

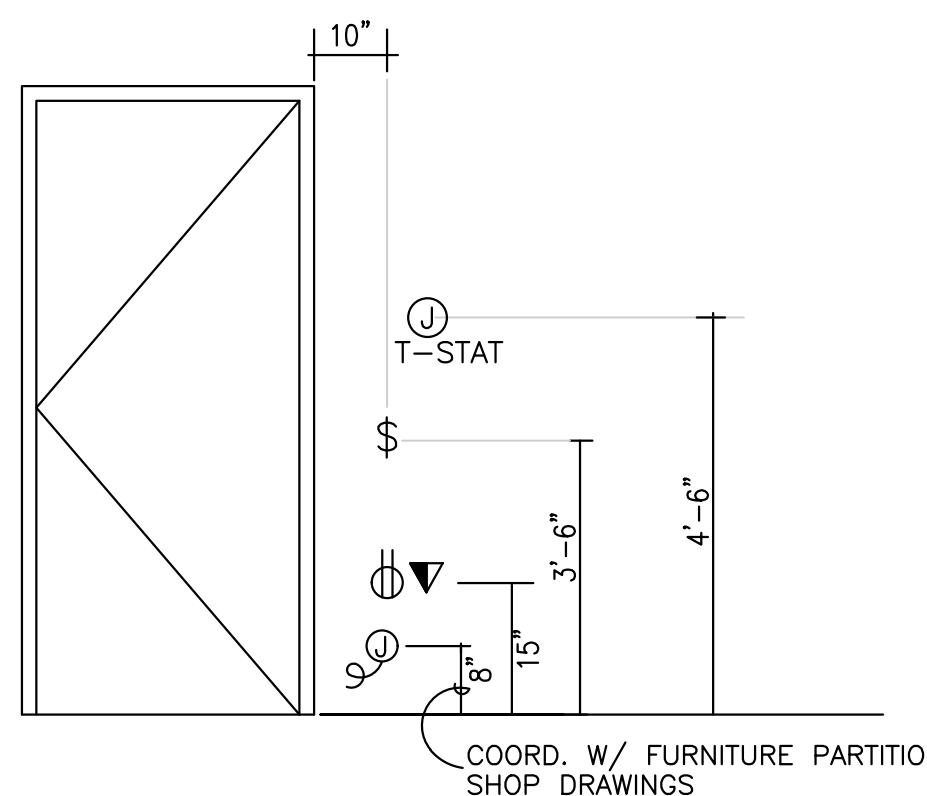
**GENERAL NOTES**

1. THIS INSTALLATION SHALL BE IN COMPLIANCE WITH THE STATE CODES OF ORDINANCES, AND NATIONAL CODES INCLUDING BUT NOT LIMITED TO: IECC, AND NFPA72.
2. BEFORE COMMENCING WORK THE CONTRACTOR SHALL VISIT THE JOB SITE AND FULLY INFORM HIMSELF OR HERSELF OF ALL CONDITIONS THAT AFFECT THE WORK, EXAMINE THE DRAWINGS AND SPECIFICATIONS SHEET, AND SUBMIT ANY QUESTIONS IN WRITING TO THE ARCHITECT AND ENGINEER.
3. ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION SHEET AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.
4. THE CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THIS WORK SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT SPECIFICATIONS BEFORE COMMENCING ANY WORK. THE PROJECT SPECIFICATIONS AND DRAWINGS FORM THE BASIS OF THIS CONTRACT REQUIREMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS TO BE INSTALLED, EQUIPMENT TO BE FURNISHED, THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS, THE MOST STRICT METHOD GOVERN UNLESS THE ARCHITECT/ENGINEER DIRECTS OTHERWISE.
5. THE ELECTRICAL CONTRACTOR SHALL CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS AND SPECIFICATION SHEET THAT ARE PART OF THIS PROJECT TO ENSURE THAT NO FIXTURE, OUTLET, ALARM STATION, CONTROL DEVICE, POWER WIRING DEVICE, ETC., IS OMITTED. HE/SHE SHALL CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN ONLY, ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF BUILDING EQUIPMENT. NO EXTRA CHARGES SHALL BE ACCEPTED BY OWNER AFTER BIDDING FOR SUCH EQUIPMENT AND LABOR.
6. EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO INSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTING INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATIONS MUST BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.
7. INSTALL ELECTRICAL DEVICES AS INDICATED IN THIS SET OF DRAWINGS. ADJUST FINAL DEVICE LOCATIONS AS REQUIRED TO ACCOMMODATE WORK. COORDINATE WITH ALL TRADES INVOLVED WITH ARCHITECTURAL CASEWORK AND ELEVATIONS DRAWINGS. NOTIFY THE ENGINEER AND/OR THE ARCHITECT IF ANY CONFLICTS ARE FOUND PRIOR TO BIDDING PROJECT. INSTALL CONDUIT AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES.
8. ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE JOB TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS.
9. CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. ALL CONDUITS SHALL RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS AND WHERE APPROVED BY THE ARCHITECT.
10. FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CODE REQUIREMENTS.
11. ADJACENT POWER AND DATA DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION.
12. ALL RECEPTACLES, VOICE AND DATA OUTLETS SHALL BE MOUNTED PER MOUNTING HEIGHT LEGEND, UNLESS OTHERWISE NOTED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. ALL DEVICES SHALL BE NEW. REFER TO ARCHITECTURAL CASEWORK DRAWINGS AND ARCHITECTURAL ELEVATIONS FOR EXACT DEVICES MOUNTING HEIGHTS.
13. REFER TO FIRE ALARM SHEET IN THIS SET OF DRAWINGS FOR FIRE ALARM SYSTEM INFORMATION.
14. DETERMINE, IN ADVANCE OF PURCHASE, THAT ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLED SHALL FIT INTO THE ROOM OR SPACE ALLOCATED, AS INDICATED ON THE DRAWINGS, ALLOWING SUFFICIENT CLEARANCE FOR THE SAFE SERVICE AND/OR MAINTENANCE OF RELATED EQUIPMENT, INCLUDING THAT OF OTHER TRADES.
15. ALL CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR INSTALLED. COLOR OF GROUNDING CONDUCTOR SHALL BE GREEN. SIZE OF GROUNDING CONDUCTOR SHALL BE AS REQUIRED PER NEC ARTICLE 250.122.
16. ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR INSTALLED UNLESS OTHERWISE INDICATED. COLOR OF NEUTRAL CONDUCTOR SHALL BE WHITE.
17. ALL CONDUCTOR SHALL BE MADE OF COPPER. MINIMUM WIRE SIZE SHALL BE #12AWG UNLESS OTHERWISE INDICATED. UTILIZE SOLID CONDUCTORS FOR WIRE GAGES UP TO #12AWG AND STRANDED CONDUCTOR FOR GAGES #10AWG AND LARGER.
18. SPECIAL RECEPTACLES PLUG CONFIGURATION REQUIREMENTS SHALL BE COORDINATED WITH EQUIPMENT PLUG REQUIREMENTS PRIOR TO INSTALLATION.
19. ALL FEEDER AND BRANCH CIRCUIT WIRING INSTALLED INDOORS SHALL USE THHN INSULATION (90F). ALL WIRING INSTALLED OUTDOORS SHALL USE THWV INSULATION (90F). REFER TO SPECIFICATION SHEET FOR COLOR CODED REQUIREMENTS.
20. ALL POWER WIRING SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM. MINIMUM RACEWAY SIZE SHALL BE 3/4" UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL SIZE ALL CONDUITS SO AS TO NOT EXCEED 40% OF CONDUIT FILLING CAPACITY. WHEN MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN THE SAME CONDUIT AND AMBIENT TEMPERATURES ADJUSTMENT FACTORS PER ELECTRICAL CODE TABLES 310.15(B)(2)(A), 310.15(B)(3)(A) SHALL BE APPLIED.
21. ALL CIRCUITS SERVING EMERGENCY EXIT SINGS, NIGHT LIGHTS AND EXTERIOR LIGHTS SHALL UTILIZE #10 WIRE TO MINIMIZED VOLTAGE DROP UNLESS OTHERWISE INDICATED.
22. ALL BREAKERS SERVING FIRE ALARM EQUIPMENT AND EXIT SIGNS SHALL HAVE LOCK-OUT DEVICE INSTALLED UNLESS OTHERWISE INDICATED.
23. DISTRIBUTION PANELS AND BRANCH CIRCUIT PANELBOARDS, SHALL BE LABELED WITH PANEL NAME AND ALSO HAVE A PANEL DIRECTORY INSTALLED. UTILIZE TYPE WRITER AS A MINIMUM FOR COMPLIANCE. HAND WRITTEN CARD DIRECTORIES ARE NOT ACCEPTABLE.
24. DISTRIBUTION PANELS, BRANCH PANELBOARDS, DISCONNECT SWITCHES, ETC. SHALL BE LABEL WITH A READILY VISIBLE LABEL PER NFPA 70E, STANDARD FOR SAFETY IN THE WORKPLACE. LABEL SHALL BE CLEARLY VISIBLE TO PERSONNEL AND SHALL READ "CAUTION ARC FLASH HAZARD" ALSO LABELS SHALL INDICATE THE AVAILABLE SHORT CIRCUIT CURRENT AT EQUIPMENT, PPE, VOLTAGE, PHASES, SIZE AND COLOR OF TEXT SHALL BE PER STANDARD.
25. ALL FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE DONE WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT. INSTALL GREEN GROUNDING CONDUCTOR.
26. ALL FINAL BREAKERS AND CONDUCTORS SIZES SERVING MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH MECHANICAL SHOP DRAWINGS AND CONTRACTOR PRIOR TO INSTALLATION. E.C. SHALL COORDINATE WITH HVAC CONTRACTORS EXACT POINT OF CONNECTION TO THE EQUIPMENT PRIOR TO ROUGH-IN.

**GENERAL NOTES (CONTINUE)**

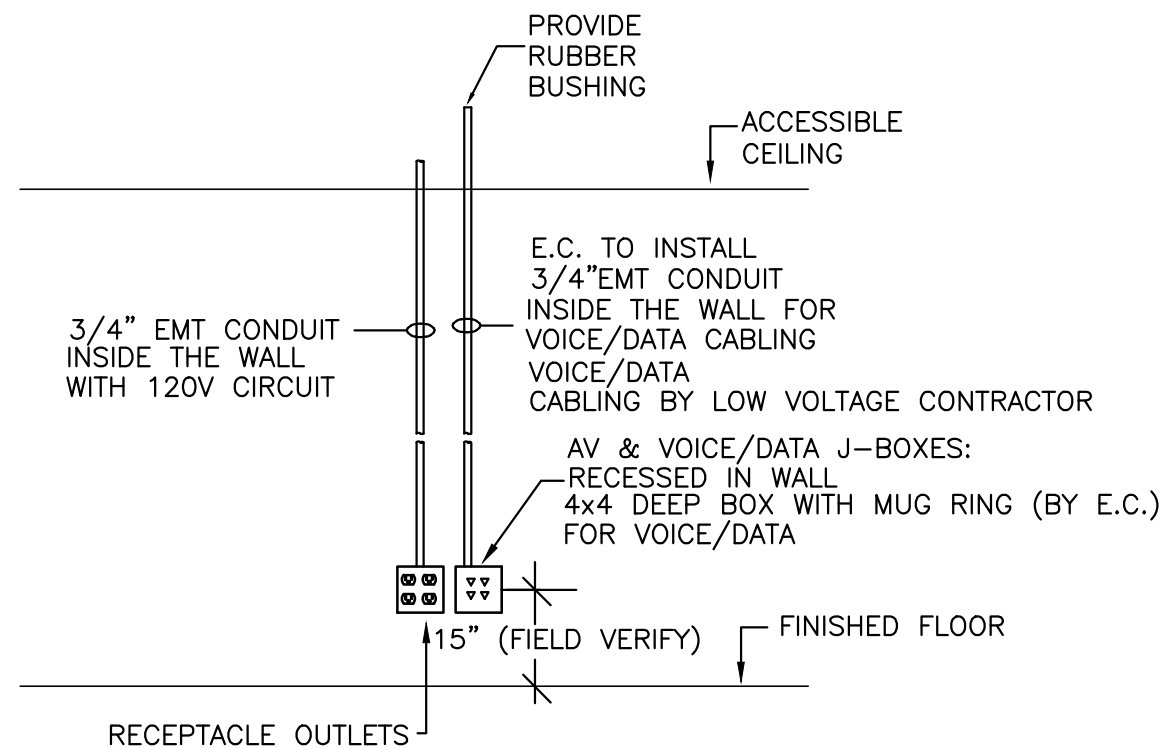
27. ALL EQUIPMENT INSTALLED OUTSIDE SHALL BE WEATHER PROOF RATED. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.
28. INSTALL CONDUIT FROM THE TOP OF THE BAR JOIST.
29. LABEL ALL J-BOXES COVER PLATES, RECEPTACLES COVER PLATES WITH CIRCUIT INFORMATION AND PANEL SOURCE. UTILIZE P-TOUCH LABEL OR APPROVED EQUAL.
30. ALL MOUNTING HEIGHTS OF DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS OR ARCHITECT PRIOR TO ROUGH-IN.
31. DO NOT INSTALL DEVICES IN DIFFERENT ROOMS BACK TO BACK. PROVIDE 6" SIDE BY SIDE IN BETWEEN.
32. COORDINATE EXACT FURNITURE POWER AND VOICE/DATA FEEDING CONNECTIONS AT EACH LOCATION PRIOR TO ROUGH-IN.
33. GENERAL USE RECEPTACLES SHALL BE WHITE IN COLOR WITH STEEL COVER PLATES. FINAL COLOR OF RECEPTACLES & COVER PLATES SHALL BE AS SELECTED BY THE ARCHITECT OR OWNER.
34. E.C. SHALL INSTALL J-BOX AND CONDUIT FOR MECHANICAL THERMOSTATS. COORDINATE EXACT LOCATIONS WITH M.C. E.C. SHALL FURNISH AND INSTALL WIRING AND TERMINATE ALL LINE VOLTAGE THERMOSTATS.
35. FIRE PROOF ALL PENETRATIONS THRU WALLS AND FLOORS TO RE-STABLISH THE FIRE RATING OF PARTITION.
36. PROVIDE MULTI-CANG J-BOX FOR INSTALLATION OF WIRING DEVICES LOCATED AT THE SAME LOCATION UNLESS OTHERWISE INDICATED ON THE FLOOR PLANS. PROVIDE METALLIC DIVIDER PLATES BETWEEN DIFFERENT CIRCUITS IN THE SAME BOX.
37. ALL PULL BOXES AND JUNCTION BOXES SHALL BE SIZED PER ELECTRICAL CODE ARTICLE 314, TABLES 314.16 BASED IN THE AMOUNT OF CABLE AND CONDUITS ENTERING/LEAVING THE BOX.
38. VOICE/DATA/AUDIO VISUAL (AV) SYSTEMS CABLEING AND EQUIPMENT SHALL BE PROVIDED BY LOW VOLTAGE CONTRACTOR. EC SHALL PROVIDE REQUIRED JUNCTION BOXES, CONDUIT, AND PULL STRING FOR ALL LOCATIONS.
39. FOR THE AREA OF WORK WITH DAMAGED, DETERIORATED, COMPROMISED OR MISSING FIREPROOFING CREATED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED TO FULL PROTECTIVE CAPACITY.

**MOUNTING HEIGHTS**



**NOTES:**  
 1. ALL HEIGHTS FOR OUTLETS ARE AS INDICATED. COORDINATE WITH INTERIOR ARCHITECTURAL DRAWINGS. WHERE DIFFERENCES EXIST, USE ARCHITECTURAL MOUNTING HEIGHTS.

**ELECTRIC AND VOICE/DATA OUTLETS**



**NOTE:**  
 1-ADJACENT POWER AND DATA/PHONE DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED.  
 2-ALL RECEPTACLE OUTLETS SHALL BE PROVIDED W/ P-TOUCH LABEL WITH CIRCUIT # AND SOURCE PANEL TAGS

**ELECTRICAL SYMBOL LIST**

- ⊖ # DUPLEX RECEPTACLE, # INDICATES CIRCUIT
- ⊖ SIMPLEX RECEPTACLE
- C ⊖ SIMPLEX RECEPTACLE CLOCK STYLE
- GFI ⊖ DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER
- U ⊖ DUPLEX RECEPTACLE, W/2 USB PORTS
- ⊖ # QUAD RECEPTACLE (# INDICATES CIRCUIT)
- AS ⊖ AC DUPLEX RECEPTACLE MOUNTED ABOVE THE COUNTER, REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT
- ⊖ DUPLEX RECEPTACLE MOUNTED AT SWITCH HEIGHT
- ⊖ SPECIAL RECEPTACLE COORDINATE EXACT REQUIREMENTS WITH EQUIP. SERVING
- ⊖ FLUSH MOUNTED FLOOR BOX WITH DUPLEX RECEPTACLE
- FB FLOOR BOX (REFER TO FLOOR PLAN FOR REQUIREMENTS: PWR, VOICE/DATA & AV)
- ⊖ POKE THRU SEE DRAWING FOR REQUIREMENTS
- ⊖ PULL BOX
- \$ TOGGLE SWITCH SPECIFICATION GRADE
- \$ D TOGGLE SWITCH WITH DIMMER
- \$ 3 3-WAY TOGGLE SWITCH
- \$ K KEYSWITCH
- \$ M,K MOMENTARY CONTACT SWITCH - CENTER OFF
- \$ P RED PILOT LIGHT SWITCH (ON IN THE ON POSITION)
- \$ OS WALL SWITCH OCCUPANCY SENSOR
- ⊖ CEILING MOUNTED OCCUPANCY SENSOR
- ⊖ DAY LAY SENSOR
- ⊖ PHOTOCCELL FOR OVERRIDE TIME CLOCK FUNCTION
- ⊖ HEAVY DUTY FUSIBLE DISCONNECT SWITCH
- ⊖ HEAVY DUTY NON-FUSIBLE DISCONNECT SWITCH
- ⊖ JUNCTION BOX
- ⊖ SINGLE POLE DISCONNECT SWITCH TOGGLE STYLE
- ⊖ CONTROL TRANSFORMER WITH DISCONNECT SWITCH
- ⊖ MOTOR WITH MOTOR RATED DISCONNECT SWITCH.
- ⊖ HOT, NEUTRAL, GROUND CONDUCTOR IN RACEWAY
- CONDUIT CONCEALED IN WALL/ABOVE THE CEILING
- CONDUIT IN CONCRETE SLAB/UNDERGROUND
- ⊖ EXPOSED CONDUIT
- FLEXIBLE METAL CONDUIT
- ⊖ SLEEVE WITH END BUSHINGS ACC SIZE AS INDICATED IN DRAWINGS
- ⊖ VOICE/DATA OUTLET (2-PORT) (C3:3-PORTS; C4:4PORTS, ETC) (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4" C.
- ⊖ VOICE OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4" C.
- ⊖ VOICE/DATA OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4" C.
- ⊖ AUDIO/VISUAL/DATA OUTLET (4x4 DEEP BOX WITH MUG RING AND ONE (1) 1/4" C. TO ACC WITH END BUSHING)
- MAP WIRELESS ACCESS POINT
- SEC. CAMERA BY SEC. CONTRACTOR (E.C. TO ROUGH-IN 3/4" C UP TO ABOVE ACC. COORD. WITH SECURITY CONTRACTOR PRIOR TO ROUGH-IN
- ROUGH IN FOR ACCESS CONTROL CARD READER
- PREPARE DOOR FOR SECURITY DOOR CONTACT
- ROUGH IN FOR REQUEST TO EXIT DEVICE
- WALL/CORNER/CEILING MOUNTED MOTION SENSOR
- ⊖ CEILING MOUNTED OCCUPANCY SENSOR
- PREPARE DOOR FOR ELECTRIC HARDWARE
- PREPARE DOOR FOR MAG-LOCK
- ROUGH-IN FOR SECURITY KEY PAD
- FACP FIRE ALARM CONTROL PANEL
- FAAP FIRE ALARM REMOTE ANUNCIATOR PANEL
- BPS FIRE ALARM REMOTE BOOSTER POWER SUPPLY
- S FIRE ALARM DOUBLE ACTION PULL STATION
- V WALL MOUNTED FIRE ALARM STROBE (DEVICE W/ AN "C" IS CEILING MTD)
- AV WALL MOUNTED FIRE ALARM HORN/STROBE (W/ AN "C" IS CEILING MTD)
- SD FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR
- HD FIRE ALARM HEAT DETECTOR (SEE DRAWINGS FOR TYPE) (155FIX, 200FIX, RATE OF RISE (ROR))
- DD FIRE ALARM DUCT SMOKE DETECTOR
- RTS FIRE ALARM DUCT DETECTOR REMOTE KEYED TEST SWITCH
- MM FIRE ALARM MONITOR MODULE
- R FIRE ALARM CONTROL RELAY
- FIRE PROTECTION WATER FLOW SWITCH (INTERFACE WITH FACP VIA MM)
- TS FIRE PROTECTION TAMPER SWITCH (INTERFACE WITH FACP VIA MM)
- K KNOX BOX
- S\_C CEILING MOUNTED SPEAKER
- ADA MOTORIZED DOOR OPENER PUSH BUTTON
- UNIVERSAL MOUNTED (CEILING/WALL) EXIT SIGN WITH CHEVRONS (SEE LIGHT FIXTURE SCHEDULE)
- 2 x 4 SURFACE MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- 2 x 4 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- 2 x 2 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- NIGHT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
- EMERGENCY LIGHT (SEE LIGHT FIXTURE SCHEDULE)
- SINGLE HEAD POLE LIGHT SYSTEM (SEE LIGHT FIXTURE SCHEDULE)
- AN ANTENNA
- PANLBOARD
- T UTILITY TRANSFORMER

**ABBREVIATIONS**

- WP WEATHER PROOF
- WG WIRE GUARD
- AC ABOVE THE COUNTER
- C CEILING MOUNTED DEVICE
- NL NIGHT LIGHT
- CLG CEILING
- (R) RETURN DUCTWORK
- (S) SUPPLY DUCTWORK
- OHD OVERHEAD DOOR
- ACC ABOVE ACCESSIBLE CEILING
- VEL VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
- +42 DEVICE MOUNTED AT 42 INCHES AFF
- AFF ABOVE FINISH FLOOR
- TR TAMPER RESISTANT
- TG TAMPER GUARD
- EWC ELECTRICAL WATER COOLER
- WP/ IN USE METAL WHILE-IN-USE COVER WEATHER PROOF SIMILAR TO EATON WIUMH-1 SERIES
- E.C. ELECTRICAL CONTRACTOR
- M.C. MECHANICAL CONTRACTOR
- S.C. SECURITY CONTRACTOR
- WP WEATHER PROOF
- ATS AUTOMATIC TRANFER SWITCH
- AHJ AUTHORITY HAVING JURISDICTION
- HD ELECTRICAL HAND DRYER
- IWH INSTANTANEOUS ELECTRICAL WATER HEATER
- X EXISTING DEVICE TO REMAIN
- XRR EXISTING DEVICE TO BE REMOVED AND RELOCATED
- XR EXISTING DEVICE RELOCATED
- N NEW DEVICE

**ELECTRICAL DRAWING LIST**

- E-0 ELECTRICAL SYMBOL LIST & GENERAL NOTES.
- E-1 FIRST FLOOR PLAN - ELECTRICAL.
- E-2 SECOND FLOOR PLANS - ELECTRICAL.
- EL-1 FIRST FLOOR PLAN - LIGHTING.
- EL-2 SECOND FLOOR PLANS - LIGHTING.
- E-3 PARTIAL ELECTRICAL RISER DIAGRAM.
- E-4 FIRE ALARM
- E-5 PANEL SCHEDULE, LIGHTING FIXTURE SCHEDULES AND DETAILS.
- E-6 ELECTRICAL SPECIFICATION SHEET.

**CONSULTANTS**



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STATEMENT OF COMPLIANCE  
 I HAVE PREPARED OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH ALL THE APPLICABLE CODES, INCLUDING THE ENVIRONMENTAL BARRIERS ACT (410 ILCS) AND THE 2010 AMERICAN WITH DISABILITIES ACT.

HAMMOND, INDIANA

big set - 02-12-19  
 not for construction

ISSUE	DATE
FOR BID	02/12/19

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PROJECT NO.	
DATE	
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ST. MARGARET MARY PARISH SPIRITUAL CENTER

1445 Hoffman Street Hammond, Indiana

SHEET DESCRIPTION  
 ELECTRICAL SYMBOL LIST & GENERAL NOTES

SHEET NUMBER

E-0

SHEET 1 of 9

ISSUE	DATE
FOR BID	02/12/19

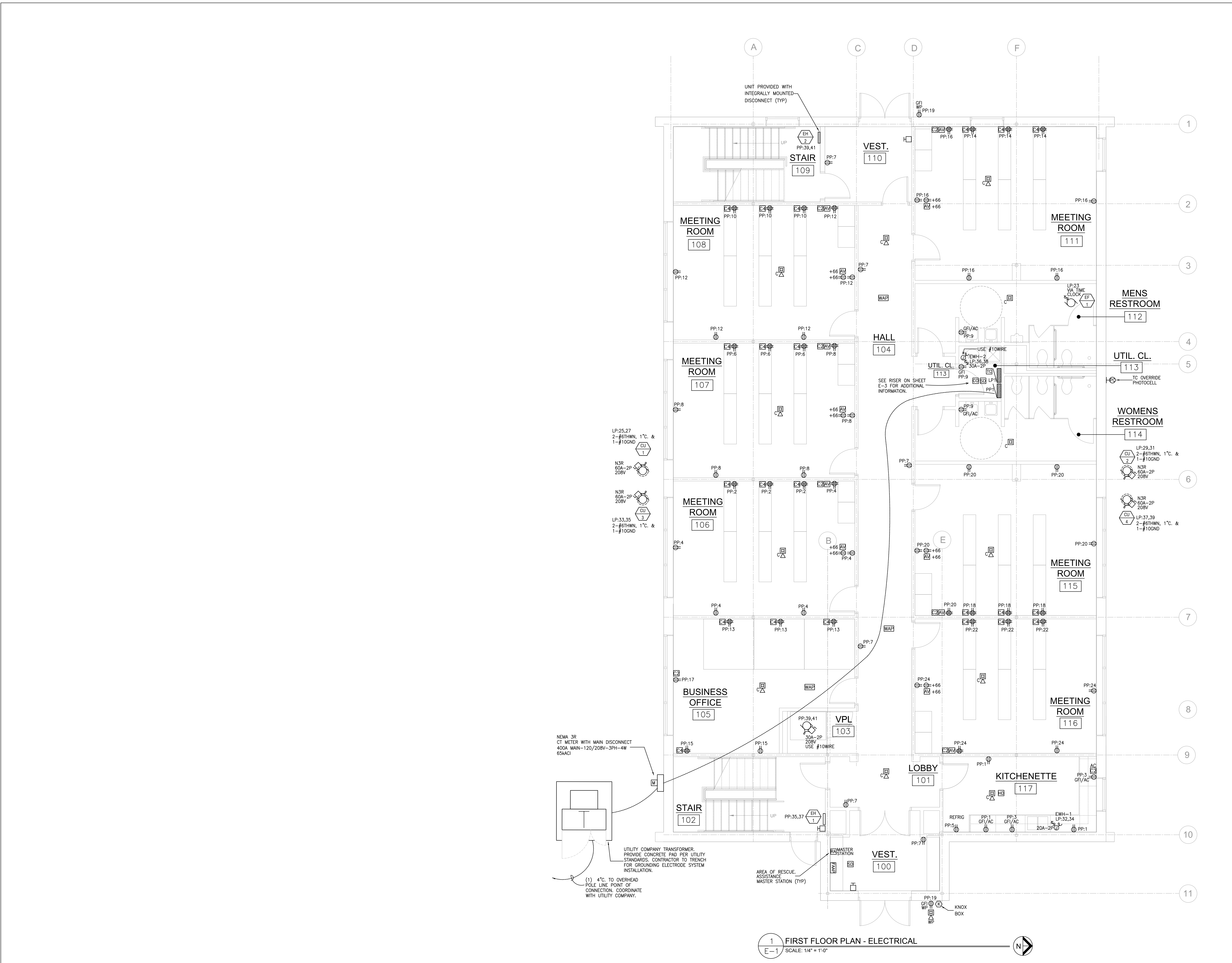
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**ST. MARGARET MARY PARISH SPIRITUAL CENTER**

1445 Hoffman Street  
 Hammond, Indiana

SHEET DESCRIPTION  
**FIRST FLOOR PLAN ELECTRICAL**

SHEET NUMBER	<b>E-1</b>
SHEET 2 of 9	



**1** FIRST FLOOR PLAN - ELECTRICAL  
**E-1** SCALE: 1/4" = 1'-0"

STATEMENT OF COMPLIANCE  
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HAMMOND, INDIANA

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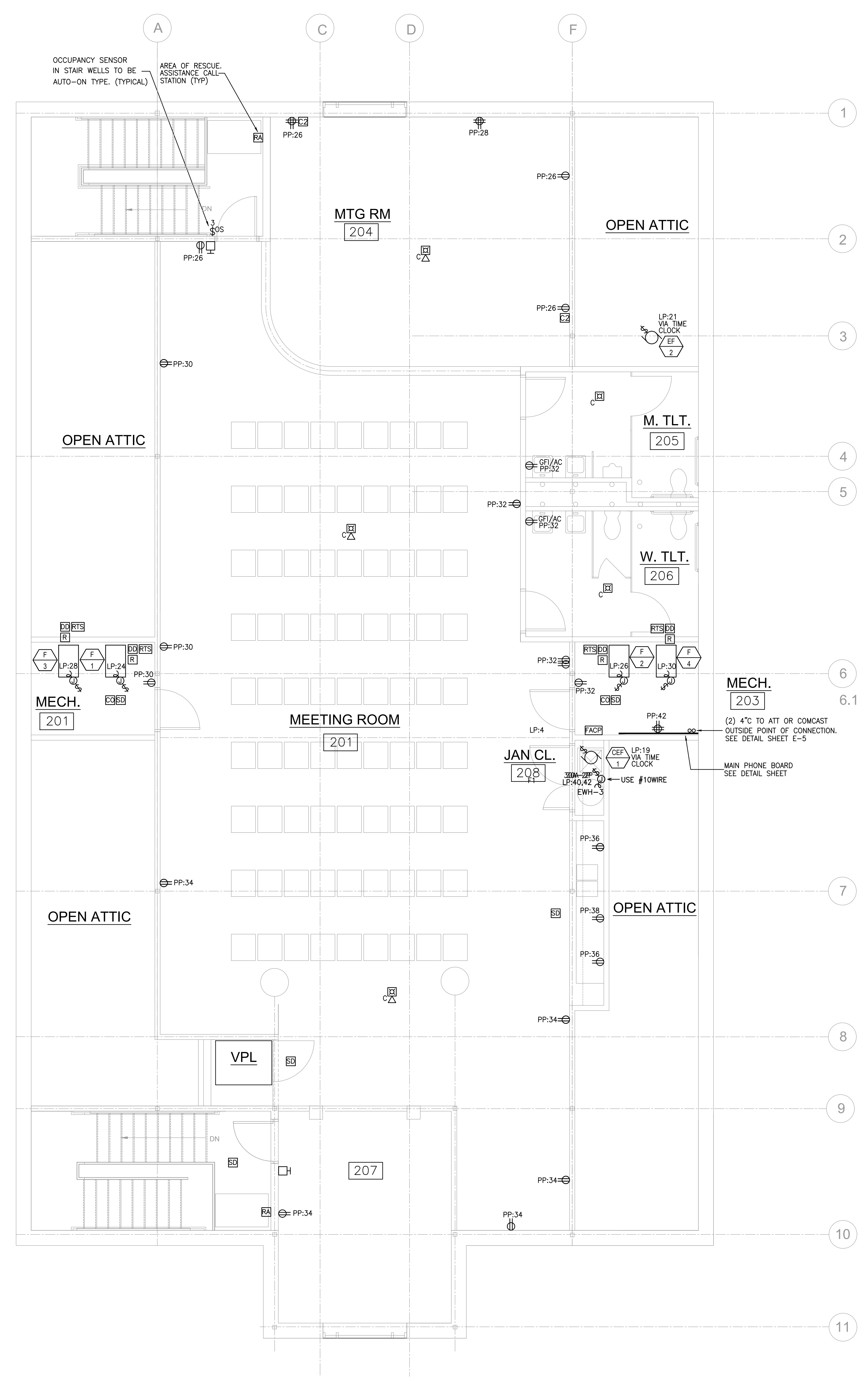
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 1445 Hoffman Street  
 Hammond, Indiana

SHEET DESCRIPTION  
**SECOND FLOOR PLANS-ELECTRICAL**

SHEET NUMBER  
**E-2**  
 SHEET 3 of 9



**1 SECOND FLOOR PLAN - ELECTRICAL (BASE BID)**  
 E-2 SCALE: 1/4" = 1'-0"



**2 SECOND FLOOR PLAN - ELECTRICAL (ALTERNATE)**  
 E-2 SCALE: 1/4" = 1'-0"

STATEMENT OF COMPLIANCE  
 I HAVE PREPARED OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH ALL THE APPLICABLE CODES, INCLUDING THE ENVIRONMENTAL BARRIERS ACT (410 I.L.C.S.) AND THE 2010 AMERICAN WITH DISABILITIES ACT.  
 HAMMOND, INDIANA  
*bid set - 02-12-19*  
*not for construction*

ISSUE	DATE
FOR BID	02/12/19

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ST. MARGARET  
 MARY PARISH  
 SPIRITUAL  
 CENTER  
 1445 Hoffman Street  
 Hammond, Indiana

SHEET DESCRIPTION  
 PARTIAL ELECTRICAL  
 RISER DIAGRAM

- EQUIPMENT:**
- PROVIDE SQUARE-D, EATON, SIEMENS OR GE EQUIPMENT.
  - PROVIDE ALL COPPER BUSSING.
  - PROVIDE BUSSING FOR FULL DISTRIBUTION BOARD.
  - PROVIDE FLASH ARC WARNING LABEL.
  - PROVIDE GRAY ENAMEL IN COLOR.
  - PROVIDE SELF ADHESIVE VINYL LABELS INDICATING EQUIPMENT DESIGNATION AND FED FROM.
  - PROVIDE ORANGE LABELS WITH BLACK LETTER/NUMBERS INDICATING VOLTAGE SERVICE 120/208V\_3PH\_4W.
  - PROVIDE DOOR WITHIN DOOR PANELS.

**WIRE SCHEDULE**

30	5-#10AWG-THHN, 3/4" (30A)
200	4-#3/0AWG-THHN, & 1-#6GND, 2" (200A)
400	4-#600MCM-THWN, & 1-#3GND, 4" (400A)
400A	4-#600MCM-THWN 4" (400A)

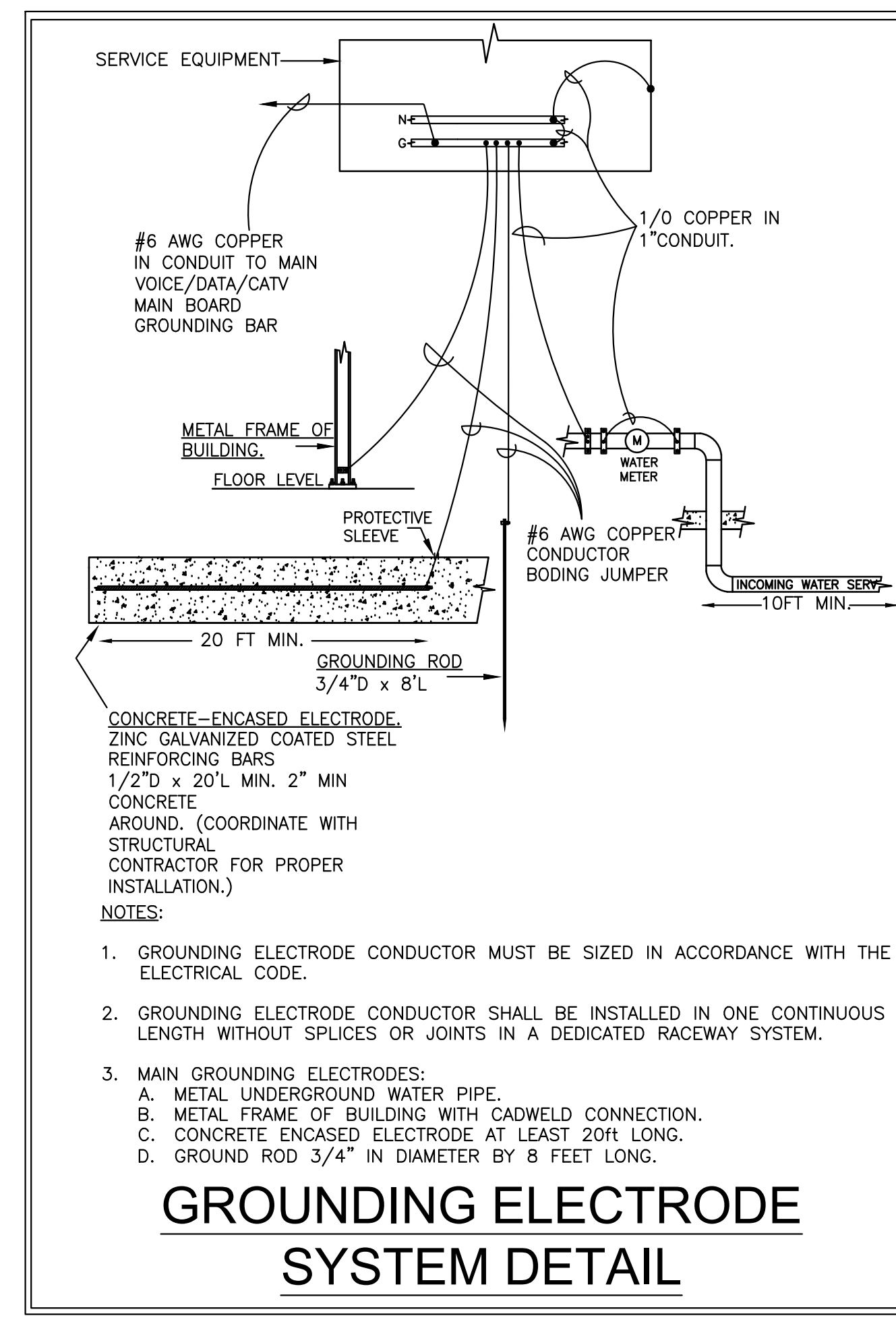
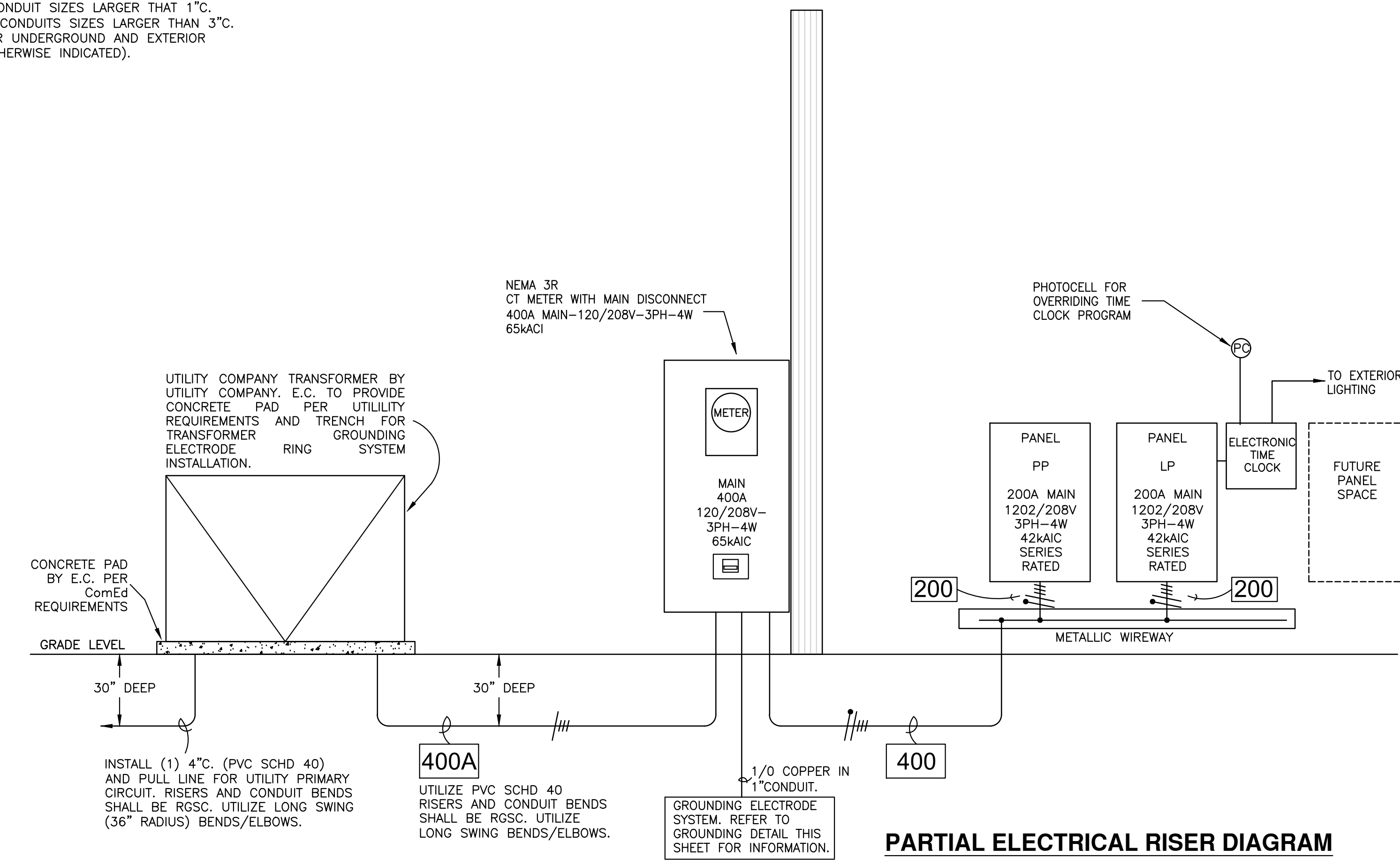
NOTE:  
 UTILIZE EMT, IMC AND RGSC CONDUITS.  
 IMC SHALL BE USE FOR CONDUIT SIZES LARGER THAN 1".  
 RGSC SHALL BE USE FOR CONDUITS SIZES LARGER THAN 3".  
 UTILIZE IMC AND RGSC FOR UNDERGROUND AND EXTERIOR INSTALLATIONS (UNLESS OTHERWISE INDICATED).

PANEL: PP     FRAME SIZE: 225A     VOLTAGE: 120 / 208  
 LOCATION: UTILITY ROOM 113     MAIN: 200A     PHASE: 3φ  
 FEEDER: SEE RISER     A/C: 42KAIC     SERIES RATED     WIRE: 4W

CKT. NO.	BR.	PHASE	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR.	PHASE	CKT. NO.	
1	20	1		RECPT KITCHENETTE 117	1500	1080		RECPTS METING ROOM 106		20	1	2	
3	20	1		RECPT KITCHENETTE 117		1500	1260	RECPTS METING ROOM 106		20	1	4	
5	20	1		REFRIG KITCHENETTE 117			1080	1080	RECPTS METING ROOM 107		20	6	
7	20	1		RECPTS LOBBY 101, 110, VEST, 100, HALL 104	1080	1260		RECPTS METING ROOM 107		20	1	8	
9	20	1		RESTROOM 112, 114 & UTILITY 113		540	1080	RECPTS METING ROOM 108		20	1	10	
11	20	1		SPARE			1260	RECPTS METING ROOM 108		20	1	12	
13	20	1		RECPTS BUSINESS OFFICE 105	1080	1080		RECPTS METING ROOM 111		20	1	14	
15	20	1		RECPTS BUSINESS OFFICE 105		540	1260	RECPTS METING ROOM 111		20	1	16	
17	20	1		RECPTS BUSINESS OFFICE 106 COPIER			1000	1080	RECPTS METING ROOM 115		20	1	18
19	20	1		RECPTS EXTERIOR EAST & WEST	360	1260		RECPTS METING ROOM 115		20	1	20	
21	20	1		SPARE			1080	RECPTS METING ROOM 116		20	1	22	
23	20	1					1260	RECPTS METING ROOM 116		20	1	24	
25	20	1				720		RECPTS FELLOWSHIP 200		20	1	26	
27	20	1					540	RECPTS FELLOWSHIP 200		20	1	28	
29	20	1						1080	RECPTS FELLOWSHIP 200		20	1	30
31	20	1				1080		RECPTS FELLOWSHIP 200		20	1	32	
33	20	1					720	RECPTS FELLOWSHIP 200		20	1	34	
35	37	2		EH-1 (STAIR 102)	1500	500		RECPTS MEETING 201 BY SINK		20	1	36	
37	20	1						SPARE		20	1	38	
39	20	2		EH-2 (STAIR 109)		1500		MAIN PHONE BOARD QUAD		20	1	40	
41	20	2					1500	500		20	1	42	
TOTAL CONNECTED LOADS (VA)					5520	6980	4080	5940	5000	6760	T.C. TIME CLOCK		
TOTAL CONNECTED LOADS (VA)					12500	10020	11760	GF/BREAKER			-L.O. LOCK OUT		
TOTAL AMPERAGE					95.15								

PANEL: LP     FRAME SIZE: 225A     VOLTAGE: 120 / 208  
 LOCATION: UTILITY ROOM 113     MAIN: 200A     PHASE: 3φ  
 FEEDER: SEE RISER     A/C: 42KAIC     SERIES RATED     WIRE: 4W

CKT. NO.	BR.	PHASE	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A	PHASE B	PHASE C	CIRCUIT DESCRIPTION	FAULT C.B.	BR.	PHASE	CKT. NO.	
1	20	1		LTG VEST, 100 & 110, LOBBY 101, HALL 104	510	50		EXIT SIGN	L.O.	20	1	2	
3	20	1		LTG MEETING ROOMS 106, 107 & 108		750	100	LTG 2ND FLR MECH RMS, JAN 208		20	1	4	
5	20	1		LTG MEETING ROOM 111			254	640	LTG 2ND FLR FELLOWSHIP 200 WEST		20	6	
7	20	1		LTG RESTROOM 112 & 114 & UTILITY 113	350	720		LTG 2ND FLR FELLOWSHIP 200 EAST		20	1	8	
9	20	1		LTG MEETING ROOMS 115, 116, KITCH 117		615	156	LTG 2ND FLR BATHROOMS		20	1	10	
11	20	1		LIGHTING 207				SPARE		20	1	12	
13	20	1		LIGHTING OFFICE 105	195			SPARE		20	1	14	
15	20	1		LTG STAIRS 109 & 102		234		SPARE		20	1	16	
17	20	1	TC	EXTERIOR BUILDING LIGHTS (VIA TIME CLK)			500	SPARE		20	1	18	
19	20	1	TC	EF-1 2ND FLR JAN (CONTROL VIA TIME CLK)	25			SPARE		20	1	20	
21	20	1	TC	EF-2 2ND FLR BATH (CONTROL VIA TIME CLK)		700		SPARE		20	1	22	
23	20	1	TC	EF-1 1ST FLR BATH (CONTROL VIA TIME CLK)		700		FURNANCE F-1 (SERVING S/ 1ST FLR)		20	1	24	
25	60	2		CU-1	3400			FURNANCE F-2 (SERVING N/ 1ST FLR)		20	1	26	
27	60	2		CU-2		3400		FURNANCE F-3 (SERVING S/ 2ND FLR)		20	1	28	
29	60	2		CU-3			3400	FURNANCE F-4 (SERVING N/ 2ND FLR)		20	1	30	
31	60	2		CU-4	3400	1000		1ST FLOOR ELECTRICAL WATER HEATER		20	2	32	
33	60	2		CU-5		3400	1000	EW-1		20	2	34	
35	60	2		CU-6			3400	2250	1ST FLOOR ELECTRICAL WATER HEATER		30	2	36
37	60	2		CU-7		3400	2250	EW-2		30	2	38	
39	60	2		CU-8			3400	1500	2ND FLOOR ELECTRICAL WATER HEATER		30	2	40
41	20	1		NIGHT LIGHTS				1500	EW-2		30	2	42
TOTAL CONNECTED LOADS (VA)					11280	4020	12508	2756	8264	4390	T.C. TIME CLOCK		
TOTAL CONNECTED LOADS (VA)					15300	15264	12654	GF/BREAKER			-L.O. LOCK OUT		
TOTAL AMPERAGE					119.96								



ISSUE	DATE
FOR BID	02/12/19

DRAWN BY:  
 APPROVED:  
 PROJECT NO.  
 DATE  
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ST. MARGARET MARY PARISH SPIRITUAL CENTER  
 1445 Hoffman Street  
 Hammond, Indiana

SHEET DESCRIPTION  
 FIRE ALARM

**FIRE ALARM MATRIX**

INITIATING DEVICE	FACP ANNUNCIATION/CONTROL FEATURES									
	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL INDICATOR	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL	ACTIVATE MAIN FACP CABINET COMMON ALARM SIGNAL
MANUAL PULL STATIONS	X	X				X	X	X	X	
SMOKE DETECTOR *	X	X				X	X	X	X	
HEAT DETECTOR	X	X				X	X	X	X	
HVAC MECHANICAL UNIT DUCT SMOKE DETECTOR *			X	X		X	X	X	X	X
FIRE ALARM DRILL			X	X		X	X	X	X	
ABNORMAL SWITCH OR CONTROL POSITION			X	X		X	X	X	X	
OPEN CIRCUIT, SHORT CIRCUIT, GROUND FAULT			X	X		X	X	X	X	
FACP AC POWER FAILURE			X	X		X	X	X	X	
FACP LOW BATTERY			X	X		X	X	X	X	
KNOX BOX			X	X		X	X	X	X	

\* UTILIZE ALARM VERIFICATION FEATURE WHEN PROGRAMMING PANEL UNLESS OTHERWISE INDICATED BY THE AUTHORITY HAVING JURISDICTION (AHJ)

**FIRE ALARM SCHEDULE**

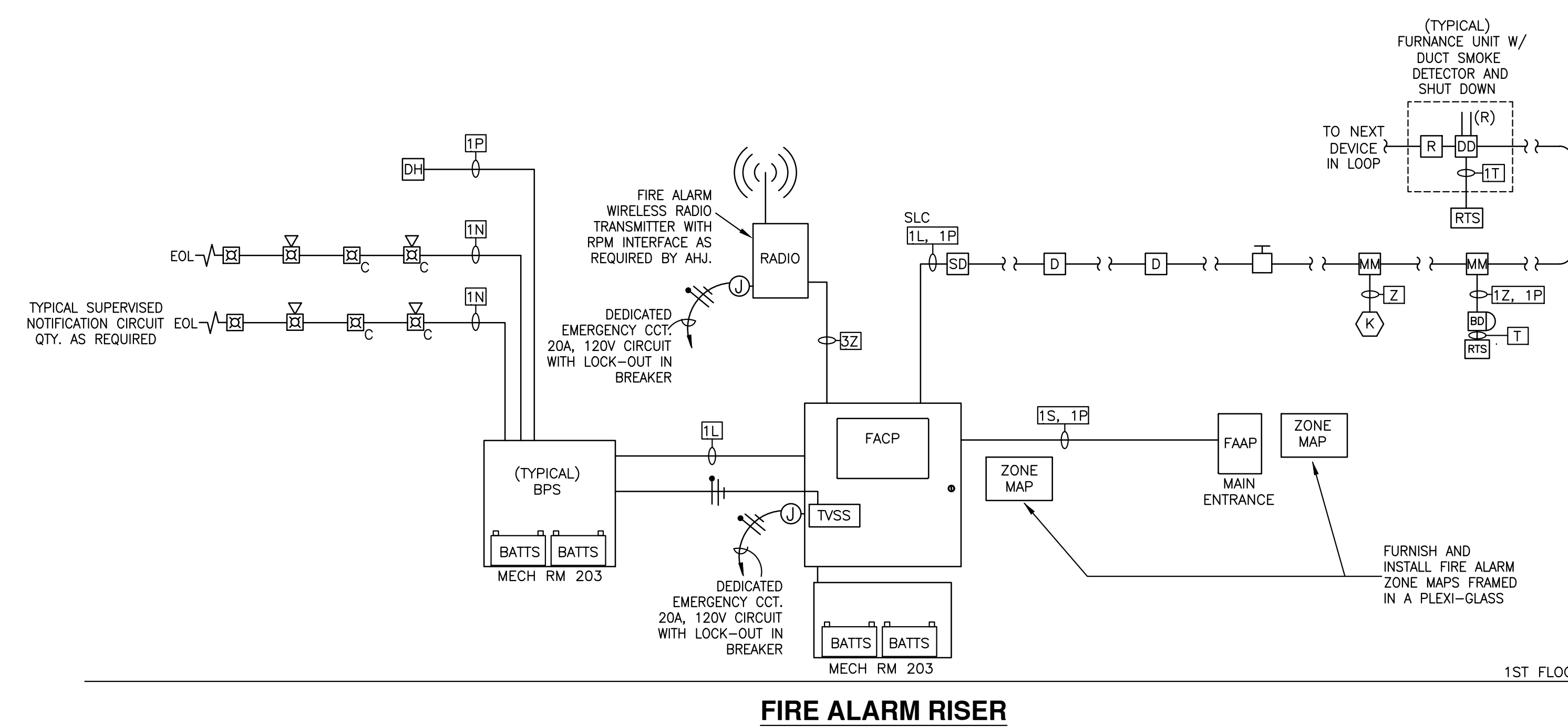
SYMBOL	DESCRIPTION	MANUFACTURER	PART#
FACP	ADDRESSABLE FIRE ALARM CONTROL PANEL (PROVIDE LED CONTROL SWITCHES OPERATOR INTERFACE)	SEE NOTES FOR INFO.	PROVIDE CAPABLE OF 128 ADDRESSABLE POINTS FOR FUTURE ADDITIONS
FAFP	REMOTE ANNUNCIATOR PANEL		
BPS	BOOSTER POWER SUPPLY		
			USE SINGLE ACTION MANUAL PULL STATION WHEN USE WITH TG
[X]	MULTI-CANDELA WALL STROBE RED IN COLOR WITH FIRE.		
[X]	MULTI-CANDELA WALL HORN/STROBE RED IN COLOR WITH FIRE.		
[X] <sub>C</sub>	MULTI-CANDELA CEILING STROBE WHITE IN COLOR WITH FIRE.		
[X] <sub>C</sub>	MULTI-CANDELA CEILING HORN/STROBE WHITE IN COLOR WITH FIRE.		
[X] <sub>WP</sub>	75CD WEATHER PROOF STROBE RED IN COLOR WITH FIRE.		
[BD]	BEAM SMOKE DETECTOR		
[SD]	PHOTOELECTRIC SMOKE DETECTOR.		
[SD] <sub>CO</sub>	PHOTOELECTRIC SMOKE & CARBON MONOXIDE DET. COMBO UNIT WITH REMOTE/LOCAL TONE GENERATOR.		
[D]	HEAT DETECTOR RATE-OF-RISE & 135 FIX TEMPERATURE.		
[DD]	DUCT DETECTOR WITH SAMPLING TUBES.		
[TSS]	LED W/ KEY DUCT DETECTOR REMOTE TEST SWITCH		
[MM]	SINGLE INPUT ADDRESSABLE MODULE		
[ZMM]	DUAL INPUT ADDRESSABLE MODULE		
[R]	ADDRESSABLE RELAY		
[PM]	24VDC ADDRESSABLE POWER MONITORING		
[TVSS]	TRANSIENT VOLTAGE SURGE SUPPRESSOR		
EOL	END OF LINE RESISTOR (VALUE AS REQUIRED PER SYSTEM)		
[K]	KNOX BOX	KNOX BOX	MTD. AS REQUIRED AS REQUIRED BY AHJ
TG	STI STOPPER - CLEAR PLASTIC COVER WITH 9V BATTERY SOUNDER	STI	STI STOPPER SERIES - FLUSH OR SURFACE

CONTACT ESSCOE @ 847-847-3200 FOR QUOTE

**FIRE ALARM GENERAL NOTES**

- FURNISH AND INSTALL A NEW FIRE ALARM SYSTEM AS INDICATED IN THIS SET OF DRAWINGS AND SPECIFICATIONS.
- FIRE ALARM CABLE SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM UNLESS OTHERWISE INDICATED. ALL RACEWAYS SHALL BE CONCEALED IN WALLS, ABOVE SUSPENDED CEILING, CONCEALED IN CEILING OR IN THE FLOOR SLAB.
- CONTRACTOR SHALL PATCH FIRE PROOF ALL PENETRATIONS MADE THRU WALLS AND FLOORS FOR THE INSTALLATION OF HIS/HER WORK TO RE-ESTABLISHED THE ORIGINAL FIRE RATINGS OF COMPARTMENTS.
- ALL JUNCTION BOXES HOUSING FIRE ALARM CABLE SHALL HAVE A RED COVER PLATE. COVER PLATE SHALL HAVE CIRCUIT INFORMATION.
- FIRE ALARM CONTROL RELAYS SHALL BE INSTALLED WITHIN 3'-0" OF EQUIPMENT SERVING.
- SLC AND NAC FIRE ALARM CIRCUITS SHALL BE CLASS "B". NETWORK COMMUNICATION CABLE SHALL BE CLASS "A". REFER TO RISER DIAGRAM FOR ADDITIONAL INFORMATION.
- FIRE ALARM AUDIBLE NOTIFICATION SHALL PRODUCE A SOUND LEVEL OF 15dB OVER THE AVERAGE AMBIENT LEVEL.
- SUBMIT SHOP DRAWINGS AND EQUIPMENT BOOKS FOR ENGINEER APPROVAL. SUBMIT TO AUTHORITIES HAVING JURISDICTION (AHJ) FOR PERMITTING. SHOP DRAWINGS SHALL INCLUDE BUT NOT BE LIMITED TO: FLOOR PLANS, FIRE ALARM INITIATING DEVICE LIST SHOWING FOR EACH ADDRESSABLE DEVICE IN THE SYSTEM: DEVICE TYPE, LOCATION AND ADDRESSABLE CODE, DETAILS, CIRCUITS AND BATTERIES CALCULATIONS, INFORMATION IN THE LIST SHALL CONCORD WITH FLOOR PLANS, REFER TO SPECIFICATION DOCUMENTS FOR ADDITIONAL INFORMATION.
- COORDINATE EXACT LOCATION OF DUCT DETECTOR REMOTE TEST SWITCH WITH THE AHJ BEFORE ROUGHING-IN. ALL SWITCHES SHALL BE LABELED WITH MECHANICAL UNIT SERVING AND DUCTWORK SIDE INFORMATION (i.e. RTU-1/RETURN, RTU-2/RETURN, LED TEST SWITCH SHALL BE MOUNTED ON THE WALL AT 60" AFF (REFER TO DRAWINGS FOR LOCATIONS OR AS REQUIRED BY THE AHJ).
- ALL FIRE ALARM INITIATING DEVICES AND NOTIFICATION DEVICES SHALL BE LABELED WITH CIRCUIT INFORMATION AND ADDRESSABLE SERIAL CODE AS APPLICABLE.
- UTILIZE WIRING SIZES AND TYPES AS REQUIRED AND RECOMMENDED BY MANUFACTURER. WIRING SHALL BE COLOR CODED. SUBMIT IN SHOP DRAWINGS, CABLE LIST INDICATING COLOR CODING CABLE FOR EACH PART OF THE SYSTEM (i.e. RED/BLACK FOR SLC, BLUE/WHITE FOR NOTIFICATIONS CIRCUITS, GRAY/WHITE FOR DOOR HOLDERS, ETC.)
- BATTERY BACK UP SHALL BE SIZED TO COMPLY WITH CODE REQUIREMENT AND LOCAL AMENDMENTS. PROVIDE AS A MINIMUM 24 HOUR OF STANDBY AND 5 MIN ALARM UNLESS OTHERWISE REQUIRED BY AHJ.
- ALL BATTERIES INSTALLED SHALL BE NEW. FIELD LABEL ALL BATTERIES WITH DATE OF MANUFACTURING.
- PROVIDE BOOSTER POWER SUPPLIES AS REQUIRED FOR CONNECTING ALL NOTIFICATION DEVICES INDICATED IN FLOOR PLANS. CIRCUITS RATED AT 3A SHALL NOT SERVE A LOAD TO EXCEED 2.5A. INCLUDE IN THE BID SMOKE DETECTOR IN ROOM HOUSING BOOSTERS IF NOT INDICATED IN FLOOR PLANS.
- NOTIFICATION CIRCUITS VOLTAGE DROP SHALL NOT EXCEED 5% UNLESS OTHERWISE APPROVED BY THE MANUFACTURER AND/OR AHJ.
- SLC CIRCUITS SHALL HAVE 20% SPARE CAPACITY FOR FUTURE EXPANSION.
- ALL NOTIFICATION DEVICES SHALL BE SYNCHRONIZED AND SHALL COMPLY WITH ADA

- REQUIREMENTS. SET CANDELA RATINGS AS REQUIRED BY CODE AND/OR AS REQUIRED BY THE AHJ.
- FURNISH AND INSTALL 20A, 120V DEDICATED CIRCUIT(S) AS REQUIRED FOR CONNECTING NEW FIRE ALARM EQUIPMENT. FURNISH AND INSTALL LOCK-OUT DEVICE IN BREAKER(S), OR AS REQUIRED BY CODE.
- COORDINATE WITH ALARM MONITORING COMPANY TO ESTABLISH WIRELESS RADIO CONNECTION WITH REVERSE POLARITY MODULE AS REQUIRED BY AHJ.
- INSTALL PULL STATIONS 48 INCHES ABOVE THE FINISH FLOOR TO THE OPERATING HANDLE.
- INSTALL WALL MOUNTED NOTIFICATION DEVICES AT 80 INCHES ABOVE THE FINISH FLOOR TO THE LENS.
- SYSTEM PROGRAM SHALL UTILIZE FINAL OWNERS APPROVED ROOM NAMES AND NUMBERS. FAILURE TO DO IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- PROVIDE ZONE MAPS FRAMED IN A PLEXI-GLASS NEXT TO FACP AND FAAP. INCLUDE A DEVICE LIST SHOWING DEVICE CODE AND LOCATION. PROVIDE TWO EXTRA COPIES TO THE OWNER.
- UNDER FIRE ALARM ACTIVATION HVAC EQUIPMENT SHALL SWITCH INTO FIRE ALARM MODE AS REQUIRED BY CODE AND/OR AHJ. (SHUT DOWN)
- WALL MOUNTED NOTIFICATION DEVICES SHALL BE RED IN COLOR WITH FIRE LETTERING, UNLESS OTHERWISE INDICATED.
- CEILING MOUNTED NOTIFICATION DEVICES SHALL BE WHITE IN COLOR WITH RED FIRE LETTERING, UNLESS OTHERWISE INDICATED.
- DO NOT REMOVE THE SMOKE CAPS UNTIL CONSTRUCTION HAS FINISHED AND THE BUILDING IS CLEAN. TURN CAPS BACK TO THE OWNER AFTER CONSTRUCTION IS COMPLETED.
- INSTALL FIRE ALARM SMOKE DETECTORS A MINIMUM OF 3 FEET AWAY FROM SUPPLY AIR DIFFUSERS.
- CONTRACTOR SHALL INCLUDE IN HIS/HER BID THE FOLLOWING ADDITIONAL DEVICES AND INCLUDE 50 FEET OF WIRING AND RACEWAY FOR EACH DEVICE, TURN DEVICES TO OWNER AS OWNER STOCK IF DEVICES ARE NOT REQUIRED DURING THE CONSTRUCTION PROCESS:
  - (9) SMOKE DETECTORS.
  - (5) NOTIFICATION DEVICES.
- PROVIDE ALL CLOSE-OUT DOCUMENTATION AS REQUIRED BY SPECIFICATIONS AND NFPA72 IN ORDER TO GRANT OCCUPANCY PERMIT.
- TAPPING OF WIRING WILL BE ONLY ALLOWED AT DEVICE(S) LOCATION, TAPPING AT JUNCTIONS BOXES IS NOT PERMITTED.
- KNOX BOX SHALL BE MOUNTED PER VILLAGE REQUIREMENTS AND SHALL BE MONITORED BY THE FIRE ALARM CONTROL PANEL AS A TROUBLE CONDITION.
- MANUFACTURERS SUBJECT TO COMPLY WITH REQUIREMENTS INCLUDE:
  - A-EDWARDS.
  - B-NOTIFIER.
  - C-FIRELE.
  - D-SIMPLEX



**WIRE LIST**

TAG	DESCRIPTION	REMARKS
L	SLC CIRCUIT (ADDRESSABLE LOOP)	RED/BLACK IN COLOR
N	NOTIFICATION CIRCUIT	BLUE/WHITE IN COLOR
P	AUX POWER 24VDC	GRAY/GRAY STRIPES IN COLOR
Z	ZONE INITIATING CIRCUIT	YELLOW/BROWN IN COLOR
T	REMOTE TEST SWITCH	RED/BLACK IN COLOR
S	DATA	

**LIGHTING FIXTURE SCHEDULE (PROVIDE SPECIFIED OR APPROVED EQUAL)**

THIS DWG. FIXTURE TAG	SYMBOL	MANUFACTURER	MODEL NUMBER	LAMPS	VOLTAGE	WATTAGE	MOUNTING	NOTES
F1	[Symbol]	COLUMBIA LIGHTING	LCAT24-40-ML-G-E-U	LED 4987lm 4000K-80CRI	120V-277V	39W	RECESSED	2 X 4 RECESSED LED. COORDINATE LAMP COLOR WITH THE OWNER PRIOR TO ORDERING.
F1A	[Symbol]	COLUMBIA LIGHTING	LCAT24-40-VWHE-G-E-U	LED 3459lm 4000K-80CRI	120V-277V	27W	RECESSED	2 X 4 RECESSED LED. COORDINATE LAMP COLOR WITH THE OWNER PRIOR TO ORDERING.
F1D	[Symbol]	COLUMBIA LIGHTING	SAME AS F1 BUT WITH DIMMABLE DRIVER	LED 4987lm 4000K-80CRI	120V-277V	39W	RECESSED	SAME AS F1 BUT 0-10V DIMMABLE DRIVER
F2	[Symbol]	COLUMBIA LIGHTING	LCAT22-40-ML-G-E-U	LED 3471lm 4000K-80CRI	120V-277V	29W	RECESSED	2 X 4 RECESSED LED. COORDINATE LAMP COLOR WITH THE OWNER PRIOR TO ORDERING.
F3	[Symbol]	HUBBELL	-	LED 5000lm 4000K-70CRI	120V-277V	40W	WALL	LED EXTERIOR. COLOR AS SELECTED BY ARCHITECT
F4	[Symbol]	COLUMBIA LIGHTING	-	LED 5000lm 4000K-80CRI	120V-277V	40W	SURFACE	1 X 4 WRAPAROUND LED. COORDINATE LAMP COLOR WITH THE OWNER PRIOR TO ORDERING.
F5	[Symbol]	VANTAGE LIGHTING	VP1220BLED-80-35K-SGC	LED 8000lm 4000K-80CRI	120V-277V	86W	PENDANT	LED ARCHITECTURAL PENDANT. 0-10V DIMMABLE
F6	[Symbol]	-	-	LED 1500lm 4000K-80CRI	120V-277V	22W	RECESSED	LED 6" CAN LIGHT.
F7	[Symbol]	COLUMBIA LIGHTING	-	LED 2000lm 4000K-80CRI	120V-277V	20W	WALL	WALL BRACKET LED. COORDINATE LAMP COLOR WITH THE OWNER PRIOR TO ORDERING.
F8	[Symbol]	BASELITE	-	LED 1000lm 4000K-80CRI	120V-277V	14W	PENDANT	LED ARCHITECTURAL PENDANT
F9	[Symbol]	HYDREL	M9410 MFL	LED 750LM 3000K	120V-277V	12W	IN-GROUND	IN-GROUND FLUSH MOUNTED UPLIGHT FIXTURE. PROVIDE DISTRIBUTION AS REQUIRED PER BUILDING FACADE. FINISH AND FINAL LIGHT DISTRIBUTION AS SELECTED BY ARCHITECT
EX1	[Symbol]	-	EXIT SIGN	LED	120V-277V	5W	CEILING	LED EXIT SIGN WHITE BODY WITH RED LETTERS. BATTERY SHALL PROVIDE 90MIN OF ILLUMINATION.
EX2	[Symbol]	-	EXIT AND EMERGENCY LIGHT COMBO UNIT	LED	120V-277V	10W	CEILING	LED EXIT SIGN AND EMERGENCY LIGHT COMBO UNIT WITH RED LETTERS AND TWO EMERGENCY HEAD LIGHTS. BATTERY SHALL PROVIDE 90MIN OF ILLUMINATION.
EX3	[Symbol]	-	EMERGENCY LIGHT & EXIT COMBO WITH TWO CIRCUITS	LED	120V-277V	10W	WALL/CEILING	LED EMERGENCY LIGHT WITH TWO EMERGENCY HEAD LIGHTS. BATTERY SHALL PROVIDE 90MIN OF ILLUMINATION.
EX4	[Symbol]	-	EXIT SIGN AND EMERGENCY LIGHT COMBO UNIT WITH BATTERY BACK-UP. RED LETTERS & WHITE BODY. REMOTE TWIN HEAD WHEN SHOWN	LED	120V-277V	10W	WALL/CEILING	LED EXIT SIGN AND EMERGENCY LIGHT COMBO UNIT. RED LETTERS AND WHITE BODY. BATTERY BACK-UP SHALL HAVE CAPACITY TO PROVIDE 90MIN OF ILLUMINATION TO SYSTEM UNDER NORMAL POWER LOSS.

CONSULTANTS

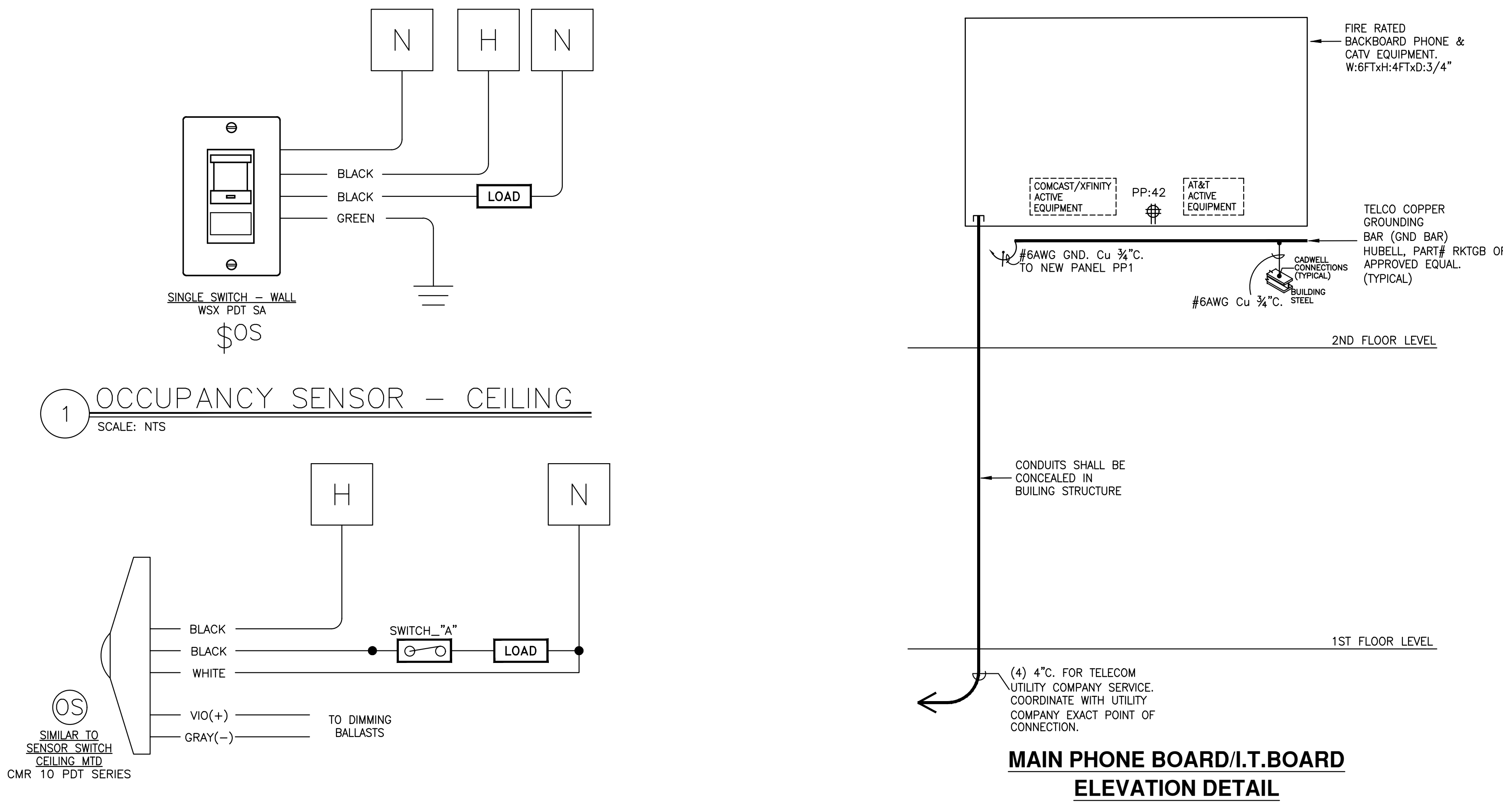


**MGH Consulting Engineers, LLC**  
 405 S. Highland Ave.  
 Arlington Heights, IL 60005  
 mhammond@mgheengineering.com  
 Phone: 773.24.7219

STATEMENT OF COMPLIANCE  
 I HAVE PREPARED OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH ALL THE APPLICABLE CODES, INCLUDING THE ENVIRONMENTAL BARRIERS ACT (410 ILCS) AND THE 2012 AMERICAN WITH DISABILITIES ACT.

HAMMOND, INDIANA

bid set - 02-12-19  
 not for construction



ISSUE	DATE
FOR BID	02/12/19

DRAWN BY:  
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 PROJECT NO.  
 DATE  
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**ST. MARGARET MARY PARISH SPIRITUAL CENTER**  
 1445 Hoffman Street  
 Hammond, Indiana

SHEET DESCRIPTION  
 LIGHT FIXTURE &  
 PANEL BOARD  
 SCHEDULES & DET.

SHEET NUMBER  
**E-5**  
 SHEET 8 of 9

**A. GENERAL REQUIREMENTS:**

- 1. SCOPE OF WORK:
  - a. FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DRAWINGS. THE INSTALLATION SHALL BE COMPLETE IN EVERY DETAIL ESSENTIAL TO PROPER AND SATISFACTORY OPERATION, READY FOR USE AND IN CONDITION FOR SERVICE, WHEN DELIVERED TO THE OWNER AND DEFECT AND NOT BE INSTALLED OR REPAIRED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS EXCEPT AS OTHERWISE SPECIFIED HEREIN.
  - b. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.
- 2. APPROVALS:
  - a. OBTAIN APPROVALS FROM INSPECTION AUTHORITIES FOR ELECTRICAL INSTALLATIONS REQUIRING SPECIFIC APPROVAL PRINTS OF THE ELECTRICAL DRAWINGS. FOR THIS PURPOSE, WILL BE FURNISHED UPON REQUEST. REQUIRED WIRING DIAGRAMS SHALL BE PROVIDED AND SUBMITTED FOR APPROVAL BY THE CONTRACTOR. COPIES OF THE FINAL APPROVALS SHALL BE OBTAINED BEFORE COMMENCEMENT OF RELATED WORK.
- 3. CODES AND STANDARDS:
  - a. THE WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, MUNICIPAL, AND NATIONAL CODES. WHERE THE CONSTRUCTION DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE CONSTRUCTION DOCUMENTS SHALL GOVERN. HOWEVER, THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.
  - b. MATERIALS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO LOCAL CODE AND STANDARDS, THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), UNDERWRITERS LABORATORIES (UL), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND ALL LAWS AND ORDINANCES OF LOCAL, STATE AND FEDERAL GOVERNING AGENCIES.
- 4. FEES:
  - a. ALL PERMIT FEES SHALL BE PAID BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED INSURANCE, INSPECTIONS, APPLICATIONS, PERMITS, LICENSES, ETC. RELATING TO THE ELECTRICAL WORK.
- 5. CONTRACTOR'S LIABILITY:
  - a. THE CONTRACTOR SHALL AGREE THAT THE OWNER, THE ARCHITECT AND THE ENGINEER SHALL NOT IN ANY FORM OR MANNER BE ANSWERABLE OR ACCOUNTABLE FOR ANY VIOLATION OF ORDINANCES, CODES OR REGULATIONS OF ANY AUTHORITIES, UTILITIES, INSURANCE COMPANIES AND GOVERNMENT AGENCIES HAVING JURISDICTION, OR FOR ANY ACCIDENTS, INJURY, LOSS OR DAMAGE TO ANY PERSON OR PERSONS AND THEIR PROPERTIES ARISING FROM NEGLIGENCE OR CARELESSNESS ON THE PART OF THE CONTRACTOR (NOR ANYONE IN HIS EMPLOY), ANY OF HIS SUBCONTRACTORS, OR ANY OTHER PARTIES OR AGENTS TO THIS CONTRACT.
  - b. THE CONTRACTOR SHALL AGREE TO MAKE GOOD TO SAID OWNER, ARCHITECT, AND ENGINEER ANY LOSS, DAMAGE OR EXPENSE SO INCURRED, TOGETHER WITH REASONABLE ATTORNEY'S FEES.
  - c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND COMPLYING WITH BOTH THE DRAWINGS AND SPECIFICATIONS, IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, OR CODES, THE REFERENCE WHICH PROVIDES THE MORE COMPLETE OR HIGHER STANDARD SHALL PREVAIL.
  - d. THE CONTRACTOR SHALL CHECK ALL DRAWINGS FURNISHED TO THEM IMMEDIATELY UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE OWNER OF ANY DISCREPANCIES. FIGURES MARKED ON DRAWINGS SHALL IN GENERAL BE FOLLOWED IN PREFERENCE TO SCALE MEASUREMENTS. LARGE SCALE DRAWINGS SHALL IN GENERAL GOVERN SMALL SCALE DRAWINGS. THE CONTRACTOR SHALL COMPARE ALL DRAWINGS AND VERIFY THE FIGURES BEFORE LAYING OUT THE WORK AND WILL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.
- 6. EXAMINATION OF DRAWINGS AND SITE:
  - a. THE ELECTRICAL CONTRACTOR SHALL OBTAIN A COMPLETE SET OF ARCHITECTURAL AND ENGINEERING DOCUMENTS AND COORDINATE WITH MECHANICAL, PLUMBING, ARCHITECTURAL, CIVIL, AND OTHER TRADES FOR EXISTING CONDITIONS, CLEARANCES, ROUGH-IN LOCATIONS, AND OTHER ADDITIONAL SCOPES OF WORK THAT MAY NOT BE SHOWN ON THE ELECTRICAL PLANS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE POWER TO OTHER TRADES EQUIPMENT AND HARDWARE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONTROLS, FIRE, MOTORIZED DOORS, DAMPERS, POLE LIGHTS, AND OTHER SYSTEMS, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL PLANS. THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SAFETY DISCONNECT SWITCHES TO MECHANICAL EQUIPMENT AND TRANSFORMERS UNLESS OTHERWISE INDICATED.
  - b. BY THE ACT OF HAVING SUBMITTED A BID, THE CONTRACTOR SHALL DEEM TO HAVE MADE SUCH AN EXAMINATION AND SHALL HAVE ACCEPTED THE PREVAILING CONDITIONS. NO SUBSEQUENT ALLOWANCE WILL BE MADE TO CONTRACTOR BECAUSE OF HIS NEGLECT IN COMPLYING WITH THE FOREGOING.
- 7. GUARANTEE:
  - a. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE COVERING ALL OF THE EQUIPMENT AND INSTALLATION FURNISHED UNDER THE CONTRACT AGAINST FAILURE FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT. THE CONTRACTOR SHALL ASSUME THE LIABILITY OF ALL EQUIPMENT AND INSTALLATION COVERED IN THIS CONTRACT, INCLUDING ALL COSTS OF LABOR, MATERIALS AND EQUIPMENT RENTALS REQUIRED.
  - b. ANY ADDITIONAL COSTS INCURRED IN THE REPAIR AND RECONSTRUCTION OF ALL OTHER INSTALLATIONS NOT PART OF THIS CONTRACT BUT WHICH MIGHT BE DAMAGED BY THE EQUIPMENT GUARANTEED OR AFFECTED BY THE REPAIR WORK COVERED UNDER THE GUARANTEE, SHALL BE PART OF THIS GUARANTEE.
- 8. INTERPRETATION OF THE DOCUMENTS:
  - a. CAREFULLY COMPARE THE DRAWINGS AND SPECIFICATIONS, CHECKING MEASUREMENTS AND CONDITIONS UNDER WHICH THIS INSTALLATION IS TO BE MADE, FOR CLARIFICATION BETWEEN VARIOUS DRAWINGS, BETWEEN DRAWINGS OR SPECIFICATION, OR BETWEEN SECTIONS OF THE SPECIFICATION, THE MATTER SHALL BE REFERRED TO THE ENGINEER BEFORE ANY WORK IS EXECUTED. THE CONTRACTOR SHALL STATE IN THEIR PROPOSAL ANY EXCEPTIONS NECESSARY TO MAKE THIS COMPLETE, READY TO USE INSTALLATION. IF NOT STATED IN THE PROPOSAL, IT WILL NOT BE CONSIDERED EXTRA.
  - b. OMISSIONS FROM THE DRAWINGS, SPECIFICATION NOTES, OR DETAILS OF WORK WHICH ARE NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED DETAILS OF THE WORK BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.
- 9. ELECTRICAL DRAWINGS:
  - a. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL DOORS, WALLS, FURNITURE, EQUIPMENT, ETC. THE LOCATION OF RACEWAY SYSTEM COMPONENTS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL CONFIRM THE DIMENSIONS OF THE ACTUAL EQUIPMENT TO BE SUPPLIED FOR THIS PROJECT, AND VERIFY CLEARANCES AND ROUGH-INS PRIOR TO STARTING WORK.
- 10. SHOP DRAWINGS AND SUBMITTALS:
  - a. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHOP DRAWING SUBMITTALS WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO: PRODUCT DATA AND EQUIPMENT SPECIFICATIONS SHEETS, SCHEMATIC DIAGRAMS, WIRING DIAGRAMS, SIZES, MOUNTING DETAILS (WITH REQUIRED ELEVATIONS), TECHNICAL DESCRIPTIONS OF COMPONENTS, TEST REPORTS, CERTIFICATES, OPERATING AND MAINTENANCE MANUALS, AND PROPER CALCULATIONS TO ENSURE SPECIFIED PERFORMANCE OF THE SYSTEMS. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO APPROVAL OF THE SUBMITTALS AND SHOP DRAWINGS.
  - b. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHOP DRAWING SUBMITTALS WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO: PRODUCT DATA AND EQUIPMENT SPECIFICATIONS SHEETS, SCHEMATIC DIAGRAMS, WIRING DIAGRAMS, SIZES, MOUNTING DETAILS (WITH REQUIRED ELEVATIONS), TECHNICAL DESCRIPTIONS OF COMPONENTS, TEST REPORTS, CERTIFICATES, OPERATING AND MAINTENANCE MANUALS, AND PROPER CALCULATIONS TO ENSURE SPECIFIED PERFORMANCE OF THE SYSTEMS. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO APPROVAL OF THE SUBMITTALS AND SHOP DRAWINGS.
  - c. SUBMIT COMPLETE SHOP DRAWINGS FOR MANUFACTURED EQUIPMENT: CLEARLY MARK SUBMISSIONS FOR LIGHTING FIXTURES WITH THE TYPE ASSIGNED TO EACH FIXTURE IN THE FIXTURES SCHEDULE. INCLUDE SELECTION OF INTENDED PART. INCLUDE LAMPS AND BALLASTS.
  - d. PROVIDE SUFFICIENT INFORMATION AND DATA REQUIRED TO REASONABLY DETERMINE PROPER COMPLIANCE WITH THE SPECIFICATIONS.
  - e. IN ADDITION, THE CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF MATERIALS PROPOSED, GIVING THE MANUFACTURER'S NAME, CATALOG NUMBER, OR OTHER MEANS OF IDENTIFICATION TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS.
  - f. REVIEW OF SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY, AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS, NOR SHALL IT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF BASIC RESPONSIBILITY UNDER THE CONTRACT. SHOP DRAWINGS SHALL BE SUBMITTED ON, BUT NOT BE LIMITED TO, THE FOLLOWING SYSTEMS: LIGHT FIXTURES AND ALL ASSOCIATED LIGHT FIXTURES HARDWARE INCLUDING LAMPS ; WIRING DEVICES, COVER PLATES, ELECTRICAL GEAR, PANELS, BREAKERS, DISCONNECTS, BUSS DATA/VOICE AND CABLING (WHEN INCLUDED IN THE PROJECT), CABLE (WHEN INDICATED), FIRE ALARM DEVICES, AUTOMATIC TRANSFER SWITCHES, GENERATOR, ETC.

**B. MATERIAL AND EQUIPMENT:**

- 1. GENERAL:
  - a. PROPOSALS SHALL BE BASED UPON THE FURNISHING OF ALL MATERIALS AND EQUIPMENT AS SPECIFIED, WHICH IN EVERY CASE SHALL BE NEW AND OF THE BEST GRADE AND QUALITY AVAILABLE. EQUIPMENT AND MATERIALS SHALL BE WITHOUT BLEMISH OR DEFECT AND SHALL NOT BE USED FOR TEMPORARY, POWER PURPOSES, WITHOUT THE ENGINEER'S PRIOR WRITTEN AUTHORIZATION.
  - b. ALL ITEMS OF EQUIPMENT OF ONE TYPE, EXCEPT CONDUIT, CONDUIT FITTINGS, OUTLET BOXES, WIRE, AND CABLE, SHALL BE THE PRODUCT OF ONE MANUFACTURER THROUGHOUT UNLESS OTHERWISE INDICATED OR ACCEPTED BY THE ENGINEER.
- 2. RACEWAYS:
  - a. THE CONTRACTOR SHALL PROVIDE ALL CONDUITS SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO LIGHTING, RECEPTACLES, HEATING, AIR CONDITIONS, PLUMBING EQUIPMENT, VOICE/DATA/CATV/AV OUTLETS AND ELECTRICAL EQUIPMENT IN GENERAL.
  - b. ALL PANEL AND SERVICE FEEDERS SHALL BE IN RIGID GALVANIZED STEEL CONDUIT (RSCG) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE UL LABELED. EMT SHALL BE ACCEPTABLE FOR BRANCH CIRCUITS RUN ABOVE SUSPENDED CEILING OR CONCEALED IN INTERIOR PARTITIONS. EMT CONNECTORS SHALL BE COMPRESSION TYPE UNLESS OTHERWISE INDICATED. SET SCREW FITTINGS ARE NOT PERMITTED. CONDUIT UNDER SLAB OR LOCATED IN THE EXTERIOR OF THE BUILDING SHALL BE RSCG.
  - c. MINIMUM SIZES OF CONDUIT SHALL BE 3/4" FOR INDIVIDUAL LIGHTING FIXTURE CONNECTION OR TO INDIVIDUAL LIGHT SWITCHES AND FOR ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED. IN SAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE MINIMUM OF 1/2" SIZE, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL IN/UNDER FLOOR SLAB CONDUIT SHALL BE A MINIMUM OF 1" SIZE UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
  - d. SUPPORT ALL CONDUIT, INCLUDING SEISMIC AND SWAY BRACING.
  - e. GENERALLY, ALL CONDUIT SHALL BE CONCEALED EXCEPT FOR UNFINISHED AREAS, SUCH AS EQUIPMENT ROOMS. EXPOSED CONDUIT SHALL BE ALLOWED ONLY AS NOTED ON PLAN AND AS APPROVED BY THE OWNER'S CONSTRUCTION MANAGER. PAINTING OF CONDUITS WILL BE BY GENERAL CONTRACTOR.
  - f. FLEXIBLE METAL CONDUIT AND THEIR ASSOCIATED FITTINGS ARE TO BE LISTED FOR GROUNDING. A GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED. ALL CONNECTORS ARE TO BE OF A NEMA APPROVED TYPE.
  - g. FLEXIBLE CONDUIT SHALL BE ACCEPTABLE FOR THE FOLLOWING APPLICATIONS AND SHALL NOT EXCEED 6 FEET IN LENGTH. INSTALL GREEN GROUNDING CONDUCTOR
    - FINAL CONNECTIONS TO VIBRATING EQUIPMENT SUCH AS MOTORS, TRANSFORMERS, ETC SHALL BE MADE WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC).
    - FINAL INTER-CONNECTIONS BETWEEN LIGHT FIXTURES.
    - FINAL CONNECTIONS WHERE RIGID CONDUIT IS NOT PRACTICAL.
  - i. PROVIDE POLY PULL-STRING IN ALL EMPTY CONDUITS.
- 3. ELECTRICAL BOXES:
  - a. HOME RUNS AND MAIN CONDUIT RUNS ARE TO BE HELD TIGHT TO STRUCTURE ABOVE OR AS REQUIRED TO ALLOW PROPER CLEARANCE OF CEILING AND OTHER TRADES WORK. RACEWAYS SHALL BE SECURELY SUPPORTED BY APPROVED STRUCTURAL METHODS AT FIVE FOOT (5') INTERVALS.
  - n. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO COLUMN LINES.
  - o. ALL CONDUITS MUST BE SIZED PER CODE.
  - p. WHERE RACEWAY IS SUBJECT TO MECHANICAL INJURY OR CORROSION UTILIZE RSCG OR INTERMEDIATE METAL CONDUIT (IMC), FITTINGS SHALL BE THREADED.
  - q. PROVIDE PUL BOXES IN RUNS OVER 100 FEET, WHEN MORE THAN THE EQUIVALENT OF THREE (3) 90° BENDS ARE USED, AND AS SHOWN ON DRAWINGS.
- 4. ELECTRICAL BOXES:
  - a. UNLESS OTHERWISE NOTED, OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL, KNOCKOUT TYPE, WITH SUITABLE PLASTER RINGS AND COVER PLATES.
  - b. UNUSED KNOCKOUT HOLES SHALL REMAIN CLOSED AND THOSE OPENED BY ERROR SHALL BE CLOSED WITH SNAP-IN BLANKS.
  - c. OUTLET BOXES SHALL NOT BE SMALLER THAN REQUIRED BY CODE FOR THE NUMBER AND SIZE OF WIRES TO BE INSTALLED.
  - d. BOXES IN COVE AND LOCATED ABOVE SUSPENDED CEILING SHALL BE PLENUM RATED WHEN THE SPACE IS PLENUM RATED.
  - e. FLOOR BOXES: PROVIDE SYSTEMS PER DRAWINGS.
  - f. PROVIDE JUNCTION BOXES, PULL BOXES, CABLE SUPPORTS, AND WIREWAYS AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS. COVERS SHALL BE ACCESSIBLE. SMALL JUNCTION BOXES SHALL BE SIMILAR TO OUTLET BOXES.
  - g. JUNCTION BOXES AND COVERS SHALL BE FABRICATED FROM GALVANIZED NEC GAGE SHEET STEEL. OUTLET BOXES TO BE OF THE HOT-DIPPED GALVANIZED, PRESSED STEEL, KNOCKOUT TYPE. BOXES SHALL GENERALLY BE 4 INCHES SQUARE, 1-1/2" DEEP MINIMUM, EXCEPT WHERE NOTED OTHERWISE.
  - 9. PULL BOXES, CABLE SUPPORT BOXES, AND LARGE JUNCTION BOXES FOR INDOOR USE SHALL BE AS INDICATED IN THE DRAWINGS. STUDS SHALL BE HELD IN PLACE WITH STAINLESS STEEL SCREWS. PAINT INTERIOR AND EXTERIOR SURFACES WITH RUST-INHIBITIVE PAINT.
- e. BOXES SHALL BE AS MANUFACTURED BY: APPLETON, GARVIN, RACO (HUBBELL) & STEEL CITY.
- 4. SLEEVES:
  - a. THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL, OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR.
  - b. UNLESS OTHERWISE NOTED, ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THE FIRE RATING OF THE FLOOR OR WALL. CONFORM TO UL ASSEMBLY RATING OF FLOOR OR WALL.
  - c. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT BLACK STEEL PIPE FINISHED WITH SMOOTH EDGES, FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILING, OR FOR CONCEALED VERTICAL CONDUIT.
  - d. SLEEVES SHALL HAVE PLASTIC END BUSHES INSTALLED WHEN THEY ARE USE FOR THE INSTALLATION OF OPEN CABLING.
- 5. WIRING:
  - a. CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SHALL BE COPPER AND THE AWG SIZE AND TYPE AS SHOWN ON DRAWINGS MINIMUM WIRE SIZE SHALL BE #12 UNLESS OTHERWISE INDICATED IN THE DRAWINGS. THE CONDUCTORS SHALL HAVE 600 VOLT INSULATION, TYPE THHW OR THHN.
  - b. CONDUCTORS SHALL BE STRANDED FOR SIZES #10AWG AND LARGER.
  - c. ALUMINUM CONDUCTORS ARE NOT PERMITTED.
  - d. ALL WIRING SHALL BE IN RACEWAY.
  - e. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #10 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCKTIGHT" FOR #8 AWG AND LARGER. EQUALS BY BUCHANAN OR IDEAL ARE ACCEPTABLE.
  - f. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:
    - 120/240 VOLT SYSTEM
    - NEUTRAL - WHITE
    - PHASE A OR L1 - BLACK
    - PHASE B OR L2 - ORANGE
    - PHASE C OR L3 - BLUE
    - GROUND - GREEN
- 6. WIRING DEVICES:
  - a. THIS CONTRACTOR SHALL FURNISH AND INSTALL SWITCHES AND RECEPTACLES AS SHOWN ON THE DRAWINGS AND AS NECESSARY FOR A COMPLETE INSTALLATION.

- a. COLOR OF DEVICES AND PLATES SHALL BE AS DIRECTED BY THE ARCHITECT. THE DEVICES SHALL BE OF THE TYPES AND RATINGS LISTED, OR EQUALS AS MANUFACTURED BY: PASS & SEYMOUR, HUBBELL, LEVITON, LEGRAND, WEATHERPROOF OR RECEPTACLES SHALL BE INSTALLED WHERE SHOWN ON DRAWINGS OR AS REQUIRED BY CODE.
    - TOGGLE SWITCHES: 20A-120V COMMERCIAL SPECIFICATION GRADE.
    - DUPLEX RECEPTACLES: 20A-125V COMMERCIAL SPECIFICATION GRADE.
    - GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE: 20A-125V, 5mA, COMMERCIAL SPECIFICATION GRADE.
  - b. 120 WALL SWITCHES SHALL BE MOUNTED IN SUITABLE OUTLET BOXES IN THE WALL OR PARTITIONS. THEY SHALL BE OF THE QUIET DESIGN, TOGGLE HANDLE.
  - c. RECEPTACLES SHALL BE GROUNDING TYPE, THREE WIRE (HOT, NEUTRAL WIRES PLUS EQUIPMENT GROUND) SINGLE, DUPLEX OR SPECIAL AS INDICATED ON THE DRAWINGS.
  - d. SPECIAL PURPOSE NEMA RECEPTACLES OTHER THAN 20 AMP CONVENIENCE RECEPTACLES SHALL BE AS SHOWN ON PLANS. FINAL PLUG CONFIGURATION SHALL BE COORDINATED WITH EQUIPMENT SELECTION.
  - e. COLOR OF WIRING DEVICES AND COVER PLATES SHALL BE SELECTED BY ARCHITECT.
- 7. WALL PLATES:
    - a. WALL PLATES SHALL BE AS SPECIFIED BY ARCHITECT AND/OR OWNER. WHERE STANDARD PLATES WILL NOT FIT WALL FINISH, UNPLASTERED BRICK OR SPECIAL FINISH WALLS, USE SPECIAL SIZE PLATES TO SUIT CONDITIONS. ALL WALL PLATES LINE UP AND FLUSH WITH MOUNTING SURFACE AND SECURELY ATTACHED IN PLACE.
    - b. WHERE SWITCHES, RECEPTACLES OR COMBINATIONS THEREOF ARE GROUNDLED, USE GANG PLATES AND OUTLET BOXES TO SUIT THE SPECIFIC ARRANGEMENTS. UNLESS OTHERWISE INDICATED, IN SAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE MINIMUM OF 1/2" SIZE, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL IN/UNDER FLOOR SLAB CONDUIT SHALL BE A MINIMUM OF 1" SIZE UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
  - d. WALL PLATES SHALL BE OF THE SAME MANUFACTURER AS WIRING DEVICES.
- 8. POKE THRU (WHEN INDICATED ON DRAWINGS):
    - a. PROVIDE SYSTEM, FIRE RATED POKE THROUGH PER DRAWINGS.
    - b. FURNISH AND INSTALL ALL REQUIRED HARDWARE FOR A COMPLETE INSTALLATION SYSTEM.
    - c. ACCEPTED MANUFACTURERS: HUBBELL, WIREWORLD, OR APPROVED EQUAL.
  - 9. LIGHT FIXTURES:
    - a. FIXTURES SHALL BE PROVIDED COMPLETE WITH ACCESSORIES SUCH AS PLASTER FRAMES, AND OTHER SUPPORTING DEVICES FOR: RECESSED, SURFACE, OR PENDANT MOUNT AS REQUIRED.
    - b. SPLICES IN INTERNAL WIRING SHALL BE MADE WITH APPROVED INSULATED "WIRE NUT" TYPE MECHANICAL CONNECTORS, SUITABLE FOR THE TEMPERATURE AND VOLTAGE CONDITIONS TO WHICH THEY ARE SUBJECTED.
    - c. EACH LIGHTING FIXTURE SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF (2) 12 GAGE STEEL WIRE. SEE DETAIL IN FRONT SHEET.
    - d. MANUFACTURER MODEL TYPES SHALL BE AS NOTED OR SCHEDULED ON THE DRAWINGS UNLESS OTHERWISE INDICATED.
    - e. PROVIDE LAMPS FOR FIXTURES FROM: PHILLIPS, GENERAL ELECTRIC.
    - f. BALLASTS OR DRIVERS SHALL BE ELECTRONIC WITH A POWER FACTOR OF NOT LESS THAN 98 PERCENT, TOTAL HARMONIC DISTORTION OF NOT MORE THAN 10%. ACCEPTABLE MANUFACTURERS: PHILLIPS, GE OR AS PROVIDED WITH LIGHT FIXTURE AS PART OF THE SYSTEM.
    - 9. THIS CONTRACTOR SHALL FURNISH ADDITIONAL AUXILIARY SUPPORTING STEEL HANGER WIRES ADEQUATELY SIZED TO SUPPORT THE WEIGHT OF THE FIXTURE AND FASTENED TO BUILDING STRUCTURE (MINIMUM TWO PER FIXTURE) FOR FIXTURES NOT MOUNTED ON BUILDING FRAMEWORK. FIXTURES SHALL NOT BE SUPPORTED SOLELY BY THE CEILING STRUCTURE.
    - h. THIS CONTRACTOR SHALL PROVIDE ANY NECESSARY FITTINGS, ACCESSORIES, ETC. AS NECESSARY TO MAKE A COMPLETE INSTALLATION.
    - i. REMOVE ALL DIRT, OIL OR GREASE FROM LIGHT FIXTURES. CLEAN ALL GLASS, LENSES, ETC. AND POLISH FIXTURES AND TRIM.
  - 10. OCCUPANCY SENSORS (REFER TO DRAWING FOR INFORMATION).
  - 8. PANELS (UTILIZE EXISTING PANELS WITH NEW BREAKERS WHEN INDICATED):
    - a. PANEL BOARDS SHALL BE OF THE DEAD-FRONT, SAFETY TYPE, WITH BOLTED-TYPE UL LISTED MOLDED CASE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL BE LISTED AS MID FOR LIGHTING CIRCUITS, HACR FOR HVAC LOADS, SWD FOR SWITCHING LOADS ON-OFF DIRECTLY FROM THE PANEL. VOLTAGE RATINGS, NUMBER OF POLES, FRAME SIZES, TRIP RATINGS, MAIN BREAKER, NEUTRAL BUS, AND EQUIPMENT GROUND BARS ARE AS SHOWN ON THE DRAWINGS. PANEL BOARDS ARE TO BE FULLY RATED FOR THE SHORT CIRCUIT RATING SHOWN ON THE DRAWINGS BUT NOT LESS THAN 10,000 AMPS. BUS BARS SHALL BE RECTANGULAR, SOLID COPPER, 1000 AMPS PER SQUARE INCH TYPE, SECURELY MOUNTED AND BRACED. ALL CONNECTIONS TO BUS BARS SHALL BE SECURELY BOLTED. CABINETS BOXES SHALL BE CONSTRUCTED OF CODE GRADE GALVANIZED STEEL, SIZED TO PROVIDE MINIMUM 4-INCH WIDE WIRING CUTTERS ON SIDES, TOPS AND BOTTOM. FRONTS SHALL BE CONSTRUCTED OF CODE GRADE STEEL, ADJUSTABLE INDICATING TRIM CLAMPS AND WITH DOOR PROVIDED WITH CONCEALED HINGES AND CYLINDER TYPE LOCK AND CATCH, PROVIDE DOOR WITHIN DOOR. TWO KEYS PER PANEL SHALL BE FURNISHED, AND ALL LOCKS KEYS ALIKE. FINISH SHALL BE ANS I 61 GRAY. ACCEPTABLE MANUFACTURERS: SQUARE D, CUTLER-HAMMER, PHILLIPS, GENERAL ELECTRIC.
    - b. IDENTIFICATION OF PANEL BOARDS. PANEL BOARD SHALL HAVE A TYPED WRITTEN CIRCUIT DIRECTORY, MOUNTED UNDER TRANSPARENT PLASTIC ON THE INSIDE OF DOOR TO IDENTIFY EACH CIRCUIT LOAD AND LOCATION. EACH PANEL BOARD SHALL HAVE A LAMINATED BAKELITE NAMEPLATE ATTACHED TO THE OUTSIDE OF THE PANEL BOARD. THE NAMEPLATE SHALL INCLUDE PANEL BOARD DESIGNATION, VOLTAGE, AND PHASE. NAMEPLATES SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND. ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.
  - 12. DISCONNECT SWITCHES (HEAVY DUTY, REFER TO DRAWINGS FOR INFORMATION)
    - a. PROVIDE HEAVY DUTY SURFACE-MOUNTED SAFETY SWITCHES FOR MOTORS, TRANSFORMER, EQUIPMENT, ETC. UNLESS OTHERWISE INDICATED, OF TYPES, SIZES, AND ELECTRICAL CHARACTERISTICS AS INDICATED ON THE DRAWINGS. THE SWITCHES SHALL BE FUSED OR NON-FUSED AS INDICATED ON THE DRAWINGS AND SHALL BE MANUFACTURED BY SQUARE D, CUTLER HAMMER, EATON, PHILLIPS OR GENERAL ELECTRIC.
    - b. SWITCHES SHALL HAVE SWITCH BLADES WHICH SHALL BE FULLY VISIBLE IN THE OFF POSITION WHEN THE ENCLOSURE DOOR IS OPEN. CURRENT CARRYING PARTS SHALL BE PLATED COPPER AND SWITCH CONTACTS SHALL BE SILVER-TUNGSTEN. SWITCHES SHALL BE QUICK-MADE, QUICK-BREAK TYPE. THE OPERATING HANDLE SHALL BE AN INTERNAL PART OF THE ENCLOSURE BASE AND SHALL BE PAD LOCKABLE IN THE OFF POSITION. THE HANDLE POSITION SHALL INDICATE WHETHER THE SWITCH IS ON OR OFF. SWITCHES SHALL BE HORSE POWER RATED FOR 250 AC OR DC OR 600 VOLTS AC AS REQUIRED.
  - 13. FIRE ALARM SYSTEM (REFER TO FIRE ALARM SHEET FOR ADDITIONAL INFORMATION):
  - 14. IDENTIFICATION:
    - a. PROVIDE TYPED DIRECTORIES IN PANEL BOARDS TO DEPICT ACTUAL EQUIPMENT CONNECTED TO INDIVIDUAL BREAKERS/SWITCHES.
    - b. LABEL EACH PIECE OF EQUIPMENT WITH EQUIPMENT NAME DESIGNATION, SOURCE, VOLTAGE, PHASES.
    - c. PROVIDE ORANGE LABELS WITH BLACK LETTER/NUMBERS INDICATING VOLTAGE SERVICE 120/208V-PH-W ; 480/277V-PH-W.
    - d. FURNISH AND INSTALL OUTSIDE OF EQUIPMENT: DESIGNATION, SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND, ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.
  - 8. SPECIAL SYSTEMS:
    - a. VOICE/DATA/CABLE TV SYSTEMS: UNDER THIS SET OF ELECTRICAL DRAWINGS CONTRACTOR SHALL INSTALL ALL NECESSARY ELECTRICAL MATERIALS AND LABORS FOR COORDINATION BETWEEN ALL SUB CONTRACTORS AND IS ULTIMATELY RESPONSIBLE FOR ACCURATELY DICTATING THE SCOPE BETWEEN SUB CONTRACTS.

**C. INSTALLATION (VERIFY WITH G.C./MEANS AND METHODS SHOULD BE APPROVED BY GC AND ARCHITECT):**

- 1. CUTTING AND PATCHING:
    - a. ALL CUTTING, DRILLING, PATCHING, ETC. NECESSARY FOR INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT SHALL BE DONE BY THIS CONTRACTOR.
    - b. ALL DISTURBED CONSTRUCTION AND FINISHED SHALL BE RETURNED TO ITS ORIGINAL STATE. HOLES IN CONCRETE WALLS AND FLOORS SHALL BE CORE DRILLED AND SLEEVED. NO CUTTING OF STRUCTURAL MEMBERS WILL BE ALLOWED.
  - 2. INSTALLATION OF WORK:
    - a. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE SAFETY OF THE OWNERS EMPLOYEES, BUILDING EMPLOYEES AND GUESTS, AS WELL AS THEIR OWN FORCES, BY ADEQUATELY PROTECTING ANY EXPOSED LIVE CONDUCTORS, OR DEVICES THROUGHOUT THE COURSE OF THIS WORK.
    - b. WIRE SHALL BE INSTALLED CONTINUOUS BETWEEN DEVICES, WITH SPLICES LOCATED ONLY IN JUNCTION BOXES, PULL BOXES, OUTLET BOXES OR IN CABINETS. CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO REACH THE FARTHEST TERMINAL IN PANELS. A MINIMUM OF 6' LOOPS SHALL REMAIN WHERE CONNECTIONS OR TAPS ARE TO BE MADE IN BRANCH CIRCUIT WIRING.
    - c. CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT LOCATION OF ALL EQUIPMENT AND IN CASE ANY OUTLETS DO NOT COME IN CORRECT LOCATION, HE SHALL MOVE SAME, DO NECESSARY CUTTING AND PATCHING.
    - d. OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF OUTLETS WITHIN 10'-0" RADIUS BEFORE WORK IS INSTALLED WITHOUT EXTRA COST.
    - e. CHECK WITH HVAC CONTRACTOR AS TO LOCATION OF UNITS, DUCTS AND GRILLES AND PLUMBING CONTRACTOR AS TO LOCATION OF PIPING BEFORE INSTALLING THE WORK.
    - f. CONTRACTOR SHALL CONSULT WITH THE ARCHITECT AND REVIEW THE PLANS TO VERIFY THE EXACT LOCATIONS OF ALL OUTLETS ARE ABOVE COUNTERS WHERE CABINET WORK OCCURS, AND VERIFY THAT SWITCHES ARE AT THE CORRECT SIDE OF DOOR SWINGS.
    - d. THE CONTRACTOR SHALL CONSULT WITH THE EQUIPMENT SUPPLIERS FOR THE CORRECT SIZES OF ALL OUTLETS IN SUFFICIENT TIME BEFORE WALL CONSTRUCTION.
    - e. FAILURE OF THE CONTRACTOR TO COMPLY WITH ALL OF THE ABOVE SHALL MAKE HIM/HER RESPONSIBLE FOR ANY RELOCATIONS AT HIS EXPENSE DUE TO CONFLICT WITH OTHER EQUIPMENT.
  - 3. GROUNDING:
    - a. CONTRACTOR SHALL INSTALL ENTIRE CONDUIT SYSTEM, INCLUDING BOXES, CABINETS, PANELS, ETC. SO AS TO INSURE PROPER GROUND CONTINUITY THROUGHOUT THE SYSTEM. WHOSOEVER SHALL BE NOT LIMITED TO PROVIDE COMPLETE WIRE GROUNDING CONDUCTOR SYSTEM, #12 AWG MINIMUM, SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE CODE.
    - b. ALL DEVICES SHALL BE BONDED TO THE CONDUIT SYSTEM. USE A BONDING JUMPER BETWEEN THE OUTLET BOX AND THE DEVICE GROUNDING TERMINAL. METAL-TO-METAL JUST CONTACT BETWEEN THE DEVICES YOKE AND THE OUTLET BOX IS NOT SUFFICIENT AND IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES. ALL JUNCTION BOXES, OUTLET BOXES AND PULL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM. ALL CONDUIT, INCLUDING FLEXIBLE CONDUIT, SHALL BE GROUNDING WITH GREEN GROUNDING CONDUCTOR.
    - c. ALL ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE TO BE GROUNDLED. CONDUIT SYSTEM IS TO BE ELECTRICALLY CONTINUOUS. ALL LOCK NUTS MUST CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES, WHERE ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE ISOLATED FROM THE CONDUIT SYSTEM. USE BONDING JUMPERS WITH APPROVED CLAMPS. ALL GROUND CLAMPS SHALL BE "PEN-UNION" OR EQUAL, SIMILAR TO "GPL" TYPE.
    - d. THE COMPLETE ELECTRICAL INSTALLATION SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODE. EQUIPMENT GROUNDING SYSTEM CABLE SHALL BE COPPER.
    - e. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS AND ENCLOSURES WITHIN THE BUILDING.
    - f. ACCESSIBLE GROUNDING CONNECTIONS SHALL BE BOLTED OR CLAMP TYPE UNLESS OTHERWISE INDICATED. SOLDERED CONNECTIONS WILL NOT BE PERMITTED IN THE GROUNDING SYSTEM.
  - 4. FIRE STOPPING (MEANS AND METHODS- SHOULD BE APPROVED BY G.C. AND ARCHITECT)
    - a. ALL PENETRATIONS IN WALL, FLOOR OR CEILING SHALL BE SUITABLY CLOSED UP AND SEALED WITH A FIRE STOPPING COMPOUND LISTED IN THE MOST RECENT FACTORY RESEARCH. FIRE STOPPING PRODUCTS SHALL BE MANUFACTURED BY 3M CO.
  - 5. ELECTRICAL CONNECTIONS
    - a. ALL WIRE CONNECTIONS SHALL BE MADE BY MEANS OF SOLDERLESS CONNECTORS.
    - b. JOINT AND SPLICES SHALL BE COVERED WITH 3M ELECTRICAL TAPE TO 150% OF INSULATION VALUE.
    - c. NO SPLICES SHALL BE MADE IN THE CONDUCTOR EXCEPT AT OUTLET BOXES, JUNCTION BOXES, OR IN SPICE BOXES.
    - 6. EQUIPMENT CONNECTIONS
      - f. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS AND FOR ALL OWNER FURNISHED EQUIPMENT. PROVIDE A FLEXIBLE LIQUID TIGHT CONNECTIO TO ALL VIBRATION PRODUCING EQUIPMENT.
      - 9. THE CONTRACTOR SHALL MAKE POWER CONNECTIONS TO ALL MOTORS AND EQUIPMENT FURNISHED BY OTHERS. SEE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS, AND DRAWING NOTES FOR ADDITIONAL INFORMATION
      - h. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
    - i. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.
    - j. ALL DEVICES INSTALLED OUTSIDE OR IN DAMP LOCATIONS SHALL BE APPROVED WEATHERPROOF RATED.
    - k. THE CONTRACTOR SHALL INSTALL ALL CONDUITS AND WIRES WITH A MINIMUM NUMBER OF BENDS AND IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEAD ROOM, KEEP OPENINGS AND PASSAGeways CLEAR AND MEET ALL STRUCTURAL CODE REQUIREMENTS.
  - l. BRANCH CIRCUITS TO RECEPTACLES, LIGHTING AND MISC. SMALL LOADS (20 AMP CIRCUITS), UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE 2-#12, 1-#12G, 3/4" c.
  - m. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, WIRE AND CABLE FURNISHED TO HIM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL INSTALLATION DRAWINGS AND WIRING DIAGRAMS FROM THE EQUIPMENT MANUFACTURER. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
  - n. CONTRACTOR SHALL MAKE FINAL CONNECTIONS AND TERMINATIONS TO THE OWNER, MECHANICAL, AND PLUMBING CONTRACTOR'S FURNISHED EQUIPMENT.
7. MISCELLANEOUS SUPPORTING MEMBERS
  - a. THE INSTALLATION OF ANGLES CHANNELS, AND OTHER MISCELLANEOUS STEEL, BOLTS, RODS, ETC. REQUIRED TO SUPPORT LIGHT FIXTURE, CONDUIT, RACEWAY, LADDER TRAY, OR OTHER ELECTRICAL EQUIPMENT OR DEVICES SHALL BE COORDINATED WITH THE G.C.
8. SPECIAL SYSTEMS:
  - a. VOICE/DATA/CABLE TV SYSTEMS: UNDER THIS SET OF ELECTRICAL DRAWINGS CONTRACTOR SHALL INSTALL ALL NECESSARY ELECTRICAL MATERIALS AND LABORS FOR COORDINATION BETWEEN ALL SUB CONTRACTORS AND IS ULTIMATELY RESPONSIBLE FOR ACCURATELY DICTATING THE SCOPE BETWEEN SUB CONTRACTS.

- b. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE G.C. TO PROVIDE LOW VOLTAGE CABLING, APPROPRIATE TAGS BACK TO MAIN DEMARC AREA.
- 9. GENERAL INSTALLATION NOTES :
  - a. THE CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO ANY STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT OR STRUCTURAL ENGINEER.
  - b. THE CONTRACTOR SHALL PROVIDE SUPPORT FOR ALL FIXTURES AND ELECTRICAL EQUIPMENT TO COMPLY WITH THE SEISMIC REQUIREMENTS OF THE UNIFORM BUILDING CODE AND ALL LOCAL ORDINANCES.
  - c. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS, WIRES, BOXES, SWITCHES, LIGHT FIXTURES (WITH LAMPS), RECEPTACLES, SERVICE DEVICES, SWITCHBOARDS AND PANELBOARDS (WHEN INDICATED AS NEW) REQUIRED FOR A COMPLETE INSTALLATION AND OPERATIONAL ELECTRICAL SYSTEM.
  - d. PROVIDE AN EXTERNAL MANUAL DISCONNECTING MEANS AT ALL MOTORS OR PACKAGED MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE. SOME UNITS ARE PROVIDED BY MECHANICAL CONTRACTOR A PART OF A MECHANICAL PACKAGE.
  - e. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING THROUGH FIRE RATED SEPARATIONS, THROUGH STOP FIRE SEALING OF CONDUITS SHALL BE MADE WITH 3M CP25WP+ CAULK ACCORDING TO UL APPLICATION.
  - f. LOCATIONS SHOWN ON THE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS TAKE PRECEDENCE OVER THOSE SHOWN ON THE ELECTRICAL DRAWINGS. REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR THE EXACT LOCATIONS, RATINGS, TYPE CONNECTIONS, WIRING DIAGRAMS AND AUXILIARY DEVICES.
  - g. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRE AND CONNECTIONS FOR LINE VOLTAGE LIGHTING CONTROLS AND LOW VOLTAGE LIGHTING CONTROL UNLESS NOTED OTHERWISE ON DRAWINGS. THE CONTRACTOR SHALL MAKE ALL POWER CONNECTIONS TO HVAC EQUIPMENT INCLUDING 120 VOLT POWER CONTROL, MONITORING, AND SIGNALING EQUIPMENT FURNISHED BY OTHER DISCIPLINES. COORDINATE WITH OTHER DISCIPLINES FOR REQUIREMENTS.
  - h. THE CONTRACTOR SHALL RECEIVE, STORE AND INSTALL ALL ELECTRICAL ITEMS FURNISHED BY THE OWNER.
  - i. REFER TO THE REFLECTED CEILING PLAN AND THE ARCHITECTURAL FLOOR PLANS FOR THE EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND DEVICES.
  - j. RECEPTACLES SHALL HAVE PRINTED LABELS WITH THE PANEL AND CIRCUIT NUMBER PLACED ON THE COVER. THE LABEL SHALL BE RED WITH BLACK LETTERS FOR EMERGENCY RECEPTACLES, AND WHITE WITH BLACK LETTERS FOR NORMAL RECEPTACLES.
  - k. THE CONTRACTOR SHALL PROVIDE A SET OF AS-BUILT DRAWINGS SHOWING THE LOCATIONS OF ALL UNDERGROUND CONDUITS, INDICATE ALL CHANGES MADE DURING CONSTRUCTION, AND ANY DEVIATIONS FROM THE ELECTRICAL DRAWINGS.
  - l. PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.
  - m. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, THE ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND INFORMATION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE ELECTRICAL WORK INTERFACES WITH OTHER TRADES.
  - n. THIS CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF/HERSELF WITH CONSTRUCTION CONDITIONS. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY, ON THIS CONDITION, IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.
  - o. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS TO DETERMINE WHERE NEW WALLS AND CEILING ARE TO BE INSTALLED AND SHALL MAKE USE OF THE GAS TO CEILING CONDUIT. THE CONTRACTOR SHALL USE SURFACE RACEWAYS SUCH AS WIREWOLD WHERE NECESSARY (ONLY WHERE INDICATED OR AS DIRECTED).
- 10. TEMPORARY LIGHTING, POWER, FIRE, AND SAFETY
  - a. E.C. TO PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED IN AREAS UNDERGOING WORK DURING CONSTRUCTION.
  - b. E.C. SHALL COMPLY WITH NFPA 241 FOR SAFEGUARDING DURING CONSTRUCTION AND ALTERATION OPERATIONS.
- 11. BALANCING OF LOADS
  - a. UPON CONNECTING ALL CIRCUITS TO PANELS, THE CONTRACTOR SHALL BALANCE THE LOAD IN AMPERES TO +/- 20% BETWEEN PHASES FOR EACH PANEL OR PER OWNERS SATISFACTION.
- 12. TESTING AND INSPECTION:
  - a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY TEST THE ENTIRE ELECTRICAL SYSTEM FOR GROUNDS, SHORTS AND PROPER GROUNDING RESISTANCE. A MAXIMUM OF 25 OHMS RESISTANCE FROM NEUTRAL CONDUCTOR AND CONDUIT TO EARTH GROUND SHALL BE PERMITTED. ONLY A GROUND RESISTANCE MEASURING METER OF APPROVED TYPE SHALL BE USED. A COMMON OHM METER IS NOT ACCEPTABLE.
  - b. THE ELECTRICAL CONTRACTOR SHALL SEE THAT LOCAL INSPECTION AUTHORITIES ARE NOTIFIED WHEN INSPECTIONS ARE REQUIRED BY CODE AND SHALL GIVE ALL NECESSARY ASSISTANCE TO THE INSPECTOR WHEN HE IS MAKING AN INSPECTION.
  - c. THE ELECTRICAL CONTRACTOR WILL SATISFY ALL REGULATIONS HAVING JURISDICTION ON THIS PROJECT.
  - d. THE ENTIRE WIRING SYSTEM SHALL BE TESTED FOR SHORT CIRCUITS, GROUNDS AND INSULATION RESISTANCE BETWEEN CONDUCTORS AND TO GROUND.

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mtarnandez@mghengineering.com  
Phone: 773.314.9119

STATEMENT OF COMPLIANCE

I HAVE PREPARED OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH ALL THE APPLICABLE CODES, INCLUDING THE ENVIRONMENTAL BARRIERS ACT (410 I.E.CS) AND THE 2010 AMERICAN WITH DISABILITIES ACT.

HAMMOND, INDIANA

ISSUE	DATE
FOR BID	02/12/19

DRAWN BY:  
APPROVED:  
PROJECT NO.  
DATE  
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ST. MARGARET MARY PARISH SPIRITUAL CENTER

1445 Hoffman Street  
Hammond, Indiana

SHEET DESCRIPTION  
ELECTRICAL SPECIFICATION SHEET

SHEET NUMBER  
E-6  
SHEET 9 of 9

bid set - 02-12-19  
not for construction

STATEMENT OF COMPLIANCE  
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HAMMOND, INDIANA

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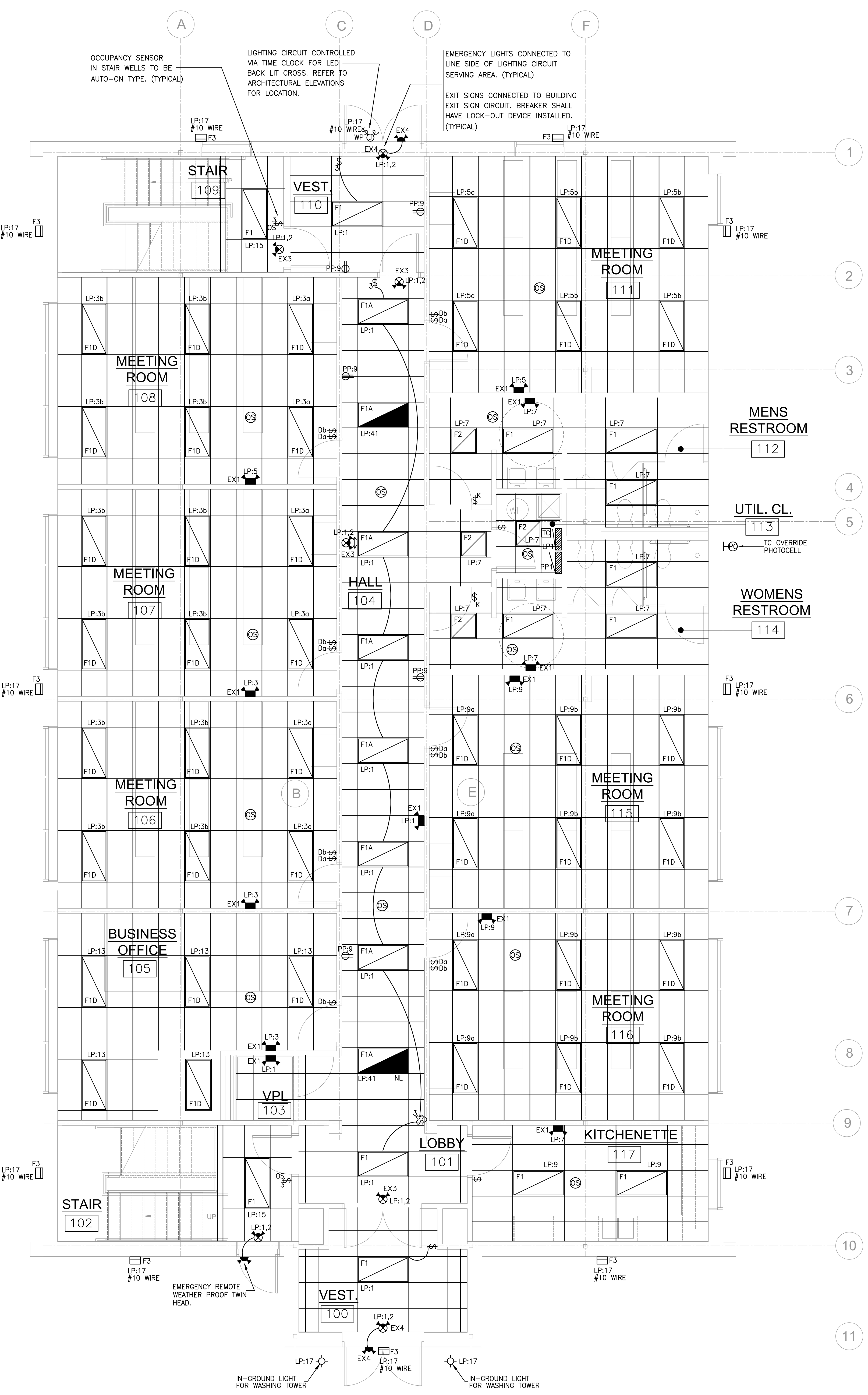
**ST. MARGARET MARY PARISH SPIRITUAL CENTER**

1445 Hoffman Street  
 Hammond, Indiana

SHEET DESCRIPTION  
 FIRST FLOOR PLAN - LIGHTING

SHEET NUMBER  
**EL-1**

SHEET 4 of 9



**1 FIRST FLOOR PLAN - LIGHTING**  
 SCALE: 1/4" = 1'-0"





CONSULTANTS



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STATEMENT OF COMPLIANCE  
 I HAVE PREPARED OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH ALL THE APPLICABLE CODES, INCLUDING THE ENVIRONMENTAL BARRIERS ACT (410 ILCS) AND THE 2010 AMERICAN WITH DISABILITIES ACT.

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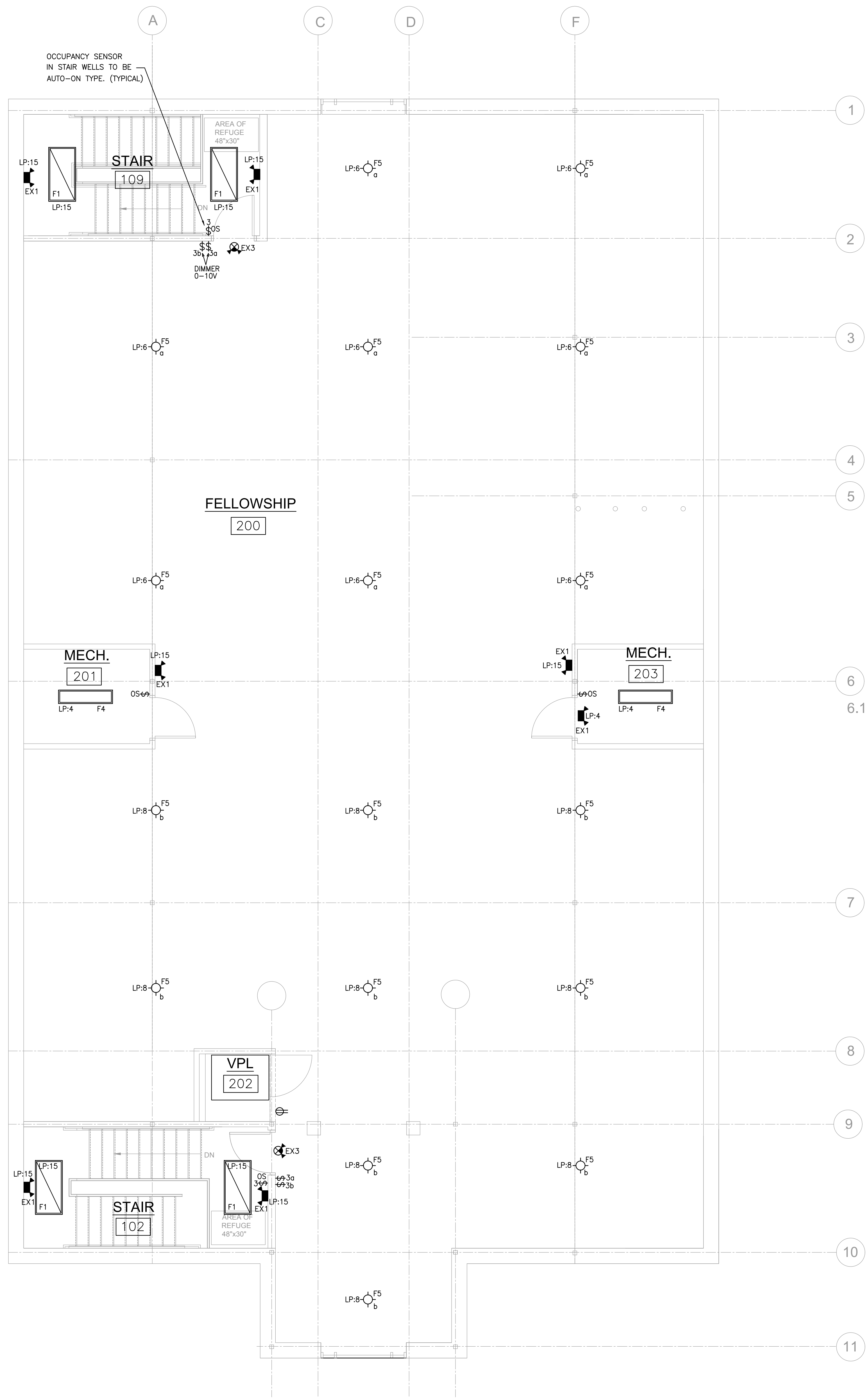
1445 Hoffman Street  
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SHEET DESCRIPTION  
 SECOND FLOOR PLANS-LIGHTING

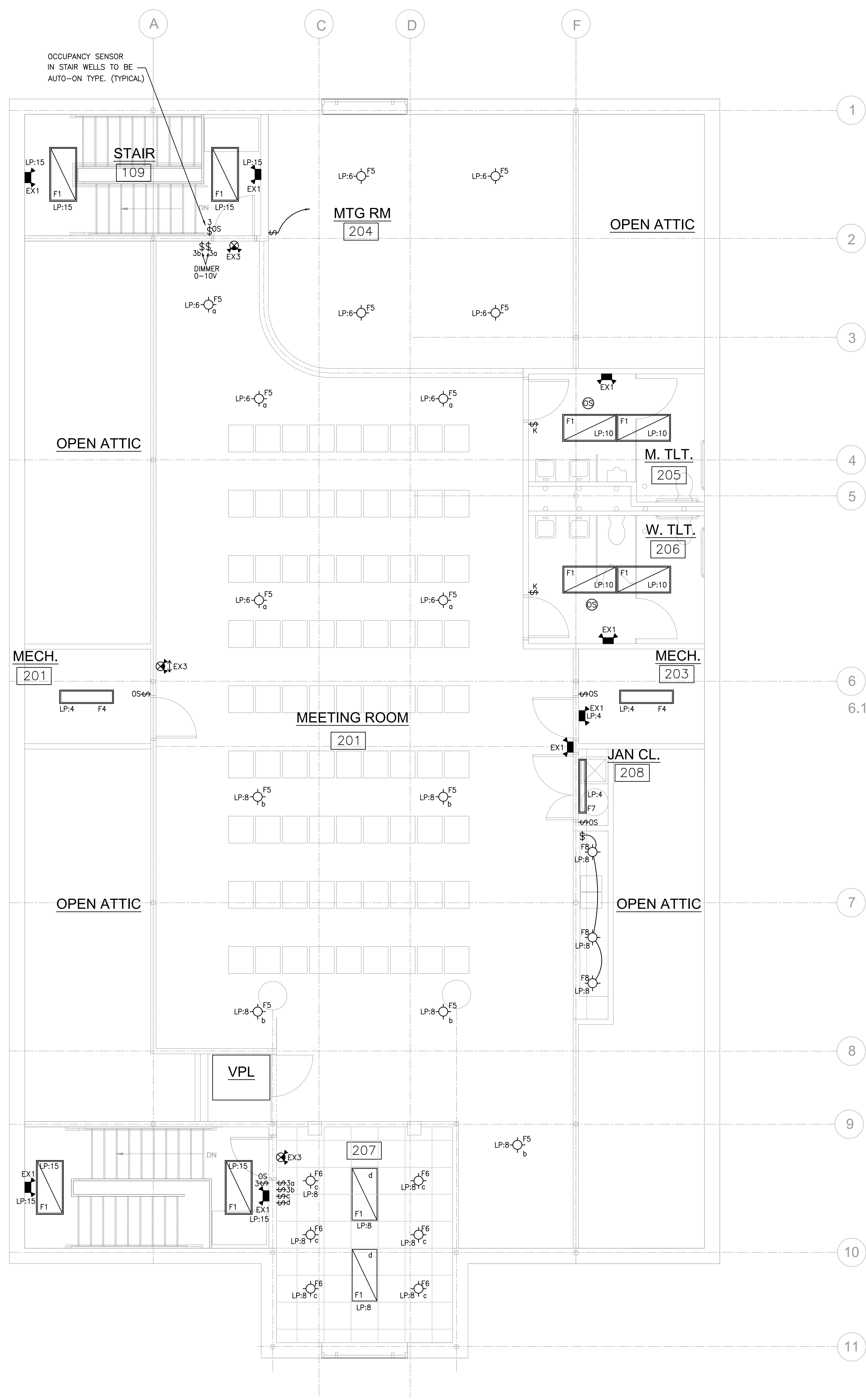
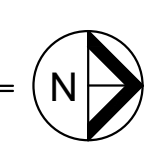
SHEET NUMBER

EL-2

SHEET 5 of 9



1 SECOND FLOOR PLAN - LIGHTING (BASE BID)  
 EL-2 SCALE: 1/4" = 1'-0"



2 SECOND FLOOR PLAN - LIGHTING (ALTERNATE)  
 EL-2 SCALE: 1/4" = 1'-0"

