Illinois Tollway Base Sheet Revisions

Section M	Base Sheet Drawings	
	Drawing	**Modification Summary** **Effective: 03-01-2023**
	IPDC Facility (ITS)-Series 1800	
		NO CHANGES

New Sheet

Retired Standard

IPDC FACILITY COMMUNICATIONS AND GROUNDING CABLE/CONDUIT SCHEDULE		
SYMBOL	CABLE DESCRIPTION	REMARKS
1	1-6PR #22 SHLD	
2	1-3/C #12 SHLD	NOTE 2
3	1-3PR #22 SHLD	
4	1-4/C #12 SHLD	NOTE 1 & 2
5	2-1/C #12, 1-1/C #12 (GRD)	NOTE 1
6	1-1/C #6 (GRD)	
7	1-9/C #12 SHLD	NOTE 1 & 2
8	1-3/C #16 SHLD	NOTE 3
9	1PR #22 SHLD	NOTE 1
10	1-4PR #24 (RS-422)	NOTE 4
11	1-9/C #22 IND SHLD	
12	1-1/C #4/0 (GRD BUS)	
13	1-1/C #8 (GRD)	
14	1-1/C #2 (GRD)	
15	1-4PR #24 (CATEGORY 6)	NOTE 4

IPDC FACILITY POWER CABLE/CONDUIT SCHEDULE			
SYMBOL	CABLE DESCRIPTION	CONDUIT SIZE (INCHES)	REMARKS
101	3-1/C #3/0	4	
102	3-1/C #3/0 1-1/C #4 (GRD)	3	
103	3-1/C #1/0 1-1/C #6 (GRD)	2	
104	3-1/C #10 1-1/C #10 (GRD)	3/4	
105	4-1/C #10 1-1/C #10 (GRD)	3/4	
106	2-1/C #12 1-1/C #12 (GRD)	NOTE 5	
107	3-1/C #12 1-1/C #12 (GRD)	NOTE 5	
108	4-1/C #12 1-1/C #12 (GRD)	NOTE 5	
109	5-1/C #12 1-1/C #12 (GRD)	NOTE 5	
110	5-1/C #12 1-1/C #12 (GRD)	NOTE 6	
111	6-1/C #12 1-1/C #12 (GRD)	1	
112	7-1/C #12 1-1/C #12 (GRD)	1	
113	6-1/C #22 SHLD	1	SECURITY-CARD ACCESS
114	2-1/C #8 1-1/C #8 (GRD)	1	
115	3-1/C #2 1-1/C #2 (GRD)	2	
116	2-1/C #2 1-1/C #8 (GRD)	2	
4	2-1/C #2 1-1/C #8 (GRD)	DESIGNER NOTE 2	
5	2-1/C #4 1-1/C #8 (GRD)	DESIGNER NOTE 2	
6	2-1/C #6 1-1/C #8 (GRD)	DESIGNER NOTE 2	
7	2-1/C #2/O 1-1/C #4 (GRD)	DESIGNER NOTE 2	
8	2-1/C #4/O 1-1/C #2 (GRD)	DESIGNER NOTE 2	
9	2-1/C 250 Kcmil 1-1/C #2 (GRD)	DESIGNER NOTE 2	
10	2-1/C 350 Kcmil 1-1/C #1 (GRD)	DESIGNER NOTE 2	

NOTES:

1. MINIMUM SIZE OF EXPOSED CONDUIT IS 3#4". MINIMUM SIZE OF EMBEDDED CONDUIT IS 1". EMBEDDED CONDUIT SHALL BE PVC COATED RIGID STEEL.
2. MULTICONDUCTOR SHIELDED CABLE #12 AWG SHALL BE COLOR CODED AS SPECIFIED IN THE ILLINOIS TOLLWAY SPECIAL PROVISION "INTERMEDIATE POWER DISTRIBUTION AND COMMUNICATION FACILITY ELECTRICAL WORK."
3. MULTICONDUCTOR SHIELDED CABLE #14 AWG THROUGH #18 AWG FOR CONTROL USE SHALL BE COLOR CODED PER ICEA-NEC (K-2) STANDARD.
4. PROVIDE SURGE PROTECTION ADAPTERS FOR ALL RS-422 AND CATEGORY 6 CABLES ENTERING THE IPDC FACILITY. IN-LINE 485 ADAPTERS MUST BE INSTALLED AT ALL CONNECTIONS TO THE CISCO SWITCH. THE TVSS ADAPTER FOR RS-422 CABLES SHALL BE PHOENIX CONTACT (OR EQUIVALENT) DATATRAB D-UFB-V11/BS-B. THE TVSS ADAPTER FOR CATEGORY 6 CABLES SHALL BE PHOENIX CONTACT (OR EQUIVALENT) DATATRAB D-LAN-CAT-.6+.
5. EXPOSED CONDUIT SHALL BE 3/4". EMBEDDED OR UNDERGROUND CONDUIT SHALL BE 1".
6. EXPOSED CONDUIT SHALL BE 1". EMBEDDED OR UNDERGROUND CONDUIT SHALL BE 2".
7. THE IPDC FACILITY PREFABRICATED BUILDING WILL BE PAID FOR UNDER THE ITEM "INTERMEDIATE POWER DISTRIBUTION AND COMMUNICATION FACILITY" (JT130750). THE BUILDING FOUNDATION WILL BE PAID FOR UNDER "CONCRETE FOUNDATION, INTERMEDIATE POWER DISTRIBUTION AND COMMUNICATION FACILITY" (JT130752). ELECTRICAL WORK REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL FACILITY WILL BE PAID FOR UNDER THE ITEM "INTERMEDIATE POWER DISTRIBUTION AND COMMUNICATION FACILITY ELECTRICAL WORK" (JT130754).

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

CABLE/CONDUIT REQUIREMENTS SHOWN TO CAMERAS AND REMOTE GANTRY PANELS ARE REPRESENTATIVE. ACTUAL REQUIREMENTS ARE DEPENDENT ON PLACEMENT OF CAMERAS AND REMOTE GANTRY PANELS. GANTRY PANELS SHALL BE LOCATED A MAXIMUM OF 0.75 MILE FROM THE IPDC FACILITY.

Illinois Tollway

IPDC FACILITY
CABLE-CONDUIT SCHEDULES
AND NOTES

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1800	1 OF 1

SYMBOL LIST

SYMBOL	DESCRIPTION
25 KVA 480-120/240 1∅, 3W	TRANSFORMER 25 KVA DENOTES TRANSFORMER RATING 480-120/240V DENOTES VOLTAGE 1} DENOTES 1 PHASE 3W DENOTES 3 WIRE
1	LEGEND NUMBER FOR CABLE & CONDUIT (SEE CABLE AND CONDUIT SCHEDULES)
N E L ATS 400 2P,3W	AUTOMATIC TRANSFER SWITCH (ATS) N DENOTES NORMAL SOURCE E DENOTES EMERGENCY SOURCE L DENOTES LOAD 400 DENOTES 400 AMPERE ATS RATING 2P DENOTES 2 POLE 3W DENOTES 3 WIRE
JB OR J	JUNCTION BOX
60A	DISCONNECT SWITCH 60A DENOTES 60 AMPERES
50A	CIRCUIT BREAKER 50A DENOTES 50 AMPERES
400A 2PDT. SW.	MANUAL TRANSFER SWITCH 400A DENOTES 400 AMPERES 2PDT DENOTES 2 POLE DOUBLE-THROW
WH	SELF CONTAINED UTILITY METERING
G	STANDBY GENERATOR
30A 2P	PANEL CIRCUIT BREAKER 30A DENOTES 30 AMPERES 2P DENOTES 2 POLES
C	MECHANICALLY HELD LIGHTING COIL
CR	CONTROL RELAY COIL
SPD WITH LP	SURGE PROTECTION DEVICE WITH LIGHTNING PROTECTION
S	SMOKE DETECTOR
M	DOOR ALARM SWITCH
	EXHAUST FAN

ABBREVIATIONS

AFF	ABOVE FINISH FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
CCTV	CLOSED CIRCUIT TELEVISION
FAP	FIRE ALARM PANEL
GCS	GENERATOR CONTROL SWITCH
GRD	GROUND
GFI	GROUND FAULT INTERRUPTER
HH	HANDHOLE
IPDC	INTERMEDIATE POWER DISTRIBUTION AND COMMUNICATION
JB	JUNCTION BOX
LC	LINE CONDITIONER
LP	LIGHTNING PROTECTION
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUG ONLY
MMF	MULTI-MODE FIBER
MSD	MAIN SERVICE DISCONNECT
MTS	MANUAL TRANSFER SWITCH
SHLD	SHIELDED
SMF	SINGLE MODE FIBER
SPD	SURGE PROTECTION DEVICE
TSIC	TERMINAL STRIP INTERCONNECT CENTER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
UPS	UNINTERRUPTIBLE POWER SUPPLY
VPJB	VIDEO POWER JUNCTION BOX
WP	WEATHERPROOF

NOTE:

1. ALL TYPE 'B' FIXTURES SHALL BE MOUNTED AT THE SAME ELEVATION WITH A MINIMUM MOUNTING HEIGHT AS INDICATED IN THE LIGHTING FIXTURE SCHEDULE.

LEGEND

- EXPOSED CONDUIT
- CONDUIT IN SLAB
- UNDERGROUND CONDUIT OR CABLE DUCT
- CONDUIT OR CABLE DUCT IN CASING
- HOME RUN TO PANEL AS NOTED
- INDICATES CIRCUIT TURNING DOWN
- INDICATES CIRCUIT TURNING UP
- GROUND ROD
- GROUNDING TRIAD
- G — EXPOSED GROUND CONDUCTOR
- G — UNDERGROUND GROUND CONDUCTOR

WIRING DEVICE SCHEDULE

SYMBOL	DESCRIPTION	RATING	MFR. AND CAT. NO.	MOUNTING HEIGHT
$	SINGLE-POLE SWITCH	20A, 120V	HUBBELL #HBL1221	4'-0"
	DUPLEX RECEPTACLE	20A, 120V	HUBBELL #HBL5362	18" AS NOTED
	QUAD RECEPTACLE	20A, 120V	(2) HUBBELL #HBL5362	18" AS NOTED
C	3P, 3W, WEATHERPROOF RECEPTACLE WITH SPRING DOOR, BACK BOX, & ANGLE ADAPTER	400A, 600V	CROUSE-HINDS "ARKTITE" SERIES #AREX40318	3'-0" ABOVE GRADE
B	3P, 3W, WEATHERPROOF RECEPTACLE WITH SPRING DOOR & BACK BOX	30A, 600V	CROUSE-HINDS "ARKTITE" SERIES #ARE3313	3'-0" ABOVE GRADE
WP GFI	WEATHERPROOF DUPLEX RECEPTACLE WITH GROUND FAULT PROTECTION	20A, 120V	HUBBELL #GFR5362SG	3'-0" ABOVE GRADE

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	VOLTAGE	LAMPS	MFR. AND CAT. NO.	REMARKS
A	IPDC FACILITY INTERIOR LIGHTING 4' INDUSTRIAL LED FIXTURE	120 V	LED	ATLAS LIGHTING ILW48LED4D	MOUNT 8' ABOVE FINISHED FLOOR
B	COMPACT WALL-MOUNTED LED EXTERIOR FIXTURE WITH WIRE GUARD & SINGLE FACTORY INSTALLED FUSE	120 V	LED	HOLOPHANE W4GLED10C100040KT3-M120SFTBWGBZ	MOUNT 9'-0" ABOVE FINISHED GRADE NOTE 1
C	EMERGENCY LIGHT UNIT WITH 2-1 WATT, LED LAMPS	120 V	2-1 WATT LED	H.E. WILLIAMS EMER/LED WHTSDT	MOUNT 8' ABOVE FINISHED FLOOR

NOTE TO DESIGNER

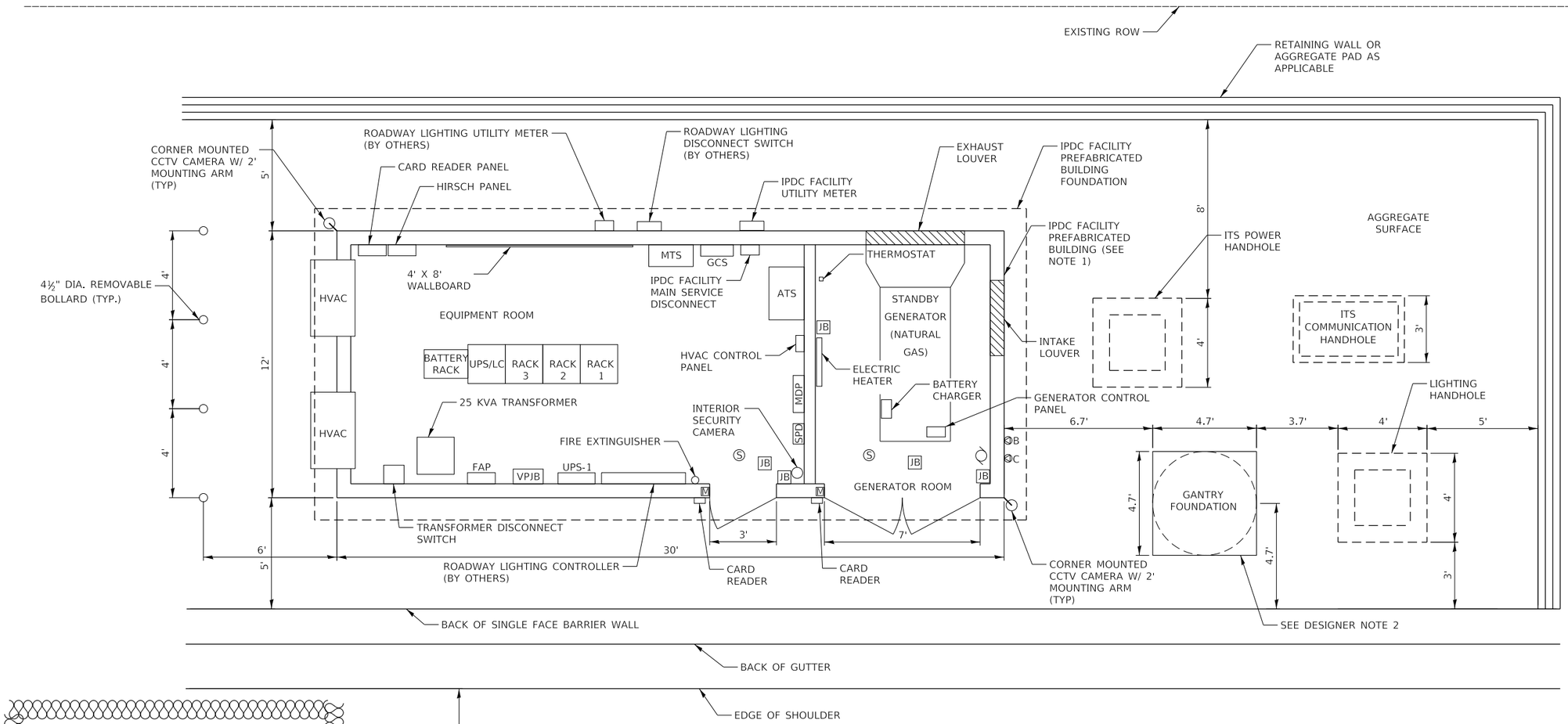
THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS **NOT** A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE *"CADD STANDARDS MANUAL"* ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY 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.

Illinois Tollway

IPDC FACILITY LEGEND - SYMBOL LIST - ABBREVIATIONS AND EQUIPMENT SCHEDULES

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1801	1 OF 1

PLOT DRIVER: c:\bmv\wsp-pb-us-pw-02\sa_brad.hoder\d0161165\pdf-IL Tollway.pltcfg
PENTABLE: E:\Temp\Tables\Pen\BlackWhite.\Tollway.TBL
PLOT DATE: 11/18/2022 PLOT TIME: 3:16:59 AM
PLOTTED BY: brad.hoder
MODEL NAME: M-ITS-1801
FILE NAME: pw:\\wsp-us-pw.bentley.com:wsp-us-pw-02\Documents\Illinois Tollway GEG (9976RR)\Standard Drawings and Base Sheets\Base Sheets\Section - M\1800 ITS\M-ITS-1801.dgn
PLOT SCALE: 0.2.000000 '/' / in. PAGE SIZE: 17x11 (in.)



IPDC FACILITY SITE PLAN
NOT TO SCALE

NOTE TO DESIGNER

INSTALLATION OF A GANTRY AT EACH IPDC FACILITY IS TYPICAL, BUT SHALL BE CONFIRMED WITH THE ILLINOIS TOLLWAY BY THE DESIGNER.

NOTE TO DESIGNER

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.

NOTE TO DESIGNER

THE BATTERY RACK AND HVAC EQUIPMENT SHOWN ON THESE BASE SHEETS ARE BASED ON A 30-MINUTE BATTERY RUNTIME. THE DESIGNER SHALL RESIZE AS REQUIRED IF A LONGER BATTERY RUNTIME IS SELECTED.

NOTE TO DESIGNER

DOORS SHALL SWING OPEN 170° AND HAVE A MECHANISM TO LOCK THE DOOR IN AN OPEN POSITION.

NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIREMENTS ASSOCIATED WITH IPDC FACILITY PREFABRICATED BUILDING.
2. CONTRACTOR SHALL SEAL DOOR OPENING, DOOR FRAMING, AND ANY PROTRUSION/ACCESS CUT THROUGH BUILDING WALLS AGAINST RODENT OR PEST INFESTATION OR ACCESS, TO THE SATISFACTION OF THE ENGINEER.
3. INSTALL REMOVABLE STAINLESS STEEL BOLLARDS WITH YELLOW REFLECTIVE TAPE TO PROTECT THE HVAC UNITS AND BUILDING.

NOTE TO DESIGNER

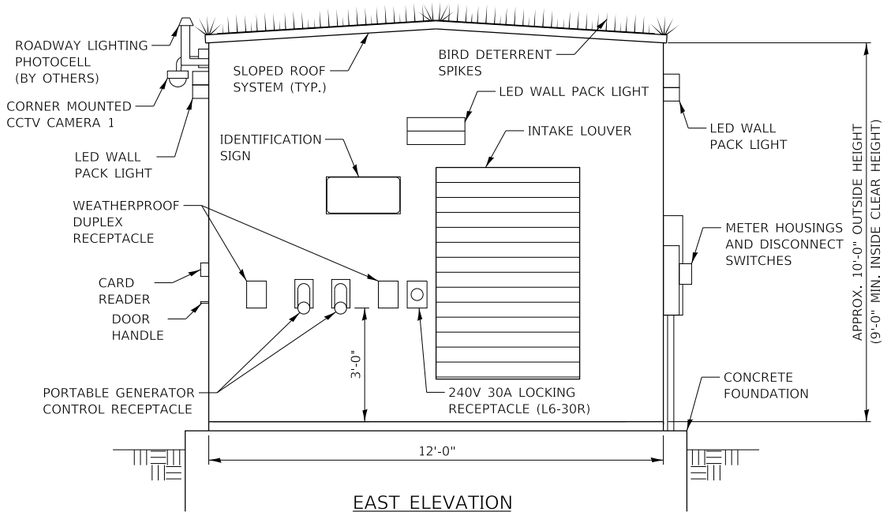
THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE *"CADD STANDARDS MANUAL"* ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE 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.

Illinois Tollway

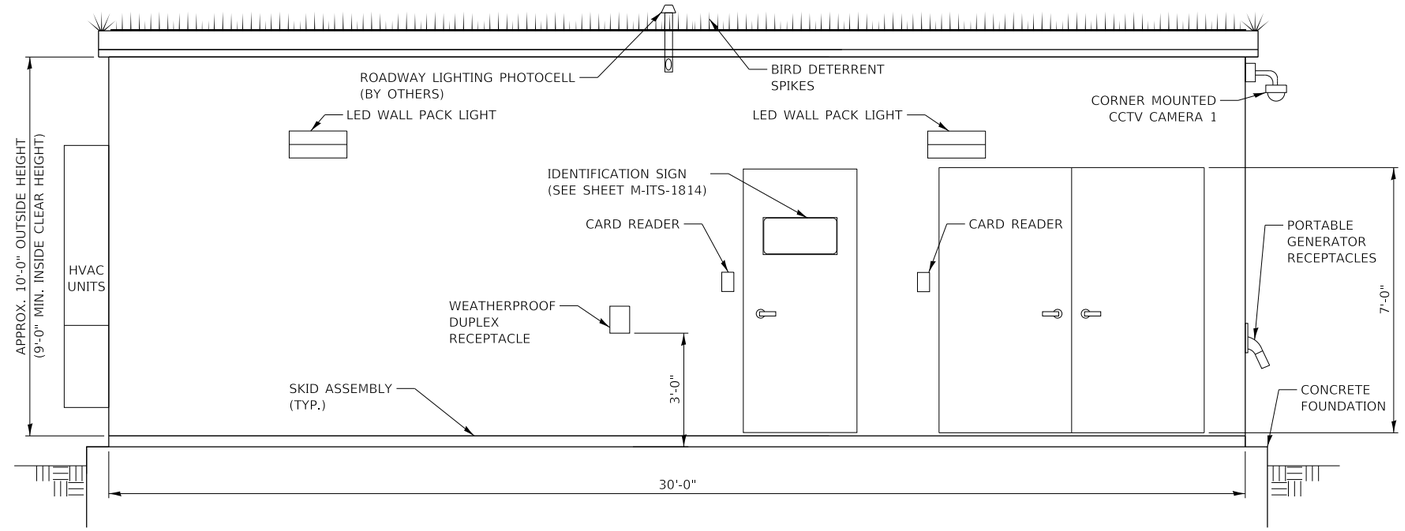
IPDC FACILITY SITE PLAN

VERSION:	STANDARD:	SHEET:
2019-03	M-ITS-1802	1 OF 1

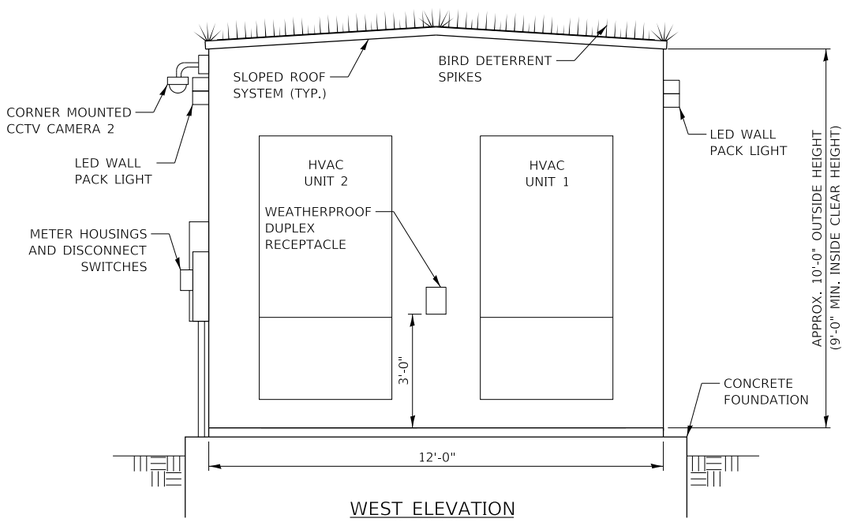
PLOT DRIVER: c:\bentley\wsp-pw-02\ac_bsnd_hodge\d0161165\pdf\ILTollway.pltcfg
PENTABLE: E:\Temp\Tables\Pen\BlackWhite\ILTollway.TBL
PLOT DATE: 11/18/2022 PLOT TIME: 3:17:18 AM
PLOTTED BY: Hodge, Bradley
MODEL NAME: M-ITS-1802
FILE NAME: pw:\\wsp-us-pw.bentley.com:wsp-us-pw-02\Documents\Illinois Tollway GEG (997GRR)\Standard Drawings and Base Sheets\Base Sheets\Section - M\1800 ITS\M-ITS-1802.dgn
PLOT SCALE: 0.2.000000 '-" / in. PAGE SIZE: 17x11 (in.)



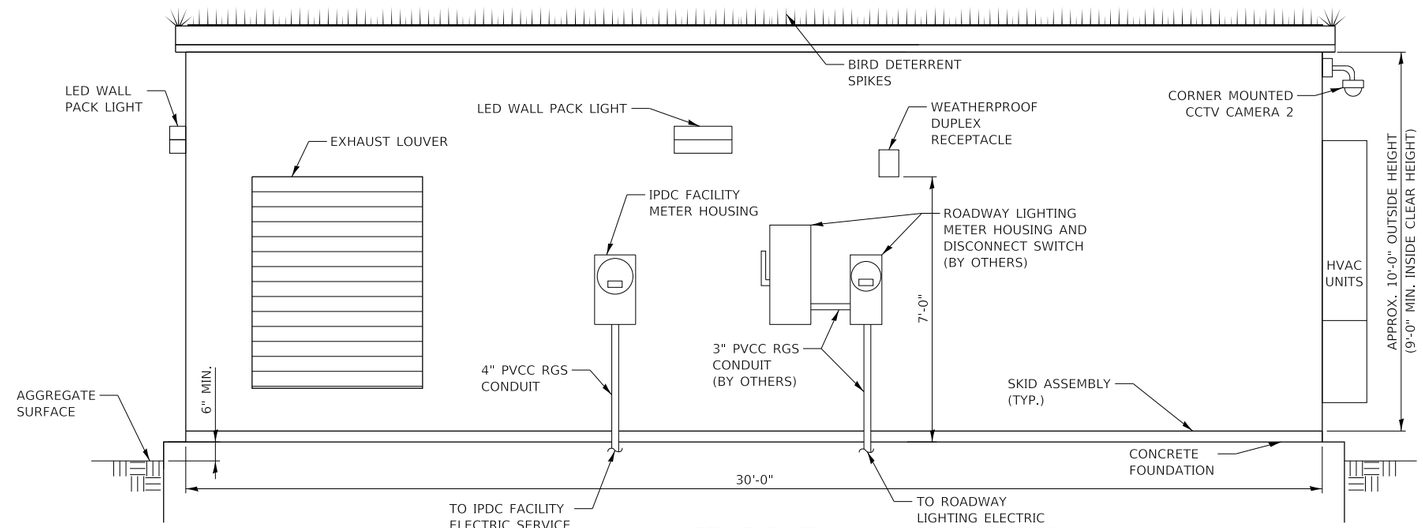
EAST ELEVATION
NOT TO SCALE



SOUTH ELEVATION
NOT TO SCALE



WEST ELEVATION
NOT TO SCALE



NORTH ELEVATION
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.

NOTES:

1. SEE SPECIAL PROVISIONS FOR REQUIREMENTS ASSOCIATED WITH IPDC FACILITY PREFABRICATED BUILDING.

NOTE TO DESIGNER

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.

NOTE TO DESIGNER

THE DESIGNER SHALL SPECIFY FINISHED FLOOR ELEVATIONS AS REQUIRED TO PROVIDE DRAINAGE AWAY FROM THE IPDC FACILITY PREFABRICATED BUILDING.

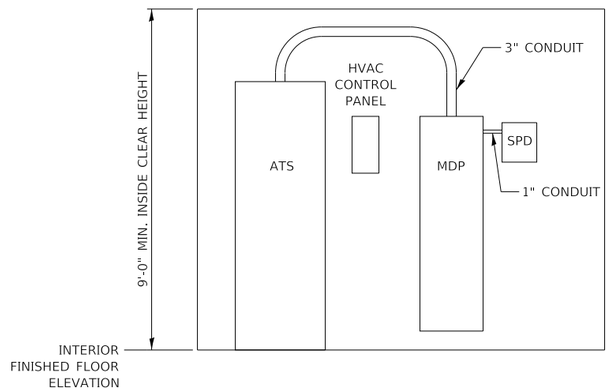
NOTE TO DESIGNER

DOORS SHALL SWING OPEN 170° AND HAVE A MECHANISM TO LOCK THE DOOR IN AN OPEN POSITION.

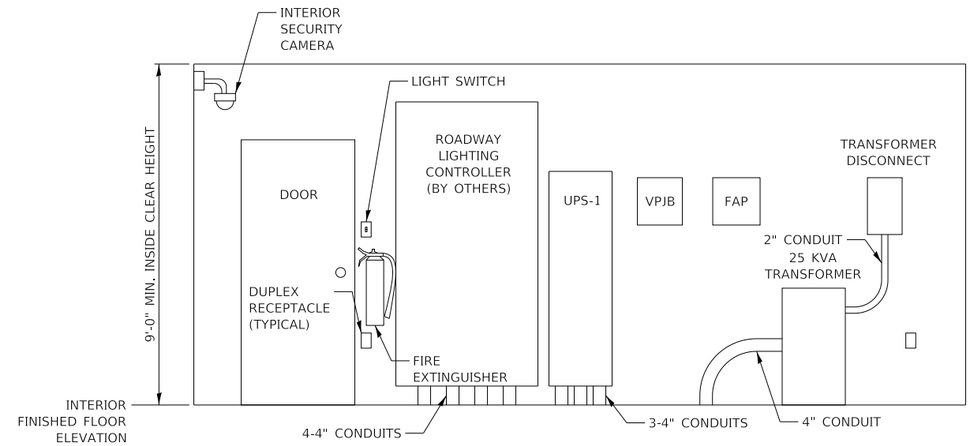
Illinois Tollway

IPDC FACILITY EXTERIOR ELEVATIONS

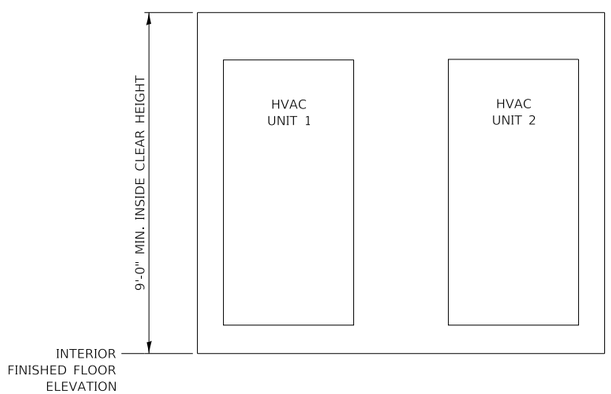
VERSION:	STANDARD:	SHEET:
2019-03	M-ITS-1803	1 OF 1



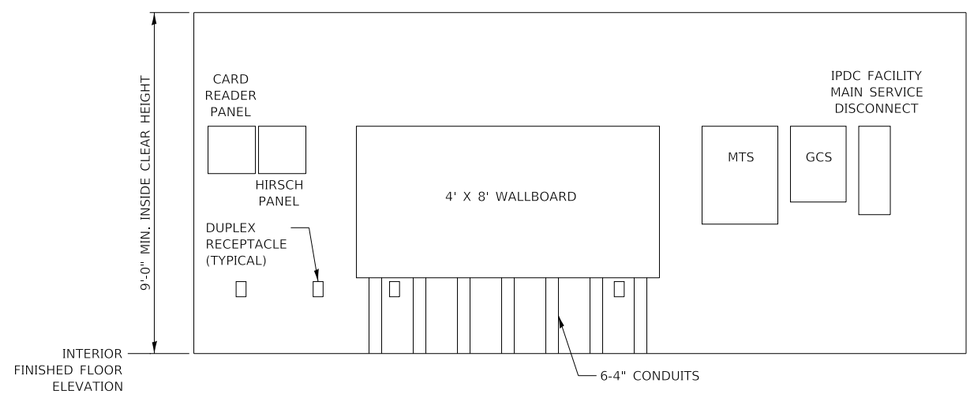
EQUIPMENT ROOM EAST ELEVATION
NOT TO SCALE



EQUIPMENT ROOM SOUTH ELEVATION
NOT TO SCALE



EQUIPMENT ROOM WEST ELEVATION
NOT TO SCALE



EQUIPMENT ROOM NORTH ELEVATION
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

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.

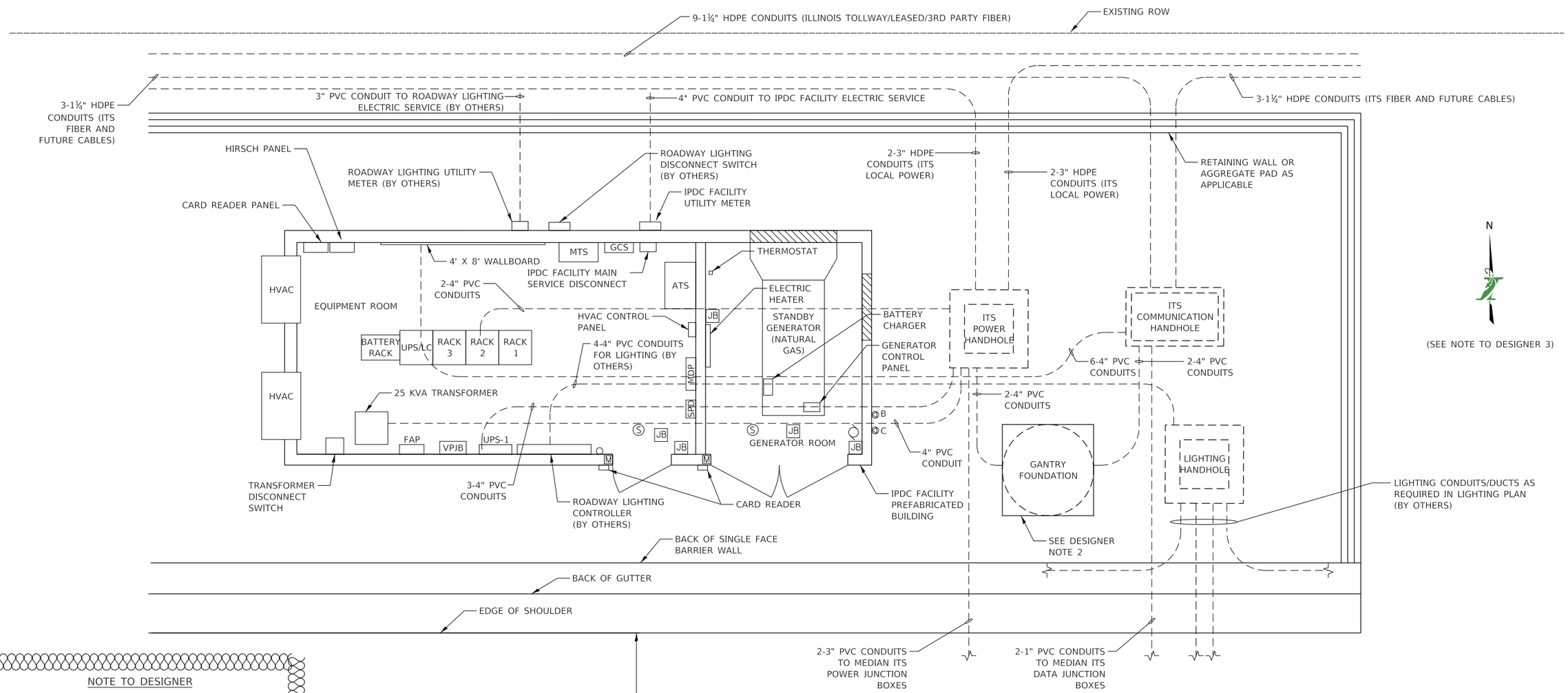
NOTES:

1. FOR CLARITY, NOT ALL EXPOSED CONDUITS ARE SHOWN. REFER TO EQUIPMENT LAYOUT (M-ITS-1806), SINGLE LINE DIAGRAM (M-ITS-1807), AND PANELBOARD SCHEDULE (M-ITS-1808) SHEETS FOR COMPLETE CONDUIT REQUIREMENTS.

Illinois Tollway

IPDC FACILITY INTERIOR ELEVATIONS

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1804	1 OF 1



IPDC FACILITY UNDERGROUND CONDUIT PLAN

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

INSTALLATION OF A GANTRY AT EACH IPDC FACILITY IS TYPICAL, BUT SHALL BE CONFIRMED WITH THE ILLINOIS TOLLWAY BY THE DESIGNER.

NOTE TO DESIGNER

THE CONTRACTOR SHALL COORDINATE PENETRATIONS IN THE IPDC FACILITY PREFABRICATED BUILDING FLOOR WITH PROPOSED EQUIPMENT.

NOTES:

1. THE CONTRACTOR SHALL COORDINATE PENETRATIONS IN THE IPDC FACILITY PREFABRICATED BUILDING FLOOR WITH PROPOSED EQUIPMENT.
2. THE CONTRACTOR SHALL COORDINATE ALL WORK FOR UTILITY SERVICES WITH COMED AND NICOR. ROADWAY LIGHTING ELECTRIC SERVICE WILL BE COORDINATED BY OTHERS.

NOTE TO DESIGNER

THE CONTRACTOR SHALL COORDINATE ALL WORK FOR UTILITY SERVICES WITH COMED AND NICOR. ROADWAY LIGHTING ELECTRIC SERVICE WILL BE COORDINATED BY OTHERS.

Illinois Tollway

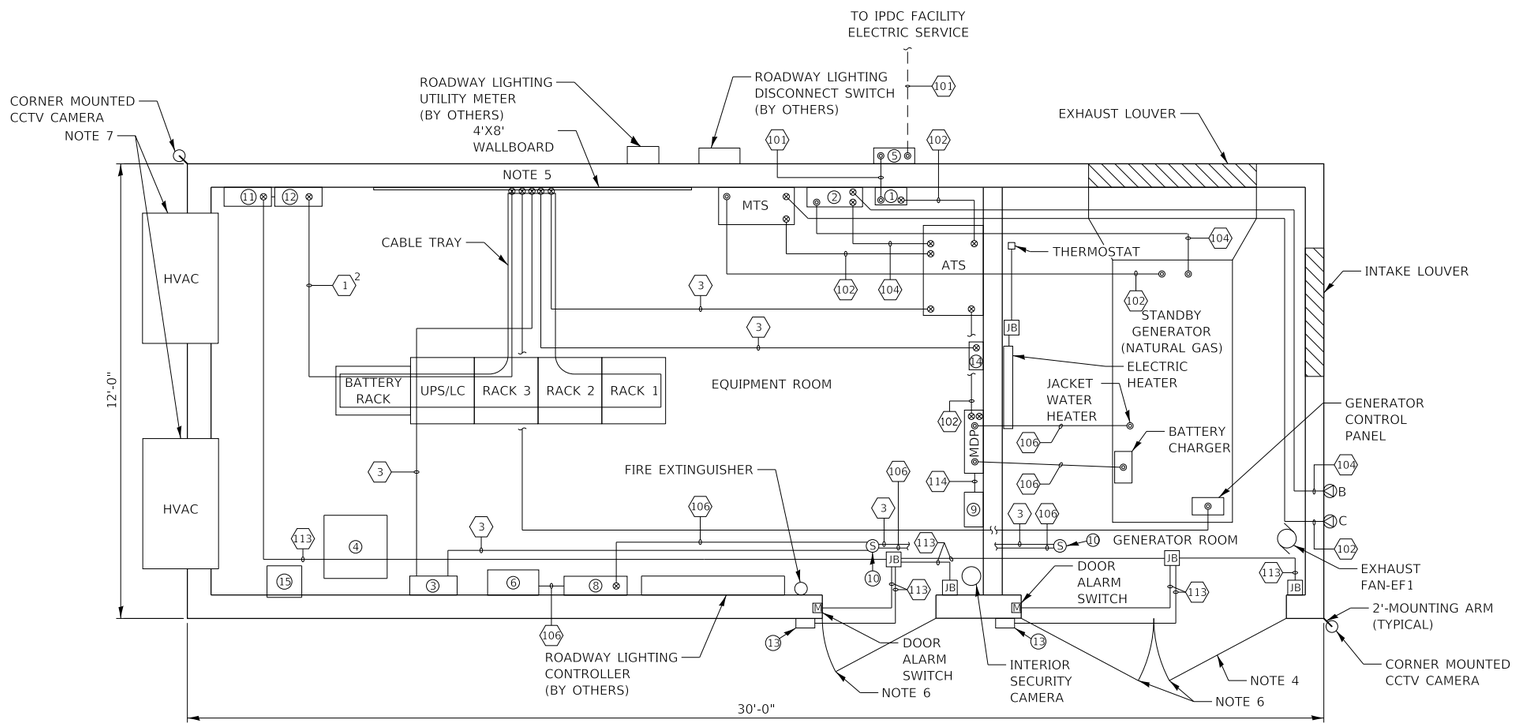
IPDC FACILITY UNDERGROUND CONDUIT PLAN

VERSION:	STANDARD:	SHEET:
2019-03	M-ITS-1805	1 OF 1

PLOT DRIVER: c:\bentley\wsp-pw-02\ac_bsnd_hodge\d0316165\pdf\ILTollway.pltcfg
PENTABLE: E:\Temp\Tables\Pen\BlackWhite\ILTollway.TBL
PLOT DATE: 11/18/2022 PLOT TIME: 3:17:59 AM
PLOTTED BY: Hodge, Brandon
MODEL NAME: M-ITS-1805
FILE NAME: pw:\\wsp-us-pw.bentley.com:wsp-us-pw-02\Documents\Illinois Tollway GEG (0976RR)\Standard Drawings and Base Sheets\Base Sheets\Section - M\1800 ITS\M-ITS-1805.dgn
PLOT SCALE: 0.2.000000 '' / in. PAGE SIZE: 17x11 (in.)

NOTES:

1. SEE IPDC FACILITY CABLE/CONDUIT SCHEDULES AND NOTES SHEET (M-ITS-1800).
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 ON WALLBOARD.
6. INSTALL DOOR CLOSER WITH HOLD OPEN FEATURE.
8. HVAC SYSTEM SHALL HAVE A POSITIVE PRESSURE.



IPDC FACILITY EQUIPMENT LAYOUT

NOT TO SCALE

(SEE NOTE TO DESIGNER 2)

LEGEND

1. IPDC FACILITY MAIN SERVICE DISCONNECT
2. GENERATOR CONTROL SWITCH
3. FIRE ALARM PANEL
4. 25 KVA TRANSFORMER
5. IPDC FACILITY UTILITY METER
6. VIDEO POWER JUNCTION BOX
7. NOT USED
8. UPS-1
9. SURGE PROTECTION DEVICE
10. SMOKE DETECTOR
11. CARD READER PANEL
12. HIRSCH PANEL
13. CARD READER
14. HVAC CONTROL PANEL
15. TRANSFORMER DISCONNECT SWITCH

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.

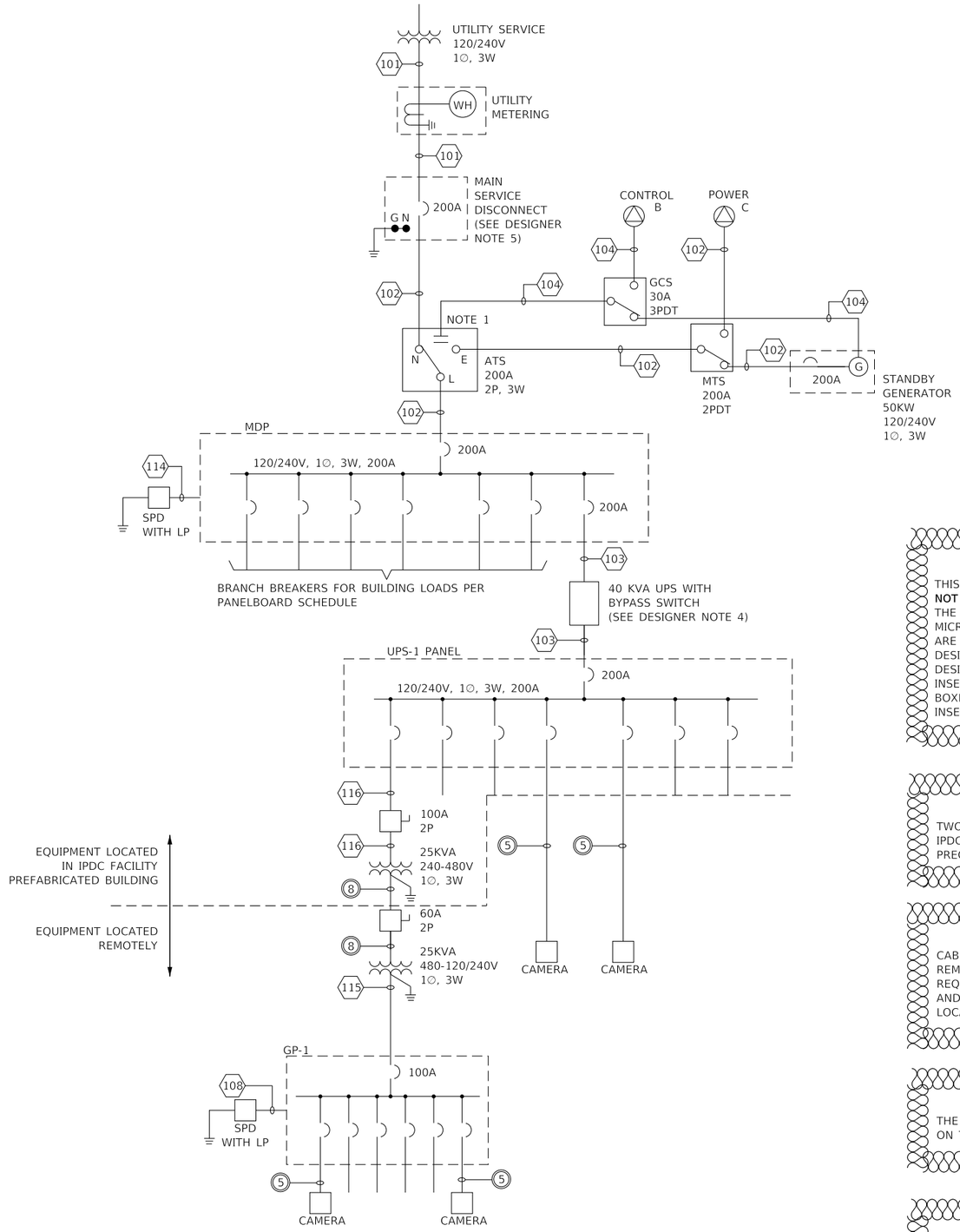
NOTE TO DESIGNER

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.

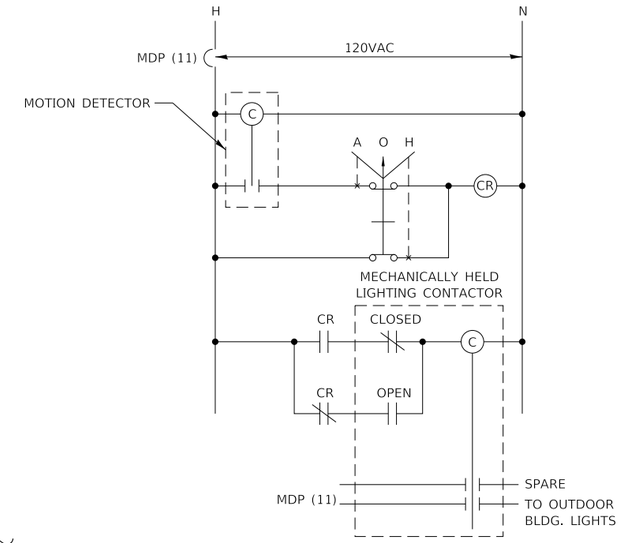
Illinois Tollway

IPDC FACILITY EQUIPMENT LAYOUT

VERSION:	STANDARD:	SHEET:
2019-03	M-ITS-1806	1 OF 1



SINGLE LINE DIAGRAM



OUTDOOR LIGHTING CONTRACTOR WIRING DIAGRAM

NOTES:

1. CONTACT IN ATS TO INITIATE ENGINE STARTING CONTROLS.
2. THE ROADWAY LIGHTING METER HOUSING, DISCONNECT SWITCH, LIGHTING CONTROLLER, AND ALL ROADWAY LIGHTING APPURTENANCES WITHIN THE IPDC FACILITY PREFABRICATED BUILDING SHALL BE PROVIDED BY OTHERS UNDER SEPARATE CONTRACT.

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

TWO REMOTE CAMERA/MVDS ENCLOSURES POWERED FROM THE IPDC FACILITY AND ONE REMOTE GANTRY PANEL ARE SHOWN. PRECISE REQUIREMENTS WILL VARY BY SITE.

NOTE TO DESIGNER

CABLE/CONDUIT REQUIREMENTS SHOWN TO CAMERAS AND REMOTE GANTRY PANELS ARE REPRESENTATIVE. ACTUAL REQUIREMENTS ARE DEPENDENT ON PLACEMENT OF CAMERAS AND REMOTE GANTRY PANELS. GANTRY PANELS SHALL BE LOCATED A MAXIMUM OF 0.75 MILE FROM THE IPDC FACILITY.

NOTE TO DESIGNER

THE UPS SIZE SHALL BE DETERMINED BY THE DESIGNER BASED ON THE CALCULATED LOAD.

NOTE TO DESIGNER

200A IS THE MINIMUM PERMITTED SERVICE SIZE. THE DESIGNER SHALL INCREASE THE SERVICE SIZE IF REQUIRED BY THE CALCULATED LOAD.

Illinois Tollway

IPDC FACILITY SINGLE LINE DIAGRAM

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1807	1 OF 1

PANELBOARD MDP
VOLTAGE 240/120V
PHASE/WIRE 1/3

MAINS 200A MCB
BUS RATING 200A
MOUNTING SURFACE

DESCRIPTION	CKT NO.	LOAD (WATTS) A	LOAD (WATTS) B	AMPS/ POLES	CKT BKR	CKT BKR	AMPS/ POLES	LOAD (WATTS) A	LOAD (WATTS) B	CKT NO.	DESCRIPTION
UPS-1	1	10160		200/2			30/2	-		2	SPD PANEL
	3		9110						-	4	
SPARE	5	-		15/1			15/1	-		6	SPARE
BATTERY LIGHT*	7		300	20/1			30/2		2000	8	HVAC UNIT
SWITCHED INTERIOR LIGHTS	9	300		20/1				2000		10	
OUTDOOR LIGHTS	11		200	20/1			30/2		2000	12	HVAC UNIT
SPARE	13	-		20/1				2000		14	
GEN. BATTERY CHARGER	15		160	20/1			20/1		-	16	SPARE
GEN. JACKET WATER HTR.	17	1500		20/1			20/1	200		18	OUTDOOR RECEPTACLE
OUTDOOR RECEPTACLE	19		200	20/1			20/1		400	20	INTERIOR RECEPTACLES
OUTDOOR RECEPTACLE	21	200		20/1			20/1	400		22	INTERIOR RECEPTACLES
GEN ROOM RECEPTACLES	23		600	20/1			20/1		400	24	INTERIOR RECEPTACLES
SPARE	25	-		20/1			20/1	160		26	INTERIOR LIGHTS GEN RM.
SPARE	27		-	20/1			20/1		-	28	SPARE
SPARE	29	-		20/1			20/1	-		30	SPARE
SUBTOTAL "A"		12160						4760			
SUBTOTAL "B"			10570						4800		
TOTAL WATTS "A,B"		29400W = 29.4KW = 32.3KVA									

* PROVIDE WITH HANDLE LOCKING DEVICE.

PANELBOARD GP-1
VOLTAGE 240/120V
PHASE/WIRE 1/3

MAINS 100A MCB
BUS RATING 100A
MOUNTING SURFACE

DESCRIPTION	CKT NO.	LOAD (WATTS) A	LOAD (WATTS) B	AMPS/ POLES	CKT BKR	CKT BKR	AMPS/ POLES	LOAD (WATTS) A	LOAD (WATTS) B	CKT NO.	DESCRIPTION
SPD PANEL	1	-		30/2			15/1	600		2	LANE CONTROL SIGN
	3		-				15/1		400	4	LANE CONTROL SIGN
LANE CONTROL SIGN	5	600		15/1			15/1	400		6	LANE CONTROL SIGN
LANE CONTROL SIGN	7		400	15/1			15/1		400	8	LANE CONTROL SIGN
LANE CONTROL SIGN	9	400		15/1			15/1	400		10	LANE CONTROL SIGN
LANE CONTROL SIGN	11		400	15/1			15/1		400	12	LANE CONTROL SIGN
LANE CONTROL SIGN	13	400		15/1			15/1	400		14	LANE CONTROL SIGN
SPARE	15		-	15/1			15/1		-	16	SPARE
DYNAMIC MESSAGE SIGN	17		890	30/2			30/2	-		18	SPARE
	19	890							-	20	
ITS DATA CABINET	21	1000		30/2			30/2	1000		22	REMOTE CAMERA/MVDS ITS ENCLOSURE
	23		1000						1000	24	
SPARE	25	-		20/1			30/2	1000		26	REMOTE CAMERA/MVDS ITS ENCLOSURE
SPARE	27		-	20/1					1000	28	
SPARE	29	-		20/1			20/1	-		30	SPARE
SPARE	31		-	20/1			20/1		-	32	SPARE
SUBTOTAL "A"		3290						3800			
SUBTOTAL "B"			2690						3200		
TOTAL WATTS "A,B"		= 12980W = 13.0KW = 16.3KVA									

PANELBOARD UPS-1
VOLTAGE 240/120V
PHASE/WIRE 1/3

MAINS 200A MCB
BUS RATING 200A
MOUNTING SURFACE

DESCRIPTION	CKT NO.	LOAD (WATTS) A	LOAD (WATTS) B	AMPS/ POLES	CKT BKR	CKT BKR	AMPS/ POLES	LOAD (WATTS) A	LOAD (WATTS) B	CKT NO.	DESCRIPTION
SPARE	1	-		30/2			30/2	-		2	SPARE
	3		-						-	4	
SPARE	5	-		15/1			15/1	-		6	SPARE
RACK RECEPTACLE	7		360	20/1			20/1		360	8	RACK RECEPTACLE
RACK RECEPTACLE	9	360		20/1			20/1	360		10	RACK RECEPTACLE
VIDEO POWER JUNCTION BOX	11		200	20/1			20/1		-	12	SPARE
SMOKE DETECTOR	13	50		15/1			20/1	200		14	TSIC EQUIPMENT BOARD
FIRE ALARM PANEL	15		100	20/1			20/1		200	16	TSIC EQUIPMENT BOARD
SPARE	17	-		30/2			20/1	100		18	HIRSCH PANEL
	19		-				20/1		-	20	SPARE
REMOTE CAMERA/MVDS ITS ENCLOSURE	21	1000		30/2			100/2	2040		22	GANTRY PANEL GP-1
	23		1000						5890	24	
SPARE	25	-		20/1			20/1	-		26	SPARE
SPARE	27		-	20/1			20/1		-	28	SPARE
SPARE	29	-		20/1			20/1	-		30	SPARE
SPARE	31		-	20/1			20/1		-	32	SPARE
SPARE	33	-		20/1			30/2	1000		34	REMOTE CAMERA/MVDS ITS ENCLOSURE
SPARE	35		-	20/1					1000	36	
SPARE	37	-		20/1			20/1	-		38	SPARE
SPARE	39		-	20/1			20/1		-	40	SPARE
SPARE	41	-		20/1			20/1	-		42	SPARE
SUBTOTAL "A"		1410						8750			
SUBTOTAL "B"			1660						7450		
TOTAL WATTS "A,B"		= 19270W = 19.3KW = 21.2KVA									

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.

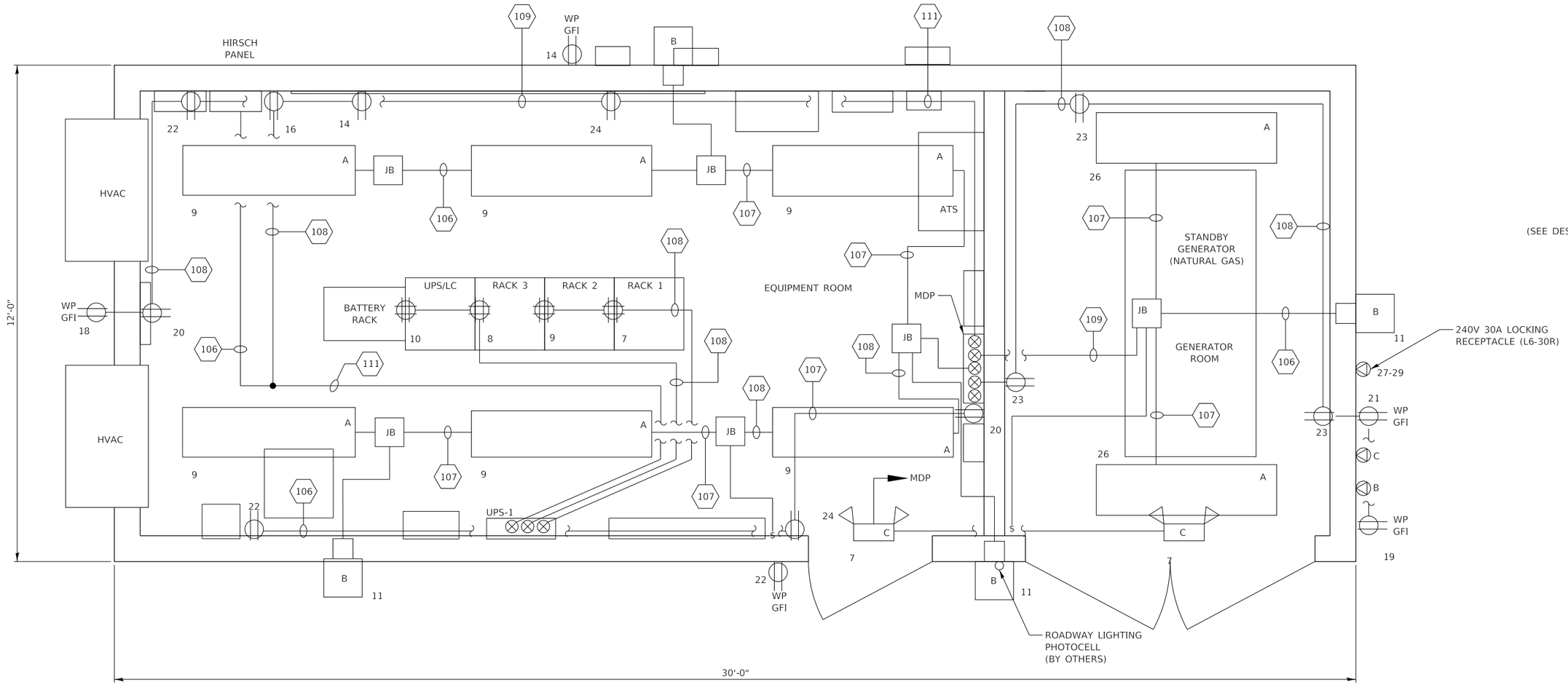
NOTE TO DESIGNER

TWO REMOTE CAMERA/MVDS ENCLOSURES POWERED FROM THE IPDC FACILITY AND ONE REMOTE GANTRY PANEL ARE SHOWN. PRECISE REQUIREMENTS WILL VARY BY SITE.

Illinois Tollway

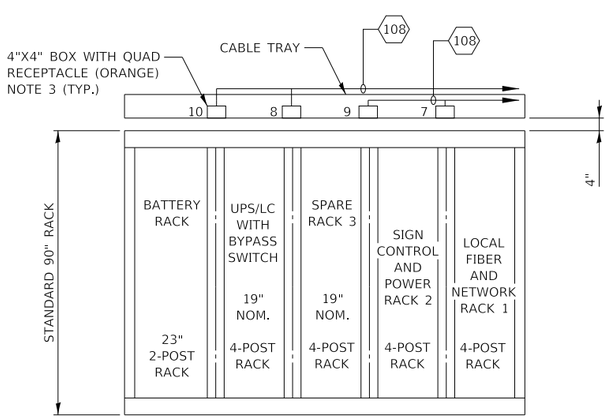
IPDC FACILITY PANELBOARD SCHEDULES

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1808	1 OF 1



IPDC FACILITY LIGHTING AND RECEPTACLE PLAN

NOT TO SCALE



COMMUNICATIONS AND EQUIPMENT RACK ELEVATION

(FACING NORTH)

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

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.

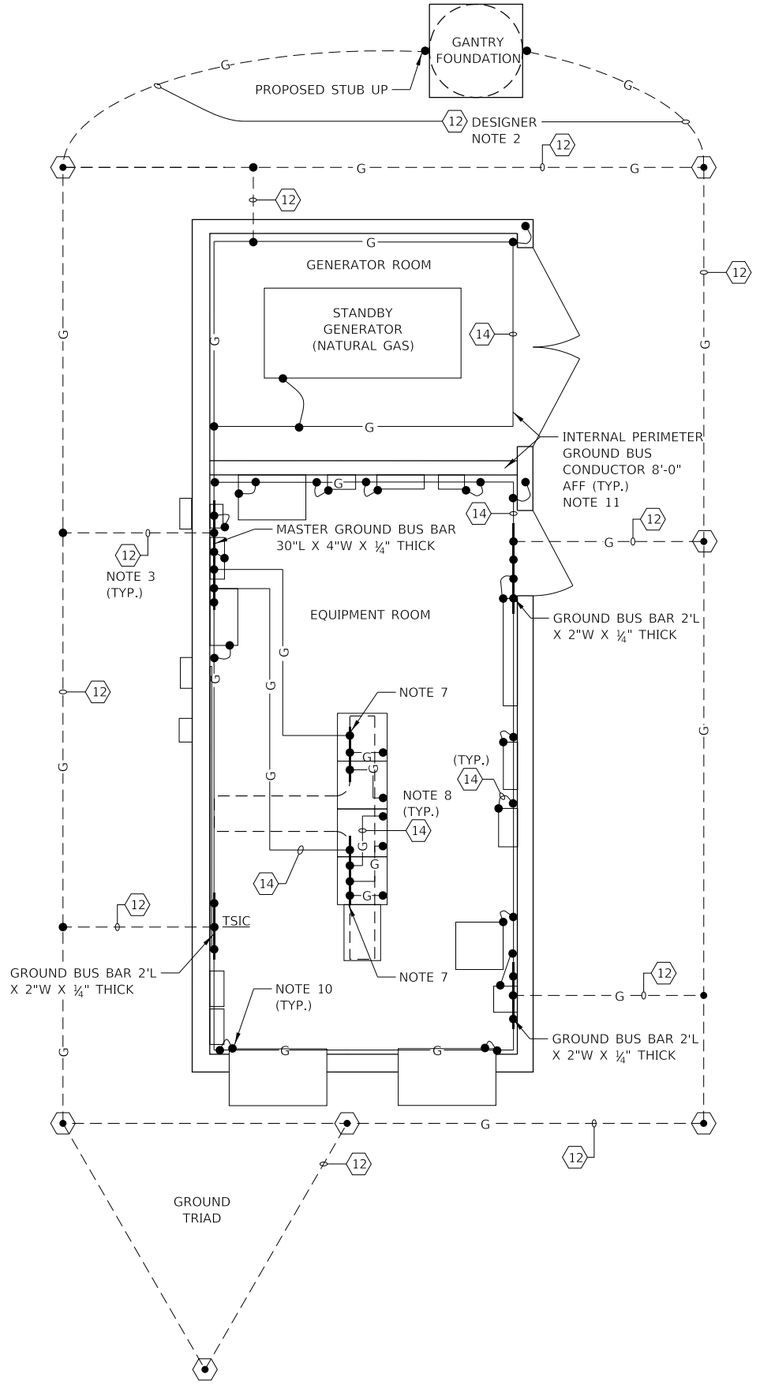
NOTE:

1. SEE IPDC FACILITY CABLE/CONDUIT SCHEDULE AND NOTES SHEET (M-ITS-1800).
2. RECEPTACLE AND LIGHTING CONDUIT SHALL BE ¾" WITH 2-1/C #12 AND 1/C #12 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 LEGEND, SYMBOL LIST, ABBREVIATIONS, AND EQUIPMENT SCHEDULES SHEET (M-ITS-1801) FOR ADDITIONAL DETAILS.

Illinois Tollway

IPDC FACILITY AND RECEPTACLE PLAN

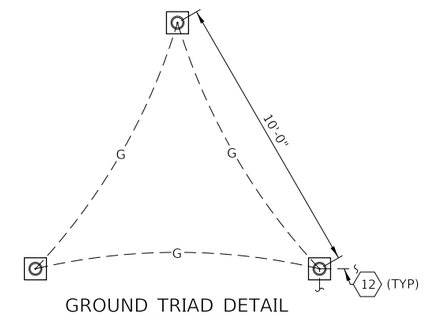
VERSION:	STANDARD:	SHEET:
2019-03	M-ITS-1809	1 OF 1



IPDC FACILITY ELECTRICAL GROUNDING LAYOUT

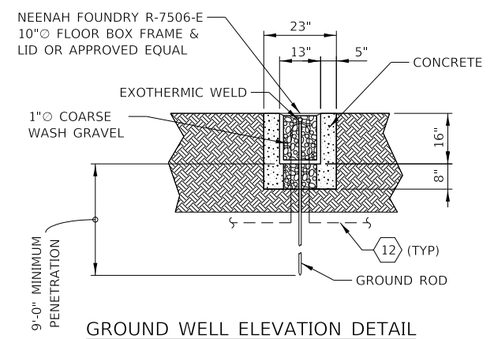
NOT TO SCALE

(SEE DESIGNER NOTE 3)



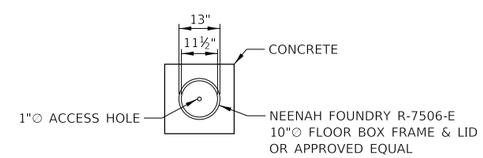
GROUND TRIAD DETAIL

NOT TO SCALE



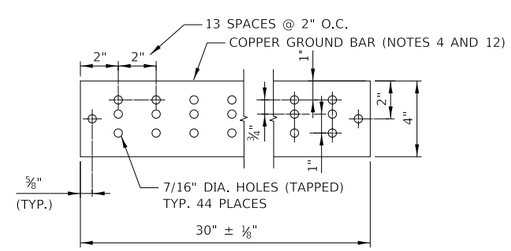
GROUND WELL ELEVATION DETAIL

NOT TO SCALE (NOTE 1)



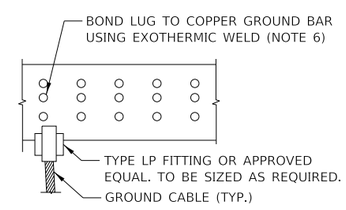
GROUND WELL PLAN DETAIL

NOT TO SCALE (NOTE 1)



MASTER GROUND BUS BAR SUPPORT SPACING DETAIL

NOT TO SCALE



MASTER GROUND BUS BAR CONNECTION DETAIL

NOT TO SCALE

NOTES:

1. DETAIL SHOWS INSTALLATION IN UNPAVED AREA. WHEN INSTALLING IN A PAVED AREA, INCORPORATE GROUND WELL IN THE POUR.
2. GROUND WELLS ARE REQUIRED AT EVERY GROUND ROD.
3. PROVIDE 1" SCHEDULE 40 PVC CONDUIT FOR ALL GROUND CABLES UNDER BUILDING.
4. ALL COPPER GROUND BARS SHALL BE OF HARD DRAWN, COMMERCIALLY PURE, ELECTROLYTIC COPPER, FOR USE AS AN ELECTRICAL CONDUCTOR AND SHALL COMPLY WITH THE CURRENT VERSION OF ASTM SPEC. B-187 OF LATEST DATE.
5. BOLTS, NUTS, AND WASHERS USED FOR CONNECTION TO GROUND BUS BARS SHALL BE SOLID COPPER.
6. WELD PER MANUFACTURER SPECIFICATION (ERICO PRODUCTS OR BURNDY CORP.).
7. THE COPPER GROUND BUS BAR SHALL BE MOUNTED TO THE CABLE TRAY ABOVE EQUIPMENT RACKS.
8. PROVIDE A #2 AWG GROUND CABLE FROM THE FRAME OF EACH EQUIPMENT RACK TO THE GROUND BUS AS SHOWN. THE CABLE SHALL BE BOLTED TO THE RACK USING A SEAMLESS HEAVY DUTY COMPRESSION TERMINAL.
9. A FOUR INCH GAP SHALL BE PROVIDED BETWEEN THE ENDS OF THE TWO CONDUCTORS THAT MAKE UP THE INTERNAL PERIMETER GROUND BUS CONDUCTOR.
10. ALL EQUIPMENT LOCATED INSIDE THE IPDC FACILITY PREFABRICATED 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 INTERNAL PERIMETER GROUND BUS CONDUCTOR MUST BE INSTALLED HORIZONTALLY ALONG THE WALL APPROXIMATELY 8 FEET ABOVE FINISHED FLOOR. THE CONDUCTOR SHALL BE SUPPORTED 2 INCHES FROM THE WALL SURFACE ON INSULATED STANDOFFS. THE STANDOFFS SHALL BE INSTALLED AT INTERVALS AS NECESSARY TO KEEP THE CONDUCTOR SECURELY IN PLACE WITHOUT NOTICEABLE SAGS AND BENDS.
12. THE GROUND BUS BARS MUST BE MOUNTED APPROXIMATELY 8 FEET ABOVE FINISHED FLOOR AND MOUNTED TO WALL USING A MOUNTING BRACKET WITH INSULATOR.

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

WHERE A GANTRY IS PRESENT, WELD GROUND CABLE COILED AT TOP OF FRE CONDUIT TO GANTRY COLUMN. INSTALLATION OF A GANTRY AT EACH IPDC FACILITY IS TYPICAL, BUT SHALL BE CONFIRMED WITH THE TOLLWAY BY THE DESIGNER.

NOTE TO DESIGNER

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.

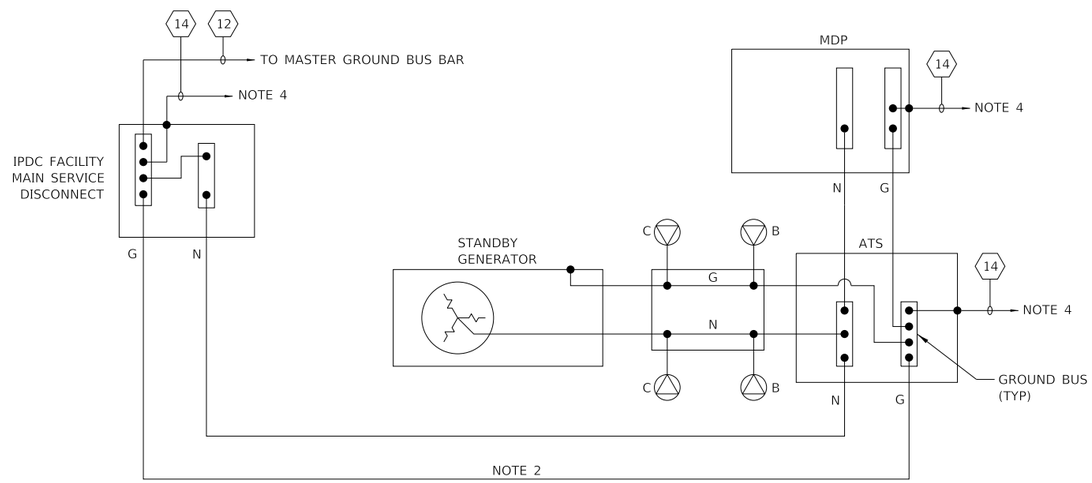
Illinois Tollway

IPDC FACILITY GROUNDING PLAN

VERSION:	STANDARD:	SHEET:
2019-03	M-ITS-1810	1 OF 1

NOTES:

1. SEE IPDC FACILITY CABLE/CONDUIT SCHEDULES AND NOTES SHEET (M-ITS-1800).
2. SEE IPDC FACILITY SINGLE LINE FACILITY DIAGRAM SHEET (M-ITS-1807) FOR POWER CABLE INFORMATION.
3. PROVIDE 3/4" SCHEDULE 40 PVC CONDUIT FOR GROUND CABLE CONNECTING UPS PANEL TO MASTER GROUND BUS BAR.
4. PROVIDE EXOTHERMIC CONNECTION TO INTERNAL PERIMETER BUS CONDUCTOR.
5. GROUNDING SHALL BE PER MOTOROLA R56 STANDARD.



IPDC FACILITY GROUNDING SCHEMATIC

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.

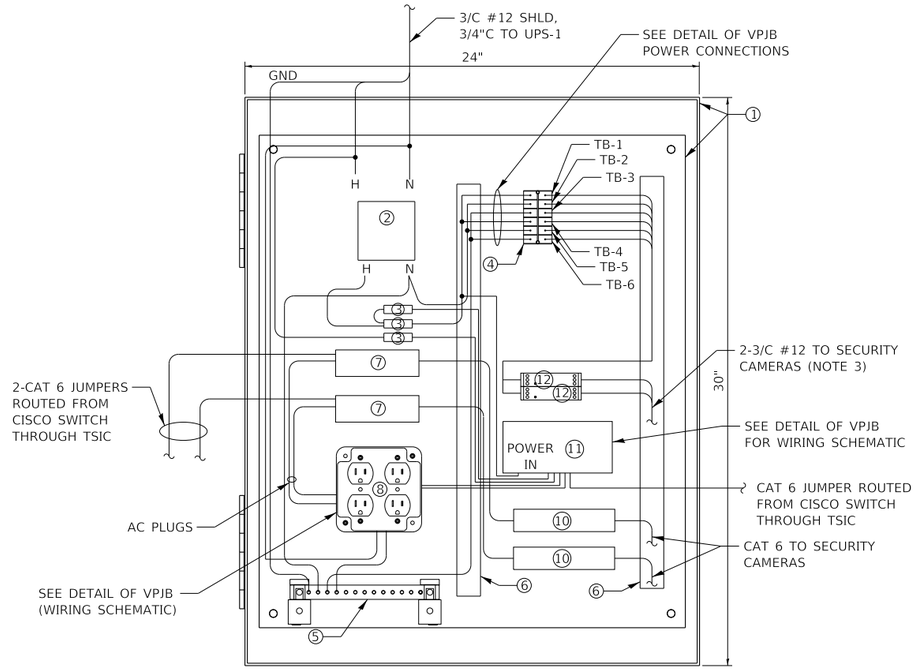
Illinois Tollway

IPDC FACILITY GROUNDING SCHEMATIC

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1811	1 OF 1

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.

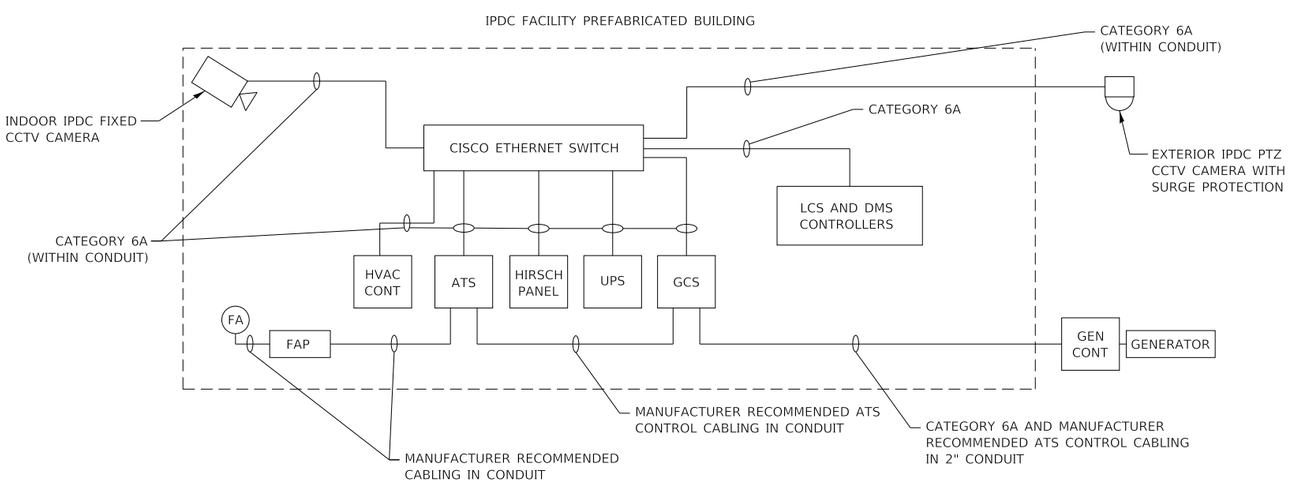


IPDC FACILITY VIDEO POWER JUNCTION BOX
(WIRING SCHEMATIC)
NOT TO SCALE

NOTES:

1. VIDEO JUNCTION BOX SHALL BE WIRED TO ACCOMMODATE POWER TO SECURITY CAMERAS (24V AC).
2. LABEL JUNCTION BOX, TERMINAL STRIPS AND ALL WIRE AND CABLES.
3. ALL ELECTRICAL CABLES TO CAMERAS SHALL HAVE SURGE PROTECTION (INCLUDES POWER AND CAT6)
4. ITEM 7 SHALL PLUG INTO QUAD OUTLET.
5. ITEM 11 CABLE DIAGRAM SHALL INCLUDE POE CONNECTIONS (ITEM 7). DETAILS OF VIDEO POWER JUNCTION BOX ILLUSTRATES ITEM 11 WIRED IN QUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO THE POE INJECTORS.
6. MOUNT POE INJECTORS TO BACKBOARD (ITEM 7).
7. CAMERA MUST BE GROUNDED IN HOUSING.
8. GROUND CABLES SHALL BE GREEN INSULATED TYPE RHW CONDUCTORS.
9. PROVIDE A MINIMUM OF 12" OF CABLE SLACK AT CAMERA TO ALLOW FOR MAINTENANCE.
10. THE CONTRACTOR SHALL PROVIDE ALL POWER AND GROUND WIRING REQUIRED FOR SYSTEM OPERATION INCLUDING ETHERNET CONNECTIONS FROM THE CAMERAS TO THE CISCO SWITCH.
11. THE CONTRACTOR SHALL SEAL CONDUIT WITH ELECTRICAL PUTTY AS IT ENTERS THE OUTDOOR CAMERA HOUSING. THIS WILL PREVENT ANY MOISTURE ENTERING THE CAMERA.

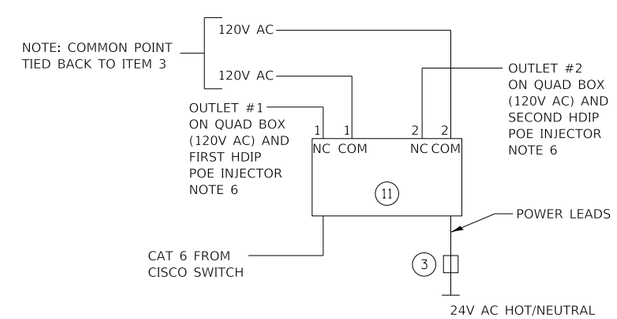
LEGEND	QTY	DESCRIPTION
1	1	30"Hx24"Wx8"D NEMA 1 ENCLOSURE WITH 26"Hx22.5"W BACK PANEL HOFFMAN CATALOG NO. A-20N16BLP, WITH 20N16MP PANEL
2	1	CONTROL POWER TRANSFORMER 120V AC-24V AC 500VA SQUARE D, CLASS 9070, PART SQ 9070T5SQD13
3	3	TERMINAL BLOCKS, FUSE SWITCH TYPE WITH BLOWN FUSE INDICATOR COMPLETE WITH 10AMP FUSE, MOUNTING RAIL, ANCHORS, BARRIERS, MARKING STRIPS AND JUMPERS ALLEN BRADLEY CATALOG NO. 1492-FB1M30-D1
4	1	TERMINAL BLOCKS, 6 POLE PANEL MOUNT BLOCK SCREW TERMINAL WITH WIRE CLAMPS, ALLEN BRADLEY CATALOG NO. 1492-HJ86
5	1	GROUND BAR SYSTEM WITH INSULATED MOUNTING BRACKET, HOFFMAN CATALOG NO. X-G52K
6	LOT	PANDUIT PLASTIC WIRING DUCT SNAP-IN SLOT COVER 1"Wx1"H, CATALOG NO. F1X1LG6 WITH COVER C1LG6
7	2	POE INJECTOR
8	1	QUAD BOX WITH 2-DUAL AC OUTLETS, POWER SOURCE UPS PANEL (120VAC)
9	1	ADVANCE TSP-W66 48VDC SURGE SUPPRESSOR
10	2	CAT 6 HIGH POE SURGE PROTECTOR, ATLANTIC SCIENTIFIC 24590
11	1	DIGITAL LUGGERS DIN 3 RELAY
12	2	24VAC SURGE PROTECTORS, COOPER CROUSE-HINDS ZONE BARRIER ZB24580



TYPICAL IPDC FACILITY NETWORK DIAGRAM
NOT TO SCALE

NOTES:

1. LCS AND DMS TYPE 2 CONTROLLERS SHALL BE PLUGGED INTO AC PDU TO ALLOW REMOTE POWER RESET.
2. CABLES IN CONDUIT FROM UPS PANEL TO LCS REMOTE POWER SUPPLIES SHALL BE AS RECOMMENDED BY THE MANUFACTURER AND PER NEC REQUIREMENTS.

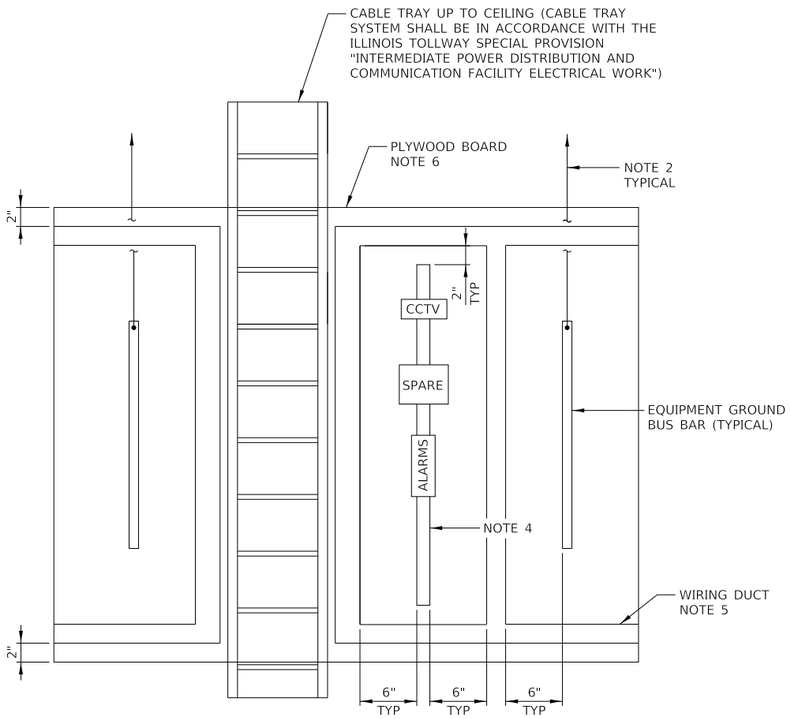


DETAIL OF VIDEO POWER JUNCTION BOX (VPJB)
NOT TO SCALE (WIRING SCHEMATIC)

Illinois Tollway

IPDC FACILITY NETWORK DIAGRAM AND MISCELLANEOUS DETAILS

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1812	1 OF 1



TERMINAL STRIP INTERCONNECT CENTER (TSIC) ELEVATION

NOT TO SCALE (SEE NOTES 1 AND 3)

3 PAIR DATA/COMMUNICATIONS CABLE COLOR CODE CHART	
PAIR NO.	MFGR'S COLOR CODE CHART COLOR COMBINATION
CABLE-1	
1	BLACK PAIRED WITH RED
2	BLACK PAIRED WITH WHITE
3	BLACK PAIRED WITH GREEN
3 PR. #22 CABLE WITH INDIVIDUALLY SHIELDED PAIRS SHALL BE BELDEN #88777 OR MANHATTAN #M43103.	

NOTE TO DESIGNER

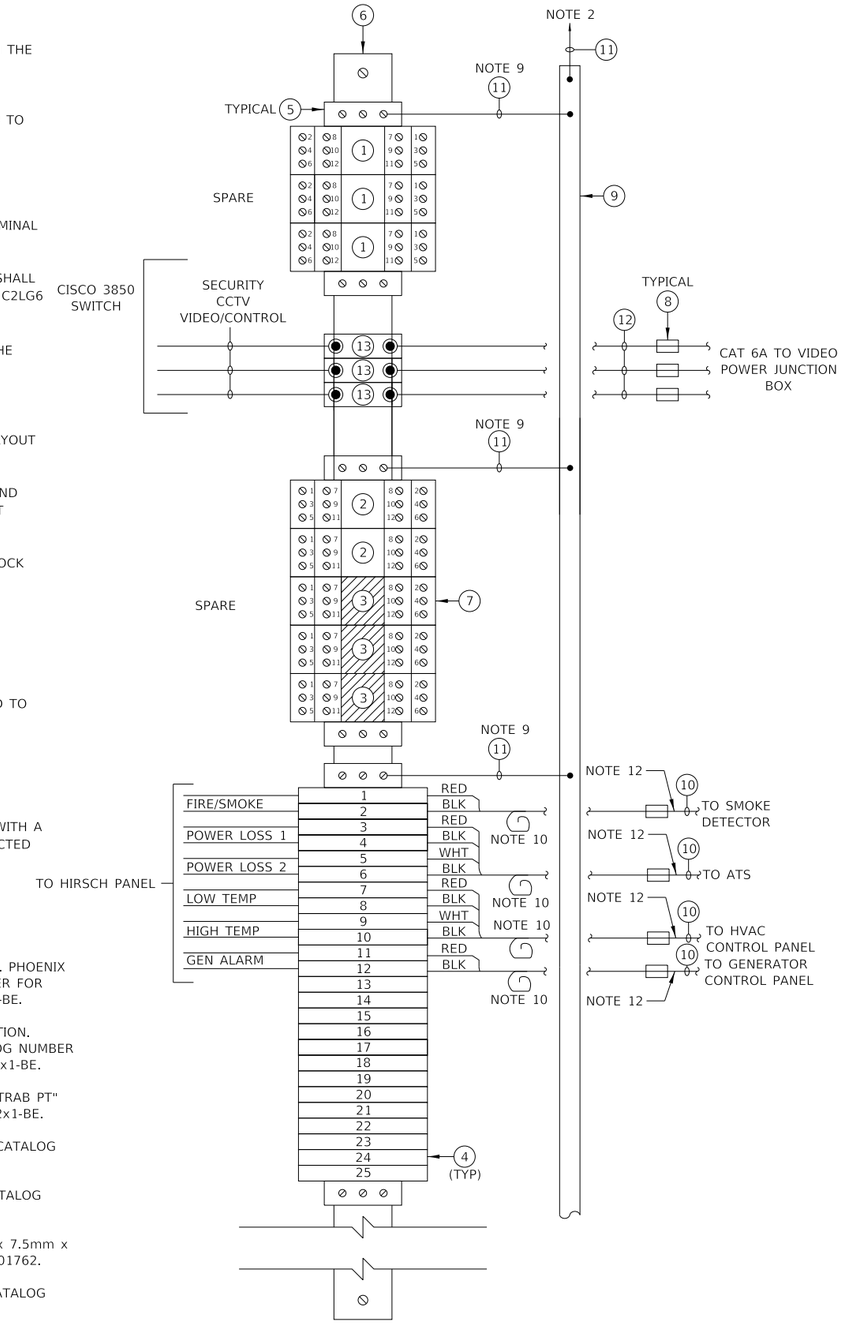
THIS BASE SHEET SHOWS TYPICAL CONSTRUCTION BUT IT IS **NOT** A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE *"CADD STANDARDS MANUAL"* ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY 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.

NOTES:

1. TERMINAL STRIP INTERCONNECT CENTERS (TSIC) ARE LOCATED IN THE IPDC BUILDINGS. SEE IPDC FACILITY EQUIPMENT LAYOUT SHEET (M-ITS-1806) FOR THE TSIC INSTALLATION LOCATION.
2. ROUTE #6 COPPER GROUND CABLE FROM THE GROUND BUS BAR TO INTERNAL PERIMETER GROUND BUS CONDUCTOR.
3. ALL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
4. DIN RAIL MOUNTED TERMINAL BLOCKS. SEE THIS SHEET FOR TERMINAL BLOCK DETAILS.
5. PROVIDE WIRE DUCT AS SHOWN ON THE DRAWING. WIRE DUCT SHALL BE PANDUIT PART NUMBER E2X3LG6 WITH COVER PART NUMBER C2LG6 AND CORNER STRIP PART NUMBER CSP3LG-Q.
6. PROVIDE A 4'X8'X¾" THICK PLYWOOD BOARD FOR THE TSIC IN THE IPDC FACILITY PREFABRICATED BUILDING AS SHOWN ON PLANS.
7. TERMINAL BLOCKS ARE LOCATED ON THE TERMINAL STRIP INTERCONNECT CENTER (TSIC) LOCATED IN THE IPDC FACILITY PREFABRICATED BUILDING - SEE THIS SHEET FOR A COMPLETE LAYOUT OF THE TSIC.
8. TERMINAL BLOCKS, TERMINAL BLOCK MARKER STRIPS, AND GROUND BUS BARS ARE SHOWN DIAGRAMMATICALLY. WIRING DUCT IS NOT SHOWN ON THIS SHEET.
9. ROUTE #6 COPPER GROUND CABLE FROM GROUND TERMINAL BLOCK TO GROUND BUS BAR.
10. COIL SPARE PAIRS FOR FUTURE USE.
11. THE CONTRACTOR SHALL IDENTIFY EACH CABLE ON AS-BUILT DRAWINGS.
12. SHIELD GROUND WIRE TIED BACK IN 3" PIGTAIL AND TERMINATED TO TSIC GROUND BUS BAR WITH A BURNDY TYPE YAEV LUG. THE COMPONENT END OF THE SHIELD GROUND WIRE IS NOT TO BE TERMINATED.
13. EACH CABLE SHALL BE IDENTIFIED WITH A CABLE MARKER.
14. EACH TERMINAL BLOCK WIRING TERMINAL SHALL BE IDENTIFIED WITH A TERMINAL MARKER. THE MARKERS SHALL BE NUMBERED AS DIRECTED BY THE ENGINEER.

EQUIPMENT LEGEND

ITEM	QUANTITY	DESCRIPTION
1	21 EA.	TERMINAL BLOCK WITH DATA SIGNAL PROTECTION. PHOENIX CONTACT "PLUGTRAB PT" SERIES CATALOG NUMBER FOR PLUG PT5-HF-12DC-ST WITH BASE ELEMENT PT2x2-BE.
2	5 EA.	TERMINAL BLOCK WITH DISCRETE SIGNAL PROTECTION. PHOENIX CONTACT "PLUGTRAB PT" SERIES CATALOG NUMBER FOR PLUG PT2x1-5DC-ST WITH BASE ELEMENT PT2x1-BE.
3	3 EA.	TERMINAL BLOCK BASE. PHOENIX CONTACT "PLUGTRAB PT" SERIES CATALOG NUMBER FOR BASE ELEMENT PT2x1-BE.
4	25 EA.	UNIVERSAL TERMINAL BLOCK. PHOENIX CONTACT CATALOG NUMBER UK5N.
5	10 EA.	GROUND TERMINAL BLOCK. PHOENIX CONTACT CATALOG NUMBER UDK-4-MTK-P/P.
6	2 EA.	MOUNTING RAIL; COPPER UNPERFORATED, 35mm x 7.5mm x 900mm, PHOENIX CONTACT CATALOG NUMBER 0801762.
7	1 LOT	TERMINAL BLOCK MARKERS. PHOENIX CONTACT CATALOG NUMBER ZB 5.
8	1 LOT	CABLE MARKERS. BRADY TYPE PWC-PK-3.
9	2 EA.	EQUIPMENT GROUND BUS BAR. HOFFMAN CATALOG NUMBER X-GS6K.
10	1 LOT	3 PAIR #22 CABLE WITH INDIVIDUALLY SHIELDED PAIRS.
11	1 LOT	1-1/C #6 GROUND CABLE. (NOTES 3 AND 6)
12	1 LOT	4 PAIR #24 CAT 6 CABLE
13	1 EA	CAT 6 SURGE SUPPRESSOR. PHOENIX CONTACT CATALOG NUMBER DATATRAB D-LAN-CAT.6+.



TERMINAL STRIP LAYOUT

NOT TO SCALE (SEE NOTES 7 AND 8)

Illinois Tollway

IPDC FACILITY TSIC TERMINAL BLOCK LAYOUT

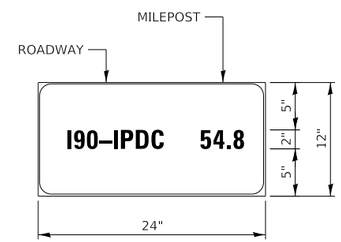
VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1813	1 OF 1

PLOT DRIVER: c:\bentley\wsp-pb-us-pw-02\us_brad.hyde\d0161165\pdf-IL Tollway.pltcfg
PENTABLE: E:\Temp\Tables\Pen\BlackWhite-Tollway.TBL
PLOT DATE: 11/18/2022 PLOT TIME: 3:20:07 AM
PLOTTED BY: Hyde, Brad
MODEL NAME: M-ITS-1813
FILE NAME: pw:\\wsp-us-pw.bentley.com:wsp-us-pw-02\Documents\Illinois Tollway (ISG) (0976RR)\Standard Drawings and Base Sheets\Base Sheets\Section - M\1800 ITS\M-ITS-1813.dgn
PLOT SCALE: 0:2.000000 '.' / in. PAGE SIZE: 17x11 (in.)

NOTES:

1. IPDC FACILITY IDENTIFICATION SIGN MATERIAL SHALL MEET THE REQUIREMENTS OF ARTICLE 720.02 OF THE STANDARD SPECIFICATIONS.

2. IPDC FACILITY IDENTIFICATION SIGNS SHALL BE MOUNTED ONTO THE BUILDING USING BOLTS AND WASHERS ACCORDING TO ARTICLE 720.04 OF THE STANDARD SPECIFICATIONS.



1.5" RADIUS, 0.5" BORDER, BLACK ON WHITE

IPDC IDENTIFICATION SIGN

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.

Illinois Tollway

IPDC FACILITY IDENTIFICATION SIGN

VERSION:	STANDARD:	SHEET:
2017-03	M-ITS-1814	1 OF 1

GENERAL NOTES:

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A ¾" x 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.

REINFORCEMENT BARS:

1. REINFORCEMENT BARS, INCLUDING REINFORCEMENT BARS, EPOXY-COATED SHALL CONFORM TO THE REQUIREMENTS OF IDOT STANDARD SPECIFICATIONS SECTION 508 AND ARTICLE 1006.10.
2. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY-COATED.
3. REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
4. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT-TO-OUT.
5. COVER FROM THE FACE OF CONCRETE TO FACE OF REINFORCEMENT BARS SHALL BE 3" FOR SURFACES FORMED AGAINST EARTH AND 2" FOR ALL OTHER SURFACES UNLESS OTHERWISE SHOWN.

CONSTRUCTION SPECIFICATIONS:

1. ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS ISSUED MARCH, 2021 TO THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. ILLINOIS DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS ADOPTED JANUARY 1, 2021.
3. ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2016.

DESIGN LOADING:

LIVE LOAD, CONTROLLING CASE OF THE FOLLOWING:
200 P.S.F.
3,000 LB. CONCENTRATED FORCE OR
KNOWN LOADING PROVIDED BY ITS
SNOW LOAD: 50 P.S.F.
WIND SPEED: 120 M.P.H. APPLIED TO BUILDING WALLS, PER ASCE 7-16
DEAD LOAD: 30,000 POUNDS (12'x30' BUILDING) OR 35,000 POUNDS (12'x38' BUILDING)
SELF WEIGHT OF SLAB

DESIGN STRESSES FOR REINFORCED CONCRETE:

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

DESIGN SPECIFICATIONS:

1. ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL ISSUED MARCH, 2021.
2. INTERNATIONAL BUILDING CODE, 2018.
3. ASCE 7-16 MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES, 2016.
4. ACI 318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2019.
5. ILLINOIS DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL, JANUARY 2012.
6. ILLINOIS TOLLWAY GEOTECHNICAL ENGINEER MANUAL DATED MARCH 2021.

NOTE TO DESIGNER

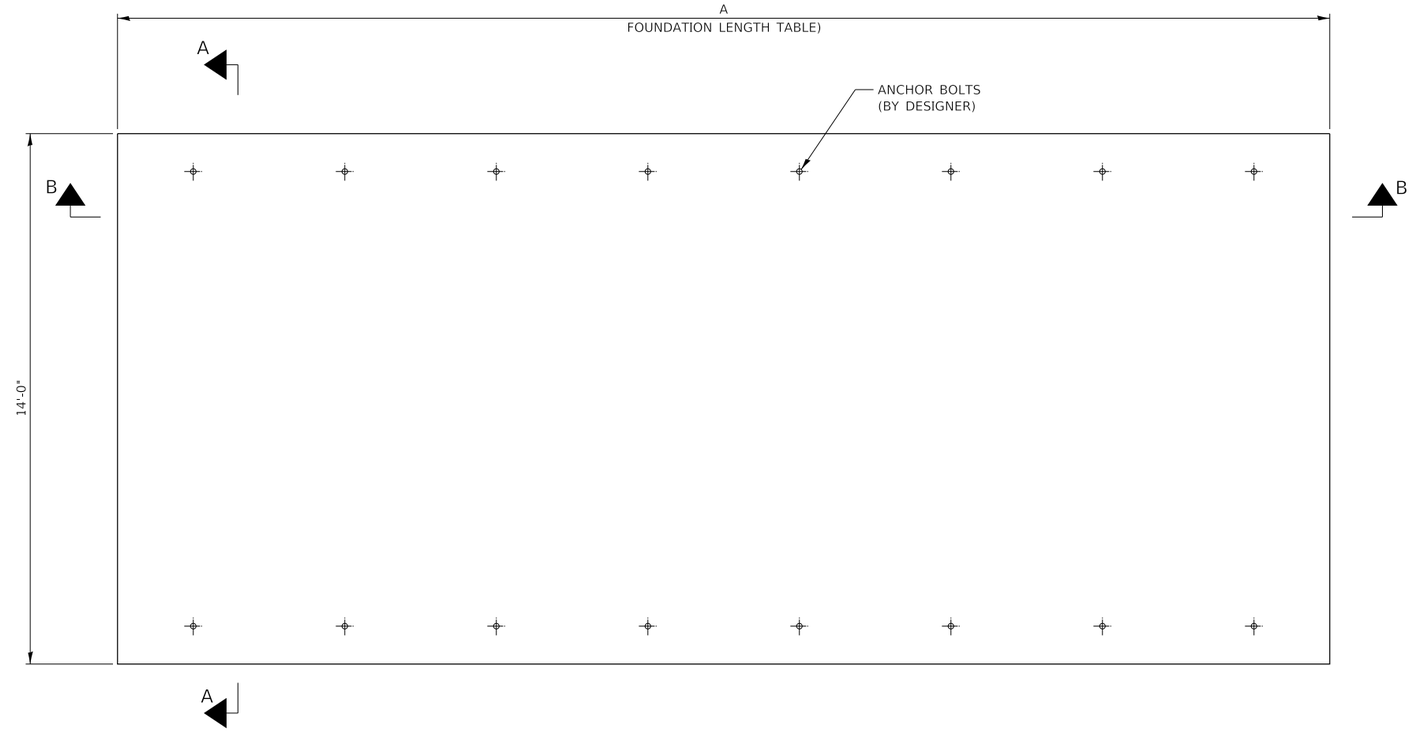
ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION OF THE SHEET INTO THE PLAN SET.

THIS DRAWING IS A CONCEPT FOUNDATION FROM A BUILDING MANUFACTURER. THE FOUNDATION MUST HAVE A FLAT TOP SLAB AS SHOWN IN THE DRAWING TO SUPPORT THE BUILDING FRAME.

THE DESIGNER SHALL DESIGN THE TOP SLAB, FOOTERS, WALLS AND REINFORCING DETAILS AS NECESSARY TO SUPPORT THE BUILDING AND MEET LOCAL CODES.

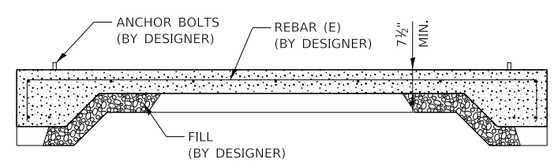
LOADS SHOWN ARE MINIMUM. IF ACTUAL LOADS ARE LARGER, REPLACEMENT MINIMUM LOADS SHOWN.

THE DESIGN IS BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 P.S.F.

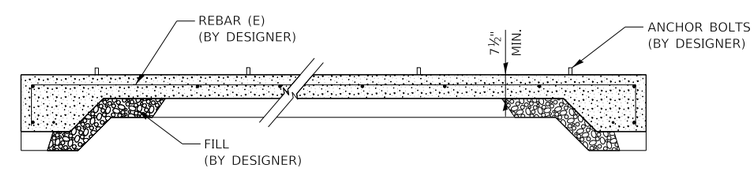


PLAN VIEW

FOUNDATION LENGTH TABLE	
IPDC BUILDING TYPE	DIMENSION
STANDARD IPDC	A = 32'
COMBINATION PLAZA/IPDC	A = 40'



SECTION A-A



SECTION B-B

Illinois Tollway

IPDC AND COMBINATION PLAZA-IPDC CONCRETE FOUNDATION

VERSION:	STANDARD:	SHEET:
2021-03	M-ITS-1815	1 OF 1