### Illinois Tollway Base Sheet Revisions

**Section M**

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| M-ITS-1200 to M-ITS-1217 | Cabinet Wiring Diagrams  
18 new ITS enclosure drawings replace old 56 ITS enclosure drawings for clarification.  
Consolidated equipment configurations.  
Standardized to scale equipment layout.  
Changed to Cisco 4000 series switch.  
Eliminated 24 VAC transformer and 24 VAC CCTVs. Additional 24 VDC power supply.  
Cat6 Ethernet surge protectors revised to PoE++ compatible models.  
Routed according to IEEE 802.3bt (PoE++) switches. |
| M-ITS-1300 | RWIS Pole, Sensor Mounting Detail  
Pole height changed to 50 feet as standard pole for ITS with 17.5 inch bolt circle.  
Changed disconnect switch to unfused. |
| M-ITS-1301 | RWIS Cabinet Wiring Diagram  
Changed to Cisco 4000 series switch. Not connected to RWIS controller, for future use.  
Added IP Relay. Disconnected, for future use.  
Added secondary sensor pole cabinet wire. |
| M-ITS-1303 | Typical RWIS Grounding Schematic  New drawing showing RWIS grounding system with grounding cable. |
| M-ITS-1304 | Co-located solar generator cabinet redesigned as M-ITS-1004. |
| M-ITS-1500 | Tower Mount Camera Details  
Cameras shown at offset height to avoid view obstruction. Pole mounting arm revised to Axis O6155-E IP camera. |
| M-ITS-1503 | Cabinet Wiring Diagram - Tower Mounted CCTV  
Revised to show 24 VDC power supply, drawing drawn to scale.  
Added flashing beacon, new surge suppressor. |
| M-ITS-1701 | Flashing Sign Beacon Installation Wiring Diagram  
Revised to show full cabinet layout accommodating flasher beacon. Re-drawn to scale.  
Added auxiliary cabinet. |
| M-ITS-1800 | IPDC Facility (ITS)-Series 1800  
Building modified to accommodate larger generator room door, door stops.  
Additional exterior CCTV cameras.  
Note 2: Seal door opening and protrusion/access against rodent and bugs. Note 3: Install removable stainless bollards per Illinois Tollway Maintenance. |
| M-ITS-1900 | Conduct Details at Integral Abutment Bridge with MSE Wall (Sheet 3)  
Removed note stating concrete encasement to be placed monolithic with the approach slab.  
Added 0.5" PIP at the back of the abutment and approach bent.  
Added 0.75" PIP between the approach slab and encasement.  
Added detail for deflection and expansion fittings at the encasement and pile bent.  
Added detail for deflection fitting at encasement and abutment. |
| M-ITS-2000 | 100 FT. Monopole (ITS)-Series 2000  
100 FT. Monopole Closed Circuit Television (CCTV) Camera Tower  
Sheet 4 Added sheet 4 of 4 showing hexagonal service pad. |

**Sections**

- Pole Assembly (ITS)-Series 1000
- Dynamic Message Sign (ITS)-Series 1100
- Roadway Weather Information System (ITS)-Series 1300
- Solar Powered Generator (ITS)-Series 1400
- Tower Mounted CCTV (ITS)-Series 1500
- Flashing Beacon (ITS)-Series 1700
- IPDC Facility (ITS)-Series 1800
- Conduit Details at Integral Abutment Bridge (ITS)-Series 1900
- 100 FT. Monopole (ITS)-Series 2000

**Effective:** 2019-03-01
NOTES:
1. SOLAR POWER GENERATOR TO INCLUDE PANEL, BRACKETS, CABINET, CHARGER, REGULATOR, BATTERIES, AND CABLES. STRUCTURE TO BE DESIGNED TO MEET STRUCTURAL DESIGN CRITERIA IN SPECIFICATION.
2. THE BATTERIES SHALL BE WELDED TO PROVIDE 120V DC POWER TO AN INVERTER FOR 120V AC DELIVERY TOITS ENCLOSURE.
3. CONTRACTOR SHALL INSTALL THE GROUND MOUNTED SOLAR PANEL SYSTEM LESS THAN 200 FROM THE POLE- MOUNTED ITS SYSTEM AND ENSURE THAT THE SOLAR PANELS HAVE UNOBSTRUCTED SUN EXPOSURE.
4. GROUND MOUNTED SOLAR PANEL POLES INSTALLED WITHIN THE CLEAR ZONE SHALL BE SLENDERED BY BARRIERS, LOCATED A MINIMUM OF 5' BEHIND THE FACE OF ANY GUARDRAIL POSTS. SEE ILLINOIS TOLLWAY GUARDRAIL SPECIFICATION C-26 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 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, SEALITE CONDUIT SHALL BE WELDED TO THE BUSBAR TO PROVIDE PREVENT MOUNTS AND INSECTS FROM ENTERING. ALL GROUND CABLES SHALL BE CONNECTION TO THE EXTERNAL GROUND BUSBAR ATTACHED TO THE ADJACENT ITS POLE AND ROUTED THROUGH THE CONDUIT ATTACHED TO THE ADJACENT ITS POLE AND ROUTED THROUGH THE CONDUIT ATTACHMENTS TO THE GROUND BUSBAR.
6. THE SOLAR POWER GENERATOR GROUND BUSBAR SHALL BE CONNECTED TO THE GROUND BUSBAR VIA A #2 AWG BARE GROUND CABLE EXOTHERMIC WELDED TO THE BUSBAR. SEALTITE CONDUIT SHOULD BE USED TO PROTECT THE GROUND WIRE (WHITE) IN THE POWER CABLE. THE GROUND BUSBAR SHALL BE CONNECTED TO A GROUND BAR (IN AN INSPECTION WELL) FOR THE SOLAR GENERATOR.
7. CONTRACTOR TO PROVIDE ALL POWER AND GROUND WIRING REQUIRED FOR SYSTEM OPERATION WITHIN AND OUTSIDE THE ENCLOSURE.
8. GROUND BUSBAR ATTACHED TO THE TOP OF THE POLE BASE ON ALL SIDES.
9. ALL CABLES (INCLUDING CABLES INSIDE THE ENCLOSURE) SHALL BE OUTDOOR RATED. THE GROUND WIRE IN THE POWER CABLE SHALL BE TAPPED GREEN. THE GROUND BUSBAR SHALL BE CONNECTED TO A GROUND ROD (IN AN INSPECTION WELL) FOR THE SOLAR GENERATOR.
10. GROUND ROD (IN AN INSPECTION WELL) FOR THE SOLAR GENERATOR. ATTACHED TO THE SOLAR POLE. THE GROUND BUSBAR SHALL CONNECT TO A GROUND BUSBAR VIA A #2 AWG BARE GROUND CABLE EXOTHERMIC WELDED TO THE BUSBAR. SEALTITE CONDUIT SHOULD BE USED TO PROTECT THE GROUND WIRE (WHITE) IN THE POWER CABLE. THE GROUND BUSBAR SHALL BE CONNECTED TO A GROUND BAR (IN AN INSPECTION WELL) FOR THE SOLAR GENERATOR.
11. SOLAR PANELS SHALL FACE 186 DEGREES FROM MAGNETIC NORTH AND SHALL BE TILTED 57 DEGREES FROM THE HORIZON.

NOTE TO DESIGNER:
THIS SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING; IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. INSTALLATION DETAILS 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 PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.
NOTE TO DESIGNER:

THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. M-ITS-1401 PROCUREMENT 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.