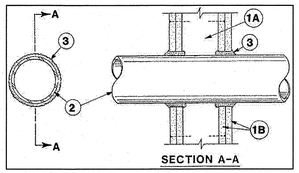
System No. W-L-1001

F Ratings --- 1, 2, 3 and 4 Hr (See Items 2 and 3)

T Ratings --- 0, 1, 2, 3, and 4 Hr (See Item 3)

L Rating At Ambient – less than 1 CFM/sq ft

L Rating At 400 F – less than 1 CFM/sq ft



1. **Wall Assembly ---** The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

   A. **Studs ---** Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

   B. **Gypsum Boards ---** Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in.

2. **Through-Penetrant ---** One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit, or tubing and periphery of opening shall be min of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

   A. **Steel Pipe ---** Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

   B. **Iron Pipe ---** Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

   C. **Conduit ---** Nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel electrical metallic tubing.

   D. **Copper Tubing ---** Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

   E. **Copper Pipe ---** Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.

   F. **Through Penetrating Product* --- Flexible Metal Piping ---** The following types of steel flexible metal gas piping may be used:

   1. Nom 2 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

   OMEGA FLEX INC

   2. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

   GASTITE, DIV OF TITEFLEX

   3. Nom 1 in. diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

   WARD MFG LLC

Fill, Void or Cavity Material* --- Caulk or Sealant --- Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In	F RATING Hr	T RATING Hr
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.

3M COMPANY --- CP 25WB+ or FB-3000 WT.

*Bearing the UL Classification Mark

DIVISION 16 – ELECTRICAL

PART 1 – GENERAL

1.1 DESCRIPTION OF THE WORK

A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
   1. Electrical service and service equipment.
   2. Lighting and power distribution system.
   3. Provide lighting fixtures selected by owner with lamps to match.
   4. Wiring devices, boxes, cover plates, etc.
   5. Source of power for all items of equipment.
   6. Grounding.
   7. Other requirements and/or systems where shown.

B. All work shall be complete and items, equipment, etc., shall be electrically connected for proper and correct operation.

C. All work under this contract shall be installed in accordance with the latest edition of the following codes and standards insofar as they apply:
   1. The 2017 National Electrical Code.
   2. The National Electrical Safety Code.
   3. Underwriter's Laboratories, Inc., Standards and approved listings.
   4. Electrical Testing Labatories standards.
   5. North Carolina Building Code, Latest Edition and Revisions.
   6. All local codes and ordinances.

D. The Electrical Contractor shall be licensed in the State of North Carolina and have all local licenses required for the work.

E. Obtain all permits, licenses, inspections, etc., required for the work and pay for the same. Furnish final certificate of inspection and approval from the electrical inspector having jurisdiction prior to acceptance of the work.

F. All work shall be done by skilled mechanics and shall present a neat, trim, workmanlike condition when complete.

1.2 INTENT

A. The intent of these specifications and the accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate. The Electrical Contractor shall take this into consideration and include in his base bid allowance for contingencies as will allow him to provide minor pieces of equipment and labor not specifically indicated but required for the job to operate properly, at no additional cost to the Owner.

1.3 COORDINATION

A. Coordinate work with other contractors. Notify Architect of apparent conflicts early to expedite construction. If structural damage appears imminent, stop work and notify Architect for a decision before resuming operations.

B. Locations shown are approximate. The drawings do not give exact details as to elevations and locations of various pipes, fittings, ducts, conduit, etc., and do not show all offsets and other installation details which may be required. Coordinate all locations with architect before any rough-in.

1.4 SHOP DRAWINGS

A. Shop drawings shall be submitted for panels and service equipment, lighting, wiring devices, and cover plates. These may consist of the manufacturer's standard catalog or tear sheets and shall have the exact items being offered clearly identified.

PART 2 – PRODUCTS AND MATERIALS

2.1 GENERAL

A. All material shall be new and shall bear the manufacturer's name, trade name, and UL label where such standard has been established for the particular material. Materials shall be the standard products of manufacturer's regularly engaged in the manufacturer of the required type of equipment and the manufacturer's latest approved design.
   1. Boxes installed in concealed locations shall be set flush with the finished surfaces.
   2. Provide rated boxes in all fire barriers & walls installed per code.

2.2 NOT USED

2.3 CONDUCTORS

A. Conductors shall be color coded, sizes #8 and larger may be color taped on the job. Color coding shall be: Standard Practice.

B. Conductors shall be manufactured by Dodge, Southwire or approved equal. Conductors shall meet the latest requirements of NEMA and IPCEA and shall be UL approved.

C. Metallic sheathed "MC" cable may be used where allowed by N.E.C.

D. Conductors shall be spliced and taped as follows:
   1. Size #10 and #12, use Ideal "Wing Nuts" or T&B "Piggy" connectors. Connectors shall be rated for 150 degrees C for use in recessed lighting fixtures.
   2. Size #8 and larger shall be solderless screw and screw-clamping type, smoothly covered and shaped with rubber gum type with final cover vinyl plastic electrical type. In lieu of rubber gum and vinyl plastic type, factory fabricated approved preformed insulating covers may be used. All connectors shall be UL approved.
   3. No split-bolt type connectors may be used.

E. All branch wire and connections shall be copper and sized per National Electric Code.

F. All conductors shall be continuous without splice between junction, outlet, device boxes, etc. No splicing will be permitted in panelboard cabinets, safety switches, etc.

G. All wiring in mechanical spaces shall be plenum rated.

H. Provide GFI protection within 6'-0" of any sink.

I. All multi-wire branch circuits shall comply with 2017 NEC, 210.4(B).

J. All wiring at medical facilities shall comply with 2017 NEC, 517.1.

2.4 PANELBOARDS, SAFETY SWITCHES

A. Panelboards shall comply with NEMA Standard PB 1 – Latest Edition and as manufactured by Square D or ITE-Siemens.

B. The contractor shall be responsible for correctly phasing the circuits in the panelboards.

C. Safety switches shall be general duty type, size and rating as required for load service. Safety switches shall be fused or unfused as shown and/or as required. Safety switches serving motor loads shall be horsepower rated for load served.

2.5 NOT USED

2.6 WIRING DEVICES

A. Wiring devices shall be commercial grade by Bryant, Leviton, or approved equal. With matching cover. Color by Architect.

B. Wiring devices installed under a Kitchen Hood shall have stainless steel covers.

C. Wiring devices installed over counters shall comply with ANSI A117.1.

2.7 NOT USED

2.8 CONDUIT

A. PVC conduit will be allowed where N.E.C. approved.

B. All service conduit shall be rigid where exposed below 8'-0" AFF or exposed to the elements or hazardous conditions.

PART 3 – EXECUTION

3.1 CIRCUIT GROUNDING

A. All circuits shall contain an insulated, green, copper grounding conductor, sized in accordance with Table 250-95 of the NEC. Grounding conductors shall be connected to equipment grounding bus in panelboard and securely attached and grounded to the device or enclosure at the other end.

3.2 GROUNDING TYPE CONVENIENCE OUTLETS AND SWITCHES

A. Outlets and switches shall be solidly grounded to equipment grounding system with a green colored insulated conductor. Electrical connections shall be continuous from equipment ground bus in panelboard to the hex nut on the convenience outlet or switch.

3.3 MOTORS

A. All motors shall be connected to conduit system with short length (minimum length 24" and maximum length 36") of flexible liquidtight conduit.

3.4 NOT USED

3.5 EQUIPMENT LABELING

A. Provide permanent name plates for all panelboards, safety switches, wiring troughs, etc., for identification of equipment controlled, services, etc. Nameplates shall be securely and permanently attached to equipment with stainless steel screws. Nameplates shall include the name of the equipment and where it is fed from.

B. All switch plates, receptacle plates and outlet covers shall be labeled with machine printed vinyl labels identifying the circuit(s) within.

C. All empty conduit runs shall be identified and indicated where they terminate.

D. Provide typewritten directory in each panelboard to clearly identify each circuit, service, etc.

3.6 NOT USED

3.7 NOT USED

3.8 JUNCTION AND/OR PULL BOXES

A. Boxes shall be installed where necessary to avoid excessive runs and/or too many bends between outlets.

3.9 PULL WIRE

A. Leave pull wire in each empty conduit run.

3.10 NOT USED

3.11 GROUNDING

A. All grounding shall be in accordance with Article 250 of the NEC. In addition, the following requirements shall be met:
   1. Grounding conductors shall be installed as to permit the shortest and most direct path from equipment to ground. All connections to grounding conductors shall be accessible.
   2. Equipment ground continuity shall be maintained through flexible metal conduit.
   3. All wiring devices equipped with grounding connection shall be solidly grounded to ground system with grounding conductors.
   4. The frame of all lighting fixtures shall be securely grounded to the equipment ground system with grounding conductors.
   5. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.
   6. All equipment enclosures, and non-current-carrying metallic parts of electrical equipment, raceway systems, etc., shall be effectively and adequately bonded to ground.

3.12 ELECTRICAL WORK IN CONNECTION WITH OTHER WORK

A. PLUMBING WORK: The Electrical Contractor shall furnish and install switches and devices as shown and electrically connect electric water heaters, etc. All other electrical work required will be performed by the PLUMBING CONTRACTOR.

B. HEATING AND AIR CONDITIONING WORK: The Electrical Contractor shall provide all disconnect switches, starters, and associated hardware for the equipment furnished including all line and load side wiring and conduit. Final connections to the equipment will be by the HVAC contractor. All control wiring will be accomplished by the HVAC contractor. Coordinate all work associated with the HVAC contractor.

3.13 CLEAN UP

A. During construction, keep the site clean of debris. Upon completion, and before final inspection, clean up the premises to remove all evidence of work. In addition upon completion of construction leave equipment clean.

3.14 GUARANTEE

A. Guarantee all materials and labor included in the electrical work for a period of one year from date of final acceptance by the Owner. Any part or parts of the work or equipment which prove to be defective during the guarantee period shall be replaced at no additional cost to the Owner.

GENERAL NOTES

1 ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.

2 ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE-SIZE CONDUCTERS AND CONDUIT PER NEC.)

3 ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'-0" A.F.F.

4 ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD.

5 CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.

6 ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.

7 THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.

8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS.

9 THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.

10 ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.

11 IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.

12 PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.

13 ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL & PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER MANUFACTURES RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.

14 THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE OUTLETS.

APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance

Energy Code:	Prescriptive	X	Energy Cost Budget	
ASHRAE 90.1:	Prescriptive	X	Energy Cost Budget	

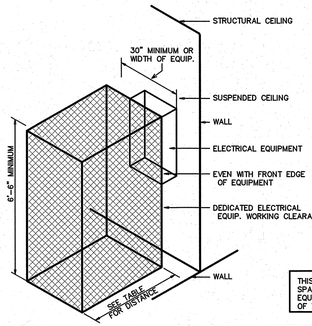
Lighting Schedule

lamp type required in fixture
number of lamps in fixture
ballast type used in fixture
number of ballasts in fixture
total wattage in fixture
→ See Light Fixture Schedule

total interior wattage specified vs. allowed	20294VA/28567VA
total exterior wattage specified vs. allowed	630VA/750VA

Additional Prescriptive Compliance

	506.2.1 More Efficient Mechanical Equipment
X	506.2.2 Reduced Lighting Power Density
	506.2.3 Energy Recovery Ventilation Systems
	506.2.4 Higher Efficiency Service Water Heater
	506.2.5 On-Site Supply of Renewable Energy
	506.2.6 automatic Daylighting Control System



THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110-16 OF THE N.E.C.

ELECTRICAL EQUIPMENT WORKING CLEARANCE PER ARTICLE 110-26 OF N.E.C.

VOLTAGE TO GROUND NOMINAL	WORKING CLEARANCES MIN. CLEAR DISTANCE IN FEET		
CONDITION:	1	2	3
0-150	3	3	3
151-600	3	3-1/2	4

WHERE THE CONDITIONS ARE AS FOLLOWS:

1 EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR INSULATED BUSBARS OPERATING AT NOT OVER 300V SHALL NOT BE CONSIDERED LIVE PARTS.

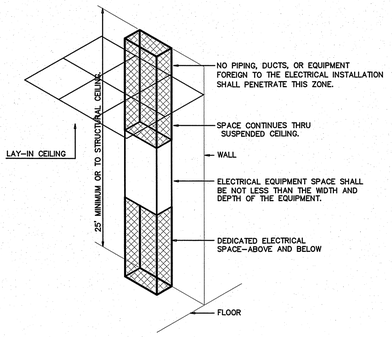
2 EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.

3 EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

1 ELECTRICAL CLEARANCES
SCALE: NTS

ELECTRICAL LEGEND

- X / OX / X — LIGHT FIXTURE: LETTER DENOTES FIXTURE TYPE (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE). NL = NIGHT LIGHT (NOT SWITCHED/ALWAYS ON)
- (S) U WP/GFI — DUPLEX RECEPTACLE – 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE; 'WP' INDICATES WEATHER PROOF, 'GFI' INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED. 'U' INDICATES RECEPTACLE WITH (2) USB PORTS. (S) INDICATES SHUNT TRIP BREAKER, OR WIRING THROUGH RELAYS IN HOOD CONTROL CABINET
- QUADRAPLEX RECEPTACLE – 120V
- (FB) (CM) — FLOOR BOX (FB) OR CEILING-MOUNT (CM) POWER & DATA CONNECTIONS. PROVIDE A COMPLETE POWER/DATA FLOOR/CEILING BOX SYSTEM W/ ALL ACCESSORIES. COLOR/FINISH BY ARCH.
- TV — TELEVISION/MONITOR POWER & DATA LOCATION. PROVIDE TELE/DATA BOX/CONDUIT & COAX CABLE BACK TO MTP VERIFY EXACT HEIGHT/LOCATIONS.
- SPECIAL PURPOSE RECEPTACLE – REFER TO POWER PLAN AND PANEL SCHEDULE
- DISCONNECTING MEANS AS REQUIRED BY CODE
- S — LIGHT SWITCH
- S_M — SWITCH WITH INTEGRAL PIR/US MOTION SENSOR FOR AUTOMATIC SHUT-OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY.
- S_D — DIMMABLE LIGHT SWITCH
- (S) — MOTOR RATED SWITCH
- (S) HD — HAND DRYER (THINAIR TYPE. CONFIRM W/ ARCH/OWNER)
- (J) — JUNCTION BOX
- (J) CCTV — CLOSED-CIRCUIT TELEVISION / SECURITY CAM PROVIDE CAT 6 WIRING TO EACH DEVICE.
- (J) CR — DOOR W/ CARD-READER/SWIPE ENTRY
- TELE/DATA OUTLET – PROVIDE JUNCTION BOX WITH 3/4" CONDUIT WITH BUSHINGS & PULL STRING TO ABOVE CEILING OR OTHER CONCEALED ACCESSABLE LOCATION. PROVIDE J-HOOK SYSTEM FROM CONDUIT TERMINATION TO MTP.
- MTP — MAIN TELEPHONE PANEL – PROVIDE FIRE RESISTANT 4'X8'X3/4" PLYWOOD BACKBOARD, TWO 2" CONDUITS BACK TO TELEPHONE SERVICE ENTRY POINT AND ONE 2" CONDUIT BACK TO CABLE TV SERVICE ENTRY POINT. FIELD VERIFY EXACT LOCATIONS.
- TC — MULTI-CIRCUIT TIME CLOCK
- SINGLE-POLE HOMERUN TO PANELBOARD
- TWO-POLE OR 3-POLE HOMERUN TO PANELBOARD
- EXIT — EXIT LIGHT
- EMERGENCY EGRESS FIXTURE
- PC — PHOTOCELL
- BRANCH CIRCUIT WIRING
- SWITCH LEG
- GROUND CONNECTION
- PANEL A — DISTRIBUTION PANEL (VERIFY TYPE/REQUIREMENTS)
- TWO HOUR FIRE BARRIER
- THREE HOUR FIRE BARRIER
- W — WIRELESS ACCESSS POINT



ELECTRICAL EQUIPMENT DEDICATED SPACE PER ARTICLE 110.26.F.1 OF N.E.C.

2 DEDICATED SPACE
SCALE: NTS

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 22038 BENJAMIN E. BURKE
10/31/23

PROJECT TITLE
REVELS TURF & TRACTOR
RAWLS CHURCH RD.
FUQUAY-VARINA, NORTH CAROLINA

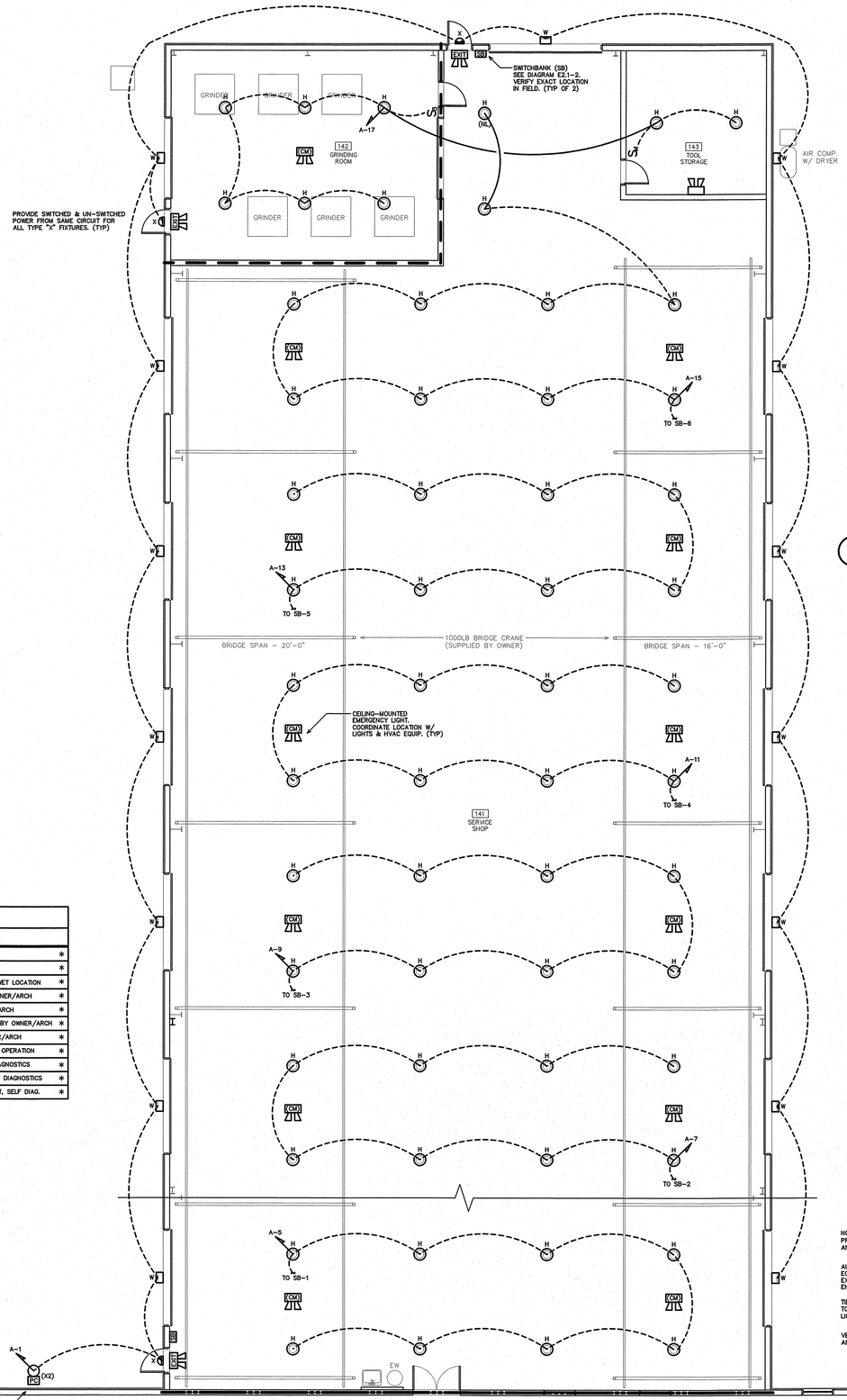
PROJECT NO.
2232

DRAWING TITLE
ELECTRICAL SPECS

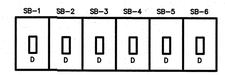
E1

PLOT DATE 10/30/23

This original sheet is 24" x 36"; other dimensions indicate it has been altered.



1 NORTH FLOOR PLAN
SCALE: 1/8" = 1'-0"



SB-1 SHOP, HIGH-BAYS
SB-2 SHOP, HIGH-BAYS
SB-3 SHOP, HIGH-BAYS
SB-4 SHOP, HIGH-BAYS
SB-5 SHOP, HIGH-BAYS

LABEL ALL SWITCHES AS TO FUNCTION
NOTE: SWITCHES MAY BE STACKED
(D) DENOTES OPTIONAL DIMMING CAPABILITY

2 SWITCHBANK (SB) X2
SCALE: NTS

Revels E2.1

LIGHTING SCHEDULE *

MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	LAMPS TYPE	LAMPS W.	BALLAST TYPE	W/ FIXTURE	REMARKS	
B	LITHONIA	CPX-2X4-4000LM-30K-M2	120	–	LED	–	–	40	LED 2X4 LAY-IN FIXTURE, DIMMING CAPABILITY	*
C	PRESCOLITE	LFXLED04-6MFLED6G430K	120	–	LED	–	–	20	LED 6" RECESSED CAN LIGHT, DIMMING CAPABILITY	*
CL	PRESCOLITE	LTC-6RD-(S/P)30L35KBMD	120	–	LED	–	–	25	LED 6" CYLINDER LIGHT, SURFACE OR PENDANT MOUNT, WET LOCATION	*
F	BIG ASS FANS	HAIKU	120	–	LED	–	–	50	52" INDOOR/OUTDOOR CEILING FAN, COLOR/FINISH BY OWNER/ARCH	*
H	LITHONIA	JEBL-18L-40K-80CRI	120	–	LED	–	–	136	LED HIGH BAY LIGHT FIXTURE, COLOR/FINISH BY OWNER/ARCH	*
S	PRESCOLITE	LTC-6RD-W30L35KBMD	120	–	LED	–	–	25	LED 6" CYLINDER SCONCE, WET LOCATION, COLOR/FINISH BY OWNER/ARCH	*
W	HUBBELL	SG1-40-3K7-FT-UNV-BLT	120	–	LED	–	–	40	LED WALL PACK, WET LOCATION, COLOR/FINISH BY OWNER/ARCH	*
X	COMPASS	CUSO	120	–	LED	–	–	10	EMERG. EGRESS FIXTURE – DUAL MODE, NORMAL/EMERG. OPERATION	*
EXIT	COMPASS	CEL	120	–	LED	–	–	–	LED EXIT SIGN W/ BATTERY, UNIVERSAL-MOUNT, SELF DIAGNOSTICS	*
	COMPASS	CU2	120	–	LED	–	–	–	LED EMERG. LIGHT W/ BATTERY, UNIVERSAL-MOUNT, SELF DIAGNOSTICS	*
EXIT	COMPASS	CCRG	120	–	LED	–	–	–	LED EXIT/EMERG. COMBO W/ BATTERY, UNIVERSAL-MOUNT, SELF DIAG.	*

* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES.
CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY.
THE EMERGENCY LIGHTS AND EXIT SIGNS MUST HAVE INTEGRAL BATTERIES, CHARGERS AND TEST SWITCHES.

PROVIDE LED PHOTOCELL (PC) CONTROLS FOR EXTERIOR LIGHTING CIRCUIT.
LOCATE 'PC' AWAY FROM ARTIFICIAL LIGHT (ON ROOF, IF POSSIBLE)
PROVIDE SHIELDING AS REQUIRED. VERIFY LOCATION.

NOTE:
PROVIDE LABELING ON ALL SWITCHES AND DEVICES NOTING CIRCUIT SERVED.

AUTOMATIC LIGHTING SHUTOFF IS NOT SHOWN IN THE EGRESS PATH LIGHTING AS ALLOWED PER 505.2.2.2.1 EXCEPTION #3, WHERE AUTOMATIC SHUTOFF WOULD ENDANGER OCCUPANT SAFETY.

TIE ALL EXIT AND EMERGENCY LIGHTS TO NEAREST AVAILABLE UNSWITCHED LIGHTING CIRCUIT IN THE AREA SERVED.

VERIFY HEIGHT/LOCATION OF ALL SWITCHES AND DEVICES PRIOR TO INSTALLATION.

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10/30/23

PROJECT TITLE
REVELS TURF & TRACTOR
RAWLS CHURCH RD.
FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.
2232

DRAWING TITLE
LIGHTING PLAN

E2.1

PLOT DATE 10/30/23

1 SOUTH FLOOR PLAN
SCALE: 1/8" = 1'-0"

Revets E2.2

LIGHTING SCHEDULE *

MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS NO.	LAMPS TYPE	LAMPS W.	BALLAST TYPE	W/ FIXTURE	REMARKS	
B	LITHONIA	CPX-2X4-4000LM-30K-M2	120	–	LED	–	–	40	LED 2X4 LAY-IN FIXTURE, DIMMING CAPABILITY	*
C	PRESCOLITE	LF6LED04-8MFLED6043OK	120	–	LED	–	–	20	LED 6" RECESSED CAN LIGHT, DIMMING CAPABILITY	*
CL	PRESCOLITE	LTC-6RD-(S/P)30L35K8MD	120	–	LED	–	–	25	LED 6" CYLINDER LIGHT, SURFACE OR PENDANT MOUNT, WET LOCATION	*
F	BIG ASS FANS	HAIKU	120	–	LED	–	–	50	52" INDOOR/OUTDOOR CEILING FAN, COLOR/FINISH BY OWNER/ARCH	*
H	LITHONIA	JEBL-1BL-40K-80CRI	120	–	LED	–	–	136	LED HIGH BAY LIGHT FIXTURE, COLOR/FINISH BY OWNER/ARCH	*
S	PRESCOLITE	LTC-6RD-W30L35K8MD	120	–	LED	–	–	25	LED 6" CYLINDER SCONCE, WET LOCATION, COLOR/FINISH BY OWNER/ARCH	*
U	PHILLIPS	HUE LIGHTSTRIP PLUS	120	–	LED	–	–	3W/FT	LED FLEX STRIP (UNDERCOUNTER) LIGHTING, COLOR/FINISH BY ARCH	*
W	HUBBELL	SG1-40-3K7-FT-UNV-BLT	120	–	LED	–	–	40	LED WALL PACK, WET LOCATION, COLOR/FINISH BY OWNER/ARCH	*
X	COMPASS	CUSO	120	–	LED	–	–	10	EMERG. EGRESS FIXTURE – DUAL MODE, NORMAL/EMERG. OPERATION	*
EXIT	COMPASS	CEL	120	–	LED	–	–	–	LED EXIT SIGN W/ BATTERY, UNIVERSAL-MOUNT, SELF DIAGNOSTICS	*
	COMPASS	CU2	120	–	LED	–	–	–	LED EMERG. LIGHT W/ BATTERY, UNIVERSAL-MOUNT, SELF DIAGNOSTICS	*
EXIT	COMPASS	CCRG	120	–	LED	–	–	–	LED EXIT/EMERG. COMBO W/ BATTERY, UNIVERSAL-MOUNT, SELF DIAG.	*

* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES.
CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY.

THE EMERGENCY LIGHTS AND EXIT SIGNS MUST HAVE INTEGRAL BATTERIES, CHARGERS AND TEST SWITCHES.

NOTE:
PROVIDE LABELING ON ALL SWITCHES AND DEVICES NOTING CIRCUIT SERVED.

AUTOMATIC LIGHTING SHUTOFF IS NOT SHOWN IN THE EGRESS PATH LIGHTING AS ALLOWED PER 505.2.2.2.1 EXCEPTION #5, WHERE AUTOMATIC SHUTOFF WOULD ENDANGER OCCUPANT SAFETY.

TIE ALL EXIT AND EMERGENCY LIGHTS TO NEAREST AVAILABLE UNSWITCHED LIGHTING CIRCUIT IN THE AREA SERVED.

VERIFY HEIGHT/LOCATION OF ALL SWITCHES AND DEVICES PRIOR TO INSTALLATION.

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NORTH CAROLINA PROFESSIONAL SEAL 22038 ENGINEER BENJAMIN E. BURKE
10/31/23

PROJECT TITLE
REVELS TURF & TRACTOR
RAWLS CHURCH RD.
FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.
2232

DRAWING TITLE
LIGHTING PLAN

E2.2

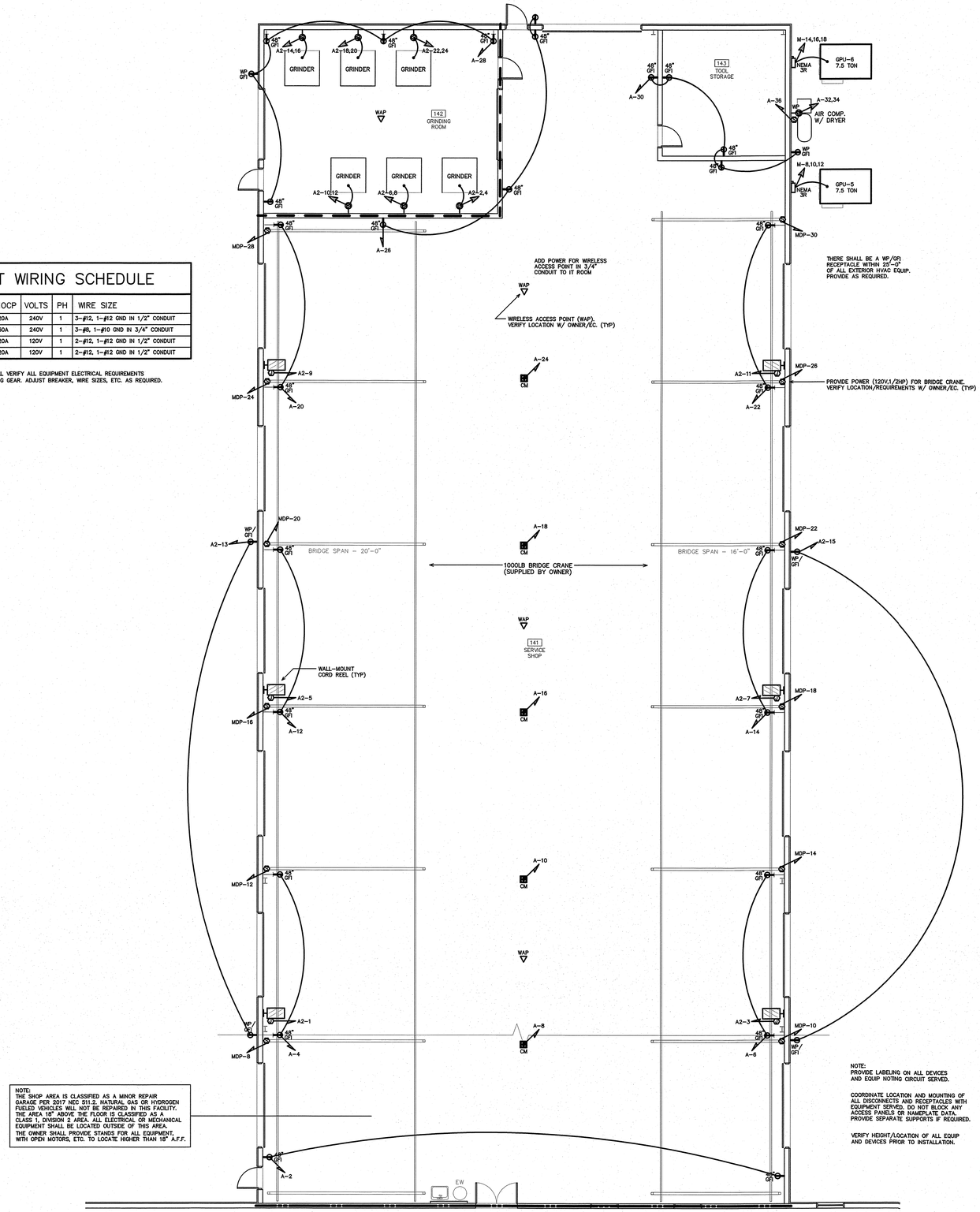
PLOT DATE 10/30/23

Revels E3.1

EQUIPMENT WIRING SCHEDULE

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
GRINDER	12.0A	20A	240V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT
AIR COMP.	31.0A	50A	240V	1	3-#8, 1-#10 GND IN 3/4" CONDUIT
AIR COMP. (DRYER)	9.1A	20A	120V	1	2-#12, 1-#12 GND IN 1/2" CONDUIT
BRIDGE CRANE	10.0A	20A	120V	1	2-#12, 1-#12 GND IN 1/2" CONDUIT

NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.



NOTE:
THE SHOP AREA IS CLASSIFIED AS A MINOR REPAIR GARAGE PER 2017 NEC 511.2. NATURAL GAS OR HYDROGEN FUELED VEHICLES WILL NOT BE REPAIRED IN THIS FACILITY. THE AREA 18" ABOVE THE FLOOR IS CLASSIFIED AS A CLASS 1, DIVISION 2 AREA. ALL ELECTRICAL OR MECHANICAL EQUIPMENT SHALL BE LOCATED OUTSIDE OF THIS AREA.
THE OWNER SHALL PROVIDE STANDS FOR ALL EQUIPMENT, WITH OPEN MOTORS, ETC. TO LOCATE HIGHER THAN 18" A.F.F.

NOTE:
PROVIDE LABELING ON ALL DEVICES AND EQUIP NOTING CIRCUIT SERVED.

COORDINATE LOCATION AND MOUNTING OF ALL DISCONNECTS AND RECEPTACLES WITH EQUIPMENT SERVED. DO NOT BLOCK ANY ACCESS PANELS OR NAMEPLATE DATA. PROVIDE SEPARATE SUPPORTS IF REQUIRED.

VERIFY HEIGHT/LOCATION OF ALL EQUIP AND DEVICES PRIOR TO INSTALLATION.

1 NORTH FLOOR PLAN
SCALE: 1/8" = 1'-0"

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10/31/23

PROJECT TITLE
REVELS TURF & TRACTOR
RAWLS CHURCH RD.
FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.
2232

DRAWING TITLE
POWER PLAN

E3.1

PLOT DATE 10/30/23

NOTE:
THE SHOP AREA IS CLASSIFIED AS A MINOR REPAIR GARAGE PER 2017 NEC 511.2. NATURAL GAS OR HYDROGEN FUELED VEHICLES WILL NOT BE REPAIRED IN THIS FACILITY. THE AREA 18" ABOVE THE FLOOR IS CLASSIFIED AS A CLASS 1, DIVISION 2 AREA. ALL ELECTRICAL OR MECHANICAL EQUIPMENT SHALL BE LOCATED OUTSIDE OF THIS AREA.
THE OWNER SHALL PROVIDE STANDS FOR ALL EQUIPMENT, WITH OPEN MOTORS, ETC. TO LOCATE HIGHER THAN 18" A.F.F.

(SEE SHEET E3.1 FOR POWER IN THIS AREA)

141 SERVICE SHOP

EW

135 SPARE OFFICE
136 SERVICE OFFICE
137 SERVICE ADMIN.
138 SERVICE COORD.
139 IGS
140 SERVICE CALL CENTER
GAS METER AREA

HALL

THERE SHALL BE A WP/GFI RECEPTACLE WITHIN 25'-0" OF ALL EXTERIOR HVAC EQUIP. PROVIDE AS REQUIRED.

GPU-3 6 TON — M-13,15,17 — NEMA 3R
GPU-1 5 TON — M-1,3,5 — NEMA 3R

119 WAREHOUSE STORAGE

(2) 4" WITH LONG SWEEP ELBOWS TO DATA ENTRY POINT

ALL 120 VOLT RECEPTACLES IN KITCHEN AREA SHALL BE GFCI PROTECTED.

DHP-1 1 TON — NEMA 3R — MDP-33,35

110 INV. TRUCKING
109 COO
108 CEO
112 FILE ROOM
113 BREAK ROOM
114 IT CLOSET
115 RESTROOM
116 RESTROOM
117 CONF. ROOM
118 SALES
107 HR
106 ACC
105 ACC
104 CFO
103 SALES ADMIN
102 SALES OFFICE

DFC-1 1 TON — DFC UNIT POWERED THROUGH DHP-1.
PHONE BOARD W/ QUAD REC & DATA

HALL

101 LOBBY

COORDINATE LOCATION OF OF ALL DEVICES IN FURN/CABINETRY PRIOR TO ROUGH-IN. (TYP)

FLOOR FINISH TRANSITION

100 PORCH

133 RESTROOM
134 RESTROOM
132 RESTROOM
131 RESTROOM
130 RESTROOM
129 RECON OFFICE
127 BREAK ROOM
128 WORKOUT ROOM
126 RESTROOM
125 STORAGE

MDP-7 — 5 CP — MDP-9
GWH

PROVIDE DISCONNECT SWITCH FOR GWH. PROTECT POWER CONNECTIONS FROM MOISTURE AND PROVIDE STRAIN RELIEF FOR FLEXIBLE CORDS.

120 PARTS CALL CTR.
121 PARTS MANAGER
122 SPARE OFFICE

124 PARTS STORAGE

J-BOX FOR FUTURE ATS COORDINATE LOCATION W/ OWNER PRIOR TO ROUGH-IN.
DISC.
CT CAB.
MB
NEW ELECTRICAL SERVICE EQUIP. VERIFY LOCATION/REQUIREMENTS PRIOR TO INSTALLATION. COORDINATE W/ OWNER, EC, AND LOCAL UTIL.

PNL 'B2' — PNL 'B' — PNL 'A2' — PNL 'A' — PNL 'M' — PNL 'MDP'

VERIFY ELECTRICAL PANEL LOCATIONS/REQUIREMENTS PRIOR TO INSTALLATION. COORDINATE W/ OWNER/EC.

ELEC. AREA

MDP-11 — NEMA 3R — GPU-4 5 TON — M-2,4,6

TELE/DATA/FIBER ENTRY POINT

GPU-2 6 TON — NEMA 3R — M-7,9,11

123 SHIPPING RECEIVING

WAP

WIRELESS ACCESS POINT (WAP). VERIFY LOCATION W/ OWNER/EC. (TYP)

MDP-1 — SIGN

PROVIDE TIME CLOCK, JUNCTION BOX AND SWITCH FOR SIGN CIRCUIT(S). SWITCH SHALL BE LOCATED WITHIN SIGHT OF SIGN OR BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 600.6. COORDINATE LOCATION(S) WITH OWNER/EC.

WEATHER PROOF SWITCH SHALL BE LOCATED WITHIN SIGHT OF SIGN OR BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 600.6. WIRE TO SPECIFIED MULTI-CIRCUIT TIMECLOCK IN MAIN ELECTRICAL ROOM.

MDP-3

MONUMENTAL SIGN
(SEE SITE PLAN FOR LOCATION)

PROVIDE 1" CONDUIT FROM BUILDING PANELS TO NEW SIGN LOCATION (COORDINATE W/ OWNER/EC).

NOTE:
PROVIDE LABELING ON ALL DEVICES AND EQUIP HOTING CIRCUIT SERVED.

COORDINATE LOCATION AND MOUNTING OF ALL DISCONNECTS AND RECEPTACLES WITH EQUIPMENT SERVED. DO NOT BLOCK ANY ACCESS PANELS OR NAMEPLATE DATA. PROVIDE SEPARATE SUPPORTS IF REQUIRED.

VERIFY HEIGHT/LOCATION OF ALL EQUIP AND DEVICES PRIOR TO INSTALLATION.

1 SOUTH FLOOR PLAN
SCALE: 1/8" = 1'-0"

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DRAWING TITLE
POWER PLAN

E3.2

PLOT DATE 10/30/23

VERIFY PANEL LOCATION, REQUIREMENTS, AND MOUNTING TYPE. COORDINATE W/ EC. (TYP)

Reveis E4

NEW PANEL- 'MDP'

MAKE: EATON | TYPE: PRL1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
SIGN	20A	1200			1		2	----			20A	SPARE
SIGN	20A		1200		3		4		----		20A	SPARE
SPARE	20A			----	5		6			----	20A	SPARE
GWH CNTRLS	20A	300			7		8	1200			20A	BRIDGE CRANE
CIRC PUMP	20A		500		9		10		1200		20A	BRIDGE CRANE
TIMECLOCK	20A			300	11		12			1200	20A	BRIDGE CRANE
CO DETECTORS	20A	100			13		14	1200			20A	BRIDGE CRANE
CCTV/SECURITY	20A		100		15		16		1200		20A	BRIDGE CRANE
SPARE	20A			----	17		18			1200	20A	BRIDGE CRANE
SPARE	20A	----			19		20	1200			20A	BRIDGE CRANE
SPARE	20A		----		21		22		1200		20A	BRIDGE CRANE
SPARE	20A			----	23		24			1200	20A	BRIDGE CRANE
SPACE		----			25		26	1200			20A	BRIDGE CRANE
SPACE			----		27		28		1200		20A	BRIDGE CRANE
SPACE				----	29		30			1200	20A	BRIDGE CRANE
SPACE		----			31		32	20598				PANEL 'A'
DHP-1	20A		936		33		34		21651		225A	.
.				936	35		36			18836		.
PANEL 'M'		21120			37		38	11280				PANEL 'B'
.	225A		21120		39		40		10440		225A	.
.				21120	41		42			11580		.

NOTES: NOTE: ALL PANEL SCHEDULES TO MEET NEC 408.4 REQUIREMENTS

SUB-TOTALS 'B'	22720	23856	22856	600A	BUS	36678	36891	35216	SUB-TOTALS 'A'	TOTAL CONNECTED LOAD
				600A	LUGS	22720	23856	22856	SUB-TOTALS 'B'	
				600A	FEED	59398	60747	58072	GRAND TOTAL	
				VERIFY	SIZE	495A	506A	484A	AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	DEMAND FACTOR@	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ①	125%	8548	9639	9255	27442
TRACK LIGHTING	125%	----	----	----	----
GENERAL USE RECEPTACLES	≤10KVA@600R	3333	3333	3334	10000
	>10KVA@600R	4454	4724	4023	13201
MOTORS AND EQUIPMENT (LARGEST)	125%	4175	4175	4175	12525
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	17780	18716	18716	55212
WATER HEATERS	125%	----	----	----	----
KITCHEN EQUIPMENT ③	100%	1200	----	2400	3600
FIX. ELEC. SPACE HEAT. ④	100%	----	----	----	----
SHOW WINDOW LIGHTS ⑤	125%	----	----	----	----
SIGN	125%	1500	1500	----	3000
MISC	100%	12000	12200	9892	34092
PHASE (TOTAL VA)		52990	54287	51885	159142
	TOTAL AMPS	442A	452A	432A	VOLT AMPS / VOLTS X 1.732 = 442A TOTAL AMPS

Reveis E4

NEW PANEL- 'A'

MAKE: EATON | TYPE: PRL1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
LTS: EXT	20A	630			1		2	360			20A	REC: SHOP
LTS: EXT	20A		815		3		4		360		20A	REC: SHOP
LTS: SHOP	20A			1088	5		6			360	20A	REC: SHOP
LTS: SHOP	20A	1088			7		8	360			20A	REC: SHOP
LTS: SHOP	20A		1088		9		10		360		20A	REC: SHOP
LTS: SHOP	20A			1088	11		12			360	20A	REC: SHOP
LTS: SHOP	20A	1088			13		14	360			20A	REC: SHOP
LTS: SHOP	20A		1360		15		16		360		20A	REC: SHOP
LTS: GRINDING,TOOLS	20A			1088	17		18			360	20A	REC: SHOP
LTS: WAREHOUSE,STOR	20A	1224			19		20	360			20A	REC: SHOP
LTS: WAREHOUSE,STOR	20A		1224		21		22		360		20A	REC: SHOP
LTS: PARTS STOR	20A			816	23		24			360	20A	REC: SHOP
LTS: SHIPPING/RECEIVING	20A	816			25		26	720			20A	REC: SHOP
LTS: PARTS,HALL	20A		1240		27		28		900		20A	REC: GRINDING
LTS: LOBBY,BREAK,HALL	20A			1060	29		30			900	20A	REC: SHOP,TOOLS
LTS: WORKOUT,STOR	20A	1032			31		32	3600			50A	AIR COMP.
LTS: RECON,RESTROOMS	20A		960		33		34		3600			.
LTS: SERVICE	20A			1104	35		36			1092	20A	AIR COMP. DRYER
LTS: OFFICES	20A	960			37		38	8000				PANEL 'A2'
LTS: SALES,CONF	20A		1024		39		40		8000		100A	.
LTS: BREAK,FILE,HALL	20A			1160	41		42			8000		.

NOTES

SUB-TOTALS 'B'	6838	7711	7404	225A	BUS	13760	13940	11432	SUB-TOTALS 'A'	TOTAL CONNECTED LOAD
				225A	LUGS	6838	7711	7404	SUB-TOTALS 'B'	
				225A	FEED	20598	21651	18836	GRAND TOTAL	
				VERIFY	SIZE	172A	180A	157A	AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	DEMAND FACTOR@	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ①	125%	8548	9639	9255	27442
TRACK LIGHTING	125%	----	----	----	----
GENERAL USE RECEPTACLES	≤10KVA@600R	2160	2340	2340	6840
	>10KVA@600R	----	----	----	----
MOTORS AND EQUIPMENT (LARGEST)	125%	----	----	----	----
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	----	----	----	----
WATER HEATERS	125%	----	----	----	----
KITCHEN EQUIPMENT ③	100%	----	----	----	----
FIX. ELEC. SPACE HEAT. ④	100%	----	----	----	----
SHOW WINDOW LIGHTS ⑤	125%	----	----	----	----
SIGN	125%	----	----	----	----
MISC	100%	11600	11600	9092	32292
PHASE (TOTAL VA)		22308	23579	20687	66574
	TOTAL AMPS	188A	196A	172A	VOLT AMPS / VOLTS X 1.732 = 185A TOTAL AMPS

Reveis E4

NEW PANEL- 'B'

MAKE: EATON | TYPE: PRL1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
REC: SHIPPING,PARTS	20A	720			1		2	720			20A	REC: EXT,LOBBY
REC: SHIPPING,PARTS	20A		720		3		4		720		20A	REC: SALES OFFICE
REC: OFFICE	20A			720	5		6			720	20A	REC: SALES ADMIN
REC: PARTS MANAGER	20A	720			7		8	720			20A	REC: CFO
REC: PARTS CALL CTR	20A		720		9		10		720		20A	REC: ACC
REC: PARTS CALL CTR	20A			720	11		12			720	20A	REC: ACC
REC: LOBBY	20A	540			13		14	900			20A	REC: HR
REC: BREAK	20A		720		15		16		900		20A	REC: CEO
REC: RESTROOM	20A			360	17		18			720	20A	REC: COO
REC: OFFICE	20A	720			19		20	900			20A	REC: TRUCKING
REC: WORKOUT	20A		540		21		22		900		20A	REC: FILE ROOM
REC: WORKOUT	20A			540	23		24			720	20A	REC: BREAK
REC: WORKOUT	20A	540			25		26	360			20A	REC: RESTROOM
REC: WORKOUT	20A		360		27		28		900		20A	REC: SALES
REC: WORKOUT	20A			360	29		30			900	20A	REC: CONF
REC: SERVICE CALL CTR	20A	900			31		32	----			20A	SPARE
REC: IGS	20A		900		33		34		----		20A	SPARE
REC: SERVICE COORD	20A			900	35		36			----	20A	SPARE
REC: SERVICE ADMIN	20A	900			37		38	2640				PANEL 'B2'
REC: OFFICE	20A		720		39		40		1620		100A	.
REC: OFFICE	20A			720	41		42			3480		.

NOTES

SUB-TOTALS 'B'	5040	4680	4320	225A	BUS	6240	5760	7260	SUB-TOTALS 'A'	TOTAL CONNECTED LOAD
				225A	LUGS	5040	4680	4320	SUB-TOTALS 'B'	
				225A	FEED	11280	10440	11580	GRAND TOTAL	
				VERIFY	SIZE	94A	87A	97A	AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	DEMAND FACTOR@	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ①	125%	----	----	----	----
TRACK LIGHTING	125%	----	----	----	----
GENERAL USE RECEPTACLES	≤10KVA@600R	3333	3333	3334	10000
	>10KVA@600R	3374	3554	2923	9851
MOTORS AND EQUIPMENT (LARGEST)	125%	----	----	----	----
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	----	----	----	----
WATER HEATERS	125%	----	----	----	----
KITCHEN EQUIPMENT ③	100%	1200	----	2400	3600
FIX. ELEC. SPACE HEAT. ④	100%	----	----	----	----
SHOW WINDOW LIGHTS ⑤	125%	----	----	----	----
SIGN	125%	----	----	----	----
MISC	100%	----	----	----	----
PHASE (TOTAL VA)		7907	6887	8557	23451
	TOTAL AMPS	66A	57A	72A	VOLT AMPS / VOLTS X 1.732 = 65A TOTAL AMPS

Reveis E4

NEW PANEL- 'M'

MAKE: EATON | TYPE: PRL1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
GPU-1		2900			1		2	2900				GPU-4
.	40A		2900		3		4		2900		40A	.
.				2900	5		6			2900		.
GPU-2		3340			7		8	4320				GPU-5
.	50A		3340		9		10		4320		50A	.
.				3340	11		12			4320		.
GPU-3		3340			13		14	4320				GPU-6
.	50A		3340		15		16		4320		50A	.
.				3340	17		18			4320		.
SPACE		----			19		20	----				SPACE
SPACE			----		21		22		----			SPACE
SPACE				----	23		24			----		SPACE
SPACE		----			25		26	----				SPACE
SPACE			----		27		28		----			SPACE
SPACE				----	29		30			----		SPACE

NOTES

SUB-TOTALS 'B'	9580	9580	9580	225A	BUS	11540	11540	11540	SUB-TOTALS 'A'	TOTAL CONNECTED LOAD
				225A	LUGS	9580	9580	9580	SUB-TOTALS 'B'	
				225A	FEED	21120	21120	21120	GRAND TOTAL	
				VERIFY	SIZE	176A	176A	176A	AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	DEMAND FACTOR@	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ①	125%	----	----	----	----
TRACK LIGHTING	125%	----	----	----	----
GENERAL USE RECEPTACLES	≤10KVA@600R	----	----	----	----
	>10KVA@600R	----	----	----	----
MOTORS AND EQUIPMENT (LARGEST)	125%	4175	4175	4175	12525
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	17780	17780	17780	53340
WATER HEATERS	125%	----	----	----	----
KITCHEN EQUIPMENT ③	100%	----	----	----	----
FIX. ELEC. SPACE HEAT. ④	100%	----	----	----	----
SHOW WINDOW LIGHTS ⑤	125%	----	----	----	----
SIGN	125%	----	----	----	----
MISC	100%	----	----	----	----
PHASE (TOTAL VA)		21955	21955	21955	65865
	TOTAL AMPS	183A	183A	183A	VOLT AMPS / VOLTS X 1.732 = 183A TOTAL AMPS

Reveis E4

NEW PANEL- 'A2'

MAKE: EATON | TYPE: PRL1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
CORD REEL	20A	1000			1		2	1500				GRINDER
CORD REEL	20A		1000		3		4		1500		20A	.
CORD REEL	20A			1000	5		6			1500		GRINDER
CORD REEL	20A	1000			7		8	1500			20A	.
CORD REEL	20A		1000		9		10		1500			GRINDER
CORD REEL	20A			1000	11		12			1500	20A	.
REC: EXTERIOR	20A	360			13		14	1500				GRINDER
REC: EXTERIOR	20A		360		15		16		1500		20A	.
SPARE	20A			----	17		18			1500		GRINDER
SPARE	20A	----			19		20	1500			20A	.
SPARE	20A		----		21		22		1500			GRINDER
SPARE	20A			----	23		24			1500	20A	.
SPACE		----			25		26	----				SPACE
SPACE			----		27		28		----			SPACE
SPACE				----	29		30			----		SPACE

NOTES

SUB-TOTALS 'B'	2000	2000	2000	100A	BUS	6000	6000	6000	SUB-TOTALS 'A'	TOTAL CONNECTED LOAD
				100A	LUGS	2000	2000	2000	SUB-TOTALS 'B'	
				100A	FEED	8000	8000	8000	GRAND TOTAL	
				VERIFY	SIZE	67A	67A	67A	AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	DEMAND FACTOR@	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ①	125%	----	----	----	----
TRACK LIGHTING	125%	----	----	----	----
GENERAL USE RECEPTACLES	≤10KVA@600R	----	----	----	----
	>10KVA@600R	----	----	----	----
MOTORS AND EQUIPMENT (LARGEST)	125%	----	----	----	----
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	----	----	----	----
WATER HEATERS	125%	----	----	----	----
KITCHEN EQUIPMENT ③	100%	----	----	----	----
FIX. ELEC. SPACE HEAT. ④	100%	----	----	----	----
SHOW WINDOW LIGHTS ⑤	125%	----	----	----	----
SIGN	125%	----	----	----	----
MISC	100%	8000	8000	8000	24000
PHASE (TOTAL VA)		8000	8000	8000	24000
	TOTAL AMPS	67A	67A	67A	VOLT AMPS / VOLTS X 1.732 = 67A TOTAL AMPS

Reveis E4

NEW PANEL- 'B2'

MAKE: EATON | TYPE: PRL1a | OR APPROVED EQUAL | RATING: 208/120V 3 PHASE 4 WIRE | MOUNTING: SURFACE | MINIMUM AIC: VERIFY | MLO MAIN CIRCUIT BREAKER | EQUIPMENT GROUND BUS ☒YES ☐NO | SERVICE ENTRY RATED ☐YES ☒NO

LOAD SERVICE	CKT BRKR	WATTS PER PHASE A	B	C	CKT NO	NEUTRAL A B C	CKT NO	WATTS PER PHASE A	B	C	CKT BRKR	LOAD SERVICE
REC: MTP	20A	360			1		2	360			20A	REC: BREAK
REC: IT	20A		360		3		4		180		20A	REC: BREAK
REC: IT	20A			360	5		6			1200	20A	DISHWASH
REC: WAREHOUSE	20A	720			7		8	1200			20A	REFRIG
REC: WAREHOUSE	20A		720		9		10		360		20A	REC: BREAK
REC: WAREHOUSE	20A			720	11		12			1200	20A	REFRIG
SPARE	20A	----			13		14	----			20A	SPARE
SPARE	20A		----		15		16		----		20A	SPARE
SPARE	20A			----	17		18			----	20A	SPARE
SPACE		----			19		20	----				SPACE
SPACE			----		21		22		----			SPACE
SPACE				----	23		24			----		SPACE
SPACE		----			25		26	----				SPACE
SPACE			----		27		28		----			SPACE
SPACE				----	29		30			----		SPACE

NOTES

SUB-TOTALS 'B'	1080	1080	1080	100A	BUS	1560	540	2400	SUB-TOTALS 'A'	TOTAL CONNECTED LOAD
				100A	LUGS	1080	1080	1080	SUB-TOTALS 'B'	
				100A	FEED	2640	1620	3480	GRAND TOTAL	
				VERIFY	SIZE	22A	14A	29A	AMPS/PHASE	

NEC ALLOWABLE DEMAND FACTORS

1. DEMAND FACTORS PER NEC 220
2. LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD
3. NEC TABLE 220.56
4. NEC 220.51
5. NEC 220.43A, 200 VA/LINEAR FT
6. NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED

DIVERSIFIED LOAD SUMMARY

LOAD TYPE	DEMAND FACTOR@	A	B	C	TOTAL DIVERSIFIED LOAD
GENERAL LIGHTING ①	125%	----	----	----	----
TRACK LIGHTING	125%	----	----	----	----
GENERAL USE RECEPTACLES	≤10KVA@600R	1440	1620	1080	4140
	>10KVA@600R	----	----	----	----
MOTORS AND EQUIPMENT (LARGEST)	125%	----	----	----	----
MOTORS AND EQUIPMENT (ALL OTHERS)	100%	----	----	----	----
WATER HEATERS	125%	----	----	----	----
KITCHEN EQUIPMENT ③	100%	1200	----	2400	3600
FIX. ELEC. SPACE HEAT. ④	100%	----	----	----	----
SHOW WINDOW LIGHTS ⑤	125%	----	----	----	----
SIGN	125%	----	----	----	----
MISC	100%	----	----	----	----
PHASE (TOTAL VA)		2640	1620	3480	7740
	TOTAL AMPS	22A	14A	29A	VOLT AMPS / VOLTS X 1.732 = 22A TOTAL AMPS

EQUIPMENT WIRING SCHEDULE

EQUIPMENT	MCA	MOCP	VOLTS	PH	WIRE SIZE
GPU-1	29.0	40A	208V	3	4-#8, 1-#10 GND IN 1" CONDUIT
GPU-2	33.0	50A	208V	3	4-#8, 1-#10 GND IN 1" CONDUIT
GPU-3	33.0	50A	208V	3	4-#8, 1-#10 GND IN 1" CONDUIT
GPU-4	29.0	40A	208V	3	4-#8, 1-#10 GND IN 1" CONDUIT
GPU-5	39.0	50A	208V	3	4-#8, 1-#10 GND IN 1" CONDUIT
GPU-6	39.0	50A	208V	3	4-#8, 1-#10 GND IN 1" CONDUIT
DHP-1	9.0A	15A	208V	1	3-#12, 1-#12 GND IN 1/2" CONDUIT

NOTE:
THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN AND RELEASING GEAR. ADJUST BREAKER, WIRE SIZES, ETC. AS REQUIRED.

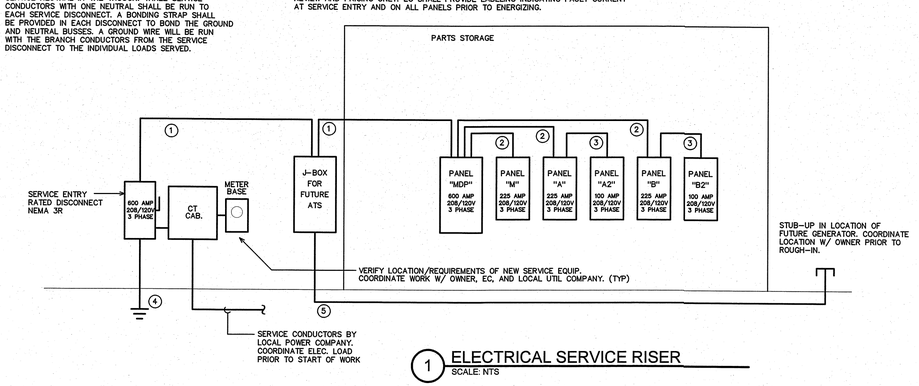
TIE SERVICE GROUNDS AND TROUGH CASE GROUND TOGETHER (PER NEC 250-58). THE TROUGH GROUND SHALL BE BONDED TO THE SERVICE NEUTRAL IN THE TROUGH. THREE SERVICE CONDUCTORS WITH ONE NEUTRAL SHALL BE RUN TO EACH SERVICE DISCONNECT. A BONDING STRAP SHALL BE PROVIDED IN EACH DISCONNECT TO BOND THE GROUND AND NEUTRAL BUSSES. A GROUND WIRE WILL BE RUN WITH THE BRANCH CONDUCTORS FROM THE SERVICE DISCONNECT TO THE INDIVIDUAL LOADS SERVED.

VERIFY AVAILABLE FAULT CURRENT AT SERVICE LOCATION WITH LOCAL POWER COMPANY. PROVIDE INFORMATION TO ENGINEER TO CALCULATE MINIMUM PANEL AIC RATING PRIOR TO RELEASING GEAR. AIC RATING ON PANELS ARE FOR PERMIT REVIEW AND PRICING ONLY. EC SHALL PROVIDE LABELING INDICATING FAULT CURRENT AT SERVICE ENTRY AND ON ALL PANELS PRIOR TO ENERGIZING.

RISER WIRING SCHEDULE

1. 600A: (2 SETS) 4-#350MCM, 1-#1 CU GND, IN (2) 3" CONDUIT
2. 225A: 4-#4/0, 1-#4 CU GND, IN 2 1/2" CONDUIT
3. 100A: 4-#3, 1-#8 CU GND, IN 1 1/4" CONDUIT
4. #3/0 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #6 CU GND TO 10' X 5/8" DRIVEN GROUND ROD
5. (2) 3" CONDUIT W/ PULL STRING

NOTE:
UNLESS OTHERWISE NOTED ALL OTHER CIRCUITS ARE 20A,120V. PROVIDE 2-#12, 1-#12 CU GND IN 1/2" CONDUIT.
SEE EQUIPMENT SCHEDULES FOR ADDITIONAL WIRE SIZES.



1 ELECTRICAL SERVICE RISER
SCALE: NTS

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10/31/23

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RAWLS CHURCH RD.
FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.
2232

DRAWING TITLE
PANELS & RISER

E4

PLOT DATE 10/30/23