

LIMITS OF ENGINEERING SUPERVISION

THE FOLLOWING LIST OF ITEMS SHALL BE EXCLUDED FROM CONSIDERATION AS UNDER THE DIRECT SUPERVISION AND CONTROL OF THE ENGINEER OF RECORD. THIS LIST IS NOT EXHAUSTIVE AND THERE MAY BE OTHER NOTES AND SPECIFICATIONS THROUGHOUT THAT LIMIT THE SUPERVISION FURTHER. NO ITEM LISTED HERE SHALL BE CONSIDERED IN ANY WAY UNDER THE DIRECT SUPERVISION AND CONTROL OF PERMITZIP OR THE ENGINEER OF RECORD, EVEN IF IT IS PART OF THE CONTRACTOR AND/OR SUBCONTRACTORS WORK BY WAY OF DELEGATED DESIGN NARRATIVE OR COORDINATION NOTE:

- ELECTRICAL UTILITY COMPANY: ALL ELECTRICAL UTILITY EQUIPMENT IS SHOWN ON THIS CONTRACT DOCUMENT FOR REFERENCE ONLY AND IS TO BE REVIEWED AND APPROVED BY THE LOCAL ELECTRIC UTILITY. CONTRACTOR RESPONSIBLE FOR COORDINATING EXACT INSTALLATION REQUIREMENTS WITH LOCAL ELECTRIC UTILITY COMPANY. ALTHOUGH EQUIPMENT LOCATIONS AND REQUIREMENTS ARE SHOWN FOR REFERENCE, THE ELECTRICAL CONTRACTOR MAY STILL BE RESPONSIBLE FOR PURCHASING AND INSTALLING THESE ITEMS.
- LIGHTING CONTROLS: PERMITZIP'S DESIGN IN REGARDS TO LIGHTING CONTROL FUNCTIONALITY IS LIMITED TO THE REQUIREMENTS OF ANY APPLICABLE BUILDING CONSTRUCTION AND ENERGY CODES. ANY SPECIALIZED LIGHTING CONTROLS SYSTEMS (INCLUDING BY NOT LIMITED TO: SCENE CONTROLS, PRE-PROGRAMMED DEVICES, SMART CONTROLS, WIRELESSLY CONTROLLED DEVICE) SHALL BE COORDINATED DIRECTLY WITH THE MANUFACTURER(S) OF THE EQUIPMENT BY THE CONTRACTOR. ANY SWITCHING OR ZONING SHOWN ON PLANS IS DIAGRAMMATIC IN NATURE AND MAY NOT BE ALL-INCLUSIVE OF ALL DEVICES REQUIRED.
- KITCHEN HOOD CONTROLS: ANY ELECTRICAL EQUIPMENT RELATED TO THE INSTALLATION OR CONTROLS OF THE HOOD SHALL BE LIMITED TO THE LINE VOLTAGE BETWEEN THE SOURCE AT THE PANEL TO THE FIRST TERMINATION POINT AT THE HOOD EQUIPMENT. ANY SPECIFIC CONTROLS REQUIREMENTS TO INTEGRATE A BREAKER TO A HOOD CONTROL SYSTEM IS ALSO EXPLICITLY EXCLUDED FROM THIS SUPERVISION AND SHALL BE THE RESPONSIBILITY OF THE HOOD DESIGN ENGINEER. PERMITZIP SHALL BE EXCLUDED FROM DIRECT SUPERVISION OF ANY CONTROLS CABLING FOR PROPER OPERATION AND CONTROL OF KITCHEN HOOD EQUIPMENT AND ANY PERIPHERAL DEVICES. COORDINATE ALL WIRING AND EXACT REQUIREMENTS WITH HOOD MANUFACTURER.
- MANUFACTURER REQUIRED CLEARANCES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING EXACT REQUIREMENTS FROM EQUIPMENT MANUFACTURERS (INCLUDING BUT NOT LIMITED TO: CLEARANCES, MOUNTING REQUIREMENTS, SAFETY PROTOCOL). THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL OTHER TRADES IN REGARDS TO MANUFACTURER INSTALLATION REQUIREMENTS.
- MEANS AND METHODS: EXACT ROUTING, MOUNTING, AND LOCATIONS OF DEVICES AND RACEWAYS ARE DIAGRAMMATIC IN NATURE. ANY PATHWAYS ARE SHOWN FOR REFERENCE ONLY AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING EXACT REQUIREMENTS WITH FIELD CONDITIONS, OTHER TRADES, AND ANY APPLICABLE BUILDING CODE REQUIREMENTS. PERMITZIP DOES NOT SUPERVISE DETAILS REGARDING REQUIRED PULL POINTS SUCH AS HANDHOLES, MANHOLES, PULL BOXES, ETC.

ELEC - DRAWING INDEX

SHEET NUMBER	SHEET NAME
E0.01	LEGEND, NOTES, & ABBREVIATIONS
E1.01	POWER PLAN
E1.02	LIGHTING PLAN
E5.11	DETAILS & DIAGRAMS
E5.12	PANEL BOARD SCHEDULE
E6.11	SHEET SPECIFICATION

GENERAL NOTES

- THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL EQUIPMENT. EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND PLUMBING DRAWINGS AND SPECIFICATIONS, AND BECOME FAMILIAR WITH, AND COORDINATE WITH, ALL CONDITIONS AFFECTING ELECTRICAL WORK.
- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF CIRCUITS AND OUTLETS, LOCATIONS OF SWITCHES, PANELBOARDS, CONDUIT AND OTHER WORK. ALL ITEMS NOT SPECIFICALLY NOTED, BUT NECESSARY TO A COMPLETE WORKING INSTALLATION SHALL BE INCLUDED AT NO EXTRA COST.
- ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE BUILDING OWNER, OR THE OWNER, OR THEIR AUTHORIZED REPRESENTATIVES.
- COORDINATE ELECTRICAL EQUIPMENT LOCATION AND INSTALLATION WITH EQUIPMENT BEING SERVED. GANG ALL MULTIPLE SWITCHES UNDER ONE COMMON COVERPLATE, AND MOUNT IN A MULTI-GANGED OUTLET BOX OF ADEQUATE SIZE. PROVIDE BARRIERS WHERE REQUIRED.
- CONTRACTOR SHALL COORDINATE AND ADJUST RECEPTACLES AND/OR CIRCUITS WITH ACTUAL EQUIPMENT PURCHASED WHEN APPROVED EQUIPMENT DIFFERS FROM ORIGINAL CONTRACT DRAWINGS.
- COORDINATE EXACT LOCATIONS OF MODULAR PARTITION CONNECTIONS WITH FURNITURE BEING PROVIDED.
- OUTLETS ABOVE COUNTERTOPS SHALL BE 2" ABOVE BACKSPASH TO BOTTOM OF WALLPLATE UNLESS NOTED OTHERWISE. COORDINATE WITH CASEWORK INSTALLER.
- A NYLON PULL CORD SHALL BE INSTALLED IN ALL CONDUITS IN WHICH CONDUCTORS ARE NOT INSTALLED. A 10 INCH LENGTH OF THE CORD SHALL EXTEND PAST EACH END OF THE BOX/CONDUIT.
- WHERE NEW CIRCUITS ARE SHOWN TO BE CONNECTED TO EXISTING PANELS, PROVIDE NEW CIRCUIT BREAKERS IN PANELS. NEW BREAKERS BE SHALL BE COMPATIBLE WITH, SAME MAKE AS, AND SHALL MEET OR EXCEED INTERRUPTING RATING OF EXISTING EQUIPMENT. MEASURE PANEL LOADS BEFORE AND AFTER MODIFYING PANEL. CORRECT ANY OVERLOADS. BRING ANY OVERLOADED CONDITIONS THAT CANNOT BE RESOLVED TO THE ATTENTION OF THE ENGINEER.
- WHERE NEW LOADS ARE SHOWN TO BE CONNECTED TO EXISTING CIRCUITS, MEASURE CIRCUIT'S LOAD BEFORE AND AFTER MODIFICATION. CORRECT ANY OVERLOADS. BRING ANY OVERLOADED CIRCUITS THAT CANNOT BE RESOLVED TO THE ATTENTION OF THE ENGINEER.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND SHALL NOTIFY THE ARCHITECT AND/OR ENGINEER IF A CONDITION EXISTS WHICH PREVENTS THE CONTRACTOR FROM ACCOMPLISHING THE INTENT OF THESE PLANS.
- EQUIPMENT FOUND TO BE DEFECTIVE SHALL BE DOCUMENTED BY ELECTRICAL CONTRACTOR. EQUIPMENT DAMAGED IN THE COURSE OF INSTALLATION OR TEST SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING THE APPROVAL OF THE ARCHITECT AND ENGINEER. WHERE APPLICABLE, ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH NEMA STANDARDS.
- MAINTAIN THE CONTINUITY OF ALL CIRCUITS TO REMAIN.
- COORDINATE ALL WORK REQUIRING INTERRUPTION OF ELECTRICAL POWER WITH THE BUILDING OWNER AND OBTAIN WRITTEN PERMISSION FROM THE BUILDING OWNER PRIOR TO SHUTTING DOWN POWER TO ANY PANELBOARD OR SWITCHBOARD. ADDITIONALLY, PROVIDE NOTICE TO ALL OTHER TRADES OF ALL SCHEDULED INTERRUPTIONS.
- WHERE CORE DRILLS OCCUR, THE CONTRACTOR SHALL BE REQUIRED TO LOCATE BY MEANS OF X-RAY OR RADIATION, EXISTING REBAR AND CONDUITS IN THE SLAB AND MARK THE EXACT PROPOSED LOCATION OF CORE DRILLS. THE ELECTRICAL CONTRACTOR MUST RECEIVE WRITTEN PERMISSION FROM THE ARCHITECT AND THE STRUCTURAL ENGINEER PRIOR TO ACCOMPLISHING SAID CORE DRILLS.
- PRIOR TO SUBMITTING BIDS ON THE PROJECT, VISIT THE SITE OF THE WORK TO BECOME AWARE OF THE EXISTING CONDITIONS WHICH MAY AFFECT THE COST OF THE WORK. REVIEW THE SCOPE OF DEMOLITION AND NEW CONSTRUCTION. NO ADDITIONAL COSTS SHALL BE BROUGHT UPON THE OWNER FOR LACK OF THIS REVIEW.
- WHERE WORK UNDER THIS PROJECT REQUIRES EXTENSION, RELOCATION, RECONNECTION OR MODIFICATIONS TO THE EXISTING EQUIPMENT OR WIRING SYSTEMS, THE EXISTING SYSTEMS OR EQUIPMENT SHALL BE RESTORED TO THEIR ORIGINAL AND FULLY OPERABLE CONDITION. EXTEND HOMERUNS OR CIRCUIT EXTENSIONS WHERE REQUIRED. DISCONNECT AND REMOVE ALL EQUIPMENT INDICATED TO BE DEMOLISHED, INCLUDING OUTLETS, DEVICES, RACEWAY, SUPPORTS AND CONDUCTORS BACK TO THE BRANCH CIRCUIT BREAKER.
- CARE SHALL BE EXERCISED IN THE REMOVAL AND STORAGE OF DEVICES AND EQUIPMENT TO BE RELOCATED OR REMOVED AND REUSED. PRIOR TO REINSTALLATION, EQUIPMENT SHALL BE CLEANED, RELAMPED (AS APPLICABLE), AND MARRED OR CHIPPED FINISHES AND ACCESSORIES SHALL BE RESTORED. PROVIDE NEW REPLACEMENT EQUIPMENT FOR ANY ITEM DEEMED UNSALVAGEABLE BY THE OWNER DUE TO MISHANDLING OR ABUSE DURING STORAGE PERIOD, AT NO ADDITIONAL COSTS TO THE OWNER.
- UPON COMPLETION OF PROJECT, MEASURE AND BALANCE EACH PANEL'S BRANCH CIRCUIT LOAD TO WITHIN 10% BETWEEN PHASES. THIS INCLUDES EXISTING PANELS AFFECTED BY THE CONTRACT.
- ALL SPECIAL EQUIPMENT AND MECHANICAL CONNECTIONS SHALL BE VERIFIED WITH ACTUAL EQUIPMENT PURCHASED PRIOR TO ROUGH-IN. ALL UNVERIFIED ROUGH-INS FOR SPECIAL EQUIPMENT AND MECHANICAL CONNECTIONS SHALL BE CORRECTED AT NO ADDITIONAL COST.
- FOR ALL ELECTRICAL HEAT SOURCES BELOW KITCHEN HOODS, A SHUNT TRIP BREAKER SHALL BE INSTALLED TO AUTOMATICALLY DISCONNECT THE COOKING EQUIPMENT WHEN THE FIRE SUPPRESSION SYSTEM IS ACTIVATED CONFORM TO NFPA 96 10.4.
- ALL FIXTURES INSTALLED IN FIRE RATED CEILINGS OR OTHER FIRE MEMBRANES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.

FIRE AND EGRESS

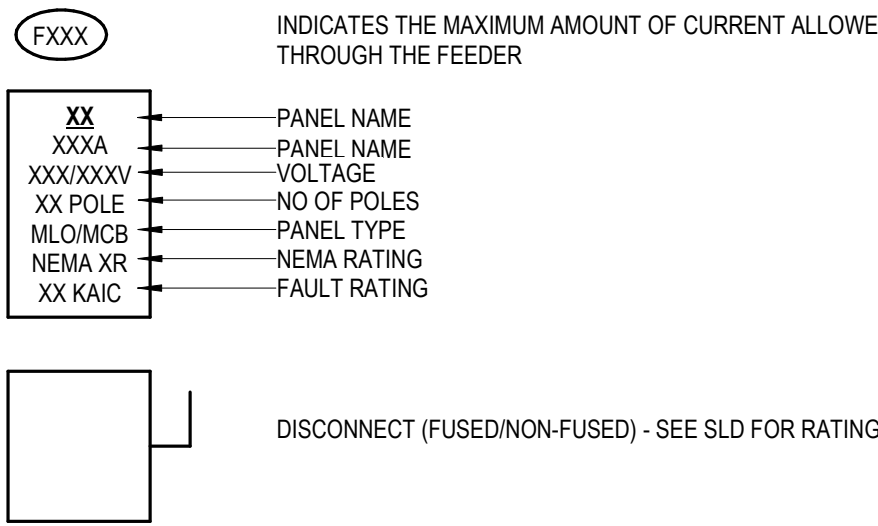
1 HOUR FIRE RATED WALL - ALL PENETRATIONS THROUGH THIS WALL TYPE SHALL COMPLY WITH PENETRATION DETAIL  
PATH OF EGRESS

- RECEPTACLES AND BOXES IN FIREWALLS:
- WHERE WALLS OR PARTITIONS ARE REQUIRED TO HAVE A FIRE RESISTANCE RATING, RECESSED FIXTURES / OUTLETS SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.
  - STEEL BOXES THAT DO NOT EXCEED 16 SQUARE INCHES (4"x4") MAY BE INSTALLED PROVIDED THE TOTAL AREA OF OPENINGS DOES NOT EXCEED 100 SQUARE INCHES FOR ANY 100 SQUARE FEET OF WALL AREA.
  - BOXES ON OPPOSITE SIDES OF WALLS SHALL BE SEPARATED AS FOLLOWS:
    - BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24".
    - BY A HORIZONTAL DISTANCE NOT LESS THAN THE DEPTH OF THE WALL. CAVITY WHERE THE CALL CAVITY IS FILLED WITH CELLULOSE LOOSE-FILL OR MINERAL FIBER INSULATION (NOT STANDARD FIBERGLASS INSULATION).
    - BY SOLID FIRE-BLOCKING COMPLYING WITH IBC SECTION 718.2.1.
    - BY OTHER LISTED MATERIALS AND METHODS.

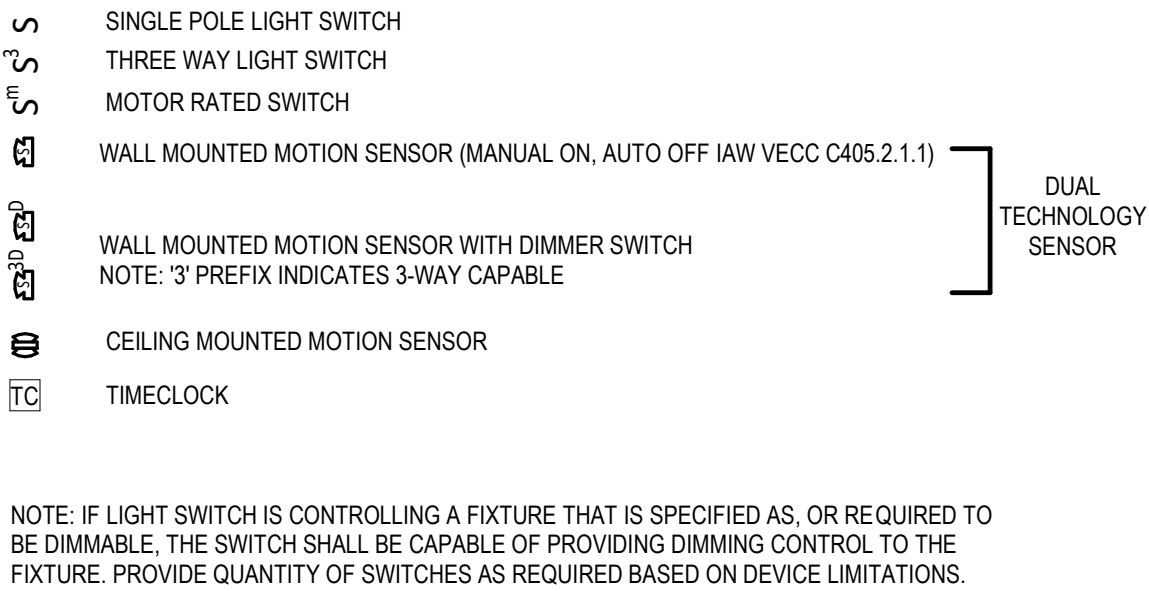
GENERAL NOTES

- EXECUTION:
- COORDINATION
    - BEFORE ANY CABLING, BOXES, CONDUIT, OUTLETS, EQUIPMENT, LIGHTING FIXTURES, ETC. ARE LOCATED IN ANY AREA, COORDINATE THE SPACE REQUIREMENTS OF ALL TRADES. SUCH SHALL BE ARRANGED SO THAT SPACE CONDITIONS WILL ALLOW ALL TRADES TO INSTALL THEIR WORK, AND WILL ALSO PERMIT ACCESS FOR FUTURE MAINTENANCE AND REPAIR.
    - COORDINATION OF SPACE REQUIREMENTS WITH ALL TRADES SHALL BE PERFORMED SO THAT NO PIPING, DUCTWORK, ETC. IS WITHIN DEDICATED EQUIPMENT OR WORKING SPACES. VERIFY CLEARANCES PER ARTICLE 110-26 OF THE NEC.
    - LIGHTING SHALL NOT BE INSTALLED ABOVE PIPING, DUCTS, OR OTHER OBSTRUCTIONS.
  - PROTECTION OF MATERIAL
    - ALL CONDUIT AND OTHER OPENINGS SHALL BE KEPT PROTECTED TO PREVENT ENTRY OF FOREIGN MATTER. FIXTURES, EQUIPMENT AND APPARATUS SHALL BE KEPT COVERED FOR PROTECTION AGAINST DIRT, WATER, CHEMICAL, AND MECHANICAL DAMAGE BEFORE AND DURING CONSTRUCTION.
    - THE ORIGINAL FINISH, INCLUDING SHOP COAT OF PAINT OF FIXTURE, APPARATUS OR EQUIPMENT THAT HAS BEEN DAMAGED, SHALL BE RESTORED.
  - FIRESTOPPING
    - CONFORM TO ASTM E814, UL 1479 AND UL FIRE RESISTANCE DIRECTORY.
    - ALL CORE DRILLS IN SLAB OR CUTTING OF FIRE RATED WALLS SHALL BE RESTORED TO THEIR ORIGINAL FIRE RATING.
    - FIRESTOP ALL PENETRATIONS THROUGH FIRE WALLS PER IBC 714 AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
    - PROVIDE FIRE-PROOFING MATERIAL APPROPRIATE FOR THE APPLICATION AND AS SHOWN IN THE LATEST EDITION OF THE UL FIRE RESISTANCE DIRECTORY.
    - DO NOT REDUCE THE FIRE RATING OF FIRE WALLS WITH RECESSED BOXES OR FIXTURES. WHERE SMALL, RECESSED, STEEL, 1 & 2 GANG DEVICE BOXES ARE LOCATED BACK-TO-BACK ON FIRE RATED WALLS, THEY SHALL BE A MINIMUM OF 24" APART HORIZONTALLY, OR PROVIDE PUTTY PADS OF ADEQUATE FIRE RATING.

SINGLE LINE DIAGRAM SYMBOLS



LIGHTING DEVICES



ELECTRICAL FIXTURES

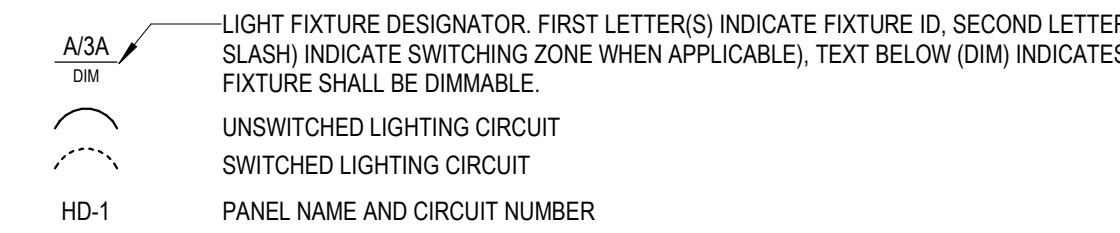
- STANDARD SYMBOLS:
- NOTE: ALL WALL MOUNTED RECEPTACLES MOUNTED 18" AFF UNO. WHEN INDICATED ABOVE A COUNTER, MOUNT AT 6" AFC UNO. ALL DUPLEX AND QUADPLEX RECEPTACLES TO BE NEMA 5-20R UNO.
- DUPLEX RECEPTACLE, WALL MOUNTED
  - QUADPLEX RECEPTACLE, WALL MOUNTED
  - GROUND FAULT PROTECT DEVICE (REFER TO DIVISION 26 27 26 NOTE 2), WALL MOUNTED. WHEN LOCATED OUTDOORS, PROVIDE IN A WEATHERPROOF ENCLOSURE.
  - DUPLEX RECEPTACLE FLOOR BOX
  - QUADPLEX RECEPTACLE FLOOR BOX
  - DATA OUTLET (SEE DETAIL SHEET)
  - DISCONNECT SWITCH
  - SMOKE ALARM. SMOKE ALARMS IN EACH DWELLING UNIT SHALL BE INTERCONNECTED.
  - SURFACE MOUNTED PANELBOARD WITH WORKING CLEARANCE.

- GENERAL MOUNTING TYPE SYMBOLS:
- NOTE: LABELS WITHIN THE SHAPES LISTED BELOW INDICATE A SPECIAL SPECIFICATION. REFER TO THE ELECTRICAL CONNECTION SCHEDULE AND DETAIL SHEET FOR MORE INFORMATION.
- CEILING MOUNTED
  - FLOOR BOX OR POKE THRU
  - WALL-MOUNTED
- REFERENCE SYMBOLS
- MECHANICAL AIR DEVICES (TYP), SHOWN HALF TONE FOR REFERENCE ONLY. REFER TO MECHANICAL FOR ADDITIONAL INFORMATION.

LIGHTING FIXTURES

- RECESSED DOWN LIGHT
- PENDANT LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- 2X4 LED LIGHT FIXTURE
- 2X2 LED LIGHT FIXTURE
- EMERGENCY FIXTURE SHALL BE PROVIDED WITH INTEGRAL, UL LISTED EMERGENCY BATTERY WHERE FIXTURE IS SHOWN WITH A DIAGONAL HATCH OR A BLACK FILL. SEE LIGHTING FIXTURES SCHEDULE NOTES.
- REMOTE FIXTURE POWERED BY ADJACENT EMERGENCY EGRESS FIXTURE
- EXIT LIGHT, DUAL FACE, ARROWS INDICATE DIRECTION OF EMERGENCY EGRESS.
- EXIT LIGHT, SINGLE FACE, ARROWS INDICATE DIRECTION OF EMERGENCY EGRESS.
- WALL MOUNTED EMERGENCY LIGHT FIXTURE WITH BATTERY PACK - FIXTURE SHALL BE LISTED FOR EMERGENCY EGRESS USE.
- CEILING MOUNTED EMERGENCY LIGHT FIXTURE WITH BATTERY PACK - FIXTURE SHALL BE LISTED FOR EMERGENCY EGRESS USE.
- COMBO EXIT SIGN / EMERGENCY LIGHT FIXTURE WITH BATTERY PACK - FIXTURE SHALL BE LISTED FOR EMERGENCY EGRESS USE. ARROWS INDICATE DIRECTION OF EMERGENCY EGRESS.

LIGHTING WIRING



ABBREVIATIONS

1PH OR 3PH	SINGLE PHASE OR THREE PHASE
3W OR 4W	THREE WIRE OR FOUR WIRE
A	AMPS
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFC	ABOVE FINISHED COUNTER
AHU	AIR HANDLER UNIT
AL	ALUMINIUM
AT	AMPERE TRIP
AWG	AMERICAN WIRE GAUGE
BKR	BREAKER
BOD	BELOW FINISHED COUNTER
CKT	CIRCUIT
CONN.	CONNECTED
CT	CURRENT TRANSFORMER
CU	COPPER
DISC	DISCONNECT
EC	ELECTRICAL CONTRACTOR
EGG	EQUIPMENT GROUNDING CONDUCTOR
ELV	ELECTRONIC LOW VOLTAGE
EMT	ELECTRIC METALLIC TUBE
EST.	ESTIMATED
FC	FOOT CANDLE
GC	GENERAL CONTRACTOR
GEF	GROUNDING ELECTRODE CONDUCTOR
GEF	GROUND FAULT
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HACR	HEATING, AIR CONDITION & REFRIGERATION
HOA	HAND-OFF-AUTO
HVAC	HEAT VENTILATION & AIR CONDITIONING
IDU	INDOOR UNIT
IMC	INTERMEDIATE METAL CONDUIT
KAIC	KILO-AMPERES INTERRUPTING CAPACITY
KVA	KILOVOLT AMPS
L-L	LINE TO LINE
LUMEN	LUMEN
L-N	LINE TO NEUTRAL
MBJ	MAIN BONDING JUMPER
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
NLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
NM	NON METALLIC
NO	NUMBER
ODU	OUTDOOR UNIT
P	POLES
PH	PHASE
PIR	PERIODIC INSPECTION REPORT
QTY	QUANTITY
RMC	RIGID METALLIC CONDUIT
RTU	ROOF TOP UNIT
SE	SERVICE ENTRANCE
SLD	SINGLE LINE DIAGRAM
SSBJ	SYSTEM BONDING JUMPER
SSBJ	SUPPLY-SIDE BONDING JUMPER
SWD	SWITCH-DUTY
TC	TIMECLOCK
THHN	THERMOPLASTIC, HIGH HEAT, NYLON
THHW	THERMOPLASTIC, HIGH HEAT, WATER RESISTANT
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT AMPS
W	WATTS
WP	WEATHERPROOF

UTILITY INFORMATION

WORK ORDER #: 10634492  
CONTACT'S NAME: MICHAEL W DAVIS  
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ENGINEER'S INFORMATION

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CODE DATA

2018 VIRGINIA CONSTRUCTION CODE (2018 IBC WITH AMENDMENTS)  
2018 VIRGINIA ENERGY CONSERVATION CODE (2018 IECC WITH AMENDMENTS)  
2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VA USBC)  
2018 VCC CHAPTER 27-ELECTRICAL (2017 NFPA 70 WITH AMENDMENTS)

BUILDING DATA

BUILDING CONSTRUCTION: VB  
USE GROUP: A-2 (RESTAURANT)  
NOT IN FLOOD PLAIN.  
TOTAL AREA OF PROJECT: 5,206 SF  
TOTAL AREA OF BUILDING: 5,206 SF  
OCCUPANCY LOAD: 197

WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

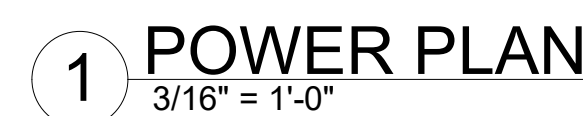
PROJECT NO: 4492 BB No.254-232-611  
21 JUNE 2023 RVT Version 2022

LEGEND, NOTES, & ABBREVIATIONS

E0.01

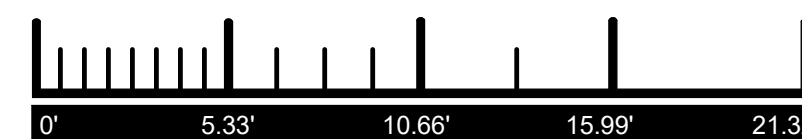
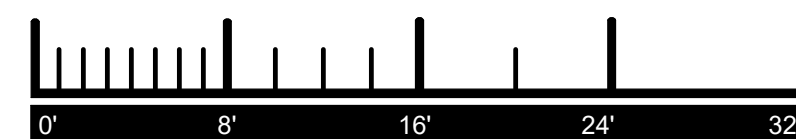
As indicated





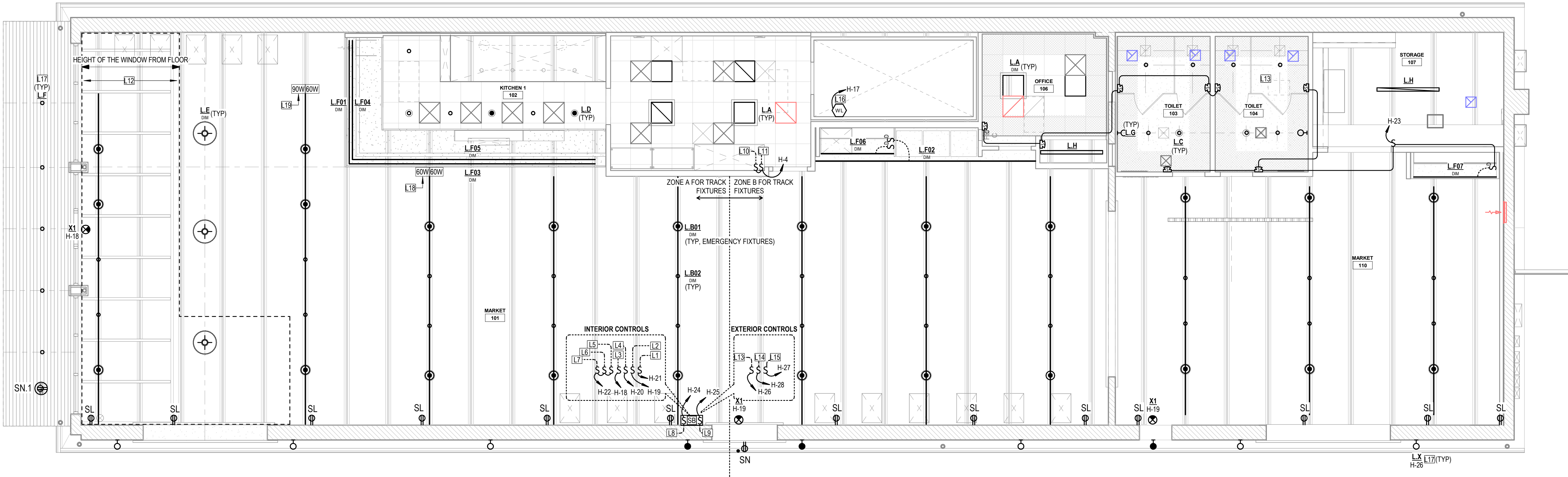
- A. WHERE GFCI PROTECTION IS REQUIRED PER NEC 210.8, THE GFCI TEST/RESET DEVICE SHALL BE READILY ACCESSIBLE. SEE SPECIFICATION 26 27 26 #2.
- B. FOR PERMANENTLY CONNECTED APPLIANCES RATED OVER 300 VA, THE BRANCH-CIRCUIT SWITCH OR CIRCUIT BREAKER SHALL BE PERMITTED TO SERVE AS THE DISCONNECTING MEANS WHERE THE SWITCH OR CIRCUIT BREAKER IS WITHIN SIGHT FROM THE APPLIANCE OR IS LOCKABLE PER NEC 422.31 (B).
- C. EACH AREA OF THE BUILDING THAT IS NOT PROVIDED WITH OCCUPANCY SENSOR CONTROLS SHALL BE PROVIDED WITH TIME SWITCH CONTROLS PER IECC C405.2.2.
- D. EACH SERVICE DISCONNECT SHALL BE PERMANENTLY MARKED AS "SERVICE DISCONNECT TENANT # " AS PER NEC 230.70(B).
- E. FIELD COORDINATE ALL LIGHTING FIXTURE LOCATION AND MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
- F. FIELD COORDINATE ALL ELECTRICAL OUTLET LOCATIONS AND MOUNTING HEIGHT WITH MILL WORK PRIOR TO ROUGH-IN.
- G. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE PROVIDED WITH UL LISTED MEANS LISTED FOR THROUGH PENETRATIONS OF ASSOCIATED FIRE RATINGS.
- H. ALL HEAT PRODUCING ELECTRICAL EQUIPMENT LOCATED UNDER HOOD SHALL BE PROVIDED WITH SHUNT TRIP BREAKER FOR AUTOMATIC SHUTOFF UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR COOKING OPERATION AS PER NFPA 96 10.4.

#	NOTE
P1	CEILING-MOUNTED RECEPTACLE FOR FUTURE CORD REEL. CONFIRM LOCATION WITH OWNER PRIOR TO ROUGH-IN.
P2	ELECTRICAL REQUIREMENTS FOR EQUIPMENT ASSOCIATED WITH THE HOOD SHALL BE COORDINATED WITH HOOD VENDOR PRIOR TO ANY ROUGH-IN. CONFIRM EQUIPMENT LOCATIONS PRIOR TO ROUTING OF ELECTRICAL CIRCUITS.
P3	CONNECTION FOR COOLER CONDENSING UNIT. COORDINATE LOCATION WITH OWNER PRIOR TO ROUGH-IN.
P4	RECEPTACLE FOR GAS WATER HEATER. SEE POWER PLAN FOR CIRCUIT DETAILS.
P5	ELECTRICAL PANELBOARDS SHALL BE PROVIDED WITH ALL REQUIRED WORKING CLEARANCES PER NEC 110.26.
P6	ADJUST SHELF TO INSTALL THE CENTRAL LIGHTING INVERTER.



As indicated





1 LIGHTING PLAN  
3/16" = 1'-0"

ELECTRICAL GENERAL NOTES

- A. WHERE GFCI PROTECTION IS REQUIRED PER NEC 210.8, THE GFCI TEST/RESET DEVICE SHALL BE READILY ACCESSIBLE. SEE SPECIFICATION 26.27.26 #2.
- B. FOR PERMANENTLY CONNECTED APPLIANCES RATED OVER 300 VA, THE BRANCH-CIRCUIT SWITCH OR CIRCUIT BREAKER SHALL BE PERMITTED TO SERVE AS THE DISCONNECTING MEANS WHERE THE SWITCH OR CIRCUIT BREAKER IS WITHIN SIGHT FROM THE APPLIANCE OR IS LOCKABLE PER NEC 422.31 (B).
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- H. ALL HEAT PRODUCING ELECTRICAL EQUIPMENT LOCATED UNDER HOOD SHALL BE PROVIDED WITH SHUNT TRIP BREAKER FOR AUTOMATIC SHUTOFF UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR COOKING OPERATION AS PER NFPA 96 10.4.

ELECTRICAL PLAN NOTES - LIGHTING

#	NOTE
L1	TO LB.02 TRACK HEADS IN ZONE B.
L2	TO LB.01 TRACK HEADS IN ZONE B. ON EMERGENCY POWER.
L3	TO LB.01 TRACK HEADS IN ZONE A. ON EMERGENCY POWER.
L4	TO LB.02 TRACK HEADS IN ZONE A.
L5	TO LF.04 AND LF.05 LED TAPE LIGHT.
L6	TO LF.01 AND LF.03 LED TAPE LIGHT.
L7	TO LE DECORATIVE PENDANT FIXTURE.
L8	SWITCH CONTROL FOR THE STRING LIGHT RECEPTACLES.
L9	SWITCH CONTROL FOR THE STRING LIGHT RECEPTACLES.
L10	SWITCH CONTROL FOR FIXTURE "L.D" IN KITCHEN.
L11	SWITCH CONTROL FOR FIXTURE "L.A" IN KITCHEN.
L12	SIDE/LIT ZONE PER VECC C405.2.3.2. THE FIXTURES WITHIN THE ZONE SHALL BE PROVIDED WITH DAYLIGHT-RESPONSIVE CONTROLS PER VECC C405.2.3 IF THE TOTAL GENERAL LIGHTING WATTAGE IS MORE THAN 150 WATTS. DAYLIGHT RESPONSIVE CONTROL FUNCTIONS SHALL COMPLY WITH VECC C405.2.3.1.
L13	INLINE EXHAUST FAN. SEE HVAC & PLUMBING POWER PLAN FOR DETAILS.
L13	TO EXTERIOR LIGHT FIXTURES.
L14	TO EXTERIOR SIGN CIRCUIT SN.
L15	TO EXTERIOR SIGN CIRCUIT SN.1.
L16	CIRCUIT FOR WALK-IN LIGHTING.
L17	EXTERIOR LIGHT FIXTURES CONTROLLED VIA PHOTOCELL WITH TIMECLOCK OVERRIDE.
L18	(1) 60 WATT CURRENT LIMITING DEVICE ON EACH OF THE TWO TRACK CIRCUITS FOR THE (4) FIXTURE TRACK ASSEMBLY.
L19	(1) 90 WATT CURRENT LIMITING DEVICE ON THE L.B01 EMERGENCY CIRCUIT. (1) 60 WATT CURRENT LIMITING DEVICE ON THE L.B02 NON-EMERGENCY CIRCUIT. TYPICAL FOR A (5) FIXTURE TRACK ASSEMBLY.

LIGHTING INVERTER LOAD CALCULATION

TYPE	QTY	WATTS PER FIXTURE	TOTAL CONNECTED FIXTURES	TOTAL DEMAND
LA	2	39 VA	78 VA	98 VA
LB01	24	30 VA	720 VA	900 VA
LD	2	30 VA	60 VA	75 VA
LH	1	38 VA	38 VA	48 VA
LX	3	25 VA	75 VA	94 VA
			971 VA	1214 VA

EMERGENCY EGRESS LIGHTING - CENTRAL LIGHTING INVERTER:  
PROVIDE 1500KVA, 120V, 10 CIRCUITS LIGHTING INVERTER UL LISTED FOR EMERGENCY LIGHTING APPLICATIONS.

BOD: DUAL LITE - DLS SERIES DLS-1500-120.

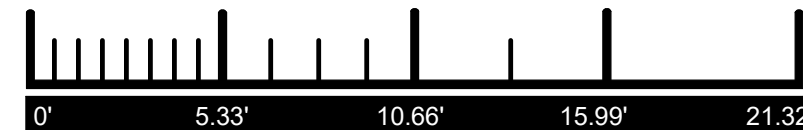
ELECTRICAL LIGHTING FIXTURE SCHEDULE

TYPE	FIXTURE SPECIFICATIONS		LAMP SPECIFICATIONS					ELECTRICAL			
	DESCRIPTION	DIMMING	LAMP TYPE	LAMP COUNT	LAMP LUMENS	TOTAL LUMENS	LAMP WATTS	MINIMUM EFFICACY	TOTAL MAX INPUT WATTS	VOLTS	ELECTRICAL SUMMARY
NEW WORK											
LA	2X2 ACT FIXTURE	DIM	LED / DRIVER	1	4398 lm	4398 lm	39.00 W	113 lm/W	39 VA	120 V	120 V/1-39 VA
LB01	TRACK HEAD DOWNLIGHT - ON EMERGENCY POWER	DIM	LED / DRIVER	1	865 lm	865 lm	30.00 W	29 lm/W	30 VA	120 V	120 V/1-30 VA
LB02	TRACK HEAD ADJUSTABLE	DIM	LED / DRIVER	1	865 lm	865 lm	30.00 W	29 lm/W	30 VA	120 V	120 V/1-30 VA
LC	Z' DOWNLIGHT		LED / DRIVER	1	865 lm	865 lm	30.00 W	29 lm/W	30 VA	120 V	120 V/1-30 VA
LD	Z' DOWNLIGHT		LED / DRIVER	1	865 lm	865 lm	30.00 W	29 lm/W	30 VA	120 V	120 V/1-30 VA
LE	DECORATIVE PENDANT	DIM	LED / DRIVER	1	950 lm	950 lm	60.00 W	16 lm/W	60 VA	120 V	120 V/1-60 VA
LF	Z' DOWNLIGHT EXTERIOR		LED / DRIVER	1	865 lm	865 lm	20.00 W	43 lm/W	20 VA	120 V	120 V/1-20 VA
LF01	LED TAPE LIGHT IN CHANNEL	DIM	LED	1	1200 lm	1200 lm	130.00 W	9 lm/W	130 VA	120 V	120 V/1-130 VA
LF02	LED TAPE LIGHT IN CHANNEL	DIM	LED	1	2000 lm	2000 lm	210.00 W	10 lm/W	210 VA	120 V	120 V/1-210 VA
LF03	LED TAPE LIGHT IN CHANNEL	DIM	LED	1	3000 lm	3000 lm	360.00 W	8 lm/W	360 VA	120 V	120 V/1-360 VA
LF04	LED TAPE LIGHT IN CHANNEL	DIM	LED	1	1200 lm	1200 lm	130.00 W	9 lm/W	130 VA	120 V	120 V/1-130 VA
LF05	LED TAPE LIGHT IN CHANNEL	DIM	LED	1	3000 lm	3000 lm	360.00 W	8 lm/W	360 VA	120 V	120 V/1-360 VA
LF06	LED TAPE LIGHT IN CHANNEL	DIM	LED	1	850 lm	850 lm	80.00 W	11 lm/W	80 VA	120 V	120 V/1-80 VA
LF07	LED TAPE LIGHT IN CHANNEL	DIM	LED	1	850 lm	850 lm	80.00 W	11 lm/W	80 VA	120 V	120 V/1-80 VA
LG	WALL MOUNTED SCONCE FIXTURE		LED / DRIVER	1	1250 lm	1250 lm	25.00 W	50 lm/W	25 VA	120 V	120 V/1-25 VA
LH	DIRECT/INDIRECT LINEAR SUSPENDED LED		LED / DRIVER	1	3000 lm	3000 lm	38.00 W	79 lm/W	38 VA	120 V	120 V/1-38 VA
LX	WALL MOUNTED GOOSENECK FIXTURE		LED / DRIVER	1	1250 lm	1250 lm	25.00 W	50 lm/W	25 VA	120 V	120 V/1-25 VA
X1	LED EXIT SIGN, SINGLE FACE, EDGE LIT		LED W/ BATTERY BACKUP	1			1.49 W		2 VA	120 V	120 V/1-2 VA

ELECTRICAL LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

- A. WHERE FIXTURES ARE SHOWN AS HAVING EITHER A BLACK FILL HATCH OR A DIAGONAL PATTERN THROUGH THE LIGHT, THE FIXTURE SHALL BE PROVIDED WITH EMERGENCY BACKUP POWER THROUGH THE CENTRAL LIGHTING INVERTER. PROVIDE ALL RELAYS AND UNSWITCHED MONITORING LEGS AS REQUIRED. FIXTURES SHALL BE CAPABLE OF BEING CONTROLLED BY NORMAL LIGHTING CONTROLS UNDER NORMAL CONDITIONS AND SHALL AUTOMATICALLY REVERT TO 100% BRIGHTNESS IN THE EVENT OF LOSS OF NORMAL POWER SUPPLY.
- B. WATTAGE FOR TRACK HEAD SET TO 30WATTS IS INTENTIONAL TO KEEP THE TOTAL INTERIOR LIGHTING POWER WITHIN THE INTERIOR LIGHTING POWER ALLOWANCE PER VECC C405.3.2.

GRAPHIC SCALE: 1 INCH = 5.33 FEET



permitZIP

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ENGINEER: Carter Huddleston, PE.  
LICENSE: #0402066700  
EMAIL: chuddleston@permitzip.com



NO.	DESCRIPTION	DATE
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BUILDING DATA

BUILDING CONSTRUCTION: VB  
USE GROUP: A-2 (RESTAURANT)  
NOT IN FLOOD PLAIN.  
TOTAL AREA OF PROJECT: 5,206 SF  
TOTAL AREA OF BUILDING: 5,206 SF  
OCCUPANCY LOAD: 197

WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

PROJECT NO: 4492

BB NO.254-232-611

21 JUNE 2023

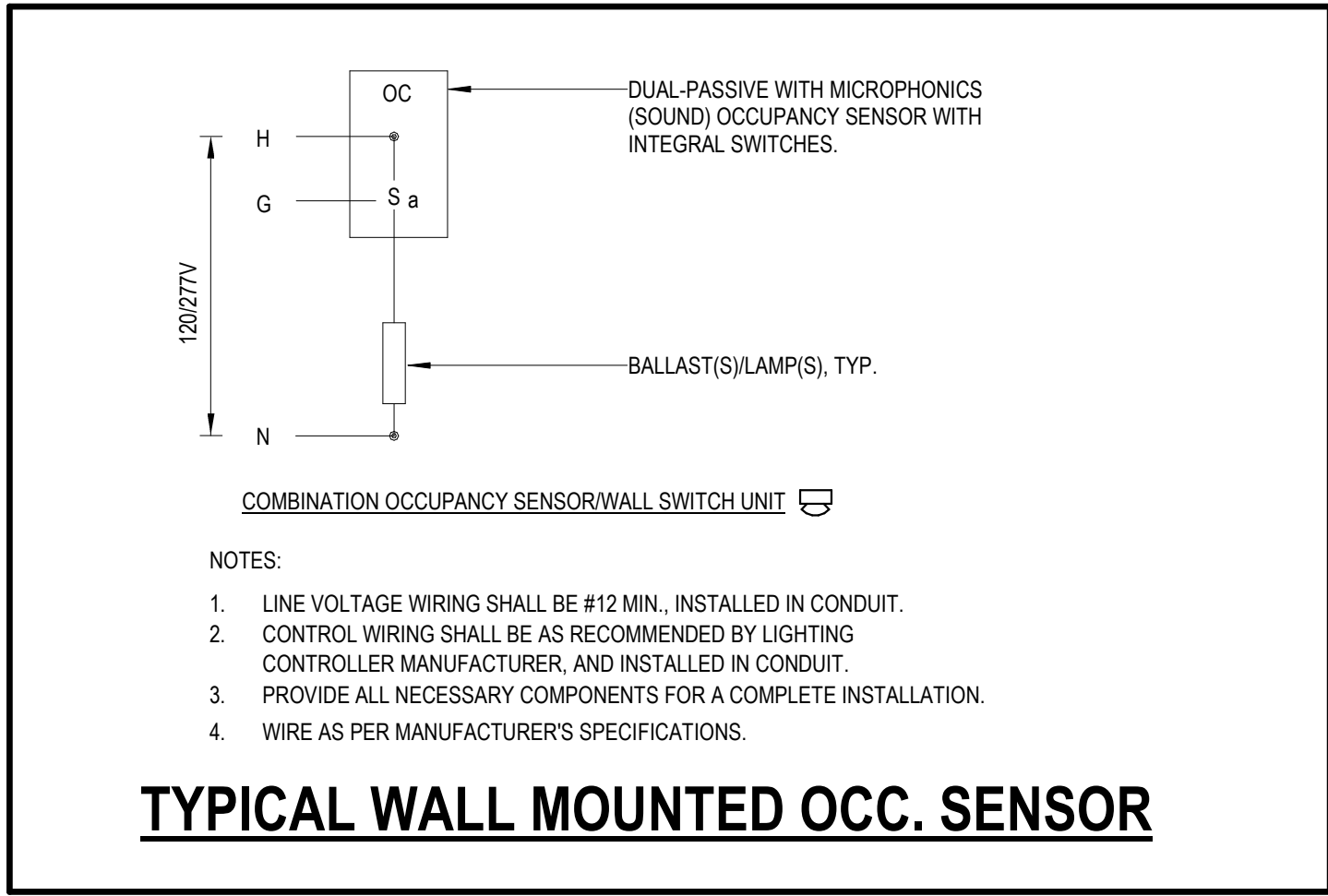
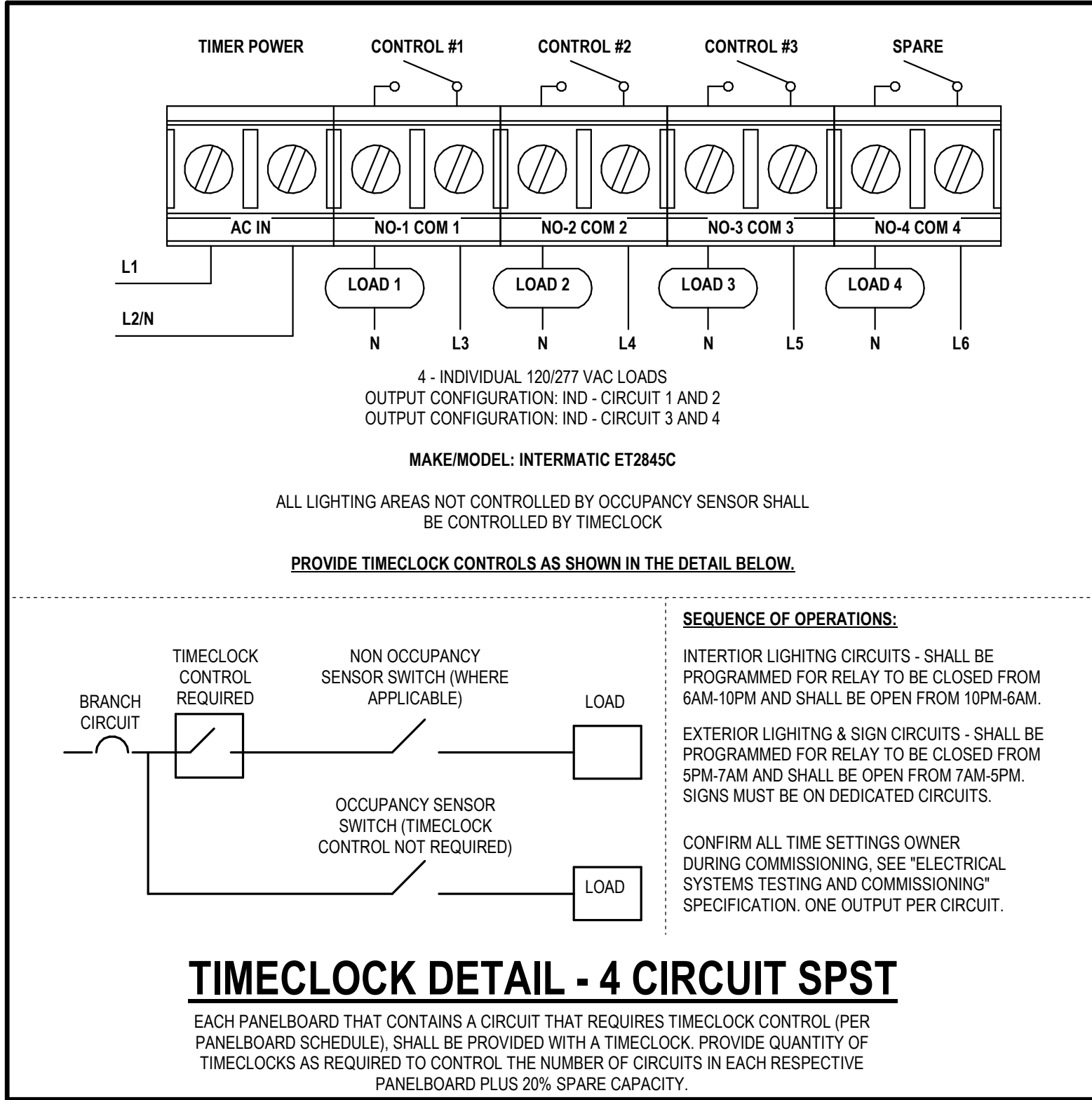
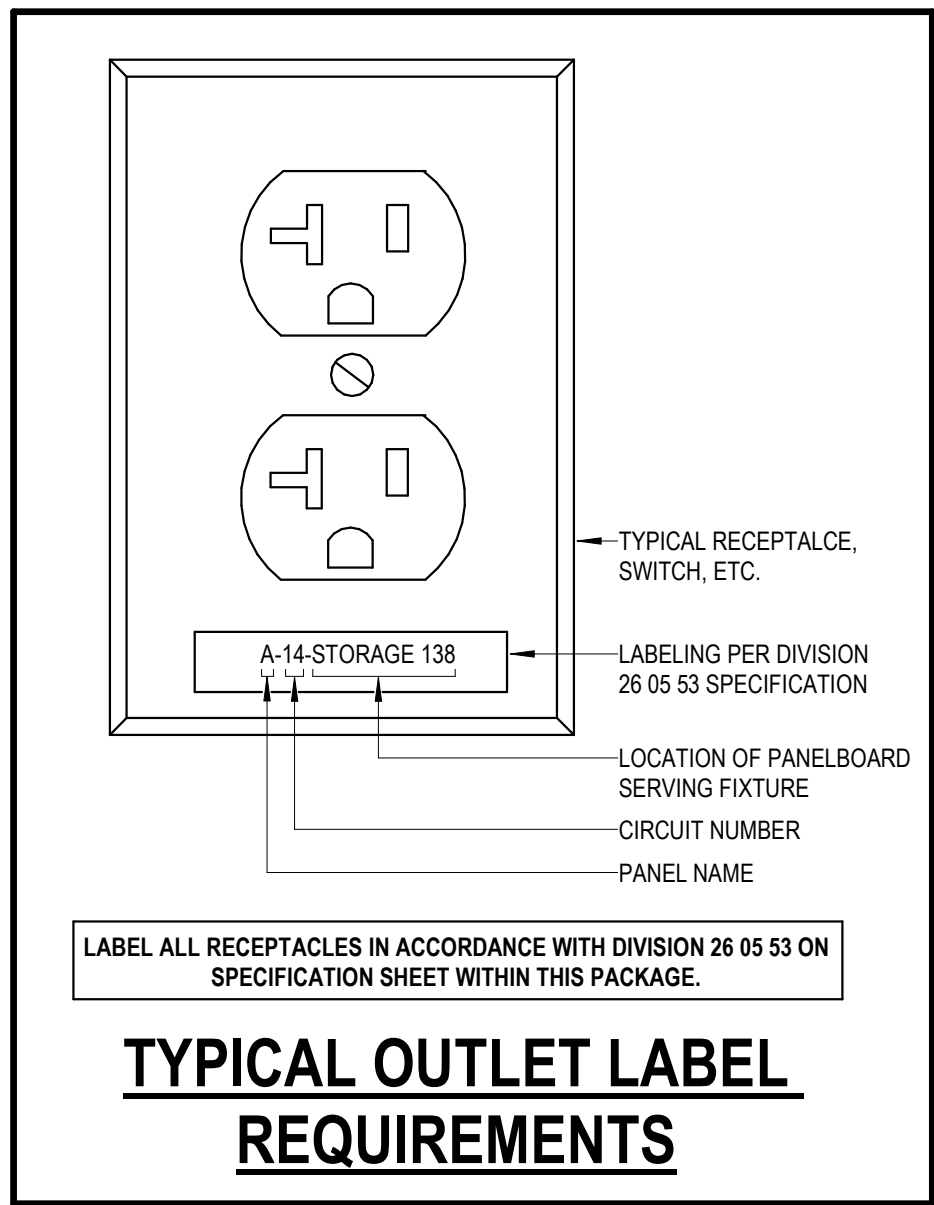
RVT Version 2022

LIGHTING PLAN

E1.02

As Indicated





**COMcheck Software Version 4.1.5.5**

**Interior Lighting Compliance Certificate**

**Project Information**

Energy Code: 2018 IECC  
Project Title: WARSAW COMMUNITY MARKET  
Project Type: New Construction

Construction Site: 74 MAIN ST., WARSAW, VA 22572  
Owner/Agent: Designer/Contractor:

**Additional Efficiency Package(s)**

Credits: 1.0 Required 1.0 Proposed  
Reduced Lighting Power, 1.0 credit

**Allowed Interior Lighting Power**

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-COMMUNITY MARKET (Dining: Bar Lounge/Leisure)	5206	0.81	4217
Total Allowed Watts = 4217			

**Proposed Interior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-COMMUNITY MARKET (Dining: Bar Lounge/Leisure): LED 1: TRACK WITH (4) HEADS: TRACK W (4) HEADS: Other: LED 2: TRACK WITH (5) HEADS: TRACK W (5) HEADS: Other: LED 3: L.A: 2X2 ACT FIXTURE: Other: LED 4: L.C: 2" DOWNLIGHT: Other: LED 5: L.D: 2" DOWNLIGHT: Other: LED 6: L.E: DECORATIVE PENDANT: Other: LED 7: L.F01: LED TAPE LIGHT IN CHANNEL: Other: LED 8: L.F02: LED TAPE LIGHT IN CHANNEL: Other: LED 9: L.F03: LED TAPE LIGHT IN CHANNEL: Other: LED 10: L.F04: LED TAPE LIGHT IN CHANNEL: Other: LED 11: L.F05: LED TAPE LIGHT IN CHANNEL: Other: LED 12: L.F06: LED TAPE LIGHT IN CHANNEL: Other: LED 13: L.F07: LED TAPE LIGHT IN CHANNEL: Other: LED 14: L.G: WALL MOUNTED SCENCE FIXTURE: Other: LED 15: L.H: LINEAR SUSPENDED LED: Other:	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9 2 6 8 6 3 1 1 1 1 1 1 1 2 2	120 150 39 30 30 360 130 210 360 130 360 80 80 25 38	1080 300 234 240 180 360 130 210 360 130 360 80 80 50 76
Total Proposed Watts = 3690				

**Interior Lighting PASSES: Design 12% better than code**

**Interior Lighting Compliance Statement**

Compliance Statement: The proposed interior lighting design 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 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: WARSAW COMMUNITY MARKET  
Data filename: E:\Dropbox (PermitZIP)\PermitZIP Team Folder\2.1 Projects\4492 - 74 W Main Street Warsaw\0- Page 1 of 9 ELEC\COMcheck\COMcheck.cck

**COMcheck Software Version 4.1.5.5**

**Exterior Lighting Compliance Certificate**

**Project Information**

Energy Code: 2018 IECC  
Project Title: WARSAW COMMUNITY MARKET  
Project Type: New Construction  
Exterior Lighting Zone: 3 (Other (LZ3))

Construction Site: 74 MAIN ST., WARSAW, VA 22572  
Owner/Agent: Designer/Contractor:

**Allowed Exterior Lighting Power**

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
EXTERIOR WALK-WAY (Walkway < 10 feet wide)	180 ft of	0.6	Yes	108
Total Tradable Watts (a) = 108				
Total Allowed Watts = 108				
Total Allowed Supplemental Watts (b) = 500				

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
(b) A supplemental allowance equal to 500 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 Fixtures	D Fixture Watt.	E (C X D)
EXTERIOR WALK-WAY (Walkway < 10 feet wide 180 ft of walkway length): Tradable Wattage LED 1: L.F: 2" DOWNLIGHT EXTERIOR: Other: LED 2: L.X: WALL MOUNTED GOOSENECK FIXTURE: Other:	1 1	5 9	20 25	100 225
Total Tradable Proposed Watts = 325				

**Exterior Lighting PASSES: Design 47% better than code**

**Exterior Lighting Compliance Statement**

Compliance Statement: The proposed exterior lighting design 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 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: WARSAW COMMUNITY MARKET  
Data filename: E:\Dropbox (PermitZIP)\PermitZIP Team Folder\2.1 Projects\4492 - 74 W Main Street Warsaw\0- Page 3 of 9 ELEC\COMcheck\COMcheck.cck

**PANEL NAME: M3**

LOCATION: STORAGE 107  
SUPPLY FROM: SD-M3  
MOUNTING: SURFACE  
TOTAL # OF POLES: 42  
ENCLOSURE TYPE: NEMA 1

VOLTS: 120/208 Wye  
PHASES: 3  
WIRES: 4

A.I.C. RATING: SEE SLD  
MAINS TYPE: MLO  
BUS RATING: 225 A

#	DESCRIPTION	SIZE	TYPE	BKR	P	A (kVA)	B (kVA)	C (kVA)	P	BKR	TYPE	SIZE	DESCRIPTION	#
1,3	IDU/TOILET 103 [1]	2-#4, 1-#4, 1-#8	CU	80	2	6.3	7.6			3	80	CU	3-#4, 1-#4, 1-#8	2,4,6
5	SPARE	--	--	20	1			0.0	7.6	1	20	--	SPARE	8
7	SPARE	--	--	20	1	0.0	0.0			1	20	--	SPARE	10
9	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	12
11	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	14
13	SPARE	--	--	20	1	0.0	0.0			1	20	--	SPARE	16
15	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	18
17	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	20
19	SPARE	--	--	20	1	0.0	0.0			1	20	--	SPARE	22
21	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	24
23	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	26
25	SPARE	--	--	20	1	0.0	0.0			1	20	--	SPARE	28
27	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	30
29	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	32
31	SPARE	--	--	20	1	0.0	0.0			1	20	--	SPARE	34
33	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	36
35	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	38
37	SPARE	--	--	20	1	0.0	0.0			1	20	--	SPARE	40
39	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	42
41	SPARE	--	--	20	1			0.0	0.0	1	20	--	SPARE	
Total Load:						14 kVA	14 kVA	8 kVA						
Total...						124 A	124 A	63 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	35350 VA	100.00%	35350 VA	Total Conn. Load: 35 kVA
				Total Est. Demand: 35 kVA
				Total Conn. Current: 98 A
				Total Est. Demand Current: 98 A

**Notes:**

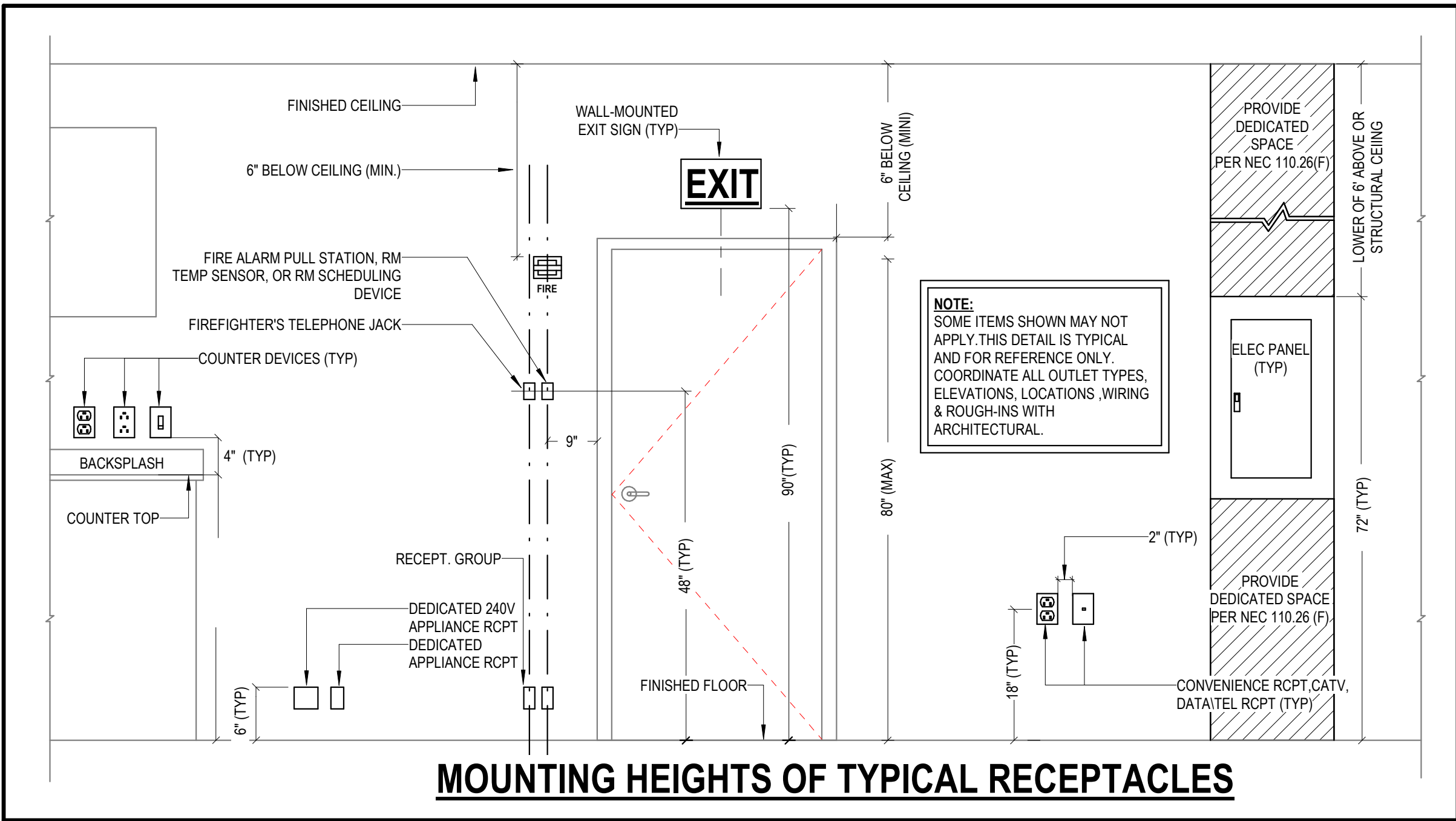
[1] COORDINATE BREAKER SIZE WITH APPROVED MECHANICAL SUBMITTAL PRIOR TO ANY ROUGH-IN.

**ELECTRICAL CONNECTION TYPE SCHEDULE**

SYMBOL DESIGNATOR	DESCRIPTION	CONNECTION TYPE	LOAD	VOLTAGE	NUMBER OF POLES	ELECTRICAL SUMMARY	LOAD CLASSIFICATION	COMMENTS
NEW WORK								
	DUPLEX CONVENIENCE RECEPTACLE	NEMA5-20R	180 W	120 V	1	120 V/1-180 VA	Receptacle	
	DUPLEX CONVENIENCE RECEPTACLE	NEMA 5-20R	180 W	120 V	1	120 V/1-180 VA	Receptacle	
	DUPLEX GF1 CONVENIENCE RECEPTACLE	GF1 NEMA 5-20R	180 W	120 V	1	120 V/1-180 VA	Receptacle	
	DUPLEX GF1 CONVENIENCE RECEPTACLE	NEMA 5-20R	180 W	120 V	1	120 V/1-180 VA	Receptacle	
	QUADPLEX CONVENIENCE RECEPTACLE	NEMA 5-20R	360 W	120 V	1	120 V/1-360 VA	Receptacle	
CT	FUTURE CLOCK TOWER	HARDWIRED	500 W	120 V	1	120 V/1-500 VA	Lighting	
DOAS-1	DEDICATED OUTDOOR UNIT	100A/250V/NON-FUSED/NEMA 3R	22800 W	208 V	3	208 V/3-22800 VA	HVAC	
EF-1	EXHAUST FAN-1	HARDWIRED	168 W	120 V	1	120 V/1-168 VA	HVAC	
IDU-AA4	INDOOR UNIT	100A/250V/NON-FUSED/NEMA1	12550 W	208 V	2	208 V/2-12550 VA	HVAC	
K.02	ICE MAKER	HARDWIRED	900 W	208 V	2	208 V/2-900 VA	220.56 - Kitchen Equipment	
K.04	DISHWASHER	60A/250V/NON-FUSED/NEMA 3R	18665 W	208 V	3	208 V/3-18665 VA	220.56 - Kitchen Equipment	
K.10	REFRIGERATOR SANDWICH/SALAD PREP	NEMA 5-20R	1000 W	120 V	1	120 V/1-1000 VA	220.56 - Kitchen Equipment	
K.23	GARBAGE DISPOSAL	NEMA 5-20R	1920 W	120 V	1	120 V/1-1920 VA	220.56 - Kitchen Equipment	
K.26	CAN COOLER	NEMA 5-20R	1000 W	120 V	1	120 V/1-1000 VA	220.56 - Kitchen Equipment	
K.27.B	SODA MACHINE-WATER BOOSTER	NEMA 5-15R	1000 W	120 V	1	120 V/1-1000 VA	Other	
K.27.D	SODA MACHINE-DISPENSER	NEMA 5-20R	1000 W	120 V	1	120 V/1-1000 VA	Other	
KEF-1	KITCHEN EXHAUST FAN	30A/250V/NON-FUSED/NEMA 3R	1040 W	208 V	2	208 V/2-1040 VA	Other	
KEF-2	KITCHEN EXHAUST FAN	30A/250V/NON-FUSED/NEMA 3R	1040 W	208 V	2	208 V/2-1040 VA	Other	
ODU-B4	OUTDOOR UNIT	60A/250V/NON-FUSED/NEMA 3R	5460 W	208 V	2	208 V/2-5460 VA	HVAC	
POS	POINT OF SALE	NEMA 5-20R	450 W	120 V	1	120 V/1-450 VA	Other	
SL	STRING LIGHT RECPTS	NEMA 5-20R	150 W	120 V	1	120 V/1-150 VA	Lighting	
SN	SIGN CIRCUIT	NEMA5-20R	1200 W	120 V	1	120 V/1-1200 VA	Lighting	
SN.1	SIGN CIRCUIT	NEMA5-20R	1200 W	120 V	1	120 V/1-1200 VA	Lighting	
UH-1	ELECTRIC UNIT HEATER	HARDWIRED	3000 W	208 V	2	208 V/2-3000 VA	HVAC	
WC	WALK-IN CONDENSER	30A/250V/NON-FUSED/NEMA1	2000 W	208 V	2	208 V/2-2000 VA	Other	
WE	WALK-IN EVAPORATOR	HARDWIRED	1000 W	120 V	1	120 V/1-1000 VA	Other	
WL	WALK-IN LIGHTING	HARDWIRED	100 W	120 V	1	120 V/1-100 VA	Lighting	

**ELECTRICAL CONNECTION TYPE SCHEDULE GENERAL NOTE:**

A. ASSUMPTIONS ABOUT EQUIPMENT ROUGH-IN REQUIREMENTS HAVE BEEN MADE AS LIMITED EQUIPMENT CUTSHEET INFORMATION WAS PROVIDED DURING THE DESIGN PHASE. COORDINATE ANY EXACT REQUIREMENTS WITH OWNERS.



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ENGINEER: Carter Huddleston, PE.  
LICENSE: #0402066700  
EMAIL: chuddleston@permitzip.com



NO.	DESCRIPTION	DATE
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**BUILDING DATA**

BUILDING CONSTRUCTION: VB  
USE GROUP: A-2 (RESTAURANT)  
NOT IN FLOOD PLAIN.  
TOTAL AREA OF PROJECT: 5,206 SF  
TOTAL AREA OF BUILDING: 5,206 SF  
OCCUPANCY LOAD: 197

**WARSAW COMMUNITY MARKET**

74 MAIN ST., WARSAW, VA 22572

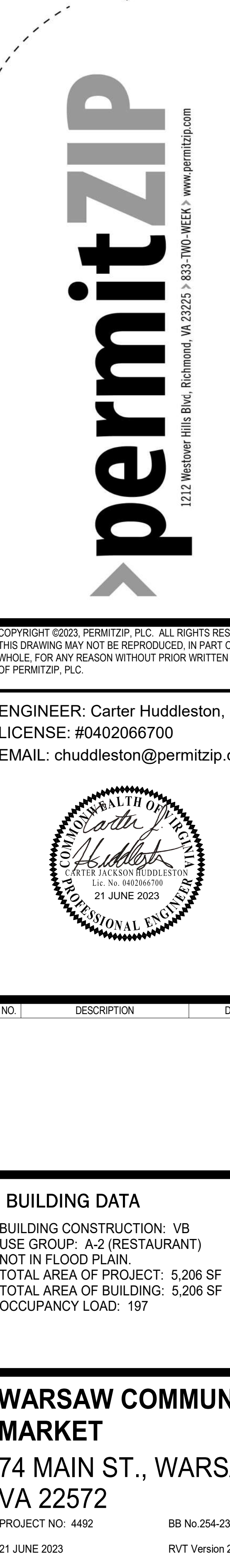
PROJECT NO: 4492 BB No.254-232-611  
21 JUNE 2023 RVT Version 2022

DETAILS & DIAGRAMS

**E5.11**

As indicated





PANEL NAME: M1

LOCATION: STORAGE 107

SUPPLY FROM: SD-M1

MOUNTING: SURFACE

TOTAL # OF POLES: 42

ENCLOSURE TYPE: NEMA 1

VOLTS: 120/208 Wye

PHASES: 3

WIRES: 4

A.I.C. RATING: SEE SLD

MAINS TYPE: MLO

BUS RATING: 225 A

#	DESCRIPTION	SIZE	TYPE	BKR	P	A (kVA)		B (kVA)		C (kVA)		P	BKR	TYPE	SIZE	DESCRIPTION	#
1,3	ODU [1]	2-#6, 1-#6, 1-#10	CU	50	2	2.7	2.7	2.7	2.7			2	50	CU	2-#6, 1-#6, 1-#10	ODU [1]	2.4
5	SPARE	--	--	20	1					0.0	6.3	2	80	CU	2-#4, 1-#4, 1-#8	IDU/OFFICE 106 [1]	6.8
7,9	ODU [1]	2-#6, 1-#6, 1-#10	CU	50	2	2.7	6.3	2.7	2.7			2	50	CU	2-#6, 1-#6, 1-#10	ODU [1]	10,12
11	SPARE	--	--	20	1					0.0	2.7						
13	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	14
15,17	ODU [1]	2-#6, 1-#6, 1-#10	CU	50	2			2.7	1.5	2.7	1.5	2	25	CU	2-#10, 1-#10, 1-#10	UNIT HEATER / STORAGE 107 [1]2	16,18
19	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	20
21	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	22
23	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	24
25	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	26
27	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	28
29	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	30
31	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	32
33	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	34
35	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	36
37	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	38
39	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	40
41	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	42
Total Load:						14 kVA		15 kVA		13 kVA							
Total...						122 A		128 A		110 A							
Load Classification			Connected Load			Demand Factor			Estimated Demand			Panel Totals					
HVAC			42850 VA			100.00%			42850 VA								
												Total Conn. Load: 43 kVA					
												Total Est. Demand: 43 kVA					
												Total Conn. Current: 119 A					
												Total Est. Demand Current: 119 A					

Notes:

[1] COORDINATE BREAKER SIZE WITH APPROVED MECHANICAL SUBMITTAL PRIOR TO ANY ROUGH-IN.

[2] PROVIDE CIRCUIT WITH BREAKER LOCK.

PANEL NAME: M2

LOCATION: STORAGE 107

SUPPLY FROM: SD-M2

MOUNTING: SURFACE

TOTAL # OF POLES: 42

ENCLOSURE TYPE: NEMA 1

VOLTS: 120/208 Wye

PHASES: 3

WIRES: 4

A.I.C. RATING: SEE SLID

MAINS TYPE: MLO

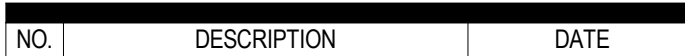
BUS RATING: 225 A

#	DESCRIPTION	SIZE	TYPE	BKR	P	A (kVA)		B (kVA)		C (kVA)		P	BKR	TYPE	SIZE	DESCRIPTION	#
1,3	IDU/KITCHEN 1 [1]	2-#4, 1-#4, 1-#8	CU	80	2	6.3	0.0					1	20	--	--	SPARE	2
5,7	IDU/WALK-IN [1]	2-#4, 1-#4, 1-#8	CU	80	2			6.3	6.3			2	80	CU	2-#4, 1-#4, 1-#8	IDU/KITCHEN 1 [1]	4,6
9	SPARE	--	--	20	1	6.3	0.0					1	20	--	--	SPARE	8
11	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	10
13	SPARE	--	--	20	1		0.0	0.0		0.0	0.0	1	20	--	--	SPARE	12
15	SPARE	--	--	20	1							1	20	--	--	SPARE	14
17	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	16
19	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	18
21	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	20
23	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	22
25	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	24
27	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	26
29	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	28
31	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	30
33	SPARE	--	--	20	1	0.0	0.0					1	20	--	--	SPARE	32
35	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	34
37	SPARE	--	--	20	1		0.0	0.0		0.0	0.0	1	20	--	--	SPARE	36
39	SPARE	--	--	20	1					0.0	0.0	1	20	--	--	SPARE	38
41	SPARE	--	--	20	1			0.0	0.0			1	20	--	--	SPARE	40
										0.0	0.0	1	20	--	--	SPARE	42
Total Load:						13 kVA		13 kVA		13 kVA							
Total...						105 A		105 A		105 A							
Load Classification					Connected Load		Demand Factor		Estimated Demand		Panel Totals						
HVAC					37650 VA		100.00%		37650 VA								
											Total Conn. Load: 38 kVA						
											Total Est. Demand: 38 kVA						
											Total Conn. Current: 105 A						
											Total Est. Demand Current: 105 A						

Notes:

[1] COORDINATE BREAKER SIZE WITH APPROVED MECHANICAL SUBMITTAL PRIOR TO ANY ROUGH-IN.

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## PANEL BOARD SCHEDULE

## E5.12



- 26 00 00 - ELECTRICAL GENERAL PROVISIONS**
- THE WORK TO BE PERFORMED UNDER THIS DIVISION CONSISTS OF FURNISHING, INSTALLING, AND PLACING INTO OPERATION ALL ELECTRICAL WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREINAFTER. PROVIDE ALL LABOR AND MATERIALS FOR A COMPLETE INSTALLATION.
  - INSTALLATION OF ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE FOLLOWING REGULATIONS, CODES, ETC.:
    - VA USBC - VIRGINIA UNIFORM STATEWIDE BUILDING CODE - 2018, INCLUDING;
      - 2018 IBC - INTERNATIONAL BUILDING CODE, WITH VIRGINIA AMENDMENTS
      - 2017 NFPA 70 - NATIONAL ELECTRICAL CODE
    - ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
    - ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS
    - IEEE - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
    - IESNA - ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA
    - NECA - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
    - NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
    - NETA - INTERNATIONAL ELECTRICAL TESTING ASSOCIATION
    - NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
    - OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
    - UL - UNDERWRITERS LABORATORIES, INC.
    - 2018 IECC - INTERNATIONAL ENERGY CONSERVATION CODE, WITH VIRGINIA AMENDMENTS.
    - LOCAL ELECTRICAL UTILITY COMPANY STANDARDS
    - NSI 417, 1/ASME 17.1 SAFETY CODE FOR ELEVATORS AND ESCALATORS
    - ALL LOCAL JURISDICTION CODES AND ORDINANCESSEE CODE SECTION ON SHEET E01.01 FOR ADDITIONAL SPECIFIC CODE REQUIREMENTS.
  - THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND LICENSES, AND PAY ALL FEES AS REQUIRED FOR EXECUTION OF THE CONTRACT. ARRANGE FOR NECESSARY INSPECTIONS AND PRESENT CERTIFICATES OF APPROVAL TO THE OWNER.
  - DRAWINGS:
    - THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL EQUIPMENT. EXAMINE THE ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL AND PLUMBING DRAWINGS AND SPECIFICATIONS AND BECOME FAMILIAR WITH AND COORDINATE WITH ALL CONDITIONS AFFECTING ELECTRICAL WORK.
    - COORDINATE ALL WORK WITH THE WORK OF OTHER TRADES.
  - STANDARDS FOR MATERIALS AND WORKMANSHIP:
    - ALL MATERIAL SHALL BE NEW (UNLESS SPECIFICALLY INDICATED TO BE REUSED).
    - THE MATERIALS OF THE SAME TYPE SHALL BE THE PRODUCT OF ONE MANUFACTURER.
    - THE PUBLISHED STANDARDS AND REQUIREMENTS OF THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATIONS, THE AMERICAN NATIONAL STANDARDS INSTITUTE, THE INSTITUTES OF ELECTRICAL AND ELECTRONIC ENGINEERS AND THE AMERICAN SOCIETY OF TESTING MATERIALS SHALL APPLY WHERE APPLICABLE.
    - DESIGN SPECIFIC CATALOG NUMBERS AND TRADE NAMES ARE INTENDED TO DESCRIBE THE MATERIAL, DEVICES OR APPARATUS DESIRED, SIMILAR MATERIALS OF OTHER MANUFACTURERS, IF OF EQUAL QUALITY, CAPACITY, AND CHARACTER, MAY BE USED UPON OWNERS APPROVAL. SUBSTITUTIONS FROM MANUFACTURES WITH INADEQUATE LOCAL SUPPORT OR MARKET SHARE MAY BE REJECTED.
  - UNDERWRITER'S LABEL AND LISTING:
    - ALL TYPES OF MATERIALS WHICH ARE COMMONLY UL LISTED SHALL BE UL LISTED, AND SHALL BEAR THE INSPECTION LABEL OF UNDERWRITER'S LABORATORIES, INC. (UL), WHERE CUSTOM BUILT EQUIPMENT IS SPECIFIED AND THE UL LABEL OR LISTING IS NOT APPLICABLE TO THE COMPLETED PRODUCT, ALL COMPONENTS USED IN THE CONSTRUCTION OF SUCH EQUIPMENT SHALL BE LABELED OR LISTED BY UL AS APPLICABLE.
  - SHOP DRAWINGS AND ENGINEERING DATA:
    - COMPLETE SHOP DRAWINGS AND ENGINEERING DATA ON ALL EQUIPMENT AND MATERIALS TO BE USED IN THE WORK OF THIS DIVISION SHALL BE SUBMITTED FOR THE ENGINEER'S APPROVAL IN ACCORDANCE WITH THE CONTRACT DRAWINGS.
    - SUBMISSIONS SHALL BE STAMPED AS APPROVED BY THE CONTRACTOR AND HAVE ALL FEATURES, OPTIONS, ACCESSORIES, AND CATALOG NUMBERS CLEARLY INDICATED.
  - TESTS:
    - AT THE COMPLETION OF THE ELECTRICAL INSTALLATION AND AT SUCH TIME AS THE ARCHITECT OR OWNER MAY DIRECT, THE CONTRACTOR FOR THE DIVISION SHALL CONDUCT AN OPERATING TEST FOR APPROVAL. ALL EQUIPMENT SHALL BE DEMONSTRATED TO OPERATE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AS INTENDED, PROVING SYSTEM INTEGRITY.
  - FINAL INSPECTION:
    - WHEN THE WORK ON THE PROJECT HAS BEEN COMPLETED AND IS READY FOR FINAL INSPECTION, SUCH AN INSPECTION WILL BE MADE. AT THIS TIME THE CONTRACTOR SHALL DEMONSTRATE THAT THE REQUIREMENTS OF THIS DIVISION HAVE BEEN MET.
- WARRANTY**
- THE COMPONENTS OF THE ELECTRICAL SYSTEMS SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE THEREOF EITHER FOR BENEFICIAL USE OR FINAL ACCEPTANCE, WHICHEVER IS EARLIER, AGAINST DEFECTIVE MATERIALS, DESIGN, AND WORKMANSHIP.
  - K-TO-BACK OUTLET BOXES.

- 26 05 33 - RACEWAYS AND JUNCTION BOXES**
- RACEWAYS
    - CONDUIT SHALL BE GALVANIZED RMC, IMC, OR EMT UNLESS OTHERWISE SPECIFIED IN FEEDER SCHEDULE OR ON DRAWINGS. RIGID OR INTERMEDIATE METALLIC CONDUIT SHALL BE USED WHERE SUBJECT TO DAMAGE OR EXPOSED OUTDOOR. EMT MAY BE USED ABOVE CONCEALED CEILINGS OR WITHIN WALLS, AND EXPOSED IN DRY, INTERIOR LOCATIONS. TYPE MC CABLE WITH GROUND MAY BE USED IN LIEU OF EMT BETWEEN WIRING DEVICES WHERE CONCEALED AND PERMITTED BY CODE. TYPE AC CABLE MAY BE USED FOR COMPUTER ROOM WIRING BELOW RAISED FLOOR.
    - RACEWAYS SHALL BE INSTALLED AS A COMPLETE SYSTEM AND SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, UNLESS NOTED OTHERWISE. RACEWAYS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO ALL BOXES AND FITTINGS. RACEWAYS AND BOXES SHALL BE SUPPORTED FROM STRUCTURAL STEEL AND NOT SUPPORTED FROM THE CEILING GRID OR FLOOR DECKING PER NEC.
    - ALL CONDUIT SHALL BE INSTALLED CONCEALED EXCEPT IN UNFINISHED SPACES OR WHERE SHOWN OTHERWISE. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH.
    - A NYLON PULL CORD SHALL BE INSTALLED IN ALL CONDUITS IN WHICH CONDUCTORS ARE NOT INSTALLED. A 10 INCH LENGTH OF THE FISH CORD SHALL BE USED FOR CONNECTIONS TO ALL MOTORS, DRY-TYPE TRANSFORMERS AND ANY EQUIPMENT WHERE REQUIRED BECAUSE OF VIBRATION OR RELATIVE MOTION.
    - SPACE RACEWAY MAY ONLY BE USED WHERE SPECIFICALLY SHOWN ON DRAWINGS OR APPROVED BY ARCHITECT/ENGINEER, WHERE PERMITTED, RACEWAY SHALL BE METAL AND ATTACHED TO THE WALL USING METAL FASTENERS. VERTICAL RUNS SHALL BE IN CORNERS OR AGAINST VERTICAL MOLDINGS, SUCH AS DOOR TRIM. PROVIDE MULTI-CHANNEL RACEWAY WHERE COMMUNICATIONS AND POWER ARE REQUIRED. PROVIDE ALL TRIM, FACEPLATES, AND ACCESSORIES FOR A FINISHED LOOK AND COMPLETE INSTALLATION. SYSTEM SHALL BE COMPATIBLE WITH OWNER'S COMMUNICATIONS DEVICES.
  - JUNCTION BOXES
    - PULL BOXES SHALL BE INSTALLED AT ALL NECESSARY POINTS, WHETHER INDICATED ON THE DRAWINGS OR NOT. PROVIDE WHERE REQUIRED FOR A PROPER INSTALLATION AND TO PREVENT INJURY TO THE CONDUCTORS THAT MIGHT RESULT FROM PULLING. MINIMUM DIMENSIONS SHALL NOT BE LESS THAN NEC REQUIREMENTS.
    - ALL INDOOR AND DRY LOCATIONS BOXES SHALL BE NEMA 1, GALVANIZED STEEL, RIGIDLY SECURED IN POSITION TO THE STRUCTURE. OUTDOOR BOXES SHALL BE NEMA 3R. PROVIDE WEATHERPROOF BOX WITH SINGLE GASKET FOR USE IN WET OR DAMP LOCATIONS.
    - PROVIDE BOXES, COMPLETE WITH COVER OR DEVICE PLATE FOR SWITCHES, RECEPTACLES, OR OTHER DEVICES, OR WHERE REQUIRED FOR JOINING BRANCH CIRCUIT WIRING.
    - CONDUIT BODIES MAY BE USED ON EXPOSED CONDUIT, WHERE ALLOWED BY THE NEC.
    - EXTERIOR PULL BOXES/MANHOLES SHALL BE PRECAST STEEL-REINFORCED CONCRETE OR FIBERGLASS-REINFORCED POLYMER CONCRETE. COVERS SHALL BE LABELED FOR SYSTEM AND CAPABLE OF SUPPORTING VEHICLE TRAFFIC/MOVING EQUIPMENT LIKELY TO BE ENCOUNTERED. PROVIDE MINIMUM 12" GRAVEL BELOW BOX FOR DRAINAGE. PROVIDE DEPTH TO EXCEED REQUIRED CONDUIT BURIAL DEPTH.
    - EFFECTIVELY CLOSE ALL UNUSED OPENINGS IN CABINETS, BOXES, EQUIPMENT HOUSINGS, GUTTERS, ETC.
    - COORDINATE BOX LOCATIONS WITH ARCHITECT AND OWNER, PROVIDE PULL & JUNCTION BOXES LOCATED ABOVE CEILINGS UNON.
    - FIELD COORDINATE DOOR SWINGS AND LOCATE SWITCH BOXES 4-6" FROM LATCH SIDE OF DOORS.
    - FIELD COORDINATE LOCATION OF ALL EQUIPMENT FOR ELECTRICAL BOX LOCATIONS, COORDINATE LOCATIONS OF BOXES IN OR ABOVE MILLWORK WITH ARCHITECT/MILLWORK CONTRACTOR.
    - VERIFY ALL FIXTURE AND OUTLET BOX LOCATIONS WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.
    - PROVIDE CEILING FAN RATED BOX FOR CEILING FAN LOCATIONS, AS INDICATED.
    - PROVIDE MINIMUM OF 6" LATERAL OR VERTICAL SEPARATION FOR BACK-TO-BACK OUTLET BOXES.

- 26 24 16 - PANELBOARDS**
- PROVIDE WITH 100% RATED NEUTRAL UNLESS SCHEDULED OTHERWISE. ALL BUS BARS SHALL BE TIN PLATED ALUMINUM OR COPPER. REFER TO SCHEDULES FOR RATINGS, MAIN AND BRANCH DEVICES. PANELS AND BREAKERS SHALL BE RATED FOR THE AVAILABLE INTERRUPTING CURRENT AND IN NO CASE BE LESS THAN 10,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY.
  - PROVIDE HANDLE LOCKING DEVICES AS REQUIRED FOR EMERGENCY LIGHTING AND FIRE ALARM LOADS.
  - PROVIDE HANDLE-TIES FOR ALL MULTI-WIRE BRANCH CIRCUITS WITH SHARED NEUTRAL CONDUCTORS PER NEC 210.4.
  - INSTALL PANELBOARDS WITH HIGHEST OPERATOR/HANDLE AT HIGHEST POSITION AT 79" OR LESS.
  - CIRCUIT BREAKERS SHALL BE COMBINATION THERMAL AND MAGNETIC MOLDED CASE TYPE, QUICK-MAKE AND QUICK-BREAK, BOTH ON MANUAL AND ON OVERCURRENT OPERATION. BREAKERS SHALL BE OF THE OVER-THE-CENTER TOGGLE OPERATING TYPE WITH THE HANDLE GOING TO A POSITION BETWEEN "ON" AND "OFF" TO INDICATE AUTOMATIC TRIPPING. ALL MULTI-POLE BREAKERS SHALL BE INTERNAL COMMON TRIP.
  - PANELBOARDS SHALL BE SURFACE MOUNTED OR RECESSED AS INDICATED, WITH BAKED-ON ENAMEL TRIM, ADJUSTABLE TRIM CLAMPS AND DOOR WITH LOCK AND CATCH.
  - PROVIDE COMPLETE TYPED WRITTEN PANELBOARD DIRECTORIES INDICATING LOAD TYPE AND LOCATION WITH FIELD CHANGES RECORDED.
  - PANELBOARDS SHALL BE BY SQUARE D, SIEMENS, GENERAL ELECTRIC, OR CUTLER-HAMMER.
  - LOAD CENTERS MAY ONLY BE USED WITHIN DWELLING UNITS.
  - FOR ALL NEW BREAKERS INSTALLED IN EXISTING PANELS, FAULT CURRENT INTERRUPTING CAPACITY SHALL MATCH THAT OF THE PANEL RATING.

- 26 05 19 - POWER CONDUCTORS AND CABLES**
- CONFORM TO NEMA WC7, UL 83, UL 486C, UL 1581.
  - ALL WIRING SHALL BE: UL 83, 600-VOLT, TYPE THW/THHN INSULATION, UNON:
    - #10 AWG AND SMALLER: SOFT-DRAWN ANNEALED COPPER, SOLID
    - #3 AWG AND LARGER: SOFT-DRAWN ANNEALED COPPER, STRANDED
    - 100 AMPERES AND LARGER: AL COMPACT-STRANDED CONDUCTORS OF EQUAL AMPACITY MAY BE SUBSTITUTED FOR COPPER. CONTRACTOR RESPONSIBLE FOR COORDINATING WIRE AND CONDUIT SIZE. VERIFY THAT ALL TERMINATION LUGS ARE RATED FOR SIZE AND TYPE WIRE PROVIDED.
  - WIRING METHODS:
    - FEEDERS:
      - SCHEDULE 40 PVC BELOW GRADE.
      - EMT ABOVE GRADE.
    - BRANCH CIRCUITS:
      - MC CABLE WHERE HIDDEN.
      - EMT WHERE EXPOSED.
    - MINI-SPLIT HEAT PUMP INTERCONNECTION WIRING: PROTECT CONDUCTORS FROM DAMAGE USING CONDUIT OR USE UL LISTED FOR INDOORS, OUTDOORS, SUNLIGHT RESISTANT AND DIRECT BURIAL.
    - ARMORED CABLE ASSEMBLIES: TYPE MC CABLE (UL 1569).
    - USE STRANDED WIRING FOR ALL CONTROL CIRCUITS.
  - TERMINATIONS, PROVIDED AS FOLLOWS:
    - BRANCH CIRCUITS: SOLDER-LESS, COMPRESSION, TWIST SPRING CONNECTORS (WIRE NUTS) OR OTHER LISTED MEANS.
    - BOLTED BUS CONNECTIONS: 2-HOLE COMPRESSION LUGS.
    - WIRING SPLICES NOT PERMITTED.
  - ROUTE POWER WIRING AND LOW-VOLTAGE CONTROL WIRING IN SEPARATE RACEWAYS. DO NOT ROUTE CIRCUITS FROM DIFFERENT SYSTEMS IN THE SAME RACEWAY.
  - PROVIDE SEPARATE, DEDICATED NEUTRAL CONDUCTORS FOR ALL BRANCH CIRCUITS SERVING COMPUTER OR MECHANICAL EQUIPMENT.
  - WIRING SHALL BE NEATLY TRAINED AND LACED IN ENCLOSURES. TEST ALL WIRING FOR CONTINUITY AND TO BE FREE OF FAULTS AND SHORT CIRCUITS.
  - USE SUITABLE ANTI-OXIDIZING COMPOUND FOR ALL ALUMINUM WIRING TERMINATIONS.
  - LABEL CONDUCTORS WITH CIRCUIT DESIGNATION AT EACH BRANCH CIRCUIT TERMINATION.
  - IN THE ABSENCE OF A CONSISTENT SWITCH/CLUTCH EXISTING COLOR CODE, CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

120/208V	PHASE A - BLACK
	PHASE B - RED
	PHASE C - BLUE
	NEUTRAL - WHITE
	GROUND - GREEN

- 26 05 53 - ELECTRICAL IDENTIFICATION**
- MATERIALS:
    - EQUIPMENT NAMEPLATES: PROVIDE NAMEPLATES CONSTRUCTED OF 1/16" THICK PLASTIC LAMINATED MATERIAL. ENGRAVE THROUGH COLORED SURFACE MATERIAL TO CONTRASTING COLORED SUBLAYER.
    - LIGHT SWITCH, RECEPTACLE, AND JUNCTION BOX LABELS: PROVIDE LABELS BY ELECTRONIC LABELER BROTHER P-TOUCH, MODEL PT-2025, DYMO-TAPE, OR EQUAL. LABEL WITH PANEL NAME AND CIRCUIT NUMBER.
    - CIRCUIT DIRECTORIES: PROVIDE NEATLY TYPED SCHEDULE UNDER PLASTIC JACKET OR PROTECTIVE COVER. PROVIDE PROTECTION FROM DAMAGE OR DIRT.
  - FOR SERVICE EQUIPMENT, PROVIDE LABEL PER 1.A INDICATING AVAILABLE FAULT CURRENT PER NEC ARTICLE 110.24. SEE SINGLE LINE.
  - PROVIDE CIRCUIT DIRECTORIES FOR EACH LOAD CENTER, PANELBOARDS, AND SWITCHBOARD BASED ON AS-BUILT CONDITIONS.
    - NUMBER EACH SINGLE POLE SPACE: ODD-NUMBERED CIRCUITS ON LEFT, EVEN ON RIGHT.
    - SECURELY MOUNT ON INSIDE FACE OF PANELBOARD DOOR.
    - WHEN THERE IS NO COVER, PROVIDE INDIVIDUAL NAMEPLATES PER 1.A FOR EACH OVERCURRENT AND OTHER DEVICE.
    - DEFINE BRIEFLY, BUT ACCURATELY, NATURE OF CONNECTED LOAD (I.E. LIGHTING OFFICE, ELEC ROOM, ETC.).
    - PROVIDE ROOM LOCATIONS FOR ALL LOADS AND INDICATE PANEL NAME ON THE SCHEDULE.
    - MULTIPOLE CIRCUITS: USE FIRST POLE SPACE NUMBER AS CIRCUIT NUMBER.
    - CONFIRM ROOM NUMBERS WITH OWNER BEFORE NOTING ON SCHEDULES.
    - SPARE CIRCUIT BREAKERS AND SPACE POSITIONS SHALL BE NOTED.

- 26 28 16 - DISCONNECT SWITCHES AND CIRCUIT BREAKERS**
- DISCONNECT SWITCHES
    - FUSED AND NONFUSED DISCONNECT SWITCHES SHALL BE PROVIDED AS REQUIRED. SUCH SWITCHES SHALL BE OF THE PROPER SIZE AND NUMBER OF POLES FOR USE WITH THE EQUIPMENT REQUIRING THE SWITCH. WHERE THE MOTOR CONTROLLER IS NOT WITHIN SIGHT OF THE MOTOR OR OVERCURRENT PROTECTION, PROVIDE TWO SWITCHES AS REQUIRED.
    - DISCONNECT SWITCHES SHALL BE THE ENCLOSED HEAVY-DUTY TYPE WITH QUICK-MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD-LOCKING OPERATING HANDLE.
    - SWITCH ENCLOSURES SHALL BE NEMA TYPE 1, EXCEPT SWITCHES EXPOSED TO THE WEATHER SHALL HAVE NEMA TYPE 3R, RAIN TIGHT ENCLOSURES.
    - COMBINATION STARTER/DISCONNECTS AND CIRCUIT BREAKER DISCONNECTS MAY ALSO BE USED FOR MOTOR LOADS.
    - COORDINATE DISCONNECT SWITCH POLES, NEUTRAL REQUIREMENTS, FUSE, VOLTAGE, AND AMPACITY WITH NAMEPLATE DATA OR SERVICE DATA.
    - COORDINATE REQUIREMENTS FOR FUSE HOLDERS AND BLOCKS, AND REQUIRED.
    - LOCATE SWITCHES ACCESSIBLE AND WITHIN SIGHT OF EQUIPMENT SERVICED.
    - INSTALL DISCONNECT SWITCHES WITH HIGHEST OPERATOR/HANDLE AT HIGHEST POSITION 79" OR LESS.
    - PROVIDE DISCONNECT SWITCH FOR ALL CONDENSING UNITS.
  - CIRCUIT BREAKERS
    - CONFORM TO NEMA AB1, UL 50, UL 489, NEMA SG3.
    - CIRCUIT BREAKERS SHALL BE BY SIEMENS, CUTLER-HAMMER, GENERAL ELECTRIC, OR SQUARE-D.
    - COORDINATE CIRCUIT BREAKER POLES, NEUTRAL REQUIREMENTS, VOLTAGE, AND AMPACITY WITH NAMEPLATE OF EQUIPMENT SERVICES.
    - COORDINATE SHORT CIRCUIT CURRENT RATINGS.
      - SERIES RATINGS: PROVIDE MANUFACTURER TEST DATA FOR ALL EXISTING AND PROPOSED DEVICES UTILIZING SERIES RATINGS, SEALED BY PROFESSIONAL ENGINEER.
      - PROVIDE SUBMITTAL DATA FOR LISTED SERIES RATED DEVICES INDICATING HOW DEVICES MEET OR EXCEED AVAILABLE FAULT CURRENT.
      - PROVIDE SERIES RATINGS CALCULATIONS, WHERE REQUIRED.
      - DO NOT USE SERIES RATING COMBINATIONS FOR MOTOR APPLICATIONS.
    - MOLDED CASE CIRCUIT BREAKERS: TOGGLE TYPE HANDLE WITH OVER-CURRENT TRIP PROTECTION AND QUICK-MAKE, QUICK-BREAK, NON-WELDING SILVER-ALLOY CONTACTS. UNIT SHALL INDICATE TRIP BY HANDLE POSITION OR INDICATOR VIEWING WINDOW.
    - PROVIDE MOTOR CIRCUIT PROTECTOR FOR MOTOR LOADS.
    - PROVIDE CIRCUIT BREAKER LOCK FOR ALL CIRCUIT BREAKERS FEEDING HVAC EQUIPMENT OR WATER HEATERS.
    - MOLDED CASE CIRCUIT BREAKERS SHALL BE "HACR" RATED FOR HVAC EQUIPMENT LOADS AND "SWD" RATED FOR LIGHTING LOADS.
    - CIRCUIT BREAKER ENCLOSURES
      - CONFORM TO UL 50, UL 98, NEMA AB1.
      - ENCLOSURES FOR CIRCUIT BREAKERS SHALL MATCH MANUFACTURER OF INSTALLED CIRCUIT BREAKER.
      - LOCATED ENCLOSED CIRCUIT BREAKERS ACCESSIBLE AND WITHIN SIGHT OF EQUIPMENT SERVICES.
      - INSTALL ENCLOSED CIRCUIT BREAKERS WITH HIGHEST OPERATOR/HANDLE AT HIGHEST POSITION 78" OR LESS.

- 26 27 26 - WIRING DEVICES**
- WIRING DEVICES SHALL BE COMPLETE WITH ALL MOUNTING DEVICES AND OTHER APPURTENANCES AS REQUIRED. ALL WIRING DEVICES SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER EXCEPT AS SPECIFICALLY STATED OTHERWISE.
  - CONVENIENCE RECEPTACLES SHALL BE PROVIDED NEMA 5-20, SIDE-WIRED ONLY. GFCI RECEPTACLE PER UL 943 FOR LOCATIONS WITHIN 6' OF WATER SOURCE, EXTERIOR LOCATIONS, AND OTHER LOCATIONS WHERE INDICATED, AND AS REQUIRED PER NEC ARTICLE 210.8. THE GROUND-FAULT CIRCUIT-INTERRUPTER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION PER NEC 210.8 AND NEC 100. IF GFCI DEVICE ON RECEPTACLE IS NOT READILY ACCESSIBLE, PROVIDE CIRCUIT WITH GFCI BREAKER IN LIEU OF GFCI RECEPTACLE.
  - ALL LIGHT SWITCHES SHALL BE TOGGLE TYPE, SPECIFICATION GRADE, INSTALLED 48 INCHES ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. SWITCHES SHALL BE 20 AMPERE, 120-277 VOLT, NOMINAL SINGLE-POLE, 3-WAY, OR 4-WAY, AS INDICATED ON PLANS.
  - WALL MOUNTED DIMMERS SHALL BE 120-277V, COORDINATE WITH FIXTURE/BALLAST/DRIVER, VERIFY COMPATIBILITY OF ALL DEVICES ON THE DIMMING CIRCUITZONE. WHERE DIMMERS OCCUR ADJACENT TO SWITCHES, SWITCH SHALL BE SLIDE-TYPE TO MATCH. MOTOR RATED SWITCHES OCCURRING ADJACENT TO DIMMERS SHALL BE LUTRON NT-DIPT-CO-MA OR APPROVED EQUAL.
  - WALL OCCUPANCY SENSORS SHALL BE 120-277V, MANUAL "ON" TYPE, WITH 180 DEGREE PIR, 2100 SF COVERAGE. PROVIDE SINGLE-POLE, 3-WAY, OR 4-WAY, AS INDICATED ON PLANS.
  - CEILING MOUNT OCCUPANCY SENSORS SHALL BE 120-277V, PIR/ULTRASONIC, 360 DEGREE, 2000 SF COVERAGE. PROVIDE WITH EMERGENCY SOURCE INPUT RELAY.
  - ALL RECEPTACLES SHALL BE DUPLEX OUTLETS, GROUNDING TYPE, SPECIFICATION GRADE, INSTALLED 18 INCHES ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
  - SPECIAL AND HEAVY-DUTY TYPE RECEPTACLES SHALL BE PROVIDED AS SUITABLE FOR THE INTENDED USE.
  - COLOR OF DEVICES AND COVER PLATES SHALL BE AS DIRECTED BY THE ARCHITECT OR OWNER.
  - PROVIDE GFCI RECEPTACLE WITH "IN-USE" COVER FOR EXTERIOR, WET OR DAMP LOCATIONS.
  - PROVIDE PLASTER RING SPACER WHERE REQUIRED TO ACCOMMODATE WALL FINISHES.

- 26 28 13 - FUSES**
- FUSES SHALL CONFORM TO THE LATEST EDITIONS OF NEMA, UL, AND NEC.
  - FUSES SHALL BE DUAL-ELEMENT, 600-VOLT, CURRENT LIMITING, 200,000 AIC, AND SUITABLE FOR USE WITH DOWNSTREAM CIRCUIT BREAKERS, AS APPLICABLE.
  - FURNISH AND INSTALL COMPLETE SETS OF FUSES FOR ALL SWITCHES REQUIRING SAME, INCLUDING THOSE REQUIRED IN SWITCHBOARDS AND MOTOR CONTROLLERS.
  - FUSES SERVING ONLY MOTOR LOADS SHALL BE CLASS RK5
  - FUSES SERVING DISTRIBUTION SHALL BE CLASS RK1 OR L.
  - PROVIDE 1 SPARE SET OF EACH TYPE/SIZE FUSE.

- 26 09 23 - LIGHTING FIXTURES AND ACCESSORIES**
- LIGHTING SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDED IES STANDARDS.
  - ALL FIXTURES SHALL BE FURNISHED COMPLETE WITH SOCKETS, INTERNAL WIRING, LEADS, TRIM, HANGERS, SUPPORTS, FRAMES, BALLASTS, ETC., AS APPLICABLE.
  - ALL FIXTURES SHALL BE SUPPORTED BY MEANS OF ADEQUATE HANGERS WITH ATTACHMENTS TO BUILDING CONSTRUCTION INDEPENDENT OF ANY CEILING SYSTEM.
  - IN NEW BUILDINGS, ALL LAMPS SHALL BE 3500 DEG K IN COLOR. MATCH EXISTING LAMP COLOR IN EXISTING CONSTRUCTION.
  - PER THE ENERGY CODE, ALL LIGHTING SHALL BE AUTOMATICALLY CONTROLLED, EXCEPT AS INDICATED, WITH MANUAL OVERRIDES. IT IS THE INTENTION OF THIS CONTRACT TO USE OCCUPANCY SENSORS AND LIGHTING CONTROL PANELS (INDEPENDENT FROM ONE ANOTHER) TO ACCOMPLISH THIS. LIGHTS REQUIRING AUTOMATIC CONTROL NOT CONTROLLED BY OCCUPANCY SENSORS ARE TO BE CONTROLLED BY A TIME CLOCK.
  - PROVIDE FIXTURES WITH TOTAL FIXTURE WATTS NO GREATER THAN THOSE SCHEDULED.
  - COORDINATE FIXTURE MOUNTING WITH ARCHITECTURAL REFLECTED CEILING PLANS, SPECIFICATIONS, AND ELEVATIONS AND PROVIDE TRIM AS REQUIRED FOR CEILING TYPES WHERE INSTALLED.
  - SUPPORT FIXTURES FROM STRUCTURE ONLY.
  - ALL BALLASTS SHALL BE HIGH-POWER-FACTOR (0.95 MINIMUM), LOW THD (10% MAXIMUM), ENERGY-SAVING, ELECTRONIC TYPE.
  - COORDINATE DIMMING BALLAST/DRIVER REQUIREMENTS WITH DIMMERS AND DIMMING ZONES SHOWN WHEN REQUIRED FOR LED DIMMING. PROVIDE 0-10V DIMMING DRIVERS AS APPROPRIATE.
  - EXTERIOR LIGHTING SHALL BE CONTROLLED BY PHOTOCELL TIMERS FOR "DUSK-TO-DAWN" OPERATION, UNON. LOCATE PHOTOCELLS WITH SENSOR FACING GENERALLY NORTH TO NORTHEAST, WHERE POSSIBLE.
  - PROVIDE FIXTURES LOCATED IN UNHEATED SPACES WITH LOW TEMPERATURE BALLAST AND LAMPS.
  - ALL EXTERIOR LIGHTING LAMPS SHALL BE OF THE SAME COLOR TEMPERATURE.
  - FIXTURES ARE PERMITTED TO PROVIDE LUMINOSITY UP TO 10% GREATER THAN THE SPECIFIED LUMENS IN THE LIGHT FIXTURE SCHEDULE. LUMENS ARE NOT PERMITTED TO BE RATED A LUMINOSITY LESS THAN THE SPECIFIED LUMENS IN THE LIGHT FIXTURE SCHEDULE.

- 26 52 19 - EMERGENCY EGRESS LIGHTING**
- EMERGENCY EXIT SIGNS AND EGRESS LIGHTING FIXTURES SHALL BE CONNECTED TO THE SAME CIRCUIT AS NORMAL LIGHTING SERVING AREA, AHEAD OF ANY SWITCHING.
  - ROUTE EMERGENCY LIGHTING CIRCUITS THROUGH CENTRAL LIGHTING INVERTER PRIOR TO EXTENDING TO FIXTURES. FOR SWITCHED EMERGENCY LIGHTING, EXTEND DEDICATE UNSWITCHED HOT FROM INVERTER PANEL TO FIXTURE. UNSWITCHED HOT SHALL BE CAPABLE OF AUTOMATICALLY DELIVERING POWER TO LIGHT FIXTURE DURING EMERGENCY CONDITIONS AND AUTOMATICALLY SWITCHING TO NORMAL POWER WHEN POWER IS RECOVERED.
  - PROVIDE EMERGENCY EXIT AND EMERGENCY EGRESS LIGHTING TO COMPLY WITH IBC SECTION 1008 TO PROVIDE MINIMUM INITIAL 1.0FC ALONG ALL EGRESS PATHS AND MINIMUM 0.6FC AFTER 90 MINUTES.
  - DELEGATED DESIGN: THE BASIS OF DESIGN EGRESS LIGHTING SYSTEM SHOWN ON THE DRAWINGS IS DIAGRAMMATIC AND FOR PERMITTING REFERENCE ONLY. A THIRD PARTY SHALL PERFORM/VERIFY THE EGRESS LIGHTING CALCULATIONS, EITHER USING THE BASIS OF DESIGN SYSTEM OR ANY ALTERNATE SYSTEM OR FIXTURE SELECTIONS. PROVIDE ANY ADDITIONAL MATERIALS OR MODIFICATIONS AS REQUIRED TO MEET AHJ REQUIREMENTS FOR SYSTEM PERFORMANCE.

- 28 31 12 - FIRE ALARM SYSTEM**
- CONFORM TO NFPA 72, UL 38, UL 288, UL 521, UL 864, UL 1971.
  - FIRE ALARM SYSTEM WILL BE DESIGNED UNDER SEPARATE CONTRACT AND INSTALLED UNDER SEPARATE PERMIT.
  - COORDINATE WORK WITH FIRE ALARM CONTRACTOR.
  - ANY FIRE ALARM DEVICES SHOWN ARE FOR REFERENCE ONLY TO INDICATE PROPOSED DEVICE AND EQUIPMENT LOCATIONS FOR COORDINATION PURPOSES ONLY AND ARE NOT TO BE CONSIDERED FINAL CODE-COMPLIANT DESIGN.
  - EVEN IF NOT SHOWN IN PANEL SCHEDULE, PROVIDE A FIRE ALARM BRANCH CIRCUIT THAT IS DEDICATED, RED, LOCKABLE, PROPERLY LABELED, AND CONFORMS TO ALL OTHER REQUIREMENTS PER NFPA 72 10.6. COORDINATE AS REQUIRED.

- ELECTRICAL SYSTEMS TESTING AND COMMISSIONING**
- CONFORM TO UL 1244, UL 1436, NECA 90, NEMA A84, NETA ATS.
  - TIGHTEN AND VERIFY BOLTED BUS, MECHANICAL LUGS, AND WIRING TERMINATIONS TO MANUFACTURER SPECIFIED TORQUE.
  - TEST INSULATION RESISTANCE (MEGGER) ALL NEW CIRCUITS TO INDICATE MINIMUM OF 250KOHM.
  - TEST GROUNDING SYSTEM FOR CONTINUITY USING FALL OF POTENTIAL METHOD AND TO INDICATE MAXIMUM RESISTANCE OF 50HM.
  - VERIFY PHASE, NEUTRAL AND GROUND POLARITY FOR ALL WIRING DEVICES.
  - TEST OPERATION OF ALL GROUND-FAULT CIRCUIT INTERRUPTER DEVICES.

- TESTING**
- TEST VOLTAGE AT SERVICE EQUIPMENT AND SUBMIT MEASUREMENTS TO ENGINEER OF RECORD FOR REVIEW.
  - FOR SINGLE PHASE SERVICE, MEASURE VOLTAGES: A-B, B-N, AND A-N.
  - FOR THREE PHASE SERVICE, MEASURE VOLTAGE: A-B, C-A, A-N, B-N, AND C-N.
  - TEST VOLTAGE AT EXISTING SERVICE EQUIPMENT

- 26 05 26 - GROUNDING**
- RACEWAYS, BOXES, OUTLETS, AND ENCLOSURES SHALL BE BOUND TOGETHER TO FORM A CONTINUOUS METALLIC GROUNDING CIRCUIT IN ACCORDANCE WITH NEC ART. 250.
  - THE MINIMUM SIZE OF GROUNDING CONDUCTOR SHALL BE PER NEC UNLESS NOTED TO BE LARGER ON THE DRAWINGS.
  - GROUNDING CONDUCTORS SHALL BE PROVIDED FOR ALL BRANCH CIRCUITS AND FEEDERS. NO EXCEPTIONS! EXTEND AND CONNECT TO EACH DEVICE AND EQUIPMENT.
  - EGC: PROVIDE SEPARATE BARE COPPER OR INSULATED GREEN GROUND CONDUCTOR IN ALL FEEDERS AND BRANCH CIRCUITS (SEE NOTE 7 BELOW FOR ANY OVERSIZED FEEDERS).
  - BONDING: PROVIDE BONDING OF ALL NON-CURRENT-CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, METALLIC RACEWAYS AND ENCLOSURE PER NEC ARTICLE 250. BOND ALL METAL BUILDING COMPONENTS, INCLUDING PIPING, DUCTWORK AND METAL BUILDING COMPONENTS.
  - GEC: PROVIDE GEC AND MBI AS INDICATED ON SINGLE LINE DIAGRAM. EVEN IF NOT SHOWN ON THE SINGLE LINE DIAGRAM, ALL BUILDING GROUNDING ELECTRODES SHALL BE BONDED IN ACCORDANCE WITH NEC 250.50 AND NEC 250.52.
  - FOR ALL FEEDERS OR BRANCH CIRCUITS SPECIFIED AS INCREASED ABOVE THE MINIMUM EQUIVALENT AREA FOR THE INTENDED AMPACITY (BASED ON BREAKER RATING), THE CONTRACTOR SHALL MODIFY THE EQUIPMENT GROUNDING CONDUCTOR AND ENSURE IT IS SIZED IN ACCORDANCE WITH NEC 250.122(b).

# TAKE NOTE BEFORE ANY WORK IS STARTED OR EQUIPMENT IS PURCHASED:

## SCHEDULE OF REQUIRED SUBMITTALS

### PRE-CONSTRUCTION ACTION SUBMITTALS

**ANY WORK COMPLETED OR EQUIPMENT THAT IS PURCHASED PRIOR TO THE SUBMISSION AND APPROVAL OF THESE SUBMITTALS SHALL BE CORRECTED AT THE EXPENSE OF THE CONTRACTOR.**

**NOTE:** DESIGN IS CONTINGENT ON HAVING THE FOLLOWING INFORMATION. IT IS THE RESPONSIBILITY OF THE CLIENT TO ENSURE THAT THIS INFORMATION IS GATHERED AND SUBMITTED TO THE ENGINEER IN A TIMELY MANNER. TO WAIVE ANY OF THESE REQUIREMENTS, THE CONTRACTOR AND THE OWNER SHALL REQUEST IN WRITING AND RECEIVE APPROVAL FROM THE ENGINEER OF RECORD.

**EXISTING CONDITIONS DISCLAIMER:** THIS DESIGN WAS COMPLETED WITH SOME ASSUMPTIONS ABOUT THE EXISTING CONDITIONS WITHIN THE SPACE. PERMITZIP DOES NOT COMPLETE COMPREHENSIVE AS-BUILTS PRIOR TO DESIGN WORK AND WILL NOT GUARANTEE THAT THE EXISTING CONDITIONS MATCH THE ASSUMPTIONS MADE IN THIS DRAWING SET.

- ELECTRICAL UTILITY CONNECTIONS**
  - ALL PROPOSED ELECTRICAL UTILITY CONNECTIONS, ROUTINGS, AND ASSOCIATED SERVICE EQUIPMENT SHALL BE EXPLICITLY APPROVED IN WRITING BY THE ELECTRICAL UTILITY PRIOR TO ANY WORK BEING COMPLETED. SUBMIT APPROVAL TO ENGINEER OF RECORD IN WRITING. SUCH UTILITY APPROVAL IS REQUIRED PRIOR TO PERMITZIP'S ABILITY TO APPROVE ELECTRICAL SERVICE EQUIPMENT OR RELATED PRODUCT DATA AND SHOP DRAWING SUBMITTALS
- PRODUCT DATA**
  - THE ENGINEER SHALL BE PROVIDED WITH CUT SHEETS OF THE FOLLOWING ITEMS FOR REVIEW:
    - ELECTRICAL EQUIPMENT (INCLUDING SERVICE EQUIPMENT AND PANELBOARDS)
    - LIGHT FIXTURES
    - DISCONNECTS (INCLUDING FUSE SELECTIONS IF APPLICABLE)
    - CENTRAL LIGHTING INVERTER
- FAULT CURRENT LETTER**
  - SUBMIT FAULT CURRENT LETTER FROM ELECTRICAL UTILITY INDICATING MAXIMUM AVAILABLE FAULT CURRENT AT POINT OF DELIVERY. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR USING THE INFORMATION PROVIDED ON THESE DRAWINGS TO PRODUCE A LOAD LETTER FOR ELECTRIC UTILITY COMPANY IN ORDER TO OBTAIN THE FAULT CURRENT LETTER. PERMITZIP WILL PERFORM THESE SERVICES FOR AN ADDITIONAL \$500 AS A SEPARATE CONTRACT IF REQUESTED.
- SHOP DRAWINGS AND EQUIPMENT LISTS**
  - SHOP DRAWINGS OF THE ELECTRICAL EQUIPMENT
  - A SCHEDULED LIST OF ALL APPROVED MECHANICAL EQUIPMENT INDICATING MAKE, MODEL, VOLTAGE, PHASE, MCA, AND MOCP.
  - A SCHEDULED LIST OF ALL SPECIAL EQUIPMENT INDICATING MAKE, MODEL, NEMA PLUG TYPE (IF APPLICABLE), VOLTAGE, PHASE, MCA, AND MOCP. THIS LIST SHALL BE SIGNED BY THE OWNER WITH THE FOLLOWING STATEMENT:
    - "I APPROVE THIS LIST OF EQUIPMENT IT REFLECTS THE FINAL INVENTORY OF EQUIPMENT AND RELEASES THE CONTRACTOR TO PURCHASE THE REQUIRED MATERIALS TO FINALIZE THE ELECTRICAL CONNECTIONS IN ACCORDANCE WITH THESE SPECIFICATIONS."
  - FIRE PENETRATIONS - SHOW ALL FIRE RATED ASSEMBLIES (FLOOR AND CEILING) AND INDICATE THEIR RATINGS AND UL ASSEMBLY TYPE, EVEN IF NOT BEING PENETRATED. INDICATE THE LOCATION AND TYPE OF FIRE RESISTANCE BEING USED.
- COORDINATION DRAWINGS:**
  - PER THE GENERAL NOTES AND OTHER REQUIREMENTS OF THIS CONTRACT PACKAGE, THE FLOOR PLANS ARE DIAGRAMMATIC AND SHOW THE INTENT OF THE PROPOSED ENGINEERED SYSTEMS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE CONSTRUCTION COORDINATION OF THE ENGINEERED DESIGN. THE CONTRACTOR SHALL PRE-PLAN ALL WORK BY MEETING REGULARLY WITH ALL TRADES TO DISCUSS AND COORDINATE THE INSTALLATION BEFORE PURCHASING ANY MATERIALS FOR THE PROJECT. THE FINAL OUTPUT FROM THIS PRE-PLANNING EFFORT SHALL BE A SET OF COORDINATED DRAWINGS INDICATING ALL REQUIRED CLEARANCES, ACCESS PANELS, ROUTES, OFFSETS, ELEVATIONS, AND ALL OTHER DETAILS ABOUT THE SPECIFIC CLASH-FREE INSTALLATION OF THE SYSTEMS THE CONTRACTOR IS INSTALLING. THE CONTRACTOR SHALL SUBMIT THESE COORDINATION DRAWINGS FOR REVIEW TO THE ENGINEER OF RECORD. THE ENGINEERING REVIEW IS NOT TO CONFIRM THAT COORDINATION IS ACCURATE. THE ENGINEERING REVIEW IS LIMITED TO EVALUATING THE ENGINEERING IMPACT OF THE COORDINATION DRAWINGS' PROPOSED DEVIATIONS FROM THE SCHEMATICALLY DRAWN CONSTRUCTION DRAWINGS.
  - SUBMIT A COORDINATION DRAWING SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF THIS PROJECT. THE COORDINATION STUDY SHALL INCLUDE ALL REQUIRED BREAKERS IN THE SYSTEM FROM THE SMALLEST BRANCH CIRCUIT TO THE LARGEST UP STREAM BREAKER AT THE SERVICE AND SHALL COMPLY WITH NEC 700.32. SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION

### CLOSE-OUT SUBMITTALS

**THE FOLLOWING CLOSEOUT DOCUMENTATION IS REQUIRED PRIOR TO ENGAGING PERMITZIP FOR ANY CONSTRUCTION ADMINISTRATION RELATED TO THE PERFORMANCE OF INSTALLED ELECTRICAL SYSTEMS WITHIN THE SCOPE OF THIS CONSTRUCTION DOCUMENT.**

**CLOSEOUT NOTE:** PERMITZIP IS NOT RESPONSIBLE FOR REVIEWING, TROUBLESHOOTING, OR INVESTIGATING ANY PART OF THE SYSTEMS DESIGNED HEREIN. THE STARTUP AND COMMISSIONING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR INSTALLING THE SYSTEM. THE CONTRACTOR SHALL COMPLETE THE FOLLOWING CLOSE-OUT WORK PRIOR TO CERTIFICATE OF OCCUPANCY AND SUBMIT TO PERMITZIP FOR REVIEW NO LATER THAN FOUR WEEKS AFTER CERTIFICATE OF OCCUPANCY IS ACHIEVED. FAILURE TO SUBMIT ON TIME WILL RESULT IN OUT-OF-SCOPE SUBMITTAL REVIEW AND WILL BE BILLED TO THE SUBMITTING PARTY AT THE HOURLY RATE OF \$225 PER HOUR FOR ALL REVIEWS AND PROJECT-RELATED QUESTIONS AFTER THIS PERIOD OF TIME HAS EXPIRED.

- TESTING & COMMISSIONING**
  - PRIOR TO WALLS AND TRENCHES BEING CLOSED, OR ANY OTHER FINISHING WORK WHICH, UPON COMPLETION, WOULD HINDER ACCESS TO ANY PART OF THE ELECTRICAL SYSTEM IN THIS PLAN, COMMISSIONING SHALL BE COMPLETED FOR EACH ELEMENT OF THE DESIGN.
    - CONTRACTOR SHALL PERFORM TESTING AND COMMISSIONING OR SHALL INCLUDE IN PRICING THE FEE TO HIRE A THIRD PARTY COMMISSIONING AGENT.
    - COMMISSIONING SHALL ENCOMPASS ALL NEW WORK COMPONENTS OF THE DESIGN IN CONSTRUCTION OR ANY MODIFIED SYSTEM. COMMISSIONING SHALL INCLUDE TESTING THE EXISTING SYSTEM SUCH THAT IT STILL OPERATES AS INTENDED POST-CONSTRUCTION.
    - A REPORT SHALL BE PROVIDED TO THE DESIGN ENGINEER OF RECORD AND OWNER INDICATING SYSTEMS START AND OPERATE AS DESIGNED AND PASS ALL TESTS.
    - LIGHTING CONTROLS SYSTEMS AND EMERGENCY LIGHTING SYSTEMS SHALL INCLUDE A DESCRIPTION OF THE SEQUENCE OF OPERATIONS OF EACH CONTROLLED SPACE AND TESTING REPORT SHOWING OPERATION AS REQUIRED.
    - IN THE EVENT THAT ANY PART OF THE NEW WORK DESIGN IS FOUND TO BE UNABLE TO ACHIEVE THE PERFORMANCE INTENDED IN THE DESIGN DOCUMENTS, STEPS SHALL BE TAKEN TO REMEDY THE ISSUE PRIOR TO FINISHING WORK THAT MAY HINDER ACCESS TO COMPONENTS OF THE DESIGN.
    - THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR ANY PERFORMANCE ISSUES IN SYSTEM COMPONENTS THAT WERE NOT INSTALLED AS DESIGNED.
- HANDOFF**
  - CONTRACTOR SHALL BE RESPONSIBLE FOR PACKAGING ALL OWNERS MANUALS, WARRANTIES, COMMISSIONING REPORTS AND OTHER DOCUMENTATION RELATED TO THE EQUIPMENT THAT WAS PURCHASED AND INSTALLED. THIS DOCUMENT PACKAGE SHALL BE HANDED OFF TO THE OWNER OR OWNER REPRESENTATIVE UPON COMPLETION OF TESTING AND COMMISSIONING.



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NO.	DESCRIPTION	DATE
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### BUILDING DATA

BUILDING CONSTRUCTION: VB  
USE GROUP: A-2 (RESTAURANT)  
NOT IN FLOOD PLAIN.  
TOTAL AREA OF PROJECT: 5,206 SF  
TOTAL AREA OF BUILDING: 5,206 SF  
OCCUPANCY LOAD: 197

## WARSAW COMMUNITY MARKET

74 MAIN ST., WARSAW, VA 22572

PROJECT NO: 4492 BB NO:254-232-611

21 JUNE 2023

RVT Version 2022

### SHEET SPECIFICATION

# E6.11

As indicated