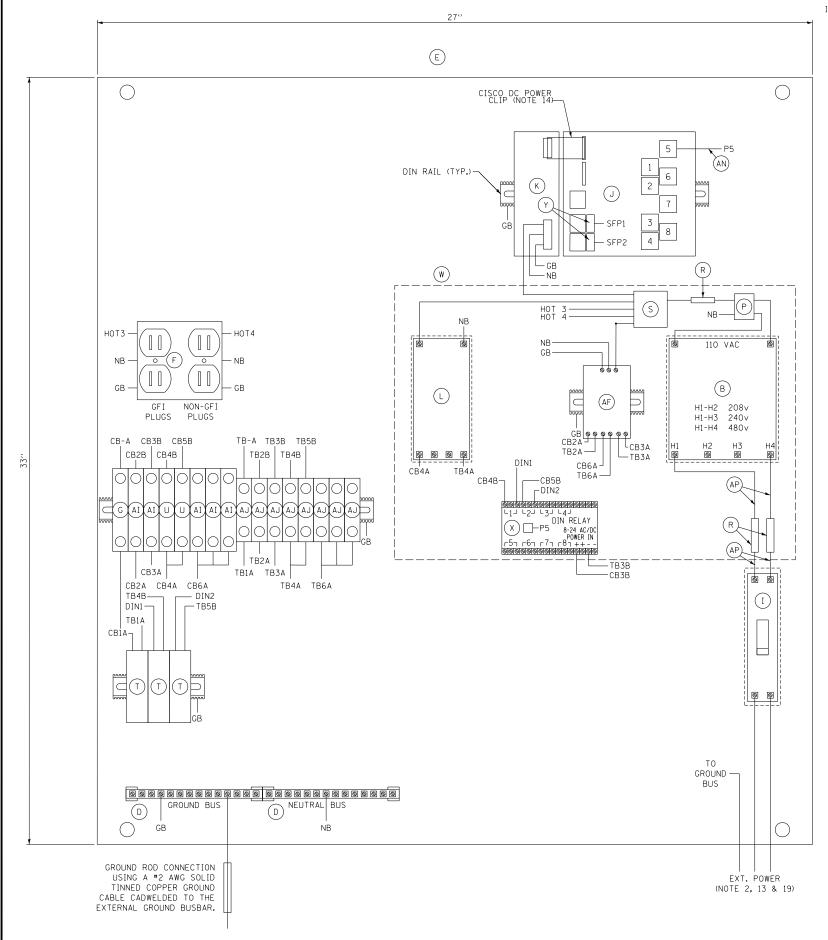
Drawing	Modification Summary Effective: 03-31-2016
All	The electronic (pdf) version of the Standard Drawing are now made searchable (text).
M-ESC-205	Erosion Sediment Control (ESC)-Series 200 Sediment Basin Dewatering Device Revised Note 7, removed proprietary name from skimmer device.
	Roadway (RDY)-Series 400
M-RDY-408	Approach Slab, Mainline
All	Changed Transverse Reinforcement size and spacing in the bottom mat of the bridge approach slab and transition shoulder slabs from #6@9" to #8@4" to be in conformance with IDOT ABD Memo 15.8.
All	Changed Transverse Reinforcement size and spacing in the top mat of the bridge approach slab and transition app shoulder slabs from #5@12" to #5@6" to be in conformance with IDOT ABD Memo 15.8.
All	Changed Longitudinal Reinforcement size and spacing in the top mat of the bridge approach slab and transition ap shoulder slabs from #4@15" to #5@6" to be in conformance with IDOT ABD Memo 15.8.
All	Added note *** to clarify that base sheet reinforcement is for approach slabs not located on retaining walls. If appr is placed on retaining wall, reinforcement shall be designed for TL-5 crash loading.
All	Changed spacing and shape of both dxx vertical bars in the barrier on the bridge approach slab and transition app shoulder slab to match the vertical bars in the bridge parapet and moment slab barrier.
All	Changed top mat reinforcement cover to 2.25" to be consistent with deck and moment slab clearances.
Sheets 1,2	Updated Note to Designer for Drainage Structures. Designer to determine size, type and location.
	Changed approach slab shoulder width requirements to match Structures Design Manual.
Sheet 3	Added option of using subgrade aggregate, special under the transition approach slab.
Sheet 3	Added additional Approach Slab Barrier Elevation to distinguish between non-integral and integral/semi-integral ab
Sheet 3	Eliminated Optional Longitudinal Joint Within a Traffic Lane detail.
Sheet 4 Sheet 5	Changed Neoprene Sheet to Elastomeric Sheet to keep call out generic and not specific. Revised Bill of Material to clarify Pay Items and Pay Item Numbers to be included.
Sheet 5	Added note to Typical Barrier Transition Detail to clarify where the 1'-9" dimension should be measured.
M-RDV-400	Approach Slab, Ramp
	Changed Transverse Reinforcement size and spacing in the bottom mat of the bridge approach slab and transition
All	Changed Transverse Reinforcement size and spacing in the bottom mat of the bridge approach slab and transition shoulder slabs from #6@9" to #8@4" to be in conformance with IDOT ABD Memo 15.8. Changed Transverse Reinforcement size and spacing in the top mat of the bridge approach slab and transition app
All	shoulder slabs from #5@12" to #5@6" to be in conformance with IDOT ABD Memo 15.8.
All	Changed Longitudinal Reinforcement size and spacing in the top mat of the bridge approach slab and transition ap shoulder slabs from #4@15" to #5@6" to be in conformance with IDOT ABD Memo 15.8.
All	Added note *** to clarify that base sheet reinforcement is for approach slabs not located on retaining walls. If appr is placed on retaining wall, reinforcement shall be designed for TL-5 crash loading.
All	Changed spacing and shape of both dxx vertical bars in the barrier on the bridge approach slab and transition app shoulder slab to match the vertical bars in the bridge parapet and moment slab barrier.
All	Changed top mat reinforcement cover to 2.25" to be consistent with deck and moment slab clearances.
,	Updated Note to Designer for Drainage Structures. Designer to determine size, type and location. Changed approach slab shoulder width requirements to match Structures Design Manual.
Sheet 3	Added option of using subgrade aggregate, special under the transition approach slab.
Sheet 3	Added additional Approach Slab Barrier Elevation to distinguish between non-integral and integral/semi-integral ab
Sheet 3	Eliminated Optional Longitudinal Joint Within a Traffic Lane detail.
Sheet 4	Changed Neoprene Sheet to Elastomeric Sheet to keep call out generic and not specific.
Sheet 5 Sheet 5	Revised Bill of Material to clarify Pay Items and Pay Item Numbers to be included. Added note to Typical Barrier Transition Detail to clarify where the 1'-9" dimension should be measured.
M-RDY-410	keserved
M-RDY-411	Emergency Turnaround Median Width <u>&gt;</u> 35 Ft
	Bridge (BRG)-Series 500
M-BRG-506	Expansion Joint Repair Base Sheet was removed since details did not match Special Provision.
M-BRG-507	Crash Wall Modifications Median Piers
	Note 4 - Changed Reinforcing bars to Reinforcement Bars.
M. D.D.C. FAA	Crach Wall Modifications Shoulder Piers
WI-BKG-508	Crash Wall Modifications Shoulder Piers Note 4 - Changed Reinforcing bars to Reinforcement Bars.
M-BRG-525	Slopewall Details
	Drainage (DRN)-Series 600
	Slope Drain
	Revised storm sewer to "Class B, 12".
M-DRN-602	

### **Tollway Base Sheet Revisions**

	Drawings Modification Summary	Effective: 02 21 2016
Drawing	Modification Summary	Effective: 03-31-2016
	Maintenance of Traffic (M	OT)-Series 700
M-MOT-700	Temporary Concrete Barrier "Y" Connector Segmen	
	Revised Barrier Details Notes.	-
	Changed barrier edges chamfered from 1/2" to 1" on all edge	s (optional).
	Overhead Sign (OHS)	
M-OHS-720	Overhead Sign Structure Span Type Summary and 1	otal Bill of Material
	Added Protective Coat (SQ YD) to Summary Table	
	Clarified Class SI and Class DS Concrete are included i	n Foundation For Overhead Sign Structure.
M 0110 704	Our al ciano Characteria Constilaren Terro Communication	and Tatal Dill of Matarial
M-0H5-721	Overhead Sign Structure Cantilever Type Summary Added Protective Coat (SQ YD) to Summary Table	and Total Bill of Material
	Clarified Class SI and Class DS Concrete are included i	- Foundation For Overhead Sign Structure
		r Foundation For Overnead Sign Structure.
M-OHS-722	Overhead Sign Structure Entrance Monotube Type (	Steel) Mainline Summary and Total Bill of Mater
	Added Protective Coat (SQ YD) to Summary Table	
	Clarified Class SI and Class DS Concrete are included i	n Foundation For Overhead Sign Structure.
	Clarified Concrete Structures is for Single Face Barrier	
M-OHS-723	Overhead Sign Structure Exit Monotube Type (Steel	Mainline Summary and Total Bill of Material
	Added Protective Coat (SQ YD) to Summary Table	,
	Clarified Class SI and Class DS Concrete are included i	n Foundation For Overhead Sign Structure.
	Clarified Concrete Structures is for Single Face Barrier	
M-OHS-724	Overhead Sign Structure Butterfly Type (Steel) Sum	mary and Total Bill of Material
	Added Protective Coat (SQ YD) to Summary Table	
	Clarified Class SI and Class DS Concrete are included i	n Foundation For Overhead Sign Structure.
	Removed Truss Extension for Mounting Walkway detail	
	Added "L" column and removed TGL and TGL1 from the	e Summary Table
M-OHS-725	Overhead Sign Structure Entrance Monotube Type (	Steel) AET Ramp Summary and Total Bill of Mat
	Added Protective Coat (SQ YD) to Summary Table	
	Clarified Class SI and Class DS Concrete are included i	
	Clarified Concrete Structures is for Single Face Barrier a	and included in Summary Table.
M-OHS-726	Overhead Sign Structure Exit Monotube Type (Steel	AET Ramp Summary and Total Bill of Material
	Added Protective Coat (SQ YD) to Summary Table	
	Clarified Class SI and Class DS Concrete are included i	
	Clarified Concrete Structures is for Single Face Barrier a	and included in Summary Table.
M_OUS_727	Overhead Sign Structure Exit Monotube Type (Steel	Cash-IPO Pamp Summary and Total Bill of Mat
W-0113-727	Added Protective Coat (SQ YD) to Summary Table	
	Clarified Class SI and Class DS Concrete are included i	a Foundation For Overhead Sign Structure
	Clarified Concrete Structures is for Single Face Barrier	and included in Summary Table.
	Clarified Concrete Structures is for Single Face Barrier a	and included in Summary Table.
M-OHS-728	Clarified Concrete Structures is for Single Face Barrier a Overhead Sign Structure Span Type (Steel) Summar	·
M-OHS-728		·
M-OHS-728	Overhead Sign Structure Span Type (Steel) Summar	y and Total Bill of Material
M-OHS-728	Overhead Sign Structure Span Type (Steel) Summar Added Protective Coat (SQ YD) to Summary Table	y and Total Bill of Material
	Overhead Sign Structure Span Type (Steel) Summar Added Protective Coat (SQ YD) to Summary Table	<b>y and Total Bill of Material</b> n Foundation For Overhead Sign Structure.
	Overhead Sign Structure Span Type (Steel) Summar Added Protective Coat (SQ YD) to Summary Table Clarified Class SI and Class DS Concrete are included i	y and Total Bill of Material n Foundation For Overhead Sign Structure. ingle Span Structure Details
M-OHS-729 Sheet 1 Sheet 4	Overhead Sign Structure Span Type (Steel) Summar Added Protective Coat (SQ YD) to Summary Table Clarified Class SI and Class DS Concrete are included i Overhead Sign Structure ITS Gantry Frame (Steel) S Revised Material Specification Table to specify ASTM A500 G Removed Note 6, referring to ASTM requirements of HSS me	y and Total Bill of Material n Foundation For Overhead Sign Structure. ingle Span Structure Details Ir C & B for Frame & Mounting Beam HSS, respectively. mbers.
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		Drawings Effective: 03-31-2016
ay Bas	se Sheet Rev	
		Weigh-In-Motion - Series 1600
on M	M-WIM-1600	WEIGH-IN-MOTION CABINET AND FOUNDATION DETAILS
	M-WIM-1601	WEIGH-IN-MOTION IP CAMERA DETAILS
		WEIGH-IN-MOTION LOOP DETECTOR DETAILS
		WEIGH-IN-MOTION DETECTOR LOOP AND QUARTZ SENSOR DETAIL
		INSTALLATION DETAIL DETECTOR HOUSING & DETECTOR HOUSING ADAPTER
		WEIGH-IN-MOTION DETECTOR HOUSING DETAIL
		Flashing Sign Beacon - Series 1700
	M-ITS-1700	FLASHING SIGN BEACON INSTALLATION BREAKAWAY ELECTRICAL DETAIL
		FLASHING SIGN BEACON INSTALLATION WIRING DIAGRAM
	W-115-1701	
		Conduit Details at Integral Abutment-Series 1900
	M-ITS-1900	CONDUIT DETAILS AT INTEGRAL ABUTMENT BRIDGE STANDARD SLOPE WALL
		Business Systems (BUS)- Series 2500
	M-BUS-2500	CABLE CONDUIT SCHEDULE AND GENERAL NOTES
		LEGEND SYMBOL LIST, ABBREVIATIONS AND EQUIPMENT SCHEDULES
		SINGLE LINE DIAGRAM AND UTILITY POWER CABLE/CONDUIT SCHEDULE
		CONTROL BUILDING LIGHTING PLAN AND MISCELLANEOUS DETAILS - MAIN PLAZA
		CONTROL BUILDING LIGHTING PLAN AND MISCELLANEOUS DETAILS - MAINT LAZA
		CONTROL BUILDING GROUNDING DETAILS - MAIN PLAZA
		CONTROL BUILDING GROUNDING DETAILS - REMOTE PLAZA
		GROUNDING SCHEMATIC
		CONTROL BUILDING MISCELLANEOUS DETAILS
		UPS SINGLE LINE AND WIRING DIAGRAM
		MISCELLANEOUS SCHEMATIC DIAGRAMS
		VIDEO POWER JUNCTION BOX DETAIL - MAIN PLAZA
		VIDEO POWER JUNCTION BOX DETAIL - REMOTE PLAZA
		VIDEO WATCHDOG CAMERA DETAILS
		RAMP PLAZA MONOTUBE DETAILS ACM AND IPO LANES
	M-BUS-2515	LOOP JUNCTION BOX DETAIL
		CONTROL BUILDING LIGHTING AND RECEPTACLE PLAN - MAIN PLAZA
	M-BUS-2517	CONTROL BUILDING LIGHTING AND RECEPTACLE PLAN -REMOTE PLAZA
		MISCELLANEOUS CROSS SECTION DETAILS
		COMED TRANSFORMER PAD DETAIL
		ELECTRICAL SITE PLAN - ACM AND IPO LANES
		UNDERGROUND ELECTRICAL PLAN - ACM AND IPO LANES - MAIN PLAZA
		PLAZA I-PASS PLANS - ACM AND IPO LANES
	M-BUS-2523	UNDERGROUND ELECTRICAL PLAN - ACM AND IPO LANES - REMOTE PLAZA
	M-BUS-2524	AUTOMATIC LANE ISLAND PLAN AND DETAILS 12 FOOT WIDE LANE
	M-BUS-2525	IPASS ONLY (IPO) LANE ISLAND PLAN AND DETAILS 12 FOOT WIDE LANE
	M-BUS-2526	TOLL EQUIPMENT WIRING DIAGRAM - ACM AND IPO LANES
	M-BUS-2527	LOOP AND TREADLE INSTALLATION DETAILS - ACM AND IPO LANES
	M-BUS-2528	CONTROL BUILDING TSIC - ACM AND IPO LANES - MAIN PLAZA
	M-BUS-2529	CONTROL BUILDING TSIC - ACM AND IPO LANES - REMOTE PLAZA
	M-BUS-2530	TSIC TERMINAL BLOCK LAYOUT - ACM AND IPO LANES
	M-BUS-2531	CONTROL BUILDING EQUIPMENT LAYOUT - ACM AND IPO LANES - MAIN PLAZA
		CONTROL BUILDING EQUIPMENT LAYOUT - ACM AND IPO LANES - REMOTE PLAZA
		CONTROL BUILDING R3 RACK - MAIN PLAZA
		CONTROL BUILDING R3 RACK - REMOTE PLAZA
		MISCELLANEOUS DETAILS -ACM AND IPO LANES
		PANELBOARD SCHEDULES FOR TP1 AND TP2 - ACM AND IPO LANES
		PANELBOARD SCHEDULES FOR MDP AND UPS UNITS - ACM AND IPO LANES
		FIBER INTERCONNECTIONS BETWEEN MAIN AND REMOTE PLAZAS - ACM AND IPO LANES
		PLAZA LANE CONTROL SIGNAL - ACM AND IPO LANES
		TRAFFIC LIGHT DETAILS - ACM LANES
		TRAFFIC LIGHT DETAILS - IPO LANES
		ELECTRICAL SITE PLAN AET LANES
		UNDERGROUND CONDUIT PLAN - MAIN PLAZA
		UNDERGROUND CONDUIT PLAN - MAIN PLAZA PLAN - REMOTE PLAZA
		CONTROL BUILDING EQUIPMENT LAYOUT - REMOTE PLAZA
		CONTROL BUILDING EQUIPMENT LAYOUT - MAIN PLAZA
		CONTROL BUILDING TSIC - MAIN AND REMOTE PLAZAS - AET LANES
		TSIC TERMINAL BLOCK LAYOUT - ACM AND IPO LANES REMOTE PLAZAS - AET LANES
		PANELBOARD SCHEDULES - MAIN PLAZA AET LANES
		PANELBOARD SCHEDULES - REMOTE PLAZA AET LANES
		WIRING DIAGRAM - AET 1-LANE LAYOUT
		WIRING DIAGRAM - AET 3-LANE LAYOUT
		LOOP PLAN - AET 1-LANE LAYOUT
		LOOP PLAN - AET 3-LANE LAYOUT
		VES WASH SYSTEM ENCLOSURE DETAIL
		VES WASH SYSTEM PANEL DETAIL
		VES WASH SYSTEM FLOW DIAGRAM AND MECHANICAL DETAIL
		VES WASH SYSTEM SUGGESTED CONDUIT ROUTING
	M-BUS-2559	VES WASH SYSTEM MISCELLANEOUS POWER WIRING DIAGRAM
		VES WASH SYSTEM CONTROL SWITCH SCHEMATIC

New Sheet



- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, IPH SQUARE D/CLASS 9070 T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- ( (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- AA NOT USED FOR THIS SHEET APPLICATION
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE NOT USED FOR THIS SHEET APPLICATION
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CATE (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG

NOTES:

- 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.9. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING, DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

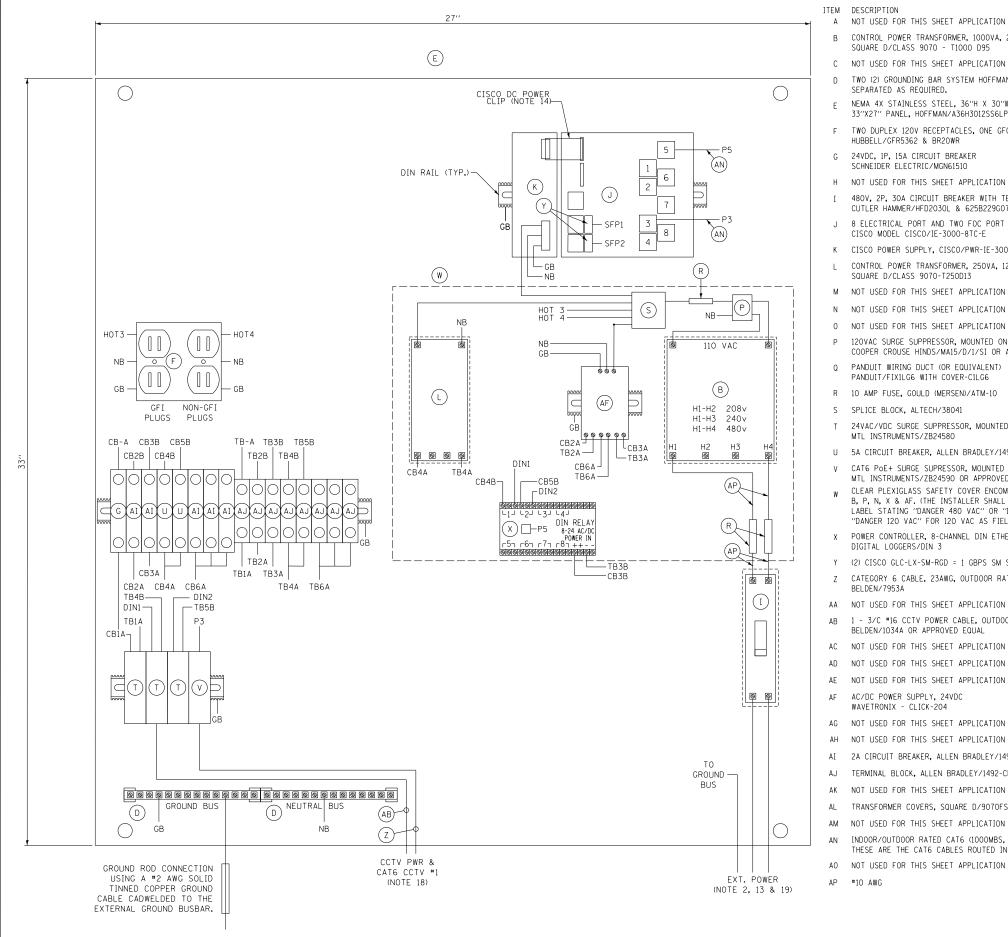
NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY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





CABINET WIRING DIAGRAM ITS POLE MOUNTED ENCLOSURE (CCTV AND MVDS)

3-31-2016



- AP #10 AWG
- AO NOT USED FOR THIS SHEET APPLICATION
- THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- ΔN

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

TRANSFORMER COVERS, SQUARE D/9070FSC2

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

M NOT USED FOR THIS SHEET APPLICATION

N NOT USED FOR THIS SHEET APPLICATION

0 NOT USED FOR THIS SHEET APPLICATION

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

S SPLICE BLOCK, ALTECH/38041

DIGITAL LOGGERS/DIN 3

BELDEN/7953A

MTL INSTRUMENTS/ZB24580

CUTLER HAMMER/HFD2030L & 625B229G07

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A

"DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

U 5A CIRCUIT BREAKER. ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

Z CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

BELDEN/1034A OR APPROVED EQUAL

NOT USED FOR THIS SHEET APPLICATION

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

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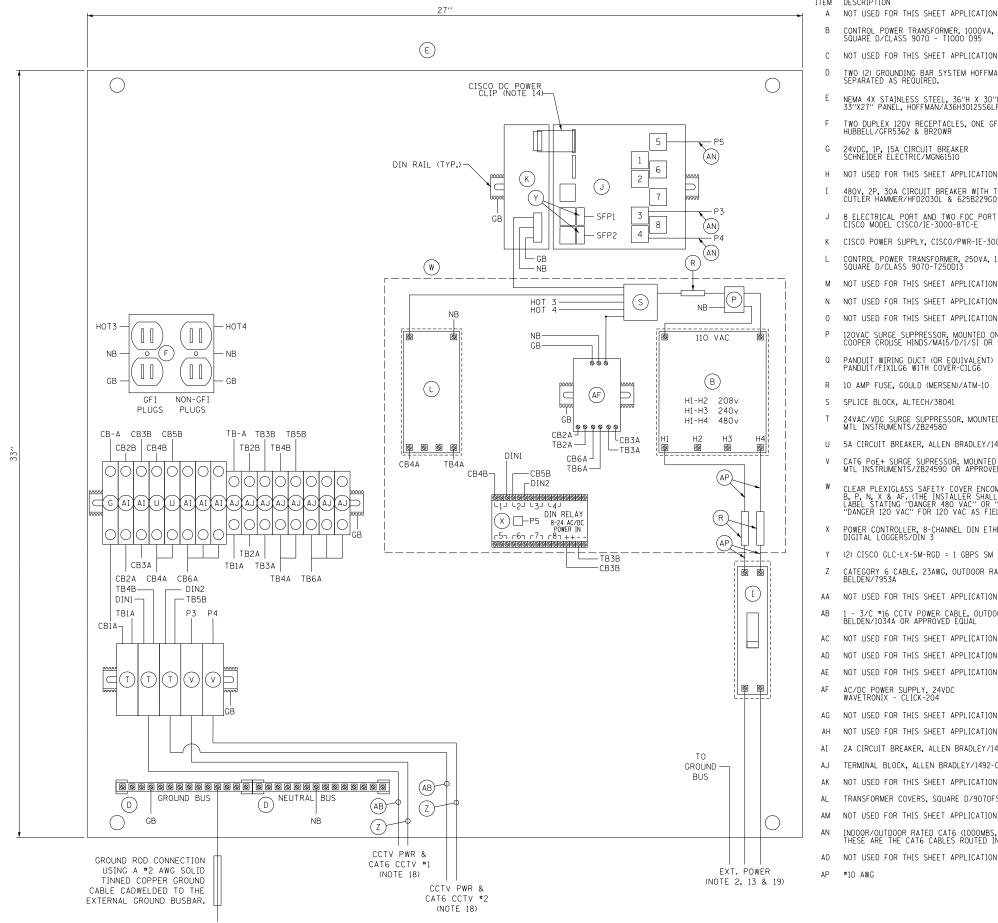
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED)

NOTES

- 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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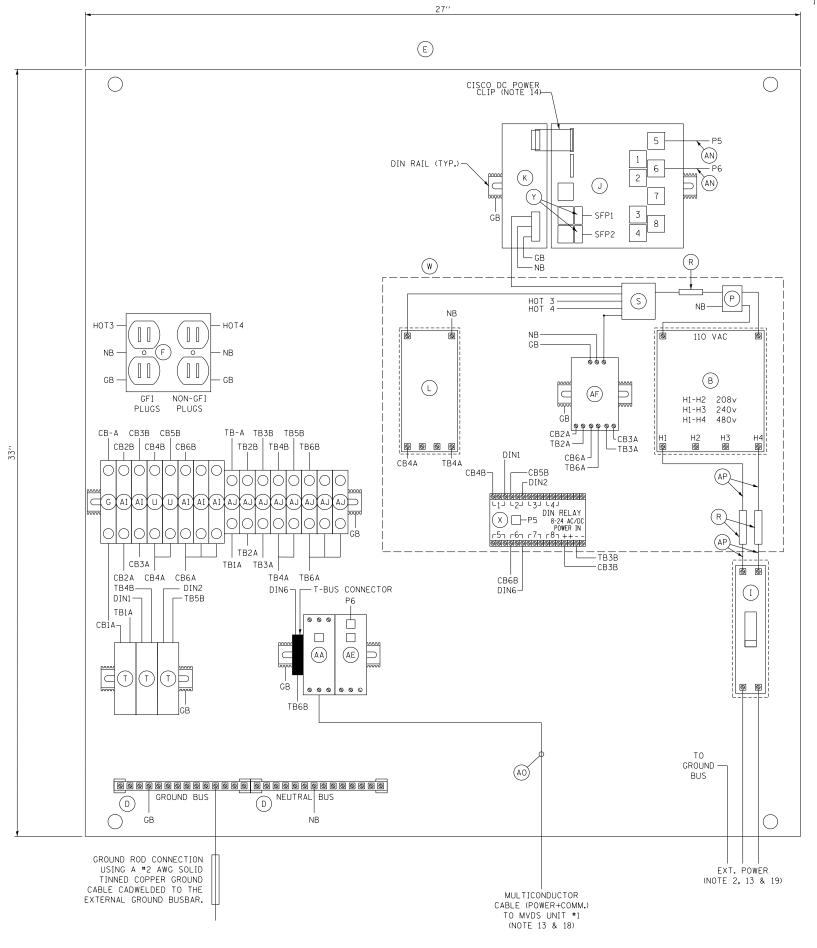
- NOT USED FOR THIS SHEET APPLICATION INDOOR/OUTDOOR RATED CATE (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- NOT USED FOR THIS SHEET APPLICATION
- AG NOT USED FOR THIS SHEET APPLICATION
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204
- NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AA NOT USED FOR THIS SHEET APPLICATION
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF, (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- S SPLICE BLOCK, ALTECH/38041
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- M NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
- H NOT USED FOR THIS SHEET APPLICATION
- 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SOUARE D/CLASS 9070 T1000 D95
- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION

NOTES

- 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
- CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT). ALL
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE CROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE \*16 AWG CABLE.

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- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 T1000 D95 В
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION н
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER. ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AD
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AH
- Aĭ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- NOT USED FOR THIS SHEET APPLICATION AM
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

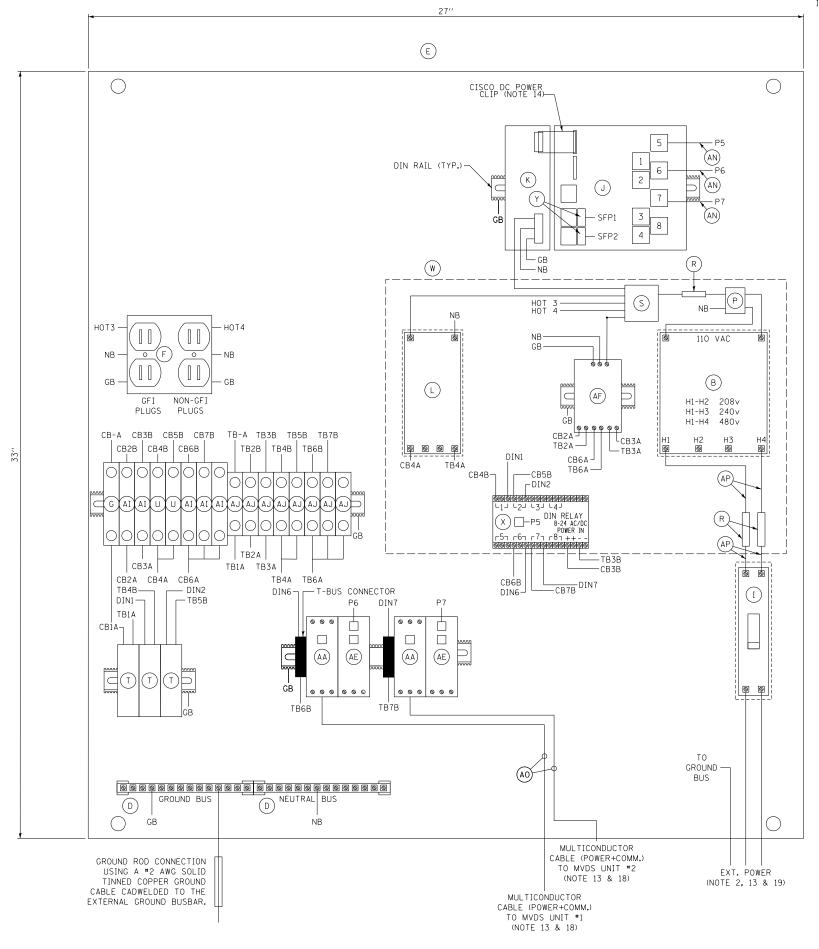
NOTES

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- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
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- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
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ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION

- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SOUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

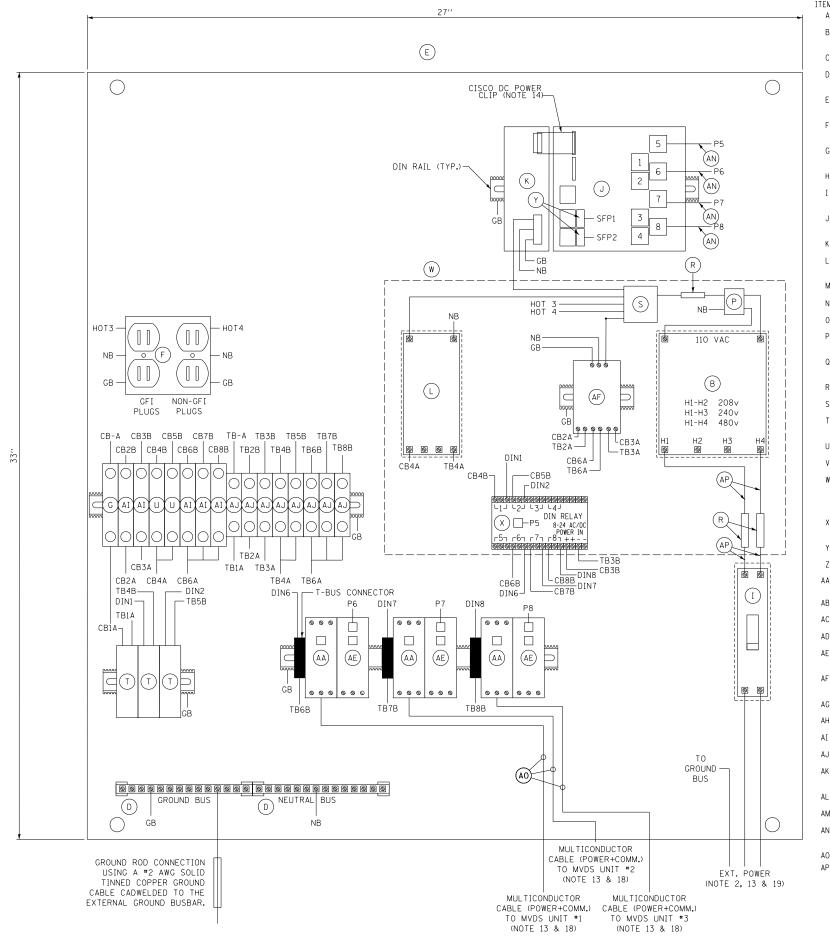
NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.9. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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.





- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK. ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER. ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AH
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) AK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CATE CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP
  - #10 AWG

NOTES

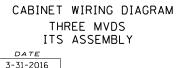
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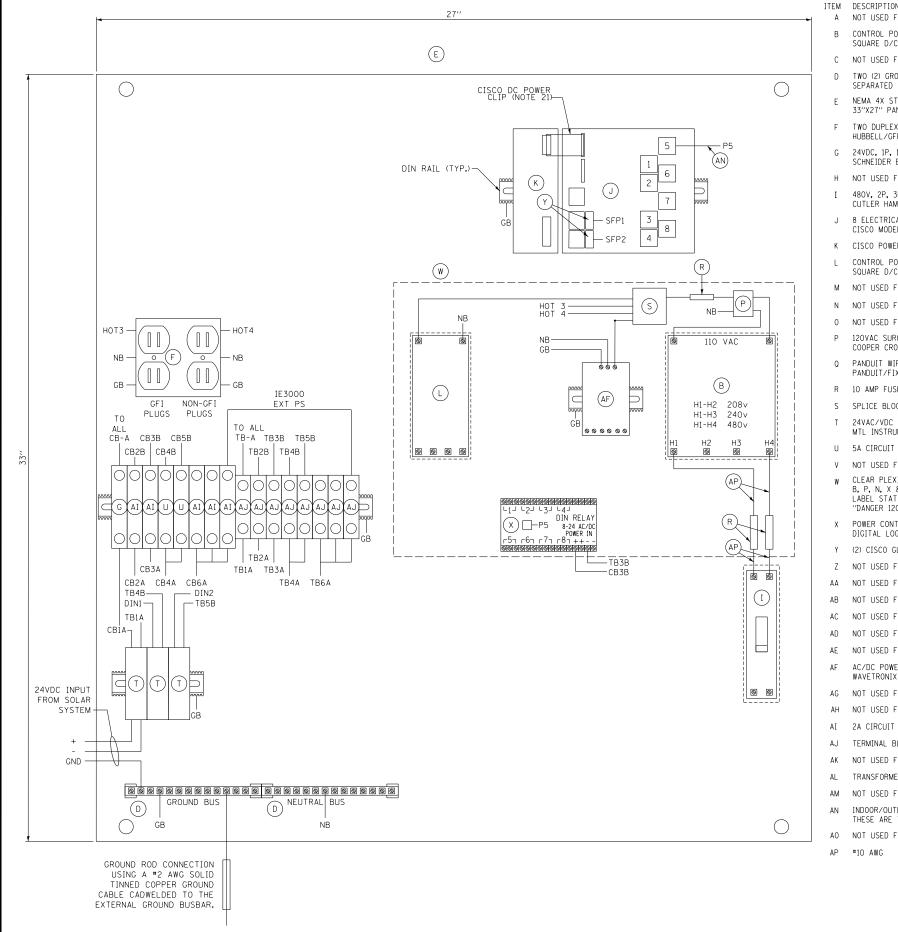
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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. 









- 0 NOT USED FOR THIS SHEET APPLICATION 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041

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24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

M NOT USED FOR THIS SHEET APPLICATION

N NOT USED FOR THIS SHEET APPLICATION

CUTLER HAMMER/HFD2030L & 625B229G07

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

- U 5A CIRCUIT BREAKER. ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B.P.N.X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- AA NOT USED FOR THIS SHEET APPLICATION
- AB NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AC
- NOT USED FOR THIS SHEET APPLICATION AD
- AE NOT USED FOR THIS SHEET APPLICATION
- AC/DC POWER SUPPLY, 24VDC ΔF
- WAVETRONIX CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- NOT USED FOR THIS SHEET APPLICATION AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

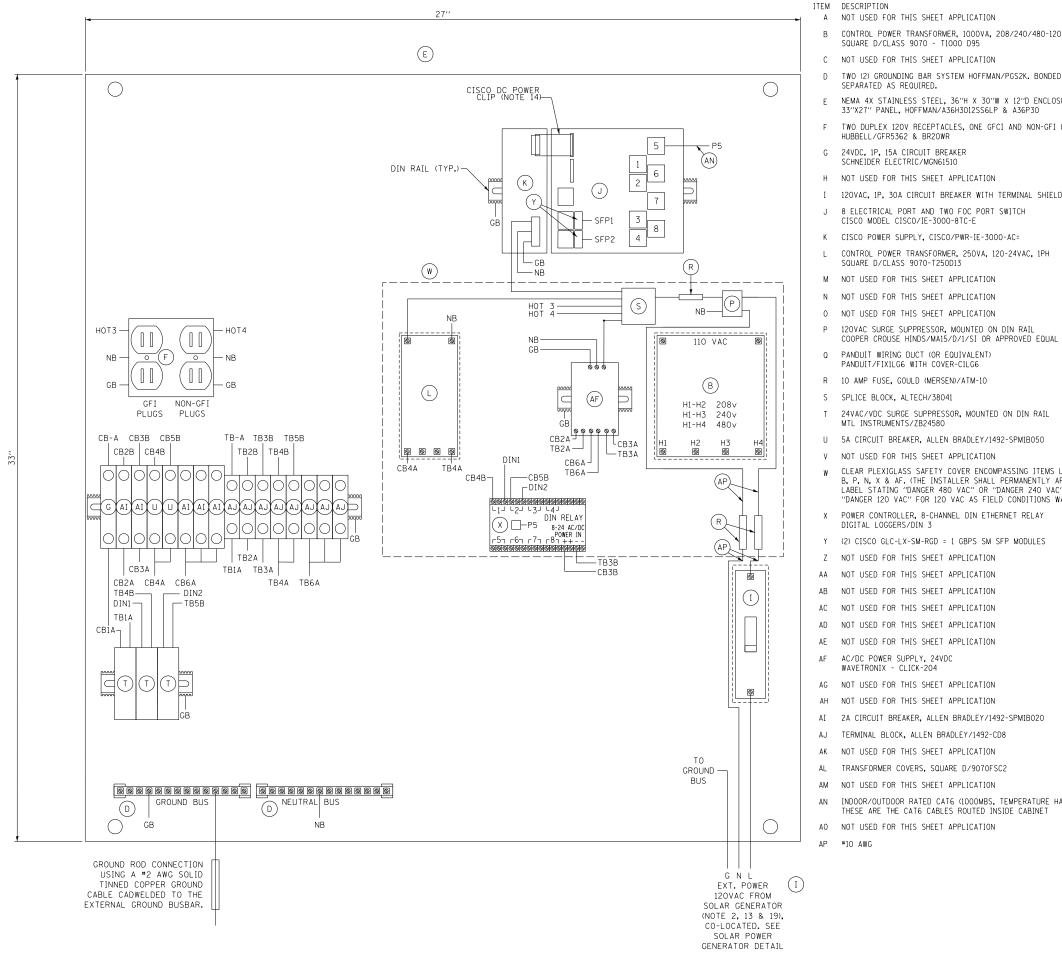
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
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- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
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- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED 21. ON THE ISOOO BASE UNIT AND THE VORE CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING, DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
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CO-LOCATED SOLAR GENERATOR POWERED ASSEMBLY DATE

3-31-2016



## MTL INSTRUMENTS/ZB24580 U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050 V NOT USED FOR THIS SHEET APPLICATION

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

H NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE, GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAI

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

SCHNEIDER ELECTRIC/MGN61510

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

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- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
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- NOT USED FOR THIS SHEET APPLICATION AB
- AC
- NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AE
- AC/DC POWER SUPPLY, 24VDC

- AF

- WAVETRONIX CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
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- AM NOT USED FOR THIS SHEET APPLICATION

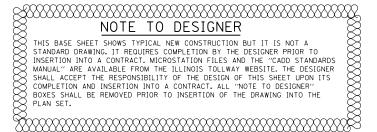
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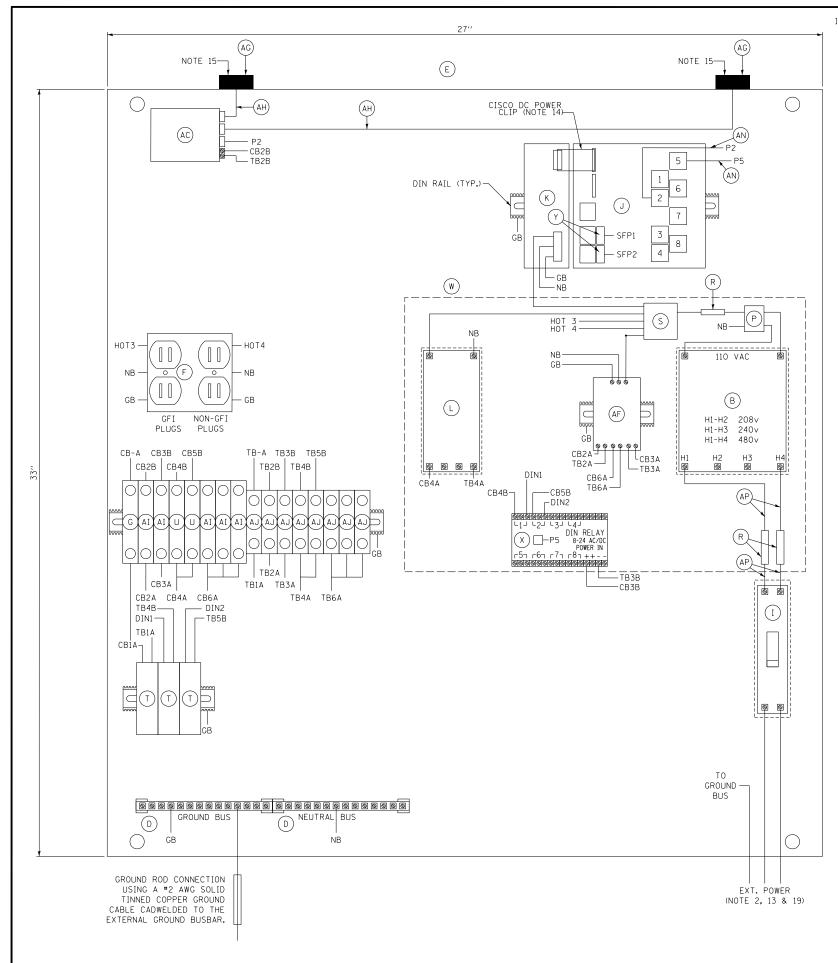
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1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.



M-ITS-1207 Illinois Tollway CABINET WIRING DIAGRAM SOLAR POWERED GENERATOR ASSEMBLY DATE 3-31-2016



- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER. ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B.P.N.X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- AA NOT USED FOR THIS SHEET APPLICATION
- AB NOT USED FOR THIS SHEET APPLICATION
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- NOT USED FOR THIS SHEET APPLICATION AD
- AE NOT USED FOR THIS SHEET APPLICATION
- AC/DC POWER SUPPLY, 24VDC ΔF WAVETRONIX - CLICK-204
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- A.I TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- ΔP #10 AWG

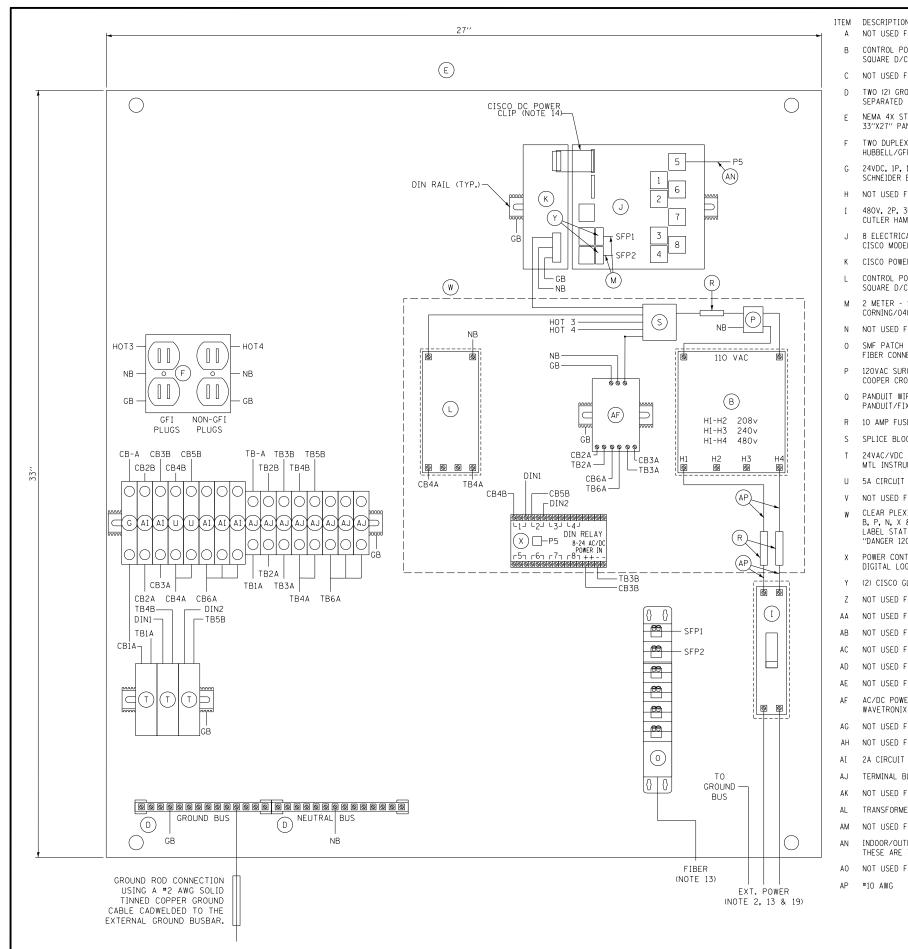
NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
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- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
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- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. THE "NOTE TO DESIGNER" SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET. 





CUTLER HAMMER/HFD2030L & 625B229G07 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

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AP #10 AWG

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

TRANSFORMER COVERS, SQUARE D/9070FSC2

NOT USED FOR THIS SHEET APPLICATION

AO NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE, GOULD (MERSEN)/ATM-10

NOT USED FOR THIS SHEET APPLICATION

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

Z NOT USED FOR THIS SHEET APPLICATION

AA NOT USED FOR THIS SHEET APPLICATION

AD NOT USED FOR THIS SHEET APPLICATION

AG NOT USED FOR THIS SHEET APPLICATION

AH NOT USED FOR THIS SHEET APPLICATION

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

- SME PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0

NOTES:

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- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

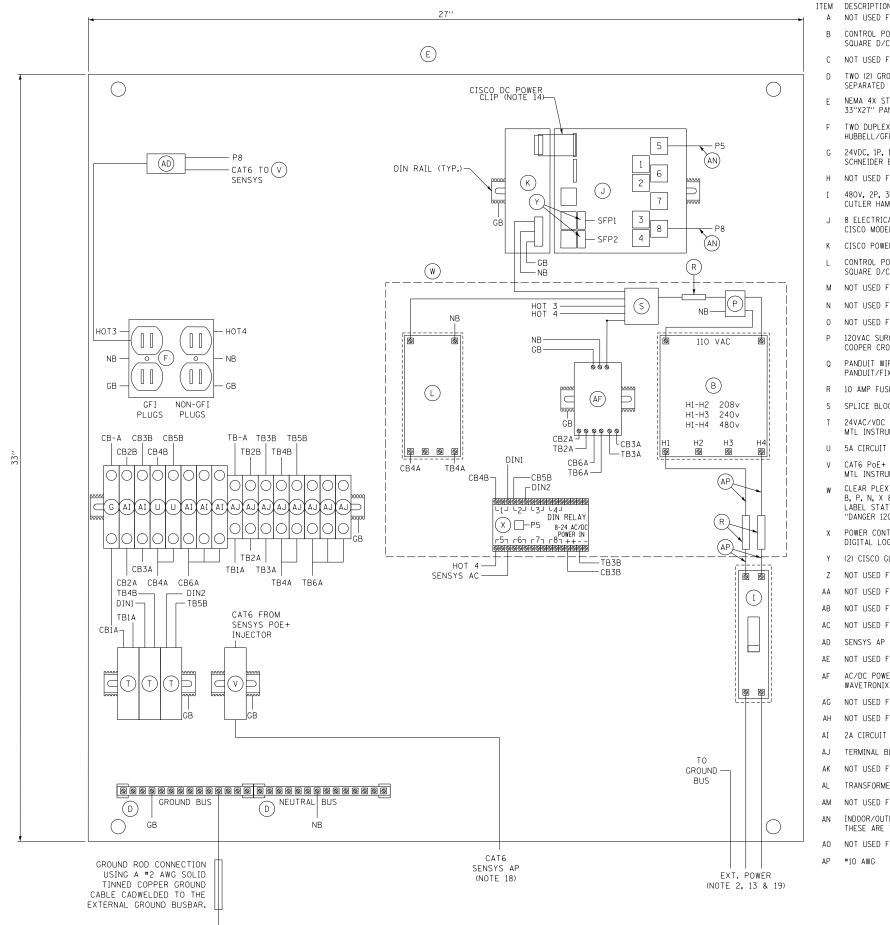
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M-ITS-1209



CABINET WIRING DIAGRAM IBER OPTIC COMMUNICATIONS ITS ASSEMBLY DATE

3-31-2016



DIGITAL LOGGERS/DIN 3

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

M NOT USED FOR THIS SHEET APPLICATION

N NOT USED FOR THIS SHEET APPLICATION

CUTLER HAMMER/HFD2030L & 625B229G07

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

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- 0 NOT USED FOR THIS SHEET APPLICATION

- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER. ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL
- MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A
- LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY Х
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- AA NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AB
- AC NOT USED FOR THIS SHEET APPLICATION
- SENSYS AP POE+ INJECTOR AD
- ΔF NOT USED FOR THIS SHEET APPLICATION
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- A.I TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- NOT USED FOR THIS SHEET APPLICATION AK
- AI TRANSFORMER COVERS, SQUARE D/9070FSC2
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- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- ΔP #10 AWG

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- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. THESE ELEMENTS ARE ILLUSTRATED FOR FUTURE USAGE. THEY ARE THE SURGE SUPPRESSOR AND POWER OVER ETHERNET DEVICES FOR AN ACCESS POINT ELEMENT UTILIZED FOR RAMP QUEUE DETECTION.
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
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- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

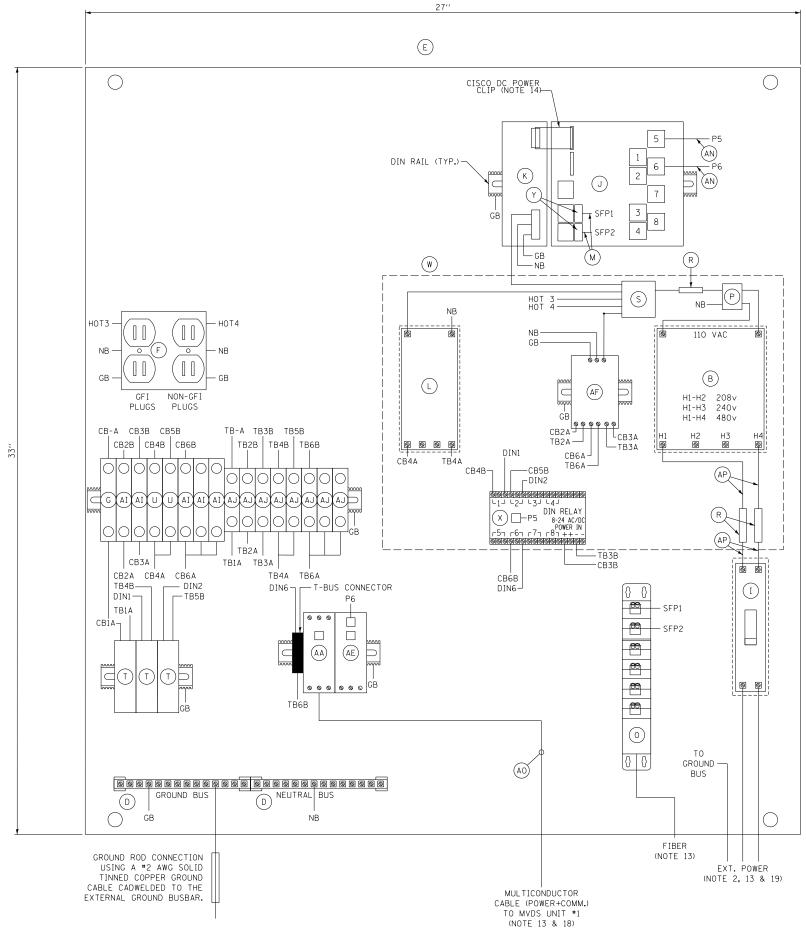
NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING, IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE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

M-ITS-1210



CABINET WIRING DIAGRAM SENSYS AP POE+INJECTOR ITS ASSEMBLY DATE

3-31-2016



PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 10 AMP FUSE, GOULD (MERSEN)/ATM-10 SPLICE BLOCK, ALTECH/38041 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

NOT USED FOR THIS SHEET APPLICATION

ITEM DESCRIPTION

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NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

CUTLER HAMMER/HFD2030L & 625B229G07

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- ΔD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- ΑI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS ΔK WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- ΔM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AO
- AP #10 AWG

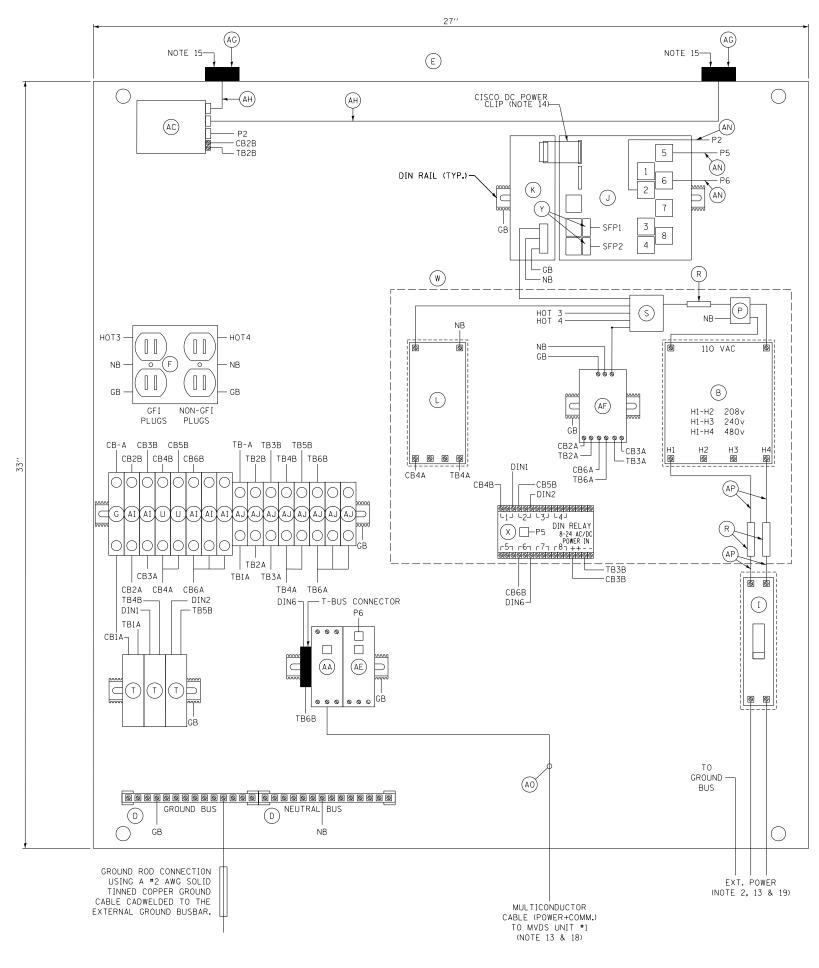
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 UPON ITS COMPETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET. 





- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
  - NOT USED FOR THIS SHEET APPLICATION
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS ΔH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- A.L TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 ΔI
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

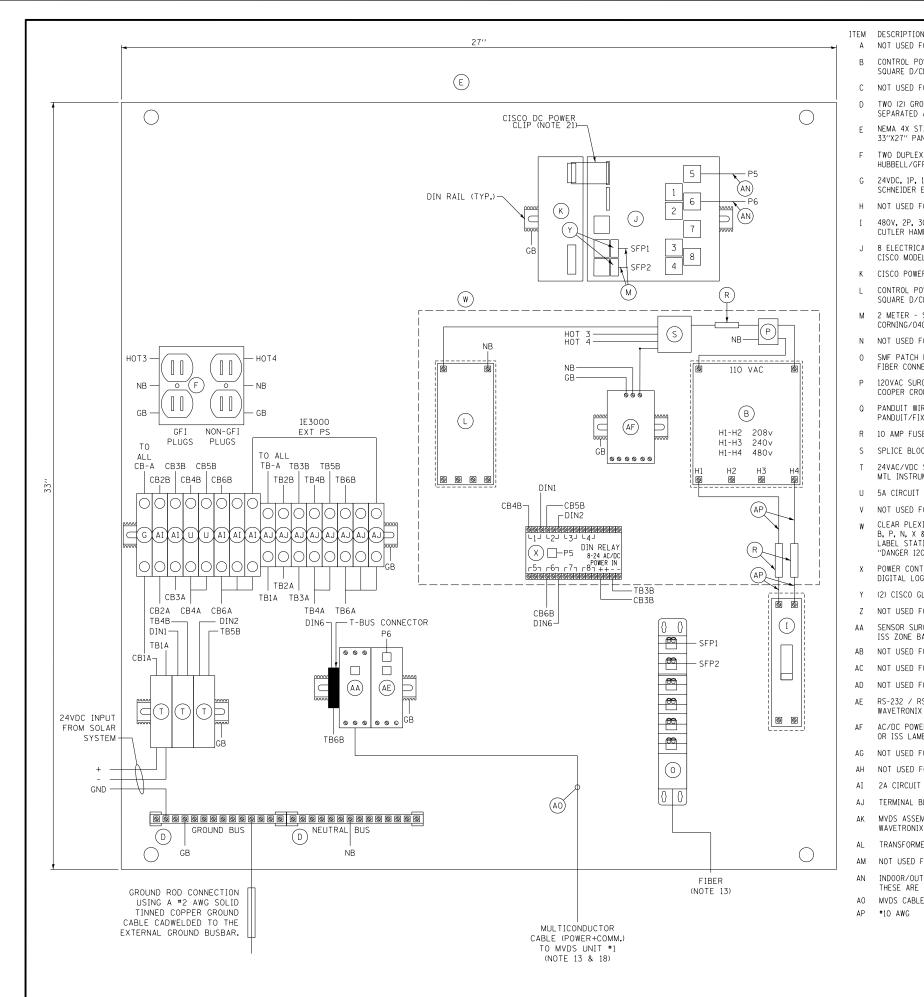
NOTES

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- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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TRANSFORMER COVERS, SQUARE D/9070FSC2

NOT USED FOR THIS SHEET APPLICATION

#10 AWG

WAVETRONIX (SMART SENSOR HDSS-126)

INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60

- ΔK
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS

- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

- AJ

- AI
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AH NOT USED FOR THIS SHEET APPLICATION
- AG
- NOT USED FOR THIS SHEET APPLICATION
- OR ISS LAMBDA DSP100-24
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- RS-232 / RS-485 TO ETHERNET CONVERTOR
- AF
- AD NOT USED FOR THIS SHEET APPLICATION

SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR

- NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SME PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE, GOULD (MERSEN)/ATM-10

NOT USED FOR THIS SHEET APPLICATION

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

'DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

CUTLER HAMMER/HFD2030L & 625B229G07

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

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- AC NOT USED FOR THIS SHEET APPLICATION

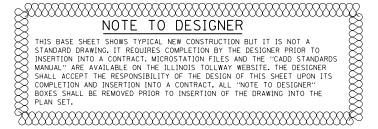
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ISS ZONE BARRIER ZB 24510

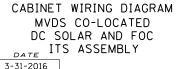
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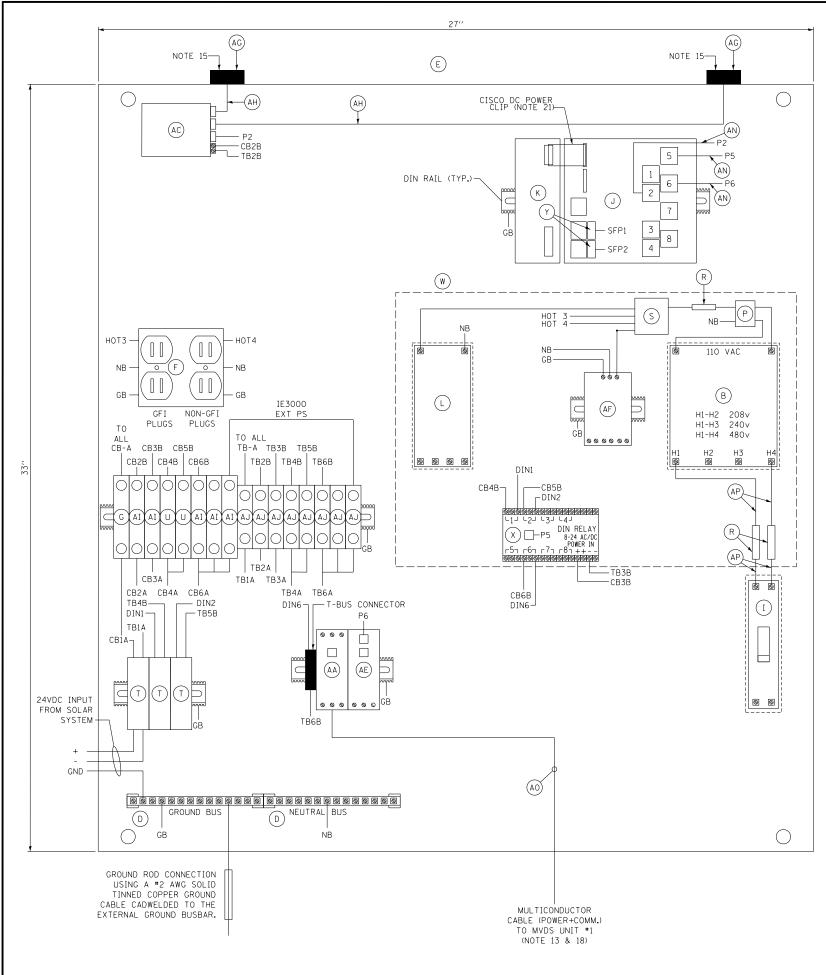
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- 21. WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING, DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE \*16 AWG CABLE.









ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION

- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050 U
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
  - NOT USED FOR THIS SHEET APPLICATION
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
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- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A. OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AT
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- NOT USED FOR THIS SHEET APPLICATION ΑМ
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
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NOTES

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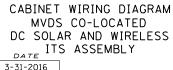
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- 21. WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

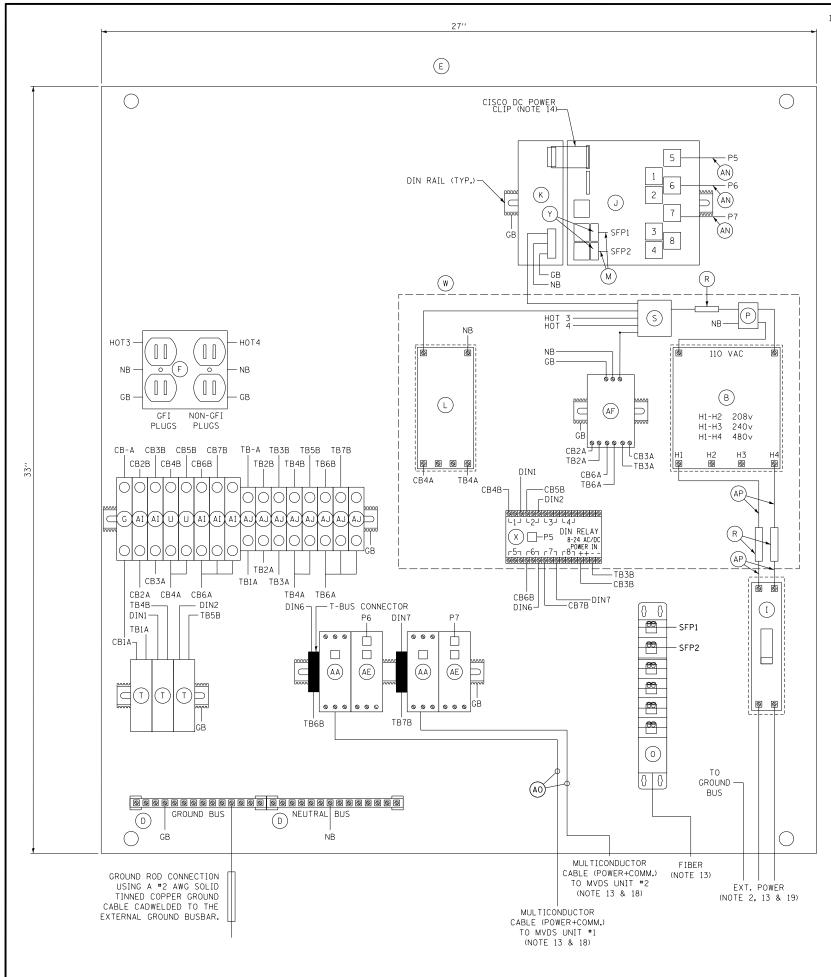
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M-ITS-1214







- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION

Α

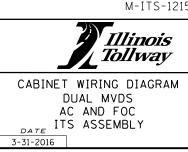
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- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SMF PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- Ρ 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0
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- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
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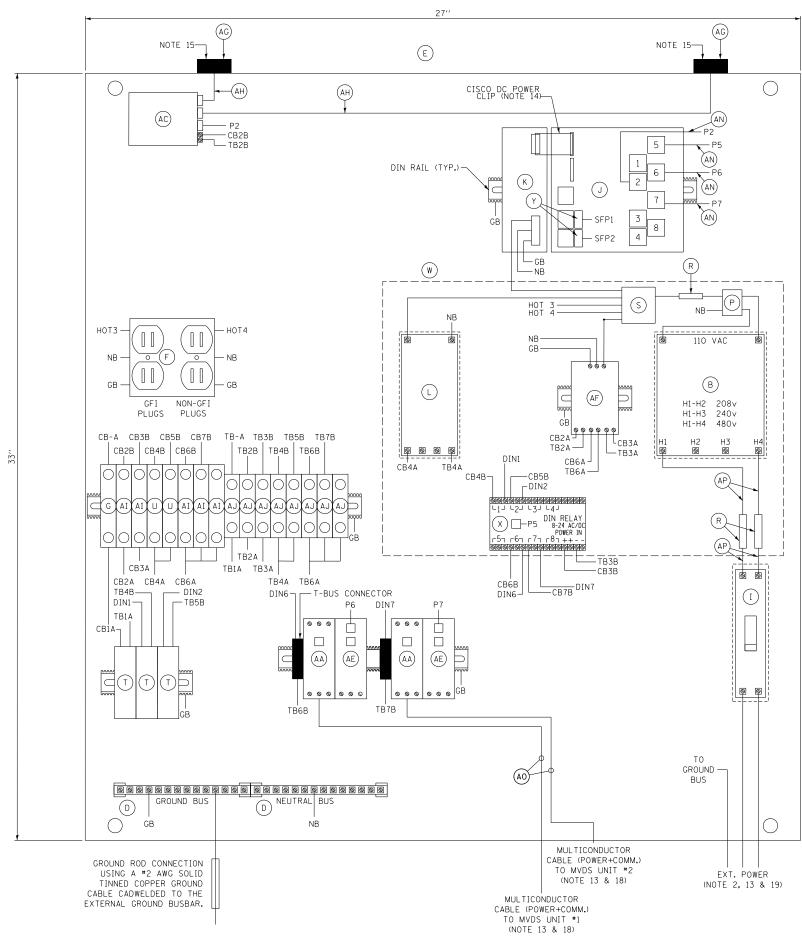
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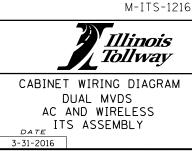
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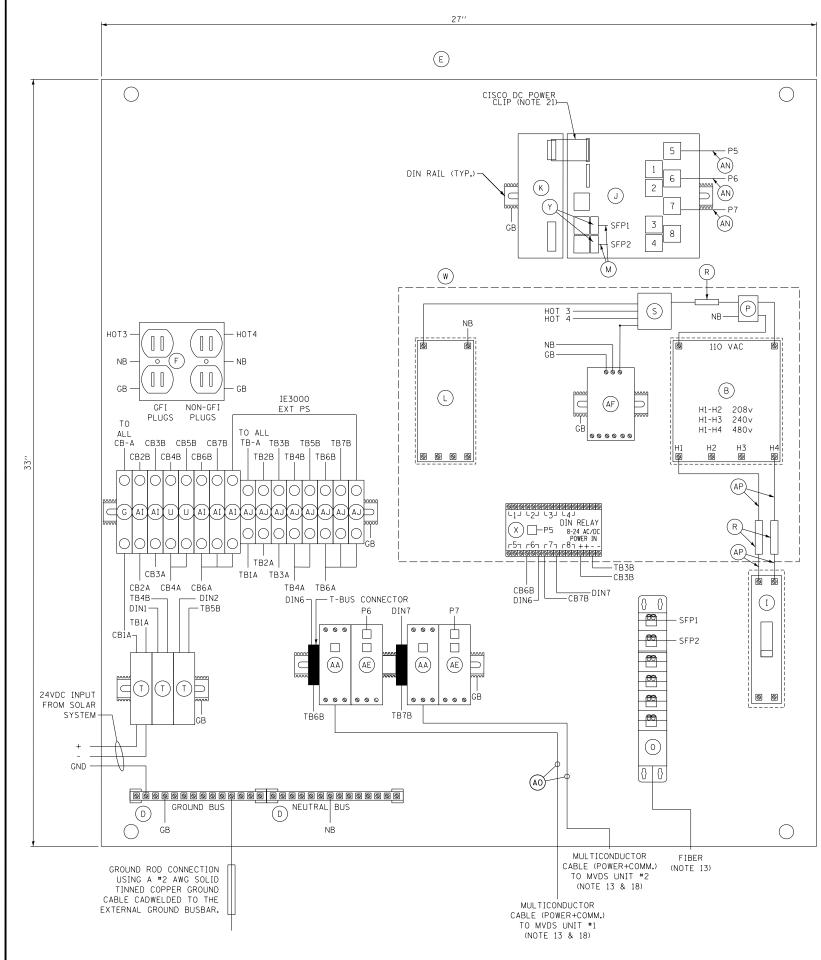
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AO AP #10 AWG

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ITEM DESCRIPTION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SME PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE. GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

CUTLER HAMMER/HFD2030L & 625B229G07

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

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MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60

INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED)

MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS

- THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR
- 'DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY Х DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- OR ISS LAMBDA DSP100-24
- NOT USED FOR THIS SHEET APPLICATION ΔG
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

WAVETRONIX (SMART SENSOR HDSS-126)

NOT USED FOR THIS SHEET APPLICATION

TRANSFORMER COVERS, SQUARE D/9070FSC2

- AH
- NOT USED FOR THIS SHEET APPLICATION

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

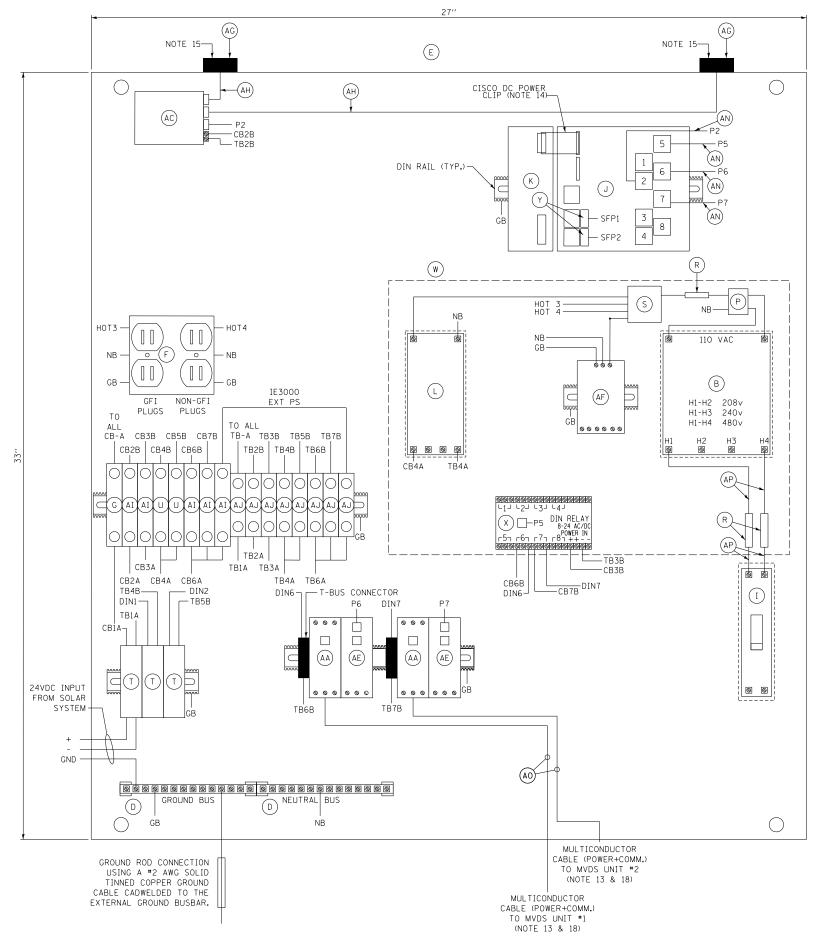
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- 21. WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.





CABINET WIRING DIAGRAM DUAL MVDS CO-LOCATED DC SOLAR AND FOC ITS ASSEMBLY DATE 3-31-2016

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)



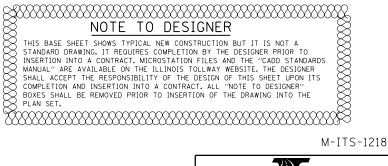
ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION

- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SOUARE D/CLASS 9070 T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT,)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN, SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- M NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

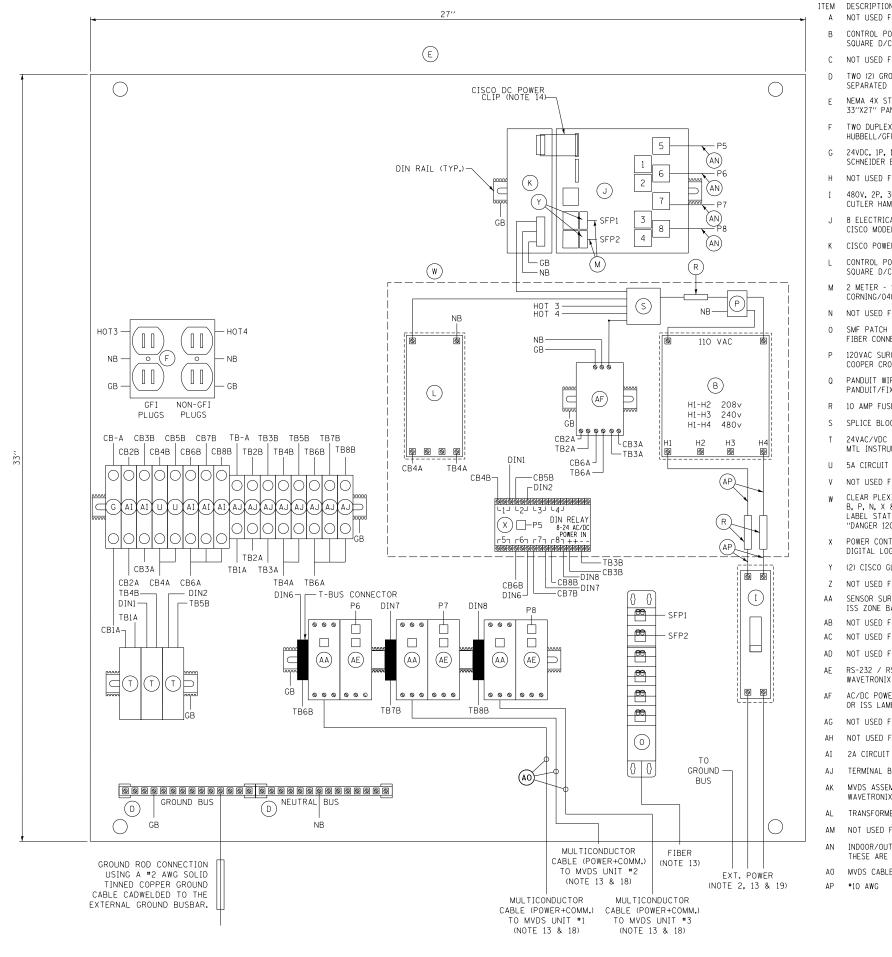
NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.9. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. A STANDALONE MVDS WILL UTILIZE A 24VDC SOLAR POWER CABINET AND SOLAR PANELS THAT ARE ATTACHED TO THE SAME POLE AS THE MVDS. SEE PLAN SHEET.
- 21. WHEN POWERED BY A 24VDC INPUT, THE POWER CABLES SHALL BE DIRECTLY TERMINATED ON THE IE3000 BASE UNIT AND THE POWER CLIP SHALL BE DISCONNECTED. THE POWER CLIP SHALL BE RETURNED TO THE ILLINOIS TOLLWAY AFTER A/C POWER IS SWITCHED TO DC POWER. THE DC CABLE SHALL BE CONNECTED TO ITEM AI & AJ.
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING, DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXICLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.







- CORNING/040402R5Z20002M NOT USED FOR THIS SHEET APPLICATION SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- R
- SPLICE BLOCK, ALTECH/38041

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NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

CUTLER HAMMER/HFD2030L & 625B229G07

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- NOT USED FOR THIS SHEET APPLICATION AB
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- ΔH NOT USED FOR THIS SHEET APPLICATION
- Δī 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) AK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP
  - #10 AWG

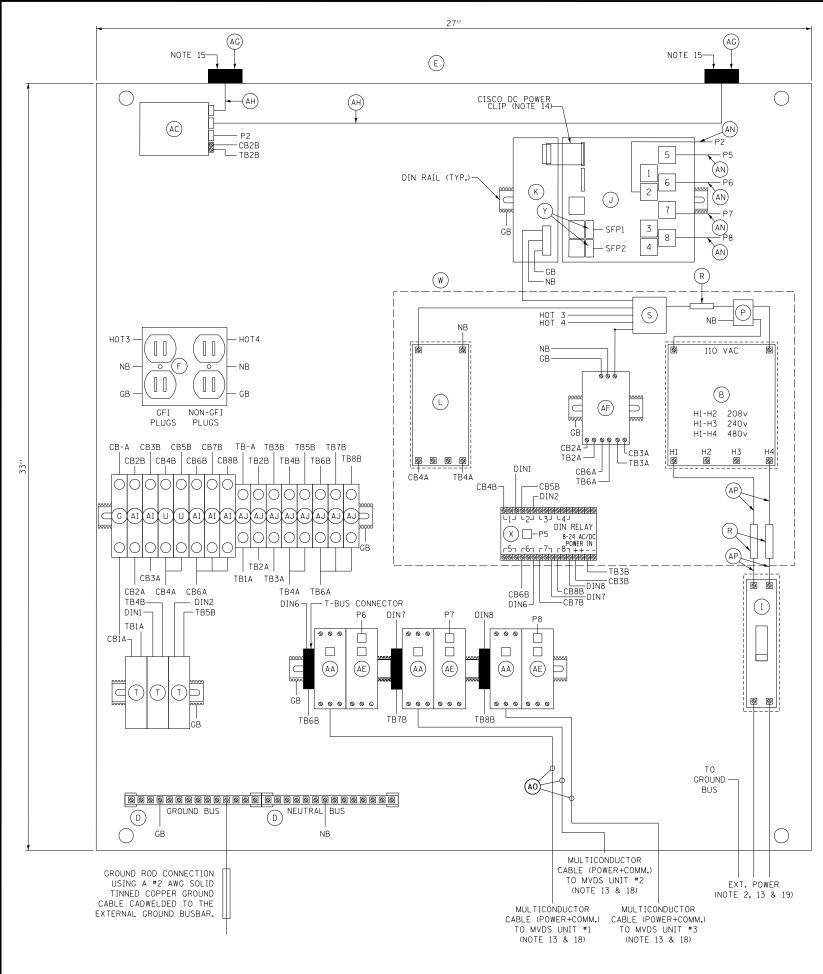
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 AVALLABLE 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. 





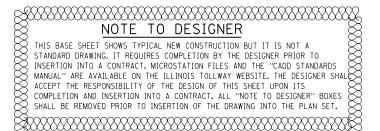
ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION

- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SOUARE D/CLASS 9070 T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT)
  PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- ( (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- NOT USED FOR THIS SHEET APPLICATION
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.9. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

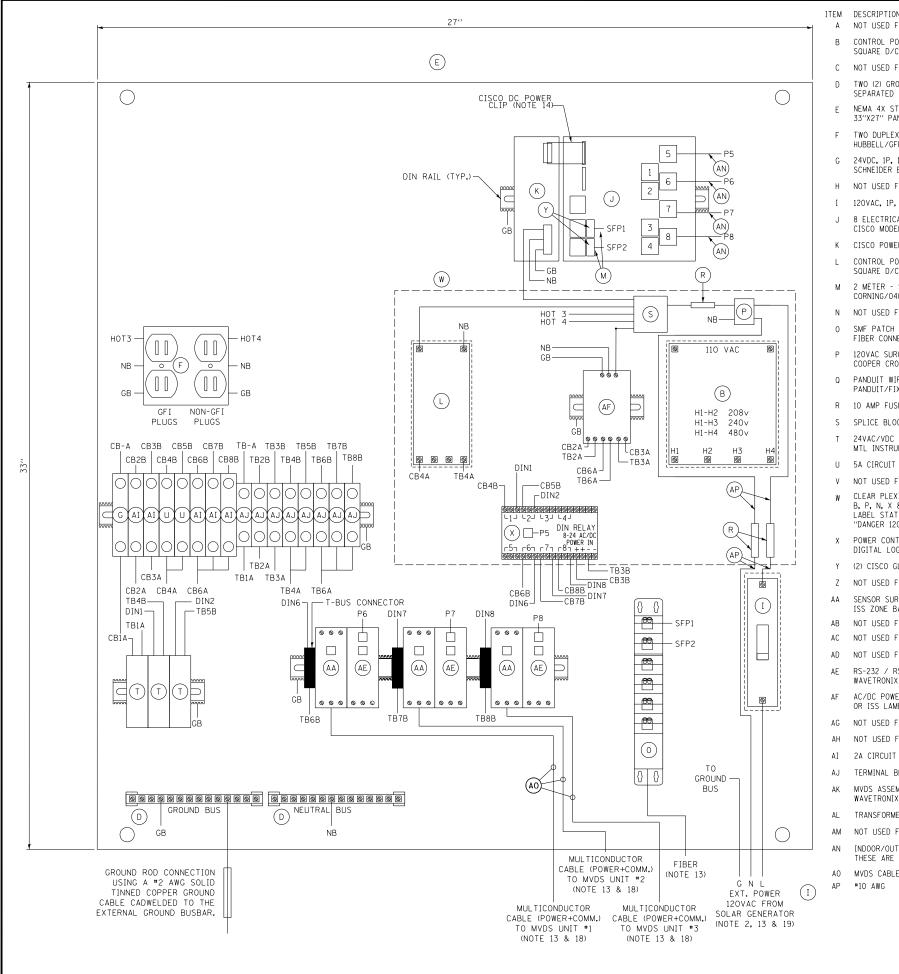


M-ITS-1220



THREE MVDS AC AND WIRELESS DATE ITS ASSEMBLY

3-31-2016



CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED. NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

NOT USED FOR THIS SHEET APPLICATION

- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

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- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC= Κ
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR W
- "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY Х DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AC
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- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- ΔF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- ΔH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) AK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) ΔN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG

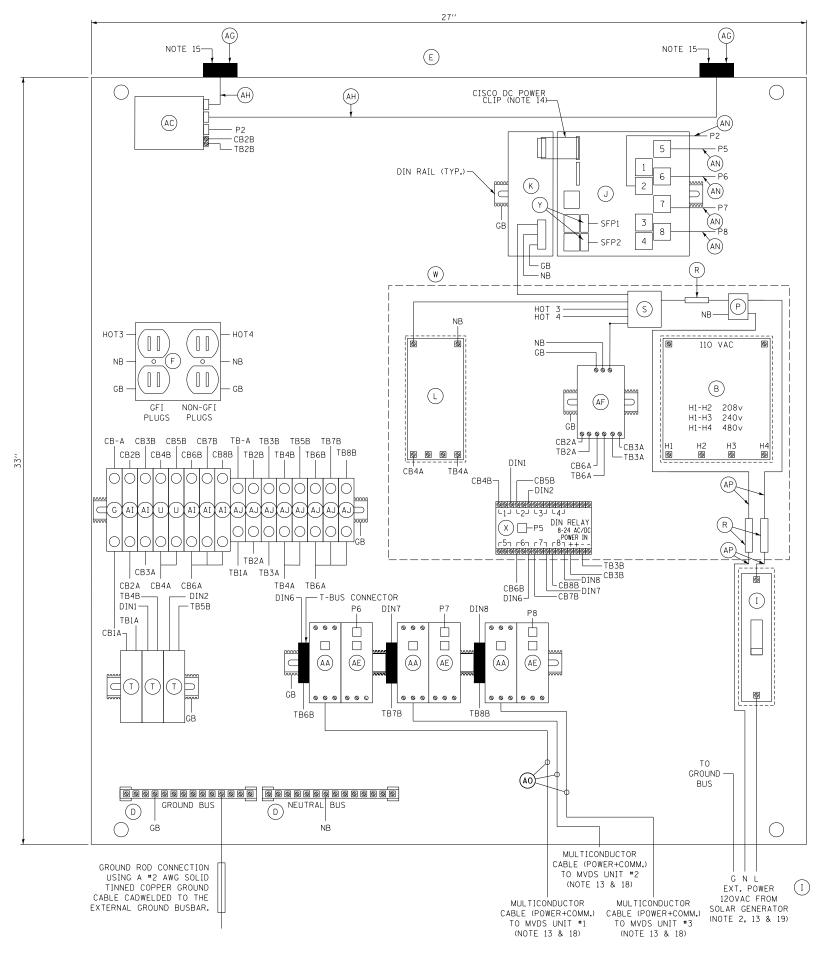
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

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- 4. NOT USED FOR THIS SHEET APPLICATION.
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- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
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- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.







- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V NOT USED FOR THIS SHEET APPLICATION
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT,)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z NOT USED FOR THIS SHEET APPLICATION
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB NOT USED FOR THIS SHEET APPLICATION
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- H WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
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- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP \*10 AWG

NOTES:

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- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 10. ALL BREAKERS SHALL BE LABELED (0.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
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- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

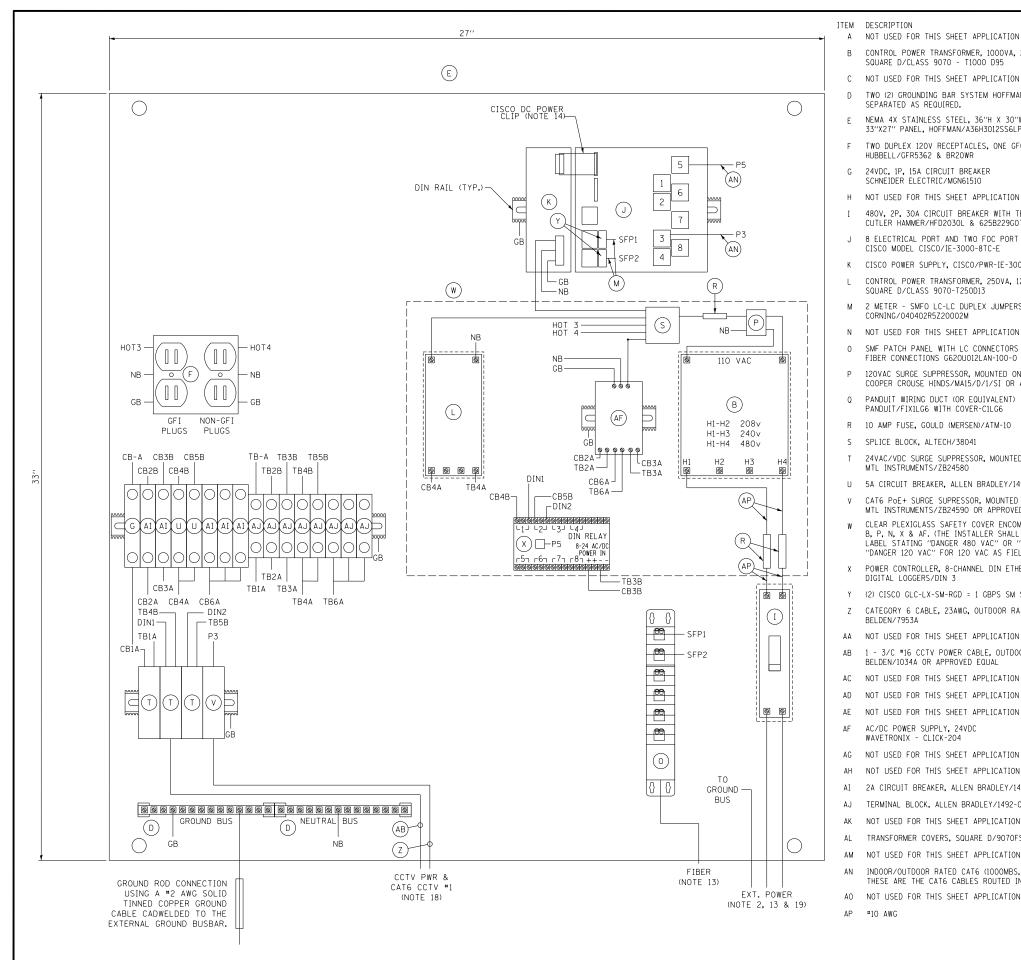
NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY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

M-ITS-1222



CABINET WIRING DIAGRAM THREE MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY

*DATE* 3-31-2016



- AP #10 AWG
- AO NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

- AM NOT USED FOR THIS SHEET APPLICATION

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AK

BELDEN/1034A OR APPROVED EQUAL

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

BELDEN/7953A

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A

"DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

CUTLER HAMMER/HFD2030L & 625B229G07

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

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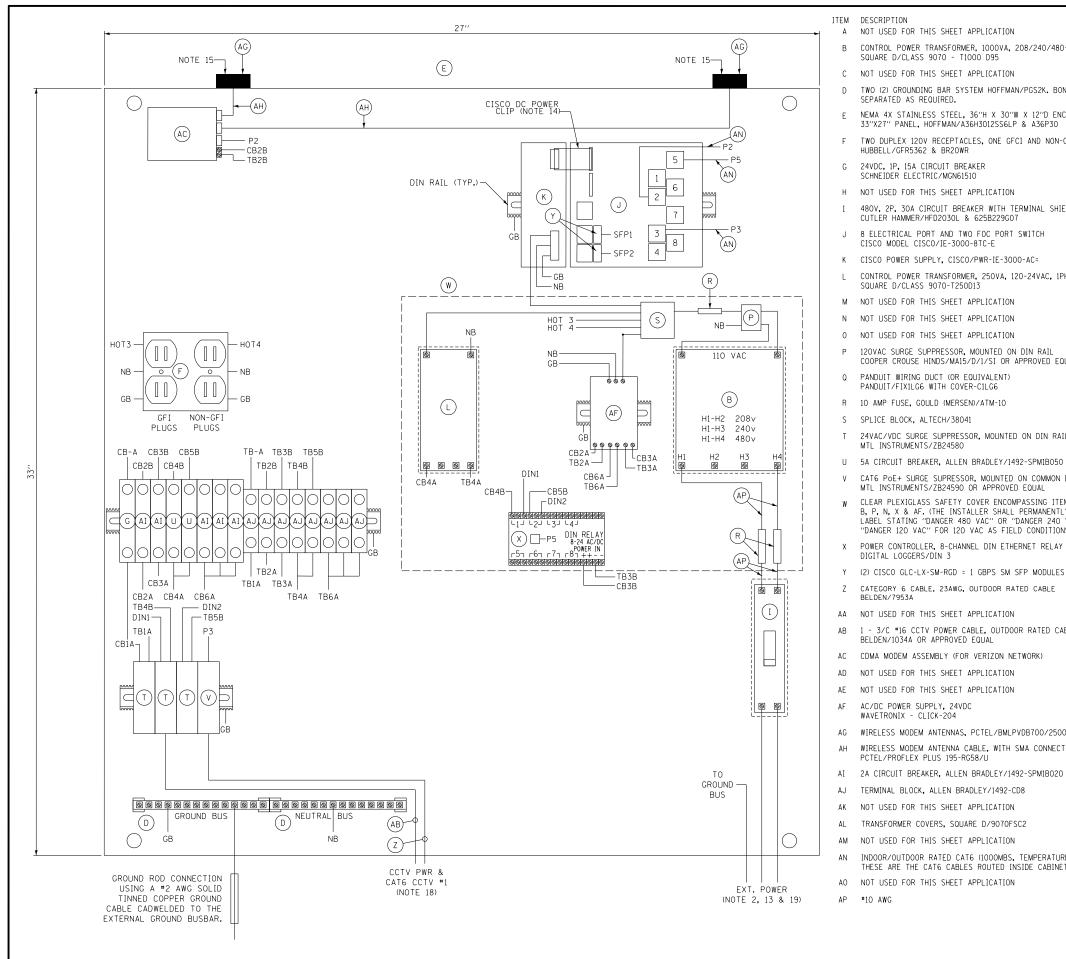
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- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED THE IN PLEXICISES SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

ALCONTRACTOR CONTRACTOR CONTRACTO 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 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. 



TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)



NOT USED FOR THIS SHEET APPLICATION TRANSFORMER COVERS, SQUARE D/9070FSC2

#10\_AWG

WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS

- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- ΔN

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

NOT USED FOR THIS SHEET APPLICATION

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

BELDEN/1034A OR APPROVED EQUAL

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

AC/DC POWER SUPPLY. 24VDC

PCTEL/PROFLEX PLUS 195-RG58/U

WAVETRONIX - CLICK-204

BELDEN/7953A

CUTLER HAMMER/HFD2030L & 625B229G07

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

1 - 3/C #16 CCTV POWER CABLE. OUTDOOR RATED CABLE

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS 1. R. S.

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A

"DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

- NOT USED FOR THIS SHEET APPLICATION

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

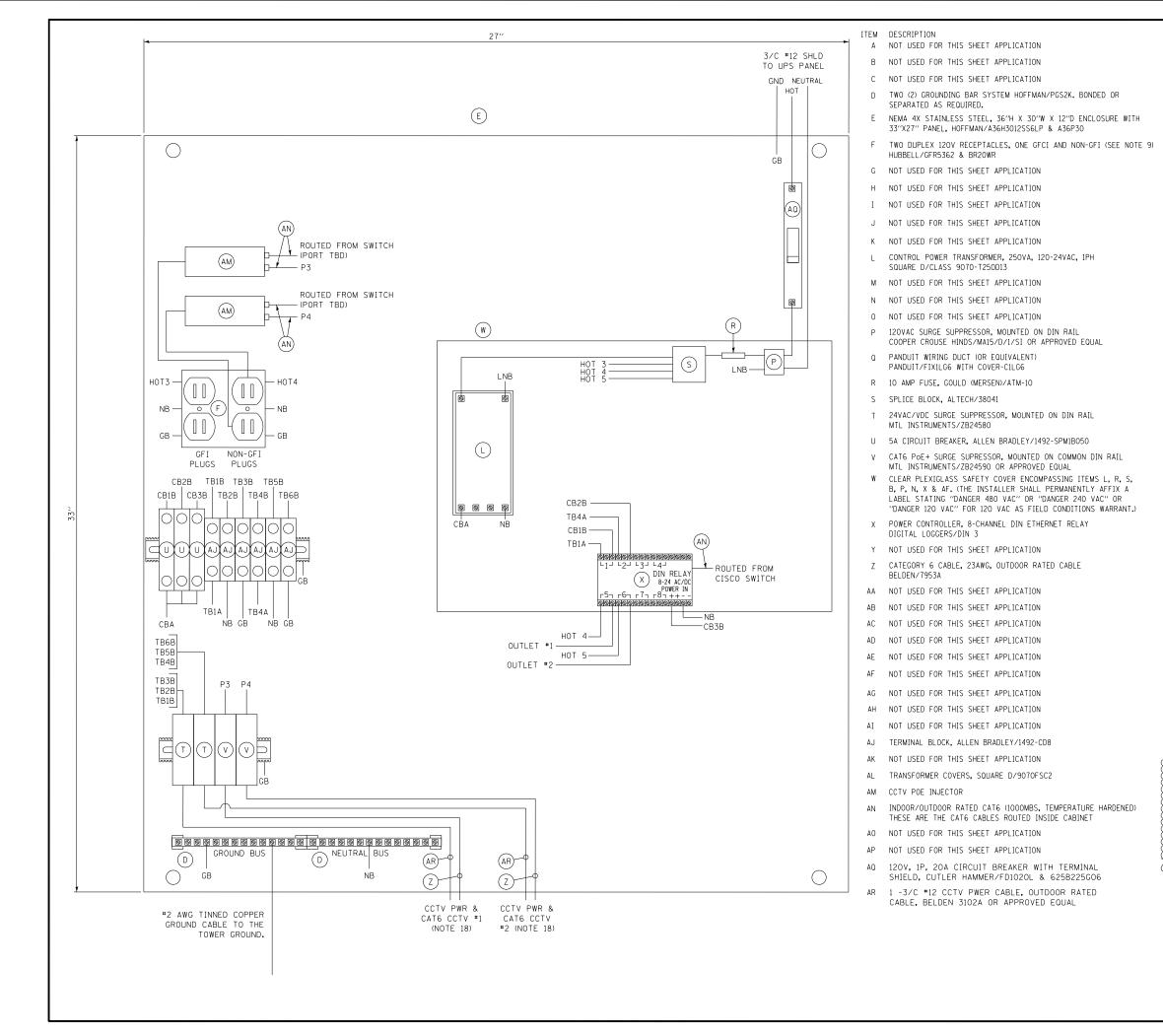
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE, THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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.





NOTES:

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- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. NOT USED FOR THIS SHEET APPLICATION
- 7. ALL CABLES INSTALLED EXTERNAL TO THE BUILDING SHALL BE OUTDOOR RATED.
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING SCHEMATIC FOR WIRING DETAILS.
- 13. NOT USED FOR THIS SHEET APPLICATION
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- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED TO TOWER BASE ENCLOSURE.
- 19. NOT USED FOR THIS SHEET APPLICATION
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. NOT USED FOR THIS SHEET APPLICATION
- 28. VIDEO JUNCTION BOX SHALL BE WIRED TO ACCOMODATE POWER TO TOWER MOUNTED TRANSITION ENCLOSURE (24V AC).
- 29. LABEL JUNCTION BOX, TERMINAL STRIPS AND ALL WIRE AND CABLES. CONTRACTOR SHALL LABEL NEUTRAL BUS AS 24V AC NEUTRAL.
- 30. ALL ELECTRICAL CABLES TO CAMERAS SHALL HAVE SURGE PROTECTION (INCLUDES POWER AND CAT6).
- 31. ITEM AM WILL PLUG INTO QUAD OUTLET. MOUNT ITEM AM TO BACKBOARD.
- 32. IP RELAY WIRING SCHEMATIC ILLUSTRATES ITEM X WIRED IN OUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

#### NOTE TO DESIGNER

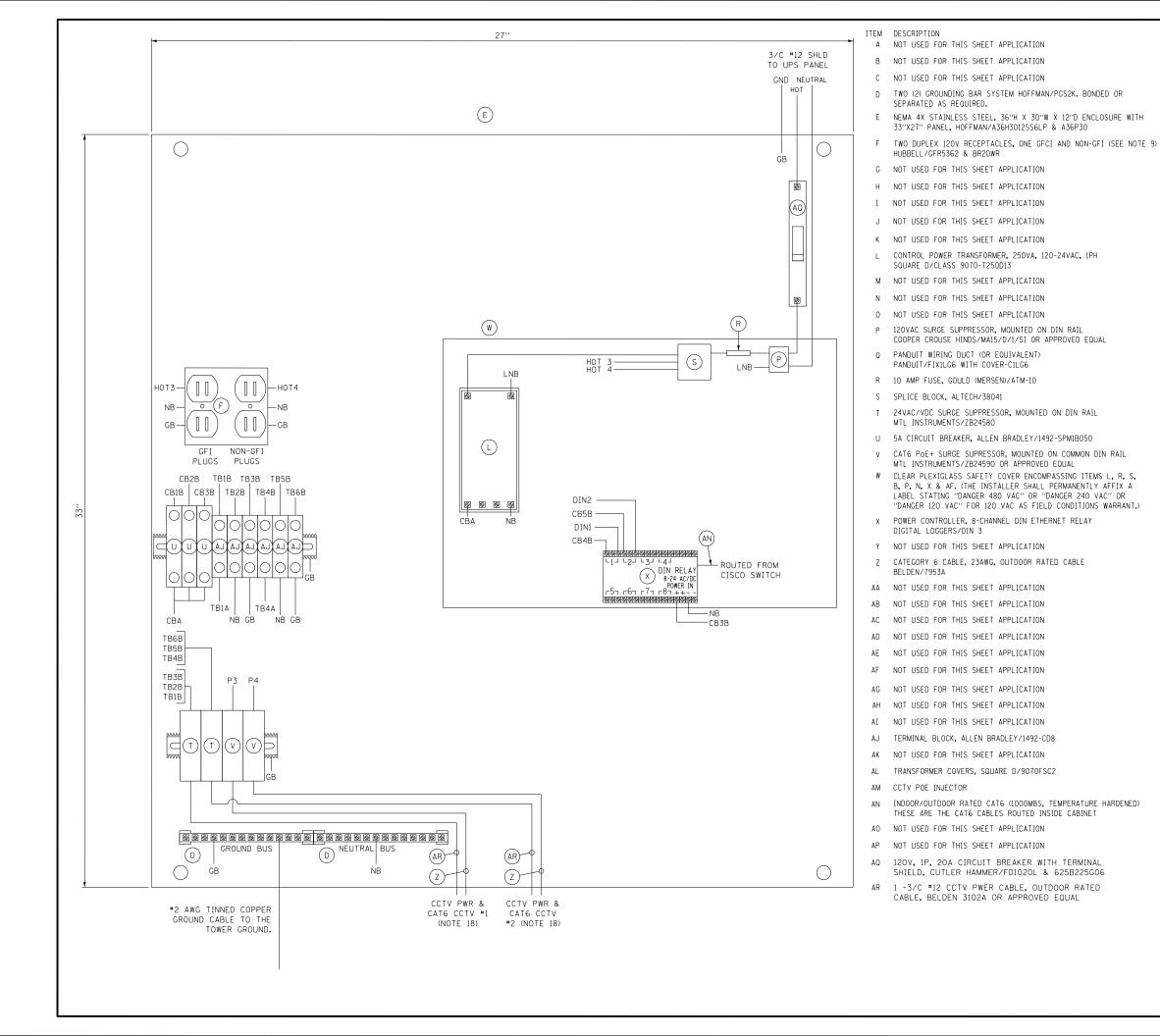
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CABINET WIRING DIAGRAM TOWER MOUNTED CCTV ITS ASSEMBLY

3-31-2016



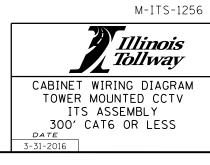
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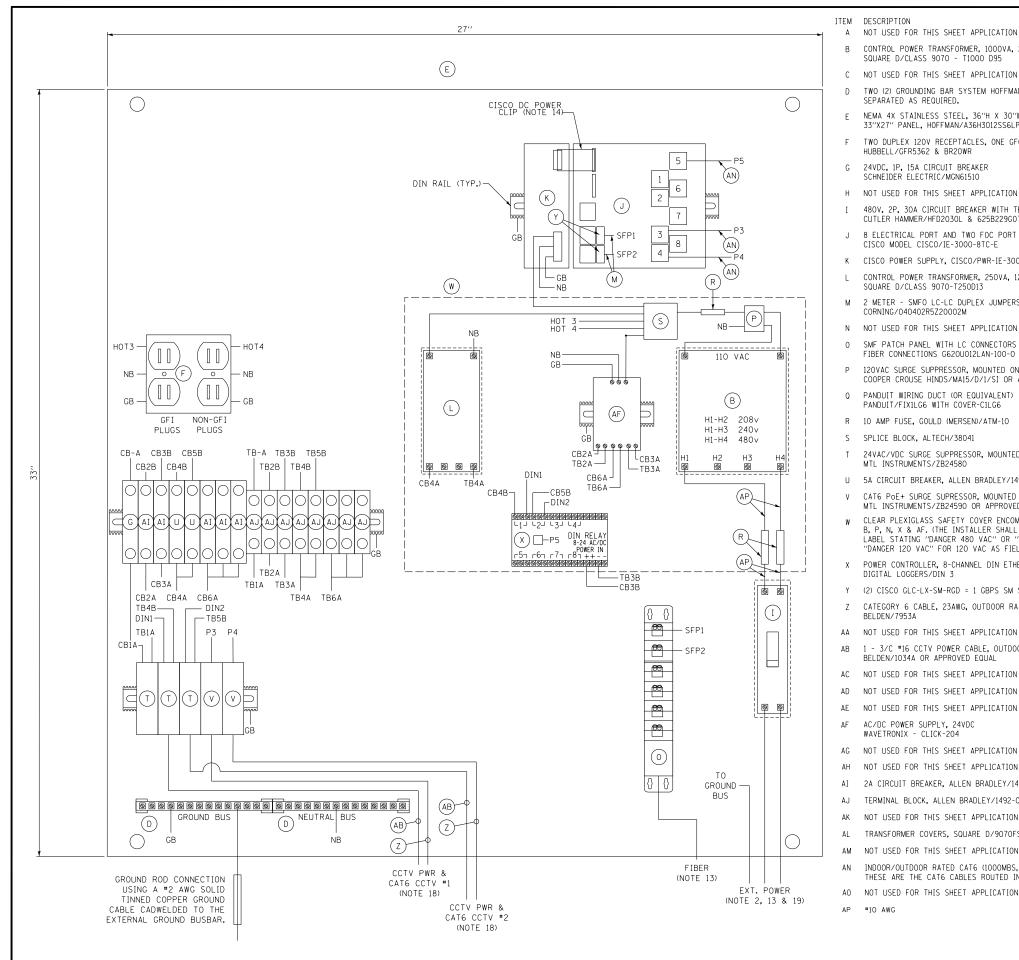
- 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
- 2. NOT USED FOR THIS SHEET APPLICATION
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. NOT USED FOR THIS SHEET APPLICATION
- 7. ALL CABLES INSTALLED EXTERNAL TO THE BUILDING SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING SCHEMATIC FOR WIRING DETAILS.
- 13. NOT USED FOR THIS SHEET APPLICATION
- 14. NOT USED FOR THIS SHEET APPLICATION
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. NOT USED FOR THIS SHEET APPLICATION
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS, ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED TO TOWER BASE ENCLOSURE.
- 19. NOT USED FOR THIS SHEET APPLICATION
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXICLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. NOT USED FOR THIS SHEET APPLICATION

- VIDEO JUNCTION BOX SHALL BE WIRED TO ACCOMODATE POWER TO TOWER MOUNTED TRANSITION ENCLOSURE (24V AC).
- 29. LABEL JUNCTION BOX, TERMINAL STRIPS AND ALL WIRE AND CABLES. CONTRACTOR SHALL LABEL NEUTRAL BUS AS 24V AC NEUTRAL.
- 30. ALL ELECTRICAL CABLES TO CAMERAS SHALL HAVE SURGE PROTECTION (INCLUDES POWER AND CAT6).
- 31. ITEM AM WILL PLUG INTO QUAD OUTLET. MOUNT ITEM AM TO BACKBOARD.
- 32. IP RELAY WIRING SCHEMATIC ILLUSTRATES ITEM X WIRED IN QUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

# NOTE 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 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 PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.





- #10 AWG
- AO NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AM NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

- AL
- NOT USED FOR THIS SHEET APPLICATION AK

BELDEN/1034A OR APPROVED EQUAL

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

10 AMP FUSE. GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

BELDEN/7953A

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S.

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A

"DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

CUTLER HAMMER/HFD2030L & 625B229G07

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

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1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

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- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
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- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

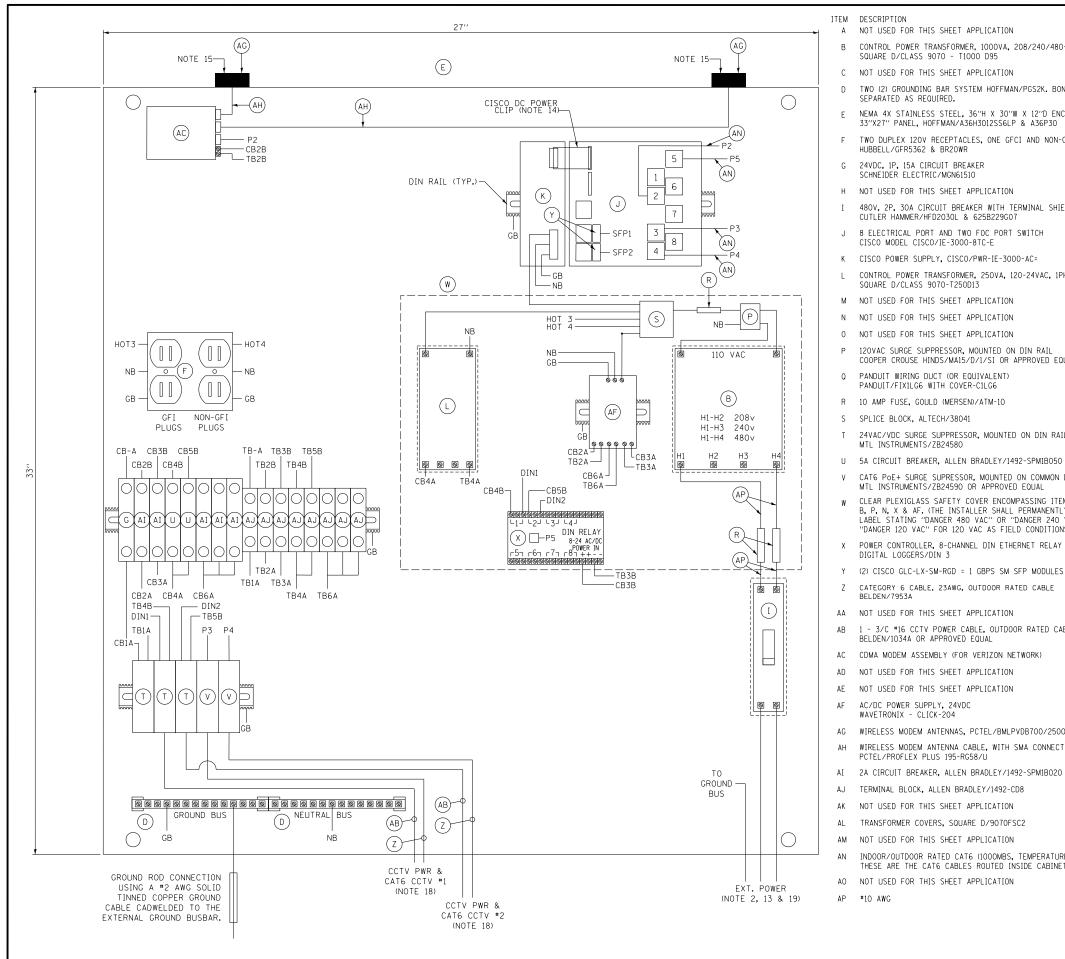
NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE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

M-ITS-1227

Illinois Tollway

CABINET WIRING DIAGRAM DUAL CCTV AC AND FOC ITS ASSEMBLY

DATE 3-31-2016



2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

TRANSFORMER COVERS, SQUARE D/9070FSC2

- PCTEL/PROFLEX PLUS 195-RG58/U
- WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500

- WAVETRONIX CLICK-204
- AG

- ΔН

INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS
- AC/DC POWER SUPPLY. 24VDC
- NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

NOT USED FOR THIS SHEET APPLICATION

PANDUIT WIRING DUCT (OR EQUIVALENT)

PANDUIT/FIX1LG6 WITH COVER-C1LG6

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

BELDEN/7953A

#10\_AWG

CUTLER HAMMER/HFD2030L & 625B229G07

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

1 - 3/C #16 CCTV POWER CABLE. OUTDOOR RATED CABLE

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S.

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A

"DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

BELDEN/1034A OR APPROVED EQUAL

- AE

- NOT USED FOR THIS SHEET APPLICATION

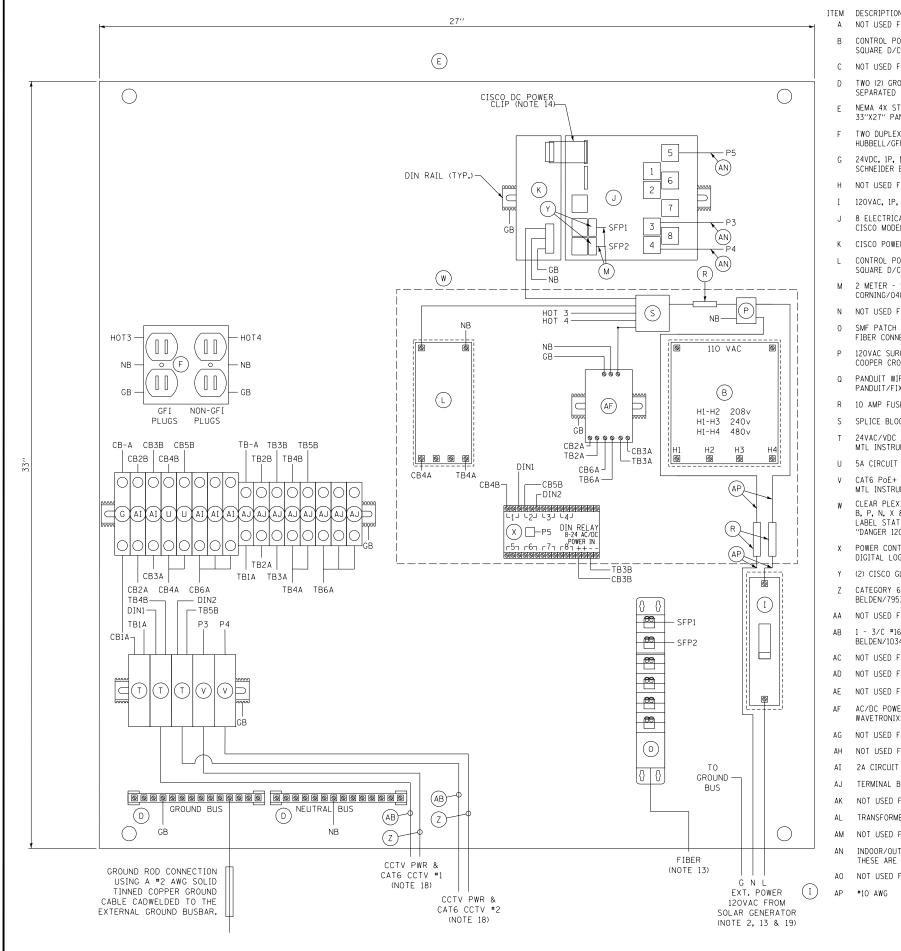
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE, THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

Samman and a second sec 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 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. 

> Illinois Tollway CABINET WIRING DIAGRAM DUAL CCTV AC AND WIRELESS ITS ASSEMBLY DATE 3-31-2016



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NOT USED FOR THIS SHEET APPLICATION

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

H NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=

2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

FIBER CONNECTIONS G620U012LAN-100-0

Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6

R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

S SPLICE BLOCK, ALTECH/38041

DIGITAL LOGGERS/DIN 3

BELDEN/7953A

MTL INSTRUMENTS/ZB24580

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Z CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

AA NOT USED FOR THIS SHEET APPLICATION

BELDEN/1034A OR APPROVED EQUAL

AC NOT USED FOR THIS SHEET APPLICATION

AD NOT USED FOR THIS SHEET APPLICATION

AG NOT USED FOR THIS SHEET APPLICATION

AC/DC POWER SUPPLY, 24VDC

WAVETRONIX - CLICK-204

NOT USED FOR THIS SHEET APPLICATION

(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

- NOT USED FOR THIS SHEET APPLICATION A0
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AN
- AM NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- NOT USED FOR THIS SHEET APPLICATION
- AK
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ

2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020

NOT USED FOR THIS SHEET APPLICATION

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

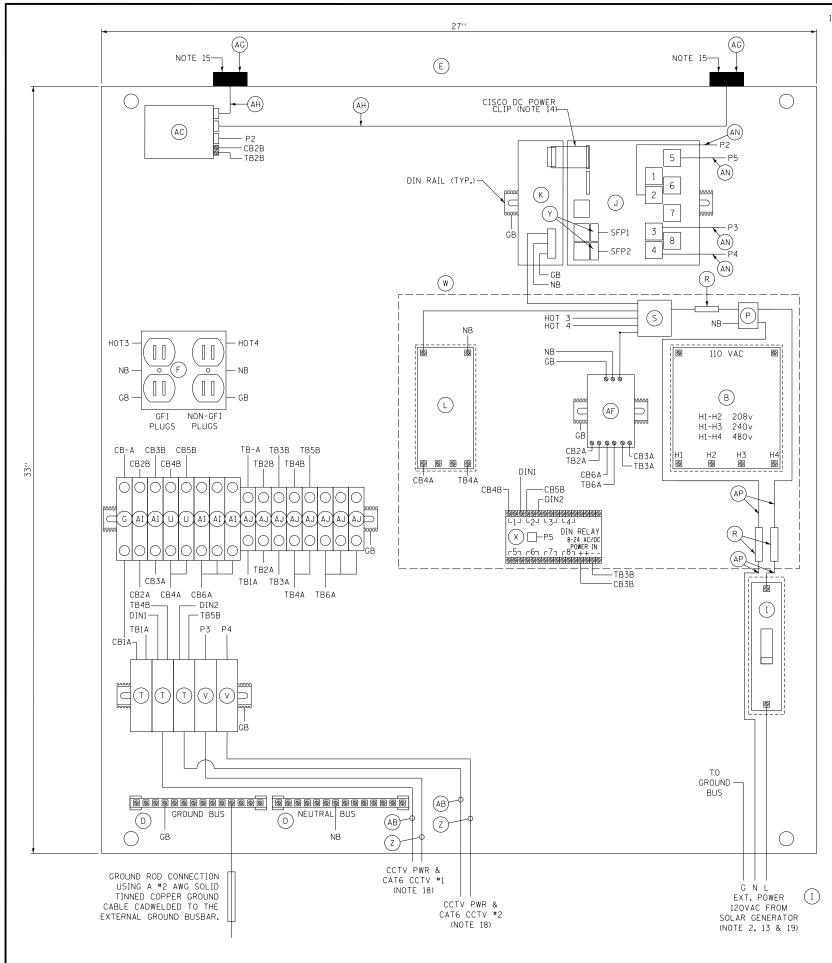


M-ITS-1229



CABINET WIRING DIAGRAM DUAL CCTV SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE 3-31-2016

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

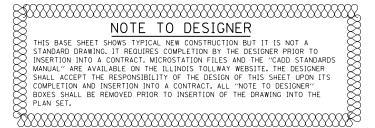


- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANCER 480 VAC" OR "DANCER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA NOT USED FOR THIS SHEET APPLICATION
- AB 1 3/C \*16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE NOT USED FOR THIS SHEET APPLICATION
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK NOT USED FOR THIS SHEET APPLICATION
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

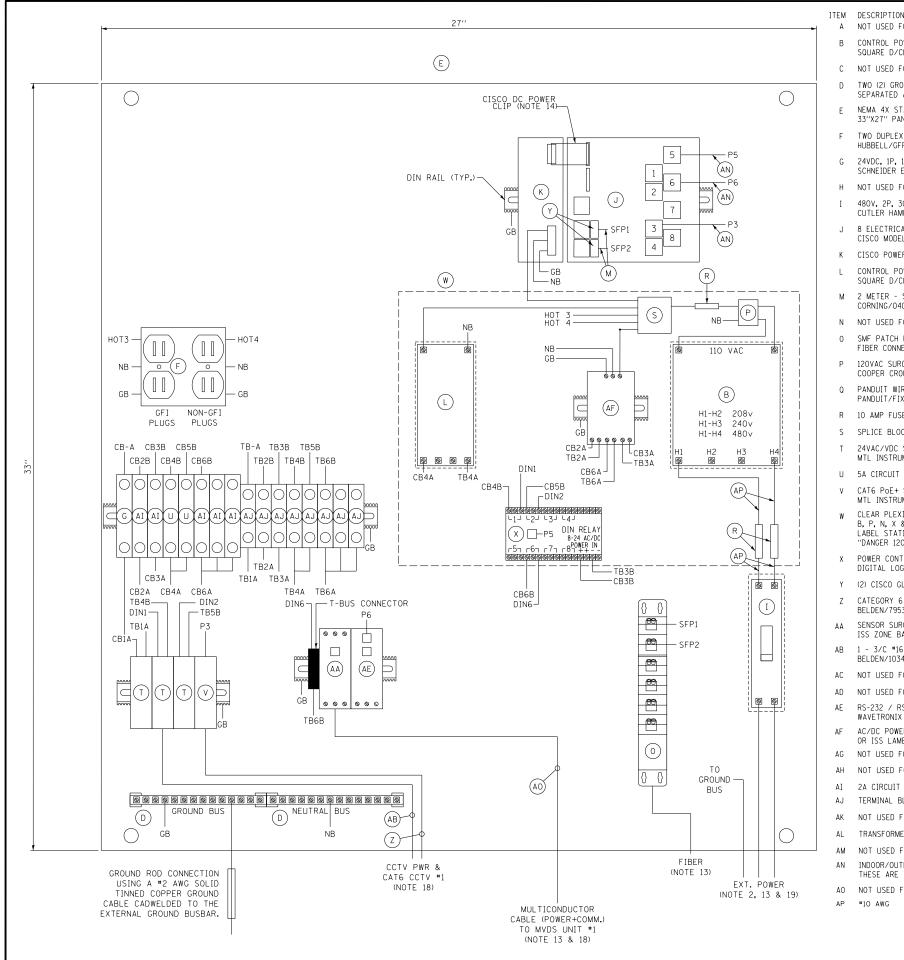


M-ITS-1230



CABINET WIRING DIAGRAM DUAL CCTV SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY DATE 3-31-2016

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NOT USED FOR THIS SHEET APPLICATION 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC= CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

C NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

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- SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SMF PATCH PANEL WITH LC CONNECTORS 0
- FIBER CONNECTIONS G620U012LAN-100-0
- Ρ 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- 0 PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041 S
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION. WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- ΔK NOT USED FOR THIS SHEET APPLICATION
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO NOT USED FOR THIS SHEET APPLICATION
- AP #10 AWG

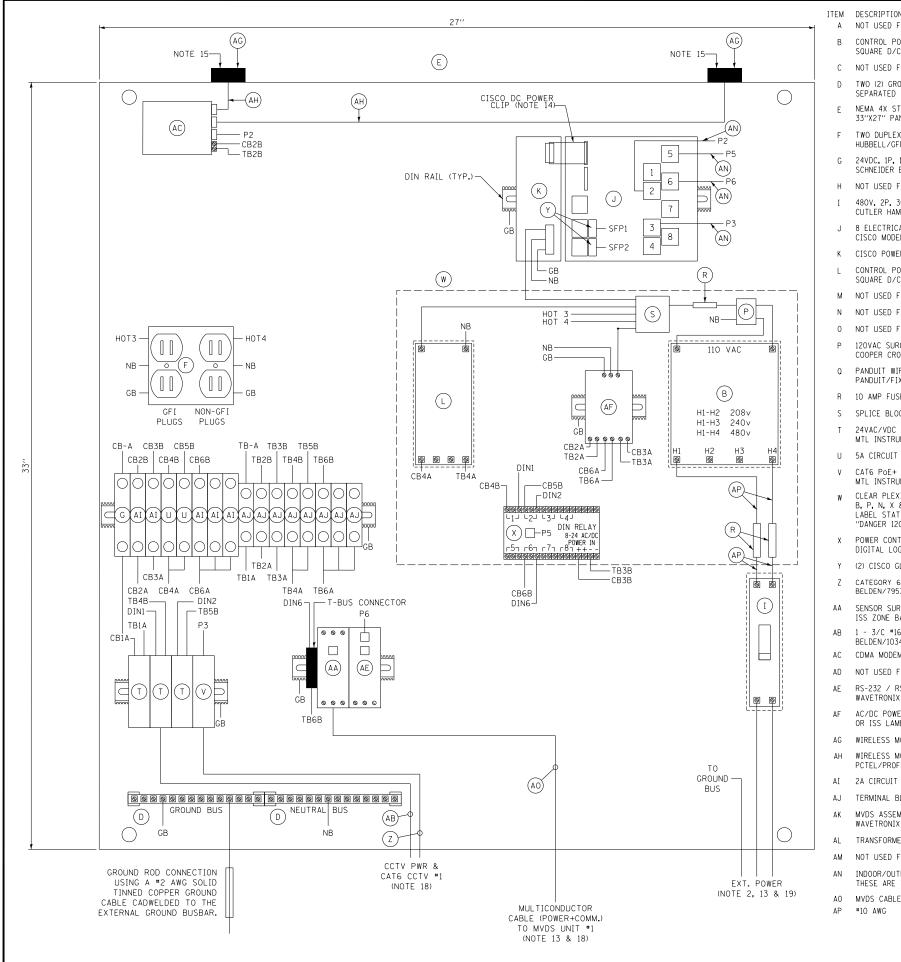
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED THE IN PLEXICISES SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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. 





M NOT USED FOR THIS SHEET APPLICATION N NOT USED FOR THIS SHEET APPLICATION NOT USED FOR THIS SHEET APPLICATION 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 R 10 AMP FUSE, GOULD (MERSEN)/ATM-10 S SPLICE BLOCK, ALTECH/38041

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NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CUTLER HAMMER/HFD2030L & 625B229G07

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB
- BELDEN/1034A OR APPROVED EQUAL AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- AF RS-232 / RS-485 TO ETHERNET CONVERTOR
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 ΔF
- OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS ΔH PCTEL/PROFLEX PLUS 195-RG58/U
- ΑĪ 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 ΔP #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

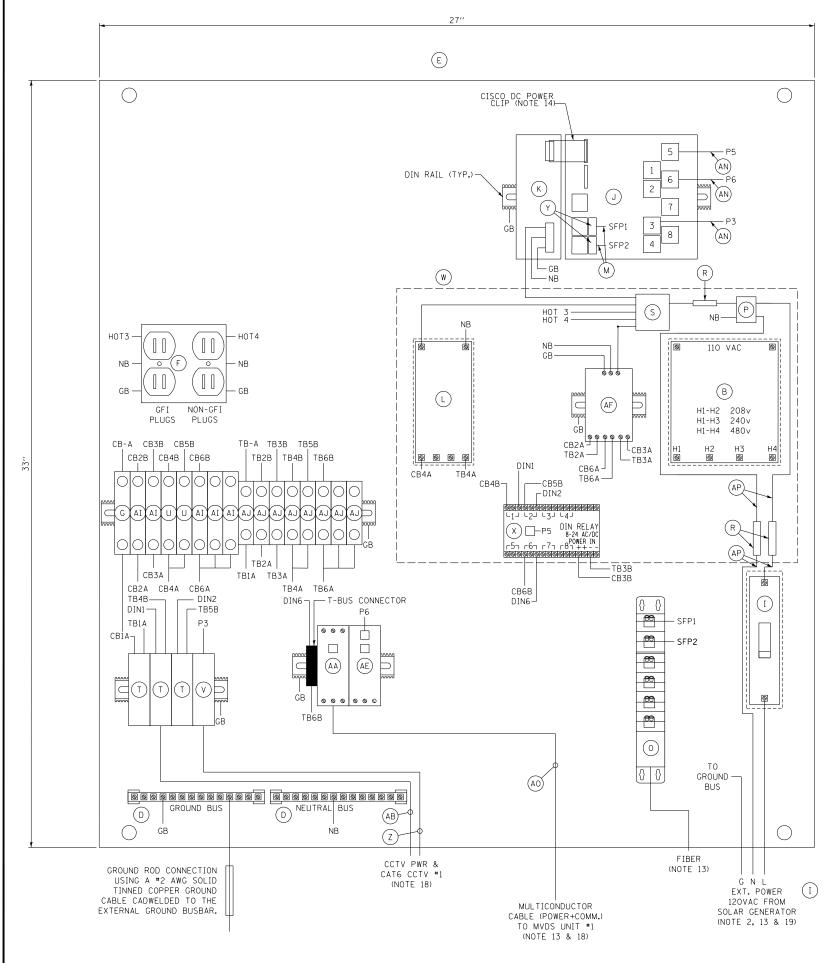
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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M-ITS-1232



CABINET WIRING DIAGRAM CCTV AND MVDS AC AND WIRELESS ITS ASSEMBLY DATE 3-31-2016



- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 T1000 D95 В
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, w B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Ζ
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD
- NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AO AP #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

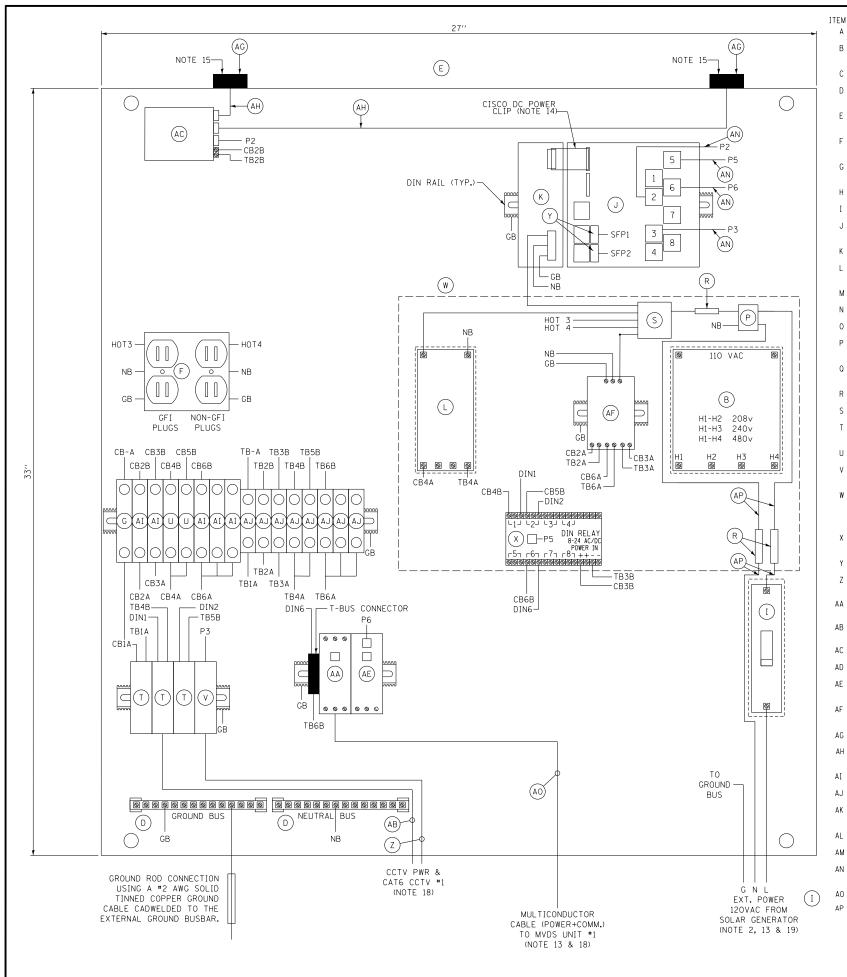
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.



M-ITS-1233



CABINET WIRING DIAGRAM CCTV AND MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE 3-31-2016



- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- NOT USED FOR THIS SHEET APPLICATION М
- NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION 0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041

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- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΔĪ
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 AL
- АМ NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

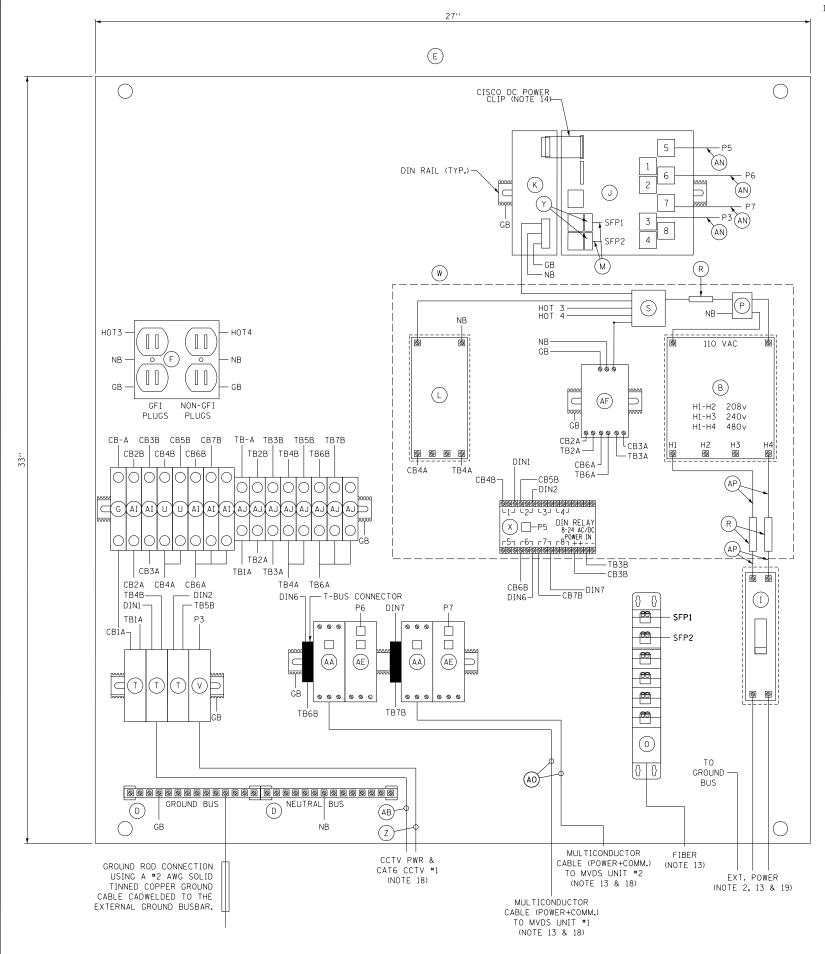
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXICLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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.

M-ITS-1234



CABINET WIRING DIAGRAM CCTV AND MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY



ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95

NOT USED FOR THIS SHEET APPLICATION

А

В

- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SMF PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- Ρ 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- ΔA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION ΔH
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AO
- AP #10 AWG

NOTES

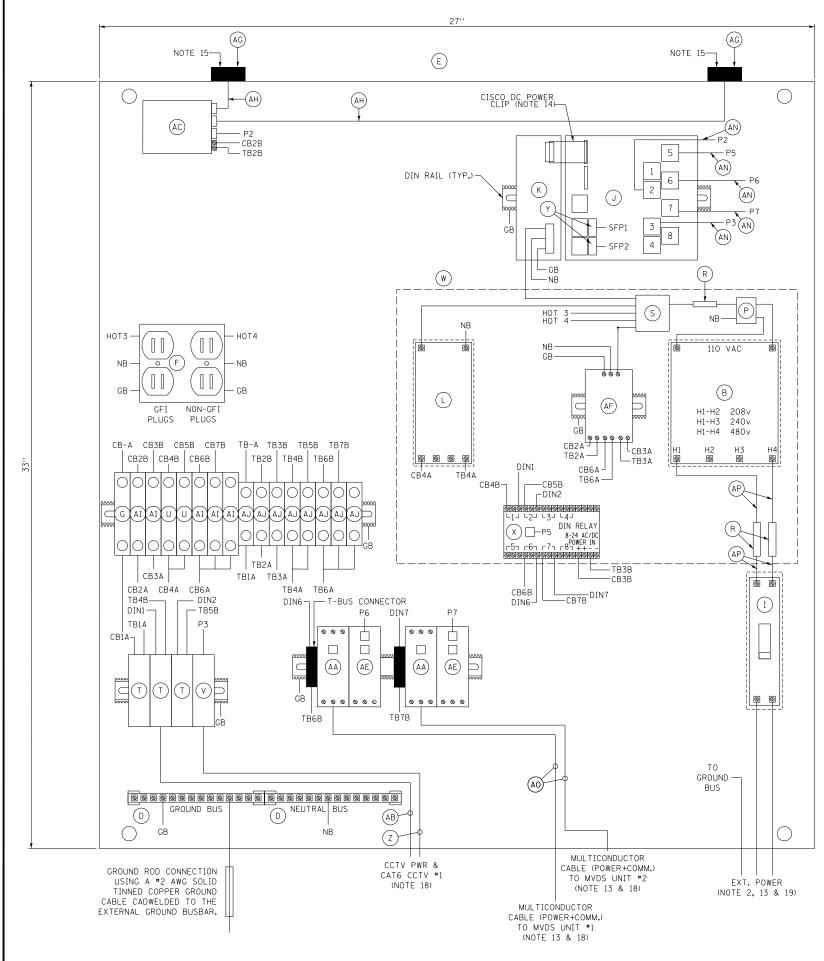
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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. 

> Illinois Tollway CABINET WIRING DIAGRAM CCTV AND DUAL MVDS AC AND FOC ITS ASSEMBLY DATE 3-31-2016

M-ITS-1235



ISS ZONE BARRIER ZB 24510 1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) NOT USED FOR THIS SHEET APPLICATION

- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A. OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF
- OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) AK
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- ΔM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) ΔN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 ΔP #10 AWG

ITEM DESCRIPTION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

M NOT USED FOR THIS SHEET APPLICATION N NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

PANDUIT WIRING DUCT (OR EQUIVALENT:

PANDUIT/FIX1LG6 WITH COVER-C1LG6

R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

S SPLICE BLOCK, ALTECH/38041

DIGITAL LOGGERS/DIN 3

BELDEN/7953A

MTL INSTRUMENTS/ZB24580

CUTLER HAMMER/HFD2030L & 625B229G07

8 FLECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

В

D

G

I

J

0

Q

Z

AA

AB

AD

Α NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A

"DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.

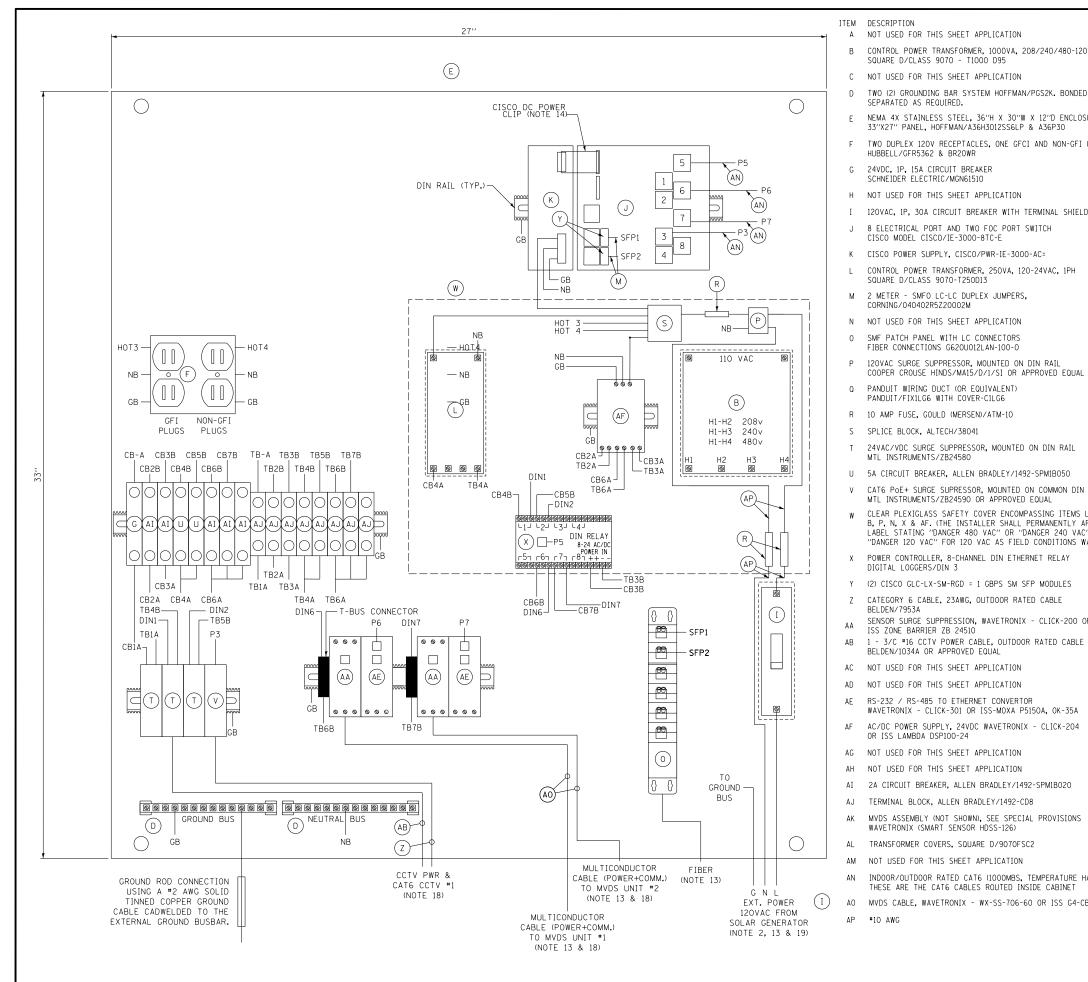
PLAN SET.

- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 UPON ITS COMPLETION AND INSERTION INTO A CONTRACT, ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED PRIOR TO INSERTION OF THE DRAWING INTO THE



M-ITS-1236



TRANSFORMER COVERS. SQUARE D/9070FSC2

NOT USED FOR THIS SHEET APPLICATION

#10 AWG

MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) AK

INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60

- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

- AI
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ

А

В

D

J

Κ

М

V

w

Ζ

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

H NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=

2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

ISS ZONE BARRIER ZB 24510

BELDEN/1034A OR APPROVED EQUAL

NOT USED FOR THIS SHEET APPLICATION

RS-232 / RS-485 TO ETHERNET CONVERTOR

BELDEN/7953A

FIBER CONNECTIONS G620U012LAN-100-0

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR

1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE

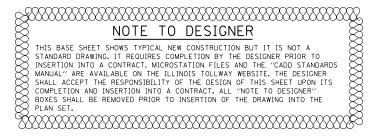
WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

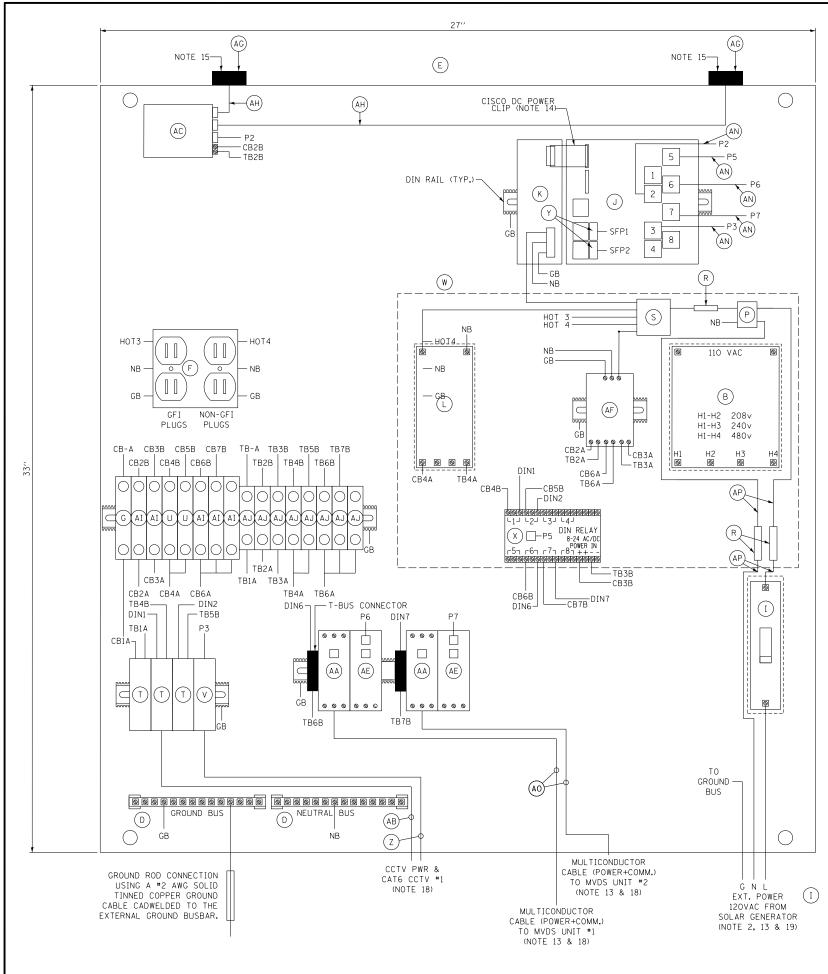


M-ITS-1237



CABINET WIRING DIAGRAM CCTV AND DUAL MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE 3-31-2016

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)



- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, IPH SQUARE D/CLASS 9070 T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041

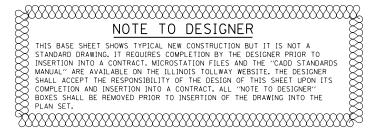
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- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C \*16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- A0 MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

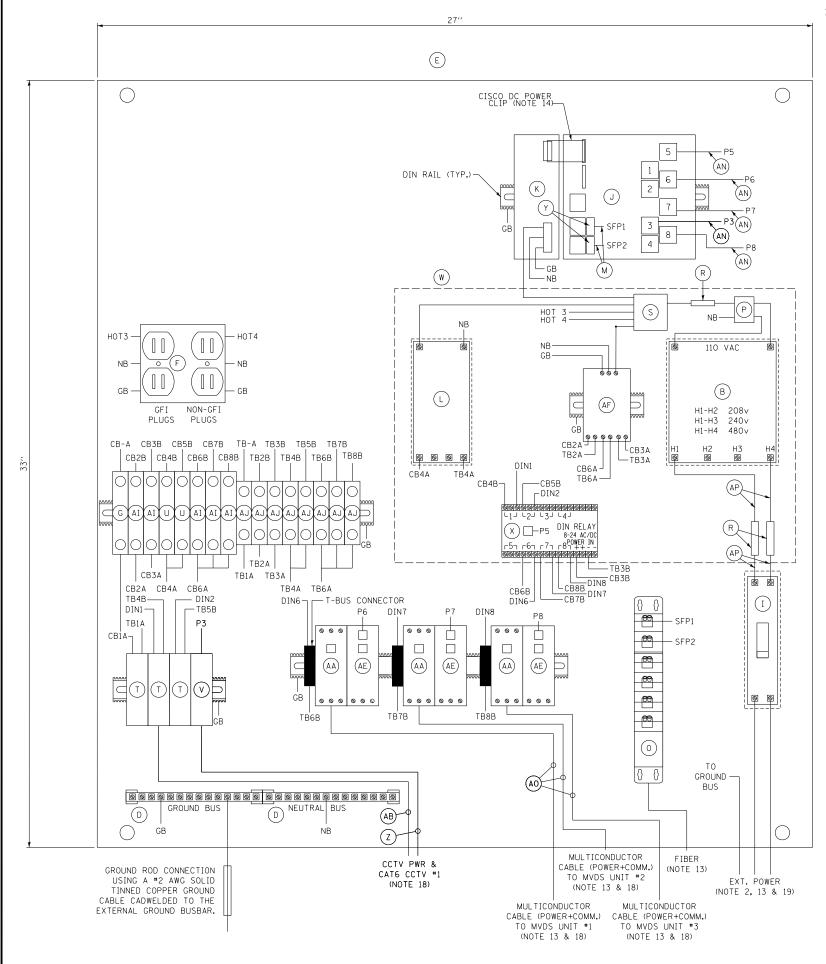


M-ITS-1238



CCTV AND DUAL MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY

*DATE* 3-31-2016



- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, IPH SOUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- N NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- I 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- J 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT,)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- K MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

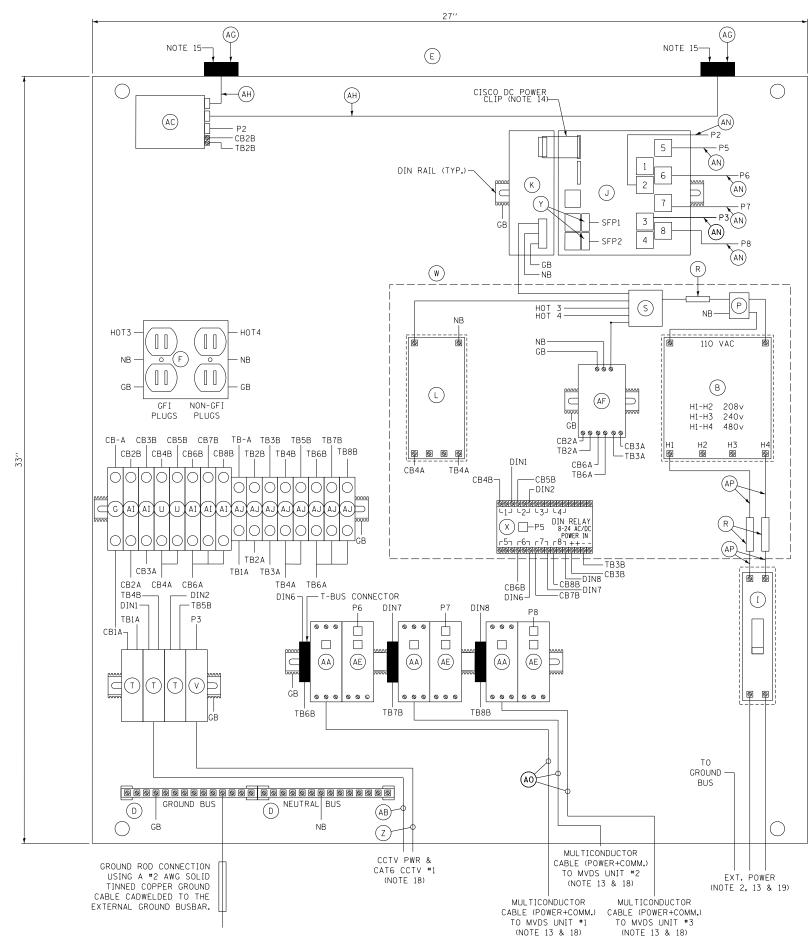
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.9. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXICLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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.

M-ITS-1239



CABINET WIRING DIAGRAM CCTV AND THREE MVDS AC AND FOC ITS ASSEMBLY



- NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

ITEM DESCRIPTION

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- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT: Q
- PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL
- MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A
- LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Z BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510 AA
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- NOT USED FOR THIS SHEET APPLICATION AD
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- ΑI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK
- WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AP #10 AWG

NOTES

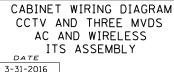
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

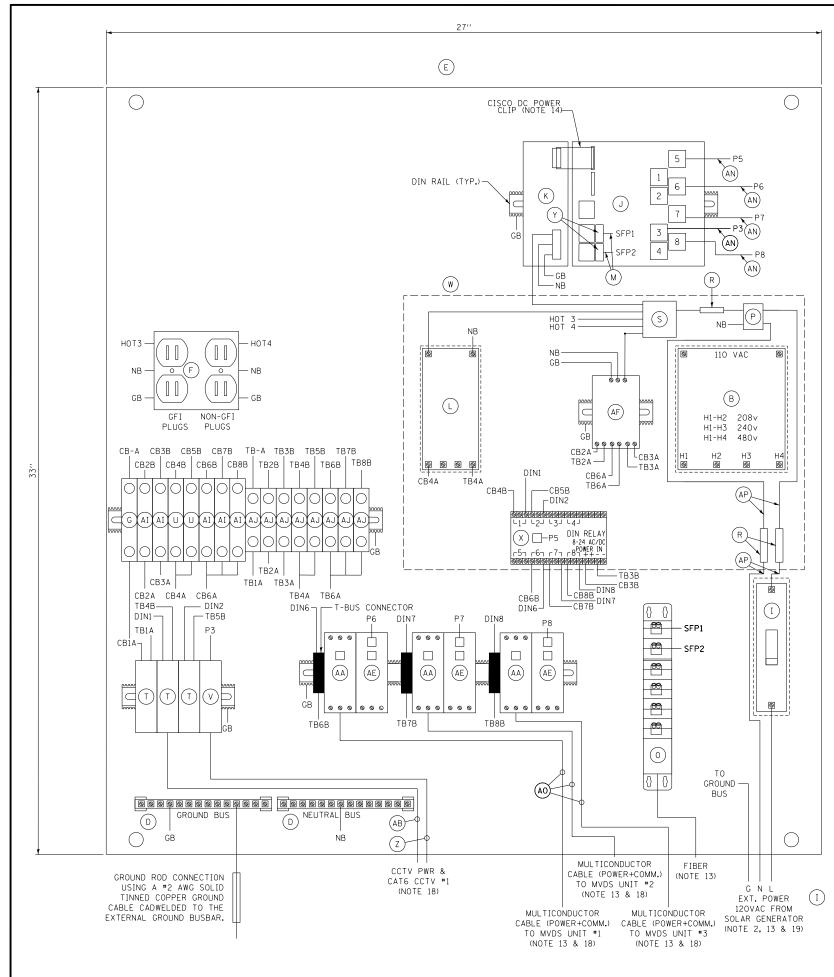
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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. 

M-ITS-1240







- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION

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- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS
- FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, w B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR
- 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.) X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION

- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 ΔF

MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS

THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED)

MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60

- OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
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#10 AWG

- NOT USED FOR THIS SHEET APPLICATION

- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

WAVETRONIX (SMART SENSOR HDSS-126)

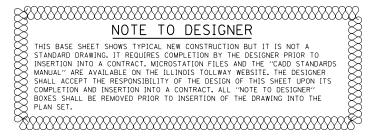
NOT USED FOR THIS SHEET APPLICATION

TRANSFORMER COVERS, SQUARE D/9070FSC2

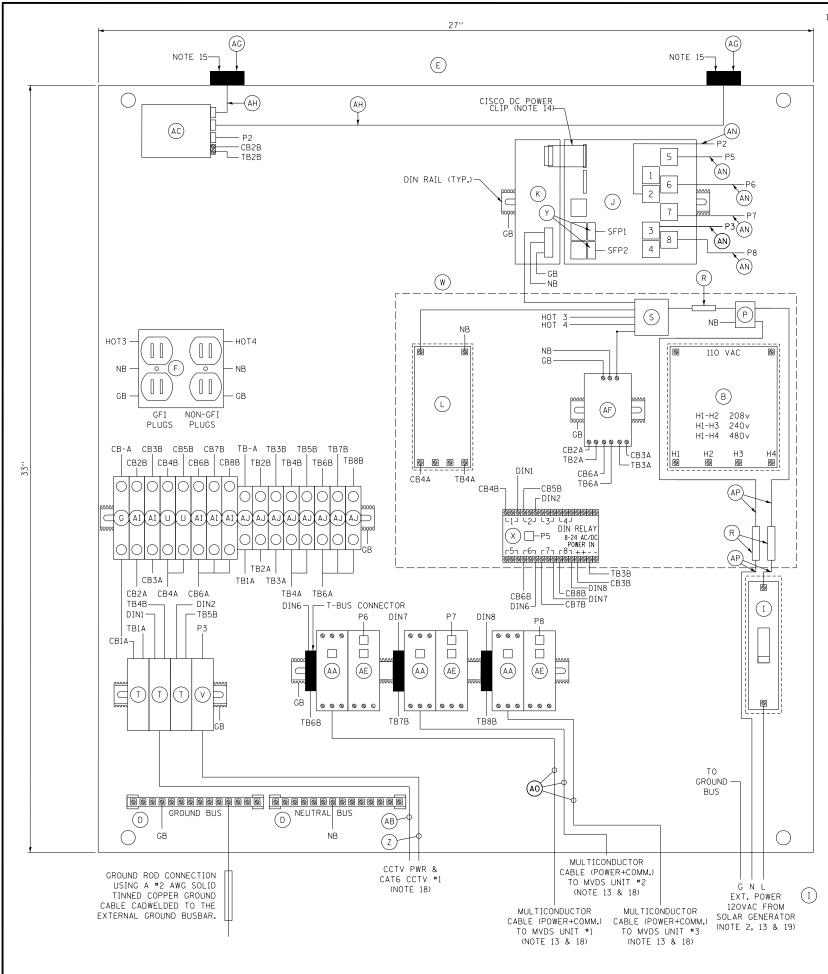
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.







ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION

- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SOUARE D/CLASS 9070 T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REOUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041

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- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

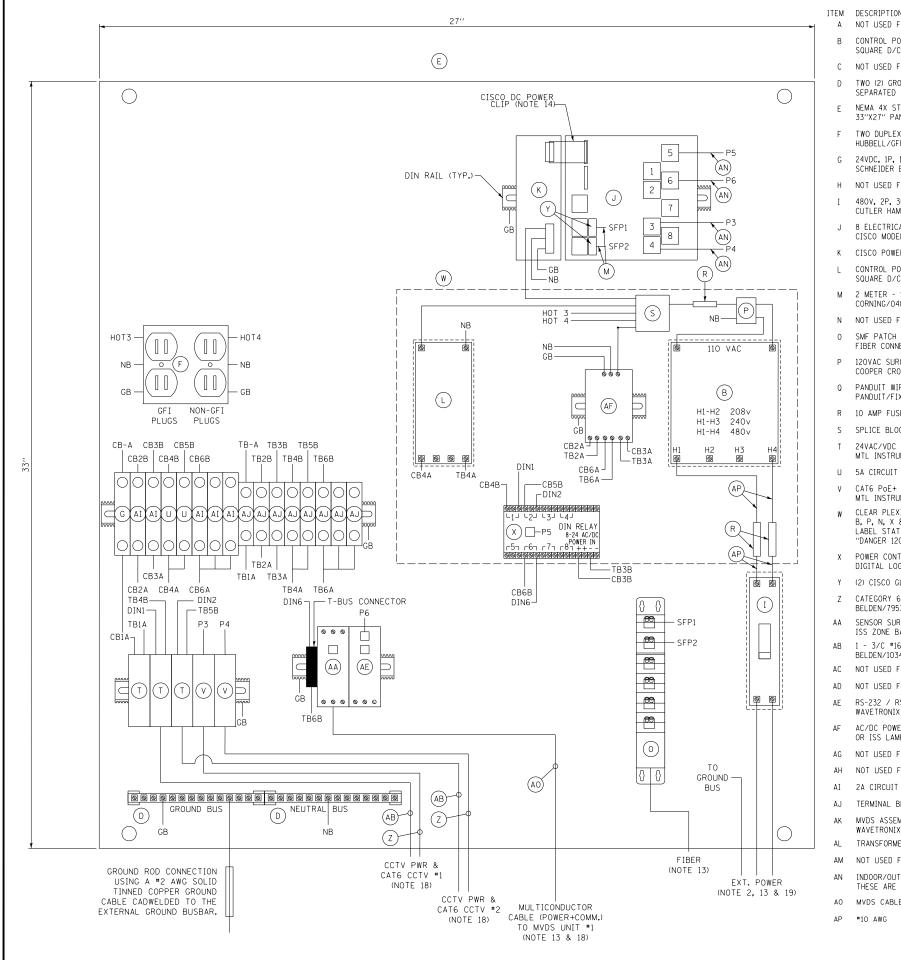
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

NOTE TO DESIGNER STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BUT TO BESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER STALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPPON 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.

M-ITS-1242



CABINET WIRING DIAGRAM CCTV AND THREE MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY DATE



SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6 10 AMP FUSE. GOULD (MERSEN)/ATM-10 SPLICE BLOCK, ALTECH/38041 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580

5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

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NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

M 2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

CUTLER HAMMER/HFD2030L & 625B229G07

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION AC
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A. 0K-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- NOT USED FOR THIS SHEET APPLICATION AG
- NOT USED FOR THIS SHEET APPLICATION ΔН
- AT 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AO
- AP #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 8. NOT USED FOR THIS SHEET APPLICATION
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

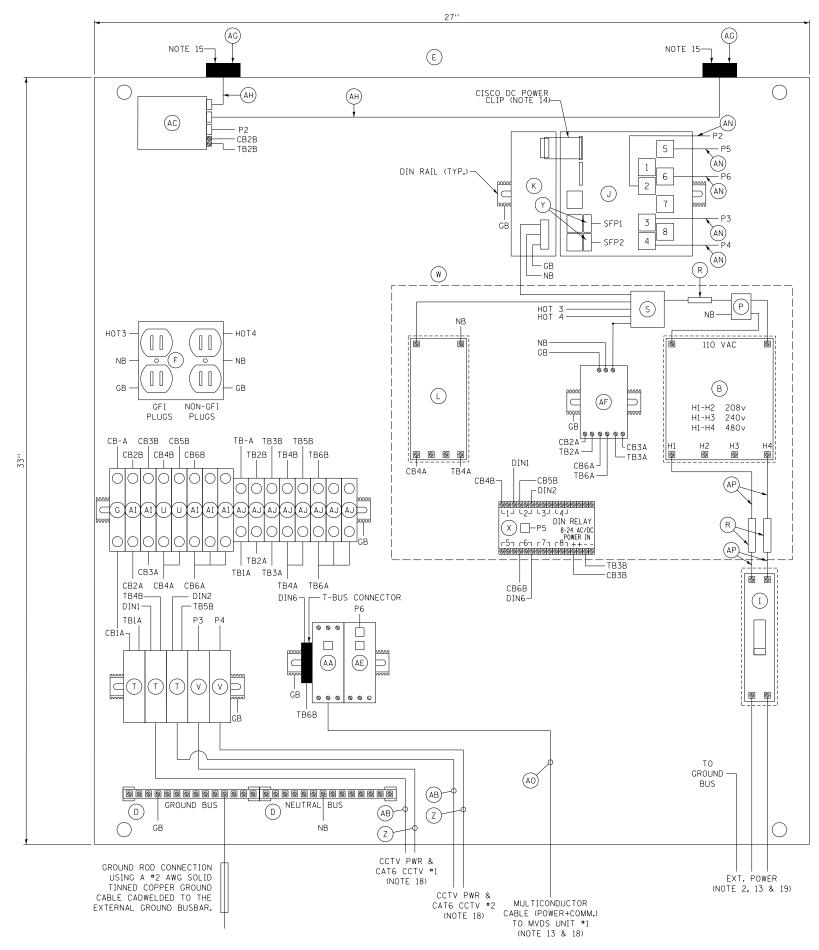
NOTE TO DESIGNER THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT, MICROSTATION FILES AND THE "CADD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE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

M-ITS-1243



ITS ASSEMBLY

DATE 3-31-2016



CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3 Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510

- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB
- BELDEN/1034A OR APPROVED EQUAL
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR ΔF WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK
- WAVETRONIX (SMART SENSOR HDSS-126) AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN
- THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- ΔP #10 AWG

- ITEM DESCRIPTION
- Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В
- SQUARE D/CLASS 9070 T1000 D95 C NOT USED FOR THIS SHEET APPLICATION

- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION н
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I
- CUTLER HAMMER/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION

- 0 NOT USED FOR THIS SHEET APPLICATION

- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT:
- PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041

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AA

- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

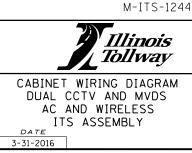
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

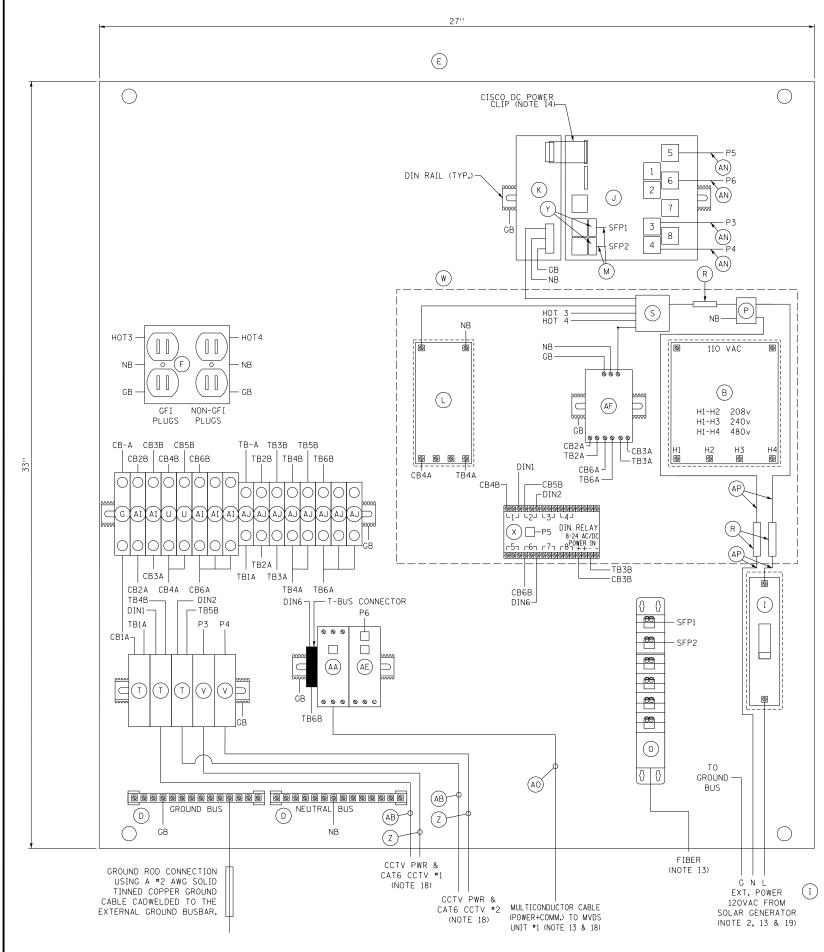
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE, THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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. 





- SMF PATCH PANEL WITH LC CONNECTORS Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6 S SPLICE BLOCK, ALTECH/38041 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, w B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR
- 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.) X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Ζ
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF
- OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ

- MVDS ASSEMBLY (NOT SHOWN). SEE SPECIAL PROVISIONS AK
- WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60 ΔP #10 AWG

- ITEM DESCRIPTION
- Α NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 В
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D
- SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

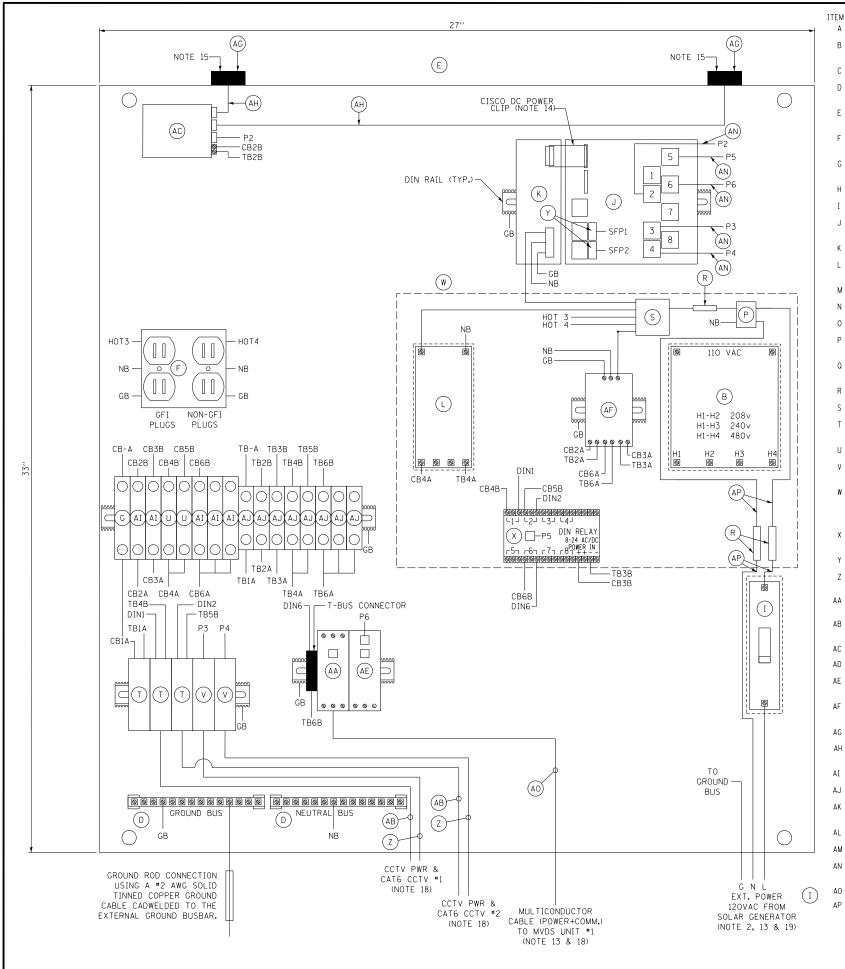
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
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- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.



M-ITS-1245



CABINET WIRING DIAGRAM DUAL CCTV AND MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE



- ITEM DESCRIPTION Α NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH J CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- NOT USED FOR THIS SHEET APPLICATION М
- NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION 0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDULT WIRING DUCT (OR FOULVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041

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- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, W B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- ΔD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΔĪ
- A.I TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2 Δ1
- АМ NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
  - #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
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- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
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- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
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- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

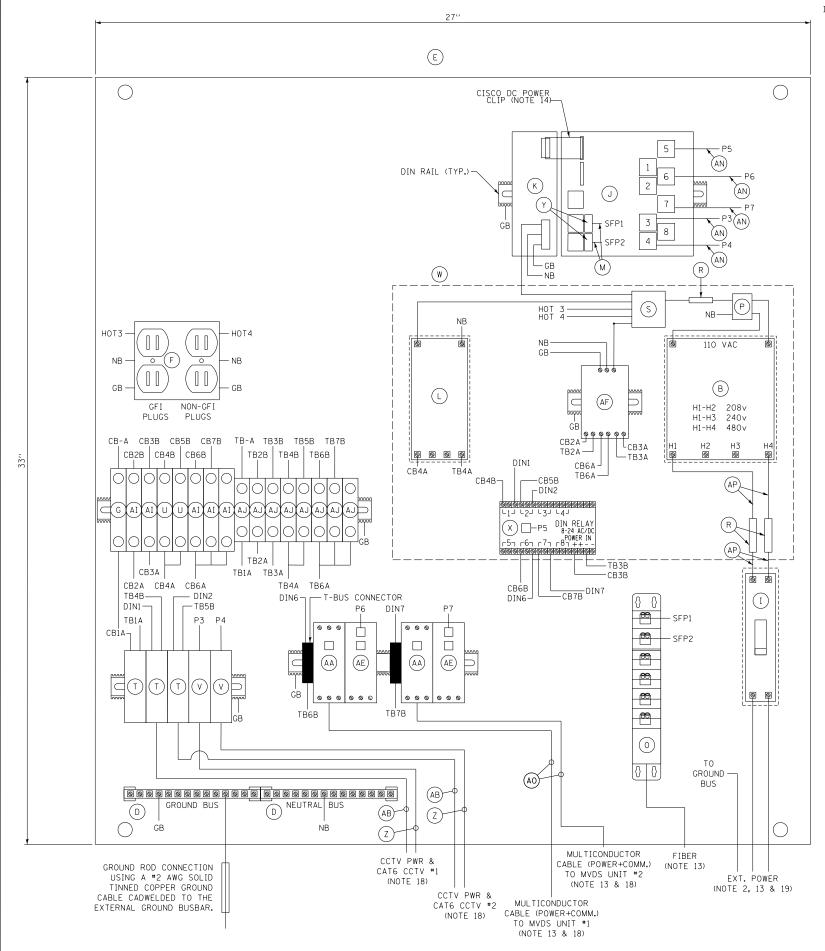
NOTE TO DESIGNER HIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING, IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO NSERTION INTO A CONTRACT. MICROSTATION FILES AND THE "CADD STANDARDS MANUAL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THE SHOE THE UPON ITS SHALL ACCEPT THE 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.

M-ITS-1246



SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY

DATE 3-31-2016



- ITEM DESCRIPTION NOT USED FOR THIS SHEET APPLICATION
- CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH В SQUARE D/CLASS 9070 - T1000 D95
- NOT USED FOR THIS SHEET APPLICATION

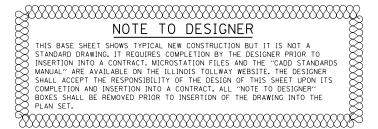
Α

- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510
- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- SMF PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- Ρ 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- 10 AMP FUSE, GOULD (MERSEN)/ATM-10 R
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510 AA
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE WAVETRONIX - CLICK-301
- ΔF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION ΔН
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΔĪ
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AO
- AP #10 AWG

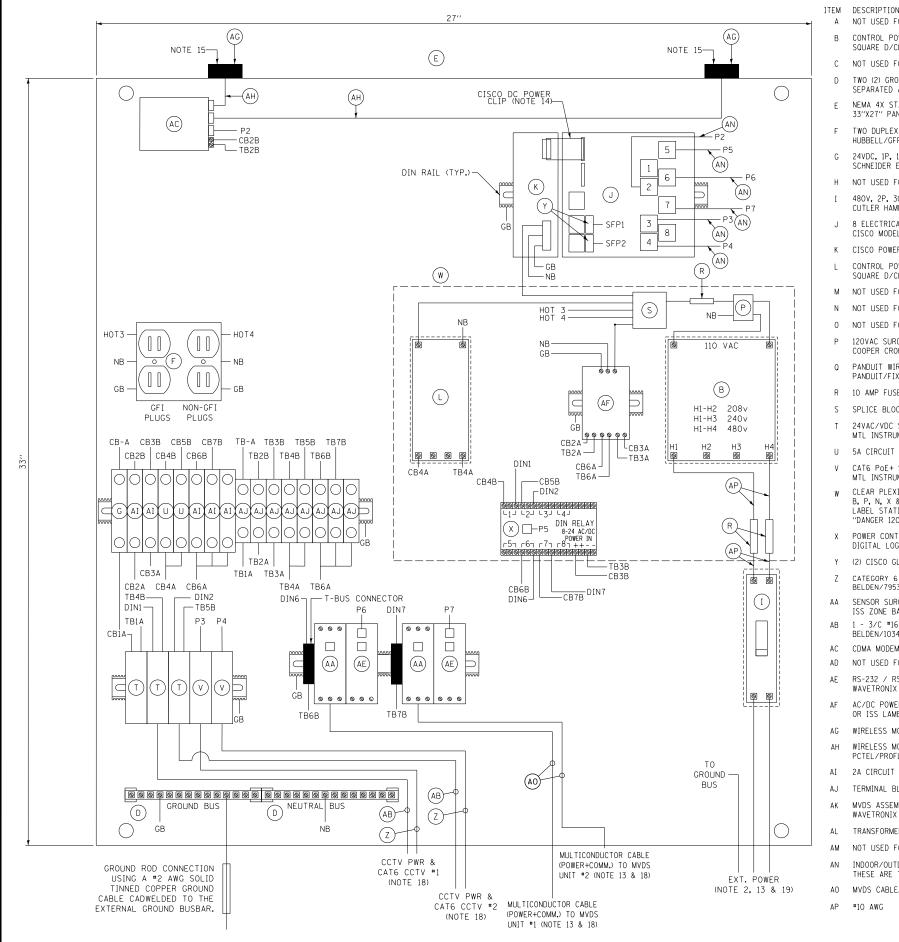
NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.







SCHNEIDER ELECTRIC/MGN61510 NOT USED FOR THIS SHEET APPLICATION

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

NOT USED FOR THIS SHEET APPLICATION

Α

В

D

G

- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL
- COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT: Q
- PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L. R. S. B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR
- "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.) POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY
- DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- ΑМ NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- ΔP #10 AWG

NOTES

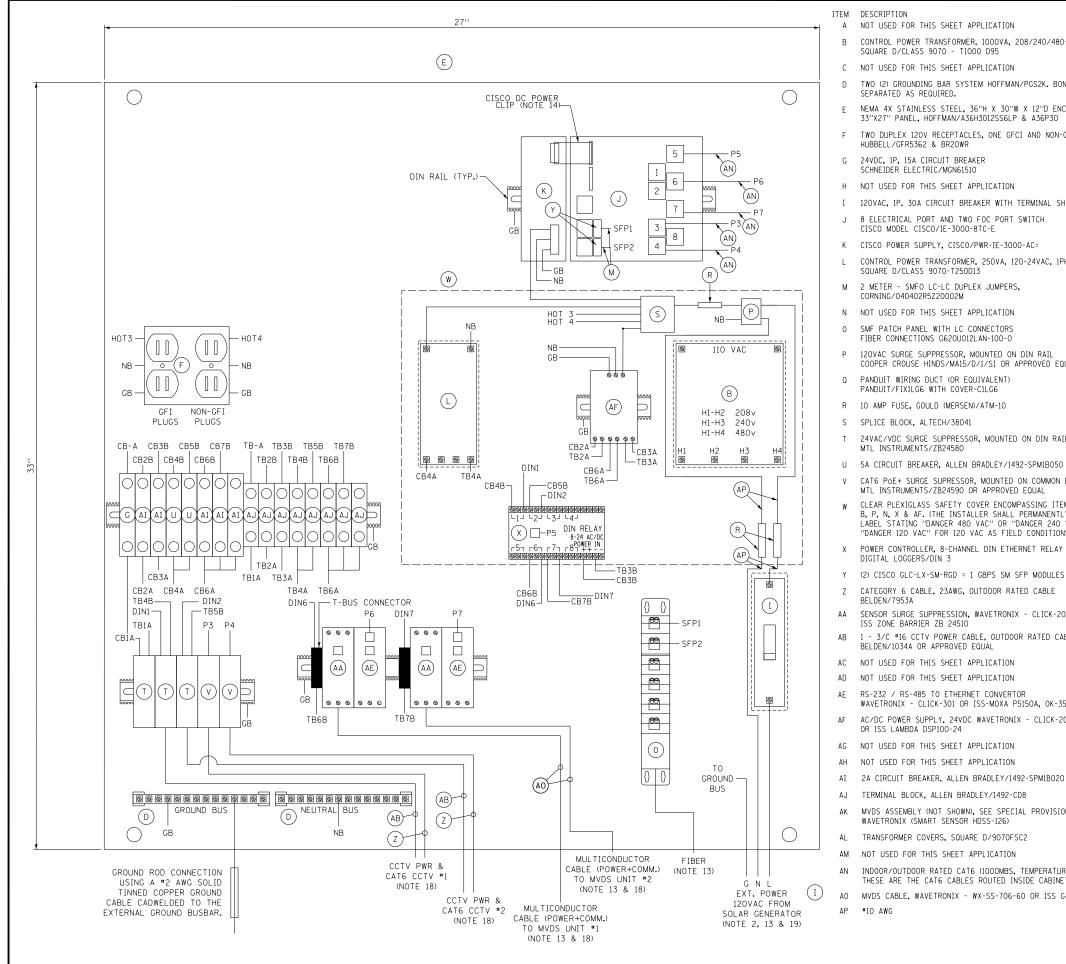
1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE, THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 MANNY 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. 



TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)



SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510 1 - 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A

AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204

MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS

THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET

INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED)

MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60

- NOT USED FOR THIS SHEET APPLICATION

- NOT USED FOR THIS SHEET APPLICATION AD

OR ISS LAMBDA DSP100-24

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#10 AWG

NOT USED FOR THIS SHEET APPLICATION

NOT USED FOR THIS SHEET APPLICATION

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

24VDC, 1P, 15A CIRCUIT BREAKER

SCHNEIDER ELECTRIC/MGN61510

H NOT USED FOR THIS SHEET APPLICATION

CISCO MODEL CISCO/IE-3000-8TC-E

SQUARE D/CLASS 9070-T250D13

CORNING/040402R5Z20002M

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD

CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH

8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=

2 METER - SMFO LC-LC DUPLEX JUMPERS,

NOT USED FOR THIS SHEET APPLICATION

SMF PATCH PANEL WITH LC CONNECTORS

Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6

R 10 AMP FUSE, GOULD (MERSEN)/ATM-10

SPLICE BLOCK, ALTECH/38041

MTL INSTRUMENTS/ZB24580

DIGITAL LOGGERS/DIN 3

BELDEN/7953A

FIBER CONNECTIONS G620U012LAN-100-0

120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL

24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL

CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL

CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S,

B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR

'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)

U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050

MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL

X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY

(2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES

CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE

NOT USED FOR THIS SHEET APPLICATION

TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8

TRANSFORMER COVERS, SQUARE D/9070FSC2

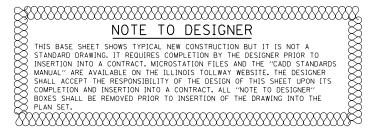
NOT USED FOR THIS SHEET APPLICATION

WAVETRONIX (SMART SENSOR HDSS-126)

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

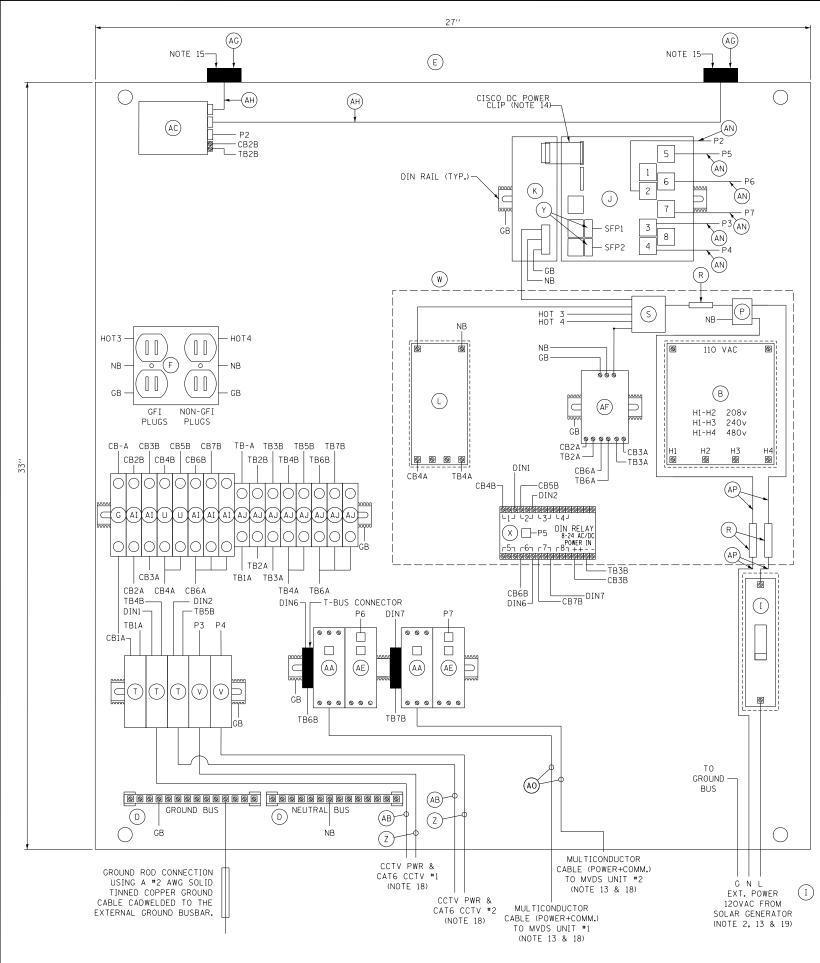
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.



M-ITS-1249



CABINET WIRING DIAGRAM DUAL CCTV AND DUAL MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE

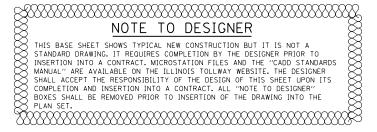


- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REOUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-CILG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- ( (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- Z CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C \*16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A, OK-35A AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- OR ISS LAMBDA DSPIOO-24 AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- H WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SOUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

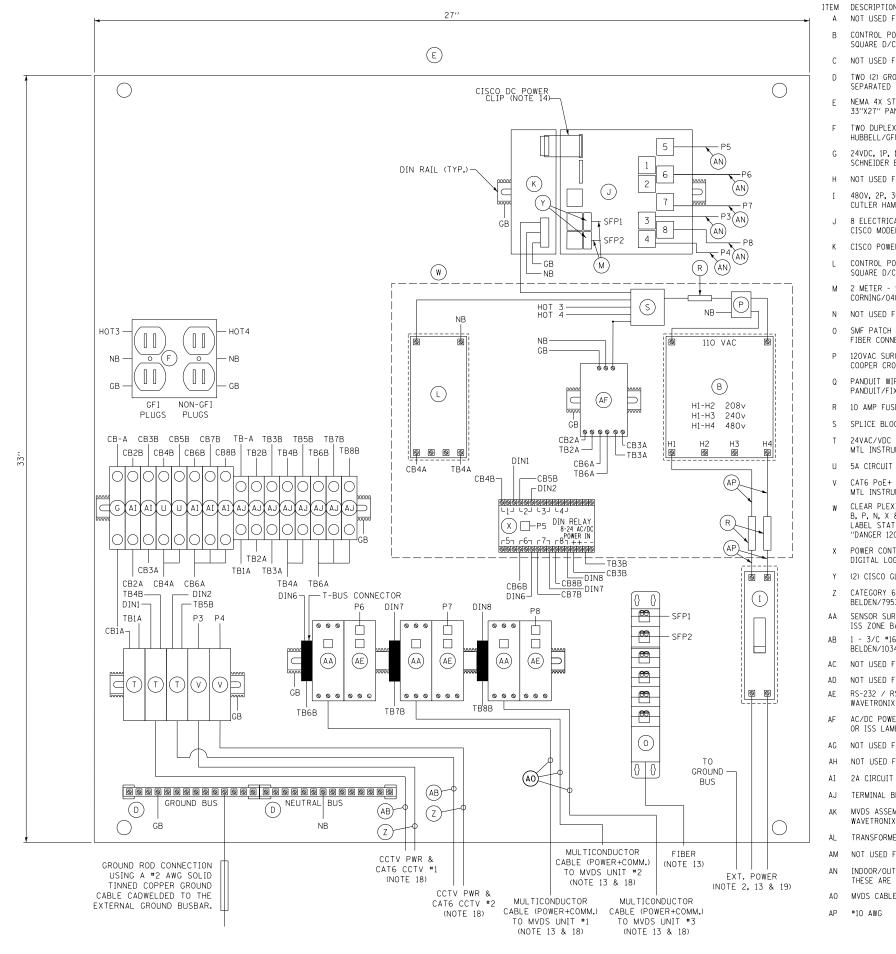
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.



M-ITS-1250



CABINET WIRING DIAGRAM DUAL CCTV AND DUAL MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY



24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510 NOT USED FOR THIS SHEET APPLICATION 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD CUTLER HAMMER/HFD2030L & 625B229G07 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9)

TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR

33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

SEPARATED AS REQUIRED.

HUBBELL/GFR5362 & BR20WR

NOT USED FOR THIS SHEET APPLICATION

- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M 2 METER SMFO LC-LC DUPLEX JUMPERS, CORNING/040402R5Z20002M

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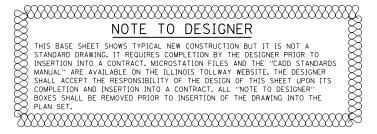
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- NOT USED FOR THIS SHEET APPLICATION
- SME PATCH PANEL WITH LC CONNECTORS 0 FIBER CONNECTIONS G620U012LAN-100-0
- Ρ 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT) 0 PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- ΔΔ SENSOR SURGE SUPPRESSION, WAVETRONIX - CLICK-200 OR ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- NOT USED FOR THIS SHEET APPLICATION AC
- NOT USED FOR THIS SHEET APPLICATION AD
- RS-232 / RS-485 TO ETHERNET CONVERTOR AE
- WAVETRONIX CLICK-301 OR ISS-MOXA P5150A. OK-35A AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX - CLICK-204
- OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- NOT USED FOR THIS SHEET APPLICATION AH
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 AI
- A.I TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS AK WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- NOT USED FOR THIS SHEET APPLICATION AM
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60 AO
- AP #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

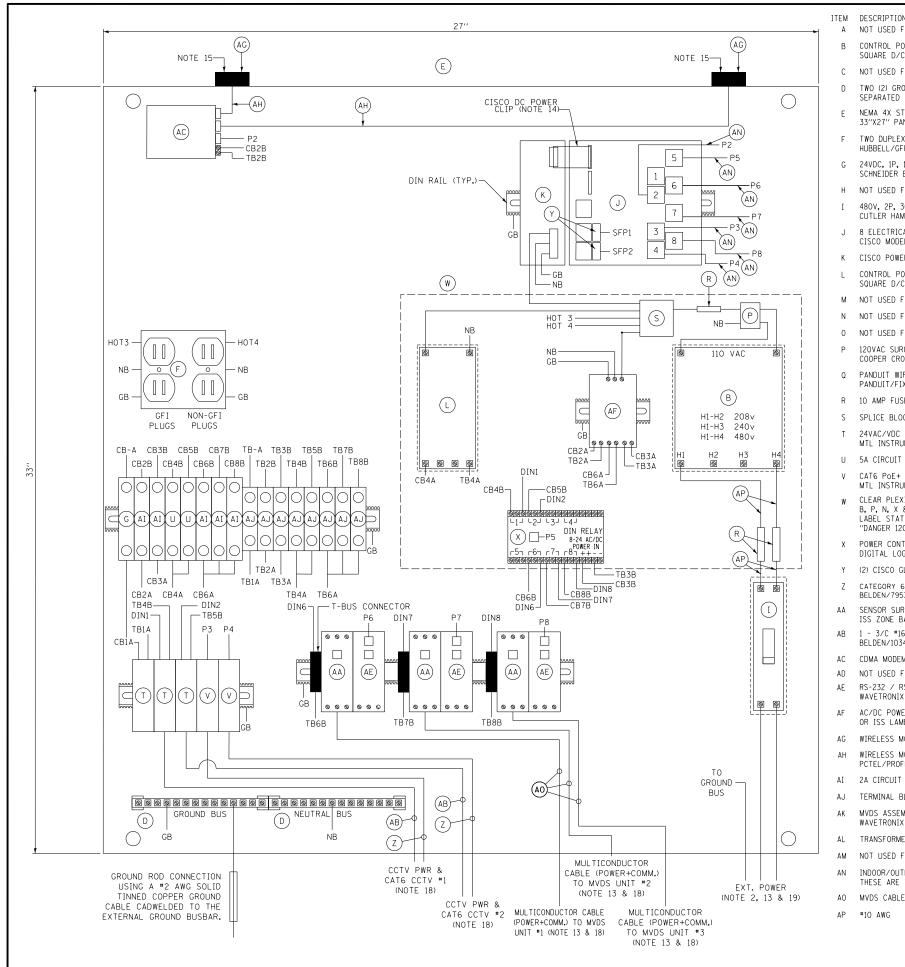


M-ITS-1251



AC AND FOC ITS ASSEMBLY

DATE 3-31-2016



NOT USED FOR THIS SHEET APPLICATION TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REQUIRED. NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30

NOT USED FOR THIS SHEET APPLICATION

SQUARE D/CLASS 9070 - T1000 D95

TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR

CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH

24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

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- NOT USED FOR THIS SHEET APPLICATION
- 480V, 2P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD I CUTLER HAMMER/HFD2030L & 625B229G07
- 8 FLECTRICAL PORT AND TWO FOC PORT SWITCH .1 CISCO MODEL CISCO/IE-3000-8TC-E
- CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- PANDUIT WIRING DUCT (OR EQUIVALENT:
- Q PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510 AA
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK) AC
- NOT USED FOR THIS SHEET APPLICATION AD
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 AF OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS AH PCTEL/PROFLEX PLUS 195-RG58/U
- 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020 ΑI
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- TRANSFORMER COVERS, SQUARE D/9070FSC2
- ΑМ NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) AN THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AΡ #10 AWG

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

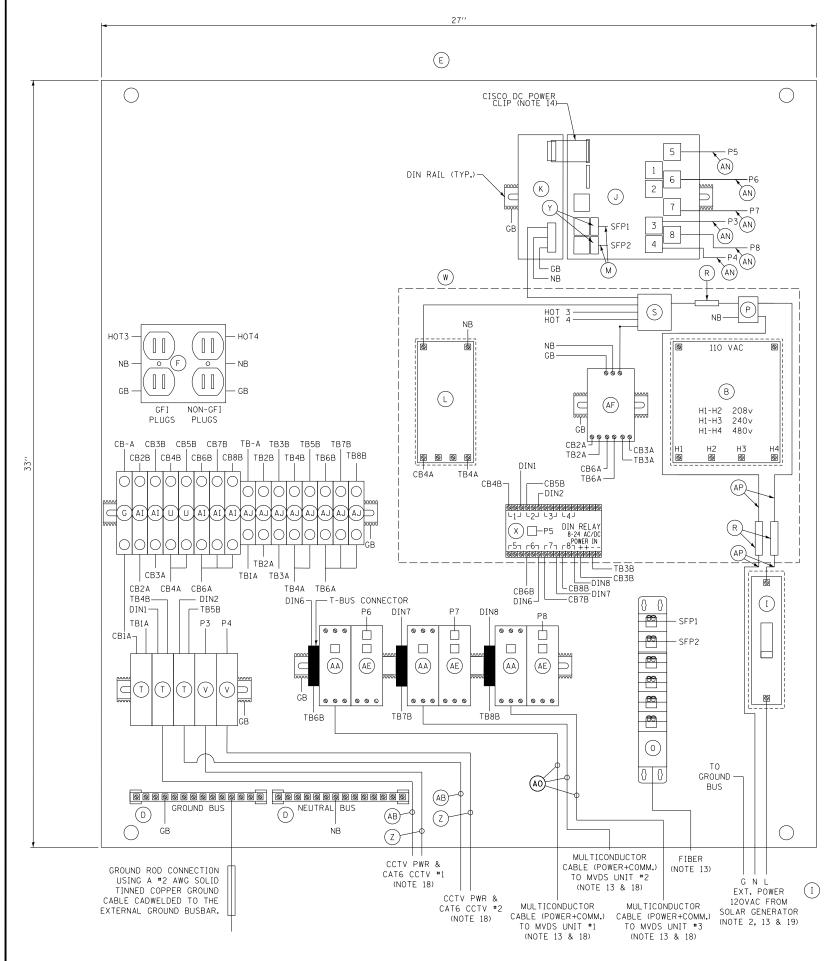
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW) TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.

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 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.

M-ITS-1252



CABINET WIRING DIAGRAM DUAL CCTV AND THREE MVDS AC AND WIRELESS ITS ASSEMBLY DATE



- CISCO MODEL CISCO/IE-3000-8TC-E CISCO POWER SUPPLY. CISCO/PWR-IE-3000-AC=
- CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- 2 METER SMFO LC-LC DUPLEX JUMPERS, М CORNING/040402R5Z20002M
- NOT USED FOR THIS SHEET APPLICATION
- 0 SMF PATCH PANEL WITH LC CONNECTORS FIBER CONNECTIONS G620U012LAN-100-0
- 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIXILG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL V MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, w B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANGER 480 VAC" OR "DANGER 240 VAC" OR 'DANGER 120 VAC'' FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE Ζ
- BELDEN/7953A
- SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR AA ISS ZONE BARRIER ZB 24510
- 1 3/C #16 CCTV POWER CABLE, OUTDOOR RATED CABLE AB BELDEN/1034A OR APPROVED EQUAL
- AC NOT USED FOR THIS SHEET APPLICATION
- AD NOT USED FOR THIS SHEET APPLICATION RS-232 / RS-485 TO ETHERNET CONVERTOR
- AE WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG NOT USED FOR THIS SHEET APPLICATION
- AH NOT USED FOR THIS SHEET APPLICATION
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8 AJ
- MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126) AK
- TRANSFORMER COVERS. SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET AN
- AO MVDS CABLE, WAVETRONIX - WX-SS-706-60 OR ISS G4-CBL-60
- ΔP #10 AWG

- ITEM DESCRIPTION
- Α NOT USED FOR THIS SHEET APPLICATION CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, 1PH SQUARE D/CLASS 9070 - T1000 D95 В

- NOT USED FOR THIS SHEET APPLICATION
- TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR D SEPARATED AS REQUIRED.
- NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH
- 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- 24VDC, 1P, 15A CIRCUIT BREAKER G SCHNEIDER ELECTRIC/MGN61510

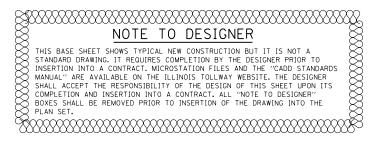
J

- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC. 1P. 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH

NOTES

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

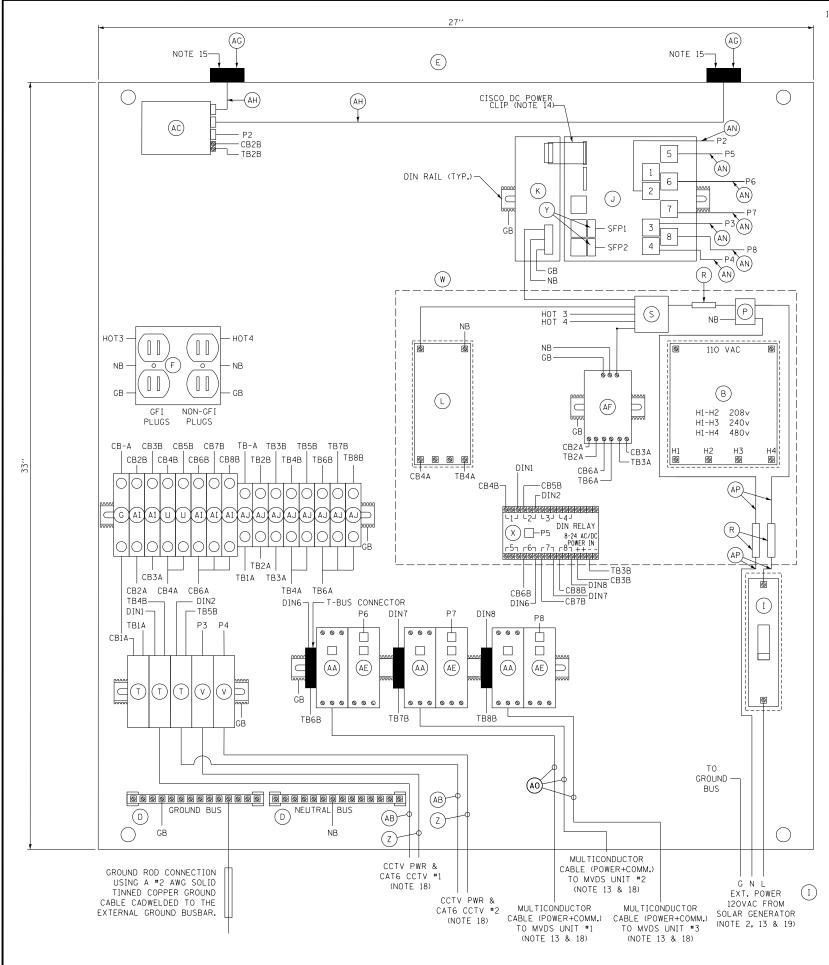
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- 3. ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.



M-ITS-1253



CABINET WIRING DIAGRAM DUAL CCTV AND THREE MVDS SOLAR GENERATOR AND FOC ITS ASSEMBLY DATE 3-31-2016



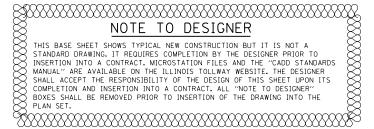
- ITEM DESCRIPTION A NOT USED FOR THIS SHEET APPLICATION
- B CONTROL POWER TRANSFORMER, 1000VA, 208/240/480-120VAC, IPH SQUARE D/CLASS 9070 - T1000 D95
- C NOT USED FOR THIS SHEET APPLICATION
- D TWO (2) GROUNDING BAR SYSTEM HOFFMAN/PGS2K. BONDED OR SEPARATED AS REOUIRED.
- E NEMA 4X STAINLESS STEEL, 36"H X 30"W X 12"D ENCLOSURE WITH 33"X27" PANEL, HOFFMAN/A36H3012SS6LP & A36P30
- F TWO DUPLEX 120V RECEPTACLES, ONE GFCI AND NON-GFI (SEE NOTE 9) HUBBELL/GFR5362 & BR20WR
- G 24VDC, 1P, 15A CIRCUIT BREAKER SCHNEIDER ELECTRIC/MGN61510
- H NOT USED FOR THIS SHEET APPLICATION
- I 120VAC, 1P, 30A CIRCUIT BREAKER WITH TERMINAL SHIELD
- J 8 ELECTRICAL PORT AND TWO FOC PORT SWITCH CISCO MODEL CISCO/IE-3000-8TC-E
- K CISCO POWER SUPPLY, CISCO/PWR-IE-3000-AC=
- L CONTROL POWER TRANSFORMER, 250VA, 120-24VAC, 1PH SQUARE D/CLASS 9070-T250D13
- M NOT USED FOR THIS SHEET APPLICATION
- N NOT USED FOR THIS SHEET APPLICATION
- 0 NOT USED FOR THIS SHEET APPLICATION
- P 120VAC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL COOPER CROUSE HINDS/MA15/D/1/SI OR APPROVED EQUAL
- Q PANDUIT WIRING DUCT (OR EQUIVALENT) PANDUIT/FIX1LG6 WITH COVER-C1LG6
- R 10 AMP FUSE, GOULD (MERSEN)/ATM-10
- S SPLICE BLOCK, ALTECH/38041
- T 24VAC/VDC SURGE SUPPRESSOR, MOUNTED ON DIN RAIL MTL INSTRUMENTS/ZB24580
- U 5A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B050
- V CAT6 PoE+ SURGE SUPRESSOR, MOUNTED ON COMMON DIN RAIL MTL INSTRUMENTS/ZB24590 OR APPROVED EQUAL
- W CLEAR PLEXIGLASS SAFETY COVER ENCOMPASSING ITEMS L, R, S, B, P, N, X & AF. (THE INSTALLER SHALL PERMANENTLY AFFIX A LABEL STATING "DANCER 480 VAC" OR "DANCER 240 VAC" OR "DANGER 120 VAC" FOR 120 VAC AS FIELD CONDITIONS WARRANT.)
- X POWER CONTROLLER, 8-CHANNEL DIN ETHERNET RELAY DIGITAL LOGGERS/DIN 3
- Y (2) CISCO GLC-LX-SM-RGD = 1 GBPS SM SFP MODULES
- CATEGORY 6 CABLE, 23AWG, OUTDOOR RATED CABLE BELDEN/7953A
- AA SENSOR SURGE SUPPRESSION, WAVETRONIX CLICK-200 OR ISS ZONE BARRIER ZB 24510
- AB 1 3/C \*16 CCTV POWER CABLE, OUTDOOR RATED CABLE BELDEN/1034A OR APPROVED EQUAL
- AC CDMA MODEM ASSEMBLY (FOR VERIZON NETWORK)
- AD NOT USED FOR THIS SHEET APPLICATION
- AE RS-232 / RS-485 TO ETHERNET CONVERTOR WAVETRONIX - CLICK-301 OR ISS-MOXA P5150A, OK-35A
- AF AC/DC POWER SUPPLY, 24VDC WAVETRONIX CLICK-204 OR ISS LAMBDA DSP100-24
- AG WIRELESS MODEM ANTENNAS, PCTEL/BMLPVDB700/2500
- AH WIRELESS MODEM ANTENNA CABLE, WITH SMA CONNECTORS PCTEL/PROFLEX PLUS 195-RG58/U
- AI 2A CIRCUIT BREAKER, ALLEN BRADLEY/1492-SPM1B020
- AJ TERMINAL BLOCK, ALLEN BRADLEY/1492-CD8
- AK MVDS ASSEMBLY (NOT SHOWN), SEE SPECIAL PROVISIONS WAVETRONIX (SMART SENSOR HDSS-126)
- AL TRANSFORMER COVERS, SQUARE D/9070FSC2
- AM NOT USED FOR THIS SHEET APPLICATION
- AN INDOOR/OUTDOOR RATED CAT6 (1000MBS, TEMPERATURE HARDENED) THESE ARE THE CAT6 CABLES ROUTED INSIDE CABINET
- AO MVDS CABLE, WAVETRONIX WX-SS-706-60 OR ISS G4-CBL-60
- AP #10 AWG

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NOTES:

1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.

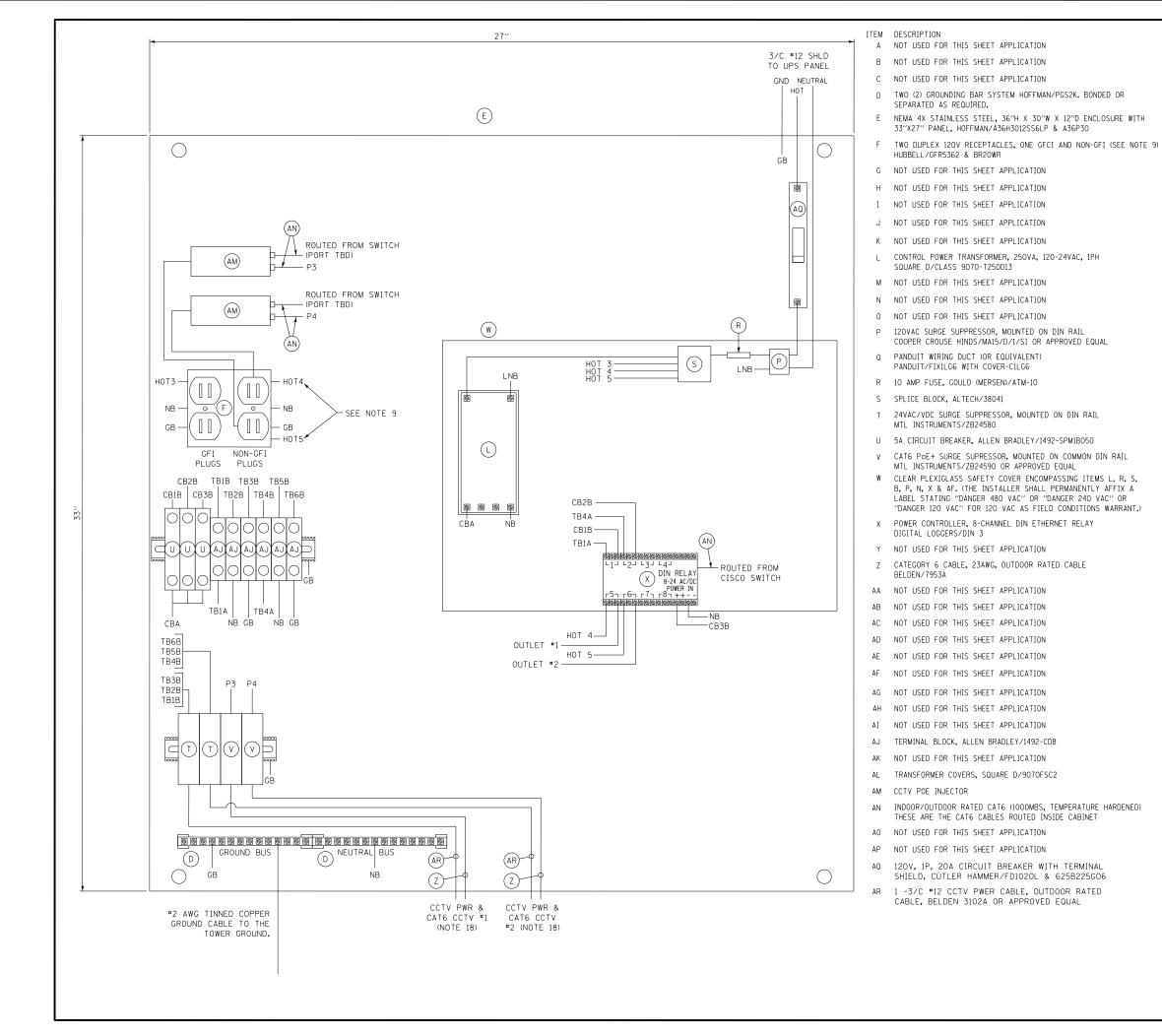
- 2. CONTRACTOR TO VERIFY CORRECT TRANSFORMER TAPS ARE USED BASED ON INCOMING POWER SOURCE.
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. MOUNT ITEMS J & K ON A 15 INCH CONTINUOUS SECTION OF DIN RAIL. THE DIN RAIL SHALL BE INSTALLED WITH THE CENTER LINE NO LESS THAN 5 INCHES FROM ANY OBSTACLE ABOVE AND NO LESS THAN 4 INCHES FROM ANY OBSTACLE BELOW. ALL DIN RAIL SHALL BE GROUNDED.
- 7. ALL CABLES INSTALLED WITHIN THE CABINET AND POLE SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 OUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (0.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. THE GROUND WIRE IN THE 3/C #16 CCTV POWER CABLE SHALL BE TAPED GREEN.
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING TABLE FOR WIRING DETAILS.
- 13. ALL CABLES SHALL ENTER THE ENCLOSURE FROM THE BOTTOM.
- 14. POWER FEED TO THE CISCO IE3000 SWITCH SHALL BE FROM THE 120VAC INPUT WHEN THE ENCLOSURE IS AC POWERED.
- THE CELL MODEM ANTENNAS SHALL BE PROPERLY SEALED TO PREVENT WATER PENETRATION INTO THE CABINET.
- 16. IF A SOLAR GENERATOR IS CONNECTED, THEN ITEM P AND THE SECONDARY SIDE OF ITEM B SHALL BE CONNECTED UNTIL A FINAL AC CONNECTION IS MADE.
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED THROUGH POLE.
- 19. WHEN A 24VDC TO 120VAC POWER GENERATOR IS CONNECTED, THEN THE 480VAC TO 120VAC STEP DOWN TRANSFORMER IS BYPASSED.
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS ON THE BOTTOM TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CATE CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. ALL INTERNAL 24VAC, 120VAC (STARTING ON SECONDARY SIDE OF ITEM B) AND ANY DC VOLTAGE POWER FEEDS USE #16 AWG CABLE.



M-ITS-1254



CABINET WIRING DIAGRAM DUAL CCTV AND THREE MVDS SOLAR GENERATOR AND WIRELESS ITS ASSEMBLY



NOTES:

- 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
- 2. NOT USED FOR THIS SHEET APPLICATION
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. NOT USED FOR THIS SHEET APPLICATION
- 7. ALL CABLES INSTALLED EXTERNAL TO THE BUILDING SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING SCHEMATIC FOR WIRING DETAILS.
- 13. NOT USED FOR THIS SHEET APPLICATION
- 14. NOT USED FOR THIS SHEET APPLICATION
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. NOT USED FOR THIS SHEET APPLICATION
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS. ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED TO TOWER BASE ENCLOSURE.
- 19. NOT USED FOR THIS SHEET APPLICATION
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. TIE THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXIGLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. NOT USED FOR THIS SHEET APPLICATION
- 28. VIDEO JUNCTION BOX SHALL BE WIRED TO ACCOMODATE POWER TO TOWER MOUNTED TRANSITION ENCLOSURE (24V AC).
- 29. LABEL JUNCTION BOX, TERMINAL STRIPS AND ALL WIRE AND CABLES. CONTRACTOR SHALL LABEL NEUTRAL BUS AS 24V AC NEUTRAL.
- 30. ALL ELECTRICAL CABLES TO CAMERAS SHALL HAVE SURGE PROTECTION (INCLUDES POWER AND CAT6).
- 31. ITEM AM WILL PLUG INTO QUAD OUTLET. MOUNT ITEM AM TO BACKBOARD.
- 32. IP RELAY WIRING SCHEMATIC ILLUSTRATES ITEM X WIRED IN OUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

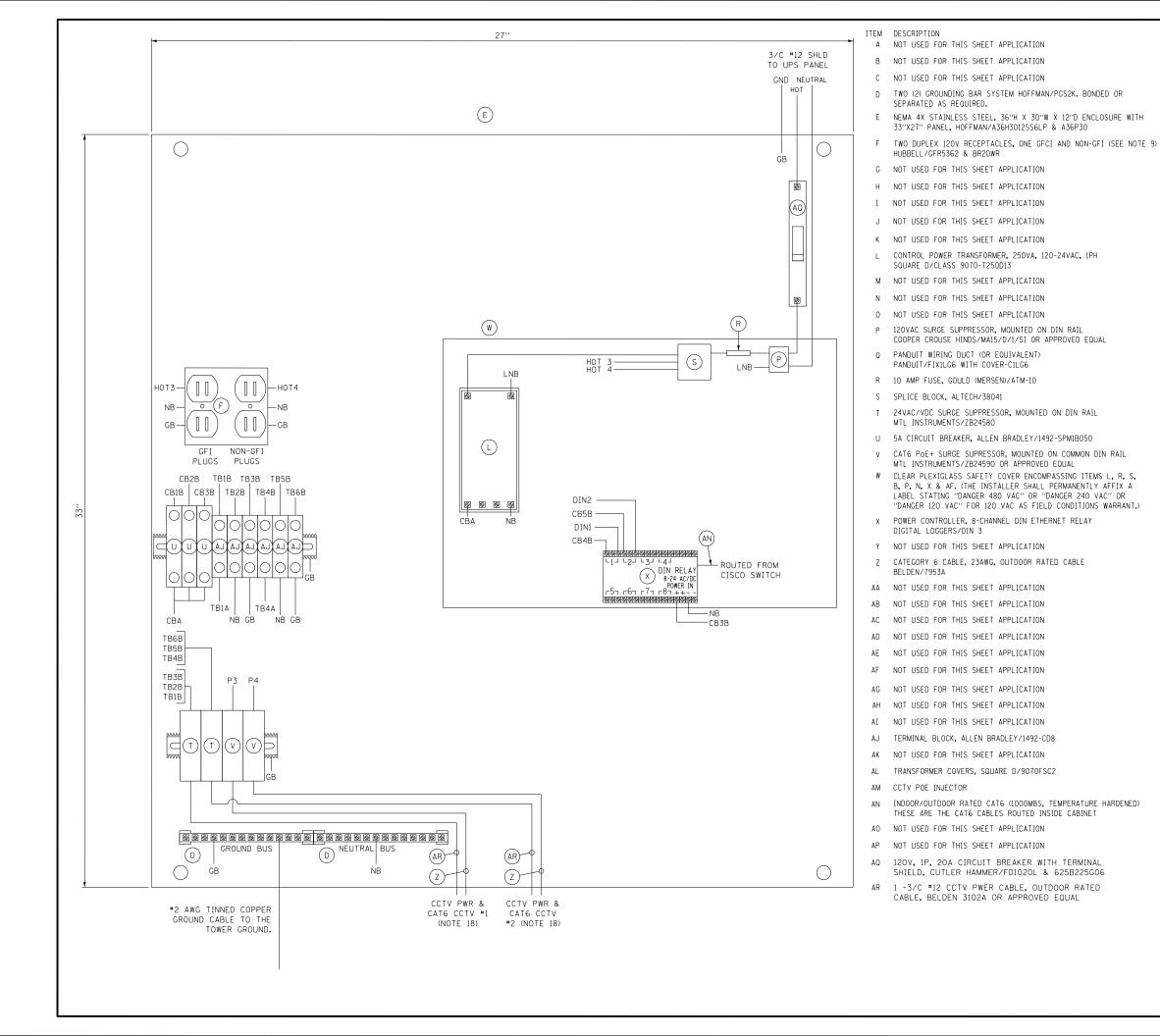
## NOTE TO DESIGNER

THIS BASE SHET 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 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.





CABINET WIRING DIAGRAM TOWER MOUNTED CCTV ITS ASSEMBLY



NOTES:

- 1. ALL POWER WIRING SHALL BE RHH/RHW WITH WIRE TERMINALS OR TINNED.
- 2. NOT USED FOR THIS SHEET APPLICATION
- ALL CABLES AND EQUIPMENT SHALL BE PROPERLY DRESSED AND LABELED. ALL CONDUITS SHALL BE PROPERLY PLUGGED WITH DUCT SEAL PUTTY (RAINBOW TECHNOLOGIES OR EQUIVALENT).
- 4. NOT USED FOR THIS SHEET APPLICATION.
- 5. EACH 120VAC OUTLET, PS OR TRANSFORMER (ITEM F, K, L, AF & N) SHALL BE FED FROM A SEPARATE INPUT LINE.
- 6. NOT USED FOR THIS SHEET APPLICATION
- 7. ALL CABLES INSTALLED EXTERNAL TO THE BUILDING SHALL BE OUTDOOR RATED.
- 8. NOT USED FOR THIS SHEET APPLICATION
- 9. THE GFI OUTLETS LOAD SHALL NOT BE CONNECTED TO ANY OTHER LOAD IN THE ENCLOSURE. THE 1900 QUAD BOX GFI'S ARE INTENDED TO BE UTILIZED FOR EXTERNAL EQUIPMENT ONLY. EACH OUTLETS TAB SHALL BE BROKEN SO THEY ARE INDEPENDENT.
- 10. ALL BREAKERS SHALL BE LABELED (e.g. CAMERA-AC, CAMERA-DC, DIN RELAY-AC, DIN RELAY-DC, CELL MODEM-AC ETC.).
- 11. NOT USED FOR THIS SHEET APPLICATION
- 12. USE THE MOUNTING TABS ON THE IP RELAY UNIT TO MOUNT THE UNIT DIRECTLY TO THE BACK PLATE. REFER TO THE IP RELAY WIRING SCHEMATIC FOR WIRING DETAILS.
- 13. NOT USED FOR THIS SHEET APPLICATION
- 14. NOT USED FOR THIS SHEET APPLICATION
- 15. NOT USED FOR THIS SHEET APPLICATION
- 16. NOT USED FOR THIS SHEET APPLICATION
- 17. ITEM X IS USED TO CONTROL POWER TO THE CAMERAS AND DETECTORS, ALL 120VAC CONNECTIONS ON ITEM X SHALL BE PROTECTED.
- 18. CABLES TO BE ROUTED TO TOWER BASE ENCLOSURE.
- 19. NOT USED FOR THIS SHEET APPLICATION
- 20. NOT USED FOR THIS SHEET APPLICATION
- 21. NOT USED FOR THIS SHEET APPLICATION
- 22. DIN RAIL SHALL BE INSTALLED AS ILLUSTRATED ON DRAWING. DIN RAIL SHALL BE GROUNDED TO THE GROUND BUS.
- 23. BOND NEUTRAL AND GROUND BUSES TOGETHER, WHEN REQUIRED. THE CABINET AND ENCLOSURE INTO THE GROUND BUS.
- 24. ITEM W SHALL BE FORMED AND MOLDED TO FIT AROUND THE AREA DENOTED BY THE DASHED LINE. THE PLEXICLASS SHALL BE MOUNTED TO THE BACKPLATE WITH SUFFICIENT AIR HOLES TO ALLOW HEAT TO ESCAPE THE AREA. THERE SHALL ALSO BE OPENINGS TO ALLOW CABLES TO BE PASSED FROM THE AC SECTION TO THE OTHER SECTIONS OF THE ENCLOSURE.
- 25. ITEM AL SHALL BE PLACED ON ITEMS B AND L.
- 26. ALL INTERNAL ENCLOSURE ROUTED AND TERMINATED CAT6 CABLE SHALL BE TEMPERATURE RATED AND INCIDENTAL TO THE CONTRACT.
- 27. NOT USED FOR THIS SHEET APPLICATION

- VIDEO JUNCTION BOX SHALL BE WIRED TO ACCOMODATE POWER TO TOWER MOUNTED TRANSITION ENCLOSURE (24V AC).
- 29. LABEL JUNCTION BOX, TERMINAL STRIPS AND ALL WIRE AND CABLES. CONTRACTOR SHALL LABEL NEUTRAL BUS AS 24V AC NEUTRAL.
- 30. ALL ELECTRICAL CABLES TO CAMERAS SHALL HAVE SURGE PROTECTION (INCLUDES POWER AND CAT6).
- 31. ITEM AM WILL PLUG INTO QUAD OUTLET. MOUNT ITEM AM TO BACKBOARD.
- 32. IP RELAY WIRING SCHEMATIC ILLUSTRATES ITEM X WIRED IN QUAD BOX (120V AC) CIRCUITS TO CONTROL POWER TO ITEM AM.

## NOTE 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 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 PRIOR TO INSERTION OF THE DRAWING INTO THE PLAN SET.

