

ADDENDUM #1

December 17, 2013

**Fort Mojave Mesa Fire Department
Station 91
Turn-Key Solar Project RFP#13-01
Fort Mohave, Arizona**

No.	Sheet	Description
1-1.	RFI	<p><u>Contractor Question:</u> <i>Will this project fall under the new International Building code NFPA 70 and the docket filed with the legislators for International Fire Code R605.11 for residential and commercial projects?</i></p> <p><u>Reply:</u> The project is located in Fort Mohave, AZ which falls under the Mohave County building department and Fort Mojave Mesa Fire District. Both jurisdictions are currently under the 2006 IBC and IFC. Therefore, the NFPA 70 has not been implemented and is not integrated into this project</p>
1-2.	RFI	<p><u>Contractor Question:</u> <i>Under the American Recovery Act of 2009 it states on page 9 government facilities will be required to follow "Buy American" or what our industry calls ARRA Compliant modules. In the plans it demonstrates Chinese Trina modules for the Station #91. Please clarify if we will be required to follow the fire code and if the modules are to be ARRA compliant "Buy American".</i></p> <p><u>Reply:</u> The project will not be funded via the American Recovery Act of 2009; therefore will not need to comply with its requirements.</p>
1-3.	RFI	<p><u>Contractor Question:</u> <i>The drawings show Trina panels. I assume this means that the project is not ARRA. Are we allowed to use any panels that are equivalent?</i></p> <p><u>Reply:</u> The project is not ARRA (see 1-2 Reply). Substitutions will be considered and shall be submitted per section 105.4 of the General Provisions</p>
1-4.	RFI	<p><u>Contractor Question:</u> <i>The schematic shows Enphase M250 micro-inverters. With the altitude of the fire station and calculated output of the 250W solar panels, the power output</i></p>

of the Enphase M215 micro-inverters would not be clipped and would be perfectly suited. Can we be allowed to bid and use the Enphase M215 micro-inverters?

Reply: Enphase M215 micro-inverters are an approved substitution for the specified Enphase M250 micro-inverters.

1-5. RFI

Contractor Question: *The schematic shows a 3-phase service entrance; all the panels are directly south facing. Can we use a single 120/208 3-phase inverter for this system?*

Reply: The service entrance is single phase (see item number 1-7 below). A single 120/208 3-phase inverter is not approved for this system.

1-6. RFI

Contractor Question: *Is form "L" the Schedule of Manufacturers and Suppliers Major Equipment and Material Items the correct form we need to submit by December 20th for the module substitutions we discussed?*

Reply: Form "L" will need to be submitted along with your bid on 1/6/14. If you want to make any substitutions from what is specified in the bid documents please send me your information by 12/20/13 in accordance with the General Provisions, Section 105.4.1 Substitutions.

1-7. E1.1

Delete sheet E1.1 dated 8/8/13. Insert revised sheet E1.1 dated 12/16/13 attached.

1-8. E1.2

Delete sheet E1.2 dated 8/8/13. Insert revised sheet E1.2 dated 12/16/13 attached.

END OF ADDENDUM

1324 addm1.doc

GENERAL NOTES:

ALL EQUIPMENT SHALL BE INSTALLED IN FULL COMPLIANCE WITH THE NEC AND WITH ALL APPLICABLE REQUIREMENTS OF THE SERVING UTILITY AND THE AUTHORITY HAVING JURISDICTION.

A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRIC POWER SOURCES ON OR IN THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL ELECTRIC POWER PRODUCTION SOURCES CAPABLE OF BEING INTERCONNECTED PER NEC 705.10.

THE BACK-FED 20/2 BREAKERS SUPPLIED FROM THE PV SYSTEM SHALL BE LABELED "PHOTOVOLTAIC POWER SOURCE" PER NEC 690.64(B)(5). THE LABEL SHALL INCLUDE THE THE MAXIMUM AC OUTPUT CURRENT AND THE OPERATING VOLTAGE OF THE INVERTER PER NEC 690.54.

THE PV SYSTEM UTILITY DISCONNECT SWITCH SHALL BE LABELED "UTILITY/PV AC DISCONNECT". THIS SWITCH COVER SHALL BE LOCKED AT ALL TIMES. THE SWITCH SHALL BE OF THE VISIBLE BLADE TYPE AND SHALL BE ACCESSIBLE PER UTILITY REQUIREMENTS AND NEC 705.22.

THE DEDICATED PV SYSTEM KWH METER SHALL BE LABELED "PV METER".

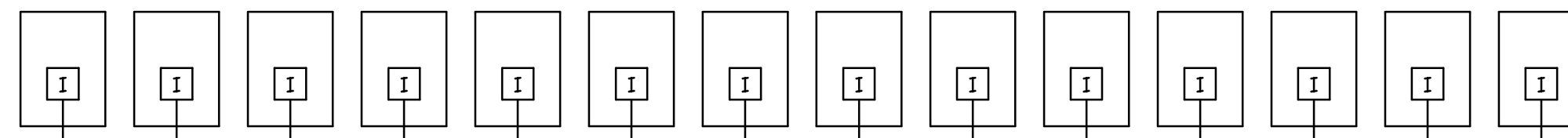
THE LISTING AGENCY NAME AND LISTING NUMBERS SHALL BE SHOWN ON EACH MICROINVERTER AND ON ALL SOLAR MODULES PER NEC 110.2(B).

METALLIC CONDUIT SHALL BE USED FOR ALL PARTS OF THE PV SYSTEM WHICH ARE WITHIN THE BUILDING.

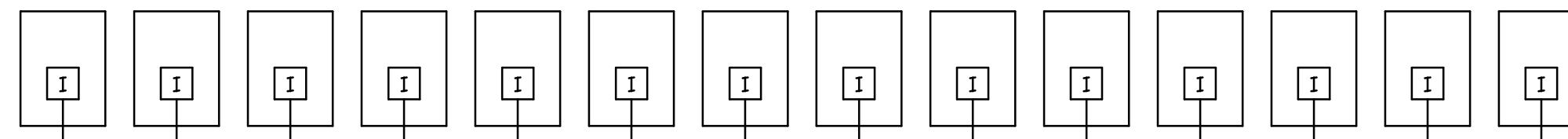
THE COMBINER PANEL SHALL BE LABELED "DEDICATED PHOTOVOLTAIC SYSTEM COMBINER PANEL" AND "NO LOAD TO BE SERVED DIRECTLY FROM THIS PANEL."

THE GROUNDING ELECTRODE CONDUCTOR AND GROUNDING ELECTRODE SYSTEM FOR THE PV SYSTEM SHALL BE INSTALLED IN FULL COMPLIANCE WITH THE EQUIPMENT MANUFACTURERS' INSTRUCTIONS AND WITH NEC 690.47.

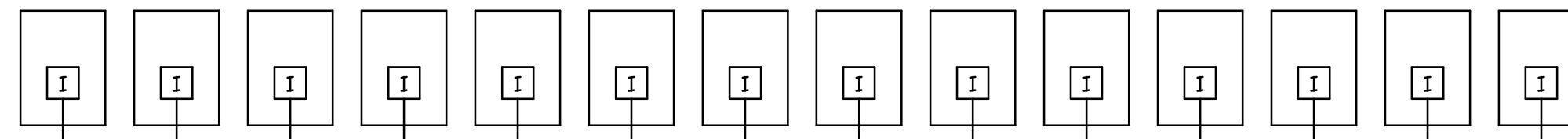
PHOTOVOLTAIC ARRAY #1, (14) TRINASOLAR TSM-250 PDG5 250W MODULES, EACH WITH AN ENPHASE M250 MICROINVERTER



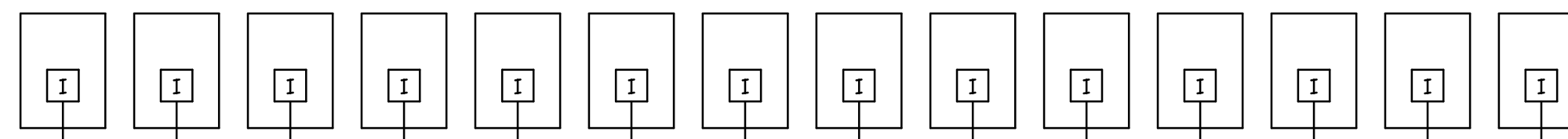
PHOTOVOLTAIC ARRAY #2, (14) TRINASOLAR TSM-250 PDG5 250W MODULES, EACH WITH AN ENPHASE M250 MICROINVERTER



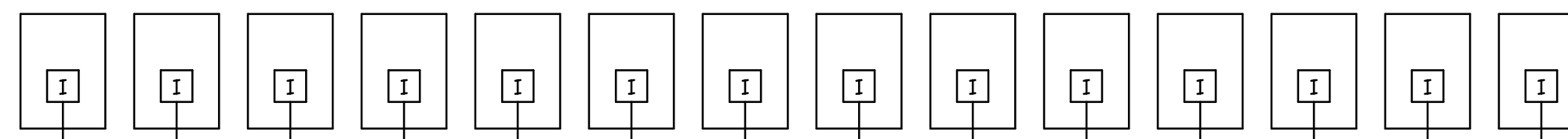
PHOTOVOLTAIC ARRAY #3, (14) TRINASOLAR TSM-250 PDG5 250W MODULES, EACH WITH AN ENPHASE M250 MICROINVERTER



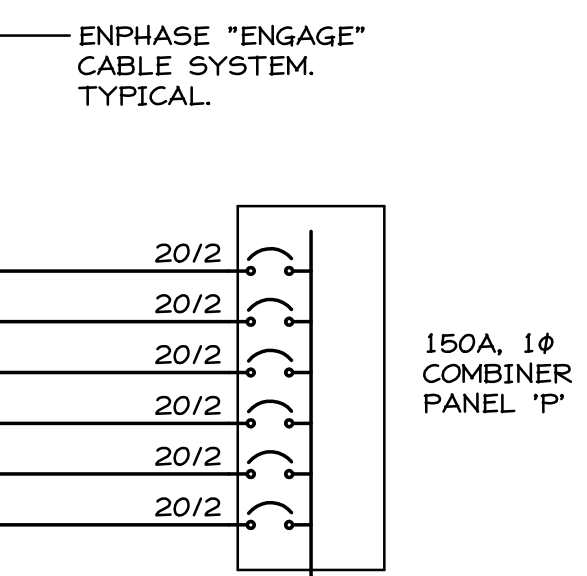
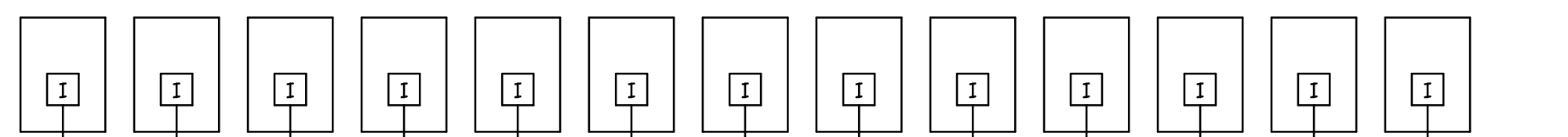
PHOTOVOLTAIC ARRAY #4, (14) TRINASOLAR TSM-250 PDG5 250W MODULES, EACH WITH AN ENPHASE M250 MICROINVERTER



PHOTOVOLTAIC ARRAY #5, (14) TRINASOLAR TSM-250 PDG5 250W MODULES, EACH WITH AN ENPHASE M250 MICROINVERTER



PHOTOVOLTAIC ARRAY #6, (13) TRINASOLAR TSM-250 PDG5 250W MODULES, EACH WITH AN ENPHASE M250 MICROINVERTER

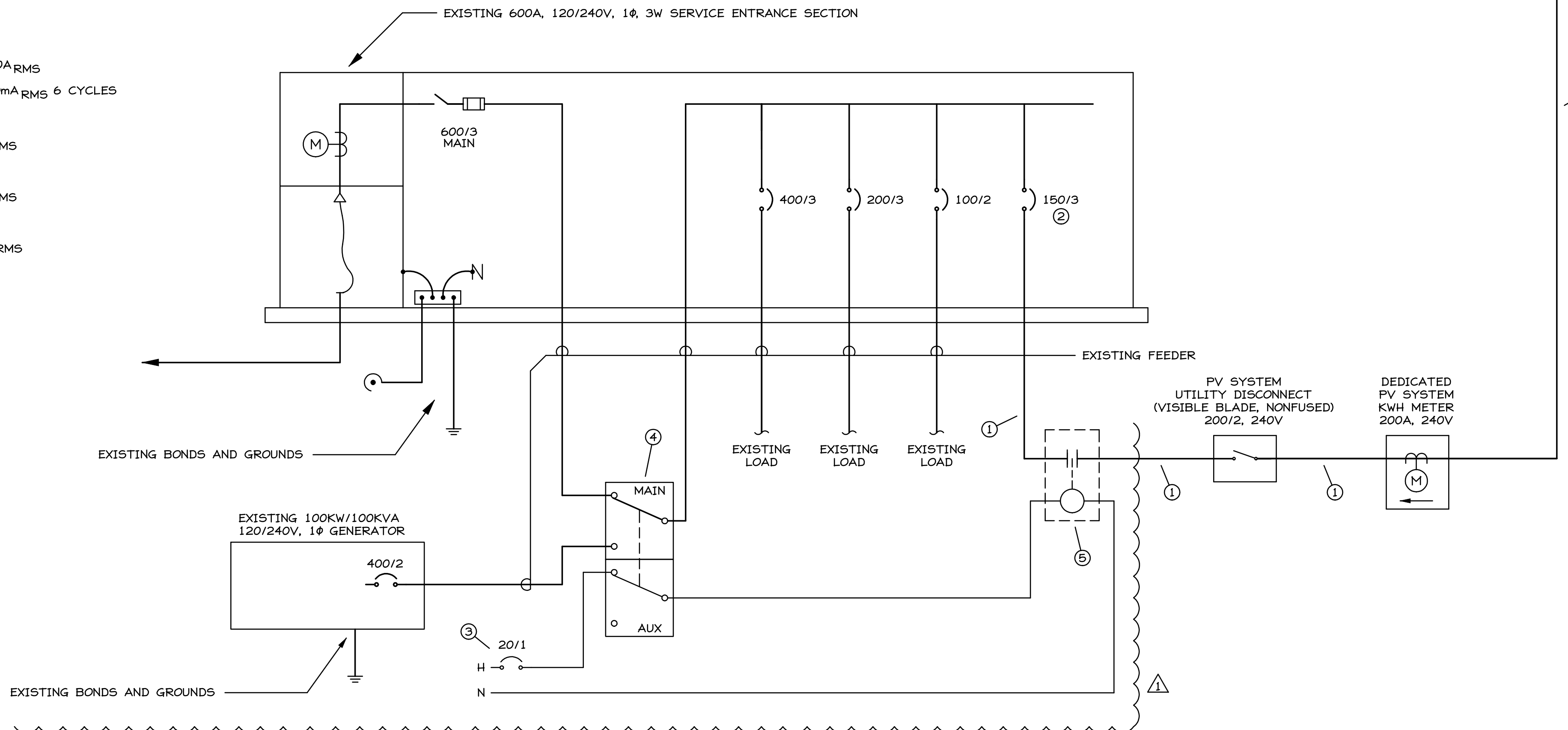


PV POWER SOURCE CALCULATION

- MICROINVERTER RATED OUTPUT = 240W
- MICROINVERTER NOMINAL OUTPUT CURRENT = 1.0A_{RMS}
- MICROINVERTER MAXIMUM FAULT CURRENT = 850mA_{RMS} 6 CYCLES
- 13 PANELS NOMINAL OUTPUT = 13.0A_{RMS}
- 13 PANELS MAXIMUM FAULT CURRENT = 11.05A_{RMS}
- 14 PANELS NOMINAL OUTPUT = 14.0A_{RMS}
- 14 PANELS MAXIMUM FAULT CURRENT = 11.90A_{RMS}
- PV SYSTEM NOMINAL OUTPUT = 97.0A_{RMS}
- PV SYSTEM MAXIMUM FAULT CURRENT = 82.45A_{RMS}

S.E.S. LOAD SUMMARY

EXISTING HIGH DEMAND = 18.0 KW
 $\frac{18000}{.8pf} \times 125\% + 240 = 117.2 A$



KEYED NOTES:

- ① 3 #2/0 CU, #4 E.G.C., 1-1/2" C
- ② NEW BREAKER
- ③ NEW BREAKER IN EXISTING PANEL. THE PANEL AND BREAKER SPACE NUMBER ARE TO BE DETERMINED BY THE CONTRACTOR.
- ④ EXISTING 600A AUTOMATIC TRANSFER SWITCH. PILOT THE GENERATOR PROTECTION CONTACTOR WITH AN AUXILIARY CONTACT IN THE A.T.S.
- ⑤ GENERATOR PROTECTION CONTACTOR, 150A MINIMUM RATING, TWO POLE, ELECTRICALLY HELD. PILOT THROUGH AN AUXILIARY CONTACT IN THE A.T.S. SO THAT THE CONTACTOR IS CLOSED ONLY WHEN THE A.T.S. IS IN THE UTILITY POSITION.



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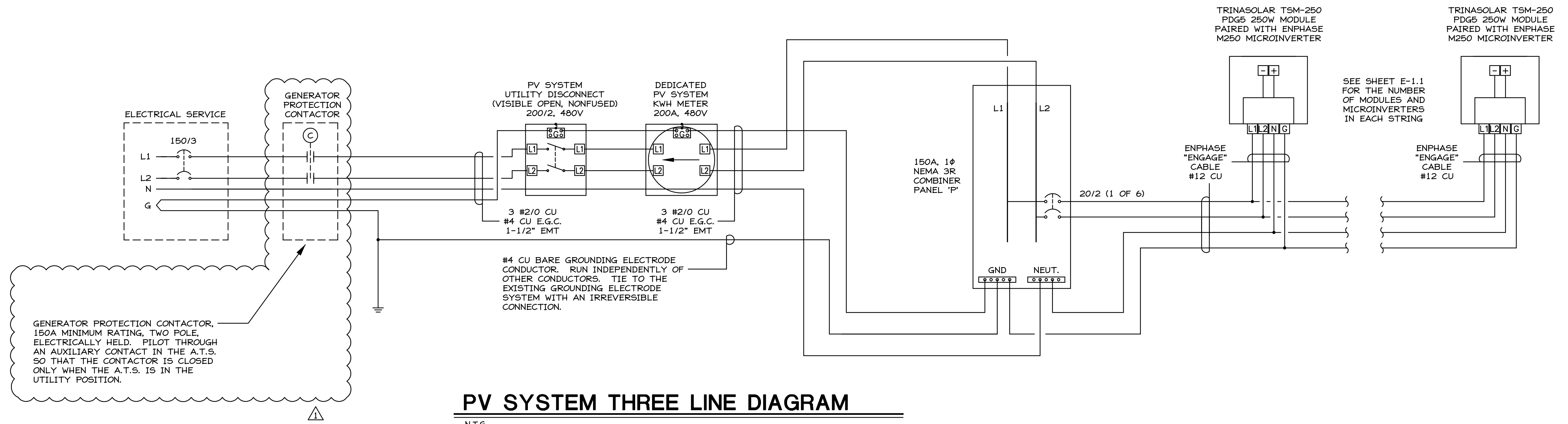
project
 Fort Mohave, Arizona
FORT MOHAVE MESA
FIRE DEPARTMENT STA 91
PV Panel Project

ELI : file
 1324 : project
 HMS : drawn
 08/06/13 : date
 ELECTRICAL PLAN : title

12-16-13 COORDINATION : revisions

PV SYSTEM ONE LINE DIAGRAM

N.T.S.



PV SYSTEM THREE LINE DIAGRAM

N.T.S.



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PV Panel Project

E1.1 : file
1324 : project
HMS : drawn
09/06/13 : date
ELECTRICAL PLAN : title

12-16-13 COORDINATION : revisions