

LIGHTING PLAN - NEW WORK

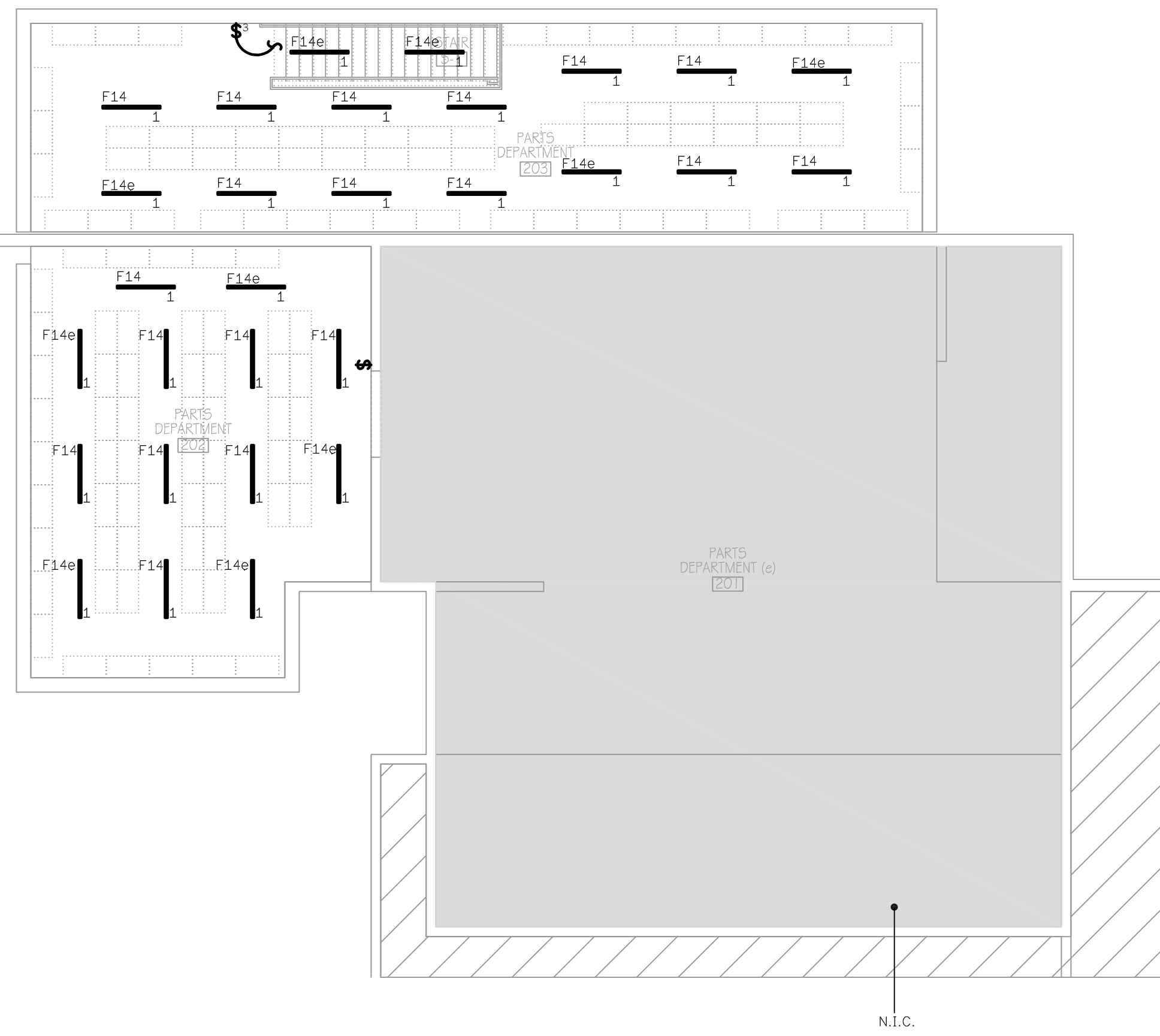
SCALE: 1/8" = 1'-0"

GENERAL NOTES

- ALL LIGHTING FIXTURES AND ASSOCIATED CONTROLS ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REWIRE EQUIPMENT AS REQUIRED TO ACCOMMODATE PROPOSED NEW ELECTRICAL DISTRIBUTION CONFIGURATION.
- ALL EMERGENCY EXIT LIGHTING FIXTURES, BATTERY BACK-UP FIXTURES, ASSOCIATED CONDUIT, AND WIRING ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REWIRE EQUIPMENT AS REQUIRED TO ACCOMMODATE PROPOSED NEW ELECTRICAL DISTRIBUTION CONFIGURATION.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OWNERS STANDARDS PRIOR TO START OF WORK. COORDINATE WITH OWNERS REPRESENTATIVE IN THE FIELD.
- CONNECT EXIT SIGNS, AND EMERGENCY FIXTURES, AND NIGHT LIGHT FIXTURES TO THE UN-SWITCHED PORTION OF LIGHTING CIRCUIT SERVING AREA.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR GRID COORDINATION AND EXACT LOCATION OF LIGHT FIXTURES.
- THE CONTRACTOR SHALL NOTE BRANCH CIRCUIT WIRING IS NOT SHOWN; HOWEVER, CIRCUIT NUMBERS ARE SHOWN ADJACENT TO FIXTURES IN SUBSCRIPTS. ALL OCCUPANCY SENSORS AND SWITCHES SHALL CONTROL FIXTURE WITHIN SPACE SHOWN OR AS DESIGNATED WITH SUBSCRIPTS. PROVIDE BRANCH CIRCUIT WIRING AS REQUIRED TO ACCOMMODATE BOTH BRANCH CIRCUIT CONFIGURATION AND SWITCHING SCHEME AS INDICATED. LOWER CASE SUBSCRIPTS ARE TO DESIGNATE CONTROL SCHEME. CONTRACTOR SHALL COORDINATE WIRING REQUIREMENTS WITH PROPOSED LIGHTING CONTROL PANELS PRIOR TO START OF WORK.
- ALL LIGHTING CIRCUITS NOT CONTROLLED BY OCCUPANCY SENSORS SHALL BE EXTEND VIA MECHANICALLY HELD CONTACTOR CONTROLLED BY TIME CLOCK FOR AUTOMATIC SHUT-OFF PER IECC REQUIREMENTS. CONTRACTOR SHALL UTILIZE EXISTING LIGHTING CONTACTOR AND ASSOCIATED TIME CLOCK MADE AVAILABLE DURING DEMOLITION AS REQUIRED.
- ALL LIGHTING FIXTURES EQUIPPED WITH AN EMERGENCY BATTERY BACK-UP BALLAST SHALL HAVE THE EMERGENCY BATTERY CONNECTED TO THE UN-SWITCHED PORTION OF THE LIGHTING CIRCUIT SERVING FIXTURE. IF THE FIXTURE IS MARKED TO BE A NIGHT LIGHT THE ENTIRE FIXTURE SHALL BE CONNECTED TO AN UN-SWITCHED LIGHTING CIRCUIT. IF THE FIXTURE IS TO BE SWITCHED THE CONTRACTOR SHALL PROVIDE BOTH SWITCHED AND UN-SWITCHED LIGHTING CIRCUIT LEGS AS REQUIRED. COORDINATE WIRING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL COORDINATE EXACT WALL SWITCH AND OCCUPANCY SENSOR MOUNTING LOCATION WITH OWNER'S REPRESENTATIVE IN THE FIELD PRIOR TO ROUGH-IN.
- IN AREAS/OFFICES SHOWN WITH CEILING MOUNTED OCCUPANCY AND/OR DAYLIGHT SENSORS AND IN-WALL MOUNTED SWITCHES, CONTRACTOR SHALL EXTEND BRANCH CIRCUIT WIRING FROM OCCUPANCY SENSOR TO SWITCH THEN TO FIXTURES CONTROLLED PER SWITCHING SCHEME REQUIREMENTS. COORDINATE EXACT WIRING REQUIREMENTS IN THE FIELD.

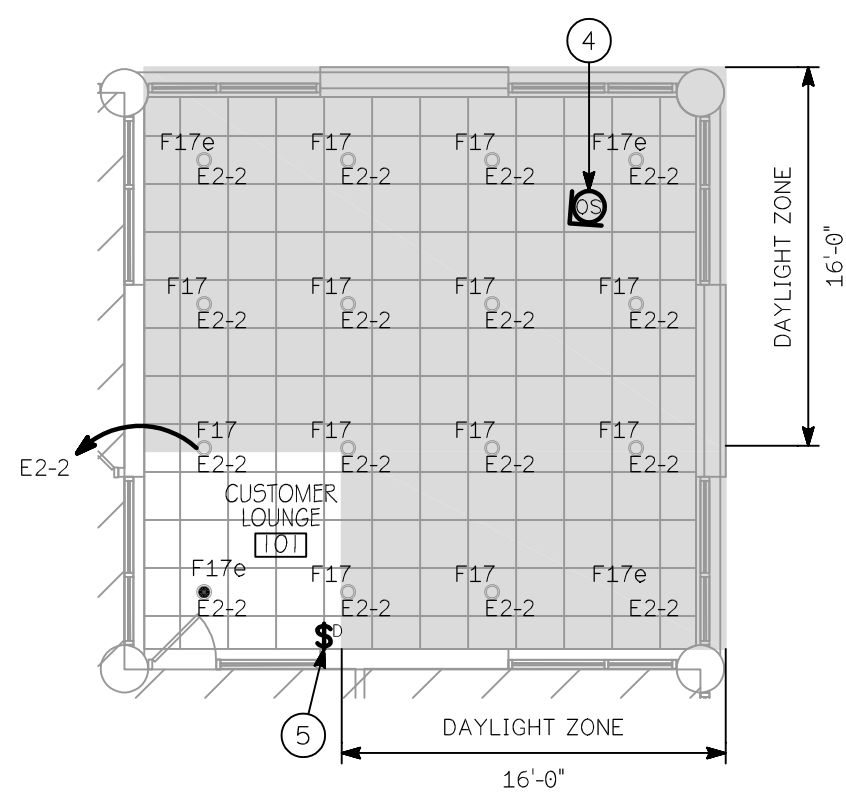
DRAWING NOTES

- CONTRACTOR SHALL PROVIDE TIMER STYLE TWO HOUR OVER RIDE SWITCH FOR AFTER HOURS SERVICE. COORDINATE EXACT MOUNTING LOCATION IN THE FIELD. REFER TO OVER-RIDE DETAIL, SHEET E-581 FOR ADDITIONAL INFORMATION.
- PROVIDE WALL BOX MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR (LUTON MODEL #MS-B102-WH OR APPROVED EQUAL). COORDINATE EXACT MOUNTING LOCATION IN THE FIELD.
- PROVIDE CEILING MOUNTED, HARD-WIRED, DUAL TECHNOLOGY OCCUPANCY SENSOR (LUTON #LOS-CDT-580 AND UV-PP POWER PACK OR APPROVED EQUAL) ARROW INDICATE DIRECTION OF ORIENTATION. COORDINATE EXACT MOUNTING LOCATION IN THE FIELD.
- PROVIDE CEILING MOUNTED, HARD-WIRED, DUAL TECHNOLOGY OCCUPANCY/DAYLIGHT SENSOR (MODEL #WATT-STOPPER AND POWER PACK OR APPROVED EQUAL) ARROW INDICATE DIRECTION OF ORIENTATION. COORDINATE EXACT MOUNTING LOCATION IN THE FIELD.
- PROVIDE WIRELESS DIMMER SWITCH. SWITCH SHALL INTERFACE WITH WIRELESS DAY LIGHT SENSOR AND/OR WIRELESS OCCUPANCY SENSOR AS REQUIRED. COORDINATE EXACT MODEL NUMBER WITH FIXTURE STYLE AND DIMMING REQUIREMENTS.



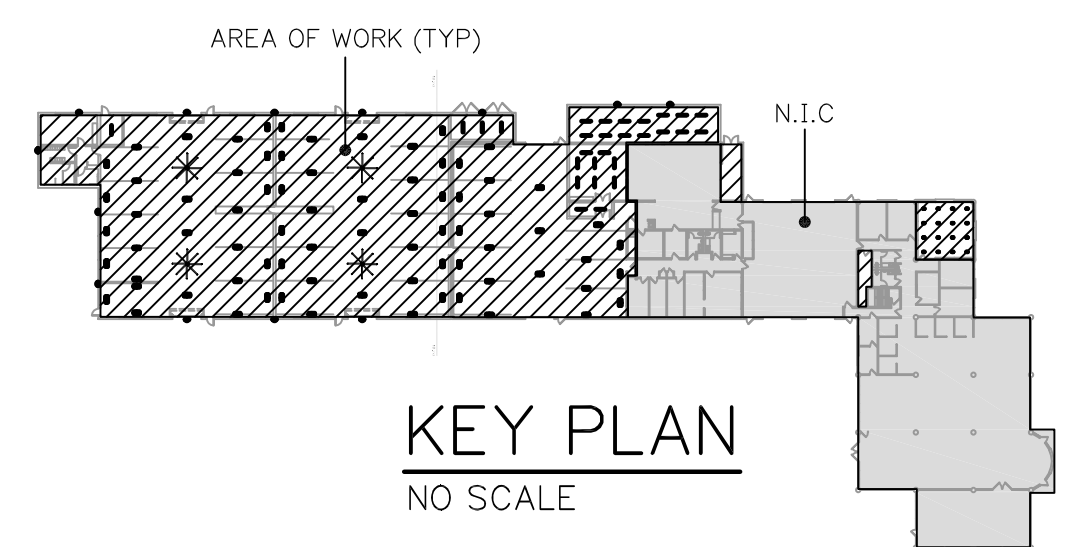
LIGHTING PLAN - MEZZANINE - NEW WORK

SCALE: 1/8" = 1'-0"

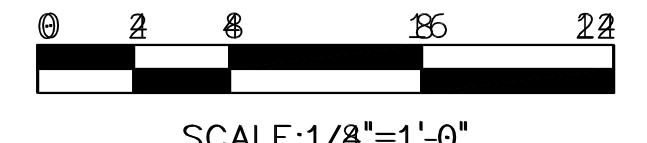
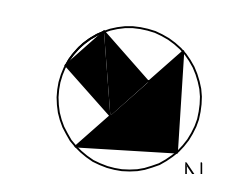


LIGHTING PART PLAN - NEW WORK

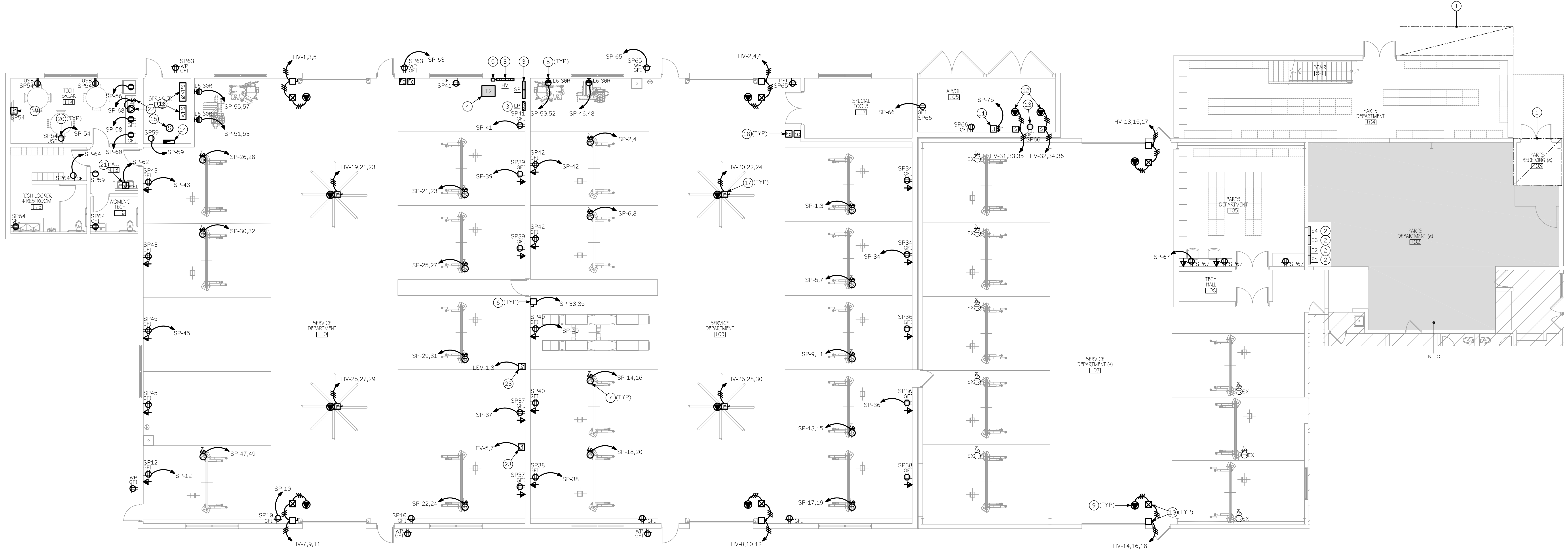
SCALE: 1/8" = 1'-0"



KEY PLAN
NO SCALE

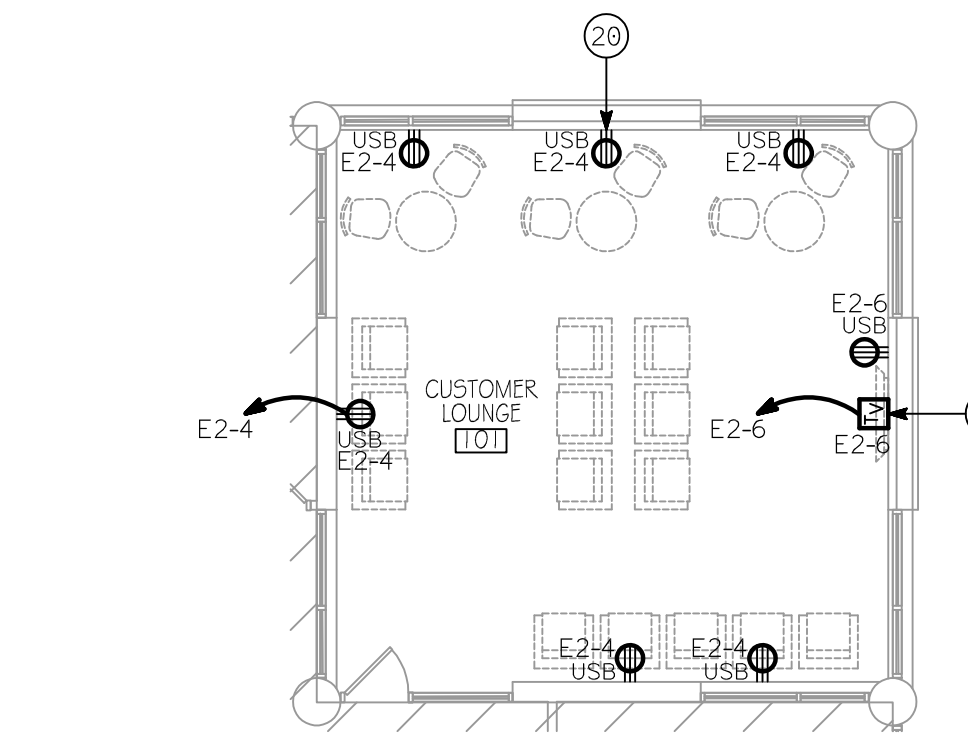


SCALE: 1/8" = 1'-0"



POWER PLAN - NEW WORK

SCALE: 1/8" = 1'-0"



POWER PART PLAN - NEW WORK

SCALE: 1/8" = 1'-0"

GENERAL NOTES

- A. ALL EXISTING DEVICES (RECEPTACLES, TELEPHONE/DATA OUTLETS, ETC) ARE SHOWN LIGHT AND SOLID WITH AN "EX" SUBSCRIPT. ALL NEW DEVICES ARE SHOWN HEAVY AND SOLID.
- B. ALL BRANCH CIRCUIT WIRING IS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL UTILIZE EXISTING SPARE CIRCUITS AND CIRCUITS MADE AVAILABLE DURING DEMOLITION. COORDINATE EXACT CIRCUIT REQUIREMENTS IN THE FIELD. IN THE EVENT WHERE ADDITIONAL CIRCUITS ARE REQUIRED THE CONTRACTOR SHALL PROVIDE SUB PANEL AS REQUIRED.
- C. THE CONTRACTOR SHALL NOTE BRANCH CIRCUIT WIRING IS NOT SHOWN; HOWEVER, CIRCUIT NUMBERS ARE SHOWN ADJACENT TO DEVICES IN SUBSCRIPTS. NUMERICAL SUBSCRIPT INDICATES BRANCH CIRCUIT BREAKER NUMBER. ALL WIRING SHALL BE PROVIDED TO INDICATED PANELBOARD ON POWERIN DESIGNATION.
- D. ALL DEVICES ARE EXISTING TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REWIRE EQUIPMENT AS REQUIRED TO ACCOMMODATE PROPOSED NEW ELECTRICAL DISTRIBUTION CONFIGURATION. COORDINATE EXTENT OF DEMOLITION IN THE FIELD.
- E. ALL MECHANICAL EQUIPMENT IS EXISTING TO REMAIN UNLESS OTHERWISE NOTED. CONTRACTOR SHALL REWIRE EQUIPMENT AS REQUIRED TO ACCOMMODATE PROPOSED NEW ELECTRICAL DISTRIBUTION CONFIGURATION. COORDINATE EXTENT OF DEMOLITION IN THE FIELD.
- F. COORDINATE FINAL LOCATIONS OF EQUIPMENT PRIOR TO ROUGH-IN. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT ELECTRICAL CONNECTION REQUIREMENTS WITH OWNER PROVIDED EQUIPMENT, EQUIPMENT VENDOR, AND GENERAL CONTRACTOR PRIOR TO START OF WORK.
- G. COORDINATE DEVICE LOCATIONS IN MILLWORK AND/OR FIXTURE WITH ARCHITECTS PLANS PRIOR TO ROUGH-IN.
- H. CONTRACTOR SHALL COORDINATE ALL WORK WITH OWNERS STANDARDS PRIOR TO START OF WORK. COORDINATE WITH OWNERS REPRESENTATIVE IN THE FIELD.
- I. COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS OF ALL MECHANICAL EQUIPMENT IN THE FIELD.
- J. CONTRACTOR SHALL COORDINATE ALL DEVICE LOCATIONS, MOUNTING HEIGHTS, AND STYLES WITH EQUIPMENT VENDOR AND OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
- K. CONTRACTOR SHALL COORDINATE ALL NEW HVAC EQUIPMENT LOCATIONS PRIOR TO START OF WORK. COORDINATE ALL ELECTRICAL CONNECTION REQUIREMENTS WITH MECHANICAL CONTRACTOR IN THE FIELD.
- L. HVAC ROOFTOP UNITS (RTU) ARE PROVIDED WITH INTEGRAL POWERED GFI PROTECTED WEATHERPROOF, SERVICE RECEPTACLES PER N.E.C. REQUIREMENTS. REVIEWER SHALL NOTE THAT SERVICE RECEPTACLE IS POWERED THROUGH AN INTEGRAL TRANSFORMER ON THE LINE SIDE OF THE SERVICE DISCONNECT.
- M. SPRINKLER MONITORING EQUIPMENT SHOWN FOR PERFORMANCE SPECIFICATION ONLY. FINAL SPRINKLER MONITORING DESIGN, SHOP DRAWINGS, AND CALCULATIONS SHALL BE PROVIDED AND CERTIFIED BY LICENSED FIRE PROTECTION ENGINEER.

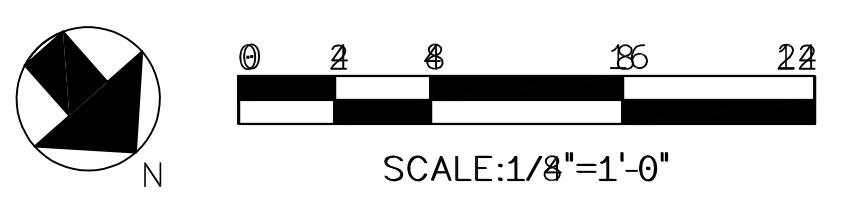
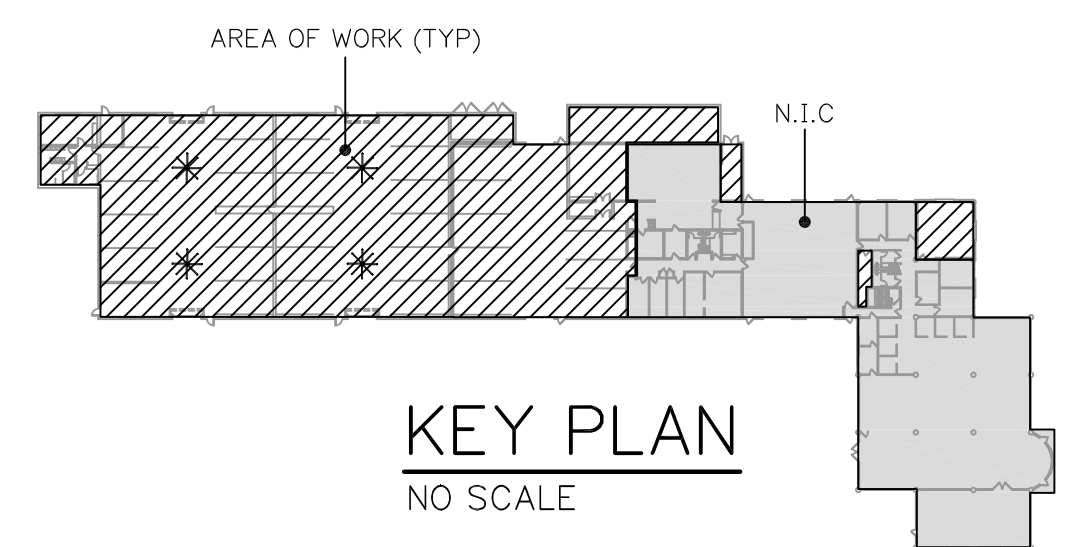
DRAWING NOTES

1. REFER TO POWER PART PLAN - SERVICE DISTRIBUTION, SHEET E-601 FOR ADDITIONAL INFORMATION ON THIS AREA.
2. EXISTING PANELBOARD TO REMAIN, REFER TO POWER RISER, SHEET E-601 FOR ADDITIONAL INFORMATION.
3. PROPOSED LOCATION OF NEW PANELBOARD, REFER TO POWER RISER, SHEET E-601 FOR ADDITIONAL INFORMATION.
4. PROPOSED LOCATION OF NEW TRANSFORMER, REFER TO POWER RISER, SHEET E-601 FOR ADDITIONAL INFORMATION.
5. PROPOSED LOCATION OF NEW TRANSFORMER MAIN DISCONNECTING MEANS, REFER TO POWER RISER, SHEET E-601 FOR ADDITIONAL INFORMATION.
6. PROVIDE 240V RATED, 2P30A SAFETY DISCONNECT SWITCH FOR CONNECTION TO ALIGNMENT LIFT. EXTEND 2#10-#10GRD-3/4" CDT TO CIRCUIT AS INDICATED. COORDINATE FINAL LIFT CONNECTION REQUIREMENTS AND LOCATION WITH LIFT MANUFACTURER'S REPRESENTATIVE IN THE FIELD. CONTRACTOR SHALL MAKE FINAL CONNECTIONS AS REQUIRED.
7. PROVIDE 240V RATED, 2P25A WHIP STYLE ELECTRICAL CONNECTION TO ABOVE GROUND SERVICE LIFT. EXTEND 2#10-#10GRD-3/4" CDT TO CIRCUIT AS INDICATED. COORDINATE FINAL LIFT CONNECTION REQUIREMENTS AND LOCATION WITH LIFT MANUFACTURER'S REPRESENTATIVE IN THE FIELD. CONTRACTOR SHALL MAKE FINAL CONNECTIONS AS REQUIRED.
8. CONTRACTOR SHALL PROVIDE SPECIALTY RECEPTACLE FOR OWNER PROVIDED SERVICE EQUIPMENT. COORDINATE EXACT RECEPTACLE MODEL WITH MANUFACTURER RECOMMENDATIONS AND EQUIPMENT VENDOR PRIOR TO ROUGH-IN. CIRCUIT AS INDICATED ON PLANS.
9. CONTRACTOR SHALL MAKE ALL CONNECTIONS TO HIGH SPEED DOOR (480V, 3Ø, 2 HP). COORDINATE EXACT CONNECTION REQUIREMENTS WITH DOOR MANUFACTURER IN THE FIELD.
10. PROPOSED GARAGE DOOR CONTROL PANEL PROVIDED WITH GARAGE DOOR. PROVIDE 600V RATED, 3P30A SAFETY DISCONNECT SWITCH AS REQUIRED. COORDINATE EXACT MOUNTING LOCATION AND ALL WIRING AND CONNECTION REQUIREMENTS WITH EQUIPMENT VENDOR IN THE FIELD.
11. PROVIDE 120V CONNECTION FOR VENDOR PROVIDED AIR DRYER. COORDINATE EXACT MOUNTING LOCATION AND CONNECTION REQUIREMENTS WITH EQUIPMENT VENDOR IN THE FIELD. CIRCUIT AS INDICATED ON PLANS.
12. PROPOSED LOCATION OF NEW DUPLEX AIR COMPRESSOR (TWO (2) - 480V, 3Ø, 15 HP MOTORS). CONTRACTOR SHALL PROVIDE NEW 600V RATED 3P60A DISCONNECT SWITCHES FUSED @ 30 AMPS FOR MOTOR OVER-CURRENT PROTECTION. COORDINATE EXACT MOUNTING LOCATION AND WIRING REQUIREMENTS WITH EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
13. PROVIDE GFI PROTECT DUPLEX RECEPTACLE TO VENDOR PROVIDED ELECTRIC DRAIN. COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN. CIRCUIT AS INDICATED ON PLANS.
14. PROPOSED LOCATION OF SPRINKLER MONITORING PANEL. CONTRACTOR SHALL PROVIDE ALL ASSOCIATED WIRING, DEVICE, AND EQUIPMENT REQUIRED TO INSTALL A FULLY FUNCTIONAL SYSTEM. REFER TO SPRINKLER MONITORING RISER, SHEET E-601 FOR ADDITIONAL INFORMATION. CIRCUIT #SP-61.
15. PROVIDE CEILING MOUNTED SMOKE DETECTOR MOUNTED ABOVE SPRINKLER CONTROL PANEL. COORDINATE EXACT MOUNTING LOCATION IN THE FIELD.
16. PROPOSED LOCATION OF SPRINKLER WATER FLOW AND TAMPER SWITCHES. CONTRACTOR SHALL PROVIDE ALL MONITORING CONNECTIONS AS REQUIRED.
17. CONTRACTOR SHALL PROVIDE 480V/3Ø, 15A ELECTRICAL CONNECTION TO PROPOSED AIR CIRCULATION FAN. COORDINATE EXACT WIRING REQUIREMENTS, CONTROLS, ETC. WITH MANUFACTURER PRIOR TO ROUGH-IN. CIRCUIT AS INDICATED ON PLANS.
18. PROPOSED LOCATION OF AIR CIRCULATION FAN WALL CONTROL. COORDINATE EXACT MOUNTING LOCATION WITH OWNER AND EXACT WIRING REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY MATERIAL FOR A COMPLETE AND FUNCTIONAL INSTALLATION. COORDINATE EXTENT OF WORK IN THE FIELD.
19. PROVIDE WALL MOUNTED COMBINATION DUPLEX RECEPTACLE AND HDMI/COAX OUTLET FOR OWNER PROVIDED T.V. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH OWNER'S REPRESENTATIVE IN THE FIELD. REFER TO DETAIL, SHEET E-501 FOR ADDITIONAL INFORMATION.
20. CONTRACTOR SHALL PROVIDE AND INSTALL NEW DUPLEX RECEPTACLE WITH COMBINATION USB-A/USB-C OUTLETS (HUBBELL MODEL #USB20AC5WWR OR APPROVED EQUAL). COORDINATE EXACT MOUNTING LOCATION IN THE FIELD.
21. PROVIDE GFCI PROTECTED 120V CIRCUIT TO PROPOSED WATER FOUNTAIN. CONTRACTOR SHALL COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS WITH MANUFACTURER RECOMMENDATIONS IN THE FIELD PRIOR TO ROUGH-IN. CIRCUIT AS INDICATED ON PLANS.
22. PROVIDE GFCI PROTECTED 120V CIRCUIT WITH LOCAL WALL SWITCH STYLE DISCONNECTING MEANT TO PROPOSED GARBAGE DISPOSAL. CONTRACTOR SHALL COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS WITH MANUFACTURER RECOMMENDATIONS IN THE FIELD PRIOR TO ROUGH-IN. CIRCUIT AS INDICATED ON PLANS.

ELECTRICAL CLASSIFICATION NOTE:
THE MAJOR REPAIR GARAGE DESIGNED HAS BEEN DECLASSIFIED PER NEC 511.3(D)(3)(a), WITH MECHANICAL VENTILATION PROVIDED @ 1 CFM/SF. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

NOTE:
ALL WIRING, PANELBOARD, AND DEVICES IN SERVICE SHOP AREAS SHALL BE INSTALLED IN ACCORDANCE WITH N.E.C. ARTICLE 511. ALL 15 AND 20 AMP RECEPTACLES LOCATED IN THE SERVICE AREA SHALL BE GFI PROTECTED.

NOTE:
ALL EQUIPMENT CONNECTIONS, RECEPTACLES, AND TELEPHONE/DATA DEVICES IN SERVICE AREA SHALL BE MOUNTED A MINIMUM OF 24" ABOVE FINISHED FLOOR. CONTRACTOR SHALL COORDINATE EXACT MOUNTING LOCATION AND HEIGHT WITH AMSI STANDARDS, AND OWNER'S REPRESENTATIVE IN THE FIELD. ALL DEVICES, ROUGH-INS, CONDUITS, ETC. SHALL BE RECESSED WITHIN WALLS UNLESS OTHERWISE REQUIRED BY EQUIPMENT MANUFACTURER.



100% Bid Set	2023.07.27
No. Issue / Revision	Date
Drawn By:	-
Checked By:	-
Plot Date:	-

Sheet Number
E-103
Sheet Title
POWER PLAN - NEW WORK
Project Number
IDC #23-010
File Name

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
 Project Title: CMA Honda
 Project Type: Alteration

Construction Site: 3985 VALLEY PIKE WINCHESTER, Virginia 22602
 Owner/Agent:
 Designer/Contractor:

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts
1. Automotive Facility	22657	0.71	16086
Total Allowed Watts =			16086

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture (C X D)	D E
LED F1: Other	1	12	40
LED F9: Other	1	48	152
LED F10: Other	1	28	114
LED F14: Other	1	59	42
LED F17: Other	1	16	21
Total Proposed Watts =			13795

Interior Lighting PASSES

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Interior Lighting Compliance Statement

Matt Bayer
 Name - Title Signature Date

Project Title: CMA Honda Report date: 06/22/23
 Data filename: Page 1 of 6

COMcheck Software Version COMcheckWeb
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2018 IECC
 Project Title: CMA Honda
 Project Type: Alteration
 Exterior Lighting Zone: 4 (High activity metropolitan commercial district (LZ4))

Construction Site: 3985 VALLEY PIKE WINCHESTER, Virginia 22602
 Owner/Agent:
 Designer/Contractor:

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Outdoor sales area/lot	8112 ft ²	0.5	Yes	4056
Total Tradable Watts (a) =				4056
Total Allowed Watts =				4056
Total Supplemental Watts (b) =				900

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
 (b) A supplemental allowance equal to 900 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture (C X D)	D E
Outdoor sales area/lot (8112 ft ²): Tradable Wattage	1	12	80
LED W: Other			960
Total Tradable Proposed Watts =			960

Exterior Lighting PASSES

Compliance Statement: The proposed exterior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Exterior Lighting Compliance Statement

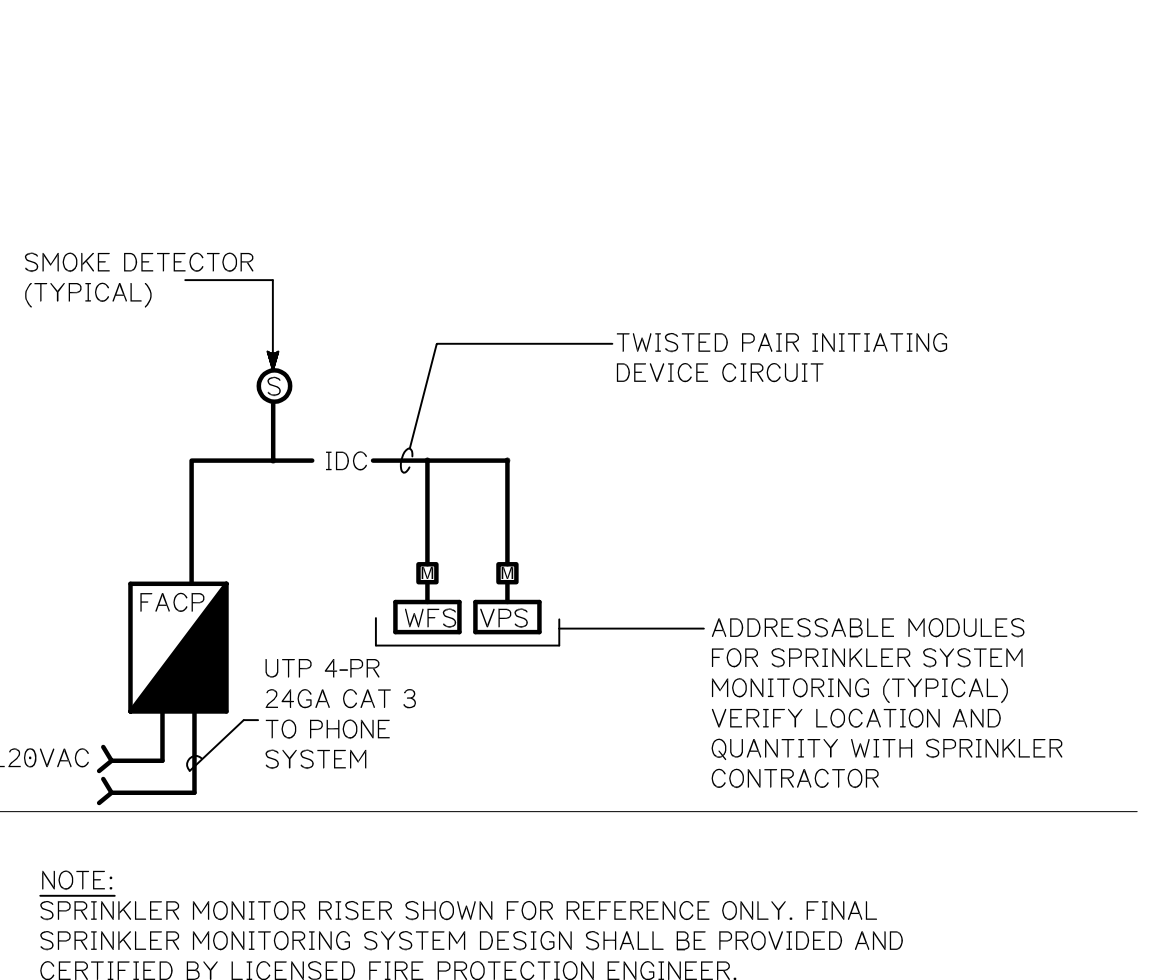
Matt Bayer
 Name - Title Signature Date

Project Title: CMA Honda Report date: 06/22/23
 Data filename: Page 2 of 6

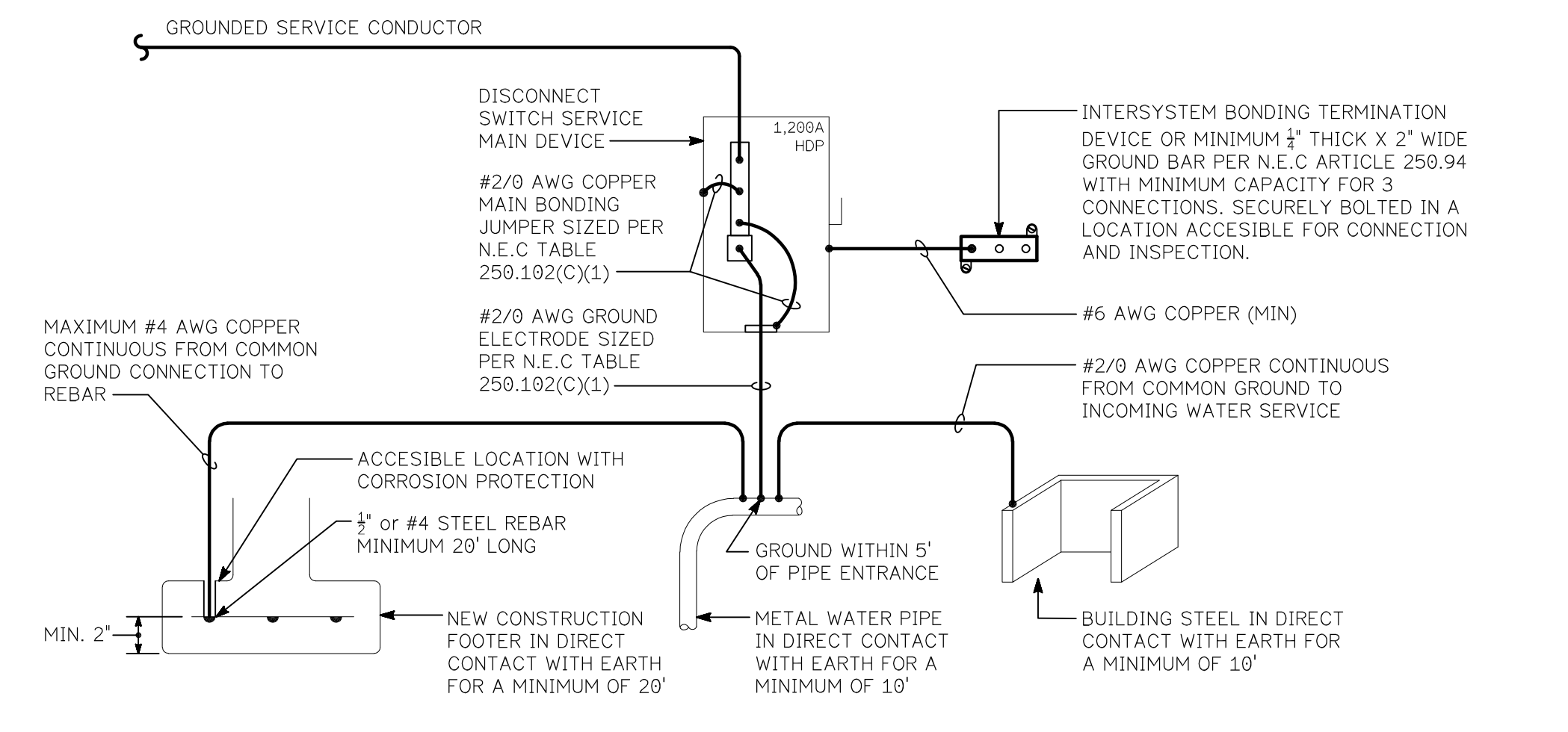
LIGHTING FIXTURE SCHEDULE

TAG	INPUT WATTS/VOLTS	CONTROL	LUMEN/CCT	MOUNTING	DESCRIPTION	CATALOG NO.
F1	40W 120-277V	0-10V DIMMING	4,100/4000°K	RECESSED	2'x4' FLAT PANEL STYLE LED TROFFER WITH STANDARD DRIVER AND ACRYLIC LENS.	CURRENT LIGHTING CFP24-4140
F16	40W 120-277V	0-10V DIMMING	4,100/4000°K	RECESSED	2'x4' FLAT PANEL STYLE LED TROFFER WITH STANDARD DRIVER, ACRYLIC LENS, AND EMERGENCY BATTERY BACKUP.	CURRENT LIGHTING CFP24-4140-EM
F9	152.5W 120-277V	ON/OFF	24,000 /5000°K	SUSPENDED @14'-0" AFF	4' LONG HIGH BAY STYLE LED FIXTURE WITH STANDARD DRIVER, FROSTED ACRYLIC LENS, AND WIDE DISTRIBUTION.	CURRENT LTG PEL4-50MH-FAW-EU
F9e	152.5W 120-277V	ON/OFF EMERG. BATTERY BACK-UP	24,000 /5000°K	SUSPENDED @14'-0" AFF	4' LONG HIGH BAY STYLE LED FIXTURE WITH STANDARD DRIVER, FROSTED ACRYLIC LENS, WIDE DISTRIBUTION, AND EMERGENCY BATTERY BACKUP.	CURRENT LTG PEL4-50MH-FAW-EU-ELL40
F10	114.3W 120-277V	ON/OFF	18,000 /4000°K	SUSPENDED @10" AFF @45° TILT	4' LONG HIGH BAY STYLE LED FIXTURE WITH STANDARD DRIVER, FROSTED ACRYLIC LENS, AND WIDE DISTRIBUTION.	CURRENT LTG PEL4-50MM-FAW-EU
F14	41.7W 120-277V	0-10V DIMMING	5,800/4000°K	SURFACE	4" LONG LINEAR STRIP STYLE LED FIXTURE WITH STANDARD DRIVER AND ACRYLIC LENS.	CURRENT LIGHTING MPS4-40HL-CW-EU
F14e	41.7W 120-277V	0-10V DIMMING	5,800/4000°K	SURFACE	4" LONG LINEAR STRIP STYLE LED FIXTURE WITH STANDARD DRIVER, ACRYLIC LENS, AND EMERGENCY BATTERY BACKUP.	CURRENT LIGHTING MPS4-40HL-CW-EU-ELL14
F17	20.9W 120-277V	0-10V DIMMING	2,500/4000°K	RECESSED	4" Ø ROUND LED STYLE DOWN LIGHT WITH STANDARD DRIVER, MEDIUM DISTRIBUTION, AND WHITE FLANGE.	CURRENT LIGHTING LFR-4RD-M-25L-40K8 +MD-DML LFR-4RD-T-SS-WT
F17e	20.9W 120-277V	0-10V DIMMING	2,500/4000°K	RECESSED	4" Ø ROUND LED STYLE DOWN LIGHT WITH STANDARD DRIVER, MEDIUM DISTRIBUTION, WHITE FLANGE, AND EMERGENCY BATTERY BACKUP.	CURRENT LIGHTING LFR-4RD-M-25L-40K8 +MD-DML-EM LFR-4RD-T-SS-WT
W	80W 120-277V	PHOTO CELL	9,500LM/4000°K	SURFACE @14' AFG	WALL PACK STYLE LED FIXTURE WITH STANDARD DRIVER AND FORWARD THROW TYPE IV OPTICS.	BEACON LIGHTING TRV-D-36L-80-4K7-4F-UNV
x1	<3w 120/277V	BATTERY BACK-UP	RED	UNIVERSAL SURFACE	EDGE-LIT EMERGENCY EXIT SIGN WITH ALUMINUM HOUSING, COORDINATE LETTERING COLOR WITH LOCAL JURISDICTION.	EXITRONIX 5900 EDGE-LIT SERIES
x2	<4w 120/277V	BATTERY BACK-UP	RED	UNIVERSAL SURFACE	EMERGENCY EXIT SIGN WITH WHITE HOUSING, COORDINATE LETTERING COLOR WITH LOCAL JURISDICTION.	EXITRONIX VEX SERIES
2-2.7w	120/277V	BATTERY BACK-UP	-	SURFACE	EMERGENCY BATTERY PACK FIXTURE WITH WHITE HOUSING AND INTEGRAL BATTERY CHARGER.	EXITRONIX LED 95 SERIES

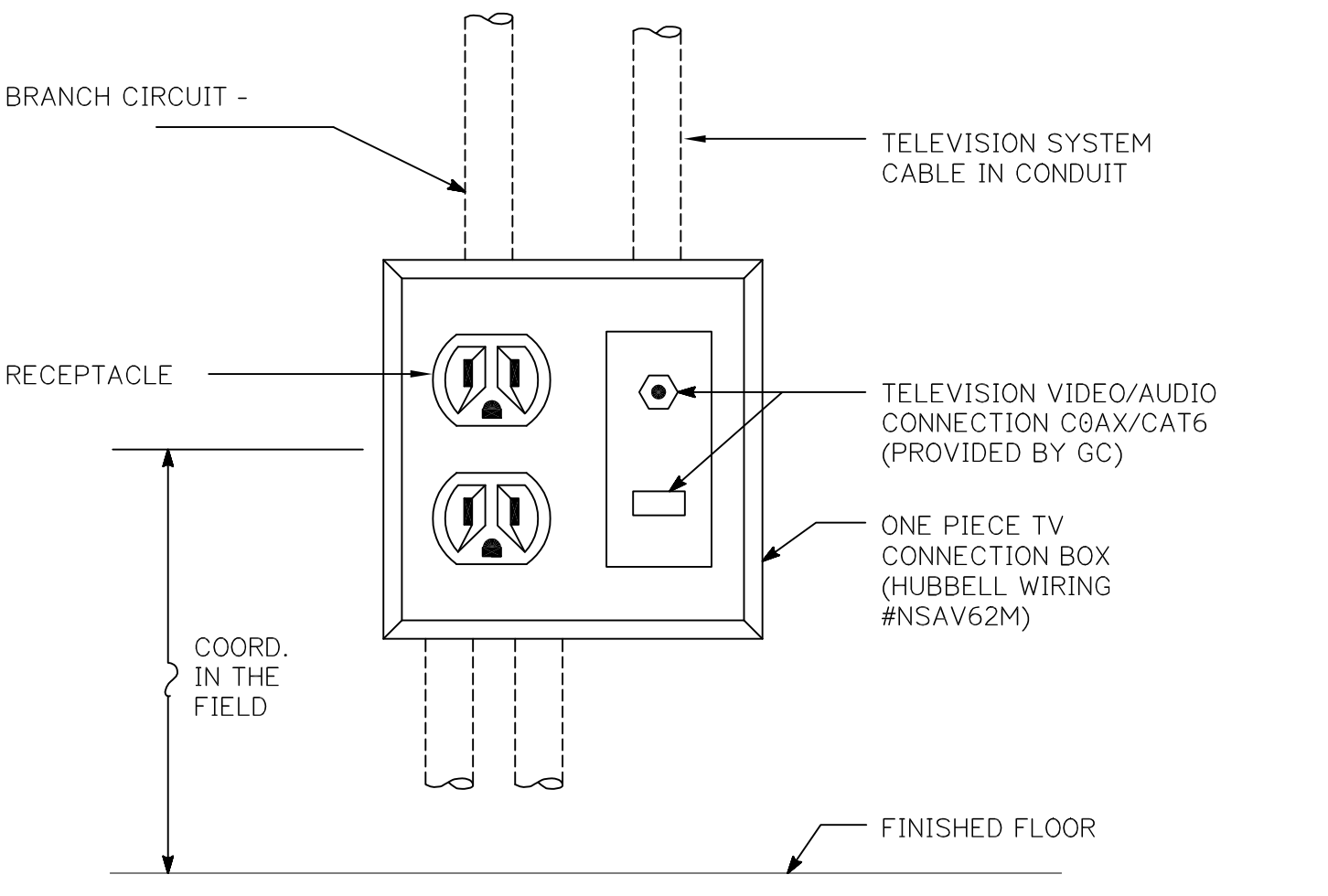
* CONTRACTOR SHALL COORDINATE ALL FIXTURE FINISHES, COLORS, AND LAMP COLOR TEMPERATURE WITH OWNER'S REPRESENTATIVE AND ARCHITECT PRIOR TO PURCHASE.



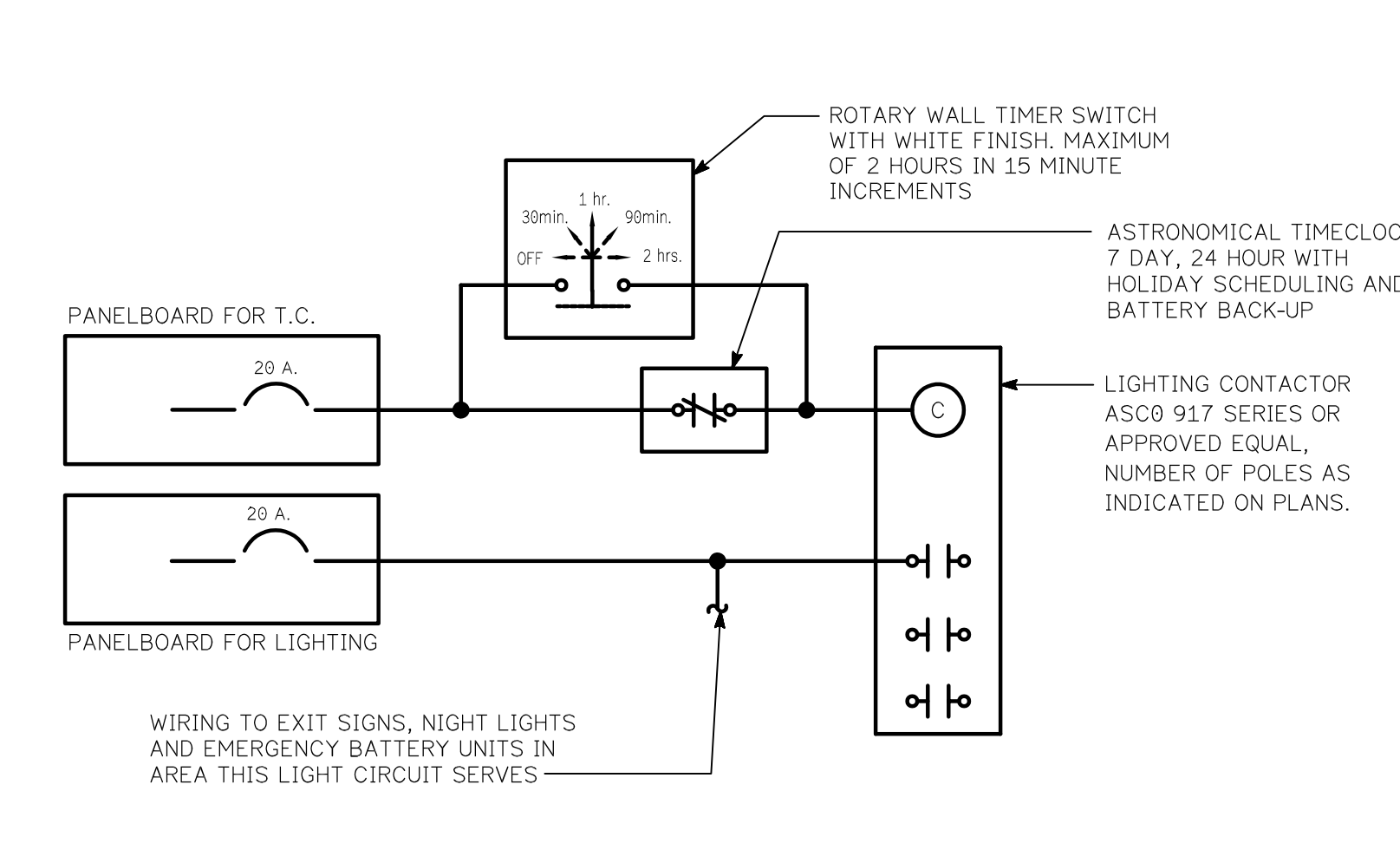
SPRINKLER MONITOR RISER
 NO SCALE



SERVICE GROUNDING DETAIL
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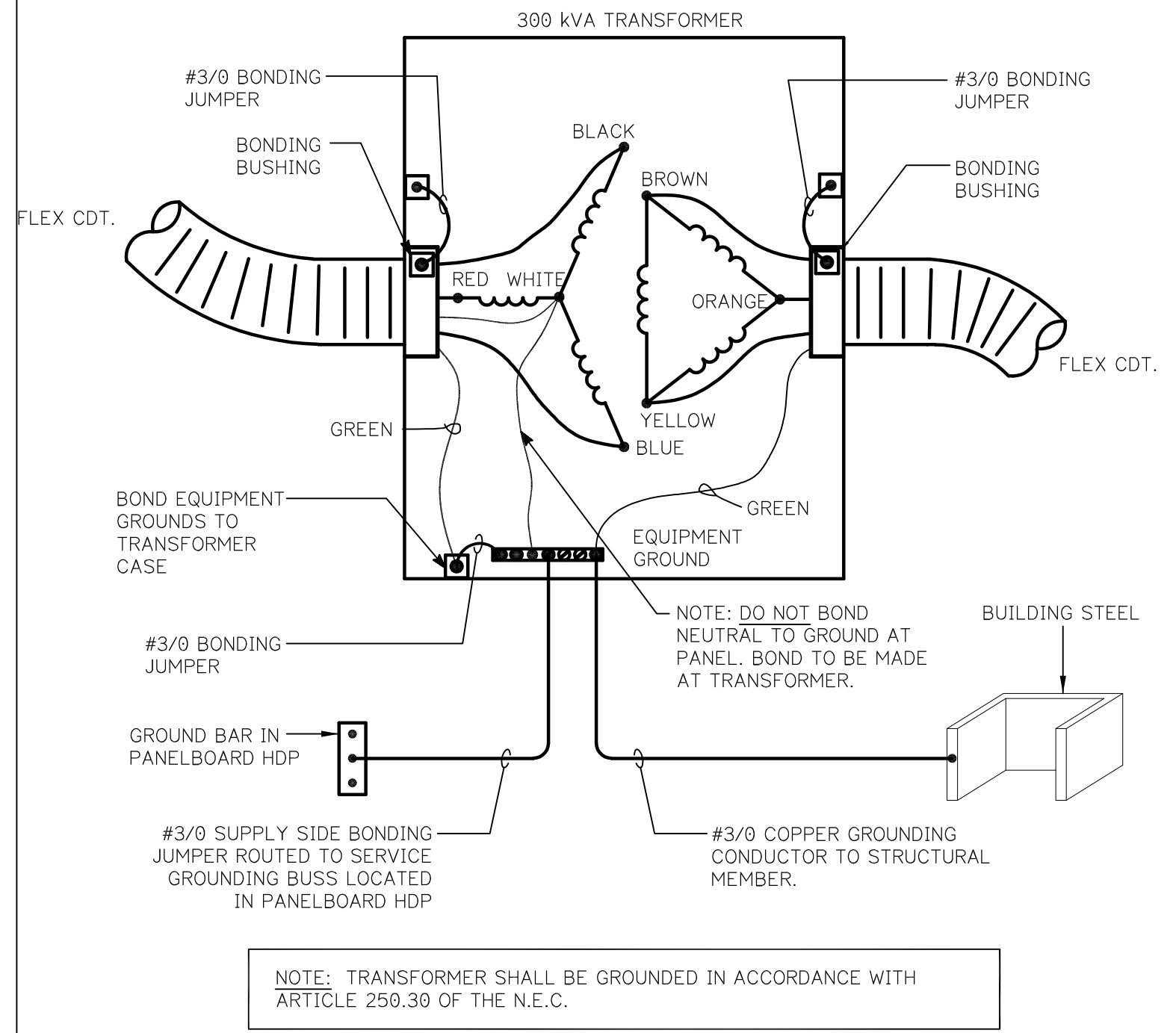


DETAIL -COMBINATION OUTLET
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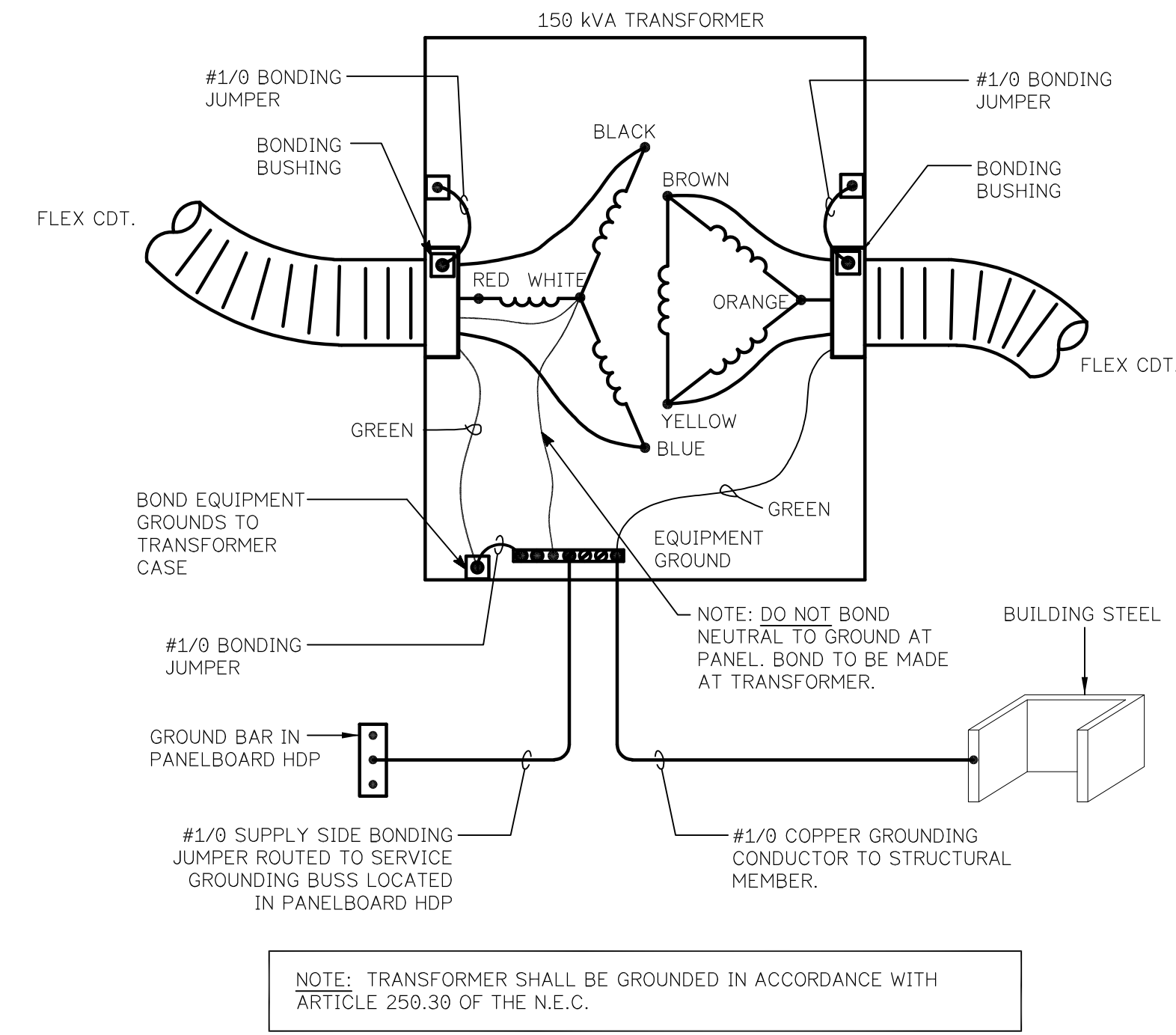


LIGHTING CONTROL DIAGRAM
 NO SCALE
 * FURNISH AND INSTALL PER INTERNATIONAL ENERGY CONSERVATION CODE

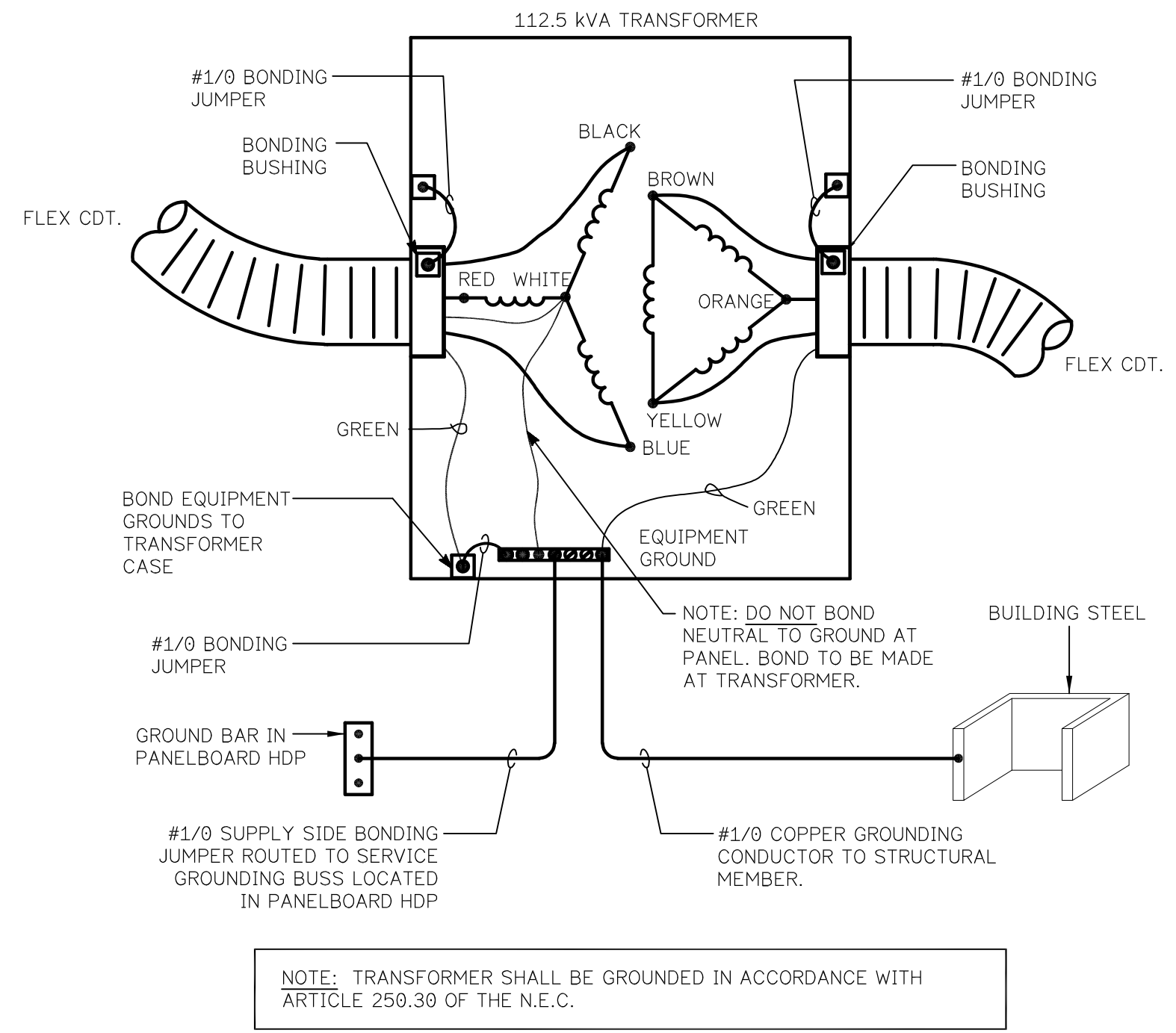
CONTRACTOR NOTE:
 DETAIL LAYOUT IS SHOWN AS A TYPICAL LIGHTING CONTACTOR AND ASSOCIATED OVER-RIDE PER IECC REQUIREMENTS. THE NUMBER OF



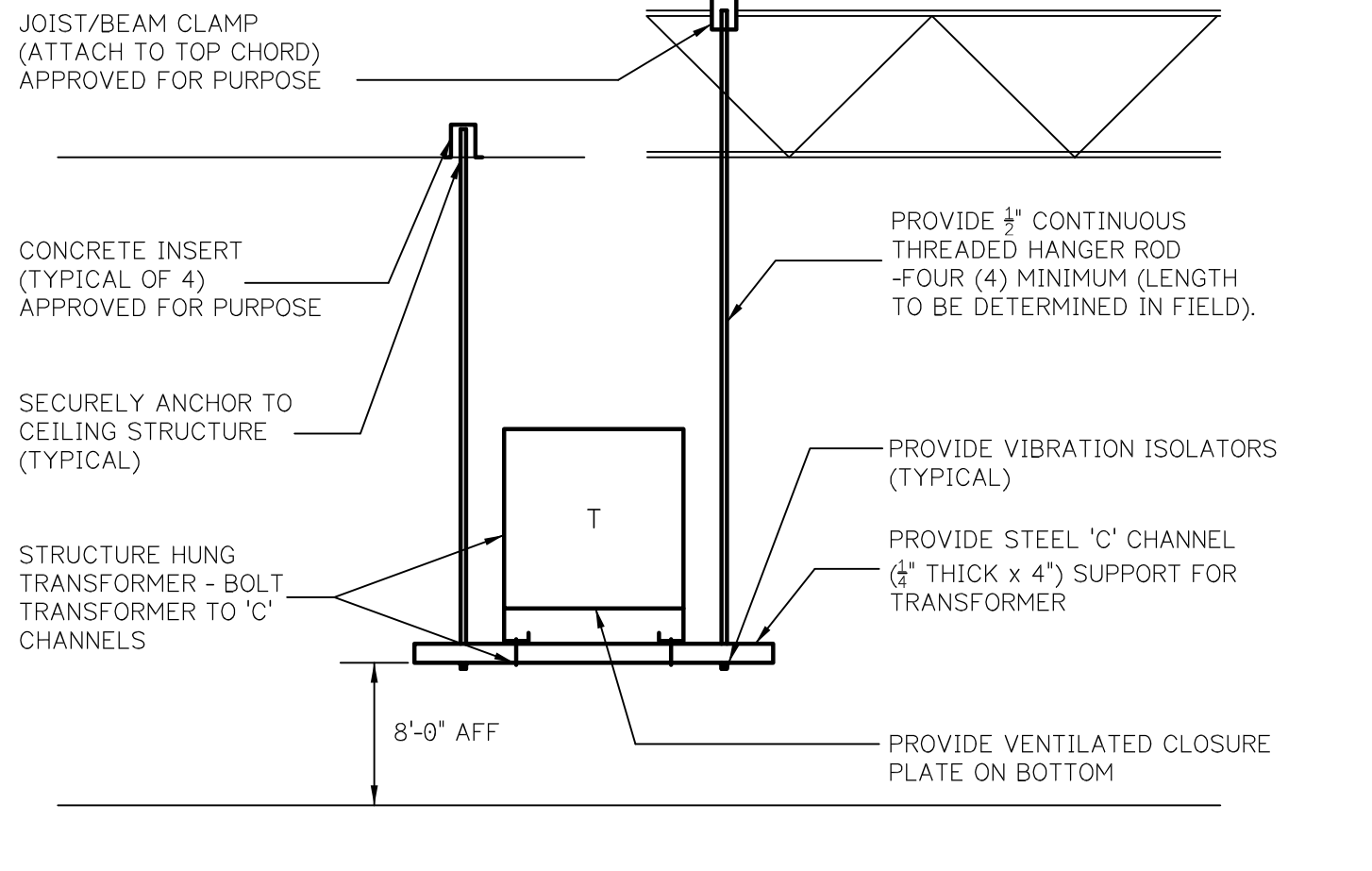
300 kVA TRANSFORMER GROUNDING DETAIL
 NO SCALE



150 kVA TRANSFORMER GROUNDING DETAIL
 NO SCALE



112.5 kVA TRANSFORMER GROUNDING DETAIL
 NO SCALE



STRUCTURE HUNG TRANSFORMER
 NO SCALE

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 ENGINEERING SERVICES

CMA HONDA WINCHESTER EXPANSION
 3985 VALLEY PIKE WINCHESTER, VA 22602

CMA
 3985 VALLEY PIKE WINCHESTER, VA 22602

Professional Certification:

No.	Issue / Revision	Date
-	-	-
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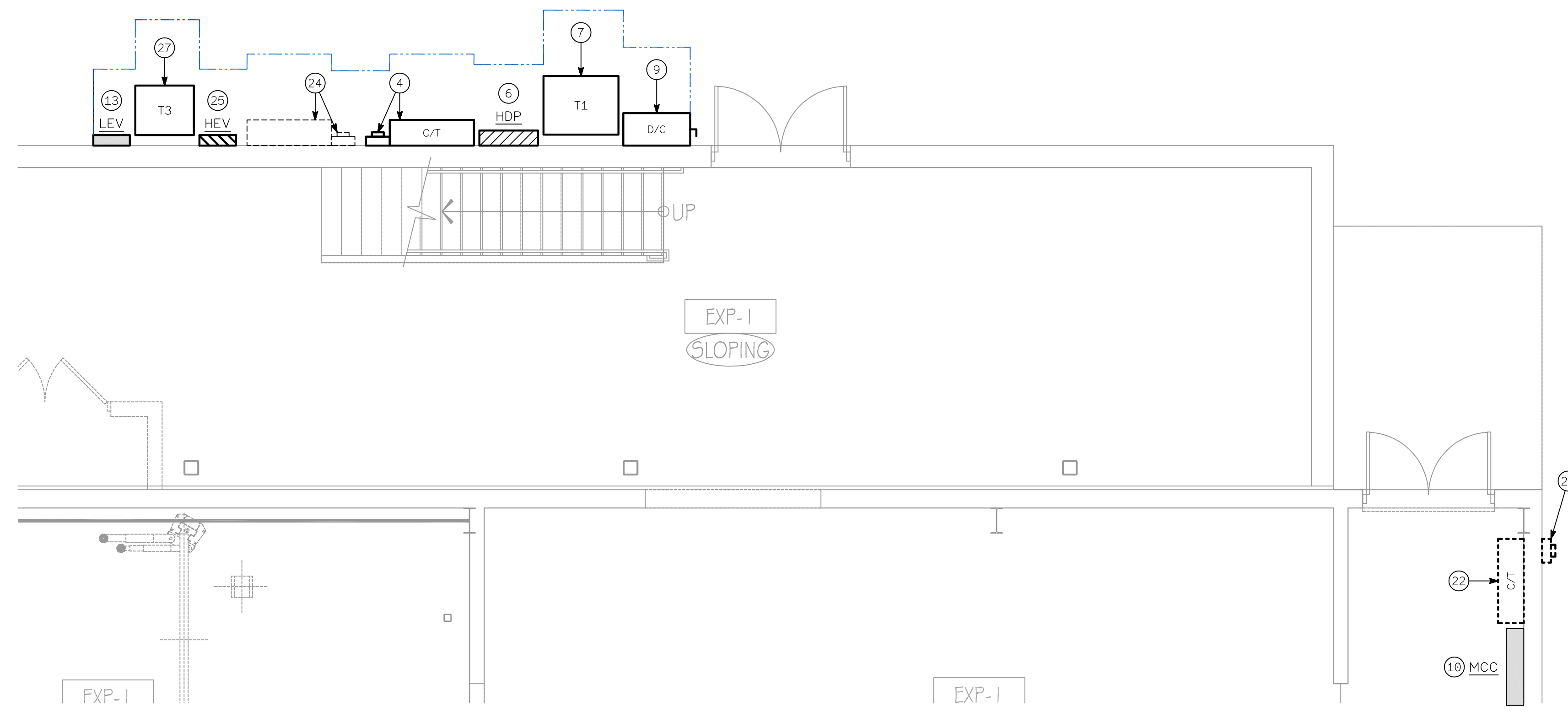
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Sheet Number
E-501
 Sheet Title
POWER PLAN - NEW WORK

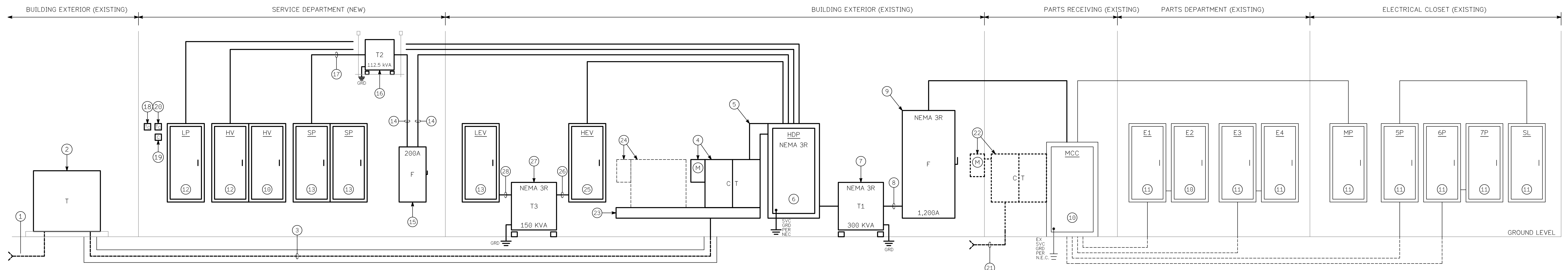
Project Number IDC #23-010 File Name

DRAWING NOTES

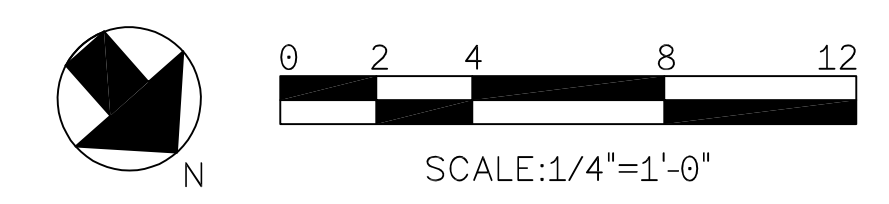
- PROPOSED INCOMING UTILITY COMPANY PRIMARY CABLING AND ASSOCIATED CONDUIT.
- PROPOSED GRADE MOUNTED UTILITY COMPANY TRANSFORMER. CONTRACTOR SHALL COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS WITH LOCAL UTILITY COMPANY REPRESENTATIVE IN THE FIELD.
- PROVIDE AND INSTALL NEW 6-WAY, CONCRETE ENCASED DUCT BANK WITH 4" PVC CONDUITS FOR PROPOSED INCOMING UTILITY COMPANY SERVICE SECONDARY. CONTRACTOR SHALL PROVIDE FOUR (4) SETS (4 #350 KCMIL(CU)) IN DUCT BANK AS REQUIRED. REFER TO DUCT BANK DETAIL, SHEET E-100 FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL PROVIDE PULL STRING IN EMPTY CONDUITS FOR FUTURE USE.
- PROVIDE AND INSTALL NEW WEATHER PROOF RATED, LOCAL UTILITY COMPANY APPROVED C/T CABINET AND ASSOCIATED METER SOCKET MOUNTED ON BUILDING EXTERIOR WALL. CONTRACTOR SHALL EXTEND ONE (1) 1 1/2" CDT. BETWEEN METER AND C/T CABINET AS REQUIRED. COORDINATE EXACT MOUNTING LOCATION IN THE FIELD. COORDINATE EXACT METERING REQUIREMENTS AND TERMINATION EQUIPMENT WITH LOCAL UTILITY COMPANY IN THE FIELD.
- EXTEND FOUR (4) SETS (4 #350 KCMIL(CU)) IN 12"x12"xLENGTH REQUIRED, IN WEATHERPROOF RATED AND SEALED WIRE-TROUGH AS INDICATED ON PLANS.
- PROVIDE AND INSTALL NEW WEATHERPROOF RATED (NEMA 3R OR APPROVED EQUAL) 277/480V, GROUND FAULT PROTECTED, DISTRIBUTION STYLE PANELBOARD WITH SERVICE ENTRANCE RATED 1,200A MAIN CIRCUIT BREAKER FOR SERVICE MAIN. DISCONNECTING MEANS PER N.E.C. CONTRACTOR SHALL COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS IN THE FIELD. CONTRACTOR SHALL GROUND SERVICE PER N.E.C. ARTICLE 250 REQUIREMENTS, REFER TO SERVICE GROUNDING DETAIL, SHEET E-501 FOR ADDITIONAL INFORMATION.
- PROVIDE AND INSTALL NEW WEATHERPROOF RATED (NEMA 3R OR APPROVED EQUAL) 480V DELTA PRIMARY - 120/208V, WYE SECONDARY, 300 KVA TRANSFORMER (T1) MOUNTED ON 4" CONCRETE HOUSE KEEPING PAD. COORDINATE EXACT MOUNTING LOCATION IN THE FIELD. REFER TO TRANSFORMER GROUNDING DETAIL, SHEET E-501 FOR ADDITIONAL INFORMATION.
- EXTEND FOUR (4) SETS (4 #350 KCMIL + #3/0 GRD. - 3" CDT.) FOR TRANSFORMER SECONDARY WIRING.
- PROVIDE AND INSTALL NEW WEATHERPROOF RATED (NEMA 3R OR APPROVED EQUAL) 240V RATED, 1,200A DISCONNECT FUSED @1,200A FOR SEPARATELY DERIVED SERVICE DISCONNECTING MEANS PER N.E.C. REQUIREMENTS. CONTRACTOR SHALL COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS IN THE FIELD.
- EXISTING PANELBOARD AND ALL ASSOCIATED CONDUIT AND WIRING TO REMAIN UNLESS OTHERWISE NOTED, REFER TO PANEL SCHEDULE, SHEET E-602 FOR ADDITIONAL INFORMATION.
- EXISTING PANELBOARD AND ALL ASSOCIATED CONDUIT AND WIRING TO REMAIN UNLESS OTHERWISE NOTED. SHOWN FOR REFERENCE ONLY.
- PROVIDE AND INSTALL NEW 277/480V BRANCH CIRCUIT STYLE PANEL BOARD. REFER TO PANEL SCHEDULE, SHEET E-602 FOR ADDITIONAL INFORMATION.
- PROVIDE AND INSTALL NEW 120/208V BRANCH CIRCUIT STYLE PANEL BOARD. REFER TO PANEL SCHEDULE, SHEET E-602 FOR ADDITIONAL INFORMATION.
- EXTEND (3 #2/0 + #6 GRD. - 2" CDT.) FOR TRANSFORMER PRIMARY WIRING.
- PROVIDE AND INSTALL NEW 600V RATED, 200A DISCONNECT FUSED @175A FOR TRANSFORMER PRIMARY DISCONNECTING MEANS PER N.E.C. REQUIREMENTS. COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS IN THE FIELD.
- PROVIDE AND INSTALL NEW STRUCTURE HUNG 480V DELTA PRIMARY - 120/208V, WYE SECONDARY, 112.5 KVA TRANSFORMER (T2). COORDINATE EXACT MOUNTING LOCATION IN THE FIELD. REFER TO TRANSFORMER GROUNDING DETAIL AND STRUCTURE HUNG TRANSFORMER DETAIL, SHEET E-501 FOR ADDITIONAL INFORMATION.
- EXTEND TWO (2) SETS (4 #3/0 + #1/0 GRD. - 2" CDT.) FOR TRANSFORMER SECONDARY WIRING.
- PROVIDE 24 HOUR/DAY, 7 DAY/WEEK, DIGITAL TIME CLOCK FOR CONTROL OF NEW EXTERIOR LIGHTING CIRCUITS, COORDINATE EXACT MOUNTING LOCATION IN THE FIELD. CIRCUIT #LP-7
- PROVIDE 6 POLE, MECHANICALLY HELD LIGHTING CONTACTOR "C1" FOR CONTROL OF BACK OF HOUSE INTERIOR LIGHTING CIRCUITS, COORDINATE EXACT MOUNTING LOCATION AND POLE CONFIGURATION REQUIREMENTS IN THE FIELD.
- PROVIDE 24 HOUR/DAY, 7 DAY/WEEK, ASTRONOMICAL TIME CLOCK WITH BATTERY BACK-UP AND HOLIDAY SCHEDULING FOR CONTROL OF BACK OF HOUSE INTERIOR LIGHTING CONTRACTOR "C1" FOR AUTOMATIC LIGHTING SHUT-OFF PER IECC REQUIREMENTS. CONTRACTOR SHALL PROVIDE OVERRIDE SWITCHING AS INDICATED IN DETAIL, SHEET E-501. CIRCUIT #LP-7
- CONTRACTOR SHALL REMOVE EXISTING INCOMING UTILITY SERVICE FEED BACK TO SOURCE. CONTRACTOR SHALL CUT CONDUIT BACK TO GRADE, CAP, AND ABANDON. CONTRACTOR SHALL COORDINATE EXACT TIMING OF ALL SERVICE WORK WITH OWNER AND LOCAL UTILITY COMPANY REPRESENTATIVE IN THE FIELD.
- CONTRACTOR SHALL REMOVE EXISTING UTILITY COMPANY C/T CABINET, METER SOCKET, AND ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE. CONTRACTOR SHALL COORDINATE EXACT TIMING OF ALL SERVICE WORK WITH OWNER AND LOCAL UTILITY COMPANY REPRESENTATIVE IN THE FIELD.
- CONTRACTOR SHALL PROVIDE AND INSTALL 12"x12"x CUSTOM LENGTH WEATHERPROOF RATED, SEALED, WIRE TROUGH FOR FUTURE SERVICE DISTRIBUTION BREAK OUT AS REQUIRED BY OWNER. COORDINATE EXACT MOUNTING LOCATION AND WIRE REQUIREMENTS IN THE FIELD.
- PROPOSED LOCATION OF FUTURE UTILITY COMPANY STYLE C/T CABINET AND ASSOCIATED METER SOCKET. CONTRACTOR SHALL LEAVE SPACE CLEAR OF ALL OBSTRUCTIONS FOR FUTURE MOUNTING USE OF PROPOSED EQUIPMENT.
- CONTRACTOR SHALL PROVIDE AND INSTALL NEW 277/480V SERVICE ENTRANCE AND WEATHERPROOF (NEMA 3R OR APPROVED EQUAL) RATED PANELBOARD, WITH 600A MAIN CIRCUIT BREAKER. COORDINATE EXACT MOUNTING LOCATION AND REQUIREMENTS IN THE FIELD. CONTRACTOR SHALL REFER TO PANEL SCHEDULE, SHEET E-602 FOR ADDITIONAL INFORMATION.
- EXTEND SETS (3 #4/0 + #4 GRD. - 2" CDT.) FOR TRANSFORMER PRIMARY WIRING.
- PROVIDE AND INSTALL NEW WEATHERPROOF RATED (NEMA 3R OR APPROVED EQUAL) 480V DELTA PRIMARY - 120/208V, WYE SECONDARY, 150 KVA TRANSFORMER (T3) MOUNTED ON 4" CONCRETE HOUSE KEEPING PAD. COORDINATE EXACT MOUNTING LOCATION IN THE FIELD. REFER TO TRANSFORMER GROUNDING DETAIL, SHEET E-501 FOR ADDITIONAL INFORMATION.
- EXTEND TWO (2) SETS (4 #350 KCMIL + #2/0 GRD. IN TWO(2) - 3" CDT.) FOR TRANSFORMER SECONDARY WIRING.



POWER PART PLAN - SERVICE DISTRIBUTION
SCALE: 1/4" = 1'-0"



POWER RISER
NOT TO SCALE



NEW DISTRIBUTION PANERL - HDP												
MAIN: 1,200A M.C.B.		VOLTAGE: 277/480			PHASE: 3		WIRE: 4		MOUNTING: SURFACE			AIC: 65k
CKT	DESCRIPTION	VOLTS/ PHASE	BREAKER		WIRE/CONDUIT			LOAD				
			FRAME	TRIP	NO.	WIRE	GRD.	CDT.	# OF SETS			
1	EX. PANEL - MCC (XFMR T1)	480/3	1200	1200	4	#350 KCML	#3/0	3'	4		300.54	
2	NEW PANEL - SP (XFMR T2)	480/3	100	100	3	#270	#6	2'	1		82.66	
3	NEW PANEL - LP	480/3	100	100	4	#1	#8	1 1/2"	1		16.45	
4	NEW PANEL - HV	480/3	400	400	4	#370	#3	2'	2		137.15	
5	SPACE	480/3	-	-	-	-	-	-	-	-	0.00	
6	SPACE	480/3	-	-	-	-	-	-	-	-	0.00	
7	SPACE	480/3	-	-	-	-	-	-	-	-	0.00	
8	SPACE	480/3	-	-	-	-	-	-	-	-	0.00	
9	SPACE	480/3	-	-	-	-	-	-	-	-	0.00	
10	SPACE	480/3	-	-	-	-	-	-	-	-	0.00	
TOTAL CONNECTED LOAD (KVA):											536.80	
TOTAL CONNECTED LOAD (AMPS @ 277/480V, 3PH):											645.97	
TOTAL DEMAND LOAD (KVA):											536.80	
TOTAL DEMAND LOAD (AMPS @ 277/480V, 3PH):											645.97	

DEMAND LOAD INFORMATION:
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
HEATING LOAD (CONTINUOUS) @ 125% PER N.E.C. ARTICLE 424.3(B)
PANELBOARD LOAD @ 100%

NEW PANEL - LP												
MAIN: 100A M.L.O		VOLTAGE: 277/480			PHASE: 3		WIRE: 4		MOUNTING: SURFACE			AIC: 22k
CKT	TRIP	LOAD	PHASE			LOAD			DESCRIPTION			
#	POLE	TYPE	KVA	A	B	C	TYPE	KVA	TRIP	POLE	#	
1	20/1	L	1.73	2.83			L	1.10	20/1	2	2	
3	20/1	L	2.90		6.67		L	3.77	20/1	4	4	
5	20/1	L	3.58			3.58			20/1	6	6	
7	20/1	S	0.10	0.10					20/1	8	8	
9	20/1				0.00				20/1	10	10	
11	20/1					0.00			20/1	12	12	
13	-				0.00				-	14	14	
15	-					0.00			-	16	16	
17	-						0.00		-	18	18	
19	-			0.00					-	20	20	
21	-				0.00				-	22	22	
23	-					0.00			-	24	24	
25	-				0.00				-	26	26	
27	-						0.00		-	28	28	
29	-					0.00			-	30	30	
TOTAL LOAD:			2.93	6.67	3.58							
LIGHTING (L):		13.08	LARGEST MOTOR LOAD:		0.00		CONNECTED LOAD (KVA):		13.18			
RECEPTACLE (R):		0.00	REMAINING MOTOR LOAD:		0.00		CONNECTED (AMPS):		15.86			
MOTORS (M):		0.00	INTERMITTENT MOTOR LOAD:		0.00		277/480V, 3 PH					
HVAC (A):		0.00	RECEPTACLE LOAD 1ST 10.0 KVA		0.00		DEMAND LOAD (KVA):		16.45			
CONTINUOUS (C):		0.00	REMAINING RECEPTACLE LOAD		0.00		DEMAND LOAD (AMPS):		19.80			
KITCHEN EQUIP (K):		0.00					277/480V, 3 PH					
MISCELLANEOUS (S):		0.10										

DEMAND LOAD INFORMATION:
LIGHTING LOAD CALCULATED @ 125% PER N.E.C. ARTICLE 210.20 (CONTINUOUS LOAD)
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
CONTINUOUS LOAD @ 125% PER N.E.C. ARTICLE 424.3(B)(ELECTRIC HEATERS) AND ARTICLE 625 (EV CHARGERS)
KITCHEN EQUIPMENT - OVER 6 PIECES OF EQUIPMENT LOAD @ 65% PER N.E.C. ARTICLE 220.56
MISCELLANEOUS LOAD @ 100%

NEW PANEL - HEV (NEMA 3R OR APPROVED EQUAL)												
MAIN: 600A M.C.B.		VOLTAGE: 277/480			PHASE: 3		WIRE: 4		MOUNTING: SURFACE			AIC: 42k
CKT	TRIP	LOAD	PHASE			LOAD			DESCRIPTION			
#	POLE	TYPE	KVA	A	B	C	TYPE	KVA	TRIP	POLE	#	
1	1000/3	C	22.16	44.32			C	22.16	1000/3	2	2	
3	-	C	22.16		44.32		C	22.16	-	4	4	
5	-	C	22.16			44.32	C	22.16	-	6	6	
7	-	C	22.16				C	22.16	-	8	8	
9	-	C	22.16				C	22.16	-	10	10	
11	-	C	22.16				C	22.16	-	12	12	
13	-			0.00					-	14	14	
15	-				0.00				-	16	16	
17	-					0.00			-	18	18	
19	-			0.00					-	20	20	
21	-				0.00				-	22	22	
23	-					0.00			-	24	24	
25	-				0.00				-	26	26	
27	-					0.00			-	28	28	
29	-						0.00		-	30	30	
31	-			0.00					-	32	32	
33	-					0.00			-	34	34	
35	-						0.00		-	36	36	
37	-				27.04			27.04	-	38	38	
39	-					27.04		27.04	-	40	40	
41	-						33.28	33.28	-	42	42	
TOTAL LOAD:			93.52	93.52		99.76						
LIGHTING (L):		0.00	LARGEST MOTOR LOAD:		0.00		CONNECTED LOAD (KVA):		286.80			
RECEPTACLE (R):		0.00	REMAINING MOTOR LOAD:		0.00		CONNECTED (AMPS):		345.13			
MOTORS (M):		0.00	INTERMITTENT MOTOR LOAD:		0.00		277/480V, 3 PH					
HVAC (A):		0.00	RECEPTACLE LOAD 1ST 10.0 KVA:		0.00		DEMAND LOAD (KVA):		249.30			
CONTINUOUS (C):		199.44	REMAINING RECEPTACLE LOAD:		0.00		DEMAND LOAD (AMPS):		300.00			
KITCHEN EQUIP (K):		0.00	NEW PANEL - LEV (XFMR)		109.20		277/480V, 3 PH					
MISCELLANEOUS (S):		0.00										

DEMAND LOAD INFORMATION:
LIGHTING LOAD CALCULATED @ 125% PER N.E.C. ARTICLE 210.20 (CONTINUOUS LOAD)
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
CONTINUOUS LOAD @ 125% PER N.E.C. ARTICLE 424.3(B)(ELECTRIC HEATERS) AND ARTICLE 625 (EV CHARGERS)
KITCHEN EQUIPMENT - OVER 6 PIECES OF EQUIPMENT LOAD @ 65% PER N.E.C. ARTICLE 220.56
MISCELLANEOUS LOAD @ 100%

NEW PANEL - HV												
MAIN: 400A M.L.O		VOLTAGE: 277/480			PHASE: 3		WIRE: 4		MOUNTING: SURFACE			AIC: 22k
CKT	TRIP	LOAD	PHASE			LOAD			DESCRIPTION			
#	POLE	TYPE	KVA	A	B	C	TYPE	KVA	TRIP	POLE	#	
1	15/3	M	0.90	1.80			M	0.90	15/3	2	2	
3	-	M	0.90		1.80		M	0.90	-	4	4	
5	-	M	0.90			1.80	M	0.90	-	6	6	
7	15/3	M	0.90	1.80			M	0.90	15/3	8	8	
9	-	M	0.90		1.80		M	0.90	-	10	10	
11	-	M	0.90			1.80	M	0.90	-	12	12	
13	15/3	M	0.90	1.80			M	0.90	15/3	14	14	
15	-	M	0.90		1.80		M	0.90	-	16	16	
17	-	M	0.90			1.80	M	0.90	-	18	18	
19	15/3	M	0.90	1.80			M	0.90	15/3	20	20	
21	-	M	0.90		1.80		M	0.90	-	22	22	
23	-	M	0.90			1.80	M	0.90	-	24	24	
25	15/3	M	0.90	1.80			M	0.90	15/3	26	26	
27	-	M	0.90		1.80		M	0.90	-	28	28	
29	-	M	0.90			1.80	M	0.90	-	30	30	
31	45/3	M	5.56	11.12			M	5.56	45/3	32	32	
33	-	M	5.56		11.12		M	5.56	-	34	34	
35	-	M	5.56			11.12	M	5.56	-	36	36	
37	15/3	A	3.57	7.50			A	3.93	20/3	38	38	
39	-	A	3.57		7.50		A	3.93	-	40	40	
41	-	A	3.57			7.50	A	3.93	-	42	42	
43	30/3	A	7.70	13.10			A	5.40	25/3	44	44	
45	-	A	7.70		13.10		A	5.40	-	46	46	
47	-	A	7.70			13.10	A	5.40	-	48	48	
49	30/3	A	7.70	11.27			A	3.57	15/3	50	50	
51	-	A	7.70		11.27		A	3.57	-	52	52	
53	-	A	7.70			11.27	A	3.57	-	54	54	
55	20/3	A	3.93	8.73			C	4.80	25/1	56	56	
57	-	A	3.93		8.93		C	5.00	25/1	58	58	
59	-	A	3.93			8.93	C	5.00	25/1	60	60	
61	25/1	C	4.50	4.50			-	-	20/1	62	62	
63	25/1	C	4.50		4.50		-	-	20/1	64	64	
65	20/1	-	-	-	0.00		-	-	20/1	66	66	
67	20/1	-	-	-		0.00	-	-	20/1	68	68	
69	-	-	-	-			0.00	-	-	70	70	
71	-	-	-	-				0.00	-	72	72	
73	-	-	-	-					-	74	74	
75	-	-	-	-				0.00	-	76	76	
77	-	-	-	-					0.00	-	78	78
79	-	-	-	-					0.00	-	80	80
81	-	-	-	-					0.00	-	82	82
83	-	-	-	-					0.00	-	84	84
TOTAL LOAD:			65.22	65.42		60.92						
LIGHTING (L):		0.00	LARGEST MOTOR LOAD:		0.00		CONNECTED LOAD (KVA):		191.56			
RECEPTACLE (R):		0.00	REMAINING MOTOR LOAD:		0.00		CONNECTED (AMPS):		230.52			
MOTORS (M):		60.36	INTERMITTENT MOTOR LOAD:		0.00		277/480V, 3 PH					
HVAC (A):		107.40	RECEPTACLE LOAD 1ST 10.0 KVA		0.00		DEMAND LOAD (KVA):		137.15			
CONTINUOUS (C):		23.80	REMAINING RECEPTACLE LOAD		0.00		DEMAND LOAD (AMPS):		165.04			
KITCHEN EQUIP (K):		0.00					277/480V, 3 PH					
MISCELLANEOUS (S):		0.00										

DEMAND LOAD INFORMATION:
LIGHTING LOAD CALCULATED @ 125% PER N.E.C. ARTICLE 210.20 (CONTINUOUS LOAD)
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
CONTINUOUS LOAD @ 125% PER N.E.C. ARTICLE 424.3(B)(ELECTRIC HEATERS) AND ARTICLE 625 (EV CHARGERS)
KITCHEN EQUIPMENT - OVER 6 PIECES OF EQUIPMENT LOAD @ 65% PER N.E.C. ARTICLE 220.56
MISCELLANEOUS LOAD @ 100%



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EXPANSION

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VA 22602

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Professional Certification:

100% Bid Set 2023.07.27

No. Issue / Revision Date

Drawn By: -

Checked By: -

Plot Date: -

Sheet Number

E-603

Sheet Title

PANEL SCHEDULES

Project Number: IDC #23-010 File Name:

EXISTING DISTRIBUTION PANEL - MCC

MAIN: 1,200A M.C.B.	VOLTAGE: 120/208	PHASE: 3	WIRE: 4	MOUNTING: SURFACE	AIC: EX.	
CKT	TRIP	LOAD	PHASE	DESCRIPTION	TRIP	CKT #
1	25/2	0.00		EXISTING PANEL - MP	25/2	1
2	25/2	64.98		EXISTING PANEL - E1	25/2	2
3	25/2	56.86		EXISTING PANEL - E3	25/2	3
4	25/2	64.98		EXISTING PANEL - 5P	25/2	4
5	25/2	56.86		EXISTING PANEL - 6P	25/2	5
6	25/2	0.00		SPACE	25/2	6
TOTAL CONNECTED LOAD REMOVED (KVA):					300.54	
TOTAL CONNECTED LOAD REMOVED (AMPS @ 120/208V, 3PH):					832.52	
TOTAL DEMAND LOAD REMOVED (KVA):					300.54	
TOTAL DEMAND LOAD REMOVED (AMPS @ 120/208V, 3PH):					832.52	

DEMAND LOAD INFORMATION:
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
HEATING LOAD (CONTINUOUS) @ 125% PER N.E.C. ARTICLE 424.3(B)
PANELBOARD LOAD @ 100%

NEW PANEL - LEV (NEMA 3R OR APPROVED EQUAL)

MAIN: 600A M.C.B.	VOLTAGE: 120/208	PHASE: 3	WIRE: 4	MOUNTING: SURFACE	AIC: 42k	
CKT	TRIP	LOAD	PHASE	DESCRIPTION	TRIP	CKT #
1	80/2	0.00		EV CHARGER (SVC CPF50 #1)	100/2	2
5	80/2	8.32		EV CHARGER (SVC CPF50 #2)	100/2	6
7	SPACE	-		SPACE	-	8
9	SPACE	-		SPACE	-	10
11	SPACE	-		SPACE	-	12
13	SPACE	-		SPACE	-	14
15	SPACE	-		SPACE	-	16
17	SPACE	-		SPACE	-	18
19	SPACE	-		SPACE	-	20
21	SPACE	-		SPACE	-	22
23	SPACE	-		SPACE	-	24
25	SPACE	-		SPACE	-	26
27	SPACE	-		SPACE	-	28
29	SPACE	-		SPACE	-	30
31	SPACE	-		SPACE	-	32
33	SPACE	-		SPACE	-	34
35	SPACE	-		SPACE	-	36
37	SPACE	-		SPACE	-	38
39	SPACE	-		SPACE	-	40
41	SPACE	-		SPACE	-	42
TOTAL LOAD:						
LIGHTING (L):		0.00	LARGEST MOTOR LOAD:		0.00	CONNECTED LOAD (KVA): 54.08
RECEPTACLE (R):		0.00	REMAINING MOTOR LOAD:		0.00	CONNECTED (AMPS): 149.81
MOTORS (M):		0.00	INTERMITTENT MOTOR LOAD:		0.00	120/208V, 3 PH
HVAC (A):		0.00	RECEPTACLE LOAD 1ST 10.0 KVA		0.00	
CONTINUOUS (C):		54.08	REMAINING RECEPTACLE LOAD		0.00	DEMAND LOAD (KVA): 67.60
KITCHEN EQUIP (K):		0.00	DEMAND LOAD (AMPS):			120/208V, 3 PH
MISCELLANEOUS (S):		0.00				187.26

DEMAND LOAD INFORMATION:
LIGHTING LOAD CALCULATED @ 125% PER N.E.C. ARTICLE 210.20 (CONTINUOUS LOAD)
RECEPTACLE LOAD - 1ST 10.0 KVA @ 100% REMAINING LOAD @ 50% PER N.E.C. ARTICLE 220.44
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
CONTINUOUS LOAD @ 125% PER N.E.C. ARTICLE 424.3(B)(ELECTRIC HEATERS) AND ARTICLE 625 (EV CHARGERS)
KITCHEN EQUIPMENT - OVER 6 PIECES OF EQUIPMENT LOAD @ 65% PER N.E.C. ARTICLE 220.56
MISCELLANEOUS LOAD @ 100%

NEW PANEL - SP

MAIN: 350A M.C.B.	VOLTAGE: 120/208	PHASE: 3	WIRE: 4	MOUNTING: SURFACE	AIC: 22k	
CKT	TRIP	LOAD	PHASE	DESCRIPTION	TRIP	CKT #
1	25/2	0.00		SERVICE LIFT	25/2	2
3	25/2	0.00		SERVICE LIFT	25/2	4
5	25/2	0.00		SERVICE LIFT	25/2	6
7	25/2	0.00		SERVICE LIFT	25/2	8
9	25/2	0.00		SERVICE LIFT	25/2	10
11	25/2	0.00		SERVICE LIFT	25/2	12
13	25/2	0.00		SERVICE LIFT	25/2	14
15	25/2	0.00		SERVICE LIFT	25/2	16
17	25/2	0.00		SERVICE LIFT	25/2	18
19	25/2	0.00		SERVICE LIFT	25/2	20
21	25/2	0.00		SERVICE LIFT	25/2	22
23	25/2	0.00		SERVICE LIFT	25/2	24
25	25/2	0.00		SERVICE LIFT	25/2	26
27	25/2	0.00		SERVICE LIFT	25/2	28
29	25/2	0.00		SERVICE LIFT	25/2	30
31	25/2	0.00		SERVICE LIFT	25/2	32
33	30/2	0.00		ALIGNMENT LIFT	20/1	34
35	30/2	0.00		ALIGNMENT LIFT	20/1	36
37	20/1	0.00		SERVICE QUAD - WEST SHOP	20/1	38
39	20/1	0.00		SERVICE QUAD - WEST SHOP	20/1	40
41	20/1	0.00		SERVICE QUAD - WEST SHOP	20/1	42
43	20/1	0.00		SERVICE QUAD - WEST SHOP	20/1	44
45	20/1	0.00		SERVICE QUAD - WEST SHOP	30/2	46
47	25/2	0.00		SERVICE LIFT	25/2	48
49	30/2	0.00		WHEEL BLNCR - EAST SHOP	30/2	50
51	30/2	0.00		WHEEL BLNCR - EAST SHOP	30/2	52
53	30/2	0.00		TIRE CHNGR - EAST SHOP	20/1	54
55	30/2	0.00		TIRE CHNGR - EAST SHOP	*20/1	56
57	30/2	0.00		TIRE CHNGR - EAST SHOP	20/1	58
59	20/1	0.00		HALL/SPRINKLER RECEP	20/1	60
61	20/1	0.00		SPRINKER MONITOR PANEL	20/1	62
63	20/1	0.00		EXTERIOR WP/GFI QUAD	20/1	64
65	20/1	0.00		EXTERIOR WP/GFI QUAD	20/1	66
67	20/1	0.00		PARTS COUNTER QUADS	20/1	68
69	20/1	0.00		EF-1/EF-10	20/1	70
71	20/1	0.00		EF-4/EF-5	20/1	72
73	20/1	0.00		EF-8/EF-9	20/1	74
75	20/1	0.00		AIR DRYER	20/1	76
77	20/1	0.00		DUCT SMOKE DETECTORS	20/1	78
79	20/1	0.00		MODS	-	80
81	20/1	0.00		GAS DETECTION PANEL	-	82
83	20/1	0.00		GAS DETECTION PANEL	-	84
TOTAL LOAD:						
LIGHTING (L):		0.00	LARGEST MOTOR LOAD:		3.88	CONNECTED LOAD (KVA): 92.13
RECEPTACLE (R):		13.86	REMAINING MOTOR LOAD:		0.00	CONNECTED (AMPS): 255.21
MOTORS (M):		57.61	INTERMITTENT MOTOR LOAD:		53.73	120/208V, 3 PH
HVAC (A):		0.00	RECEPTACLE LOAD 1ST 10.0 KVA		10.00	
CONTINUOUS (C):		0.00	REMAINING RECEPTACLE LOAD		2.96	DEMAND LOAD (KVA): 82.66
KITCHEN EQUIP (K):		0.00	DEMAND LOAD (AMPS):			120/208V, 3 PH
MISCELLANEOUS (S):		29.66				228.98

DEMAND LOAD INFORMATION:
LIGHTING LOAD CALCULATED @ 125% PER N.E.C. ARTICLE 210.20 (CONTINUOUS LOAD)
RECEPTACLE LOAD - 1ST 10.0 KVA @ 100% REMAINING LOAD @ 50% PER N.E.C. ARTICLE 220.44
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
CONTINUOUS LOAD @ 125% PER N.E.C. ARTICLE 424.3(B)(ELECTRIC HEATERS) AND ARTICLE 625 (EV CHARGERS)
KITCHEN EQUIPMENT - OVER 6 PIECES OF EQUIPMENT LOAD @ 65% PER N.E.C. ARTICLE 220.56
MISCELLANEOUS LOAD @ 100%

*PROVIDE GFCI STYLE CIRCUIT BREAKER IN PANELBOARD PER N.E.C. REQUIREMENTS.

NEW PANEL - LEV (NEMA 3R OR APPROVED EQUAL)

MAIN: 600A M.C.B.	VOLTAGE: 120/208	PHASE: 3	WIRE: 4	MOUNTING: SURFACE	AIC: 42k	
CKT	TRIP	LOAD	PHASE	DESCRIPTION	TRIP	CKT #
1	80/2	0.00		EV CHARGER (SVC CPF50 #1)	100/2	2
3	80/2	8.32		EV CHARGER (SVC CPF50 #2)	100/2	6
5	80/2	8.32		EV CHARGER (SVC CPF50 #2)	100/2	8
7	SPACE	-		SPACE	-	10
9	SPACE	-		SPACE	-	12
11	SPACE	-		SPACE	-	14
13	SPACE	-		SPACE	-	16
15	SPACE	-		SPACE	-	18
17	SPACE	-		SPACE	-	20
19	SPACE	-		SPACE	-	22
21	SPACE	-		SPACE	-	24
23	SPACE	-		SPACE	-	26
25	SPACE	-		SPACE	-	28
27	SPACE	-		SPACE	-	30
29	SPACE	-		SPACE	-	32
31	SPACE	-		SPACE	-	34
33	SPACE	-		SPACE	-	36
35	SPACE	-		SPACE	-	38
37	SPACE	-		SPACE	-	40
39	SPACE	-		SPACE	-	42
TOTAL LOAD:						
LIGHTING (L):		0.00	LARGEST MOTOR LOAD:		0.00	CONNECTED LOAD (KVA): 54.08
RECEPTACLE (R):		0.00	REMAINING MOTOR LOAD:		0.00	CONNECTED (AMPS): 149.81
MOTORS (M):		0.00	INTERMITTENT MOTOR LOAD:		0.00	120/208V, 3 PH
HVAC (A):		0.00	RECEPTACLE LOAD 1ST 10.0 KVA		0.00	
CONTINUOUS (C):		54.08	REMAINING RECEPTACLE LOAD		0.00	DEMAND LOAD (KVA): 67.60
KITCHEN EQUIP (K):		0.00	DEMAND LOAD (AMPS):			120/208V, 3 PH
MISCELLANEOUS (S):		0.00				187.26

DEMAND LOAD INFORMATION:
LIGHTING LOAD CALCULATED @ 125% PER N.E.C. ARTICLE 210.20 (CONTINUOUS LOAD)
RECEPTACLE LOAD - 1ST 10.0 KVA @ 100% REMAINING LOAD @ 50% PER N.E.C. ARTICLE 220.44
LARGEST MOTOR LOAD @ 125% PER N.E.C. ARTICLE 430.24
REMAINING MOTOR LOAD @ 100% PER N.E.C. ARTICLE 430.24
INTERMITTENT MOTOR LOAD @ 85% PER N.E.C. ARTICLE 430.22E
CONTINUOUS LOAD @ 125% PER N.E.C. ARTICLE 424.3(B)(ELECTRIC HEATERS) AND ARTICLE 625 (EV CHARGERS)
KITCHEN EQUIPMENT - OVER 6 PIECES OF EQUIPMENT LOAD @ 65% PER N.E.C. ARTICLE 220.56
MISCELLANEOUS LOAD @ 100%


**CMA HONDA WINCHESTER
EXPANSION
3985 VALLEY PIKE WINCHESTER,
VA 22602**

Professional Certification:

100% Bid Set	2023.07.27
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No.	Issue / Revision	Date

Sheet Number

E-801

Sheet Title

SPECIFICATIONS

Project Number	File Name
IDC #23-010	

1. **SECTION 16010 - BASIC ELECTRICAL REQUIREMENTS**
- A. THE WORK OF EACH OF THE ELECTRICAL SECTIONS INCLUDES FURNISHING AND INSTALLING THE MATERIAL, EQUIPMENT, AND SYSTEMS COMPLETE AS SPECIFIED AND/OR INDICATED ON THE DRAWINGS. THE ELECTRICAL INSTALLATIONS, WHEN FINISHED, SHALL BE COMPLETE AND COORDINATED, READY FOR SATISFACTORY SERVICE.
- B. THE WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, AND OTHER LOCAL CODES, THE 2017 EDITION OF THE NATIONAL ELECTRICAL CODE, LOCALLY APPROVED ENERGY CODE, AND THE 2010 AMERICANS WITH DISABILITIES ACT.
- C. THE CONTRACTOR SHALL MAKE APPLICATION AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS AS REQUIRED UNDER THE ABOVE CODES.
- D. THE GENERAL ARRANGEMENT OF CONDUIT, WIRING AND EQUIPMENT SHALL BE AS IDENTIFIED ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE SITE, STRUCTURAL, AND FINISH CONDITIONS AFFECTING HIS WORK AND SHALL ARRANGE SUCH WORK ACCORDINGLY, PROVIDING SUCH FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
- E. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND SERVICES NECESSARY FOR AND REASONABLY INCIDENTAL TO THE COMPLETE INSTALLATION OF THE ELECTRICAL WORK AND RELATED SYSTEMS AS INDICATED ON THE DRAWINGS OR AS NECESSARY TO PROVIDE A COMPLETE SYSTEM.
- F. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY WIRING, LIGHTING AND CONSTRUCTION POWER FOR ALL TRADES AS REQUIRED TO COMPLETE THE PROJECT.
- G. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED AND COMPLETED IN A FIRST-CLASS WORKMANLIKE MANNER. ALL MATERIALS SHALL BE NEW AND THE BEST OF THEIR RESPECTIVE KINDS. ALL EQUIPMENT AND SYSTEMS SHALL BE APPROVED BY UL OR SIMILARATIONALLY ACCEPTED TESTING AGENCY SUCH AS ETL TESTING LABORATORIES.
- H. THE CONTRACTOR SHALL VISIT THE SITE AND OBSERVE THE CONDITIONS UNDER WHICH THE WORK SHALL BE COMPLETED. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS CONTRACT FOR ANY ERROR OR NEGLIGENCE IN THE CONTRACTOR'S PART.
- I. THE CONTRACTOR SHALL SUBMIT DETAILED DIMENSIONED SHOP DRAWINGS, TOGETHER WITH WIRING DIAGRAMS, SPECIFICATIONS, OPERATING DATA, AND/OR CATALOG CUTS FOR ALL EQUIPMENT.
- J. A THOROUGH TEST SHALL BE MADE PRIOR TO ENERGIZING THE SYSTEM TO DEMONSTRATE THAT THE SYSTEM IS ENTIRELY FREE FROM GROUND FAULTS, SHORT CIRCUITS, AND OPEN CIRCUITS; THAT THE RESISTANCE TO GROUND ALL NON-GROUNDED CIRCUITS, BEFORE AND AFTER CONNECTION OF EQUIPMENT MEETS THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND IEEE STANDARDS/RECOMMENDATIONS.
- K. IDENTIFY ALL MOTOR STARTERS, SWITCHES, CONTROLS, PANEL BOARDS, SWITCHBOARDS, TERMINAL BOARDS, CONTROL CENTERS AND OTHER EQUIPMENT. IDENTIFICATION PLATES SHALL BE LAMINATED PLASTIC, BLACK AND WHITE ENGRAVED LETTERS. LETTERING FOR CONTROL CENTERS, CONTROL PANELS, METERING AND INSTRUMENT PANELS SHALL BE 3/8" HIGH.
- L. THE MATERIAL AND WORKMANSHIP OF ALL PARTS OF THE ELECTRICAL INSTALLATION SPECIFIED HEREIN SHALL BE GUARANTEED UNCONDITIONALLY OR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE.
- M. UPON COMPLETION OF THE ELECTRICAL INSTALLATION, THE CONTRACTOR SHALL DELIVER TO THE OWNER ONE (1) SET OF PRINTS OF ELECTRICAL CONTRACT DRAWINGS WHICH SHALL BE LEGIBLY MARKED IN RED PENCIL TO SHOW ALL ADDITIONS, CHANGES AND DEPARTURES OF THE INSTALLATION AS COMPARED WITH THE ORIGINAL DESIGN. THEY SHALL BE SUITABLE FOR USE IN PREPARATION OF RECORD DRAWINGS.
- N. THE CONTRACTOR SHALL PREPARE THREE (3) COPIES OF A RECORD AND INFORMATION MANUAL. THE MANUAL SHALL BE BOUND IN A THREE-RING LOOSE-LEAF BINDER, PROVIDE THE FOLLOWING DATA IN THE BOOKLET:
- N.1. CUTS OF ALL EQUIPMENT WITH TECHNICAL SPECIFICATIONS.
- N.2. OPERATION AND MAINTENANCE PROCEDURES.
- N.3. SERVICING INSTRUCTIONS.
- N.4. COPIES OF PANEL BOARDS DIRECTORIES.
- N.5. COPIES OF WARRANTIES.
- N.6. LIST OF LAMPS SHOWING QUANTITY, TYPE, WATTAGE, MANUFACTURER CATALOG NUMBER, ETC., FOR EACH FIXTURE TYPE.
- N.7. COPIES OF TEST REPORTS.
- O. EXACT LOCATIONS OF OUTLETS SHALL BE COORDINATED WITH DOOR SWINGS AND VARIOUS PROTRUSIONS. MOUNTING HEIGHTS OF THE VARIOUS ELECTRICAL DEVICES SHALL BE AS FOLLOWS:
- O.1. SWITCHES & PULL STATION - 46" AFF TO CENTER OF BOX
- O.2. RECEPTACLES - 20" AFF TO CENTER OF BOX
- O.3. TELEPHONE OUTLETS - 20" AFF TO CENTER OF BOX
- O.4. EXIT LIGHTS - CENTERED BETWEEN CEILING AND TOP OF DOOR (UP TO 1'-0" ABOVE DOOR), SURFACE OR CEILING MOUNTED AS SHOWN.
- O.5. DISCONNECTING SWITCHES - 52" AFF TO CENTER OF SWITCH
- O.6. FIRE ALARM BELLS/HORNS - 80" AFF TO TOP OF DEVICE OR 6' FLASHING LIGHTS BELOW CEILING TO TOP OF DEVICE, WHICHEVER IS LOWER.
- P. PROVIDE A DISCONNECT FOR EACH MOTOR AS SHOWN ON THE DRAWINGS SIZED AS REQUIRED TO MEET THE NEC AND PROVIDE ALL WIRING CONNECTIONS FROM SOURCE. PROVIDE REQUIRED VOLTAGE.
- Q. SEAL ALL CONDUIT PENETRATIONS THRU RATED WALLS AND FLOORS TO MAINTAIN FIRE INTEGRITY. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE WALL LOCATIONS.
- R. ELECTRICAL CONTRACTOR SHALL VERIFY ALL VOLTAGES OF MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- S. CONTRACTOR SHALL NOTE THAT BRANCH CIRCUIT WIRING IS NOT SHOWN; HOWEVER, CIRCUIT NUMBERS ARE SHOWN ADJACENT TO ALL OUTLETS/FIXTURES. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BRANCH WIRING BASED ON THE CIRCUIT NUMBERS SHOWN TO COMPLETE THE WIRING SYSTEM.
2. **SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS**
- A. INSTALL ALL SERVICE AND BRANCH CIRCUIT WIRING IN CODE ACCEPTABLE ENCLOSURE (CONDUIT, WIRING METHOD, ETC.). MINIMUM CONDUIT SIZE SHALL BE 1/2". ALL CONDUIT EMBEDDED IN CONCRETE SHALL BE 3/4" MINIMUM. ALL CONDUIT TO BE CONCEALED UNLESS ON UNFINISHED WALLS, ON UNFURRED CEILINGS OR MECHANICAL EQUIPMENT SPACES. PROVIDE CONDUIT AND WIRING METHOD AS FOLLOWS:
- A.1. RIGID STEEL CONDUIT FOR WORK EXPOSED TO WEATHER OR EMBEDDED IN CONCRETE OR MASONRY.
- A.2. GALVANIZED ELECTRICAL METALLIC TUBING (EMT) FOR INTERIOR EXPOSED WORK, CONCEALED WORK ABOVE SUSPENDED CEILING, AND WITHIN INTERIOR PARTITIONS OR NON-MASONRY WALLS.
- A.3. FLEXIBLE METAL CONDUIT IN SHORT LENGTHS (6' MAXIMUM) FOR THE CONNECTION OF RECESSED LIGHTING FIXTURES, MOTORS, AND TRANSFORMERS.
- A.4. LIQUID TIGHT FLEXIBLE METAL CONDUIT WHEREVER MOISTURE MAY BE PRESENT AND MOTORS WITHIN MECHANICAL EQUIPMENT SPACES.
- A.5. POLYVINYLCHLORIDE (PVC) SCHEDULE 40 CONDUIT WITH GROUND CONDUCTOR FOR UNDERGROUND OUTSIDE OF BUILDING (SITE) INSTALLATION.
- A.6. FLEXIBLE METAL CABLING (MC) STYLE WIRING MAY BE USED FOR BRANCH CIRCUITS ONLY, WHERE PROTECTED FROM DAMAGE ABOVE CEILING, CONCEALED WITHIN WALLS, ETC AS ALLOWED PER N.E.C. REQUIREMENTS. MC CABLING MAY NOT BE USED FOR SERVICE AND DISTRIBUTION CONDUCTORS.
- B. INSTALL CONDUITS PARALLEL AND PERPENDICULAR TO WALLS AND INTERIOR SURFACES. WHERE ROUTED THROUGH OPEN CEILING AREAS, CONDUITS SHALL BE SUPPORTED AS HIGH AS POSSIBLE. CLEAN AND PLAG AND PROVIDE A PULL LINE IN EACH CONDUIT TO BE LEFT EMPTY. USE MANUFACTURED ELBOWS AND SCREW JOINTED CONDUIT FITTINGS. USE CAPPED BUSHINGS OR "PUSH PENNY" PLUGS.
- C. ALL OUTLET, SWITCH AND JUNCTION BOXES, SHALL BE SPHEROIDAL OR GALVANIZED STAMPED STEEL BY HUBBELL, OR EQUIVALENT. OUTLET BOXES IN CONCRETE CONSTRUCTION SHALL BE OCTAGONAL. NO "THRU-WALL" BOXES SHALL BE USED IN PARTITIONS. ALL BOXES SHALL BE FURNISHED WITH APPROPRIATE COVERS.
- D. JUNCTION AND PULL BOXES SHALL BE FURNISHED AND INSTALLED AS INDICATED OR WHERE REQUIRED TO FACILITATE PULLING OF WIRES OR CABLES. BOXES FOR EXTERIOR WORK SHALL BE CAST ALUMINUM OR GALVANIZED CAST IRON TYPE WITH THREADED HUBS, UNLESS OTHERWISE DIRECTED. GASKETED COVER PLATES SHALL BE FURNISHED FOR OUTDOOR INSTALLATIONS.
- E. BUILDING WIRE, UNLESS OTHERWISE INDICATED, SHALL BE COPPER, 600 VOLT, TYPE THIN WALL INSULATION, #12 AWG MINIMUM, FOR INTERIOR AND EXTERIOR USE. FOR BRANCH CIRCUITS TYPE MC (METAL CLAD) CABLE MAY BE USED WHERE PERMITTED BY THE NEC AND LOCAL CODES. NO R9MX OR AC (BX) CABLE WILL BE ALLOWED ON THE PROJECT.
- F. MINIMUM WIRE SIZE SHALL BE NUMBER TWELVE (12) AWG. NO SPLICES SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES. WIRES NUMBER EIGHT (8) AWG AND LARGER SHALL BE STRANDED. WIRES AND CABLES SHALL BE AS MANUFACTURED BY PIRELLI, ROYAL, TRIANGLE OR EQUIVALENT.
- G. THE COLOR CODING SYSTEM LISTED BELOW SHALL BE USED THROUGHOUT THE BUILDING:
- SYSTEM - PHASE A - PHASE B - PHASE C - NEUTRAL - GROUND - ISOLATED GROUND**
- 120/208V - BLACK RED BLUE WHITE GREEN GREEN/YELLOW
- 277/480V - BROWN ORANGE YELLOW GRAY GREEN
- H. THE WIRE SIZE INDICATED IN THE HOME-RUN SHALL BE USED THROUGHOUT HE CIRCUIT.
- I. PROVIDE DISCONNECT SWITCHES WHERE INDICATED AND AS REQUIRED. SWITCHES SHALL BE OF SIZE, NUMBER OF POLES AND FUSED OR NON-FUSED, AS REQUIRED FOR JOB CONDITIONS AND THE NATIONAL ELECTRICAL CODE. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR OVER CURRENT PROTECTION SIZE. ALL SAFETY SWITCHES SHALL BE NEMA 1 ENCLOSURE TYPE "HO" WITH INTERLOCKING COVER AND HANDLE, MANUFACTURED BY SQUARE "D" OR APPROVED EQUAL. PROVIDE NEMA 3R ENCLOSURES WHERE EXPOSED TO MOISTURE, WHERE MOUNTING ON BUILDING EXTERIOR, AND NEMA 4X ENCLOSURES WHERE MOUNTED WITHIN WET LOCATION, AND/OR OTHER SPECIFIED AREAS.
- J. PROVIDE STARTERS AND CONTROL WIRING AS INDICATED ON THE DRAWINGS, OR SPECIFIED HEREIN. ALL TEMPERATURE CONTROL WIRING AND COMPONENTS SHALL BE UNDER DIVISION 15.
- K. PROVIDE THERMAL MANUAL MOTOR STARTING SWITCHES FOR FRACTIONAL HORSEPOWER, SINGLE PHASE MOTORS. THE STARTERS SHALL BE SQUARE D COMPANY, CLASS 2510, ALLEN BRADLEY BULLETIN 600, OR APPROVED EQUAL FOR SINGLE SPEED MOTORS. ENCLOSURES SHALL BE NEMA 1 FOR INTERIOR USE AND NEMA 3R FOR EXTERIOR USE.
- L. THREE PHASE MOTOR STARTERS SHALL BE 3 POLE, FULL-VOLTAGE, MAGNETIC TYPE. ENCLOSURES SHALL BE NEMA 1 FOR INTERIOR USE AND NEMA 3R FOR EXTERIOR USE. PROVIDE HOA SWITCH WHEN AUTOMATICALLY CONTROLLED, PILOT INDICATING LIGHT, CONTROL TRANSFORMER, AND NO/NC AUXILIARY CONTACTS. STARTERS SHALL BE SQUARE D COMPANY, CLASS 8536 AND CLASS 8538 COMBINATION TYPE OR APPROVED EQUAL. CONTRACTOR SHALL PROVIDE STARTER STYLE DISCONNECT SWITCH FOR ALL MOTOR LOADS OVER 1 HORSEPOWER OR AS REQUIRED BY MANUFACTURER RECOMMENDATIONS. COORDINATE STARTER CLASSIFICATION AND REQUIREMENTS WITH SPECIFIC EQUIPMENT CONNECTION REQUIREMENTS.
- M. WIRING DEVICES SHALL BE LEGRAND WIRING DEVICE OR APPROVED EQUAL; EQUAL TO THE FOLLOWING LEGRAND WIRING DEVICE NUMBERS:
- M.1. WALL SWITCHES: SINGLE POLE - CS20A1*, THREE AND FOUR-WAY SWITCHES SHALL BE OF THE SAME MANUFACTURER AND GRADE. * COORDINATE SWITCH AND COVER-PLATE FINISHES WITH ARCHITECT AND/OR OWNER'S REPRESENTATIVE PRIOR TO PURCHASE.
- M.2. RECEPTACLES: 15A DUPLEX - #CR15*, 20A - #CR20*, GFCI 20A - #2097*, USB STYLE DUPLEX - #R26USBAC6*, ISOLATED GROUND DUPLEX - #IC5362* 120 VOLTS. * COORDINATE SWITCH AND COVER-PLATE FINISHES WITH ARCHITECT AND/OR OWNER'S REPRESENTATIVE PRIOR TO PURCHASE.
- M.3. SINGLE LOCATION DIMMERS: LUTRON DIVA SERIES #0V* OR APPROVED EQUAL. CONTRACTOR SHALL COORDINATE DIMMING STYLE, WATTAGE, AND CONFIGURATION WITH LIGHTING FIXTURE DEVICE SELECTION AND DESIGN CONDITIONS.
- M.4. DEVICE PLATES: SWITCH PLATES TP1* SERIES. RECEPTACLE PLATES TP8*. * COORDINATE SWITCH AND COVER-PLATE FINISHES WITH ARCHITECT AND/OR OWNER'S REPRESENTATIVE PRIOR TO PURCHASE.
- N. MOUNT WEATHERPROOF DEVICES IN CAST METAL BOXES WITH GASKETED, SPRING-HINGED LID-TYPE LOCKING COVERS HAVING CORROSION-RESISTANT FINISH.
- O. THE ENTIRE ELECTRICAL SYSTEM SHALL BE SOLIDLY GROUNDED INCLUDING MAIN SERVICE EQUIPMENT, DISCONNECT SWITCHES, WIRING TROUGHS AND PULL BOXES, CONDUIT SYSTEM, OUTLET BOXES, MOTORS, ELECTRIC HEATING EQUIPMENT, LIGHTING FIXTURES, TRANSFORMERS, EMERGENCY SYSTEMS, UPS SYSTEMS, AND FIRE ALARM SYSTEMS. ALL GROUNDING SHALL COMPLY WITH N.E.C. ARTICLE 250 REQUIREMENTS.
- P. THE MAIN SERVICE GROUNDING SYSTEM SHALL CONSIST OF THREE BRANCHES PER N.E.C. ARTICLE 250. THE GROUND SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS.
- Q. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN ALL BRANCH CIRCUITS AND FEEDERS SIZED IN ACCORDANCE WITH THE N.E.C. TABLE 250.112.
- R. ISOLATED GROUNDS (I.G.) SHALL INCLUDE AN ADDITIONAL INSULATED GROUNDING CONDUCTOR SHALL BE RUN FROM THE DEVICE TO AN ISOLATED GROUNDING BAR IN THE SUPPLY BRANCH CIRCUIT PANEL BOARD. THE ISOLATED GROUNDING BAR SHALL BE DIRECTLY CONNECTED TO THE CLOSEST SEPARATELY DERIVED SYSTEM (TRANSFORMER) OR SERVICE ENTRANCE GROUND WITH AN INSULATED GROUNDING CONDUCTOR SIZED PER N.E.C.
- S. ALL BRANCH CIRCUITS SHALL BE RUN CONCEALED IN EXISTING AND NEW WALLS. CUT AND PATCH EXISTING WALLS AND SURFACES AS REQUIRED.
- T. ALL D.C. WIRING SHALL BE #10 AWG MINIMUM.
- U. GROUND, PHASE AND NEUTRAL CONDUCTORS SHALL BE PIG-TAILED IN OUTLET BOXES OR MULTI-OUTLET ASSEMBLIES FOR RECEPTACLES SO THAT GROUND AND ELECTRICAL SERVICE WILL NOT BE DISTURBED TO OTHER RECEPTACLES ON THE SAME MULTI-WIRE CIRCUIT IF RECEPTACLE IS REMOVED.
3. **SECTION 16400 - SERVICE AND DISTRIBUTION**
- A. ELECTRICAL SERVICE SHALL BE BY THE LOCAL POWER COMPANY. PROVIDE SCHEDULE 40 PVC SERVICE CONDUITS WHERE INDICATED FOR THE INCOMING SERVICE. UNDER GROUND CONDUITS SHALL BE INSTALLED IN CONCRETE ENCASED DUCTBANK AS INDICATED. COORDINATE ALL CONDUIT AND TRANSFORMER INSTALLATION REQUIREMENTS WITH THE POWER COMPANY PRIOR TO START OF WORK.
- B. DISTRIBUTE POWER AT 277/480V, 3 PHASE, 4 WIRE, FOR LIGHTING, MECHANICAL HVAC EQUIPMENT, ELECTRIC HEATING, WATER HEATERS, MOTOR CIRCUITS, AND 120/208V FOR RECEPTACLES, LOW VOLTAGE LIGHTING, TRACK LIGHTING, SMALL MOTORS, AND SPECIFIC OWNER PROVIDED EQUIPMENT AS INDICATED. COORDINATE REQUIREMENTS WITH DESIGN SET.
- C. PANEL BOARDS SHALL BE 277/480 VOLTS AND 120/208 VOLTS, THREE PHASE EMPLOYING BREAKERS 10,000 SYMMETRICAL A.I.C. (MINIMUM) AT 120 VOLTS OR 240 VOLTS AND 14,000 SYMMETRICAL A.I.C. (MINIMUM) AT 277 VOLTS. ALL PANEL BOARD A.I.C. RATINGS SHALL BE CLOSELY COORDINATED WITH BASE BUILDING EXISTING PANEL BOARDS FOR RENOVATION/EXPANSION PROJECTS, AND WITH UTILITY COMPANY AVAILABLE FAULT CURRENT DESIGN FOR ALL NEW PROJECTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATE OF ALL A.I.C. RATINGS OF PANEL BOARDS, BRANCH CIRCUIT BREAKERS, ETC.
- D. PANEL BOARDS AS INDICATED:
- | MANUFACTURER | 120/208V | 277/480V |
|--------------|-------------|--------------|
| SQUARE D | NQ SERIES | NF SERIES |
| ABB ELECTRIC | AQ SERIES | AE SERIES |
| EATON | PRLX SERIES | PRLX2 SERIES |
- E. PANEL BOARDS SHALL BE FACTORY ASSEMBLED WITH BOLT-ON TYPE CIRCUIT BREAKERS. BUSS SHALL BE COPPER. TIM PLATED ALUMINUM BUSS MAY BE PROVIDED AS AN ACCEPTABLE VALUE ENGINEERING OPTION. BASE BID SHALL BE PROVIDED WITH COPPER BUSS, AND PROPOSED COST REDUCTION PROVIDED TO OWNER, FOR ALUMINUM BUSS OPTION. PANELS 600 AMPS OR LARGER SHALL BE SQUARE-D I-LINE TYPE OR EQUAL. PROVIDE 50% GROUND BUS BAR. PANELS CONNECTED TO K-RATED TRANSFORMERS SHALL HAVE 200% RATED NEUTRAL BUS BARS.
- F. CIRCUIT NUMBERS ARE FOR GUIDANCE ONLY. HAVE LOADS AS CLOSELY AS POSSIBLE. PROVIDE A MINIMUM OF THREE (3) 3/4" INCH SPARE CONDUITS FROM EACH RECESSED PANEL TO THE CEILING SPACE.
- G. FUSES FOR SERVICE ENTRANCE EQUIPMENT SHALL BE U.L. LISTED CLASS L, J, OR RK1. FUSES FOR FEEDER CIRCUITS AND PANEL BOARDS SHALL BE U.L. CLASS RK1 FAST-ACTING TYPE. FUSES FOR MOTOR OVER-CURRENT, MOTOR CONTROLLER, AND TRANSFORMER PROTECTION SHALL BE DUAL-ELEMENT, U.L. CLASS RK1 TIME-DELAY TYPE.
- H. PROVIDE SELF-COOLED, DRY TYPE TRANSFORMERS OF KVA, PHASE, "K" AND VOLTAGE RATINGS AS INDICATED. TRANSFORMERS 15 KVA AND LESS SHALL HAVE A CLASS F INSULATION, 115 DEGREES C RISE. TRANSFORMERS ABOVE 15 KVA SHALL HAVE CLASS H INSULATION, 150 DEGREE C RISE. PROVIDE FOUR 2-1/2" TAPS BELOW AND TWO 2-1/2" TAPS ABOVE RATED PRIMARY VOLTAGE. TRANSFORMERS OF 150 KVA AND LESS SHALL BE RATED 45 DB, LARGER TRANSFORMERS SHALL BE RATED 55 DB. NEUTRALS AND NEUTRAL CONNECTIONS OF ALL "K" RATED DRY TYPE TRANSFORMERS SHALL BE 200% OF THE PHASE CONDUCTOR SIZE. TRANSFORMER SHALL BE SQUARE D, GENERAL ELECTRIC, OR APPROVED EQUAL.
4. **SECTION 16500 - LIGHTING**
- A. PROVIDE A COMPLETE LIGHTING FIXTURE AT EACH LOCATION INDICATED ON THE DRAWINGS. FIXTURES SHALL BE AS SPECIFIED ON THE LIGHTING FIXTURE SCHEDULE ON THE DRAWINGS.
- B. EACH FIXTURE SHALL BE COMPLETELY EQUIPPED WITH LAMPS OF THE SIZE, TYPE, WATTAGE AND SHAPE INDICATED AND SPECIFIED. ALL LAMPS SHALL BE MANUFACTURED BY THE GENERAL ELECTRIC CO., PHILIPS LIGHTING CO., OR APPROVED EQUAL. LUMEN OUTPUT AND LIFE OF LAMPS SHALL BE EQUIVALENT TO THE GENERAL ELECTRIC LAMP OF THAT TYPE AND WATTAGE. EXACT VOLTAGE SHALL BE CHECKED BEFORE ORDERING LAMPS.
- C. LED DRIVERS SHALL BE 0-10V DIMMING RATED WHERE AVAILABLE. LED DRIVER, CONTROL STYLE, AND REQUIREMENTS SHALL BE CLOSELY COORDINATED WITH PROPOSED CONTROL, WIRING, AND DESIGN. CONTRACTOR SHALL PROVIDE 0-10V CONTROL WIRING TO ALL FIXTURES PER DESIGNED SWITCHING SCHEME.
- D. ALL LIGHTING FIXTURES SHALL BE PROVIDED WITH ALL ASSOCIATED ACCESSORIES, MOUNTING HARDWARE, LENSES, ETC. CONTRACTOR SHALL ENSURE ALL ASSOCIATED EQUIPMENT IS SUPPLIED REGARDLESS OF LIGHTING SPECIFICATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PURCHASE AND INSTALLATION OF A COMPLETE SYSTEM PER DESIGN INTENT.
- E. ALL PLASTIC DIFFUSERS SHALL BE 100 PERCENT VIRGIN ACRYLIC (NMAL .125 INCH THICK) AND ALL LEXAN DIFFUSERS SHALL BE LEXAN TYPE MR-4000, OR EQUAL.
- F. 8-FOOT TANDEM UNITS MAY BE USED IN LIEU OF 4 FOOT UNITS IN CONTINUOUS ROWS. COORDINATE SPECIFICATION REQUIREMENTS, LENS CONFIGURATION, AND CONTINUOUS ROW MOUNTING HARDWARE AS REQUIRED.
- G. THE CONTRACTOR SHALL CONSULT THE CEILING CONTRACTOR AND ARCHITECT'S DRAWINGS FOR APPROVED REFLECTED CEILING PLANS BEFORE ORDERING FIXTURES. TO INSURE THAT ALL ARE COMPATIBLE WITH THE CEILING SYSTEM AND PROPERLY LOCATED. VERIFY THAT ADEQUATE CLEARANCE FOR INSTALLATION, MAINTENANCE, AND HEAT DISSIPATION IS AVAILABLE.
- H. THE CONTRACTOR SHALL SUPPORT ALL LIGHTING FIXTURES FROM BUILDING STRUCTURE SEPARATELY FROM CEILING STRUCTURE. PROVIDE A MINIMUM OF TWO (2) GALVANIZED STEEL #12 GAUGE HANGER WIRES (ALTERNATE CORNERS) ON ALL RECESSED FIXTURES. THE CONTRACTOR SHALL COORDINATE MOUNTING REQUIREMENTS WITH LOCAL JURISDICTION PRIOR TO START OF WORK. PROVIDE ALL MOUNTING HARDWARE, SUSPENSION SYSTEMS, AND/OR PENDANT SYSTEMS AS REQUIRED. ALL LIGHTING FIXTURES SHALL BE SUSPENDED FROM STRUCTURE PER LOCAL JURISDICTION REQUIREMENTS. COORDINATE SUSPENSION REQUIREMENTS WITH LOCAL INSPECTOR IN THE FIELD.
- I. CONTRACTOR SHALL PROVIDE ADDITIONAL EXIT LIGHTS AND EMERGENCY BATTERY PACK WITH DUAL HEADS AS NEEDED TO MEET FIRE MARSHAL'S WALK-THROUGH AND ACCEPTANCE.
- J. CONNECT EXIT LIGHTS, EMERGENCY BATTERY UNITS, NIGHT LIGHTS (NL), AND FIXTURES SPECIFIED WITH INTEGRAL BATTERY BACK-UP TO UN-SWITCHED PORTION OF LIGHTING CIRCUIT SERVING RESPECTIVE AREA UNLESS OTHERWISE NOTED.
- K. CONTRACTOR SHALL CLEAN, RE-LAMP, REPAIR AND/OR REPLACE ALL BROKEN OR DEFECTIVE LIGHTING FIXTURES, LENSES, DRIVERS, BALLASTS, AND/OR LAMPS FOR EXISTING LIGHTING FIXTURES WITHIN AREA OF WORK.
5. **SECTION 16700 - COMMUNICATION SYSTEMS**
- A. TELEPHONE/DATA SERVICE SHALL BE EXTENDED BY LOCAL TELEPHONE COMPANY. PROVIDE WALL AND FLOOR TELEPHONE OUTLETS, CONDUITS, BACKBOARDS, SLEEVES, RECEPTACLES, AND OTHER EQUIPMENT SHOWN ON THE DRAWINGS FOR USE BY THE END USER.
- B. PROVIDE WALL OUTLETS IN 4' SQUARE 2-1/8" DEEP BOX WITH RAISED SINGLE GANG COVERS EQUIPPED WITH BLANK STAINLESS STEEL DEVICE PLATES. EXTEND 3/4" EMPTY CONDUIT FROM EACH OUTLET TO THE CEILING SPACE AND TERMINATE WITH INSULATED BUSHINGS. PROVIDE NYLON PULL WIRE IN ALL CONDUITS LEFT EMPTY.
- C. PROVIDE 3/4" FIRE-TREATED PLYWOOD BACKBOARD FOR SERVICE ENTRANCE EQUIPMENT. CONTRACTOR SHALL PAINT BACKBOARD TO MATCH ADJACENT SURFACE FINISH.
7. **SECTION 16721 - SPRINKLER MONITORING SYSTEM**
- A. PROVIDE AN AUTOMATIC SPRINKLER MONITORING SYSTEM COMPLETE INCLUDING ALL WIRING, CONDUIT AND BOXES, CONTROLS, DEVICES, AND ANNUNCIATOR.
- B. THE SYSTEM SHALL BE EQUAL TO SIMPLEX. PART NUMBERS AND FUNCTIONS DESCRIBED ARE THOSE OF A SIMPLEX MODEL 4087ES, SPRINKLER MONITORING AND SYSTEM RELEASE CONTROL SYSTEM.
- C. PROVIDE A UL LISTING FOR THE COMPLETE INSTALLED SYSTEM. CERTIFICATION SHALL BE BY AN INDEPENDENT FIRE ALARM SERVICE COMPANY.
- D. ANNUNCIATION SHALL BE BY ZONE AND TYPE OF DEVICE AT THE SYSTEM CONTROL AND AT EACH REMOTE ANNUNCIATOR.
- E. SYSTEM OPERATION:
- E.1. IN THE NORMAL CONDITION THE NORMAL LED (GREEN) ON THE SPRINKLER MONITORING CONTROL PANEL FLASHES. THE TIME (HH:MM:SS) APPEARS ON (THE SPRINKLER MONITORING CONTROL PANEL DISPLAY.
- E.2. WHEN SMOKE DETECTOR OR WATER FLOW SWITCH OPERATES THE SYSTEM SHALL EXTINGUISH THE NORMAL LED (GREEN), ILLUMINATE THE ALARM LED (RED), AND PULSATE THE BUZZER ON THE SPRINKLER MONITORING CONTROL PANEL. DISPLAY THE TIME, NUMBER OF MESSAGES WAITING, THE TYPE OF EVENT, THE ZONE OR DEVICE ADDRESS, THE TIME THAT THE EVENT OCCURRED, AND THE EIGHTY CHARACTER CUSTOM MESSAGE ON THE SPRINKLER MONITORING CONTROL PANEL. TRANSMIT AN ALARM CONDITION TO THE CENTRAL MONITORING STATION VIA DIGITAL ALARM COMMUNICATOR TRANSMITTER.
- E.3. WHEN VALVE TAMPER SWITCH OPERATES THE SYSTEM SHALL EXTINGUISH THE NORMAL LED (GREEN), ILLUMINATE THE ALARM LED (YELLOW), AND PULSATE (THE BUZZER ON THE SPRINKLER MONITORING CONTROL PANEL. DISPLAY THE TIME, NUMBER OF MESSAGES WAITING, THE TYPE OF EVENT, THE ZONE OR DEVICE ADDRESS, THE TIME THAT THE EVENT OCCURRED, AND THE EIGHTY CHARACTER CUSTOM MESSAGE ON THE SPRINKLER MONITORING CONTROL PANEL. TRANSMIT AN TROUBLE CONDITION TO THE CENTRAL MONITORING STATION VIA DIGITAL ALARM COMMUNICATOR TRANSMITTER.
- E.4. THE ACTIVATION OF ANY DEVICE TROUBLE OR SYSTEM TROUBLE WILL EXTINGUISH THE NORMAL LED (GREEN), ILLUMINATE THE TROUBLE LED (YELLOW), AND PULSATE THE BUZZER ON THE SPRINKLER MONITORING CONTROL PANEL. DISPLAY THE TIME, NUMBER OF MESSAGES WAITING, THE TYPE OF EVENT, THE ZONE OR DEVICE ADDRESS, THE TIME THAT THE EVENT OCCURRED, AND THE EIGHTY CHARACTER CUSTOM MESSAGE ON THE SPRINKLER MONITORING CONTROL PANEL. TRANSMIT AN TROUBLE CONDITION TO THE CENTRAL MONITORING STATION VIA DIGITAL ALARM COMMUNICATOR TRANSMITTER.
- F. ALARM MONITORING, SIGNALING AND CONTROL FUNCTIONS SHALL BE ACCOMPLISHED BY A SIMPLEX MODEL 4087ES CONTROL PANEL WITH INTEGRAL POWER SUPPLY AND BATTERY BACK-UP.
- G. PHOTOELECTRIC SMOKE DETECTOR SHALL BE SIMPLEX 4098 SERIES OR APPROVED EQUAL. .
- H. GATE VALVE SUPERVISION SWITCHES SHALL BE BY SPRINKLER CONTRACTOR AND COMPATIBLE WITH PROPOSED MONITORING SYSTEM.
- I. WATER FLOW SWITCHES SHALL BE SHALL BE BY SPRINKLER CONTRACTOR AND COMPATIBLE WITH PROPOSED MONITORING SYSTEM.
- J. TELEPHONE DIALER SHALL BE INTEGRAL WITH THE CONTROL PANEL.
- K. INSTALL FIRE ALARM AND DETECTION SYSTEM WIRING IN CONDUIT 1/2 INCH MINIMUM. MINIMUM WIRE SIZE SHALL BE NO. 18 AWG SOLID COPPER FOR INITIATION AND ANNUNCIATOR CIRCUITS, NO. 14 AWG SOLID COPPER FOR INDICATING CIRCUITS, AND NO. 12 AWG SOLID COPPER FOR 120 VOLT CIRCUITS. THE USE OF CODE ACCEPTABLE FIRE RATED METAL CLAD CABLING IS ACCEPTABLE WHERE APPLICABLE AND ACCEPTED BY LOCAL FIRE MARSHAL AND JURISDICTION REQUIREMENTS.
- L. QUANTITY AND LOCATION OF SPRINKLER WATER FLOW AND VALVE SUPERVISORY SWITCHES WILL VARY AS PER APPROVED SPRINKLER SYSTEM LAYOUT. FLOW AND TAMPER SWITCHES SHALL BE FURNISHED UNDER DIVISION 16 - ELECTRICAL AND INSTALLED UNDER DIVISION 15 - MECHANICAL.