Illinois Tollway M-ITS  Base Sheet Revisions

<table>
<thead>
<tr>
<th>Section M</th>
<th>Base Sheet Drawings</th>
<th>Modification Summary</th>
<th>Effective: 2021-03-01</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>New Sheet</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retired Standard</td>
<td></td>
</tr>
</tbody>
</table>

### Pole Assembly (ITS)-Series 1000

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-ITS-1000</td>
<td>Elevation Views Pole Mounted ITS Element Assembly</td>
</tr>
<tr>
<td></td>
<td>Sheet 1&amp;3: Added title for one section detail; Added note on wires from solar panels to battery box then to ITS enclosure then Cashed to ITS devices installed on the ITS pole</td>
</tr>
<tr>
<td></td>
<td>Sheet 2&amp;5: Added title for ITS Disconnect Switch Cast-in-place</td>
</tr>
<tr>
<td></td>
<td>Sheet 3&amp;6: Added new assembly detail for ITS Disconnect Switch Pre-cast (simplified installation)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-ITS-1001</td>
<td>General Notes Pole Mounted ITS Element Assembly</td>
</tr>
<tr>
<td></td>
<td>Added Note 22: Cables shall enter poles through a grommet. Grommet size shall be chosen so that the center hole forms a water tight seal around the cables</td>
</tr>
</tbody>
</table>

### Dynamic Message Sign (ITS)-Series 1100

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-ITS-1103</td>
<td>DMS Front Access-Cantilever Electrical Plan</td>
</tr>
<tr>
<td></td>
<td>Revised assembly details for DMS Type 2 Cantilever pushed further away so the edge of the DMS clears Lane 1</td>
</tr>
<tr>
<td>M-ITS-1104</td>
<td>DMS Front Access-Butterfly Electrical Plan</td>
</tr>
<tr>
<td></td>
<td>Revised assembly details for DMS Butterfly Type 2 Front Access pushed further away to the edge of the DMS clears Lane 1</td>
</tr>
</tbody>
</table>

### Cabinet Wiring (ITS)-Series 1200

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-ITS-1200</td>
<td>Revised assembly details for DMS Type 2 Cantilever pushed further away so the edge of the DMS clears Lane 1</td>
</tr>
<tr>
<td>M-ITS-1201</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1202</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1203</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (3-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1204</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV camera)</td>
</tr>
<tr>
<td>M-ITS-1205</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV camera and 2-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1206</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-CCTV and 3-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1207</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV cameras)</td>
</tr>
<tr>
<td>M-ITS-1208</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV cameras and 1-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1209</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV cameras and 2-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1210</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-CCTV cameras and 3-MVDS)</td>
</tr>
<tr>
<td>M-ITS-1211</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (1-MVDS) Solar Generator and FOC</td>
</tr>
<tr>
<td>M-ITS-1212</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (2-MVDS) Solar Generator and FOC</td>
</tr>
<tr>
<td>M-ITS-1213</td>
<td>Cabinet Layout and Wiring ITS Pole Mounted Enclosure (3-MVDS) Solar Generator and FOC</td>
</tr>
</tbody>
</table>

### Roadway Weather Information System (ITS)-Series 1300

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-ITS-1300</td>
<td>Revised to show the fiber optic conduit and power conduit interface with the ITS Enclosure for location and size</td>
</tr>
<tr>
<td></td>
<td>Added Note 13: Fiber cable shall run straight down from the Gator patch through the left most conduit. Power cable shall be pulled through the conduit to the right of the fiber conduit. No slack shall be placed in the cabinet, slack shall be put in power and fiber optic handholes</td>
</tr>
<tr>
<td></td>
<td>Revised layout to remove Cohu Surge Suppressor Part AS</td>
</tr>
<tr>
<td></td>
<td>Revised details for Part V to remove dash line for DITEK surge suppressor</td>
</tr>
<tr>
<td></td>
<td>Revised description for item V to remove Cohu camera</td>
</tr>
<tr>
<td></td>
<td>Revised item AQ to remove reference to Cohu PoE power injector</td>
</tr>
<tr>
<td></td>
<td>Remove item AS for Cohu PoE injector not required anymore</td>
</tr>
<tr>
<td></td>
<td>Revised Note 4: to say Not used</td>
</tr>
</tbody>
</table>

### Typical RWIS Site Installation Plan

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-ITS-1302</td>
<td>Revised to show the fiber optic conduit and power conduit interface with the ITS Enclosure for location and size</td>
</tr>
<tr>
<td></td>
<td>Added Note 13: Fiber cable shall run straight down from the Gator patch through the left most conduit. Power cable shall be pulled through the conduit to the right of the fiber conduit. No slack shall be placed in the cabinet, slack shall be put in power and fiber optic handholes</td>
</tr>
<tr>
<td></td>
<td>Added Note to Designer: The DSE shall specify the Gator Patch length per site</td>
</tr>
</tbody>
</table>

### RWIS Pole, Sensor Mounting Detail

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Added Note 8: Wind sensor can be installed on the secondary pole if primary pole is close to tree line</td>
</tr>
<tr>
<td></td>
<td>Added Note 9: All cables installed in a pole shall use a grommet to connect to ITS device installed on the pole</td>
</tr>
</tbody>
</table>

### Typical RWIS Site Installation Plan

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Added Note 5: Note to Designer: In the event the Primary and Secondary poles cannot be installed within the 40 foot maximum radius of the bridge deck, the DSE shall consult with the Tollway and GEC on an alternate placement solution</td>
</tr>
<tr>
<td></td>
<td>Added Note 6: Note to Designer: Installation of the Primary and Secondary pole for bridge installation: pole to be installed near immediate entrance of the bridge so non-invasive laser temperature sensor can monitor bridge deck temperature and bridge approach temperature</td>
</tr>
<tr>
<td>Drawing/Section</td>
<td>Modification Summary</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------</td>
</tr>
<tr>
<td><strong>Solar Powered Generator (ITS)-Series 1400</strong></td>
<td>Added Note to Designer: The simplified solar power arrangement shall only be used for a maximum of 3 MVDS. For all other arrangements use the 1400 Series</td>
</tr>
<tr>
<td>M-ITS-1400</td>
<td><strong>Effective: 2020-03-01</strong></td>
</tr>
<tr>
<td>M-ITS-1500</td>
<td><strong>ITS Details Tower Mount Camera Details</strong></td>
</tr>
<tr>
<td>M-ITS-1503</td>
<td><strong>Removed details for Part AS: removed PoE power injector</strong></td>
</tr>
<tr>
<td>M-ITS-1700</td>
<td><strong>Flashing Sign Beacon Installation Breakaway Electrical Detail</strong></td>
</tr>
<tr>
<td>M-ITS-1701</td>
<td><strong>Cabinet Layout and Wiring ITS Pole Mounted Enclosure</strong></td>
</tr>
<tr>
<td>M-ITS-1815</td>
<td><strong>IPDC and Combination Plaza/IPDC Concrete Foundation</strong></td>
</tr>
<tr>
<td>M-ITS-1900</td>
<td><strong>Conduit Details at Integral Abutment Bridge (ITS)-Series 1900</strong></td>
</tr>
<tr>
<td>M-ITS-2000</td>
<td><strong>100 FT. Monopole (ITS)-Series 2000</strong></td>
</tr>
<tr>
<td>M-ITS-2100</td>
<td><strong>Video Power Junction Box Model A: 4 PoE CCTV arrangement without communication switch</strong></td>
</tr>
<tr>
<td>M-ITS-2101</td>
<td><strong>Video Power Junction Box Model B: 4 PoE CCTV arrangement Cosco 4000 switch</strong></td>
</tr>
</tbody>
</table>

**Additional Details:**
- **M-ITS-1400**
  - Added Note to Designer: The 2 CCTV shall be placed on the leg facing the roadway with a clear field of view
  - Added Note 23: The CCTV cameras shall be mounted on the same tower leg with an Axis T94A01D pendant kit, or equivalent as approved by the engineer. There will be 24in vertical spacing between the cameras

- **M-ITS-1500**
  - Removed dashline for DITEK surge suppressor for Cohu camera

- **M-ITS-1503**
  - Revised Item AS to say N/A

- **M-ITS-1700**
  - Added items for second pair of flashing lights and connection to the circuit breakers
  - Added Item AT: ELTEC FS-4 DC Flasher
  - Added Item AU: 9 PIN Harness for FS-4
  - Revised Item V: removed reference to DITEK for Cohu camera

- **M-ITS-1701**
  - Added Note 1: see plans for required conductor sizes
  - Added Note 2: All three conductors shall be in one harness
  - Added Note 3: As an alternative to the conduit body on foundation, use thermoplastic junction boxes
  - Revised Item AS to say N/A

- **M-ITS-1815**
  - Added Note to Designer: Install new CCTV within 500 feet upstream of the static beacon sign
  - Added note to Designer: If an existing ITS enclosure lies within the immediate proximity of the flashing sign then power can be connected to that enclosure, otherwise install a new ITS enclosure near the flashing sign

- **M-ITS-1900**
  - Added new sheet for IPDC and Combination Plaza/IPDC Concrete Foundation details

- **M-ITS-2000**
  - Added Note: The simplified solar power arrangement shall only be used for a maximum of 3 MVDS. For all other arrangements use the 1400 Series

- **M-ITS-2100**
  - New drawing created to standardize Video Power Junction Box arrangement - Without Cisco switch when the box is installed in and can use Cat 6 cables when distance is less than 300 feet from Plaza Communication room

- **M-ITS-2101**
  - New drawing created to standardize Video Power Junction Box arrangement - With Cisco 4000 switch when the box is installed at a distance greater than 300 feet from the Cisco switch in the Plaza Communication Room
NOTES TO DESIGNER

1. This base sheet shows typical new construction but is not a standard drawing. It requires completion of the designer prior to insertion into a contract, microstation files, and the "CADD Standards Manual". All 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 notes to designer notes shall be confirmed with the designer prior to insertion of the sheet into the plan set.

2. Installation of a gantry at each IPDC facility is typical, but shall be confirmed with the Illinois Tollway by the designer.

3. Operational equipment card on this sheet assumes the IPDC facility is installed along the westbound direction. The designer shall adjust accordingly based on the actual placement of the IPDC facility.

4. The battery rack and HVAC equipment shown on these base sheets are based on a 30-minute battery runtime. The designer shall adjust as required if a longer battery runtime is selected.

NOTES

1. See special provisions for requirements associated with IPDC facility prefabricated building.

2. Contractor shall detail specific shop drawings, and any additional plans or shop drawings required for installation or access to the satisfaction of the engineer.

3. Provide removable stainless steel bollards with yellow reflective tape to protect the HVAC units and building.

ROADWAY LIGHTING UTILITY METER (BY OTHERS)

IPDC FACILITY SITE PLAN

NOT TO SCALE
NOTES TO DESIGNER

1. THIS SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT MUST BE COMPLETED BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT.

2. DIFFERENT PROJECTIONS USED ON THIS SHEET ASSUME THE EXITS AND ENTRANCE ARE MILL TO MILL. THE DESIGNER SHALL ADJUST ACCORDINGLY BASED ON THE ACTUAL PLACEMENT OF THE IPDC FACILITY.

3. THE DESIGNER SHALL SPECIFY AVALD FLOOR ELEVATIONS AS NECESSARY TO PROVIDE SHADING AWAY FROM THE IPDC FACILITY MACHINERY/CONSTRUCTION WORKING AREAS.

4. DOORS SHALL SWING OPEN 180° AND HAVE A MECHANISM TO LOCK THE DOOR IN AN OPEN POSITION.

5. IPC FACILITY PREFABRICATED BUILDING.

SEE SPECIAL PROVISIONS FOR REQUIREMENTS ASSOCIATED WITH IPC FACILITY PREFABRICATED BUILDING.

SEE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. ALL “NOTE TO DESIGNER” BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT.
NOTES:
2. See IPDC FACILITY SINGLE LINE DIAGRAM SHEET M-ITS-1807.
3. Terminate alarm cables on terminal block on TSIC board. See IPDC FACILITY TSIC TERMINAL BLOCK LAYOUT SHEET M-ITS-1813 for details.
4. The doorway for the generator room shall be wide enough to allow for the installation and removal of the generator set.
5. Terminate alarm cables on terminal block on TSIC installed in roadway.
6. Install door closer with hold open feature.
7. HVAC system shall have a positive pressure.

NOTE TO DESIGNER
1. This one sheet shows typical new construction but it is not a standard drawing. It requires completion by the designer prior to first inspection into a contract. Substitution rules and the CAD 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 inspection into a contract. All notes to designer boxes shall be removed by the designer prior to inspection of the sheet into the plan set.
2. Directional indications used on this sheet assume the IPDC facility is installed along the westbound direction. The designer shall adjust accordingly based on the actual placement of the IPDC facility.

NOTES:
2. See IPDC FACILITY SINGLE LINE DIAGRAM SHEET M-ITS-1807.
3. Terminate alarm cables on terminal block on TSIC board. See IPDC FACILITY TSIC TERMINAL BLOCK LAYOUT SHEET M-ITS-1813 for details.
4. The doorway for the generator room shall be wide enough to allow for the installation and removal of the generator set.
5. Terminate alarm cables on terminal block on TSIC installed in roadway.
6. Install door closer with hold open feature.
7. HVAC system shall have a positive pressure.

NOTE TO DESIGNER
1. This one sheet shows typical new construction but it is not a standard drawing. It requires completion by the designer prior to first inspection into a contract. Substitution rules and the CAD 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 inspection into a contract. All notes to designer boxes shall be removed by the designer prior to inspection of the sheet into the plan set.
2. Directional indications used on this sheet assume the IPDC facility is installed along the westbound direction. The designer shall adjust accordingly based on the actual placement of the IPDC facility.
OUTDOOR LIGHTING CONTROLLER WIRING DIAGRAM

NOTES:
1. CONTACT ATS TO INITIATE ENGINE STARTING CONTROLS.

2. THE ROADWAY LIGHTING WATER METER, DISCONNECT SWITCH, LIGHTING CONTROLLER, AND ALL ROADWAY LIGHTING APPURTENANCES WITHIN THE IPDC FACILITY PREFABRICATED BUILDINGS SHALL BE PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.

3. THE ROADWAY LIGHTING METER HOUSING, DISCONNECT SWITCH, LIGHTING CONTROLLER, AND ALL ROADWAY LIGHTING APPURTENANCES WITHIN THE IPDC FACILITY PREFABRICATED BUILDINGS SHALL BE PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.

4. THE ROADWAY LIGHTING METER HOUSING, DISCONNECT SWITCH, LIGHTING CONTROLLER, AND ALL ROADWAY LIGHTING APPURTENANCES WITHIN THE IPDC FACILITY PREFABRICATED BUILDINGS SHALL BE PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.

5. THE ROADWAY LIGHTING METER HOUSING, DISCONNECT SWITCH, LIGHTING CONTROLLER, AND ALL ROADWAY LIGHTING APPURTENANCES WITHIN THE IPDC FACILITY PREFABRICATED BUILDINGS SHALL BE PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.

NOTES TO DESIGNER
1. THIS BASE SHEET SHOWN FUTURE NEW CONSTRUCTION BUT IT IS NOT A STANDARD SHEET. IT IS A DESIGNER'S RESPONSIBILITY TO REVIEW THE DESIGNER STANDARDS MANUAL AND THE APPROPRIATE DESIGNER STANDARDS MANUAL PRIOR TO INSERTION INTO THE CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION INTO THE CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION INTO THE CONTRACT.

2. TWO REMOTE GANTRY PANELS, INCLUDING TWO REMOTE GANTRY PANELS, SHALL BE LOCATED IN IPDC FACILITY PREFABRICATED BUILDINGS. TWO REMOTE GANTRY PANELS ARE REPRESENTATIVE. ACTUAL REQUIREMENTS WILL VARY BY SITE.

3. THE UPS SIZE SHALL BE DETERMINED BY THE DESIGNER BASED ON THE U.S. SIGNALS AND THE "CADD STANDARDS MANUAL." THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY FOR THE DESIGN OF THE LIGHTING SYSTEM TO INITIATE ENGINE STARTING CONTROLS.

4. THE ROADWAY LIGHTING METER HOUSING, DISCONNECT SWITCH, LIGHTING CONTROLLER, AND ALL ROADWAY LIGHTING APPURTENANCES WITHIN THE IPDC FACILITY PREFABRICATED BUILDINGS SHALL BE PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.

5. THE ROADWAY LIGHTING METER HOUSING, DISCONNECT SWITCH, LIGHTING CONTROLLER, AND ALL ROADWAY LIGHTING APPURTENANCES WITHIN THE IPDC FACILITY PREFABRICATED BUILDINGS SHALL BE PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.
### Notes to Designer

This page shows typical new construction but it is not a limiting change. It shows what will be provided 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 contract. All 'note to designer' boxes shall be removed by the designer prior to insertion of the sheet into the plan set.

### Precise Requirements Will Vary by Site

- The designer should consult with the tollway's project team for specific requirements.
- Site-specific information may vary, so thorough coordination is necessary.

### Table of Contents

- **Interior Receptacles**
- **HVAC Unit**
- **Spare**
- **Spares**
- **ITSIC Equipment Board**

### Subtotal "A"

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

### Subtotal "B"

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

### Total Watts "A,B"

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

---

**Spare**

### Interior Light Switches

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

### Outdoor Light Switches

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

### Switched Interior Lights

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

### SPD Panel

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

### Rack Receptacle

- **Description**
- **Phase/Wire**
- **Voltage**
- **Ckt No.**
- **Amps/Poles**
- **Bus Rating**
- **Main Unit**

### I-3-31-2017

**IPDC Facility Panelboard Schedules**

Date 11/15/2008
NOTES:
1. See IPDC Facility Cable/Conduit Schedule and Notes Sheet (M-ITS-1800).
2. Receptacle and Lighting Conduit shall be 3/4" with #12 AWG and 1/C GRD. Unless otherwise noted.
3. Provide Quad Receptacles (4 total) for the Equipment Racks as shown. The receptacles shall be mounted to the side of the Cable Tray.
4. See IPDC Facility Cable/Conduit Schedules and Notes Sheet (M-ITS-1800) for additional details.

NOTES TO DESIGNER:
1. This base sheet shows typical new construction but it is not a standard drawing. It requires completion by the designer prior to construction. The designer shall accept the responsibility of the design and construction and insertion into the final sheet set of the project. The designer shall adjust accordingly based on the actual placement of the IPDC Facility.
NOTES:
1. DRAWING SHOWS INSTALLATION IN UNPAVED AREA, WHEN INSTALLING IN A PAVED AREA, PREDISPOSE GROUND WELL IN THE FOUNDATION.
2. GROUND WELLS ARE REQUIRED AT EVERY GROUND ROOD.
3. PROVIDE 1" SCHEDULE 40 PVC CONDUIT FOR ALL GROUND CABLES UNDER BUILDING.
4. ALL COPPER GROUND WELLS MUST BE OF HARD DRAWN.
5. INSTALL ELECTRICALLY CIRCUIT CABLES FOR USE AS AN ELECTRICAL CONDUCTOR AND SMALL CABLES FOR THE CURRENT VERSION OF ASTM SPEC. 604-07, TYPE ST." 
6. INSTALL TYPE LP FITTING OR APPROVED EQUAL. TO BE SIZED AS REQUIRED.
7. PROVIDE A #2 AWG GROUND CABLE FROM THE FRAME OF EACH EQUIPMENT RACK TO THE GROUND BUS BARS, THE CABLE SHALL BE BOLTED TO THE RACK USING A SEAMLESS HEAVY-DUTY COMPRESSION TERMINAL.
9. ALL EQUIPMENT LOCATED INSIDE THE IPDC FACILITY PREPARED IN A BUILDING SHALL BE BONDED TO THE MAIN GROUND BUS OR THE INTERNAL PERIMETER GROUND CONDUCTOR WITH A #2 AWG GROUND CABLE, ALL CONNECTIONS MUST BE EXOTHERMICALLY WELDED.
11. THE COPPER GROUND BUS BARS MUST BE MOUNTED APPROXIMATELY 8 FEET ABOVE FLOOR AND MOUNTED TO WALL USING MOUNTING BRACKET WITH INSULATOR.
12. PROVIDE 1" SCHEDULE 40 PVC CONDUIT FOR ALL GROUND CABLES UNDER BUILDING.
13. THE INTERNAL PERIMETER GROUND CONDUCTOR MUST BE MOUNTED 2" (TYP.) FROM THE WALL SURFACE ON INSULATED STANDOFFS. THE STANDOFFS SHALL BE INSTALLED AT INTERVALS AS NEEDED TO KEEP THE CONDUCTOR SECURELY IN PLACE.
NOTES:
1. See IPDC facility cable/consult schedules and notes sheet M-ITS-1800.
2. Provide ATS schedule 40 PVC conduit for ground cable connecting UPS panel to master ground bus bar.
3. Provide grounding connection to internal perimeter bus conductor.
4. Grounding shall be per Motorola R56 standard.
5. Grounding bus shall be per Motorola R56 standard.

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. 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 prior to 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.
NOTES:

1. IPDC facility identification sign material shall meet the requirements of Article 720 of the Standard Specifications.

2. IPDC facility identification signs shall be mounted onto the building using bolts and washers according to Article 720 of the Standard Specifications.

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. Microstation files and the CADD Standards Manual and the Illinois Tollway Website are available to the Illinois Tollway designer. The designer shall accept the responsibility of the designer of this sheet upon its completion and insertion into a contract. All notes to designer sheets shall be removed by the designer prior to insertion of the sheet into the plan set.

DATE: 03-31-2017
GENERAL NOTES:
1. ALL EXPOSED CONCRETE SURFACES SHALL HAVE A 3"x4" CHAMFER.
   EXCEPT WHERE SHOWN OTHERWISE. CHAMFERED CONCRETE SURFACES ON VERTICAL EDGES SHALL BE CONTINUOUS A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCEMENT BARS:
1. REINFORCEMENT BARS, INCLUDING REINFORCEMENT BARS, POST-CASTED SMALL CONCRETE TO MEET THE REQUIREMENTS OF THE INDIANA DEPARTMENT OF HIGHWAY SPECIFICATIONS SECTION 906 AND ARTICLE 605.
2. REINFORCEMENT BARS DESIGNATED "E" SHALL BE EPOXY-COATED.
3. REINFORCEMENT BARS DESIGNATED "E" SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "INSTRUCTION MANUAL OF PRACTICE FOR OBTAINING UNIFORM CONCRETE STRUCTURES".
4. REINFORCEMENT BARS USED IN CONSTRUCTION ARE 1-1/2" x 12".
5. COVER THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 1-1/2" FOR SURFACES ADJACENT TO CONCRETE AND 2" FOR ALL OTHER SURFACES SHOWN OTHER THAN WALLS.

CONSTRUCTION SPECIFICATIONS:
1. ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS ISSUED MARCH 2023 TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR THE DEPARTMENT OF TRANSPORTATION.
3. ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED JANUARY 1, 2016.

DESIGN LOADING:
LIVE LOAD OUTSIDE FACE OF THE FOLLOWING:
1. 2,000 LBS. CONCENTRATED FORCE OR 3,000 LBS. DISTRIBUTED LOAD PROVIDED BY ITS WALL OR SUPPORTING WALLS PER AACE NO. 12D.
2. 3,000 LB. CONCENTRATED FORCE OR 5,000 LB. DISTRIBUTED LOAD PROVIDED BY ITS WALL OR SUPPORTING WALLS PER AACE NO. 12D.
3. REINFORCEMENT BARS DESIGNATED "E" SHALL BE EPOXY-COATED.

DESIGN STRESSES FOR REINFORCED CONCRETE:
fy = YIELD STRENGTH OF REINFORCEMENT BARS (GRADE 60) = 60,000 P.S.I.
f'c = COMPRESSIVE STRENGTH OF CONCRETE (CLASS SI) = 3,500 P.S.I.

DESIGN SPECIFICATIONS:
1. ILLINOIS DEPARTMENT OF TRANSPORTATION STRUCTURE DESIGN MANUAL ISSUED MARCH 2013.
2. NATIONAL BUILDING CODE, 2013.
3. AACE NO. 12D DESIGN SPECIFICATIONS FOR BUILDINGS AND OTHER STRUCTURES, 2013.
5. ILLINOIS DEPARTMENT OF TRANSPORTATION BUILDING SPECIFICATIONS, JANUARY 2014.

NOTES TO DESIGNER:
ALL REINFORCEMENT BARS SHALL BE REMOVED FROM THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN FILE.

THE DESIGNER SHALL USE MANUFACTURER'S DRAWINGS AND CONSTRUCTION SPECIFICATIONS FOR THE CONSTRUCTION OF THE FOUNDATION.

THE DESIGNER SHALL PROVIDE THE SHEETING IN AN APPROPRIATE TABLE OR ON A DIFFERENT SHEET.

THE DESIGNER SHALL PROVIDE THE SHEETING IN AN APPROPRIATE TABLE OR ON A DIFFERENT SHEET.

LOADS SHOWN ARE MINIMUM. IF ACTUAL LOADS ARE LARGER, SUPPORT THE BUILDING AND MEET LOCAL CODES.

LOADS SHOWN ARE MINIMUM. IF ACTUAL LOADS ARE LARGER, SUPPORT THE BUILDING AND MEET LOCAL CODES.

CONCRETE FOUNDATION

PLAN VIEW

SECTION A-A

SECTION B-B

FOUNDATION LENGTH TABLE

<table>
<thead>
<tr>
<th>IPDC BUILDING TYPE</th>
<th>DIMENSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>STANDARD IPDC</td>
<td>A=32</td>
</tr>
<tr>
<td>COMBINATION PLAZA/IPDC</td>
<td>A=40</td>
</tr>
</tbody>
</table>

NOTES TO DESIGNER:
ALL REINFORCEMENT BARS SHALL BE REMOVED FROM THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN FILE.

THE DESIGNER SHALL USE MANUFACTURER'S DRAWINGS AND CONSTRUCTION SPECIFICATIONS FOR THE CONSTRUCTION OF THE FOUNDATION.

THE DESIGNER SHALL PROVIDE THE SHEETING IN AN APPROPRIATE TABLE OR ON A DIFFERENT SHEET.

THE DESIGNER SHALL PROVIDE THE SHEETING IN AN APPROPRIATE TABLE OR ON A DIFFERENT SHEET.

LOADS SHOWN ARE MINIMUM. IF ACTUAL LOADS ARE LARGER, SUPPORT THE BUILDING AND MEET LOCAL CODES.

LOADS SHOWN ARE MINIMUM. IF ACTUAL LOADS ARE LARGER, SUPPORT THE BUILDING AND MEET LOCAL CODES.

CONCRETE FOUNDATION

PLAN VIEW

SECTION A-A

SECTION B-B