

Illinois Tollway Base Sheet Revisions

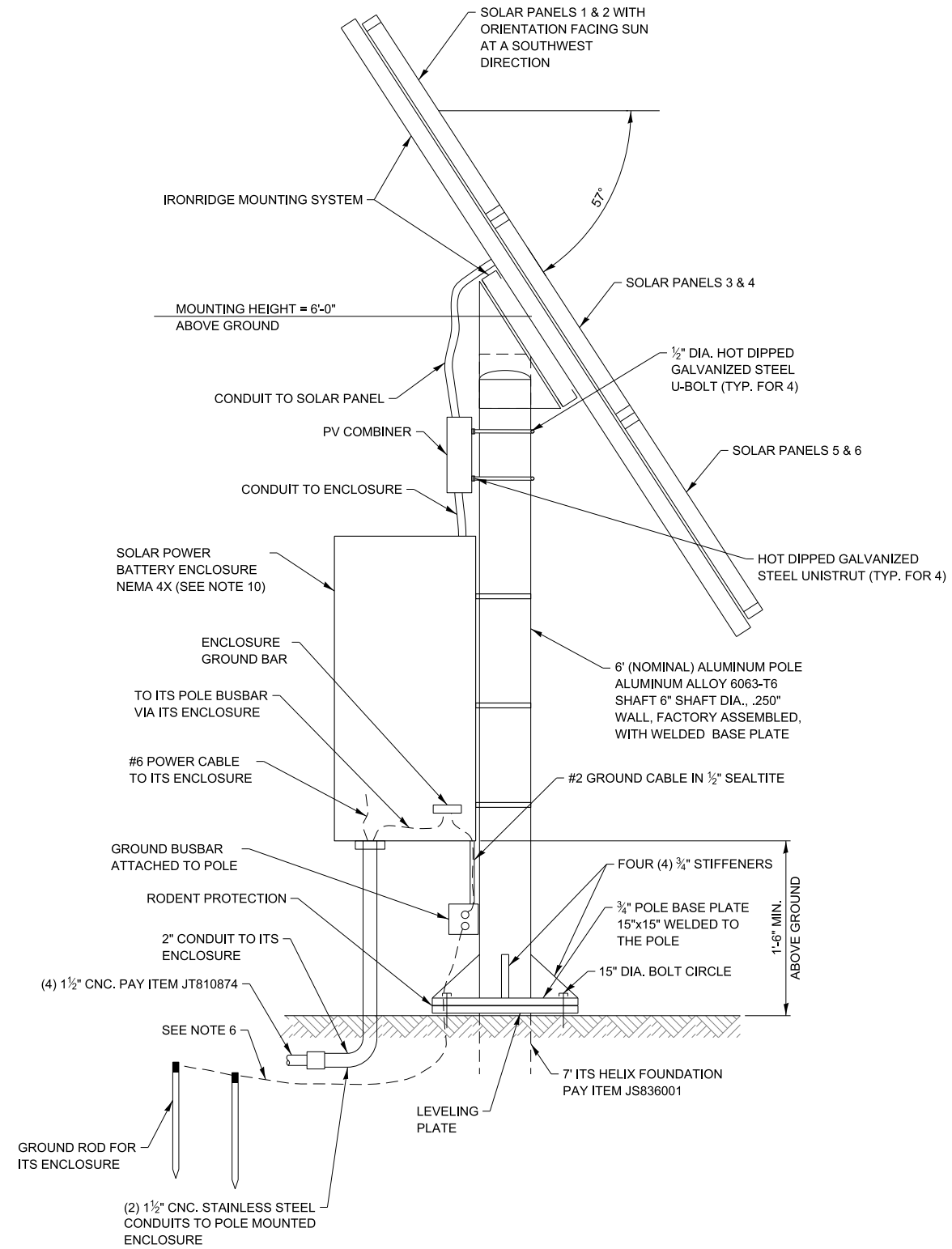
Section M	Base Sheet Drawings	
Drawing	Modification Summary	Effective: 03-01-2025
	Solar Powered Generator Assembly (ITS) -Series 1400	
	NO CHANGES	

 New Sheet

 Retired Standard

NOTES:

1. SOLAR POWER GENERATOR TO INCLUDE PANEL, BRACKETS, CABINET, CHARGER REGULATOR, BATTERIES, POLES, AND CABLES. STRUCTURE TO BE DESIGNED TO MEET STRUCTURAL DESIGN CRITERIA IN SPECIFICATION.
2. THE BATTERIES SHALL BE WIRED TO PROVIDE 24V DC POWER TO AN INVERTER FOR 120V AC DELIVERY TO ITS ENCLOSURE.
3. CONTRACTOR SHALL LOCATE THE GROUND MOUNTED SOLAR PANEL SYSTEM LESS THAN 20' FROM THE POLE-MOUNTED ITS SYSTEM AND ENSURE THAT THE SOLAR PANELS HAVE UNOBSTRUCTED SUN EXPOSURE.
4. GROUND MOUNTED SOLAR PANEL POLES INSTALLED OUTSIDE THE CLEAR ZONE AND SHALL BE SHIELDED BY BARRIER, LOCATED A MINIMUM OF 5' BEHIND THE PLANE OF ANY GUARDRAIL POSTS. SEE ILLINOIS TOLLWAY GUARDRAIL STANDARD (SECTION C OF STANDARDS) FOR MORE INFORMATION. ALL OTHER POLES SHALL BE LOCATED OUTSIDE THE CLEAR ZONE OR AS DIRECTED BY THE ENGINEER. FINAL LOCATION TO BE APPROVED BY THE ENGINEER.
5. ALL EQUIPMENT MUST BE CONNECTED TO A COMMON GROUND THROUGH THE ADJACENT ITS POLE BUSBAR. CONNECT A #2 AWG GROUND CABLE FROM THE EXTERNAL SOLAR POLE MOUNTED GROUND BUSBAR TO THE GROUND BAR IN THE SOLAR ENCLOSURE. ANY GROUND CONNECTED TO THE EXTERNAL GROUND BUSBAR SHALL BE EXOTHERMIC WELDED TO THE BUSBAR. SEALTITE CONDUIT SHOULD BE GROMMETTED ON END GOING TO BUSBAR TO PREVENT RODENTS AND INSECTS FROM ENTERING. A #2 AWG GROUND CABLE SHALL BE ATTACHED TO THE GROUND BUSBAR ATTACHED TO THE ADJACENT ITS POLE AND ROUTED THROUGH THE CONDUIT CONNECTING THE TWO ENCLOSURES AND ATTACHED TO THE GROUND BUSBAR ATTACHED TO THE SOLAR POLE. THE GROUND BUSBAR SHALL CONNECT TO A GROUND ROD (IN AN INSPECTION WELL) FOR THE SOLAR GENERATOR.
6. THE SOLAR POWER GENERATOR GROUND ROD SHALL BE CONNECTED TO THE GROUND ROD FOR THE ITS ENCLOSURE VIA A #2 AWG BARE GROUND CABLE EXOTHERMIC WELDED TO BOTH GROUND RODS.
7. CONTRACTOR TO PROVIDE ALL POWER AND GROUND WIRING REQUIRED FOR SYSTEM OPERATION WITHIN AND OUTSIDE THE ENCLOSURE.
8. BACKFILL HELIX FOUNDATION TO THE TOP OF THE POLE BASE ON ALL SIDES.
9. ALL CABLING (INCLUDING CABLING INSIDE THE ENCLOSURE) SHALL BE OUTDOOR RATED. THE GROUND WIRE (WHITE) IN THE POWER CABLE SHALL BE TAPED GREEN.
10. ENCLOSURE SHALL BE VENTED AND CONTAIN BATTERIES AND SOLAR CONTROLLER.
11. SOLAR PANELS SHALL FACE 186 DEGREES FROM MAGNETIC NORTH AND SHALL BE TILTED 57 DEGREES FROM THE HORIZON.
12. THE LOCATION OF THE SOLAR POWER GENERATOR SHALL BE AT A LOCATION FACING SOUTH WEST AND CLEAR FROM THE SHADOW OF TREES AND OTHER STRUCTURES. SHALL HAVE DIRECT SUNLIGHT FACING THE SOLAR PANELS.



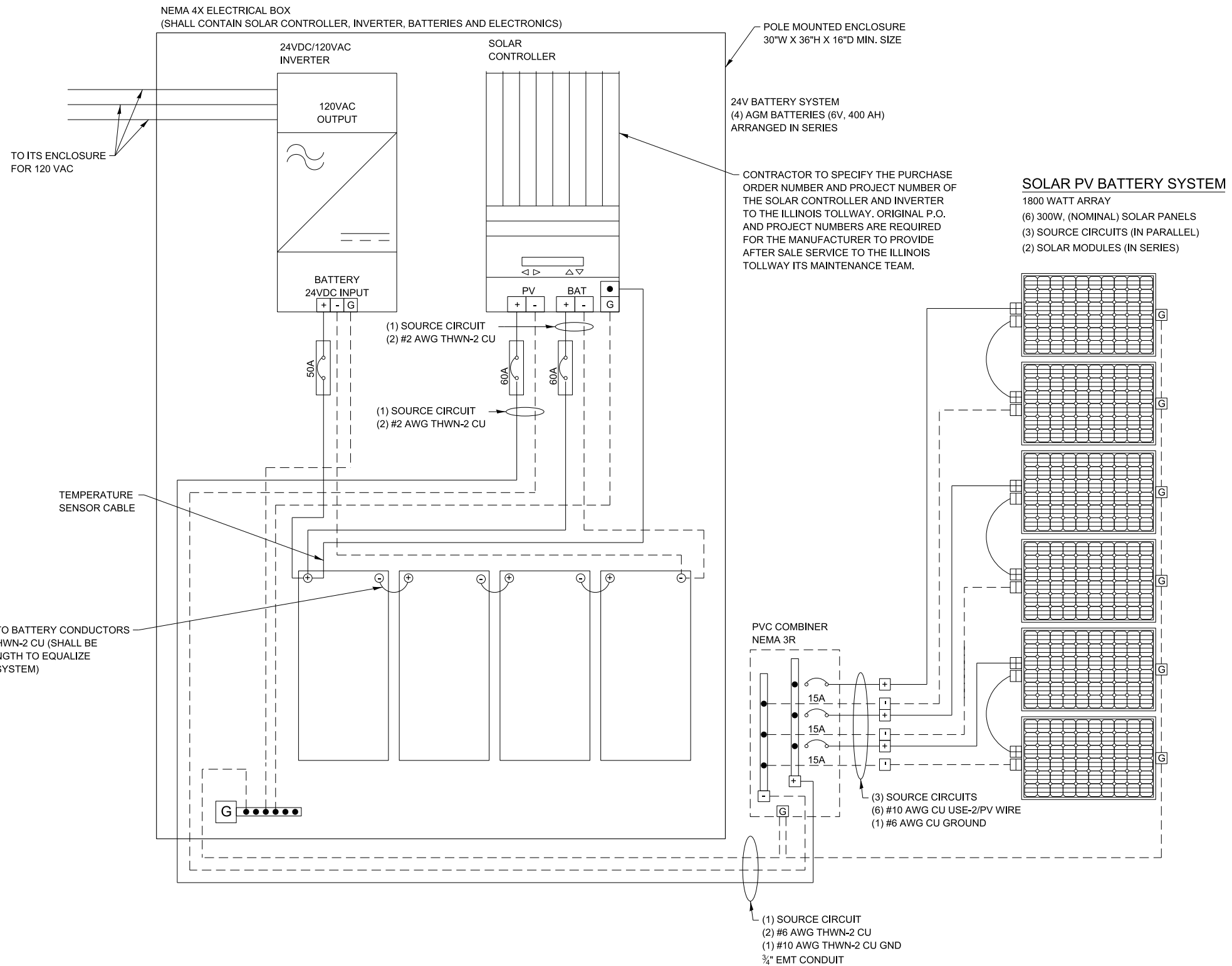
SOLAR PANEL & MOUNTING HARDWARE DETAILS
NOT TO SCALE

NOTE TO DESIGNER
THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

NOTE TO DESIGNER
THE SOLAR POWER GENERATOR ASSEMBLY SHALL BE USED WITH SITES WITH CCTV AND OTHER DEVICES WITH GREATER POWER DEMAND. FOR SITES WITH ONLY MVDS, REFER TO M-ITS-1000 SERIES.



SOLAR POWER GENERATOR DETAILS



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