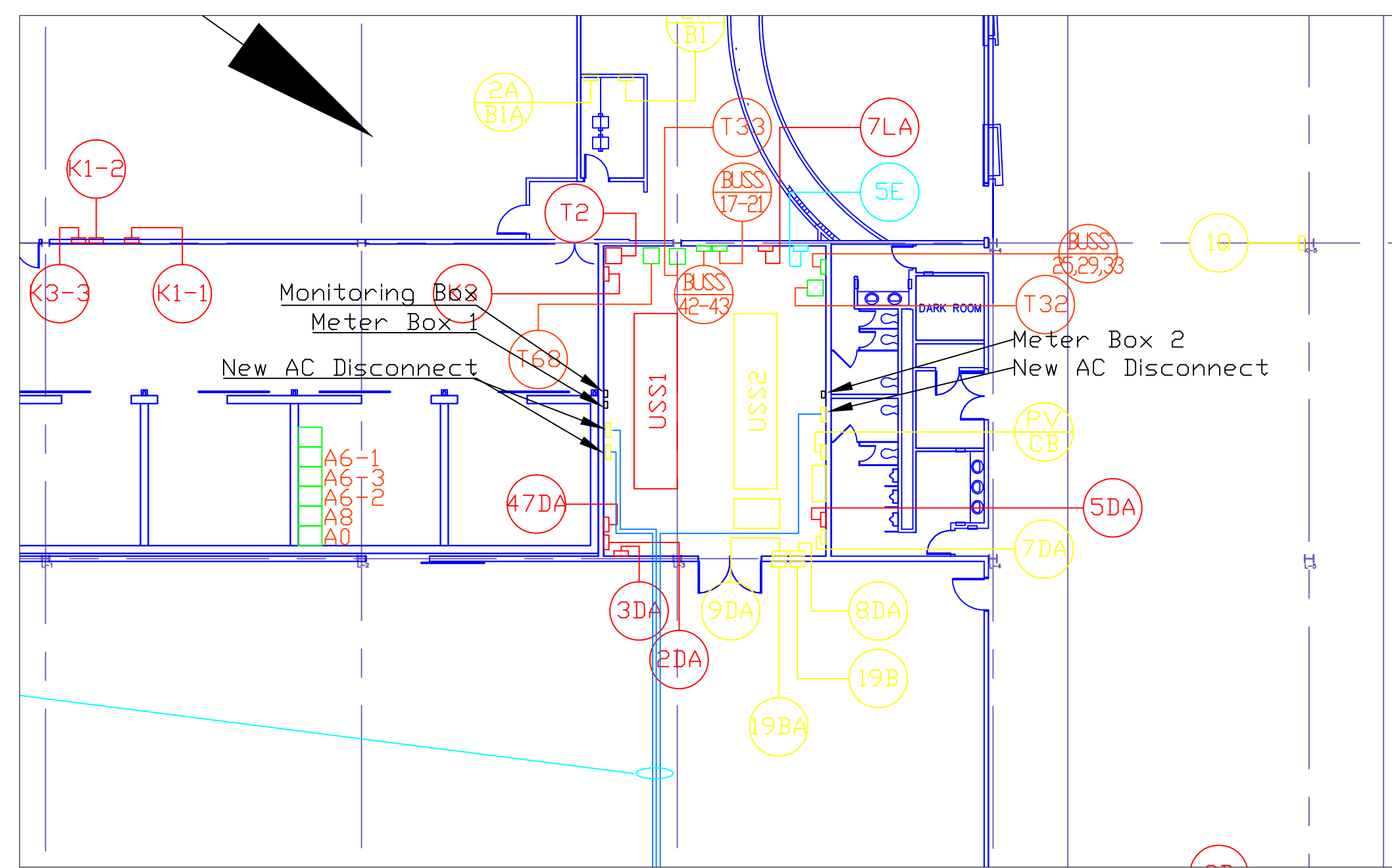
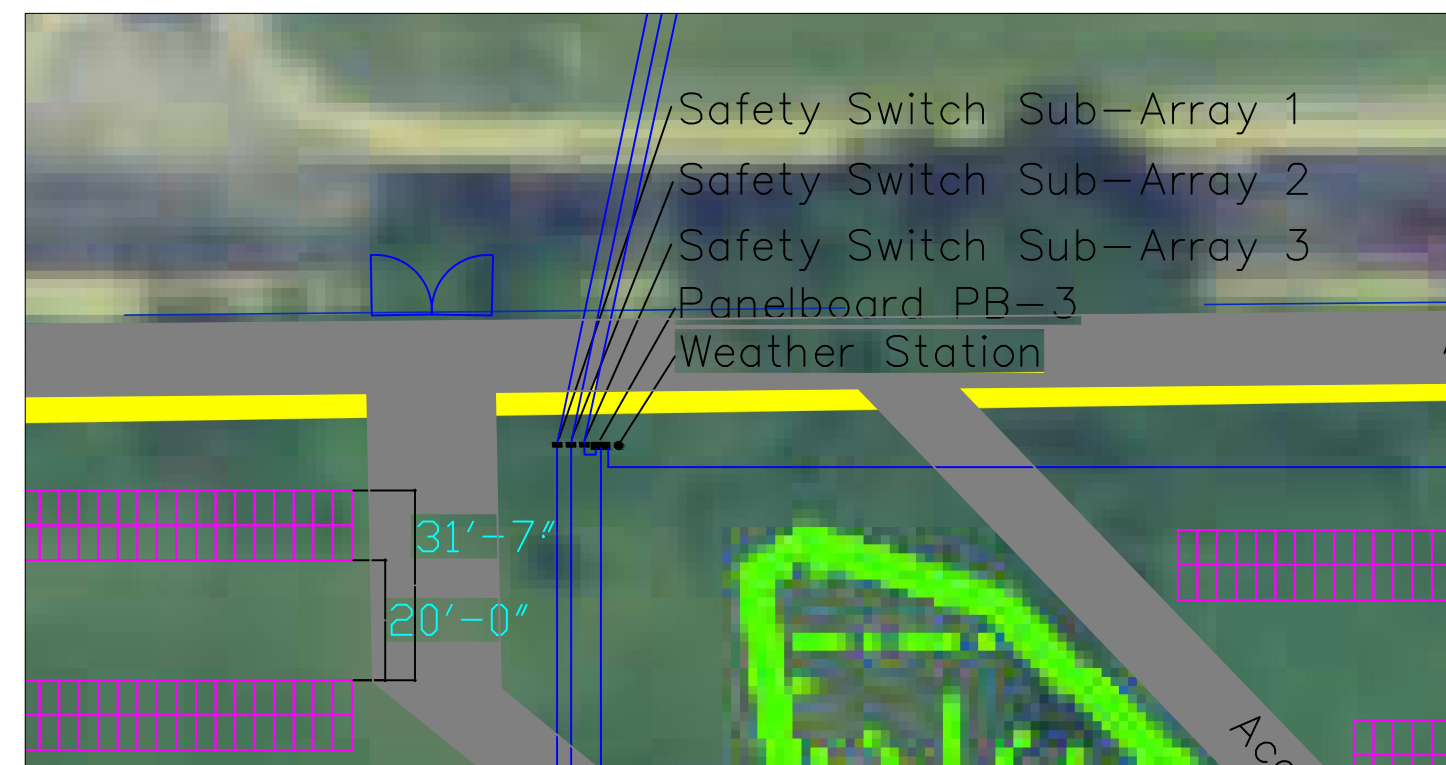


1
E.1.2 Array Layout Close up
SCALE: 1/64" = 1'



2
E.1.2 ELECTRICAL ROOM LAYOUT
SCALE: 1/32" = 1'



3
E.1.2 ROW SPACING DETAILS
SCALE: 1/32" = 1'

ELECTRICAL SPECIFICATIONS

- ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH 2011 EDITION OF NFPA-70, NATIONAL ELECTRICAL CODE (NEC) AS ADOPTED BY AUTHORITY HAVING JURISDICTION AND ALL LOCAL CODES AND ORDINANCES PERTAINING TO ELECTRICAL AND LIGHTING INSTALLATION. MATERIALS AND EQUIPMENT SHALL BE LISTED IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 110.3.
- CONTRACTOR SHALL APPLY FOR AND OBTAIN PERMITS FOR THE ELECTRICAL WORK.
- UNLESS INDICATED OTHERWISE, ALL WIRING FOR POWER, LIGHTING AND CONTROLS SHALL BE INSTALLED CONCEALED IN APPROVED RACEWAY. RACEWAYS SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS EXCEPT AS NOTED BELOW:
 - RIGID NON-METALLIC CONDUIT (PVC SCHEDULE 40 OR SCHEDULE 80) SHALL BE USED ONLY FOR UNDERGROUND CIRCUITS. DO NOT USE ABOVE GRADE INSIDE OR OUTSIDE BUILDING OR EXPOSED.
 - EMT SHALL BE USED IN STUD AND FURRED SPACES, IN ATTIC SPACES AND EXPOSED ABOVE 4'-0" A.F.F. WHEN EXPOSED WIRING IS PERMITTED.
 - USE RIGID METALLIC CONDUIT OR IMC IN CONCRETE OR MASONRY AND WHERE CONDUITS RUN EXPOSED BELOW 4'-0" A.F.F. ALL METALLIC RACEWAYS INSTALLED IN CONCRETE OR BELOW GRADE SHALL BE TAPE WRAPPED TO PREVENT CORROSION.
 - SUPPORT ALL CONDUITS AT 5'-0" INTERVALS AND WITHIN 18" OF BOX OR TERMINATION.
 - DO NOT USE CONDULET FITTINGS IN SIZES OVER 1 1/4".
 - EXPOSED RACEWAYS ARE PERMITTED IN UNFINISHED SPACES OR WHERE SPECIFICALLY APPROVED BY ARCHITECT.
 - PROVIDE FLEXIBLE METALLIC CONDUIT (LIQUID TIGHT WHEN INSTALLED OUTDOORS OR IN WET LOCATIONS) FOR MOTORS, A/C UNITS, MACHINERY WHICH MUST BE MOVED FOR ADJUSTMENT AND TRANSFORMERS. FLEX CONDUIT SHALL BE USED IN LENGTHS NOT TO EXCEED 3'-0". USE CLAMP TYPE CONNECTORS FOR FLEX -- NO SCREW-IN TYPES.
 - DO NOT USE ELECTRICAL NON-METALLIC TUBING FOR ANY PART OF THE RACEWAY SYSTEM.
- PROVIDE A GREEN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR IN ALL LINE VOLTAGE RUNS (BRANCH CIRCUITS AND FEEDERS). SIZE IN ACCORDANCE WITH NFPA-70, 2011 EDITION, TABLE 250.122 OR AS INDICATED, WHICHEVER IS LARGER. GROUND WIRE SHALL BE PROVIDED WHETHER OR NOT INDICATED ON THE DRAWINGS.
- INSTALL ALL CIRCUITS AS SHOWN ON PLAN.
- CONDUCTORS:
 - UNLESS OTHERWISE INDICATED, CONDUCTORS SHALL BE COPPER, MINIMUM SIZE NO. 12 AWG WITH "THIN" OR "THWN" OR "THWN-2" INSULATION FOR SIZES NO. 12 THROUGH 1 AWG AND "THIN" OR "THWN", "THWN-2", "XHHW" OR "XHHW-2" INSULATION FOR NO. 1/0 AWG AND LARGER.
 - PROVIDE LARGER CONDUCTORS WHEN INDICATED.
 - WHEN INDICATED (AL) ON DRAWINGS, ALUMINUM CONDUCTORS EQUAL TO ALCAN STABILLOY COMPACT STRANDED AA-8000 SERIES ALLOY SHALL BE USED. LUGS FOR ALUMINUM CONDUCTORS SHALL BE LISTED AL/CU TYPE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WITH A LISTED JOINT COMPOUND AND TIGHTEN WITH TORQUE WRENCH TO MANUFACTURER'S RECOMMENDED VALUES.
- COLOR CODE ALL CONDUCTORS:
 - 277/480V THREE PHASE SYSTEM: NEUTRAL - WHITE WITH GRAY STRIPE OR GRAY, PHASE A - BROWN, PHASE B - ORANGE, PHASE C - YELLOW, GROUND - GREEN.
 - 120/240V SINGLE PHASE SYSTEM: NEUTRAL - WHITE, PHASE A - BLACK, PHASE B - RED, GROUND - GREEN.
- DISTRIBUTION AND CONTROL EQUIPMENT SHALL BE EATON, GENERAL ELECTRIC, SCHNEIDER ELECTRIC OR SIEMENS, OF THE TYPE AND RATINGS INDICATED. EQUIPMENT SHALL BE SUITABLE FOR INTENDED USE SUCH AS WEATHERPROOF WHEN INSTALLED OUTDOORS.
 - PANELBOARDS SHALL HAVE PERMANENT CIRCUIT NUMBERING (NOT DECALS), VERTICAL MAIN BREAKERS OR HORIZONTAL MAIN BREAKERS OF A LARGER FRAME SIZE THAN THE BRANCH BREAKERS, METAL DIRECTORY FRAMES AND GROUND BARS BONDED TO THE BOX. WHEN INDICATED PROVIDE INSULATED/ISOLATED GROUND BAR IN ADDITION TO GROUND BAR BONDED TO BOX. ALL BUSSES COPPER. PROVIDE A "CAUTION - SERIES RATED SYSTEM" NAMEPLATE ON INTERIOR OF PANEL DEAD FRONT WHEN SERIES TESTED SHORT CIRCUIT RATING OF THE PANELBOARD IS USED.
 - SWITCHBOARDS SHALL BE FRONT ACCESSIBLE CONSTRUCTION, UNLESS OTHERWISE INDICATED, WITH PANEL MOUNTED FEEDER DEVICES. PROVIDE MAXIMUM VERTICAL BUSSING IN ALL SECTIONS, PREPARED FOR FUTURE ADDITIONS. ALL BUSSES COPPER, INCLUDING GROUND. CIRCUIT PROTECTIVE DEVICES SHALL BE OF THE TYPE AND RATINGS INDICATED.
 - SAFETY SWITCHES SHALL BE RATED 100,000 AIC MINIMUM AND SHALL HAVE CLASS R FUSE CLIPS WHENEVER CLASS R FUSES ARE INDICATED. PROVIDE SWITCHES OF PROPER CURRENT AND VOLTAGE RATING FOR CIRCUIT WHERE INSTALLED.

4
E.1.2 ELECTRICAL SPECIFICATIONS
NTS

- ALL EQUIPMENT SHALL HAVE PROPER OVERCURRENT PROTECTION. THE FUSE SIZES INDICATED ON THE DRAWINGS FOR EQUIPMENT ARE BASED ON EQUIPMENT SIZES AS SPECIFIED. SUBSTITUTIONS OF EQUIPMENT AS WELL AS CHANGE IN MANUFACTURER MAY MAKE OVERCURRENT DEVICES OF A DIFFERENT RATING NECESSARY. THE CONTRACTOR SHALL VERIFY THE ACTUAL NAMEPLATE AMPERE RATING OF ALL EQUIPMENT AND SHALL SELECT PROPER FUSES SIZE.
- PROVIDE IDENTIFICATION NAMEPLATES FOR ALL CONTROL SWITCHES FOR HVAC AND OTHER EQUIPMENT AND ON EACH PANEL, DISCONNECT, STARTER, TIME SWITCH, ETC. NAMEPLATES SHALL BE ENGRAVED LAMINATED BAKELITE, SCREWED OR RIVETED TO EQUIPMENT. DO NOT USE STAMPED METAL NAMEPLATES OR DYMO TAPE.
- ALL MATERIALS FURNISHED BY THIS CONTRACTOR SHALL BE NEW AND IN FIRST CLASS CONDITION. THE MANUFACTURER AND CATALOG NUMBERS SPECIFIED HEREIN AND ON THE DRAWINGS ARE TO ESTABLISH DESIGN, STYLE, AND LEVEL OF QUALITY. EQUAL PRODUCTS OF OTHER MANUFACTURERS ARE ACCEPTABLE.
- SUBMIT SHOP DRAWINGS (FIVE COPIES MIN.) FOR THE FOLLOWING PRODUCTS: PANELBOARDS & SWITCHBOARDS. SHOP DRAWINGS SHALL BE 8.5 x 11" PAPER SIZE OR SHALL BE THE SAME SIZE AS THE BID/CONSTRUCTION DOCUMENTS.
- VERIFY EXACT ELECTRICAL REQUIREMENTS OF EQUIPMENT FURNISHED BY OTHERS AND COMPLY WITH THOSE REQUIREMENTS AT NO ADDITIONAL COST TO OWNER.
- THIS CONTRACT SHALL INCLUDE ALL CONTINGENCIES WHICH MAY ARISE AND MAY BE REQUIRED BY ALTERATION AND DEMOLITION WORK. THIS TO INCLUDE ALL REMOVAL, RELOCATION AND REWORKING OF EXISTING ELECTRICAL OUTLETS, CONDUIT, WIRING, AND EQUIPMENT AND ANY NECESSARY SPLICING OR EXTENSION OF EXISTING CONDUIT AND WIRING SYSTEMS.
- THE ELECTRICAL CONTRACTOR SHALL FULLY GUARANTEE THE ELECTRICAL INSTALLATION FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER AGAINST ALL EVIDENCE OF IMPERFECT WORKMANSHIP OR FAILURE OR MALFUNCTION OF MATERIALS AND EQUIPMENT. WORK FOUND TO BE DEFECTIVE WITHIN THIS PERIOD SHALL BE REPLACED PROMPTLY WITHOUT COST.
- AT COMPLETION OF ELECTRICAL INSTALLATION PROVIDE OWNER WITH ACCURATE "AS BUILT" DRAWINGS INDICATING ALL VARIATIONS FROM CONTRACT DRAWINGS AND A LETTER TO THE OWNER'S REPRESENTATIVE STATING PROJECT FULLY COMPLIES WITH ALL CONTRACT DOCUMENTS AND IF NOT, HOW INSTALLATION WAS ACCOMPLISHED. ALL CHANGES SHALL BE SUBJECT TO OWNER'S REPRESENTATIVES AND ENGINEER'S APPROVAL.

ELECTRICAL SYMBOLS

	DISCONNECT SWITCH, NON-FUSED (PLAN).
	DISCONNECT SWITCH, FUSED (PLAN).
	DISCONNECT SWITCH-FUSED (SCHEMATIC).
	PANEL.
	MAGNETIC STARTER AS NOTED.
	MAGNETIC STARTER CONTROLS ETC. FURNISHED WITH EQUIPMENT. CONNECT AS REQUIRED.
	MAGNETIC STARTER CONTROLS MOUNTED IN SECTION (SIZE AS NOTED). MOTOR OUTLET CONNECT AS REQUIRED.
	CIRCUIT RUN IN CEILING OR WALL.
	CIRCUIT RUN TO PANEL, OR AS NOTED.
	GROUND EXTEND AND CONNECT TO APPROVED GROUND.
	STUB-OUT CONDUIT TO LOCATION AS INDICATED. (IF NOT INDICATED STUB TO ABOVE ACCESSIBLE CEILING INSIDE BUILDING OR UNDERGROUND IF OUTSIDE OF BUILDING.)
	BC BARE COPPER.
	CWR CONTROL WIRING AS REQUIRED.
	(E) or EXIST EXISTING EQUIPMENT GROUND.
	FLA FULL LOAD AMPS.
	GND GROUND.
	GFI or GFCI GROUND FAULT CIRCUIT INTERRUPTER, CLASS A, 6MA.
	GFP GROUND FAULT PROTECTION (PER NEC 230.95).
	FBO FURNISHED BY OTHERS, ELECTRICAL CONTRACTOR TO INSTALL AND PROVIDE SERVICE, ETC. TO AND CONNECT AS SHOWN AND/OR AS REQUIRED.
	IG ISOLATED GROUND PER NEC 250.146 (D).
	NIC NOT IN CONTRACT.
	NTS NOT TO SCALE.
	UG UNDERGROUND.
	UNO UNLESS NOTED OTHERWISE.
	WP WEATHERPROOF.

General Construction Notes:

- All Trenching to follow Detail 12 of Sheet E.3
- Directional Boring in place of open trench is acceptable
- Utility location service shall be deployed prior to digging
- A Storm Water Management Plan shall be derived prior to construction and executed during construction
- A Silt/Dust/Runoff protection by Wisconsin DNR will need to be executed during construction
- Field locate trench locations with approval from GE Project Manager
- Field locate all panelboards, j-boxes, safety switches with approval from GE Project Manager
- New Fence to sit 10ft off of roadway. Field located access gate point with GE Project Manager approval
- Field located monitoring equipment with GE Project Manager approval
- 12ft wide access road along fence for fire access

5
E.1.2 General Construction Notes
NTS

DRAWING SEAL

GENERAL ELECTRIC COMPANY
GE-SOLAR
SCHENECTADY, NY - USA



GE SOLAR 1 OLD RIVER ROAD
SCHENECTADY NY 12345

SITE NAME: GE Health Care - Waukesha WI
3000 N Grandview Blvd
Waukesha, WI 53188

SITE ADDRESS:

DISTRIBUTION: DATE:
RELEASE: 1/19/2016
REVISION 1: 3/4/2015

DRAWING SCALE: XXX
DRAWN: CHECKED:
FARNSWORTH: XXX

ELECTRICAL SITE LAYOUT; CLOSE UP

E.1.2