SOLAR PHOTOVOLTAIC SYSTEM NOTES

- All materials, equipment, installation and work shall comply with the following applicable codes:
  - 2013 CBC / 2012 IBC
  - 2013 CRC / 2012 IRC
  - 2013 CEC / 2011 NEC
  - 2013 CMC / 2012 UMC
  - 2013 CPC / 2012 UPC
  - 2013 CFC / 2012 IFC
  - 2008 Building Energy Efficiency Standards
- Existing plumbing vents, skylights, exhaust outlets, ventilations intake air openings shall not be covered by the solar photovoltaic system.
- All equipment shall be listed and labeled by a recognized electrical testing laboratory and installed per the listing requirements and the manufacturer's instructions. [NEC 690.4(D)]
- All outdoor equipment shall be NEMA 3R rated, including all roof mounted transition boxes and switches.
- All equipment shall be properly grounded and bonded in accordance with NEC article 250.
- All circuits connected to more than one source shall have overcurrent devices located so as to provide overcurrent protection from all sources. [NEC 690.9(A)]
- Additional equipment of the PV system shall be located outside the building near the main electrical services. [NEC 690.14(C)]
- The utility-interactive inverters shall automatically de-energize its output to the connected electrical production and distribution network upon loss of voltage in the system and shall remain in that state until the electrical production and distribution network voltage has been restored.[NEC 690.61]
- Due to the fact that PV modules are energized whenever exposed to light, PV contractor shall disable the array during installation and service by short circuiting, open circuiting, or covering the array with opaque covering. [NEC 690.18]
- All conductor exposed to weather shall be listed and identified for use in direct sunlight. [NEC 690.31(B), 310.8(D)]
- The module conductors must be type USE-2 or listed for photovoltaic (PV) wire. [NEC 690.31(B)]
- All conductors shall be marked on each end for unique identification. [NEC 690.4 (B)]
- All grounded conductor shall be properly color identified as white. [NEC 200.6]
- PV system connected on the load side of the service disconnecting means of the other source(s) at any distribution equipment on the premises shall meet the following [NEC 705.12(D)]:
  - Each source connection shall be made at a dedicated circuit breaker or fusible disconnecting means. [NEC 705.12(D)(1)]
  - The sum of the ampere rating of the overcurrent devices in circuits supplying power to the busbar or conductor shall not exceed 120% of the rating of busbar or conductor. [NEC 705.12(D)(2)]
  - The interconnection point shall be on the line side of all ground-fault protection equipment. [NEC 705.12(D)(3)]
  - Equipment containing overcurrent devices in circuits supplying power to a bus bar or conductor shall be marked to indicate the presence of all sources. [NEC 705.12(D)(4)]
  - Circuit breaker, if backfed, shall be suitable for such operation. [NEC 705.12(D)(5)]
- To minimize overheating of the busbar in panelboard, the panelboard main circuit breaker and the PV power source circuit breaker shall be physically located at the opposite end of the busbar.[NEC 705.12(D)(7)]
- All the NEC required warning signs, markings, and labels shall be posted on equipment and disconnects prior to any inspections to be performed by the Building Department inspector.
- Metallic raceways or metallic enclosures are required wiring method for inside a building for PV system. [NEC 690.31(E)]
- Flexible, fine-stranded cables shall be terminated only with terminals, lugs, devices or connector that are identified and listed for such use. [NEC 690.31(F) & 110.14(A)]
- Connectors shall be of latching or locking type. Connectors that are readily accessible and operating at over 30 volts shall require tool to open and marked "Do Not Disconnect Under Load" or "Not For Current Interrupting". [NEC 690.33(C) & (E)(2)]
- Equipment grounding conductor for PV modules smaller than 6AWG shall be protected from physical damage by a raceway or cable armor. [NEC 690.46 & 250.120(C)]
- Equipment grounding conductor for PV systems without Ground Fault Protection (GFP) and installed on non-dwelling unit must have ampacity of at least 2 times the temperature and conduit fill corrected circuit conductor ampacity. [NEC 690.45(B)]
- Fine-stranded cables used for battery terminals, devices, and connections require lugs and terminals listed and marked for the use. [NEC 690.74 (A)]