

- DEMOLITION NOTES**
- ELECTRICAL TRADE BIDDING THE DEMO WORK SHALL SITE VERIFY THE EXISTING CONDITION AND EXTENT OF REQUIRED WORK.
 - CONTRACTOR SHALL ALLOW FOR THE DISPOSAL OF ALL REMOVED EQUIPMENT UNLESS NOTED OTHERWISE.
 - DURING DEMOLITION WORK OF ALL BUILDING SYSTEMS ARE TO REMAIN FUNCTIONAL INCLUDING THE LIGHTING, FIRE ALARM SYSTEM, SECURITY, AND MECHANICAL SYSTEM.
 - ALL BRANCH WIRING AND HOME RUN CIRCUITS FEEDING THE DEMO AREA TO BE CAPPED OFF IN SURFACE MOUNTED JUNCTION BOXES AND LABELED WITH THE EXISTING CIRCUIT NUMBERS AS REQUIRED.
 - REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR THE FULL EXTENT OF DEMO SCOPE.
 - E.C. SHALL PROVIDE UPDATED PANEL DIRECTORIES IN PRINTED FORM FOR ALL PANELS AFFECTED BY THE DEMO WORK.
 - EXISTING ELECTRICAL DEVICES ON THE SAME CIRCUITRY THAT ARE LOCATED OUTSIDE DEMO AREA WILL BE KEPT AND REMAIN ENERGIZED.
 - E.C. SHALL PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED.

- LEGEND:**
- E - DENOTES EXISTING DEVICE TO REMAIN.
 - R - DENOTES EXISTING DEVICE TO BE REMOVED AND MADE SAFE.

- DRAWINGS NOTES:**
- ALL EXISTING LIGHTING IN THIS SPACE IS TO BE REMOVED. EXISTING HANGERS AND WIRING MAY BE REUSED. ALL MECHANICAL HVAC EQUIPMENT IN THIS SPACE TO BE DISCONNECTED AND WIRING MADE SAFE.
 - ALL EXISTING DISTRIBUTION TO BE REPLACED PER NEW SINGLE-LINE DIAGRAM. MEGGAR EXISTING FEEDERS AND RE-USED IF THEY ARE IN GOOD CONDITION.
 - DECOMMISSION AND MAKE SAFE 'VEHICLE LIFT CONTROLS STATION' FOR REMOVAL BY OTHERS.

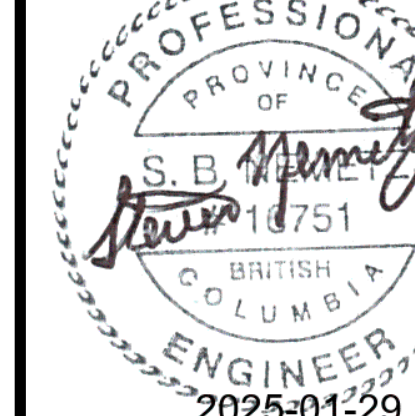
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PROJECT PRACTICE NUMBER: 100040

| Issue Date | Issue For | GLOBAL REVISIONS LIST |
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| OCTOBER 2024 | | |
| NO. | DATE | DESCRIPTION |
| 1 | 2024-10-23 | ISSUED FOR REVIEW |
| 2 | 2024-10-31 | ISSUED FOR COC REVIEW |
| 3 | 2024-11-22 | ISSUED FOR BP REVIEW |
| 4 | 2024-12-04 | ISSUED FOR TENDER REVIEW |
| 5 | 2024-12-18 | ISSUED FOR TENDER REVIEW |
| 6 | 2024-12-28 | ISSUED FOR TENDER REVIEW |
| 7 | 2025-01-24 | ISSUED FOR BFP |

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| | |
|----------------|-------------------------|
| Project | 51104 - FMB Repurpose |
| Project Number | 15428 |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | E-201 |
| Drawing | LEVEL 1 DEMOLITION PLAN |

1 LEVEL 1 DEMOLITION PLAN
SCALE: 1:100



- GENERAL NOTES**

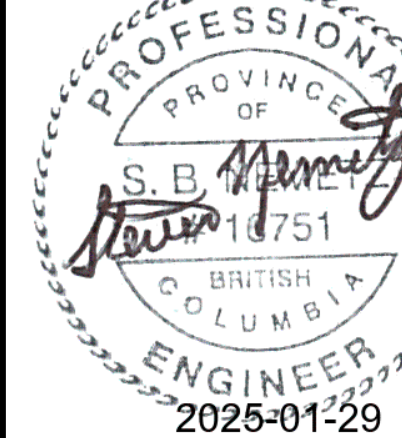
 - ALL EMERGENCY AND EXIT LIGHTING SHALL HAVE A MINIMUM 120-MINUTE RUN-TIME.
 - ALL EXISTING EXIT SIGNS TO BE REPLACED WITH NEW RUNNING MAN SIGNS.
 - ALL FIRE ALARM DEVICES ARE EXISTING TO REMAIN UNLESS NOTED AS "NEW".
 - THE ENTIRE BUILDING ELECTRICAL SERVICE HAS GENERATOR BACK UP POWER FROM THE ADJACENT NEW SERVICE CENTRE BUILDING.
- FIRE ALARM NOTES**

 - THE ELECTRICAL TRADE SHALL TIE INTO EXISTING FIRE ALARM SYSTEM. FURNISH ALL LABOUR, SERVICES, AND MATERIALS NECESSARY TO PROVIDE AND INSTALL A COMPLETE AND FUNCTIONAL LIFE SAFETY FIRE SYSTEM. THE SYSTEM SHALL COMPLY IN EVERY RESPECT WITH ALL PERTINENT CODES, RULES AND REGULATIONS, AND WITH THE LAWS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
 - PROVIDE NEW FIRE ALARM SPEAKERS/BELLS/HORN/SSTROBE LIGHTS/PULLSTATIONS, OR OTHER FIRE ALARM DEVICES SHOWN ON THE DRAWINGS.
 - NEW DEVICES MUST MATCH EXISTING MANUFACTURER AND MODELS.
 - THE FIRE ALARM SYSTEM SHALL REMAIN SUPERVISED AND MONITORED.
 - DEVICES TO BE INSTALLED AS REQUIRED TO ACHIEVE A FULLY OPERATIONAL FIRE ALARM SYSTEM.
 - PROVIDE FIRE ALARM VERIFICATION REPORT PRIOR TO ENGINEER SIGN-OFF.

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PROJECT TO PRACTICE NUMBER: 100049

| Issue Date | Issue For | Issue Description |
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| OCTOBER 2024 | GLOBAL REVISIONS LIST | |
| NO. | DATE | DESCRIPTION |
| 1 | 2024-10-23 | ISSUED FOR REVIEW |
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| 4 | 2024-12-04 | ISSUED FOR BP REVIEW |
| 5 | 2024-12-18 | ISSUED FOR TENDER REVIEW |
| 6 | 2024-12-18 | ISSUED FOR TENDER REVIEW |
| 7 | 2025-01-24 | ISSUED FOR BP |

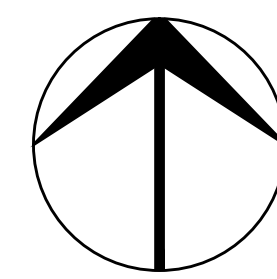
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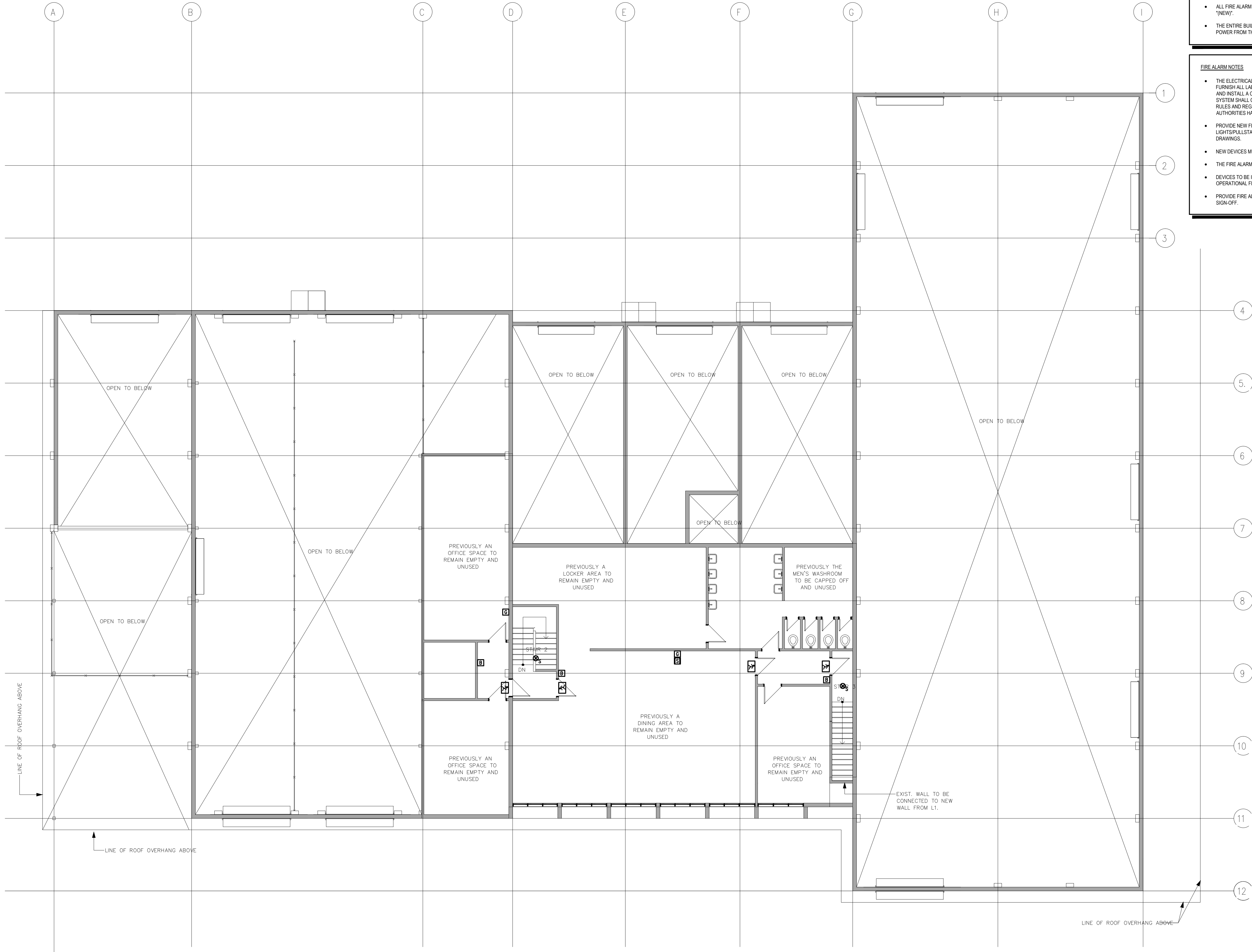


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|----------------|--------------------------|
| Project | 51104 - FMB Repurpose |
| Project Number | 15428 |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | E-202 |
| Drawing | LEVEL 1 LIFE SAFETY PLAN |

1 LEVEL 1 LIFE SAFETY PLAN
SCALE: 1:100





- GENERAL NOTES**

 - ALL EMERGENCY AND EXIT LIGHTING SHALL HAVE A MINIMUM 120-MINUTE RUN-TIME.
 - ALL EXISTING EXIT SIGNS TO BE REPLACED WITH NEW RUNNING MAN SIGNS.
 - ALL FIRE ALARM DEVICES ARE EXISTING TO REMAIN UNLESS NOTED AS "NEW".
 - THE ENTIRE BUILDING ELECTRICAL SERVICE HAS GENERATOR BACK UP POWER FROM THE ADJACENT NEW SERVICE CENTRE BUILDING.
- FIRE ALARM NOTES**

 - THE ELECTRICAL TRADE SHALL TIE INTO EXISTING FIRE ALARM SYSTEM, FURNISH ALL LABOUR, SERVICES, AND MATERIALS NECESSARY TO PROVIDE AND INSTALL A COMPLETE AND FUNCTIONAL LIFE SAFETY FIRE SYSTEM. THE SYSTEM SHALL COMPLY IN EVERY RESPECT WITH ALL PERTINENT CODES, RULES AND REGULATIONS, AND WITH THE LAWS OF THE LOCAL AUTHORITIES HAVING JURISDICTION.
 - PROVIDE NEW FIRE ALARM SPEAKERS/BELLS/HORNS/STROBE LIGHTS/PULLSTATIONS, OR OTHER FIRE ALARM DEVICES SHOWN ON THE DRAWINGS.
 - NEW DEVICES MUST MATCH EXISTING MANUFACTURER AND MODELS.
 - THE FIRE ALARM SYSTEM SHALL REMAIN SUPERVISED AND MONITORED.
 - DEVICES TO BE INSTALLED AS REQUIRED TO ACHIEVE A FULLY OPERATIONAL FIRE ALARM SYSTEM.
 - PROVIDE FIRE ALARM VERIFICATION REPORT PRIOR TO ENGINEER SIGN-OFF.

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|------------------------|--------------------------|
| Issue Date | OCTOBER 2024 |
| Issued For | |
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| 3 | ISSUED FOR BP REVIEW |
| 4 | ISSUED FOR BP |
| 5 | ISSUED FOR TENDER REVIEW |
| 6 | ISSUED FOR TENDER |
| 7 | ISSUED FOR RFP |

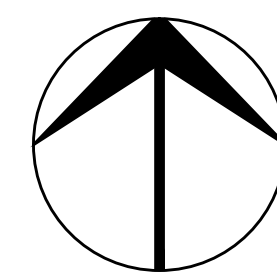
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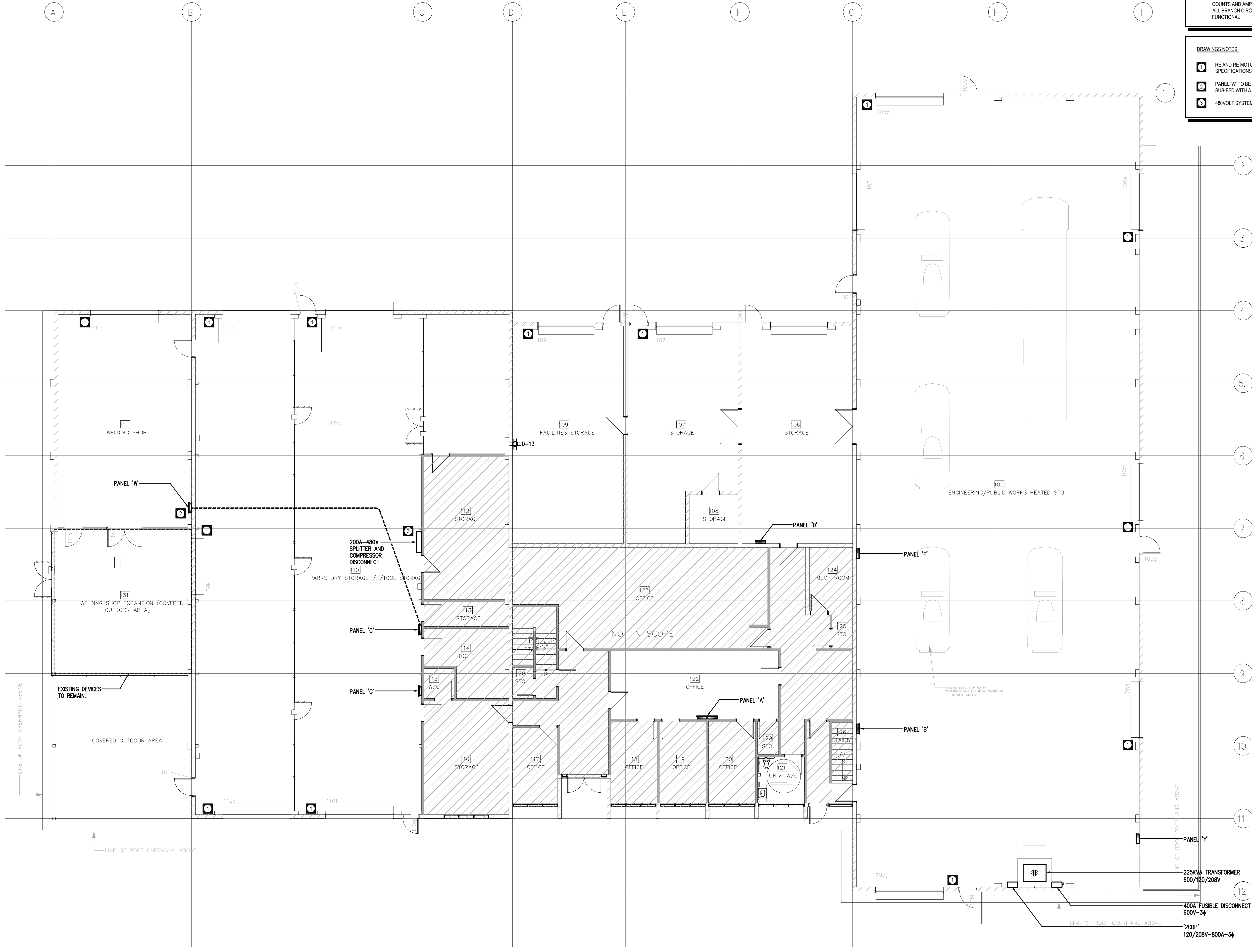


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|----------------|--------------------------|
| Project | 51104 - FMB Repurpose |
| Project Number | 15428 |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | E-203 |
| Drawing | LEVEL 2 LFIE SAFETY PLAN |

1 LEVEL 2 LIFE SAFETY PLAN
SCALE: 1:100





GENERAL NOTES

- ALL EXISTING ELECTRICAL DISTRIBUTION IS TO BE REPLACED WITH NEW PER NEW ONE-LINE DIAGRAM UNLESS NOTED OTHERWISE.
- ALL REPLACEMENT ELECTRICAL PANELS ARE TO HAVE THE SAME BREAKER COUNTS AND AMPERAGE RATINGS AS THE ORIGINAL EXISTING PANELS AND ALL BRANCH CIRCUITRY IS TO BE RE-CONNECTED AND TESTED AS FUNCTIONAL.

DRAWINGS NOTES:

- RE AND RE-MOTORIZED DOOR POWER COORDINATE WITH NEW SPECIFICATIONS TBC.
- PANEL 'W' TO BE REPLACED WITH A 100A-3Ø-4W-42CCT PANEL AND SUB-FED WITH A 90A BREAKER OUT OF PANEL 'C'.
- 480VOLT SYSTEM TO BE DE-COMMISSIONED AND MADE SAFE.

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PROJECT TO PRACTICE NUMBER: 100349

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| 1 | 2024-10-23 |
| 2 | 2024-10-31 |
| 3 | 2024-11-22 |
| 4 | 2024-12-04 |
| 5 | 2024-12-18 |
| 6 | 2025-01-02 |
| 7 | 2025-01-24 |

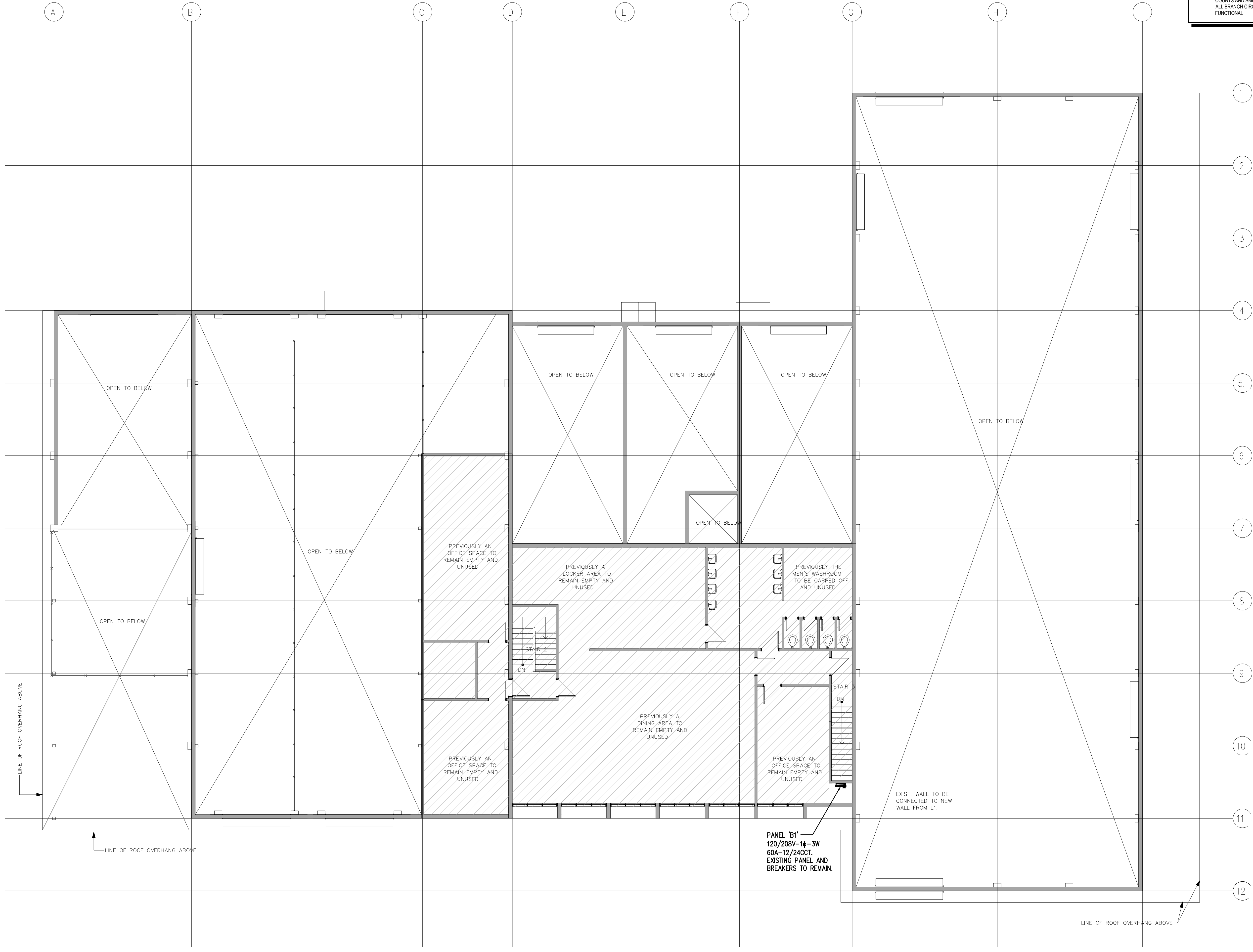
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|----------------|-----------------------|
| Project | 51104 - FMB Repurpose |
| Project Number | 15428 |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | E-204 |
| Drawing | LEVEL 1 POWER PLAN |

1 LEVEL 1 POWER PLAN
SCALE: 1:100



GENERAL NOTES

- ALL EXISTING ELECTRICAL DISTRIBUTION IS TO BE REPLACED WITH NEW PER NEW ONE-LINE DIAGRAM UNLESS NOTED OTHERWISE.
- ALL REPLACEMENT ELECTRICAL PANELS ARE TO HAVE THE SAME BREAKER COUNTS AND AMPERAGE RATINGS AS THE ORIGINAL EXISTING PANELS AND ALL BRANCH CIRCUITRY IS TO BE RE-CONNECTED AND TESTED AS FUNCTIONAL.

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PROJECT TO PRACTICE NUMBER: 100049

| Issue Date | Issue Description |
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| 2024-10-08 | GLOBAL REVISIONS LIST |
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| 3 | 2024-11-22 |
| 4 | 2024-12-04 |
| 5 | 2024-12-18 |
| 6 | 2025-01-02 |
| 7 | 2025-01-24 |

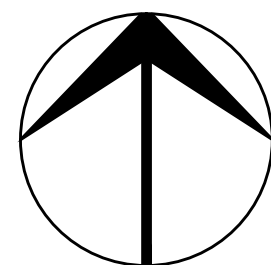
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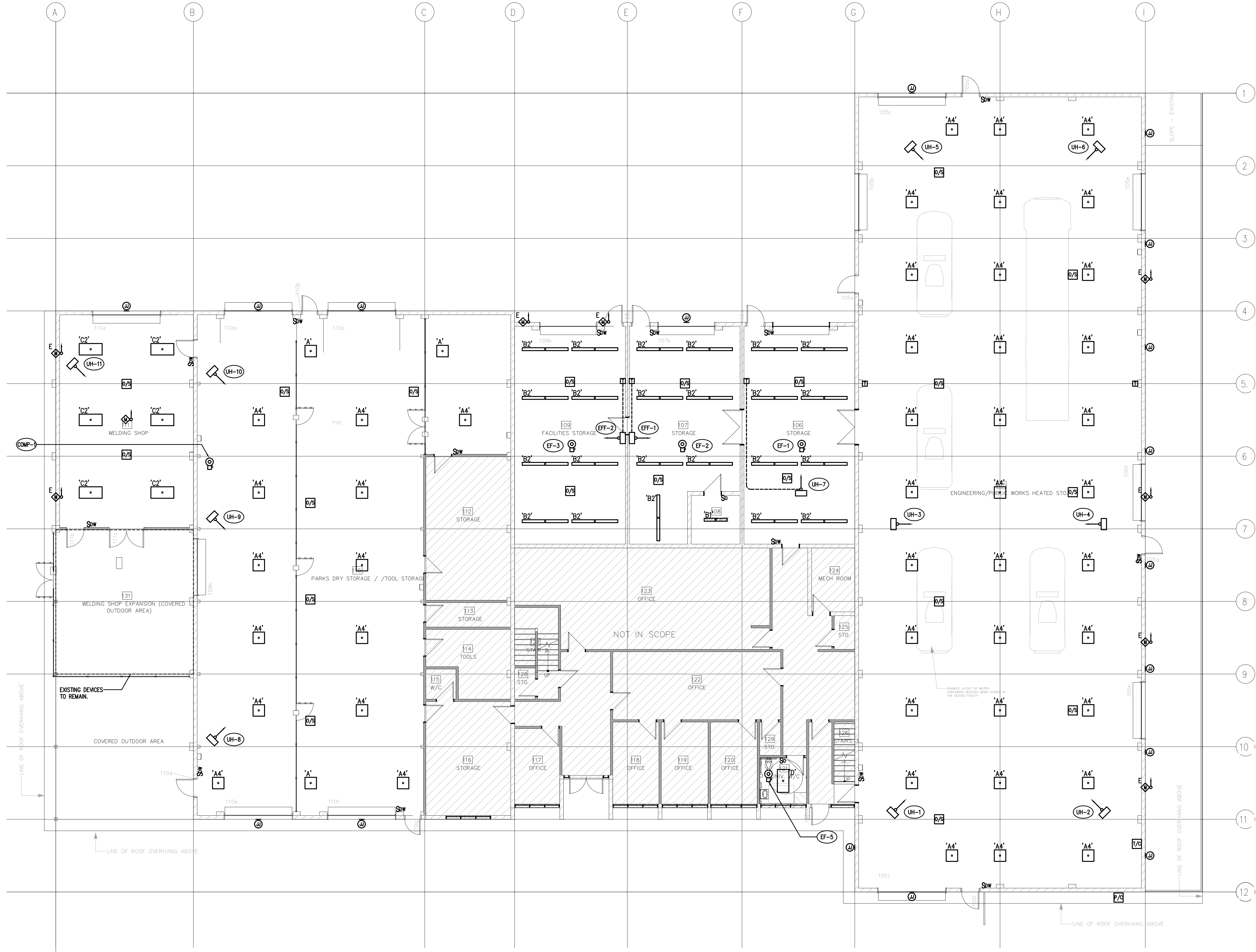


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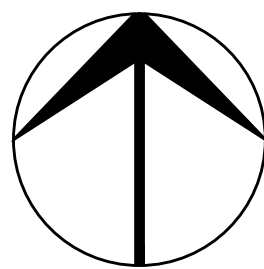
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|----------------|-----------------------|
| Project Number | 51104 - FMB Repurpose |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | E-205 |
| Drawing | LEVEL 2 POWER PLAN |

1 LEVEL 2 POWER PLAN
SCALE: 1:100





1 LEVEL 1 LIGHTING AND MECHANICAL PLAN
E-206 SCALE: 1:100



LEGEND:
E DENOTES EXISTING DEVICE TO REMAIN.

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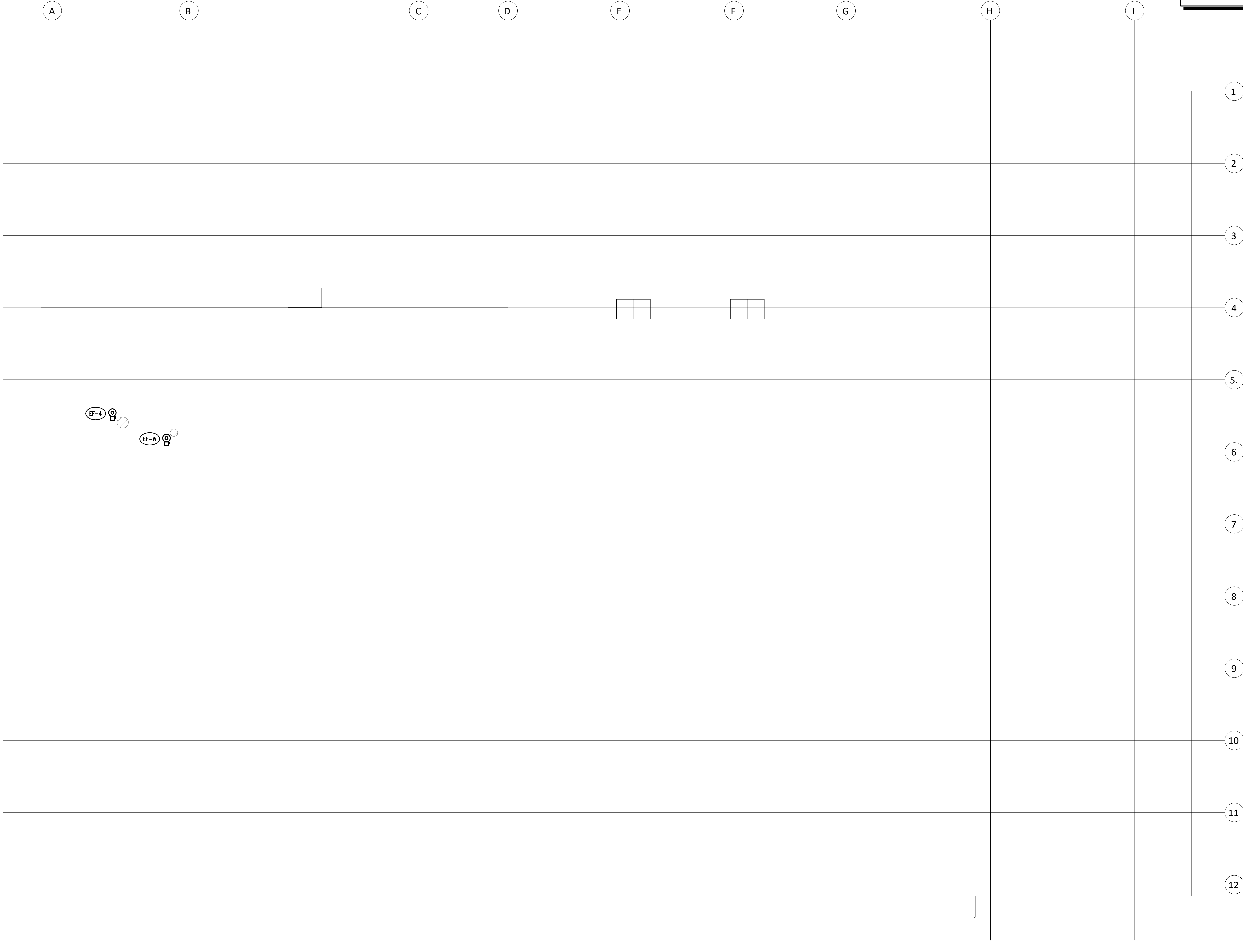
| Issue Date | Issue Description |
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| 1 | 2024-10-23 |
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| Project | 51104 - FMB Repurpose |
|----------------|--------------------------------------|
| Project Number | 15428 |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | E-206 |
| Drawing | LEVEL 1 LIGHTING AND MECHANICAL PLAN |



DRAWINGS NOTES:

1. ROOF TOP SERVICE RECEPTACLE. 120V/20A-3FCI RECEPTACLE C/W WEATHERPROOF BOX AND BUBBLE COVER EQUAL TO HUBBELL MM610C. MOUNT TO SIDE OF RTU AT 750MM AFF. CONNECT TO PANEL WITH SEPARATE CIRCUIT.

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| 3 | 2024-11-22 | ISSUED FOR BP REVIEW |
| 4 | 2024-12-04 | ISSUED FOR BP |
| 5 | 2024-12-18 | ISSUED FOR TENDER REVIEW |
| 6 | 2024-12-20 | ISSUED FOR TENDER |
| 7 | 2025-01-24 | ISSUED FOR RFP |

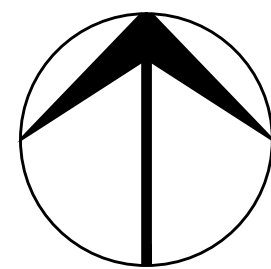
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| Project | 51104 - FMB Repurpose |
|----------------|-----------------------|
| Project Number | 15428 |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | E-207 |
| Drawing | ROOF PLAN |

1 ROOF PLAN
SCALE: 1:100



NOTE OLN-001:

GROUNDING TO BE PROVIDED AS REQUIRED BY CEC SECTIONS 10 AND 36.

GENERAL NOTES

1. CONFIRM METERING ARRANGEMENT WITH THE POWER SUPPLY AUTHORITY. REFER TO ELECTRICAL SPECIFICATIONS AND ALL POWER AUTHORITY METERING GUIDELINES.
2. WIRE SIZED FOR RW90 COPPER.
3. QMOB BOARD OR GUTTER AND SWITCHES ACCEPTABLE AS SPACE AND/OR BUS BRACING ALLOWS.
4. ✓ DENOTES THAT CIRCUIT BREAKER TO HOLD LOCKED ROTOR CURRENT FOR INDEFINITE.
5. ★ DENOTES TIME DELAY BUSS FUSE FOR 600V DISTRIBUTIONS AND BUSS FUSE FOR 250V DISTRIBUTIONS.
6. FP BREAKER TO BE SPECIFICALLY APPROVED AND DESIGNED FOR FIRE PUMP SERVICE AND BE LABELED SPECIFICALLY AS FIRE PUMP SERVICE AS PER CEC SECTION 32.

6A. FUSE SPECIFICATION 208/120 240/120 VOLTS

I. MAINS AND FEEDERS

- a) SERVICE ENTRANCE MAINS AND FEEDER FUSES OVER 800 AMPERES SHALL BE BUSSMANN HRC-L TYPE KRP-C WITH 'O' RING SEAL BETWEEN THE END BELLS AND THE GLASS MELAMINE FUSE BARREL. TERMINALS OF FUSE TO BE GLASS PEENED.
- a) ALL MAINS AND FEEDERS, 70 THROUGH 800 AMPERES, PROTECTING CIRCUIT BREAKERS, SHALL BE BUSSMANN HRC-T TYPE JLN. THE FUSES AND BREAKERS SHALL BE A CSA APPROVED SERIES TESTED COMBINATION LABELING OF THE EQUIPMENT MUST BE APPLIED PER CEC SECTION 14.
- c) ALL OTHER MAINS AND FEEDERS, 15 AMPS THROUGH 600 AMPS, OTHER THAN THOSE PROTECTING CIRCUIT BREAKERS, SHALL BE HRC-J TIME-DELAY TYPE LPJ-AMPS SP.
- d) ALL FUSE SHALL BE OF THE SAME MANUFACTURER TO FACILITATE SELECTIVE COORDINATION OF THE SYSTEM.

II. MOTORS

ALL MOTORS SHALL BE PROTECTED BY BUSSMANN HRC-J TIME-DELAY TYPE LPJ-AMPS SP HRC J FUSES. THESE FUSES SHALL BE SIZED AT 150 % OF MOTOR FULL LOAD AMPERES FOR STANDARD DUTY, AND 175% FOR HEAVY DUTY. FUSES SHALL PROVIDE "NO DAMAGE" PROTECTION TO THE MOTOR STARTER FOR ALL SHORT CIRCUIT CURRENTS UP TO 100,000 AMPERES RMS.

ALLOW FOR DISCONNECT AND TYPE J FUSE FOR MOTORS RATED OVER 60HP FOR FAULT CURRENT PROTECTION.

6B. FUSE SPECIFICATION 600/347 VOLTS

I. MAINS AND FEEDERS

- a) SERVICE ENTRANCE MAINS AND FEEDER FUSES OVER 800 AMPERES SHALL BE BUSSMANN HRC-L TYPE KRP-C WITH 'O' RING SEAL BETWEEN THE END BELLS AND THE GLASS MELAMINE FUSE BARREL. TERMINALS OF FUSE TO BE GLASS PEENED.
- a) ALL MAINS AND FEEDERS, 15 THROUGH 400 AMPERES, PROTECTING CIRCUIT BREAKERS, SHALL BE BUSSMANN HRC-L TYPE LPJ. THE FUSES AND BREAKERS SHALL BE A CSA APPROVED SERIES TESTED COMBINATION LABELING OF THE EQUIPMENT MUST BE APPLIED PER CEC SECTION 14.
- c) ALL OTHER MAINS AND FEEDERS, 15 AMPS THROUGH 600 AMPS, OTHER THAN THOSE PROTECTING CIRCUIT BREAKERS, SHALL BE HRC-J TIME-DELAY TYPE LPJ-AMPS SP.

II. MOTORS

ALL MOTORS SHALL BE PROTECTED BY BUSSMANN HRC-J TIME-DELAY TYPE LPJ-AMPS SP HRC J FUSES. THESE FUSES SHALL BE SIZED AT 150% OF MOTOR FULL LOAD AMPERES FOR STANDARD DUTY, AND 175% FOR HEAVY DUTY. FUSES SHALL PROVIDE "NO DAMAGE" PROTECTION TO THE MOTOR STARTER ALL SHORT CIRCUIT CURRENTS UP TO 100,000 AMPERES RMS.

THE PRIMARY FUSES PROTECTING 600 TO 208/120 VOLT, OR 600 TO 240/120 VOLT TRANSFORMERS, SHALL BE BUSSMANN TYPE HRC1-R DUAL ELEMENT, TIME DELAY TYPE FRS-R FUSES. THE FUSES SHALL BE SIZED AT 125% OF THE TRANSFORMER FULL LOAD CURRENT IN ACCORDANCE WITH THE CEC SECTION 26. THE FUSE SHALL BE CAPABLE OF HANDLING 20 TIMES THE TRANSFORMER FULL LOAD CURRENT FOR 1 SECOND.

ALLOW FOR A DISCONNECT AND TYPE J FUSE FOR MOTORS RATED OVER 60HP FOR FAULT CURRENT PROTECTION.

6C. GROUND FAULT RELAYS

GROUND FAULT RELAYS (One level)







THE MAIN GROUND FAULT RELAY SHALL BE VERY INVERSE TIME BAND SET AT 1200 AMPERES ONE SECOND INVERSE TIME. ALL FEEDERS RATED 1000 AMPERES & GREATER AT 600 VOLTS AND 2000 AMPERES & GREATER AT 208 VOLTS SHALL BE EQUIPPED WITH GROUND FAULT RELAYS SET AT 1200 AMPERES 0.1 SECOND INVERSE TIME BAND. ALL FEEDER SWITCHES 600 AMP AND SMALLER SHALL BE EQUIPPED WITH BUSSMANN FUSES TYPE LPJ WHICH MEET THE GROUND FAULT REQUIREMENTS OF THE CEC SECTION 14.

GROUND FAULT RELAYS THAT ARE AN INTEGRAL PART OF OVER CURRENT RELAYS WILL NOT BE ACCEPTABLE BECAUSE OF THEIR INABILITY TO SELECTIVELY COORDINATE WITH DOWN STREAM PROTECTIVE DEVICES.

PROVIDE ZERO SEQUENCE CURRENT TRANSFORMERS ENCIRCLING ALL PHASES AND NEUTRAL CONDUCTORS. GROUND STRAP CURRENT TRANSFORMERS ARE NOT ACCEPTABLE AS UNDER CODE THEY RESTRICT THE MAXIMUM RELAY SETTINGS TO 1000 AMPERES.

(VERY INVERSE TIME) GROUND FAULT RELAY OR APPROVE EQUAL RELAY MUST BE OF A VERY INVERSE CHARACTERISTIC AND BE CAPABLE OF BEING SET AT 1200 AMPS PICKUP AT 1 SECOND. SETTING CLEAR THE FAULT AT 1000 AMPS.

7. ONLY "APPROVED" SERIES RATED COMBINATION TO BE USED.

- 7A. THE DISTRIBUTION SHOP DRAWINGS SUBMISSION MUST INCLUDE THE ENGINEERS SIGNED LETTER "APPENDIX E" FROM THE ELECTRICAL SPECIFICATION, ASSURING THAT THE FAULT LIMITATION COMPLIANCE AND COORDINATION IS PROVIDED.
8. THE DISTRIBUTION SHOP DRAWINGS SUBMISSION MUST INCLUDE THE ENGINEERS SIGNED LETTER "APPENDIX E" FROM THE ELECTRICAL SPECIFICATION, ASSURING THAT THE FAULT LIMITATION COMPLIANCE AND COORDINATION IS APPROVED.
- 8A. ANY REQUEST FOR USE OF ALTERNATE PROTECTION DEVICES SHALL BE ACCOMPANIED BY A FULL COORDINATION STUDY AND FAULT CURRENT CALCULATION ONE FULL CALENDAR WEEK PRIOR TO CLOSE OF TENDER FOR REVIEW BY THE ENGINEER.
- 8B. DENOTES MANUFACTURER'S SUGGESTED BREAKER SIZES. CONTRACTOR TO COORDINATE BREAKER SIZES WITH MANUFACTURER'S OVERCURRENT PROTECTION SPECIFICATIONS AND CONFIRM WITH LOCAL AUTHORITIES AND MECHANICAL SHOP DRAWINGS PRIOR TO INSTALLATION.
9. DENOTES MANUFACTURER'S SUGGESTED BREAKER SIZES. CONTRACTOR TO COORDINATE BREAKER SIZES WITH MANUFACTURER'S OVERCURRENT PROTECTION AND CONFIRM WITH THE LOCAL AUTHORITIES AND MECHANICAL SHOP DRAWINGS PRIOR TO INSTALLATION.
10. MINIMUM TRANSFORMER IMPEDANCE TO BE 6%.
11.  - PROVIDE CABINET C/W REMOVABLE SIDE FOR FUTURE METERING AND LAMICOID LABEL TO READ "CHECK METER PROVISIONS".
12.  - GROUND FAULT RELAY SYSTEM
13.  - POWER AUTHORITY CONSUMPTION METER
14. PROVIDE SPARE FUSE CABINET AND THREE SPARE FOR EACH TYPE AND SIZE.
15. THE FAULT LIMITATIONS FOR SERIES RATED COMBINATIONS MUST COMPLY WITH CEC SECTION 14.
16. ALL COMPONENTS CONNECTED TO THE ELECTRICAL DISTRIBUTION SYSTEM SHALL MEET OR EXCEED THE AVAILABLE FAULT LEVELS. THIS INCLUDES ALL TRANSFER SWITCHES, TRANSFORMERS, MECHANICAL EQUIPMENT, ETC.
17.  - DENOTES CURRENT TRANSFORMERS
18.  - DENOTES INFORMATION METER
19.  - DENOTES MEASUREMENTS CANADA CERTIFIED REVENUE GRADE ELECTRONIC METER
20. ELECTRICAL CONTRACTOR TO ALLOW FOR CONNECTIONS TO ELEVATOR CONTROLLER AND TRANSFORMER AS PER SELECTED ELEVATOR SUPPLIER.
21. **ONE LINE POSTING**

THE ELECTRICAL CONTRACTOR IS TO PROVIDE AN "AS BUILT" ONE LINE, FULL SIZED PRINTS IN AN ACRYLIC FRAME OR PLASTIC ENVELOPE, PERMANENTLY MOUNTED ON THE WALL OF THE MAIN ELECTRICAL ROOM, PRIOR TO OCCUPANCY INSPECTION CALL. THIS ONE LINE MUST DETAIL THE FUSE SIZES AND TYPES AS WELL AS BREAKER SIZES AND TYPES, ALL AS PER THE ONE LINE PROVIDED BY THE DISTRIBUTION EQUIPMENT SUPPLIER AND AS PER APPENDIX 'E'.

BASE FEEDER SCHEDULE

1. EXCEPT AS NOTED ON THE ONE LINE, THE FOLLOWING BASE FEEDERS SHOULD BE PROVIDED.
2. ALL CONDUCTORS ARE TO BE DERATED AS PER CEC SECTION 4 & APPENDIX B.

| FUSE/BREAKER SIZE: | CONDUIT & WIRE SIZE: |
|--------------------|------------------------|
| 30A | 16mm(3/4") 4/0 RW90 |
| 40A | 16mm(3/4") 4/0 RW90 |
| 50/60A | 35mm(1 1/4") 4/0 RW90 |
| 70/80A | 41mm(1 1/2") 4/0 RW90 |
| 100A | 41mm(1 1/2") 4/0 RW90 |
| 125A | 53mm(2") 4/0 RW90 |
| 150A | 53mm(2") 4/0 RW90 |
| 175A | 53mm(2") 4/0 RW90 |
| 200A | 53mm(2") 4/0 RW90 |
| 250A | 78mm(3") 4/0 RW90 |
| 300A | 2 X 53mm(2") 4/0 RW90 |
| 400A | 2 X 53mm(2") 4/0 RW90 |
| 500A | 2 X 78mm(3") 4/0 RW90 |
| 600A | 2 X 78mm(3") 4/0 RW90 |
| 700A | 2 X 103mm(4") 4/0 RW90 |
| 800A | 2 X 103mm(4") 4/0 RW90 |
| 1000A | 4 X 103mm(4") 4/0 RW90 |
| 1200A | 4 X 103mm(4") 4/0 RW90 |
| 1400A | 4 X 103mm(4") 4/0 RW90 |
| 1600A | 4 X 103mm(4") 4/0 RW90 |
| 2000A | 6 X 103mm(4") 4/0 RW90 |

3. CONDUCTOR SIZE FOR HYDRAULIC ELEVATORS TO BE 200% OF THE LISTED CEC, UNLESS OTHERWISE NOTED.

FEEDERS AND DISTANCES

| DISTANCE | FEEDER |
|--------------------|------------------------------|
| 0.0-28m(0.0-75 FT) | BASE |
| 28-46m(75-150 FT) | INCREASE ONE SIZE FROM BASE |
| 46-60m(150-200 FT) | INCREASE TWO SIZES FROM BASE |

FEEDERS LONGER THAN 200 FEET LONG APPLY VOLTAGE DROP AS PER CEC

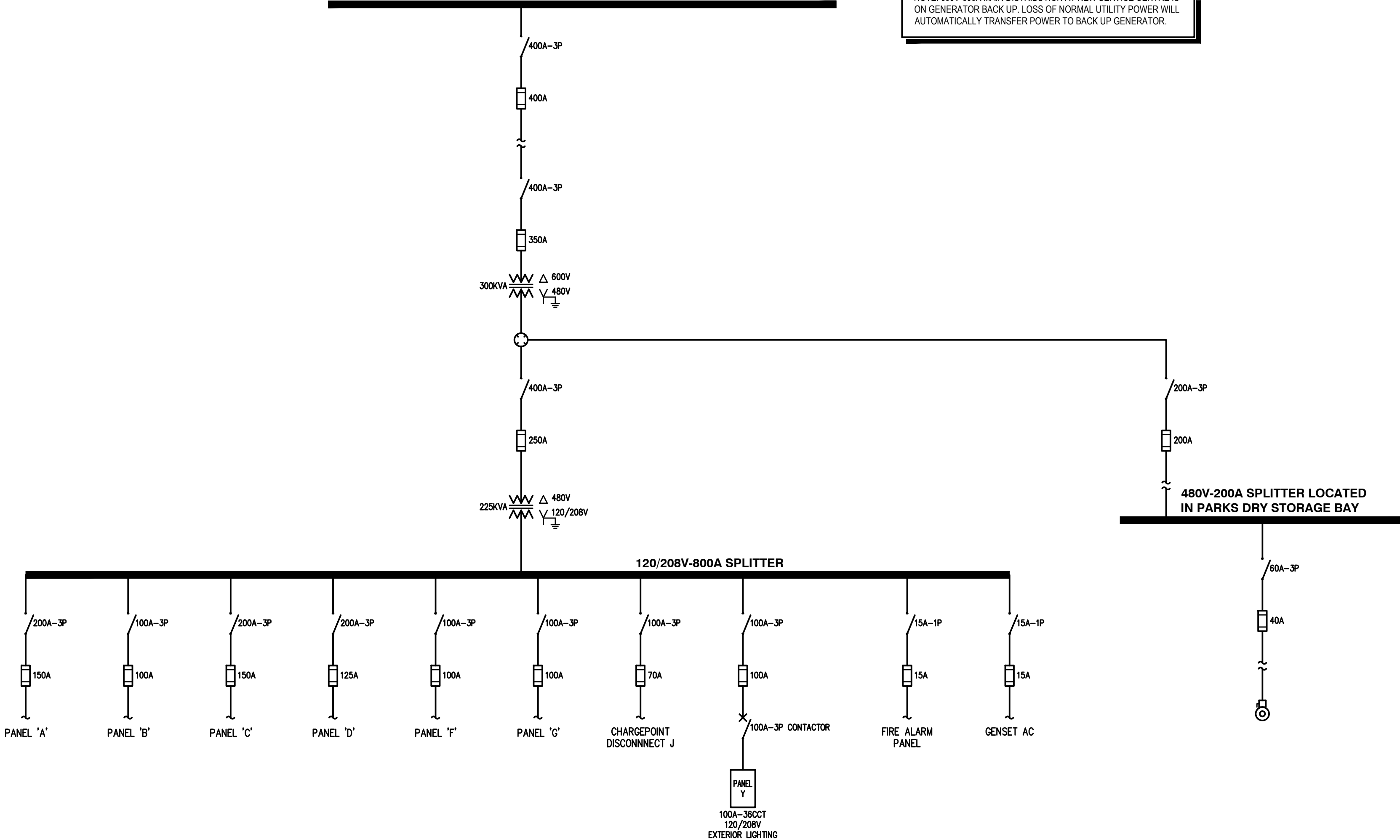
| THREE-PHASE | | | |
|-------------|------------------------|--|--|
| KVA | MINIMUM LOW VOLTAGE, V | 1.2 KV CLASS, % EFFICIENCY AT .35 PER UNIT NAME-PLATE LOAD | BIL 20 150KV, % EFFICIENCY AT 5 PER UNIT NAME-PLATE LOAD |
| 15 | 208/120V | 97.89 | 97.50 |
| 30 | 208/120V | 98.23 | 97.90 |
| 45 | 208/120V | 98.40 | 98.10 |
| 75 | 208/120V | 98.60 | 98.33 |
| 112.5 | 208/120V | 98.74 | 98.52 |
| 150 | 208/120V | 98.83 | 98.65 |
| 225 | 208/120V | 98.94 | 98.82 |
| 300 | 208/120V | 99.02 | 98.93 |
| 600 | 208/120V | 99.14 | 99.09 |
| 750 | 208/120V | 99.23 | 99.21 |
| 1000 | 208/120V | 99.28 | 99.28 |
| 1500 | 480/277V | - | 99.37 |
| 2000 | 480/277V | - | 99.43 |
| 2500 | 480/277V | - | 99.47 |
| 3000 | 600/347V | - | 99.47 |
| 3750 | 4160/2400V | - | 99.47 |
| 5000 | 4160/2400V | - | 99.47 |
| 7500 | 4160/2400V | - | 99.48 |

NOTE:

ALL DRY TYPE TRANSFORMERS MUST MEET THE CAN/CANULC-C802 (LATEST EDITION) STANDARDS

NOTE: SINGLE WOUND DUAL VOLTAGE SECONDARY TRANSFORMERS ARE NOT ACCEPTABLE

600V-600A MAIN DISTRIBUTION AT NEW SERVICE CENTRE



| SYMBOL SCHEDULE | | | | | | | | | |
|---|--|--|--|--|--|------------------------|---|--|--|
| <div>NOTES:</div> <div><div><div>ARMORED CABLE AND NONMETALLIC CABLE MAY BE USED WHERE PERMITTED BY CODE.</div><div>ALL WIRE DESIGNATED SHALL BE COPPER ONLY.</div><div>ALL CONDUCTORS SHALL BE #12 UNLESS OTHERWISE NOTED.</div><div>ALL 15AMP CIRCUITS OVER 100'-0" (30 METERS) TO BE #10 THROUGHOUT UNLESS OTHERWISE NOTED.</div><div>MOUNTING HEIGHTS SHOWN ON DRAWINGS SUPERSEDE MOUNTING HEIGHTS SHOWN ON SYMBOL SCHEDULE.</div><div>ELECTRICAL CONTRACTOR TO VERIFY MOUNTING HEIGHTS WITH SITE CONDITIONS.</div></div><div><div>PAG - PER ADAPTABLE GUIDELINES</div><div>ALL IN SUITE FIRE ALARM SPEAKERS AND ADDRESSABLE HORNS ARE TO BE PROVIDED WITH ROUGH WIRE FOR FUTURE STROBE ROUGH-IN (VANCOUVER).</div></div><div><div>THE ELECTRICAL CONTRACTOR SHALL PROVIDE VAPOR BARRIERS AT ALL OUTLETS IN EXTERIOR WALLS & CEILINGS THAT HAVE INSULATION AND BARRIERS BY FITTING THE OUTLETS WITH PROTECTOR PLATES AND OUTLET BOX BARRIERS, AS MANUFACTURED BY BEVERLY OR HUBBELL. THE PROTECTOR PLATES SHALL SUPPORT THE BOX BARRIERS TO ENSURE A GOOD SEAL.</div><div>THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL HLTI PUDDY PADS (OR APPROVED ALTERNATES) ON ALL OUTLET BOXES LOCATED WITHIN PARTY AND SUITE SEPARATION WALLS.</div><div>ELECTRICAL CONTRACTOR TO NOTE METAL BOXES ARE REQUIRED TO BE USED IN FIRE RATED PARTY WALLS AND FIRE RATED CEILING.</div></div></div> | | | | | | | | | |
| SYMBOL | DESCRIPTION | | | | OUTLET BACK BOX DIMENSIONS (H x W x D) | | | MOUNTING (T O E) | |
| POWER | | | | | | | | | |
| | FLUSH DUPLEX RECEPTACLE | | | LEGRAND 2625ZW | (4" x 4" x 2-1/8") c/w MUD RING | (101mm x 101mm x 63mm) | At 20.5" (521mm) | PAG | |
| | DUPLEX RECEPTACLE-GFCI - (5-15R) | | | LEGRAND 159TW | (4" x 4" x 2-1/8") c/w MUD RING | (101mm x 101mm x 63mm) | At 20.5" (521mm) | PAG | |
| | DUPLEX RECEPTACLE (20A) 120V-14 T-SLOT - (5-20R) | | | LEGRAND 2635ZW | (4" x 4" x 2-1/8") c/w MUD RING | (101mm x 101mm x 63mm) | AS NOTED | | |
| | DUPLEX RECEPTACLE - MICROWAVE - SEE DRAWINGS FOR MOUNTING 15 OR 20A | | | LEGRAND 2625Z-W/2635ZW | (4" x 4" x 2-1/8") c/w MUD RING | (101mm x 101mm x 63mm) | VARIES | | |
| | TWO DUPLEX RECEPTABLES IN DOUBLE GANG BOX - ONE DUPLEX RED OR GREY IN COLOR FOR COMPUTER POWER - ONE DUPLEX WHITE IN COLOR FOR GENERAL POWER. | | | LEGRAND 2625RED, 2625GRY LEGRAND 2625ZW | (4-1/16" x 4-1/16" x 2-1/2") | (120mm x 120mm x 63mm) | VARIES | | |
| | DRYER RECEPTACLE 30A - | | | LEGRAND 3864 | (4-1/16" x 4-1/16" x 2-1/2") | (120mm x 120mm x 63mm) | At 2'-0" (610mm) SIDE BY SIDE 4'-0" (120mm) STACKED | | |
| | DISTRIBUTION PANEL (REFER TO PANEL SCHEDULE) | | | | VARIES | | AS NOTED | | |
| | JUNCTION BOX | | | | (4" x 4" x 2-1/8") c/w MUD RING | (101mm x 101mm x 63mm) | CEILING or WALL | PAG | |
| | JUNCTION BOX w/ HOME RUN | | | | (4" x 4" x 2-1/8") c/w MUD RING | (101mm x 101mm x 63mm) | CEILING or WALL | PAG | |
| | JUNCTION BOX | | | | (4" x 4" x 2-1/8") c/w MUD RING | (101mm x 101mm x 63mm) | CEILING or WALL | PAG | |
| LIGHTING / SWITCHING | | | | | | | | | |
| | SURFACE MOUNT LUMINAIRE | | | | NOT REQUIRED | | | CEILING | |
| | SUSPENDED OR PENDANT LIGHT LUMINAIRE | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) CEILING | |
| | SURFACE MOUNT LUMINAIRE | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) CEILING/WALL OR SUSPENDED | |
| | SINGLE POLE SWITCH | | | LEVITON 5601-2 15A | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) At 38.5" (978mm) | |
| | DIMMER SWITCH C/W PRESET SWITCH AND SLIDE CONTROL | | | 6633-PLV1 / P06-1L2 | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) At 38.5" (978mm) | |
| | DIMMER SWITCH W/ INTEGRATED VACANCY SENSOR - (ALLOW 1 CIRCUIT PER SWITCH) | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) At 38.5" (978mm) | |
| | DIGITAL WALL SWITCH W/ ROOM CONTROLLER - (ALLOW 1 CIRCUIT PER SWITCH) | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) At 38.5" (978mm) | |
| | OCCUPANCY SENSOR | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) CEILING | |
| | TIME CLOCK | | | LEVITON E2-MAX RE4BD-104 R08BD-L08 | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) AS NOTED | |
| | PHOTOCELL DAYLIGHT CONTROL | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) CEILING | |
| COMMUNICATION | | | | | | | | | |
| | TELEPHONE OUTLET - 1" (25mm) CONDUIT TO EACH OUTLET - REFER TO DRAWINGS FOR WIRING REQUIREMENT | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) At 20.5" (521mm) or PAG | |
| | DATA OUTLET - 1" (25mm) CONDUIT TO EACH OUTLET - REFER TO DRAWINGS FOR WIRING REQUIREMENT | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) At 20.5" (521mm) or PAG | |
| | WIRELESS ACCESS POINT - 1" (25mm) CONDUIT TO EACH OUTLET - REFER TO DRAWING FOR WIRING REQUIREMENT | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) CEILING SPACE | |
| LIFE SAFETY | | | | | | | | | |
| | EX-EMERGLITE - EP3 W/ PLASTIC SELF POWERED RUNNING MAN; 2 HR EXIT SIGN EX-EMERGLITE - EP3 WU (PLASTIC ONLY) OR EQUIVALENT. | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) | |
| | EX-EMERGLITE - EP3 W/ PLASTIC SELF POWERED RUNNING MAN; 2 HR EXIT SIGN EX-EMERGLITE - EP3 WU (PLASTIC ONLY) OR EQUIVALENT. (DOUBLE SIDED) | | | | | | | COORDINATE EXIT SIGN LOCATIONS WITH SITE CONDITIONS FOR SIGHT LINE VISIBILITY WHEN CEILING MOUNTED TO BE INSTALLED NO LOWER THAN 2000MM TO UNDERSIDE | |
| | EX-EMERGLITE - EP3 W/ PLASTIC SELF POWERED RUNNING MAN; 2 HR EXIT SIGN EX-EMERGLITE - EP3 WU (PLASTIC ONLY) OR EQUIVALENT. (DOUBLE SIDED - LEFT OR RIGHT DIRECTION) | | | | | | | | |
| | COMBINATION UNIT - EMERGLITE - PREP1 W/ 2LSA 2 L2U HR - OR EQUIVALENT | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) | |
| | EMERGENCY LIGHTING UNIT W/ BATTERY PACK - EMERGLITE - 12 ESL SERIES c/w 6 WATT LED HEADS OR EQUIVALENT; MINI INVERTERS - EMERGLITE - EM1 SERIES 2HR | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) SURFACE HIGH AS POSSIBLE. COORDINATE | |
| FIRE ALARM | | | | | | | | | |
| | FIRE ALARM PULLSTATION - EDWARDS SIGA-270 | | | | 4" SQUARE BOX W/ 1/2" RAISED SINGLE DEVICE COVER | | | PULLSTATION: AT 3'-5" (1050mm) TO 3'-9" (1100mm) MEASURE TO CENTER | |
| | HORN SIGNAL - EDWARDS GENESIS G4 SERIES RED (COMMON AREAS LOW RISE BUILDING) | | | | VARIES BY MODEL | | | DEPENDANT WITH SITE CONDITION FND MIN. MAX. HEIGHTS IN ULG | |
| | 24V STROBE SIGNAL - EDWARDS GENESIS G4 SERIES RED | | | | | | | | |
| | SMOKE DETECTOR - PHOTOELECTRIC - EDWARDS SIGA-OSD SERIES | | | | OCTAGON OR 4" SQUARE | | | DEPENDANT WITH SITE CONDITION FND MIN. MAX. HEIGHTS IN ULG | |
| | CARBON MONOXIDE ALARM - KIDDE MODEL KN-COB-IC-CA OR EQUIVALENT | | | | NOT REQUIRED | | | | |
| | TAMPER SWITCH - EDWARDS SIGA-CT2 | | | | PER APPLICATION | | | | |
| | FLOW SWITCH - EDWARDS SIGA-CT2 | | | | PER APPLICATION | | | | |
| MECHANICAL | | | | | | | | | |
| | MOTOR c/w DISCONNECT SWITCH AND MAGNETIC MOTOR STARTER - SEE MECHANICAL SCHEDULE | | | | HARD WIRED CONNECTION | | | VARIES | |
| | MOTOR | | | | HARD WIRED CONNECTION | | | VARIES | |
| | DISCONNECT SWITCH | | | | NOT REQUIRED | | | VARIES | |
| | MAGNETIC MOTOR STARTER C/W PILOT LIGHT AND HAND/OFF/AUTO BUTTON | | | | NOT REQUIRED | | | | |
| | CARBON MONOXIDE & GAS SENSORS CONDUIT & BOX ROUGH-IN FLUSH BY DIVISION 1626. WIRING AND DEVICES BY DIVISION 1525. COORDINATE WITH DIVISION 1525 TO PROVIDE 120 VOLT CONTROL LOCATED NEAR PANEL OR PANEL "M" OR "EMM". REFER TO APPROVED SHOP DRAWINGS. | | | | AS PER MANUFACTURER | | | AS NOTED | |
| | MOTORIZED DAMPER. COORDINATE WITH DIVISION 1525 TO PROVIDE 120 VOLT POWER. CONTROLS BY DIVISION 15 | | | | HARD WIRED CONNECTION | | | VARIES | |
| | UNIT HEATER OR FORCE FLOW HEATER - STELPRO RUH OR RWI SERIES RESPECTIVELY OR APPROVED ALTERNATE | | | | HARD WIRED CONNECTION | | | VARIES | |
| | ELECTRIC DUCT HEATER REFER TO MECHANICAL SCHEDULE FOR REQUIREMENTS. | | | | HARD WIRED CONNECTION | | | VARIES | |
| | ELECTRIC BASEBOARD HEATER - STELPRO B - WHITE OR APPROVED ALTERNATE | | | | VARIES | | | SURFACE | |
| | THERMOSTAT - STELPRO SWT2C | | | | (4" x 4" x 2-1/8") c/w MUD RING | | | (101mm x 101mm x 63mm) At 45" (1143mm) OR PAG | |
| MISCELLANEOUS | | | | | | | | | |
| | DENOTES ISOLATED GROUND | | | | | | | | |
| | DENOTES GROUND FAULT INTERRUPT | | | | | | | | |
| | DENOTES WEATHER PROOF | | | | | | | | |
| | INDICATES CONDUIT HOME RUN TO DESIGNATED PANEL | | | | | | | | |
| | INDICATES CONDUIT IN WALL RUN VERTICALLY | | | | | | | | |
| | INDICATES CONDUIT IN OR NEAR CEILING TURNED DOWN | | | | | | | | |
| | TO BE DETERMINED | | | | | | | | |
| | TO BE CONFIRMED | | | | | | | | |
| | ABOVE FINISHED FLOOR | | | | | | | | |
| | COMPLETE WITH | | | | | | | | |

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| PANEL SCHEDULE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|------------|-------|------|-------------|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|-----|------------|----|----|----|----|----|----|----|----|----|---------------|--------------------|----------------|-----|
| PANEL | SIZE | MOUNT | DUTY | SINGLE POLE | | | | | | TWO POLE | | | | | | | | | | THREE POLE | | | | | | | | | | TIME CLOCK | RELAYS (30A-4P) | PHOTO- CELL | |
| | | | | 15 | 20 | 30 | 40 | 50 | 60 | 15 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | | | | 100 |
| - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 'Y' | 36cct | S | 225A | 6 | 2 | 1 | | | | 2 | | | | | | | | | | 1 | | | | | | | | | | | | | |
| 'B' | 42cct | S | 225A | 26 | 2 | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | | | | | |
| 'F' | 42cct | S | 225A | 5 | | | | | | 1 | 2 | 1 | | | | 1 | | | | 1 | | 3 | | | 2 | | | | | | | | |
| 'A' | 2x36=72cct | F | 225A | 42 | 2 | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| 'D' | 42cct | S | 225A | 17 | | | | | | 2 | 1 | 1 | | | | 2 | | | | 2 | | | 1 | | 1 | | | | | | | | |
| 'G' | 42cct | S | 225A | 6 | 4 | | | | | | | | | | | 1 | | | | 2 | | | | | | 1 | | | | | | | |
| 'C' | 2x42=84cct | S | 225A | 34 | | | | | | 3 | 1 | 1 | 1 | | | 1 | 1 | | | 4 | | | | | 4 | | 1 | | | | | | |
| 'W' | 32cct | S | 100A | 11 | 4 | | | | | 1 | | | 2 | | | | | | | | | | | | | | | | | | | | |

S-001: ELECTRICAL SPECIFICATIONS: (031424)

1. GENERAL

- 1 THE ELECTRICAL CONTRACTOR IS TO SUPPLY AND INSTALL ALL LABOUR AND MATERIALS NECESSARY TO PROVIDE A COMPLETE AND OPERATING ELECTRICAL SYSTEM AS SPECIFIED OR INDICATED ON THE DRAWINGS. ANY WORK, EVEN IF NOT SHOWN OR SPECIFIED, WHICH ARE OBVIOUSLY NECESSARY OR REASONABLY IMPLIED TO COMPLETE THE WORK, ARE TO BE DONE AS IF IT WERE BOTH SHOWN OR SPECIFIED.
- 2 THE RESPONSIBILITY AS TO WHICH SUB-TRADE PROVIDES ARTICLES OR MATERIALS RESTS SOLELY WITH THE PRIME CONTRACTOR. EXTRAS WILL NOT BE CONSIDERED BASED ON GROUNDS OF DIFFERENCE IN INTERPRETATION OF DRAWINGS OR NOTES AS TO WHICH TRADE INVOLVED IS TO PROVIDE CERTAIN SPECIALTIES OR MATERIALS.
- 3 THE DRAWINGS OF THE DIVISION ARE PERFORMANCE DRAWINGS AND INDICATE THE GENERAL ARRANGEMENT OF WORK. THEY ARE DIAGRAMMATIC AND DO NOT SHOW ALL THE EXISTING STRUCTURAL AND CONSTRUCTION DETAILS. ANY INFORMATION INVOLVING ACCURATE MEASUREMENTS AND EXISTING CONDITIONS SHALL BE VERIFIED ON SITE. ALL NECESSARY ADJUSTMENTS, CHANGES, AND ADDITIONS TO CARRY OUT THE DESIGN INTENT IS TO BE MADE WITHOUT ADDITIONAL CHARGE.
- 4 CONTRACTOR TO VISIT SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO TENDER. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO DO SO.
- 5 THE CONTRACTOR IS TO PROVIDE "AS-BUILT" MARK UPS UPON COMPLETION AND TO ALLOW FOR CAD PROJECTS ARE \$450 AND REVIT ARE \$750 PER SHEET FOR THE CONSULTANT TO UPDATE THE FILES FOR THE OWNER'S RECORD.

2. CODES, PERMITS AND INSPECTION

- 1 THE INSTALLATION IS TO COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE AND THE REGULATIONS OF THE ELECTRICAL INSPECTION AUTHORITY HAVING JURISDICTION. THESE DOCUMENTS ARE NOT INTENDED TO REITERATE ANY CODES OR REGULATIONS. ALL CONTRACTORS AND THEIR RESPECTIVE TRADES PEOPLE ARE TO BE LICENSED AND QUALIFIED TO PERFORM ANY TYPE OF WORK. NO ALLOWANCE WILL BE MADE FOR THE FAILURE OF THE CONTRACTOR TO PROVIDE SUITABLE GROUNDING, ACCESS PANELS, WIRING METHODS, ETC. TO THE SATISFACTION OF THE APPLICABLE CODES AND INTENT OF THESE DOCUMENTS.
- 2 THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR THE COMPLETION OF THE JOB. AND PROVIDE DRAWINGS TO THE POWER AUTHORITY AS REQUIRED BY THE GOVERNING RULES AND REGULATIONS.

3. STANDARDS OF MATERIAL AND QUALITY OF INSTALLATION

- 1 ALL MATERIALS ARE TO BE NEW, UNLESS OTHERWISE INDICATED, OF MINIMUM QUALITY SPECIFIED, AND ARE TO CONFORM TO THE REQUIREMENTS OF THE CANADIAN STANDARDS ASSOCIATION (CSA) FOR THE INTENDED APPLICATION. WHERE EQUIPMENT OR MATERIAL IS SPECIFIED BY TECHNICAL DESCRIPTION ONLY, IT IS TO BE OF THE BEST COMMERCIAL QUALITY OBTAINABLE FOR THE PURPOSE.
- 2 ALL WORK TO BE LAID OUT IN A NEAT AND ORGANIZED MANNER.
- 3 WHERE WIRING IS EXPOSED, IT SHALL BE RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES.

4. ALTERNATES

- 1 ALTERATIONS ENTAILING ADDITIONAL WORK OR DELETIONS ARE TO BE CARRIED OUT ONLY UPON THE WRITTEN REQUEST OF THE PRIME CONSULTANT.
- 2 ANY PRICES SUBMITTED BY THE ELECTRICAL CONTRACTOR FOR ADDITIONAL WORK OR ALTERATIONS ARE TO INCLUDE A PRICE BREAKDOWN FOR ALL LABOUR AND MATERIALS. WHERE REQUIRED, PRICING FOR LABOUR AND MATERIALS WILL BE CHECKED BY INVOICES, TIME SHEETS, ETC. NO EXTRAS WILL BE ALLOWED WITHOUT PRIOR WRITTEN AUTHORIZATION.

5. SHOP DRAWINGS AND APPROVALS

- 1 THE ELECTRICAL CONTRACTOR IS TO SUBMIT TO THE ENGINEER FOR APPROVAL A COMPLETE LIST OF ALL EQUIPMENT PROPOSED TO BE USED ON THE PROJECT, IDENTIFYING NAME OF MANUFACTURER, RATING, TECHNICAL DESCRIPTION AND CATALOGUE NUMBER. ALL SUBMISSIONS ARE TO BE MADE DIGITALLY AS A PDF AND PROVIDED WITH SUFFICIENT ROOM FOR ALL APPROVAL STAMPS. SHOP DRAWINGS WILL NOT BE REVIEWED UNTIL BOTH THE ELECTRICAL CONTRACTOR AND GENERAL (PRIME) CONTRACTOR HAVE REVIEWED, STAMPED AND SIGNED OFF THE RESPECTIVE DRAWINGS.

6. SETTING OUT WORK

- 1 THE ELECTRICAL CONTRACTOR IS TO THOROUGHLY EXAMINE THE SITE AND DRAWINGS AND REPORT ANY DISCREPANCIES, ERRORS OR OMISSIONS TO THE ENGINEER PRIOR TO TENDER. THE ELECTRICAL CONTRACTOR IS TO GIVE THE WORK PERSONAL SUPERVISION. LAYOUT THE WORK, DO ALL NECESSARY LEVELING AND MEASURING, OR EMPLOY A COMPETENT ENGINEER TO DO SO. FIGURES, FULL SIZE AND DETAILED DRAWINGS ARE TO TAKE PRECEDENCE OVER SCALE MEASUREMENTS OF THE DRAWINGS.
- 2 THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR CORRECTING ALL WORK COMPLETED CONTRARY TO THE INTENT OF THE DRAWINGS AND IS TO BEAR ALL COSTS OF SAME. WHERE THE INTENT OF THE DRAWINGS IS NOT CLEAR, OBTAIN CLARIFICATION FROM THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- 3 IT IS THE INTENT OF THESE DRAWINGS TO PROVIDE FOR AN ELECTRICAL INSTALLATION COMPLETE AND IN AN OPERATING CONDITION AND THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF ALL MATERIALS NECESSARY TO ACCOMPLISH THIS.
- 4 THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY THE IMPROPER LOCATION OR CARRYING OUT OF THEIR WORK.
- 5 THE ELECTRICAL CONTRACTOR IN SETTING OUT THE WORK IS TO MAKE REFERENCE TO THE ELECTRICAL, MECHANICAL, STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONSULT WITH THE RESPECTIVE TRADES IN SETTING OUT LOCATIONS FOR CONDUIT, LIGHTS, SWITCHES, FIXTURES, PANEL ASSEMBLIES, ETC. SO THAT CONFLICTS ARE AVOIDED AND SYMMETRICAL EVEN SPACING IS MAINTAINED.
- 6 CONDUIT IS TO BE LAID OUT TO AVOID INTERFERENCE WITH OTHER TRADES AND IS TO MAINTAIN MAXIMUM HEADROOM WITH THE MINIMUM NUMBER OF CROSSOVERS.
- 7 SWITCH MOUNTING HEIGHTS ARE TO BE CO-ORDINATED WITH THE ARCHITECTURAL DETAILS AND ARE TO BE ADJUSTED AS NECESSARY TO CO-ORDINATE WITH PANELING, MASONRY COURSE LINE, ETC. CONFIRM WITH ARCHITECT BEFORE INSTALLATION.
- 8 BEFORE INSTALLING WALL OUTLET BOXES, THE ELECTRICAL CONTRACTOR IS TO CHECK THE ARCHITECTURAL DRAWINGS FOR ROOM DETAILS, DOOR SWINGS, BUILT-IN UNITS, ETC. AND IS TO ADJUST OUTLET POSITIONS TO CO-ORDINATE WITH SUCH ITEMS. CONFIRM WITH ARCHITECT BEFORE INSTALLATION.
- 9 THE ELECTRICAL CONTRACTOR IS TO REFER TO MECHANICAL DRAWINGS FOR LOCATION OF THERMOSTATS, RADIATION CABINETS, ETC. OUTLETS ARE TO BE ADJUSTED IN THESE AREAS TO CO-ORDINATE WITH THE MECHANICAL EQUIPMENT. CONFIRM WITH ARCHITECT BEFORE INSTALLATION.
- 10 WHERE SWITCHES, RECEPTACLES, ETC. ARE SHOWN IN THE SAME GENERAL LOCATIONS, THESE OUTLETS ARE TO BE LINED UP VERTICALLY.
- 11 THE ELECTRICAL CONTRACTOR IS TO COORDINATE WITH ALL EQUIPMENT SUPPLIERS FOR THE EXACT LOCATION AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT PRIOR TO ROUN-IN.

7. NAMETAGS

- 1 NAMETAGS ARE TO BE SUPPLIED AND INSTALLED WHERE CALLED FOR ON THE DRAWINGS AND IN THESE SPECIFICATIONS. ALL MOTOR STARTERS, MOTOR PROTECTION SWITCHES AND MANUAL CONTROL STATIONS ARE TO BE PROVIDED WITH NAMETAGS. AT ALL DISTRIBUTION CENTRES, ETC., NAMETAGS ARE TO BE PROVIDED FOR ALL BREAKERS, SWITCHES, ETC. EACH DISTRIBUTION CENTRE, PANEL BOARD AND TERMINAL CABINET IS TO BE PROVIDED WITH NAMETAGS GIVING THE CENTRE AND PANEL DESIGNATION NAME OF LETTER AND VOLTAGE OR TYPE OF TERMINAL. PANEL LETTERS ON NAMETAGS ARE NOT TO BE LESS THAN 3/8 INCHES HIGH.
- 2 NAMETAGS ARE TO BE THREE LAYER LAMINATED PLASTIC BLACK/WHITE/BLACK WITH ETCHED LETTERS TO GIVE WHITE LETTERS ON BLACK BACKGROUND. EDGES ARE TO BE BEVELED. EMBOSSED ADHESIVE BACKED DYMO NAMETAGS ARE NOT TO BE USED FOR PANEL BOARDS, MOTOR STARTERS, DISTRIBUTION CENTRES, ETC.

8. TESTING

- 1 ALL PORTIONS OF THE ELECTRICAL WORK IS TO BE TESTED AND CHECKED FOR SATISFACTORY OPERATION.
- 2 UPON COMPLETION OF THE WORK AND IMMEDIATELY PRIOR TO FINAL INSPECTION AND TAKEOVER THE ELECTRICAL CONTRACTOR IS TO CHECK THE LOAD BALANCE ON ALL FEEDER, DISTRIBUTION CENTRES, PANELS, ETC. TESTS ARE TO BE CARRIED OUT BY TURNING ON ALL POSSIBLE LOADS IN THE PROJECT AND CHECKING THE LOAD CURRENT BALANCE. IF LOAD UNBALANCE EXCEEDS 15 PERCENT, RECONNECT THE CIRCUITS TO BALANCE THE LOAD.

9. CO-ORDINATION BETWEEN TENANT AND BASE BUILDING

- 1 CHECK AND CO-ORDINATE ALL SYSTEMS IN THE TENANT AREAS WHICH ARE EXTENDED TO BASE BUILDING SYSTEMS TO ENSURE THEIR PROPER OPERATION.
- 2 PROVIDE INTERFACING COMPONENTS BETWEEN NEW AND EXISTING SYSTEMS AS NECESSARY FOR PROPER PERFORMANCE AND OPERATION.

10. USE OF BASE BUILDING MATERIAL AND EQUIPMENT

- 1 TEST BASE BUILDING EQUIPMENT WHICH IS TO REMAIN IN AREAS BEING ABANDONED FOR PROPER OPERATION AND REPAIR AS NECESSARY.
- 2 CLEAN, TEST FOR PROPER OPERATION, AND REPAIR AS NECESSARY BEFORE BEING PUT BACK INTO SERVICE. BASE BUILDING EQUIPMENT TO BE RELOCATED OR RE-USED.
- 3 UNLESS NOTED OTHERWISE, BASE BUILDING WIRING MATERIAL MAY BE RE-USED IF ACCEPTABLE TO THE INSPECTION AUTHORITIES.
- 4 REPAIR OR REPLACE WITHOUT ADJUSTMENT TO THE CONTRACT PRICE ALL BASE BUILDING EQUIPMENT WHICH IS DAMAGED IN THE PROCESS OR RELOCATION.
- 5 UNLESS NOTED OTHERWISE, PROVIDE ADDITIONAL EQUIPMENT OF THE SAME TYPE AND MANUFACTURE WHERE REQUIRED TO SUPPLEMENT EXISTING EQUIPMENT.

11. SALVAGE MATERIALS

- 1 ALL EXISTING MATERIALS IN THE TENANT AREAS OF THE BASE BUILDING WHICH ARE NOT TO REMAIN OR BE RE-USED IS TO REMAIN THE PROPERTY OF THE BUILDING OWNER UNLESS NOTED OTHERWISE.

12. BASE BUILDING SERVICES

- 1 DISCONNECT AND REMOVE ALL BASE BUILDING SERVICES WHICH ARE ABANDONED.
- 2 REMOVE ALL CONDUIT WORK WHICH IS ABANDONED EXCEPT CUT FLUSH WHERE EMBEDDED IN STRUCTURE.
- 3 WHERE BASE BUILDING WIRING DEVICES ARE ABANDONED BUT OUTLET BOXES ARE TO REMAIN, PROVIDE BLANK PLATES OF MATERIAL AS SPECIFIED.
- 4 MAKE SAFE ALL CIRCUIT WIRING LEFT FOR FUTURE USE.

13. INTERRUPTION AND SERVICES

- 1 ALL INTERRUPTIONS OF BASE BUILDING SERVICES (POWER, WATER, ETC.) ARE TO BE CO-ORDINATED THROUGH THE BUILDING OWNER AND TO BE EFFECTED ONLY AS DIRECTED BY THE BUILDING OWNER.

14. PREMIUM TIME

- 1 INCLUDE COST OF PREMIUM TIME IN TENDER PRICE FOR WORK DURING NIGHTS, WEEKENDS OR OTHER TIME OUTSIDE NORMAL WORKING HOURS NECESSARY TO MAINTAIN ALL ELECTRICAL SERVICES IN OPERATION.

15. CONDUIT

- 1 PROVIDE STEEL GALVANIZED CONDUIT (EMT) IN CEILING SPACES AND SERVICE SPACES. ALL CONDUIT TO BE CONCEALED EXCEPT FOR ELECTRICAL ROOMS. BX MAY BE USED IN FINAL CONNECTION TO LUMINARIES. ALL WIRING IS TO BE IN CONDUIT AND THERE ARE NO EXCEPTIONS EVEN FOR LOW TENSION CIRCUITS.
- 2 SUPPORT MULTIPLE RUNS OF CONDUIT ON CHANNEL WITH ROD HANGERS.
- 3 PROVIDE CONDUIT EXPANSION JOINTS WHERE CONDUITS CROSS BUILDING PARTITIONS, WALLS, CEILING, AND IN STRAIGHT RUNS OF CONDUIT 30 M (100') OR LONGER.
- 4 SIZE CONDUITS TO CODE REQUIREMENTS, PROVIDE LARGER SIZE WHERE NOTED.
- 5 ALL CONDUIT IS TO BE TESTED FOR CLEAR BORE.
- 6 INSTALL A CONTINUOUS NYLON CORD IN EACH CONDUIT LEFT EMPTY.
- 7 ALL CONDUITS ROUTED IN CONCRETE SLABS ARE TO HAVE AN APPROPRIATELY SIZED GROUNDING CONDUCTOR PULLED IN WITH THE NORMAL CIRCUIT CONDUCTORS. ALL CONDUIT IN GRADE LEVEL SLAB IS TO BE RIGID PVC TYPE CONDUIT, SECURELY FITTED TOGETHER.

16. OUTLET BOXES

- 1 OUTLET BOXES ARE TO BE 100 MM SQUARE TYPE (S2-151), NO OTHER BOX TYPES WILL BE ACCEPTED WITHOUT ENGINEER'S APPROVAL. BOXES USED WITH SURFACE MOUNTED EMT ARE TO BE STANDARD SHEET METAL TYPE. PROVIDE PLASTER RINGS FOR ALL BOXES FOR SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, ETC.
- 2 OUTLET BOXES IN SOUND ATTENUATING PARTITIONS ARE TO BE OFFSET TO AVOID UNDUE TRANSMISSION OF SOUND BETWEEN THE PARTITION ELEMENTS.

17. WIRE AND CABLE

- 1 INSTALL ALL WIRING IN CONDUIT UNLESS OTHERWISE NOTED. ALL WIRING IS TO BE COPPER WITH RW90 INSULATION. USE SOLID CONDUCTORS FOR #10 AWG AND SMALLER. USE STRANDED CONDUCTORS FOR #8 AWG AND LARGER. NO CONDUCTOR SMALLER THAN #12 AWG IS TO BE USED EXCEPT FOR CONTROL WIRING WHICH IS TO BE #14 AWG FOR 120 VOLT AND #16 AWG FOR 24 VOLT CONTROL.

18. ACCESS PANELS AND DOORS

- 1 PROVIDE ACCESS PANELS OR DOORS TO ALLOW READY ACCESS TO ALL CONCEALED ELECTRICAL JUNCTION BOXES AND/OR PRODUCTS REQUIRING ADJUSTMENTS OR MAINTENANCE.

19. POWER PANELS

- 1 PANELS ARE TO HAVE DOORS WITH CONCEALED HINGES AND COMBINED LOCK AND LATCH, OPERATED BY THE BASE BUILDING MASTER KEY.
- 2 PANELS ARE TO HAVE MAINS, BRANCH CIRCUITS, ETC. OF SIZE AND TYPE AS NOTED ON DRAWINGS. BREAKERS ARE TO HAVE BOLTED MAINS.
- 3 EXTERIOR LIGHTING MAY BE CONNECTED TO EXISTING CONTROLS WHERE POSSIBLE. OTHERWISE PROVIDE NEW TIME CLOCK, PHOTO CELL AND RELAYS AS REQUIRED.

20. DISTRIBUTION EQUIPMENT

- 1 DISTRIBUTION EQUIPMENT CONSISTS OF ELECTRICAL COMPONENTS AS DETAILED ON DRAWINGS.

20.1 MANUFACTURE OF SWITCHGEAR

- 1 NEW OR ADDED DISTRIBUTION EQUIPMENT SHALL COMPLY WITH ALL EXISTING SHORT CIRCUIT COORDINATION STUDIES AND ARC FLASH HAZARD ANALYSIS AS APPLIED TO THE FACILITY.
- 2 THE CONTRACTOR IS TO ENSURE THAT ALL INSTALLATIONS COMPLY WITH THE CEC AND ALL LOCAL CODES AS REQUIRED BY THE AHJ.

21. WIRING DEVICES

- 1 SWITCHES: QUIET, SLOW MAKE, SLOW BREAK DESIGN, TOGGLE HANDLE, WITH TOTALLY ENCLOSED CASE RATED AT 15 AMP, 120 VOLT, AC TYPE WITH WIDE FACE BODY AND FULL GANG MATCHING TYPE. SWITCH AND PILOT LIGHT: PUSH ACTION TYPE WITH RED HANDLE, INTEGRAL LONG-LIFE PILOT LIGHT, RATED AS SPECIFIED ABOVE OR CALLED FOR ON THE DRAWINGS. COLOUR: PROVIDE IVORY BAKELITE SWITCHES IN ALL AREAS, UNLESS DIRECTED OTHERWISE BY THE OWNER.
- 2 RECEPTACLES: FULL GANG SIZE, U-GROUNDING TYPE, RATED AT 15 AMP, 120 VOLT WITH PARALLEL SLOTS. SLOTS HAVING DOUBLE OR TRIPLE WIRE. JAWS COMPLETE WITH SADDLE MOUNTING STRIP AROUND BACK OF BODY. ABUSE-RESISTANT HIGH IMPACT NYLON TOP FACE. SPECIAL RECEPTACLES: SEE DRAWINGS FOR SPECIAL RECEPTACLE SIZES. COLOUR: PROVIDE IVORY BAKELITE RECEPTACLES IN ALL AREAS, UNLESS DIRECTED OTHERWISE BY THE OWNER.
- 3 DIMMERS: ALL DIMMERS ARE TO BE DERATED 20%, PROVIDE SEPARATE AND INDEPENDENT NEUTRAL CONDUCTORS TO EACH DIMMING CIRCUIT. ENSURE THAT ALL DIMMERS ARE RATED FOR LED DIMMING AS APPLICABLE.
- 4 HUBBEL, BRYANT OR APPROVED EQUAL.

22. COVER PLATES

- 1 A FULL COMPLIMENT OF COVER PLATES ARE TO BE PROVIDED FOR ALL SWITCHES RECEPTACLES, TELEPHONE OUTLETS, LOW TENSION OUTLETS, ETC. PLATES FOR ALL FLUSH MOUNTING DEVICES ARE TO BE AS PER SYMBOL SCHEDULE.

23. TELEPHONE SYSTEM

- 1 SUPPLY AND INSTALL A TELEPHONE DISTRIBUTION SYSTEM AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN. ALL TELEPHONE CABLES TERMINATIONS AND CONNECTIONS WILL BE THE RESPONSIBILITY OF THE SUPPLY AUTHORITY. ALL TELEPHONE CONDUIT IS TO BE THOROUGHLY SWABBED OUT AND CLEANED AND A SUBSTANTIAL CORROSION-RESISTANT PULL WIRE INSTALLED.

24. FIRE ALARM SYSTEM

- 1 CONNECT FIRE ALARM DEVICES TO EXISTING FIRE ALARM SYSTEM IN ACCORDANCE WITH LOCAL AUTHORITY FIRE REGULATIONS. CONTRACTOR TO ASCERTAIN REQUIREMENTS PRIOR TO TENDER AND INCLUDE THESE ITEMS IN COST.
- 2 PROVIDE ALL MATERIALS AND COMPONENTS REQUIRED AND APPROVED BY THE GOVERNING CODES AND AUTHORITIES HAVING JURISDICTION FOR FIRE ALARM SYSTEMS. ALL DEVICES USED FOR THE DETECTION AND INITIATION OF ALARM CIRCUITS ARE TO BE OF THE RESETTING TYPE AND OF THE HIGHEST COMMERCIAL GRADE AVAILABLE FOR THE PURPOSE.
- 3 PROVIDE TESTING AND VERIFICATION OF THE COMPLETED AND FULLY OPERATIONAL SYSTEM. THE VERIFICATION OF THIS SYSTEM IS TO SATISFY THE MINIMUM STANDARDS AS DICTATED BY (CANULC-SS37) AND THE CANADIAN ELECTRICAL CODE. THE VERIFICATION IS TO BE RECORDED AND UNDERTAKEN BY AN APPROVED FIRE ALARM TESTING ORGANIZATION. ALL INSTALLATION AND TESTING PROCEDURES ARE TO MEET WITH AND SATISFY THE ENGINEER AND THE AUTHORITIES HAVING JURISDICTION.
- 4 THE AUDIBLE EVACUATION DEVICES FOR THIS SYSTEM ARE TO BE SPEAKER/STROBES OR HORN/STROBES AS NOTED ON THE DRAWINGS. MOUNTING OF THESE DEVICES ARE TO BE SURFACE AND SHALL NOT BE MOUNTED WITHIN 4" (100MM) FROM ANY PHYSICAL OBSTRUCTIONS.
- 5 PROVIDE DETAILED MANUFACTURE SHOP DRAWINGS OF ALL COMPONENTS TO BE USED.
- 6 ALL WIRING FOR THIS SYSTEM IS TO BE CLASS "A" TYPE, E.O.L. DEVICES ARE TO BE MOUNTED IN THE FIRE ALARM CONTROL PANEL.
- 7 MATERIALS TO BE BUILDING STANDARD MAKE AND TYPE.

25. WIRING FOR MECHANICAL TRADE

- 1 MOTORS AND AUTOMATIC CONTROL DEVICES SUCH AS THERMOSTATS, PRESSURE SWITCHES, ETC., WILL BE SUPPLIED BY THE MECHANICAL TRADE AND ARE TO BE INSTALLED BY THE ELECTRICAL TRADE. THE ELECTRICAL CONTRACTOR IS TO SUPPLY AND INSTALL ALL MOTOR PROTECTION SWITCHES, ALL MANUAL CONTROL STATIONS SUCH AS SWITCHES AND PILOT LIGHTS, PUSHBUTTONS AND PILOT LIGHTS, ETC. THE ELECTRICAL CONTRACTOR IS TO SUPPLY AND INSTALL DISCONNECT SWITCHES WHERE INDICATED ON THE DRAWINGS. THE ELECTRICAL CONTRACTOR IS TO CONFORM WITH THE MECHANICAL TRADE THE SIZE, ELECTRICAL CHARACTERISTICS AND LOCATION OF ALL MECHANICAL EQUIPMENT BEFORE INSTALLATION OF CONDUIT OR OUTLETS. ALL MAJOR STARTER HEATERS ARE TO BE SELECTED TO SUIT MOTORS AS SUPPLIED ON THE JOB. SUPPLY AND INSTALL NAMETAGS FOR ALL MOTOR PROTECTION SWITCHES, CONTROL STATIONS, CONTROL DEVICES, ETC. IN FINISHED AREAS, SUCH NAMETAGS ARE TO BE LAMICOID. IN MECHANICAL ROOMS AND SIMILAR AREAS, LAMICOID TAGS ARE ALSO TO BE USED.

26. LUMINARIES (LIGHTING FIXTURES)

- 1 PROVIDE ALL LIGHTING FIXTURES COMPLETE WITH LAMPS AS INDICATED ON DRAWINGS.
- 2 INSTALL ALL FIXTURES IN THE STANDARD MANNER FOR THE TYPE OF FIXTURE AND IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 3 SUPPORT ALL FIXTURES FROM STRUCTURAL MEMBERS EXCEPT THAT FIXTURES INSTALLED IN SUSPENDED CEILINGS MAY BE SUPPORTED BY THE CEILING PROVIDED THE SUPPORTS ARE REINFORCED TO CARRY THE ADDITIONAL LOAD.

27. EXIT LIGHTS

- 1 REFER TO SYMBOL SCHEDULE FOR SPECIFICATION.

28. EMERGENCY LIGHTING

- 1 SUPPLY AND INSTALL EMERGENCY LIGHTING EQUIPMENT FOR AUTOMATIC OPERATION ON POWER FAILURE. UNITS TO BE INSTALLED IN ACCORDANCE WITH CSA C22.2-141. UNITS ARE TO BE EMERGENCY "J" SERIES, 12 VOLT MODEL, 4 WATT LED LAMPS, REMOTE HEADS (AS REQUIRED) TO BE OF THE MATCHING SERIES. PROVIDE CONNECTION TO EXIT LIGHTS USING NO SMALLER THAN #10 AWG, RW90 CU IN A 12 MM (1/2") EMT CONDUIT.

27. EXIT LIGHTS

- 1 REFER TO SYMBOL SCHEDULE FOR SPECIFICATION.

28. EMERGENCY LIGHTING

- 1 SUPPLY AND INSTALL EMERGENCY LIGHTING EQUIPMENT FOR AUTOMATIC OPERATION ON POWER FAILURE. UNITS TO BE INSTALLED IN ACCORDANCE WITH CSA C22.2-141. REFER TO THE SYMBOL SCHEDULE AND PLANS FOR REMOTE HEAD AND BATTERY PACK PERFORMANCE DETAILS. PROVIDE CONNECTION TO EXIT LIGHTS USING NO SMALLER CONDUCTORS THAN #10 AWG, RW90 CU IN A 12 MM (1/2") EMT CONDUIT.

29. LOCAL AUTHORITY INSPECTION REPORTS

- 1 SUBMIT ALL COPIES OF THE LOCAL AUTHORITY INSPECTION REPORTS TO THE ENGINEER FOR REVIEW. PHOTOCOPIES ARE ACCEPTABLE.

30. MAINTENANCE MANUALS AND "FIELD RECORD" DRAWINGS

- 1 THE ELECTRICAL CONTRACTOR IS TO PROVIDE THE OWNER WITH TWO (2) COMPLETE MAINTENANCE MANUALS (COMPLETE WITH LIGHTING FIXTURE INFORMATION AND SHOP DRAWINGS, ETC.) AND TWO (2) COMPLETE SETS OF BLUE-LINE PRINTS MARKED "FIELD RECORD DRAWINGS" INDICATING ALL CHANGES MADE DURING CONSTRUCTION. THE ELECTRICAL CONTRACTOR IS TO MAINTAIN, AT ALL TIMES, ON THE SITE, A COMPLETE SET OF CLEAN ELECTRICAL DRAWINGS RECORDING THE ACTUAL PROGRESS OF THE ELECTRICAL INSTALLATION INDICATING ALL VARIATIONS FROM THE TENDER DRAWINGS. ALL SUBMITTALS ARE TO BE MADE AVAILABLE IN HARD COPY AND PDF FORMAT.

31. GUARANTEE

- 1 THE ELECTRICAL CONTRACTOR IS TO GUARANTEE THE SATISFACTORY OPERATION OF ALL WORK AND APPARATUS INSTALLED UNDER THIS CONTRACT AND IS TO REPLACE FORTHWITH, AT THEIR OWN EXPENSE, ANY PART WHICH MAY FAIL OR PROVE DEFECTIVE WITHIN A PERIOD OF TWELVE (12) MONTHS AFTER FINAL ACCEPTANCE OF THE COMPLETE CONTRACT. ALWAYS PROVIDED THAT SUCH FAILURE IS NOT CAUSED BY IMPROPER USAGE, OR ORDINARY WEAR AND TEAR. THE PERIOD OF THIS GUARANTEE SPECIFIED ABOVE IS TO IN NO WAY SUPPLANT ANY OTHER GUARANTEE OF A LONGER PERIOD BUT IS TO BE BINDING ON ALL WORK, NOT OTHERWISE COVERED.

32. ADDITIONAL CONDITIONS

1. ALL UNUSED OUTLETS AND WIRES TO BE TAPED AND BLANK PLATES INSTALLED.
2. ALL UNUSED ELECTRICAL MATERIALS TO BE REMOVED FROM SITE.
3. ANY UNUSED FIXTURES TO BE HANDED OVER TO OWNER.
4. INSTALLATION AND SCHEDULE TO BE COORDINATED WITH BUILDING OWNER AND TENANTS.
5. ADDITIONAL CIRCUITS THAT CAN NOT BE ACCOMMODATED BY THE EXISTING POWER GRID SHALL BE RUN STRAIGHT TO EXISTING PANEL, ADD ADDITIONAL TUB AS SPECIFIED AND MAKE GOOD EXISTING CONDUIT AND WIRING IF ADDITIONAL TUB IS REQUIRED, NEMETZ AND ASSOCIATES SHALL BE NOTIFIED FOR PROPER INSTRUCTIONS HOW TO PROCEED WITH THIS WORK.)
6. ELECTRICAL CONTRACTOR SHALL VISIT SITE DURING PRICING.
7. ELECTRICAL CONTRACTOR SHALL REVIEW CURRENT BUILDING GUIDELINES.
8. ALL ELECTRICAL CHANGES MUST BE TYPED ONTO PANEL DIRECTORIES ON COMPLETION OF WORK.
9. GROUND WIRES FOR TELEPHONE EQUIPMENT WITHIN THE TELEPHONE ROOM MUST BE FED THROUGH CONDUIT.
10. UNUSED WIRING IS TO BE REMOVED FROM THE CONDUIT SYSTEM WHEN NEW LINES ARE INSTALLED.
11. SUPPLY AND INSTALL ALL SWITCHES, WALL OUTLETS AND TELEPHONE OUTLETS. WIRE AS REQUIRED AND INDICATED ON DRAWINGS.
12. ALL POWER, COMPUTER AND TELEPHONE OUTLETS TO BE LOCATED IN ONE STUD SPACE ON A HORIZONTAL BAR WHEN THEY ARE INDICATED IN CLOSE PROXIMITY. USE COMBINED FACE PLATES WHERE POSSIBLE.
13. ALL ELECTRICAL PRODUCTS TO BE BUILDING STANDARD AND OF THE SAME MAKE WHERE PRACTICAL.
14. CIRCUIT NUMBERS ARE FROM THE BASE BUILDING AND SHOULD BE VERIFIED IN THE FIELD.
15. ELECTRICAL CONTRACTOR TO X-RAY SLAB FOR ALL FLOOR CORED HOLES. NOTIFY STRUCTURAL ENGINEER PRIOR TO CORING.
16. ALL UNUSED WIRING TO BE CLEARED BACK TO GRID JUNCTION BOXES.
17. ALL OUTLET LOCATIONS TO BE APPROVED BY THE ARCHITECT BEFORE PROCEEDINGS WITH INSTALLATION.

18. ELECTRICAL CONTRACTOR TO INDICATE THE FOLLOWING:

- A) BASE BUILDING FIXTURES REMAINING.
- B) BASE BUILDING FIXTURES RELOCATED.
- C) BASE BUILDING FIXTURES RETURNED TO OWNER.
- D) NEW FIXTURES PROVIDED AND INSTALLED.

19. ALL PARTITIONS TO CLEAR LIGHT FIXTURES.

20. THE ELECTRICAL CONTRACTOR SHALL ALLOW FOR REMOVING AND REPLACEMENT OF ALL LIGHT FIXTURES ADJACENT TO WALLS BEING REMOVED, RELOCATED OR ADDED AS REQUIRED DURING THE COURSE OF CONSTRUCTION. CARE SHALL BE TAKEN NOT TO DAMAGE ANY FIXTURES DURING THIS PROCESS.

21. ALL WALL MOUNTED OUTLETS TO BE 12" ON CENTRE ABOVE FINISHED FLOOR UNLESS SHOWN OTHERWISE.

22. COMPUTER AND GENERAL RECEPTACLES TO BE CLEARLY LABELLED WITH A "C" FOR COMPUTER POWER AND "G" FOR GENERAL POWER. DIFFERENT COLOURED RECEPTACLES MAY BE USED IF APPROVED BY INTERIOR DESIGNER.

23. CONTRACTOR TO REMOVE ALL UNUSED TELEPHONE WIRING UNDER THE SUPERVISION OF THE SUPPLY AUTHORITY.

24. CONTRACTOR TO REMOVE ALL UNUSED DATA CABLING.

25. CONTRACTOR TO REMOVE ALL UNUSED POWER WIRING. ANY POWER WIRING EXISTING IN CONDUIT SYSTEM WHICH IS SUITABLE FOR USE MAY BE REUSED BUT SHALL BE SUBJECT TO A MEGGER TEST FOR INSULATING RESISTANCE. THE ABOVE TESTS ARE TO BE WITNESSED BY THE ENGINEER.

26. THE FOLLOWING SEISMIC REQUIREMENTS SHALL APPLY UNLESS APPROVAL IN WRITING IS OBTAINED FROM THE AUTHORITY HAVING JURISDICTION TO WAIVE PART OR ALL SAID REQUIREMENTS.

33. SEISMIC RESTRAINT NOTES

1. THE CONTRACTOR SHALL EMPLOY A SEISMIC CONSULTANT AT THE BEGINNING OF THE PROJECT. THE SAID CONSULTANT SHALL:
- A) SUBMIT ASSURANCE LETTER FOR "ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW" AS DESIGNATED BY THE LOCAL PERMIT AUTHORITY, AT THE BEGINNING OF THE PROJECT.
- B) PROVIDE DRAWINGS SEALED BY A PROFESSIONAL ENGINEER.
- C) INCLUDE WRITTEN VERIFICATION OF SITE INSPECTION OF THE FIELD INSTALLATION AND A SIGNED AND SEALED LETTER OF ASSURANCE OF "ASSURANCE OF PROFESSIONAL FIELD REVIEW AND COMPLIANCE", AT SUBSTANTIAL PERFORMANCE.
2. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA:
- A) FIXED EQUIPMENT ON GRADE - USE 33% OF OPERATING WEIGHT AT THE CENTER OF GRAVITY.
- B) FIXED EQUIPMENT ON STRUCTURE - USE 50% OF OPERATING WEIGHT AT THE CENTER OF GRAVITY.
- C) EMERGENCY POWER AND COMMUNICATION EQUIPMENT ON STRUCTURE - USE 75% OF OPERATING WEIGHT AT THE CENTER OF THE GRAVITY.
- D) EMERGENCY AND POWER COMMUNICATION EQUIPMENT ON STRUCTURE - USE 75% OF OPERATING HEIGHT OR CENTER OF GRAVITY IF HIGHER.
- E) FLEXIBLY MOUNTED EQUIPMENT - USE 2 TIMES THE ABOVE VALUES.
- F) SIMULTANEOUS VERTICAL FORCE - USE 13 TIMES THE HORIZONTAL FORCE.

34. FIRE ALARM, EXIT & EMERGENCY LIGHTING VERIFICATION

1. CONTRACTOR SHALL RETAIN A PROFESSIONAL ELECTRICAL ENGINEER REGISTERED IN JURISDICTION OF WORK, CANADA TO PROVIDE VERIFICATIONS OF THE FIRE ALARM SYSTEM AND THE INSTALLATION OF EXIT AND EMERGENCY LIGHTING SYSTEM IN ACCORDANCE ALL CODES AND BYLAWS. ALL COST ASSOCIATED WITH THE PERFORMANCE OF THIS ITEM SHALL BE INCLUDED.

35. FIRESTOP COMPLIANCE ALLOWANCE

1. THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER IN JURISDICTION OF WORK WITHIN CANADA; THE SAID CONSULTANT SHALL:
- A. SUBMIT ASSURANCE LETTER FOR "ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW" S-S AS DESIGNATED BY THE LOCAL PERMIT AUTHORITY AT THE BEGINNING OF THE PROJECT.
- B. REVIEW AND STAMP RELATED SUBMITTALS.
- C. INCLUDE WRITTEN VERIFICATION OF SITE INSPECTION OF THE FIELD INSTALLATION AND A SIGNED AND SEALED LETTER OF ASSURANCE OF "ASSURANCE OF PROFESSIONAL FIELD REVIEW AND COMPLIANCE" S-C AT SUBSTANTIAL PERFORMANCE.
- D. ALL COSTS ASSOCIATED WITH THE PERFORMANCE OF THIS ITEM SHALL BE INCLUDED.
2. REQUIREMENTS FOR CONTRACTOR RETAINED ENGINEERS:
- A. PROFESSIONAL ENGINEERS RETAINED TO PERFORM CONSULTING SERVICES WITH REGARD TO PROJECT WORK, ARE TO BE MEMBERS IN GOOD STANDING WITH THE LOCAL ASSOCIATION OF PROFESSIONAL ENGINEERS, AND ARE TO CARRY AND PAY FOR ERRORS AND OMISSIONS PROFESSIONAL LIABILITY INSURANCE IN COMPLIANCE WITH THE REQUIREMENT OF GOVERNING AUTHORITIES IN THE LOCATION OF THE WORK.
- B. RETAINED ENGINEER'S PROFESSIONAL LIABILITY INSURANCE IS TO PROTECT CONTRACTOR'S CONSULTANTS AND AND THEIR RESPECTIVE SERVANTS, AGENTS, AND EMPLOYEES AGAINST ANY LOSS OR DAMAGE RESULTING FROM PROFESSIONAL SERVICES RENDERED BY AFOREMENTIONED CONSULTANTS AND THEIR RESPECTIVE SERVANTS, AGENTS, AND EMPLOYEES IN REGARDS TO THE WORK OF THIS CONTRACT.
- C. UNLESS OTHERWISE SPECIFIED, LIABILITY INSURANCE REQUIREMENTS ARE AS FOLLOWS:
1. COVERAGE IS TO BE MINIMUM OF \$1,000,000.00 CDN INCLUSIVE OF ANY ONE OCCURRENCE.
2. INSURANCE POLICY IS NOT TO BE CANCELLED OR CHANGED IN ANY WAY WITHOUT THE INSURER GIVING THE OWNER A MINIMUM OF THIRTY DAYS WRITTEN NOTICE.

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| Issued For | Issue Date | OCTOBER 2024 |
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| GLOBAL REVISIONS LIST* | | |
| NO. | DATE | DESCRIPTION |
| 1 | 2024-10-23 | ISSUED FOR REVIEW |
| 2 | 2024-10-31 | ISSUED FOR CQC REVIEW |
| 3 | 2024-11-22 | ISSUED FOR BP REVIEW |
| 4 | 2024-12-04 | ISSUED FOR BP |
| 5 | 2024-12-18 | ISSUED FOR TENDER REVIEW |
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| Project | 51104 - FMB Repurpose |
| Project Number | 15428 |
| Drawn By | RB |
| Checked By | KK |
| Sheet Number | 5-501 |
| Drawing | SPECIFICATIONS |