

GENERAL CIRCUITRY NOTES:

LIGHTING CIRCUITRY NOTES:

- A. PROVIDE QUANTITIES OF CONDUCTORS AND RACEWAYS REQUIRED, FOR EQUIPMENT SHOWN ON PLANS. MINIMUM TRADE SIZE CONDUCTOR SHALL BE #12 AWG. MINIMUM TRADE SIZE RACEWAY SHALL BE 3/4". THE USE OF SHARED NEUTRALS IN LIGHTING AND RECEPTACLE BRANCH CIRCUITS IS PROHIBITED. PROVIDE SEPARATE NEUTRAL AND GROUND FOR EVERY CIRCUIT.
- B. DO NOT COMBINE MORE THAN THREE PHASE CONDUCTORS, THREE NEUTRAL CONDUCTORS PLUS THREE GROUND CONDUCTORS, IN ANY ONE BRANCH CIRCUIT CONDUIT, UNLESS OTHERWISE INDICATED ON DRAWINGS.
- C. THE USE OF SHARED NEUTRALS IN LIGHTING AND RECEPTACLE BRANCH CIRCUITS IS PROHIBITED. PROVIDE SEPARATE NEUTRAL AND GROUND FOR EVERY CIRCUIT.
- A. UNO, PROVIDE 2#12, 1#12G, 3/4"C FOR LIGHTING CIRCUITRY. PROVIDE 2#10, 1#10G, 3/4"C FOR LIGHTING CIRCUITS GREATER THAN 100' IN LENGTH TO PANELBOARD. PROVIDE ADDITIONAL CONDUCTOR IN SAME RACEWAY AS OTHER CONDUCTORS FOR 0-10V LED DIMMING.
- B. UNO, IN ROOMS/AREAS WHERE MULTIPLE LIGHT SWITCHES/SENSORS ARE SHOWN, PROVIDE LIGHTING CONTROL CIRCUITRY FROM SWITCHES/SENSORS TO LIGHT FIXTURES WITH SAME SWITCH LEG DESIGNATIONS.
- C. UNO, IN ROOMS/AREAS WHERE ONE LIGHT SWITCH/SENSOR IS SHOWN, CIRCUIT SWITCH/SENSOR IN SUCH A MANNER THAT SWITCH/SENSOR OPERATES ALL LIGHT FIXTURES WITHIN SAME ROOM/AREA.

RECEPTACLE CIRCUITRY NOTES:

A. UNO, PROVIDE 2#12, 1#12G, 3/4"C FOR GENERAL PURPOSE 120V RECEPTACLE CIRCUITS. PROVIDE 2#10, 1#10G, 3/4"C FOR RECEPTACLE CIRCUITS GREATER THAN 100' IN LENGTH TO PANELBOARD.

> (UNO, HEIGHTS ARE A.F.F. TO CENTER OF DEVICE) RECEPTACLES: COMMUNICATION DEVICE: LIGHT SWITCH: PANELBOARD (MAX TO TOP OF BACKBOX): STARTER/DISCONNECT SWITCH: SYSTEMS CABINETS (MAX TO TOP): SYSTEMS CONTROL PANELS (MAX TO TOP): PUSH-BUTTON: FIRE ALARM PULL STATION: FIRE ALARM NOTIFICATION DEVICE: 80" (TO BOTTOM) CO NOTIFICATION DEVICE: 80" (TO BOTTOM) EXIT LIGHT (WALL): **CENTERED ABOVE** DOORWAY EMERGENCY BATTERY PACK:

SYMBOLS LIST

GENERAL SYMBOLS:

KEYED NOTE - NEW WORK

PROVIDE DEVICES/EQUIPMENT AS NEW

FIRE ALARM SYMBOLS:

30 AUDIO/VISUAL SIGNALING DEVICE. NUMBER DENOTES CANDELA RATING.

VISUAL ST 30 RATING. VISUAL SIGNALING DEVICE. NUMBER DENOTES CANDELA

F PULL STATION

HEAT DETECTOR

CARBON MONOXIDE DETECTOR

CO CARBON MONOXIDE SIGNALING DEVICE

FACP CONTROL PANEL

(REFER TO LIGHT FIXTURE AND OCCUPANCY SENSOR / CONTROL SCHEDULES)

LIGHT SWITCH

- 4-WAY

OS - OCCUPANCY SENSOR SWITCH LV - DIGITAL WALL, LOW VOLTAGE

CEILING-MOUNTED EXIT LIGHT. HATCH MARKS INDICATES ILLUMINATED FACE, ARROW INDICATES DIRECTION OF



WALL-MOUNTED EXIT LIGHT. HATCH MARKS INDICATES ILLUMINATED FACE, ARROW INDICATES DIRECTION OF



1'x4' CEILING MOUNTED LIGHT FIXTURE, F# INDICATES TYPE. SEE SCHEDULE FOR ADDITIONAL DETAILS

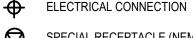
F# CEILING MOUNTED DOWNLIGHT FIXTURE, F# INDICATES TYPE. SEE SCHEDULE FOR ADDITIONAL DETAILS

POWER SYMBOLS:

DUPLEX RECEPTACLE

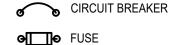
MOTOR CONNECTION (REFER TO ELECTRICL EQUIPMENT & CONTROL SCHEDULE ME601)

208V PANELBOARD (SURFACE)



SPECIAL RECEPTACLE (NEMA CONFIGURATION INDICATED)

ONE-LINE SYMBOLS:



FUSED DISCONNECT SWITCH





PANELBOARD

GENERAL NOTES:

- 1. UNLESS NOTED OR PROVIDED BY OTHERS, CONTRACTOR SHALL PROVIDE ALL MATERIALS SHOWN ON DRAWINGS. ALL MATERIALS PROVIDED SHALL BE NEW, UNUSED
- 2. COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF THE 2017 NATIONAL ELECTRIC CODE (NEC), 2020 INTERNATIONAL BUILDING CODE, 2020 INTERNATIONAL FIRE CODE, 2020 INTERNATIONAL ENERGY CONSERVATION CODE OF NEW YORK STATE, NATIONAL FIRE PROTECTION ASSOCIATION EQUIPMENT SHALL BE UL LISTED
- 3. ALL MATERIALS TO COMPLY WITH UL, NEMA, ASTM, OSHA, IEEE, NEC AND LOCAL CODES AND ORDINANCES.
- 4. NEW YORK STATE LICENSE: THIS CONTRACTOR SHALL POSSESS A LICENSE TO SPECIFICALLY INSTALL FIRE ALARM SYSTEMS
- 5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS, INSPECTIONS AND CERTIFICATES ALONG WITH ALL ASSOCIATED FEES.
- 6. CONTRACTOR SHALL PROVIDE A THIRD PARTY INDEPENDENT ELECTRICAL INSPECTION AND CERTIFICATE PRIOR TO APPLICATION FOR FINAL PAYMENT. THE INDEPENDENT ELECTRICAL INSPECTOR SHALL BE CERTIFIED BY THE INTERNATIONAL ASSOCIATION OF ELECTRICAL INSPECTORS.
- 7. PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED BY THE PROJECT CONTRACTOR.
- 8. COORDINATE ELECTRICAL WORK WITH OTHER TRADES AND ADJUST EQUIPMENT LOCATIONS ACCORDINGLY TO FIT SPACES ALLOTTED.
- 9. HANDLE PRODUCTS CAREFULLY DURING SHIPPING, STORING AND INSTALLING. DO NOT INSTALL DAMAGED EQUIPMENT OR COMPONENTS; REPLACE WITH NEW.
- 10. PROVIDE SCHEDULE 40 BLACK STEEL PIPE SLEEVES AT ALL CONDUIT PENETRATIONS THROUGH CONCRETE AND MASONRY CONSTRUCTION, AND THROUGH FIRE RATED DRYWALL CONSTRUCTION.
- 11. FIRE SEAL ALL OPENINGS AROUND ELECTRICAL BOXES, RACEWAYS, SLEEVES, ETC. WHERE PASSING THROUGH CONCRETE SLABS AND WALLS. THE FIRE SEAL SHALL BE APPROVED AND INSTALLED IN ACCORDANCE WITH ASTM E814.
- 12. WALK-THRU WITH OWNER REPRESENTATIVE AND VERIFY ALL ELECTRICAL DEVICE & RACEWAY LOCATIONS PRIOR TO INSTALLATION.
- 13. INSTALL ALL CIRCUITRY PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, AND CEILING.
- 14. THE USE OF NON-METALLIC RACEWAY IS PROHIBITED.
- 15. ELECTRICAL EQUIPMENT LOCATIONS ARE APPROXIMATE. VERIFY EXACT EQUIPMENT LOCATIONS PRIOR TO FEEDER ROUGH-IN.
- 16. MOTOR CONNECTION LOCATIONS SHOWN ARE APPROXIMATE. VERIFY EXACT LOCATIONS WITH OTHER TRADES PRIOR TO FEEDER/ CONDUIT ROUGH-IN.
- 17. TO MAINTAIN DRAWING CLARITY, MOTOR CONTROL DEVICES, FOR HVAC/PLUMBING EQUIPMENT, HAVE NOT BEEN SHOWN. REFER TO ELECTRICAL EQUIPMENT & CONTROL SCHEDULE FOR TYPES OF MOTOR CONTROL DEVICES REQUIRED, LOCATIONS WHERE CONTROL DEVICES ARE SCHEDULED FOR INSTALLATION, AND ADDITIONAL INFORMATION.
- 18. REMOVE MATERIALS AS WORK PROGRESSES. UPON COMPLETION OF WORK. LEAVE AREAS IN A CLEAN CONDITION.
- 19. COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT/DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS, FURNITURE LAYOUTS, AND WITH OTHER DIVISIONS PRIOR TO INSTALLATION. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT COST TO OWNER.
- 20. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SUPPORT HARDWARE FOR SECURELY FASTENING THE ELECTRICAL CONTROL DEVICES AND ENCLOSURES TO THE BUILDING STRUCTURE. THE REQUIRED HARDWARE INCLUDES, BUT IS NOT LIMITED TO, INTERMEDIATE STEEL ANGLE, UNISTRUCT, FASTENERS, JOISTS CLAMPS, ETC. MOUNT STARTERS, VFD'S, DISCONNECTS, RELAYS, AND OTHER ELECTRICAL CONTROL DEVICES AND ENCLOSURES AT LOCATION(S) INDICATED IN ELECTRIC EQUIPMENT & CONTROL SCHEDULE(S). ALLOW MAINTENANCE ACCESS AND SERVICE SPACE AT EACH LOCATION.
- 21. EACH RECEPTACLE, SWITCH AND JUNCTION BOX, PROVIDED UNDER THIS CONTRACT, SHALL BE LABELED WITH THE CORRESPONDING POWER PANEL NAME AND CIRCUIT BREAKER NUMBER. ALL LABELING SHALL BE TYPEWRITTEN USING A LABEL MAKER AND SHALL BE PERMANENTLY AFFIXED TO EACH FACEPLATE. HANDWRITTEN LABELS WILL NOT BE ACCEPTED. PRIOR TO START OF LABELING, MEET WITH OWNER TO DETERMINE LABELING SCHEME TO BE UTILIZED. PROVIDE LABELING TO MEET OWNER REQUIREMENTS.

				<u>A</u>	BBREVIATIONS			
Α	-	AMPERE	EX	-	EXISTING	MDP	-	MAIN DISTRIBUTION PANEL
AC	-	ABOVE COUNTER	EXT	-	EXTERIOR	NF	-	NON-FUSED
AFF	-	ABOVE FINISHED FLOOR	(F)	-	FLANGE LIGHT FIXTURE HARD CEILING	NIC	-	NOT IN CONTRACT
AHU	-	AIR HANDLING UNIT	FA	-	FIRE ALARM	NM	-	NONMETALLIC SHEATHED CABLE
A/V	-	AUDIO/VISUAL	FL	-	FLOOR	NTS	-	NOT TO SCALE
ATS	-	AUTOMATIC TRANSFER SWITCH	FLA	-	FULL LOAD AMPS	OC	-	OVER COUNTER
AWG	-	AMERICAN WIRE GAUGE	FLUOR	-	FLUORESCENT	Р	-	POLE
AU	-	AT UNIT	GC	-	GENERAL CONTRACTOR	PNL	-	PANEL
BKR	-	BREAKER	GFI	-	GROUND FAULT CIRCUIT INTERRUPTER	PRI	-	PRIMARY
С	-	CONDUIT	GND	_	GROUND	SEC	-	SECONDARY
C/B	-	CIRCUIT BREAKER	HP	_	HORSEPOWER	ST	-	SHUNT TRIP
CKT	-	CIRCUIT	HVAC	_	HEATING VENTILATION & AIR	SW	-	SWITCH
CLG	-	CEILING	IIVAO	_	CONDITIONING	TEL	-	TELEPHONE
DEMO	-	DEMOLISH/DEMOLITION	IP	-	INTERNET PROTOCOL	TV	-	TELEVISION
DTL	-	DETAIL	I.T.	-	INFORMATION TECHNOLOGY	TYP	-	TYPICAL
DWG	-	DRAWING	KVA	-	KILOVOLT AMPS	UC	-	UNDER COUNTER
EA	-	EACH	KW	-	KILOWATTS	UGE	-	UNDERGROUND ELECTRIC
EC	-	ELECTRICAL CONTRACTOR	LED	-	LIGHT EMITTING DIODE	UNO	-	UNLESS NOTED OTHERWISE
EF	-	EXHAUST FAN	LTG	-	LIGHTING	V	-	VOLT
EM	-	EMERGENCY	MCA	-	MINIMUM CIRCUIT AMPS	WG	-	WIRE GUARD
			MCB	-	MAIN CIRCUIT BREAKER	WP	-	WEATHERPROOF
						XFMR	-	TRANSFORMER
NOTE: ABE	BREVIAT	IONS MAY OR MAY NOT USE PERIODS,	EXAMPLE A.F.	F. OR A	FF			

DEFINITIONS:

CIRCUITRY = UNLESS NOTED OTHERWISE, CIRCUITRY INCLUDES, BUT IS NOT LIMITED TO, WIRING, OUTLETS BOXES, JUNCTION BOXES, RELAYS, WIREMOLD, SURFACE MOUNTED RACEWAY, CONDUITS, CONTROL DEVICES, ETC.



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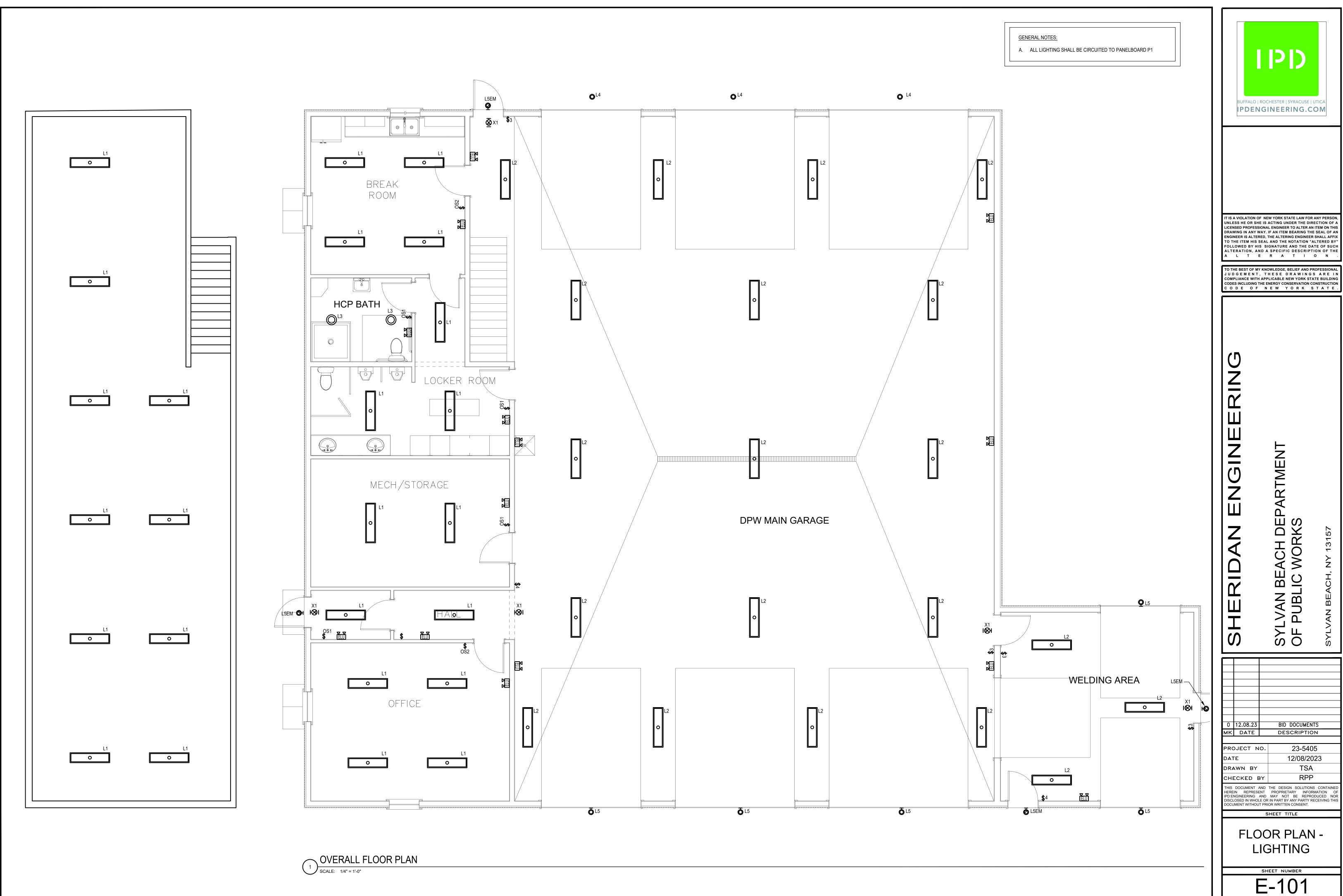
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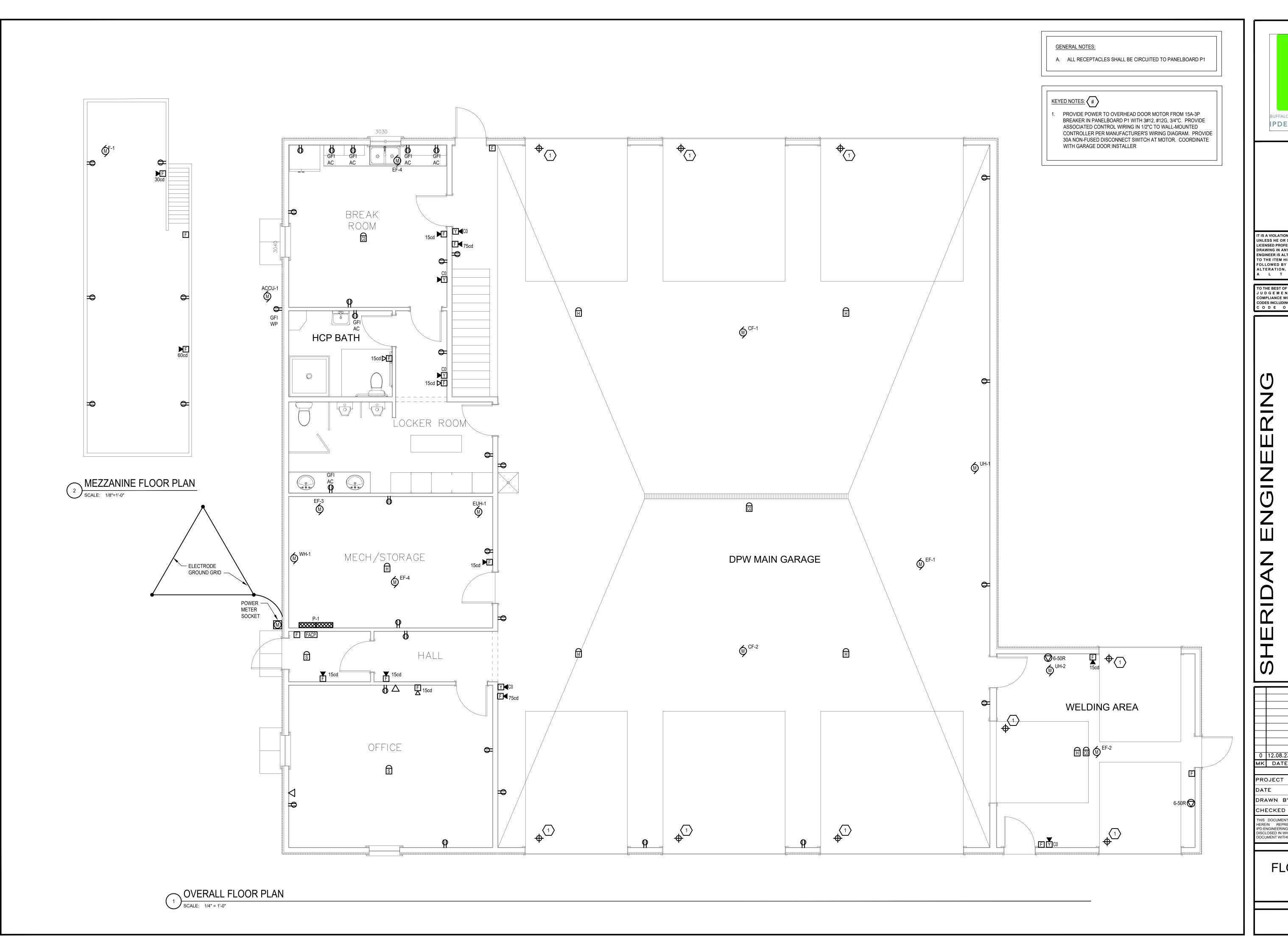
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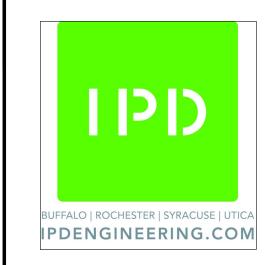
GENERAL INFORMATION

> SHEET NUMBER E-001



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FLOOR PLAN -POWER

E-201

						LIGI	HT FIXTURE SCHEDULE		
TYPE	DESCRIPTION	LAMPS	LUMENS	WATTS	VOLTAGE / DRIVER	MOUNTING	DESIGN BASIS	ENGINEER APPROVED EQUAL	REMARKS
L1	4' LINEAR LED FIXTURE,	3500K LED	3500	30	UNV ELECTRONIC 0-10V DIMMING	SURFACE - CEILING	METALUX WSL LINEAR	ENGINEER APPROVED EQUAL	
L2	VAPORTITE INDUSTRIAL LED FIXTURE WITH INTEGRAL MOTION SENSOR	3500K LED	8000	70	120V ELECTRONIC 0-10V DIMMING	SUSPENDED AT 16' ABOVE FLOOR	ILP WTZ4-10L-U-40-RAFL-USBD	ENGINEER APPROVED EQUAL	NOTE B
L3	11" ROUND SURFACE-MOUNT DOWNLIGHT, WET LOCATION LISTED	3500K LED	1300	15	120V	SURFACE UNDER CANOPY	JUNO JSF SERIES	ENGINEER APPROVED EQUAL	
L4	EXTERIOR CANOPY LUMINAIRE	LED	7800	63	UNV ELECTRONIC	SURFACE CANOPY	LUMARK RPGC25-MS/DIM-L20	ENGINEER APPROVED EQUAL	
L5	EXTERIOR WALL SCONCE TO BE DETERMINED - DARK SKY COMPLIANT	LED	7556	59	UNV ELECTRONIC	SURFACE WALL	COOPER LIGHTING GAW-SA1-B-740-U-T3	ENGINEER APPROVED EQUAL	NOTE A
ELU	EMERGENCY LIGHTING UNIT	LED			UNV ELECTRONIC	SURFACE WALL	SURE LITES SEL 25-SD	ENGINEER APPROVED EQUAL	NOTE C
X1 - SINGLE X2 - DOUBLE	LED THERMOPLASTIC EXIT SIGN W/ BATTERY BACKUP	RED LED-EXIT		5	UNIVERSAL 120-277V INPUT	WALL/CEILING	SURE-LITES LPX SERIES	ENGINEER APPROVED EQUAL	PROVIDE FIXTURE WITH INTEGRAL BATTERY BACK-UP WITH SELF-PERFORMING DIAGNOSTICS. REFER TO FLOOR PLANS FOR QUANTITIES & LOCATIONS OF WALL MOUNT AND CEILING MOUNT FIXTURES. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON FLOOR PLANS. *REFER TO FLOOR PLANS QUANTITIES REQUIRING WIRE GUARD

REMARKS (FOR LIGHT FIXTURE SCHEDULE ONLY):

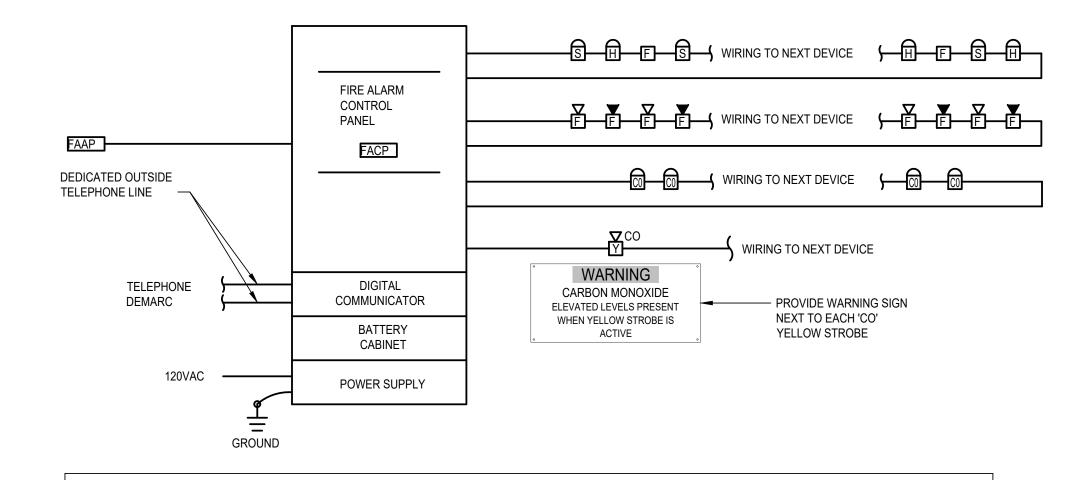
- A. FOR EMERGENCY LIGHTING PROVIDE SELECT FIXTURES WITH INTEGRAL BATTERY BACK-UP (COLD WEATHER TYPE FOR EXTERIOR FIXTURES). EXTEND UNSWITCHED LEG OF AREA LIGHTING CIRCUIT TO INTEGRAL EMERGENCY
- B. FIXTURE SHALL HAVE USER SELECTABLE BI-LEVELING DIMMING END-MOUNTED SENSOR. SET TO ILLUMINATE LIGHTS AT 50% IF NO MOTION IS DETECTED AND AT 100% IF MOTION IS DETECTED.
- C. PROVIDE WITH INTEGRAL BATTERY BATTERY BACKUP SYSTEM WITH SELF-PERFORMING DIAGNOSTICS AND MAINTENANCE FREE NICKEL CADMIUM BATTERY. EMERGENCY OUTPUT DURATION SHALL BE A MINIMUM OF 90 MINUTES.

GENERAL NOTES (FOR LIGHT FIXTURE SCHEDULE ONLY):

A. PROVIDE FIXTURES WITH MOUNTING HARDWARE AS REQUIRED.

APPROVED EQUAL MAUNFACTURERS (FOR LIGHT FIXTURE SCHEDULE ONLY):

A. HUBBELL, COOPER, ACUITY, LITHONIA, HE WILLIAMS AND PHILIPS.



FIRE ALARM RISER NOTES:

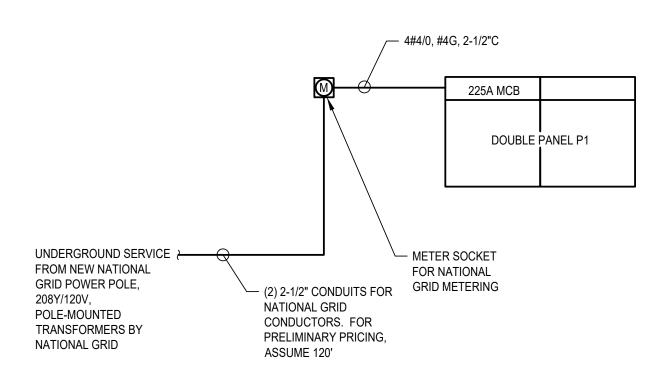
- A. DEVICES ARE SHOWN DIAGRAMMATICALLY ONLY. FOR EXACT LOCATIONS AND QUANTITIES SEE FLOOR PLANS.
- B. ALL FIRE ALARM SYSTEM RACEWAY SIZES AND CIRCUITRY REQUIREMENTS SHALL BE IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS RECOMMENDATIONS AND ALL CODES THAT MAY APPLY.
- C. CABLING MUST BE UNIQUELY IDENTIFIED AND LABELED, AND A PERMANENT, ACCURATE RECORD OF THE IDENTIFICATION AND USE OF EACH ABLE MUST BE MADE AT THE TIME OF INSTALLATION. LABELING IS TO BE DONE WITH PERMANENT MARKERS ON CLEAR MYLAR TAPE. THE TAPE SHALL BE LONG ENOUGH SO WHEN WRAPPED ROUND THE CABLE IT WILL WRAP OVER ITSELF, PROTECTING THE WRITING.
- D. FACP AND OTHER PANELS SHALL BE MOUNTED WITH CLEARANCES FOR OBSERVATION AND TESTING. ALL OTHER FIRE ALARM JUNCTION BOXES SHALL BE MARKED FOR IDENTIFICATION.
- E. PROVIDE 120V, 20A DEDICATED BRANCH CIRCUITS TO CONTROL PANELS, TERMINAL CABINETS, ETC. AS REQUIRED. THE CIRCUIT BREAKER SHALL BE CLEARLY MARKED "FIRE ALARM CIRCUIT CONTROL" IN THE PANELBOARD DIRECTORY. PROVIDE 20A-1P CIRCUIT BREAKERS IN PANELBOARDS AS REQUIRED.
- F. ALL CONDUIT, MOUNTING BOXES AND PANELS SHALL BE HUNG AND FASTENED WITH FITTINGS TO ENSURE POSITIVE GROUNDING THROUGHOUT THE ENTIRE SYSTEM.
- G. TRANSPOSING OR CHANGING COLOR CODING OF WIRES IS NOT PERMITTED. ALL CONDUCTORS IN CONDUIT CONTAINING MORE THAN ONE WIRE SHALL BE LABELED ON EACH END WITH "E-Z MARKERS", OR ENGINEER APPROVED EQUAL LABELING SYSTEM.
- H. CONDUCTORS IN CABINETS SHALL BE FORMED AND HARNESSED SO THAT EACH DROPS OFF DIRECTLY OPPOSITE ITS TERMINAL.
- I. ALL WIRING SHALL BE CHECKED AND TESTED TO ENSURE THAT THERE ARE NO GROUNDS, OPENS, OR SHORTS.
- J. WIRING COLOR CODES SHALL BE CONSISTENT THROUGHOUT THE SYSTEM AND SHALL ALLOW FOR EASY IDENTIFICATION OF INITIATING, INDICATING AND AUXILIARY CONTROL CIRCUITS.
- K. THE FIRE ALARM RISER DENOTES THE GENERAL ARRANGEMENT OF THE SYSTEM WITH TYPICAL DEVICES AND MINIMUM QUANTITIES OF TERMINAL CABINETS & POWER BOOSTERS. PROVIDE ADDITIONAL TERMINAL CABINETS, BOOSTERS, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
- L. CARBON MONOXIDE SHALL PRODUCE AN AUDIBLE SIGNAL DISTINCTIVE FROM THE FIRE ALARM, INITIATE A SUPERVISORY SIGNAL (AUDIBLE AND VISUAL) IN THE FACP AND FAAP AND INITIATE THE CORRESPONDING YELLOW STROBES.
- M. ALL FIRE ALARM SYSTEM JUNCTION BOXES SHALL BE PAINTED RED WITH STENCIL LETTERING INDICATING "FIRE ALARM SYSTEM".
- N. WIRING INDICATED ON THE RISER DIAGRAM IS DIAGRAMMATIC ONLY. IT IS NOT INTENDED TO INDICATE ROUTING OR QUANTITY OF WIRES REQUIRED. PROVIDE WIRING FOR A COMPLETE SYSTEM AS REQUIRED BY SYSTEM MANUFACTURER.
- O. REFER TO FLOOR PLANS FOR EQUIPMENT LOCATIONS.

OS1 PIR WALL SWITCH SENSOR ANALOG WALL MOUNT SENSOR ENGINE	ACCEPTABLE REMARKS ANUFACTURERS
OS1 PIR WALL SWITCH SENSOR ANALOG WALL MOUNT SENSOR ENGINE	
LINE VOLTAGE AT 46" A.F.F. SWITCH WSX	INEER APPROVED MANUAL ON / AUTO OFF AFTER 30 MINUTES EQUAL (VACANCY)
\$ OS2 PIR WALL SWITCH SENSOR ANALOG WALL MOUNT SENSOR SWITCH WSX-D ENGINE	INEER APPROVED MANUAL ON / AUTO OFF AFTER 30 MINUTES (VACANCY)

					PANELE	BOARD SCHED	DULE					
DANIEL	LOCATION	MOUNTING	VOLTAGE	MAINS MCB/	E	BREAKERS (IN USE	·)	SPARE C	APACITY	KAIC	DOLES	NOTES
PANEL	LOCATION		Ø, WIRE	MLO	1-POLE	2-POLE	3-POLE	BREAKERS	SPACES	RATING	POLES	NOTES
P1	MECH ROOM	SURFACE	208V, 3Ø, 4W	400A MLO						22	84	1

REFERENCE NOTES (FOR PANELBOARD SCHEDULE ONLY):

1. SERVICE ENTRANCE RATED.



POWER ONE-LINE DIAGRAM

SCALE: NOT TO SCALE



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A L T E R A T I O N

HERIDAN ENGINEERING

O 12.08.23 BID DOCUMENTS

MK DATE DESCRIPTION

PROJECT NO. 23-5405

DATE 12/08/2023

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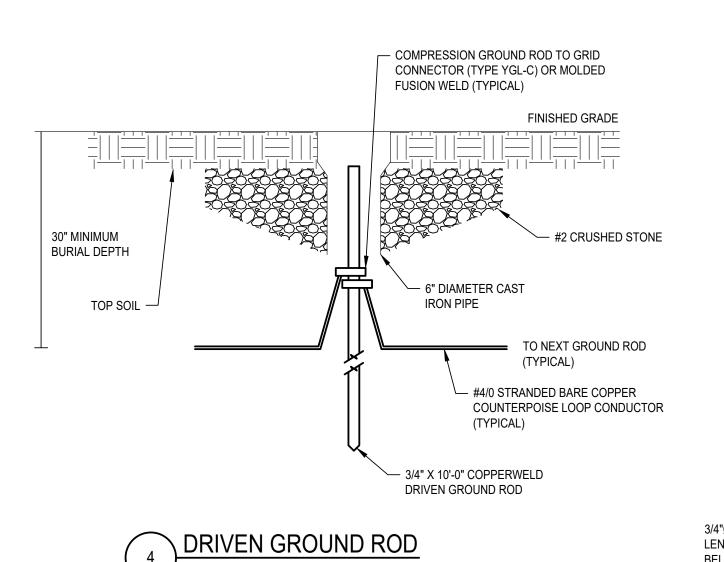
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E-501

DETAILS

FIRE ALARM RISER DIAGRAM
SCALE: N.T.S.



GROUNDING ELECTRODE CONDUCTOR TO SERVICE -ENTRANCE EQUIPMENT GROUND BUS. - 600V INSULATED COPPER CONDUCTOR INSTALLED IN PVC RACEWAY. — #4/0 BARE COPPER GROUNDING CONDUCTOR. INSTALL 1'-0" MIN. BELOW FINISHED GRADE (TYP). 3/4"Ø X 10'-0" COPPERWELD GROUND ROD. DRIVE FULL LENGTH INTO GROUND. TOP OF ROD TO 12" MIN. BELOW FINISHED GRADE (TYPICAL).

OF POINT OF ENTRANCE INTO BUILDING) **EXOTHERMIC** SERVICE WELD ENTRANCE — GROUNDING METER JUMPER **EQUIPMENT** AROUND WATER METER AND INSULATED JOINTS. – #2 CU SERVICE ENTRANCE GROUND BUS - GROUND CLAMP HUB AND CONCRETE CABLE CLAMP. ENCASED ELECTRODE IN FLOOR SLAB TYPICAL - TWO HOLE COMPRESSION - TYPICAL - EACH FITTING BOLTED TO **BUILDING WATER** LISTED CLAMP SERVICE TYPICAL - EXOTHERMIC GROUND GRID #4/0 CU TYPICAL 3/4"X10'

LISTED PIPE CLAMP (WITHIN 5'

STRUCTURAL STEEL

A. PROVIDE SIZE 4/0 GROUNDING ELECTRODE CONDUCTOR UNLESS OTHERWISE NOTED.

ELECTRODE GROUND GRID

PROVIDE ADDITIONAL RODS AND CONNECTIONS AS NECESSARY TO OBTAIN SPECIFIED MAXIMUM

GENERAL NOTES:

RESISTANCE TO GROUND.

GENERAL NOTES: A. TYPICAL FOR ALL SERVICE ENTRANCE EQUIPMENT. DESIGN NOTES: (DELETE AFTER USE): MODIFY GROUNDING ELECTRODE CONDUCTOR SIZE FOR PROJECT SYSTEM

COPPERCLAD GROUND ROD

- RISER POLE BY UTILITY - GROUND CLAMPS, TYP., AT END OF STEEL CONDUIT - PROVIDE 10'-0" LENGTH OF 2-1/2" RIGID GALVANIZED POLE GROUNDING SYSTEM STEEL CONDUIT ON POLE, CABLE BY UTILITY CAP 4" SPARE CONDUIT. PROVIDE 10'-0" LENGTH OF TWO 2" CONDUIT ON POLE WITH POLYETHYLENE PULL ROPES FOR TELEPHONE / DATA SERVICE. FINISHED GRADE - TYPICAL: 42" RADIUS ELBOWS TYPICAL: 10' LENGTH GALV. RIGID STEEL CONDUIT PROVIDE 3/4" X 10'-0" COPPER GROUND ROD AND 4/0 BARE COPPER **GROUND WIRE** BOND STEEL CONDUIT TO GROUND GRID GALV. RIGID STEEL TO PVC ADAPTERS, TYPICAL PVC CONDUIT

A. ALL WORK PROVIDED BY ELECTRIC CONTRACTOR WITH EXCEPTION OF POLE, PRIMARY CABLE AND TV CABLES.

B. ADJUST ORIENTATION, QUANTITIES AND DETAILS TO ACCOMMODATE ACTUAL SITE AND JOB CONDITIONS.

RISER POLE SECTION

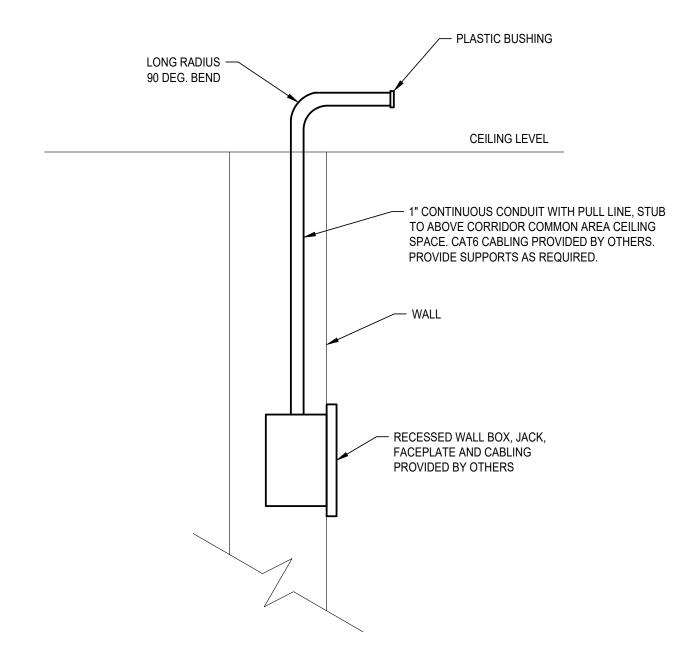
GENERAL NOTES:

COORDINATE ALL WORK WITH UTILITY COMPANY.

1" CONDUIT WITH PULL LINE TO — ABOVE ACCESSIBLE CEILING. CABLING PROVIDED BY OTHERS — LABEL BY OTHERS (TYP) - WALL PLATE BY OTHERS TELE RECESSED 1-GANG BOX — (2-1/2" DEEP) WITH 1-GANG DEVICE MOUNTING BRACKET AND TRIM RING. RJ-45 DATA WIRED RJ45 CATEGORY 6 —— (TERMINATION, TESTING, DATA JACKS AND TELEPHONE JACKS BY OTHERS) SYMBOL:

TYPICAL COMMUNICATION





TYPICAL COMMUNICATION OUTLET BOX & CONDUIT DETAIL

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JUDGEMENT, THESE DRAWINGS ARE IN COMPLIANCE WITH APPLICABLE NEW YORK STATE BUILDING CODES INCLUDING THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE

VAN BEACH DEPA SYL OF I

0 12.08.23 BID DOCUMENTS MK DATE DESCRIPTION 23-5405 PROJECT NO. 12/08/2023 TSA DRAWN BY RPP CHECKED BY THIS DOCUMENT AND THE DESIGN SOLUTIONS CONTAINED HEREIN REPRESENT PROPRIETARY INFORMATION OF IPD:ENGINEERING AND MAY NOT BE REPRODUCED NOF SCLOSED IN WHOLE OR IN PART BY ANY PARTY RECEIVING TH DCUMENT WITHOUT PRIOR WRITTEN CONSENT. SHEET TITLE

> **ELECTRICAL DETAILS**

> > SHEET NUMBER E-502

											ELECTR	ICAL E	QUIPME	NT & C	CONTR	ROL S	CHEDULE															
QUIPMEI	NT					SUPPLY	,							С	ONTRO	DLLER	DEVICE TYPE REQUIRED &	LOCATION	ONS		ACCE	SSORIE	S		(PRC	VIDED	BY EC)		(0)			
N C	N _O	NOIL		SIZE						_	POWER WIRING FROM PANEL TO		R WIRING NTROL UNIT	IG EC	NO	ВҮ	ВУ	NITH NITH NITH NITH NITH NITH NITH NITH	WITH D D NIT E C SRIVE H H TCOR VITS) ON	TOR ITH	ICE(S) ON N	ВУ	ВУ	MOKE	MOKE		DISCONNECT SWITCH			FIRE ALARM	REFERENCE NOTES (SEE BELOW)	N O
GNATI	RIPTIC	LOCATION		_	VOLTAGE /PHASE	PANEL OR CONTROL		1	ROL UNIT		UIPMENT	IND WIRE PER NEC)	DESIGNATION	FURNISHED	INSTALLED BY	KAGE Rol u	STOR INTERPORTED INTO INTO INTO INTO INTO INTO INTO INTO	AL MO	L DEV LLATI SATIOI	ISHED BY		WIRED BY PPLY DUCT SM DETECTOR	DUCT S		WE	E 	NO NO	HUT	RENCE	DESIGNATION		
DESIGN	DESC	ROOM	HP	KW	MCA MCA	CENTER	BREAKER	WIRE	CONDUIT	WIRE	CONDUIT	GROUI (SIZED	DESIG	FURN	INSTA	PACKAGED CONTROL UNIT	ECM MOTOR WITH PACKAGED CONTROL UNIT VARIABLE FREQUENCY DRIVE (SEE MECH SCHEDULE FOR REQUIREMENTS) COMBINATION MAGNETIC STARTER	MANUAL MOTOR STARTER WITH RELAY	CONTROL DEVICE(S) INSTALLATION LOCATION	FURN	INSTA	WIF SUPPLY I	RETURN DU D ETE(NFD	FRAME	FUSE MOTOR RATED	LOCATION	FAN SHUT DOWN RELAY	REFEI (SI	DESIG		
EF-1	EXHAUST FAN	MAIN GARAGE	2		208V, 1Ø	P1	25A-2P	2#12	3/4"	2#12	3/4"	#12	EF-2	МС	MC	Х			AU										1	EF-2		
EF-2	EXHAUST FAN	WELDING	1/6		115V, 1Ø	P1	25A-1P	2#12	3/4"	2#12	3/4"	#12	EF-1	MC	МС	Х			AU										1	EF-1		
EF-3	EXHAUST FAN	MECH STO	1/10		115V, 1Ø	P1	15A-1P	2#12	3/4"	2#12	3/4"	#12	EF-3	MC	MC	Х			AU										1 1	EF-3		
EF-4	EXHAUST FAN	BREAK RM	1/4		115V, 1Ø	P1	15A-1P	2#12	3/4"	2#12	3/4"	#12	EF-4	MC	MC	Х			AU										1	EF-4		
UH-1	UNIT HEATER	MAIN GARAGE		1.3	115V, 1Ø	P1	20A-1P	2#12	3/4"	2#12	3/4"	#12	UH-1	MC	MC	Х			AU							Х	AU	-		UH-1		
UH-2	UNIT HEATER	WELDING	FRAC		115V, 1Ø	P1	15A-1P	2#12	3/4"	2#12	3/4"	#12	UH-2	MC	MC	Х			AU							Х	AU			UH-2		
WH-1	WATER HEATER	MECH STO		9	208V / 3Ø	P1	30A-3P	3#10	3/4"	3#10	3/4"	#10	WH-1	MC	MC	Х			AU					X	30A		AU			WH-1		
ACCU-1	AIR COOLED CONDENSING UNIT	OUTSIDE			18 208V / 1Ø	P1	30A-2P	2#10	3/4"	2#10	3/4"	#10	ACCU-1	MC	MC	Х			AU					X	30A WP		AU		2	ACCU-1		
F-1	FURNACE	BREAK	.5		115V, 1Ø	P1	15A-1P	2#12	3/4"	2#12	3/4"	#12	F-1	MC	MC	Х			AU											F-1		
CF-1	CEILING FAN	MAIN GARAGE		.05	115V, 1Ø	P1	15A-1P	2#12	3/4"	2#12	3/4"	#12	CF-1	MC	MC	Х			AU							X			<u> </u>	CF-1		
CF-2	CEILING FAN	MAIN GARAGE		.05	115V, 1Ø	P1	15A-1P	2#12	3/4"	2#12	3/4"	#12	CF-2	MC	MC	Х			AU							X	AU	-	<u> </u>	CF-2		
EUH-1	ELECTRIC UNIT HEATER	MECH STO		3	208V, 1Ø	P1	20A-2P	2#12	3/4"	2#12	3/4"	#12	EUH-1	MC	MC	Х			AU					X	30A					EUH-1		

GENERAL NOTES:

- A. VERIFY ALL MOTOR SIZES BEFORE ORDERING ANY CONTROL DEVICES.
- B. UNO, DEVICES FURNISHED BY OTHERS SHALL BE INSTALLED & CIRCUITED BY ELECTRICAL
- C. CONTROLLER DEVICES, DISCONNECT SWITCHES, FIRE ALARM EQUIPMENT, AND CIRCUITRY SHALL BE INSTALLED IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.

REFERENCE NOTES:

- 1. DISCONNECT SWITCH IS INTEGRAL WITH UNIT.
- PROVIDE NEMA 3R DISCONNECT SWITCH.

ABBREVIATIONS:

- AU AT UNIT NFD NONFUSED DISCONNECT
- HP HORSEPOWER KW KILOWATT
- MCA MINIMUM CIRCUIT AMPS
 CKT CIRCUIT
- C CONDUIT
 EC ELECTRICAL CONTRACTOR
- MC MECHANICAL CONTRACTOR PC PLUMBING CONTRACTOR
- ST SHUNT TRIP BREAKER
- TC TEMPERATURE CONTROLS CONTRACTOR



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TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THESE DRAWINGS ARE IN COMPLIANCE WITH APPLICABLE NEW YORK STATE BUILDING CODES INCLUDING THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.

VAN BEACH DEPARTM PUBLIC WORKS

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SHEET TITLE ELECTRICAL

EQUIPMENT & CONTROL SCHEDULE

SHEET NUMBER

ME-001