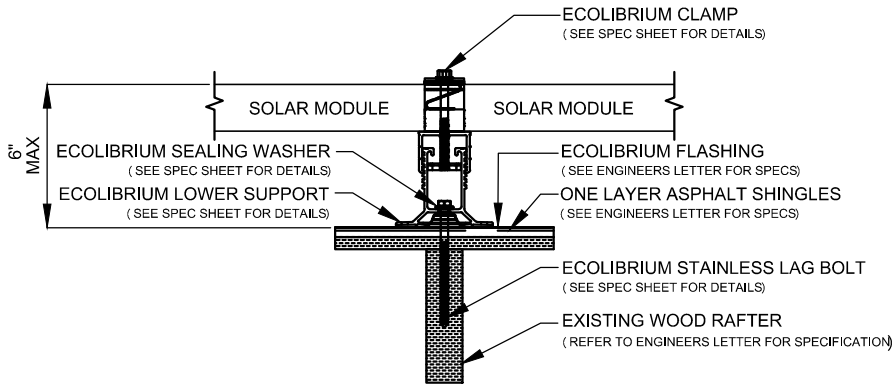
NEW ECO X COUPLING ASSEMBLY, TYPICAL (REFER TO ECO X SPECIFICATON / DATA SHEET FOR FURTHER DETAILS)

NEW PV SOLAR MODULE (S) , TYPICAL (REFER TO EQUIPMENT SCHEDULE FOR SPECS AND QUANTITIES)

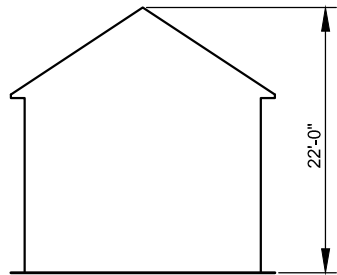
NEW ECO X COUPLING ASSEMBLY, TYPICAL (REFER TO ECO X SPECIFICATON / DATA SHEET FOR FURTHER DETAILS)

NEW ECO X ATTACHMENT KIT / CLAMP ASSEMBLY, TYPICAL (REFER TO ECO X SPECIFICATON / DATA SHEET FOR FURTHER DETAILS)

NOTE : REFER TO MODULE SPECS FOR ACTUAL MODULE DIMENSIONS

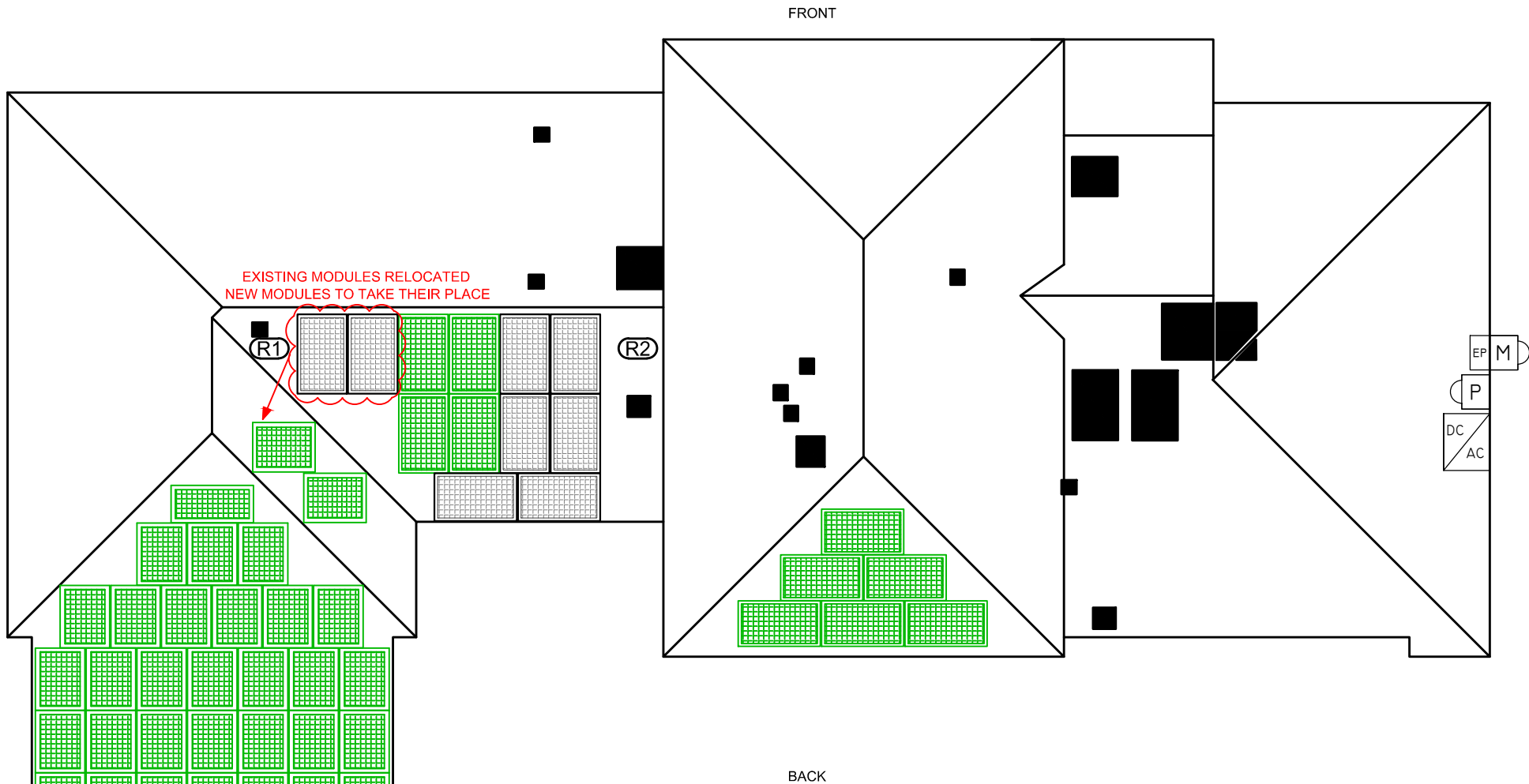


PV MODULE ATTACHMENT ON ASPHALT SHINGLE ROOF
SCALE: NOT TO SCALE



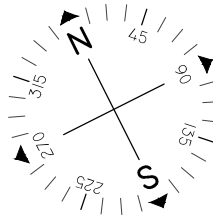
HEIGHT FROM GROUND LEVEL TO PEAK OF ROOF
SCALE: NOT TO SCALE

SOLAR MODULES SHALL NOT EXCEED PEAK HEIGHT.



- NOTES:
- 1.) ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 2.) ALL OUTDOOR EQUIPMENT SHALL BE RAIN TIGHT WITH MINIMUM NEMA 3R RATING.
- 3.) ALL LOCATIONS ARE APPROXIMATE AND REQUIRE FIELD VERIFICATION.
- 4.) ROOFTOP SOLAR INSTALLATION ONLY PV ARRAY WILL NOT EXTEND BEYOND THE EXISTING BUILDING ENVELOPE
- 5.) EQUIPMENT COLORED GREEN IS EXISTING PRIOR TO PROPOSED INSTALLATION.

ARRAY SCHEDULE		SYMBOL LEGEND					PLUMBING SCHEDULE	EQUIPMENT SCHEDULE	
<div>R1</div> <div>ARRAY ORIENTATION = 206° MODULE PITCH = 20°</div> <div>R2</div> <div>ARRAY ORIENTATION = 206° MODULE PITCH = 20°</div>	<div><div><div></div></div></div>	INDICATES ROOF DESIGNATION . REFER TO ARRAY SCHEDULE FOR MORE INFORMATION	<div><div><div></div></div></div>	INDICATES NEW UTILITY DISCONNECT TO BE INSTALLED OUTSIDE				QTY	SPEC #
	<div><div><div></div></div></div>	INDICATES EXISTING METER LOCATION	<div><div><div></div></div></div>	INDICATES NEW PV SOLAR MODULE. RED MODULES INDICATE PANELS THAT USE MICRO INVERTERS. REFER TO EQUIPMENT SCHEDULE FOR SPECS.				8	SUNTECH 255 (STP255S-20/WD)
	<div><div><div></div></div></div>	INDICATES EXISTING ELECTRICAL PANEL LOCATION: IN BASEMENT	<div><div><div></div></div></div>	INDICATES NEW PRODUCTION METER TO BE INSTALLED IN BASEMENT .				1	SE3000A-US
	OTHER OBSTRUCTIONS								
	<div><div><div></div></div></div>	INDICATES NEW MAIN DISCONNECT TO BE GROUPED WITH MAIN PANEL	<div><div><div></div></div></div>	INDICATES NEW INVERTER TO BE INSTALLED IN BASEMENT . REFER TO EQUIPMENT SCHEDULE FOR SPECS.					



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REVISED BY:	JC

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MODULE SPEC #:	STP255S-20/WD
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UTILITY ACCT #:	6530773304
UTILITY METER #:	126871893
DEAL TYPE:	

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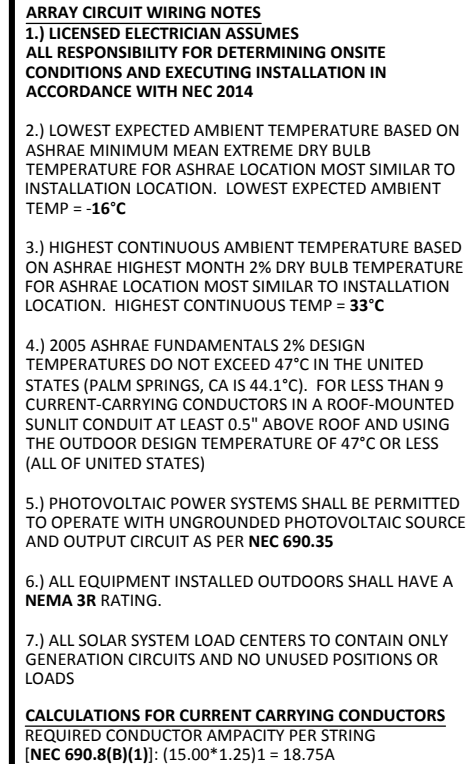
Sheet

PV - 2



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AWG #10, DERATED AMPACITY
 AMBIENT TEMP: 55°C, TEMP DERATING FACTOR: .76
 RACEWAY DERATING = 2 CCC: 1.00
 (40*.76)1.00 = 30.40A

TOTAL AC REQUIRED CONDUCTOR AMPACITY
14.00A*1.25 = 17.50A

40A \geq 17.50A, THEREFORE AC WIRE SIZE IS VALID

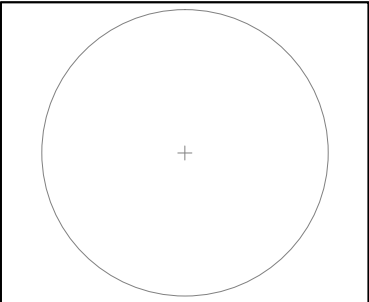
CALCULATION FOR PV OVERCURRENT PROTECTION
 TOTAL INVERTER CURRENT: 14.00A
 $14.00A \times 1.25 = 17.50A$
 --> 20A OVERCURRENT PROTECTION IS VALID

PV MODULE SPECIFICATIONS	
SUNTECH 255 (STP255S-20/WD)	
Imp	8.28
Vmp	30.8
Voc	37.6
Isc	8.76

INVERTER #1 - SE3000A-US			
DC		AC	
Imp	5.83	Pout	3000
Vmp	350	Iout	14
Voc	500	I _{max}	17.5
Isc	15	Vnom	240

A	#6 THWN-2 GEC TO EXISTING GROUND ROD
B	3/4" EMT W/ 3-#10 THWN-2, 1-#10 THWN-2 GROUND
C	3/4" EMT W/ 2-#10 THWN-2, 1-#10 THWN-2 GROUND
D	3/4" EMT W/ 2-#10 THWN-2, 1-#10 THWN-2 GROUND
E	3/4" EMT W/ 3-#10 THWN-2, 1-#10 THWN-2 GROUND
F	#12 PV WIRE W/ #6 BARE COPPER BOND TO ARRAY
G	3/4" FMC W/ 3-#6 THWN-2, 1-#8 THWN-2 GROUND

Engineer / License Holder:



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Rev. No.	Sheet
R1	PV - 3

