

BIRCHWOOD INTERMEDIATE SCHOOL

City of Charlottetown
49 Longworth Ave, Charlottetown, PE

ARCHITECTURAL

A000 COVER SHEET
A001 SPECIFICATIONS & MATERIAL FINISH SCHEDULE
A100 DEMO PLAN, PROPOSED FLOOR PLAN

ELECTRICAL

E001 ELECTRICAL SPECIFICATIONS & LEGEND
E100 MAIN LEVEL DEMOLITION & REVISED FLOOR PLAN - POWER, COMMUNICATIONS, SYSTEMS & LIGHTING

COLES
Architecture + Engineering + Project Management

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Coles Associates Ltd.
Suite 201, 85 Fitzroy Street
Charlottetown, PE1, Canada, C1A 1R6
Phone: (902) 368-2300
www.colesassociates.com

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1. GENERAL REQUIREMENTS

1.1. SECTION 01 45 00 - QUALITY CONTROL

- 1.1.1. A PROGRAM OF QUALITY CONTROL WILL BE INSTITUTED FOR THE PURPOSE OF MAINTAINING QUALITY AND COMPLIANCE WITH CONTRACT DOCUMENTS.
- 1.1.2. THE CONTRACTOR WILL BE REQUIRED TO DO INSPECTION AND TESTING TO MONITOR AND CONFIRM THAT WORK IS IN COMPLIANCE WITH THE SPECIFICATIONS AND APPLICABLE CODES.
- 1.2. SECTION 01 50 00 - TEMPORARY FACILITIES
- 1.2.1. PROTECT EXISTING ADJACENT AREAS. PROVIDE AND MAINTAIN PROPER GUARD DEVICES, FOR THE PREVENTION OF ACCIDENTS.
- 1.2.2. PROVIDE TEMPORARY FACILITIES NECESSARY FOR THE COMPLETION OF THE WORK, INCLUDING WATER, POTABLE AND FOR FIRE PROTECTION, POWER AND LIGHTING, HEAT, WASHROOM FACILITIES, FIRST AID FACILITY AND OFFICES.
- 1.2.3. PROVIDE FORMWORK, SCAFFOLDING, LADDERS, CRANES, DERRICKS, TACKLE, GANGWAYS, PLANKS, FANS, SCREENS, GANTRIES, TARPULINS, TOOLS AND MACHINERY REQUIRED FOR THE PROPER EXECUTION OF THE WORK.
- 1.2.4. PROVIDE TEMPORARY PARKING AND STAGING AREAS. ENSURE TRAFFIC CONTROL WHILE DELIVERING TO THE SITE.
- 1.2.5. MAINTAIN ACCESS TO AND ENSURE THAT OPERATIONS OF ADJACENT BUILDINGS AND PROPERTIES ADJOINING THE WORK ARE NOT DISRUPTED.
- 1.2.6. DURING CONSTRUCTION, THE SITE SHALL BE MAINTAINED TIDY AND FREE FROM ACCUMULATED WASTE, DEBRIS AND SNOW.

2. EXISTING CONDITIONS

2.1. SECTION 02 41 10 - DEMOLITION AND REMOVAL

- 2.1.1. SIZE, DEPTH AND LOCATION OF EXISTING UTILITIES AND STRUCTURES AS INDICATED ARE FOR GUIDANCE ONLY. COMPLETENESS AND ACCURACY ARE NOT GUARANTEED.
- 2.1.2. PROTECT EXISTING ITEMS DESIGNATED TO REMAIN. IN EVENT OF DAMAGE, IMMEDIATELY REPLACE SUCH ITEMS OR MAKE REPAIRS TO APPROVAL OF CONSULTANT AND AT NO ADDITIONAL COST TO THE OWNER.
- 2.1.3. PROTECT EXISTING SURFACE FEATURES WHICH MAY BE AFFECTED BY WORK FROM DAMAGE WHILE WORK IS IN PROGRESS AND REPAIR DAMAGE RESULTING FROM WORK.
- 2.1.4. PREVENT MOVEMENT, SETTLEMENT OR DAMAGE OF ADJACENT UTILITIES AND STRUCTURES. PROVIDE BRACING, SHORING AND UNDERPINNING AS REQUIRED. MAKE GOOD DAMAGE AND BE LIABLE FOR INJURY CAUSED BY DEMOLITION.
- 2.1.5. IF SAFETY OF STRUCTURE BEING REPAIRED OR ADJACENT STRUCTURES APPEAR TO BE ENDANGERED, CEASE OPERATIONS AND NOTIFY CONSULTANT AND OWNER. TAKE PRECAUTIONS TO SUPPORT STRUCTURES.
- 2.1.6. MAINTAIN AND PROTECT FROM DAMAGE, ALL STRUCTURES, UTILITIES ENCOUNTERED DURING THE EXECUTION OF WORK. OBTAIN DIRECTION OF CONSULTANT BEFORE MOVING OR OTHERWISE

- 2.1.7. DISTURBING UTILITIES OR STRUCTURES RECORD IN ACCORDANCE WITH REQUIREMENTS OF SECTION 01 72 00 - PROJECT RECORD DOCUMENTS. LOCATIONS OF MAINTAINED, RE-ROUTED AND ABANDONED UNDERGROUND LINES.
- 2.1.8. MAKE GOOD AND PAY FOR DAMAGE TO ANY LINES RESULTING FROM WORK.
- 2.1.9. CARRY OUT DEMOLITION WORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS AND AS OUTLINED IN SECTION 01 54 50 SAFETY REQUIREMENTS.
- 2.1.10. INSPECT BUILDING AND SITE AND VERIFY ITEMS DESIGNATED FOR REMOVAL AND ITEMS TO BE PRESERVED.
- 2.1.11. LOCATE AND PROTECT ALL UTILITY SERVICES.
- 2.1.12. ANY DAMAGE TO EXISTING UTILITIES AND SERVICES SHALL BE IMMEDIATELY REPAIRED TO THE SATISFACTION OF THE OWNER.
- 2.1.13. REMOVE ITEMS DESIGNATED FOR SALVAGE AND STOCKPILE ON SITE AS DESIGNATED BY OWNER.
- 2.1.14. ITEMS NOT DESIGNATED FOR SALVAGE AND RE-USE SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
- 2.1.15. PAY ALL FEES THAT MAY BE CHARGED TO DISPOSE OF MATERIALS AT LICENSED DISPOSAL SITES.
- 2.1.16. REMOVE ALL MATERIAL CONTAMINATED WITH OIL, GASOLINE, CALCIUM CHLORIDE OR OTHER TOXIC OR DANGEROUS MATERIALS AND DISPOSE OF IN A MANNER TO MINIMIZE DANGER AT SITE AND TO A LOCATION OFF SITE APPROVED BY PROVINCIAL AUTHORITY GOVERNING SUCH DISPOSAL.
- 2.1.17. UPON COMPLETION OF WORK, REMOVE DEBRIS, TRIM SURFACES AND LEAVE WORK SITE CLEAN.
- 2.1.18. REINSTATE AREAS AND EXISTING WORKS OUTSIDE AREAS OF DEMOLITION TO CONDITIONS THAT EXISTED PRIOR TO COMMENCEMENT OF WORK.

3. FOUNDATION AND STRUCTURE

3.1. SECTION 04 22 00 - CONCRETE UNIT MASONRY

- 3.1.1. CONCRETE MASONRY WALLS WILL BE SPECIFIED AND DETAILED AT LOCATIONS INDICATED ON THE DRAWINGS.
- 3.1.2. MASONRY BLOCK UNITS WILL BE DESIGNED, REINFORCED AND GROUTED TO SUPPORT APPLICABLE LOADS.
- 3.1.3. TIES AND ACCESSORIES TO SECURE BLOCK WALLS TO STRUCTURAL STEEL AND OTHER STRUCTURAL ELEMENTS WILL BE SPECIFIED AND INDICATED ON THE DRAWINGS.
- 3.2. SECTION 03 20 00 - CONCRETE REINFORCING
- 3.2.1. PROVIDE CONCRETE REINFORCEMENT TO SUIT THE SPECIFIC CONCRETE ELEMENTS AND IN ACCORDANCE WITH THE STRUCTURAL DETAILS AS INDICATED ON THE CONSTRUCTION DOCUMENTS.

4. ARCHITECTURAL

4.1. MATERIAL / FINISH SCHEDULE

- 4.1.1. REFER TO THE DRAWINGS FOR THE MATERIAL / FINISH SCHEDULE.

4.2. SECTION 07 84 00 - FIRESTOPPING

- 4.2.1. STANDARD OF ACCEPTANCE:
- 4.2.1.1. HILTI
- 4.2.1. PROVIDE SHOP DRAWINGS FOR ALL FIRE CAULKING MATERIALS AND ULC APPROVED DETAILS FOR ALL PENETRATIONS MADE PRIOR TO INSTALLATION, AS REQUIRED BY NBC 2015 REQUIREMENTS.
- 4.2.2. FIRE STOPPING AND SMOKE SEAL MATERIALS SHALL CONFORM TO ASTM E814, ULC AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- 4.2.3. PROVIDE FIRE STOPPING AND SMOKE SEAL AT OPENINGS AROUND PENETRATIONS AND JOINTS WITHIN FIRE SEPARATIONS AND ASSEMBLIES HAVING FIRE RESISTANCE RATING.
- 4.2.4. SCHEDULE: FIRE SEPARATION LOCATIONS AS SCHEDULED ON THE DRAWINGS.
- 4.3. SECTION 07 92 00 - JOINT SEALANTS
- 4.3.1. STANDARD OF ACCEPTANCE:
- 4.3.1.1. PURPOSE MADE FOR SPECIFIC APPLICATION
- 4.3.2. CAULK AND SEAL BUILDING AS REQUIRED TO MAKE IT WATER AND WEATHER TIGHT TO THE EXTERIOR, INCLUDING BUT NOT LIMITED TO INTERIOR AND EXTERIOR CONTROL JOINTS, EXPANSION JOINTS, DOOR FRAMES AND SCREENS, LOUVRES, HEADS OF WALLS AND ITEMS PASSING THROUGH WALLS.
- 4.3.3. PROVIDE SUBMITTALS FOR REVIEW.
- 4.3.4. TREMCO, DYMONIC 100

4.4. SECTION 09 91 00 - PAINTING

- 4.4.1. PAINTING AND FINISHING MATERIALS SHALL COMPLY WITH OR EXCEED REQUIREMENTS FOR PREMIUM GRADE WORK.
- 4.4.2. EXCEPT FOR FACTORY-FINISHED SURFACES, AND WHERE DIRECTED OTHERWISE, ALL EXPOSED SURFACES INCLUDING PIPES, DUCTWORK AND MECHANICAL SHALL BE PAINTED. COLOURS IN MECHANICAL ROOMS SHALL BE COLOUR CODED.
- 4.4.3. LATEX EGGSHELL FOR WALLS, 2 COATS PLUS PRIMER.
- 4.4.4. SAND EXISTING BLOCK WALLS TO PROVIDE ADHESION.
- 4.4.5. ALL PAINTING SYSTEMS ARE TO MEET THE OWNERS NEEDS FOR PRODUCT PERFORMANCE. COLOUR AND FINISH: REFER TO MATERIAL / FINISH SCHEDULE.
- 4.4.7. ALL EXISTING BLOCK WALLS TO BE REPAINTED.

4.5. FLOOR FINISHES

4.5.1. SECTION 02 41 19 - SELECTIVE DEMOLITION

- 4.5.1.1. EXISTING FLOOR TILE AND ASSOCIATED SETTING MATERIALS WILL BE REMOVED AT LOCATIONS INDICATED ON THE DRAWINGS.

4.5.2. SECTION 03 35 43 - POLISHED CONCRETE FINISHING

- 4.5.2.1. EXISTING CONCRETE SLAB WILL BE PREPARED AND REPAIRED AS REQUIRED.
- 4.5.2.2. POLISHED CONCRETE FLOORING WILL BE PROVIDED AT LOCATIONS INDICATED ON THE DRAWINGS.
- 4.5.2.3. FINISHED FLOOR SURFACES WILL BE

4.6. SECTION 09 51 00 - ACOUSTIC CEILINGS

- 4.6.1. STANDARD OF ACCEPTANCE:
- 4.6.1.1. ARMSTRONG SCHOOL ZONE OR APPROVED EQUAL
- 4.6.1.2. PRODUCT: FINE FISSURED
- 4.6.1.3. NRC: 0.70
- 4.6.1.4. EDGE: SQUARE LAY-IN
- 4.6.1.5. LIGHT REFLECTANCE: 82%
- 4.6.1.6. SIZE: 610MM X 1220MM X 16MM
- 4.6.1.7. PROVIDE SMOOTH-FACED CEILING PANELS IN CARPENTRY SHOP AREAS: FISSURED PANELS SHALL NOT BE PERMITTED.
- 4.6.2. SUSPENSION GRID: PRELUDE XL 15/16" / 24MM EXPOSED TEE GRID BY ARMSTRONG OR APPROVED EQUAL

4.3. SECTION 07 92 00 - JOINT SEALANTS

- 4.3.1. STANDARD OF ACCEPTANCE:
- 4.3.1.1. PURPOSE MADE FOR SPECIFIC APPLICATION
- 4.3.2. CAULK AND SEAL BUILDING AS REQUIRED TO MAKE IT WATER AND WEATHER TIGHT TO THE EXTERIOR, INCLUDING BUT NOT LIMITED TO INTERIOR AND EXTERIOR CONTROL JOINTS, EXPANSION JOINTS, DOOR FRAMES AND SCREENS, LOUVRES, HEADS OF WALLS AND ITEMS PASSING THROUGH WALLS.
- 4.3.3. PROVIDE SUBMITTALS FOR REVIEW.
- 4.3.4. TREMCO, DYMONIC 100

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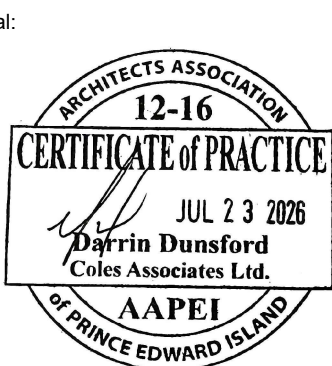
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- 4.5.2.3. FINISHED FLOOR SURFACES WILL BE

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Seal:



Client:

Prince Edward Island - Department of
Transportation, Infrastructure & Energy

Project Title:

Birchwood Intermediate School -
Trades Upgrades
49 Longworth Ave.
Charlottetown, PE

Sheet Title:

Specification Notes

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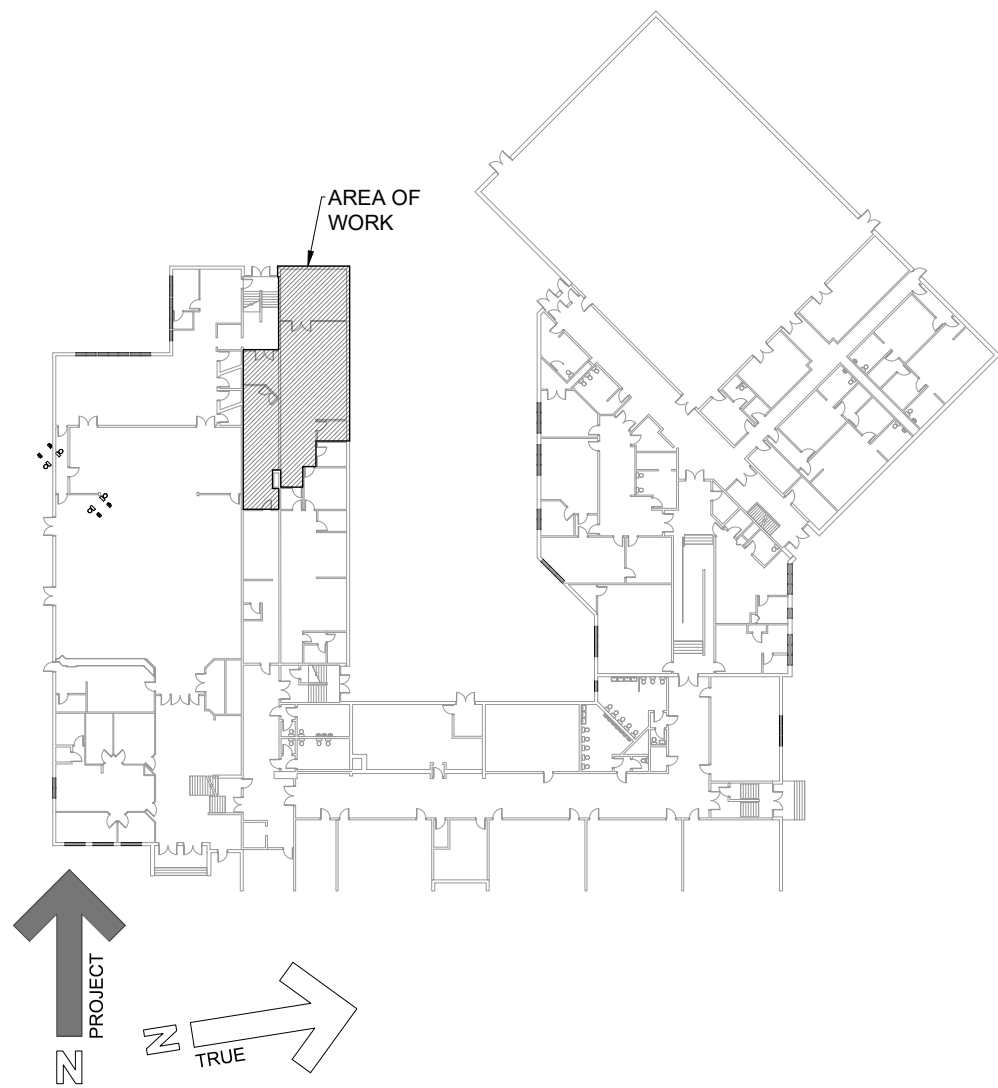
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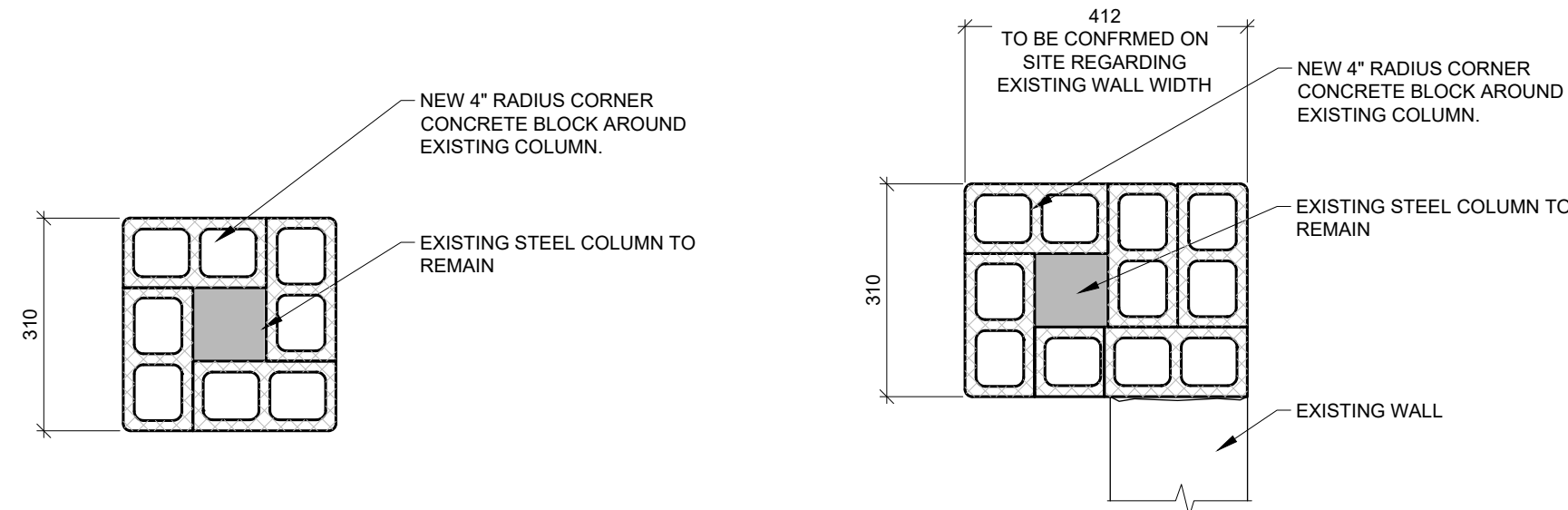
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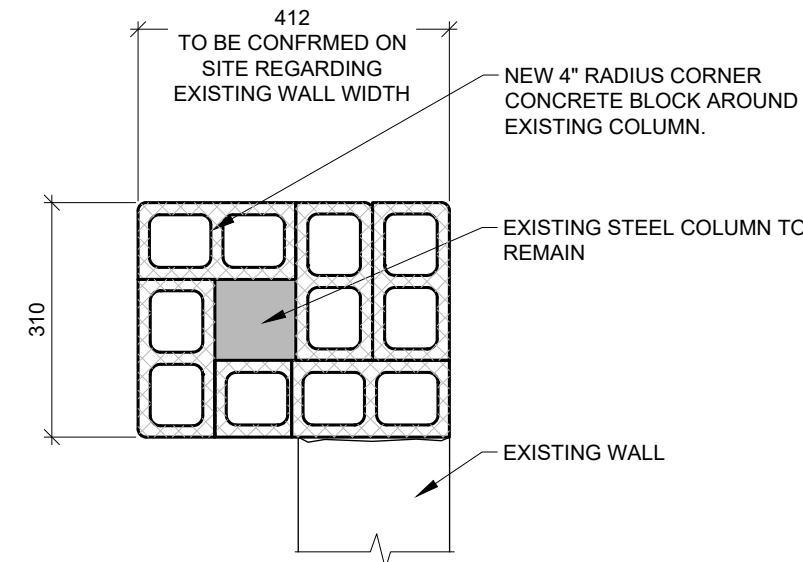
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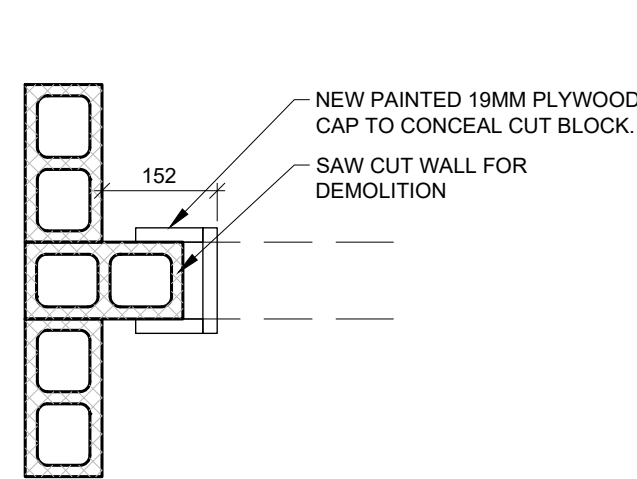
1 KEY PLAN - MAIN LEVEL
A100 NTS



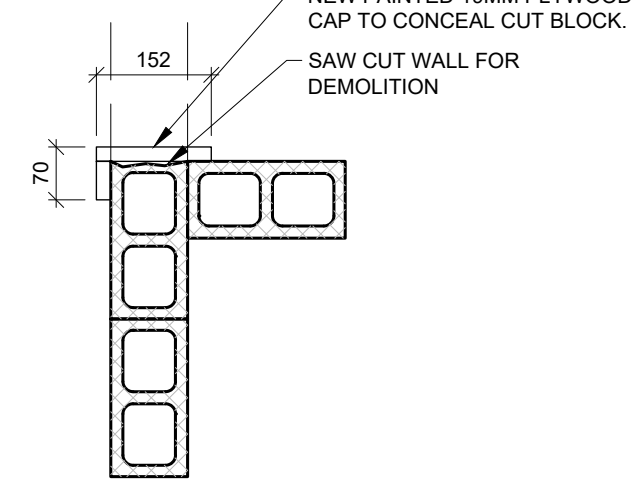
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5 COLUMN DETAIL
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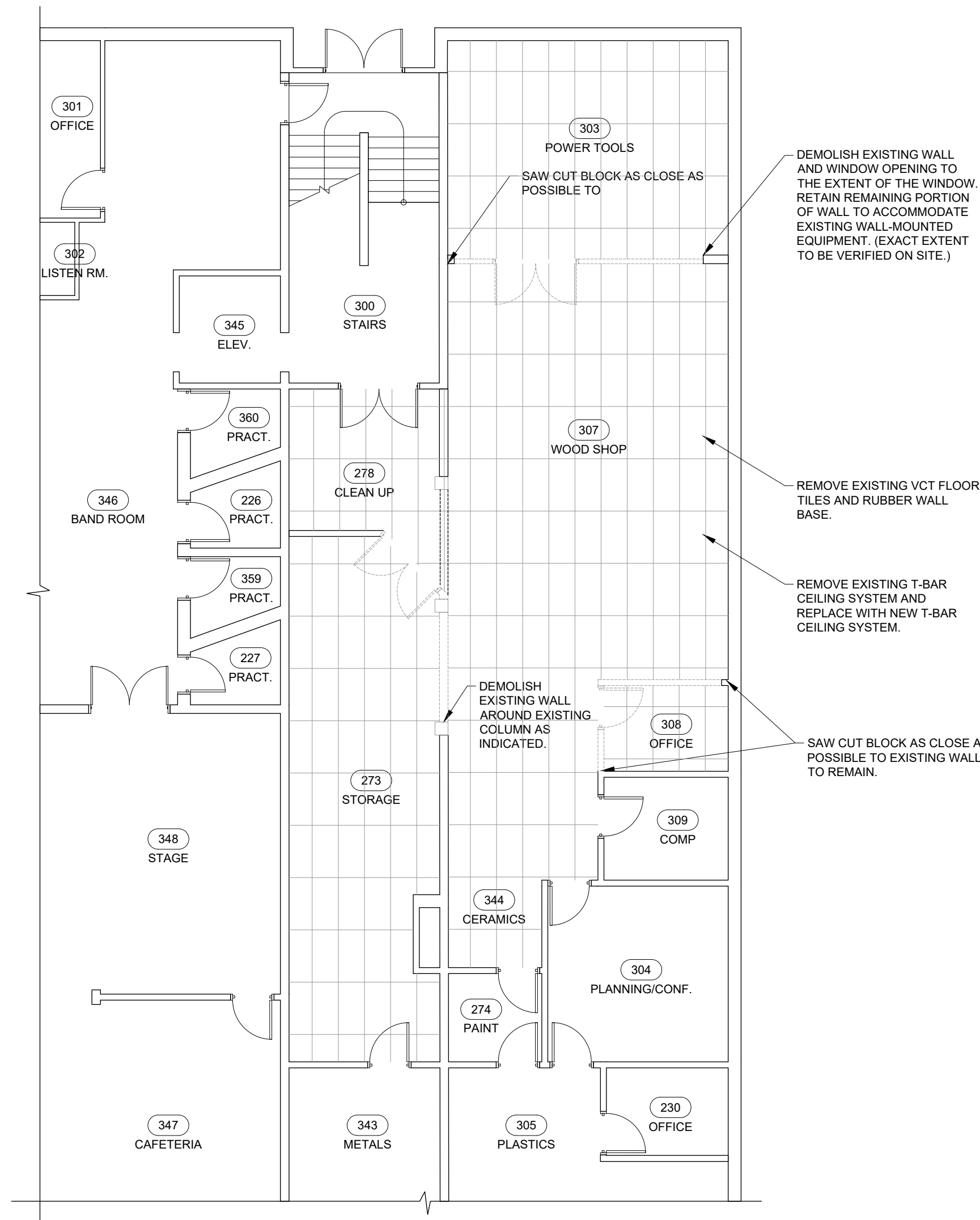
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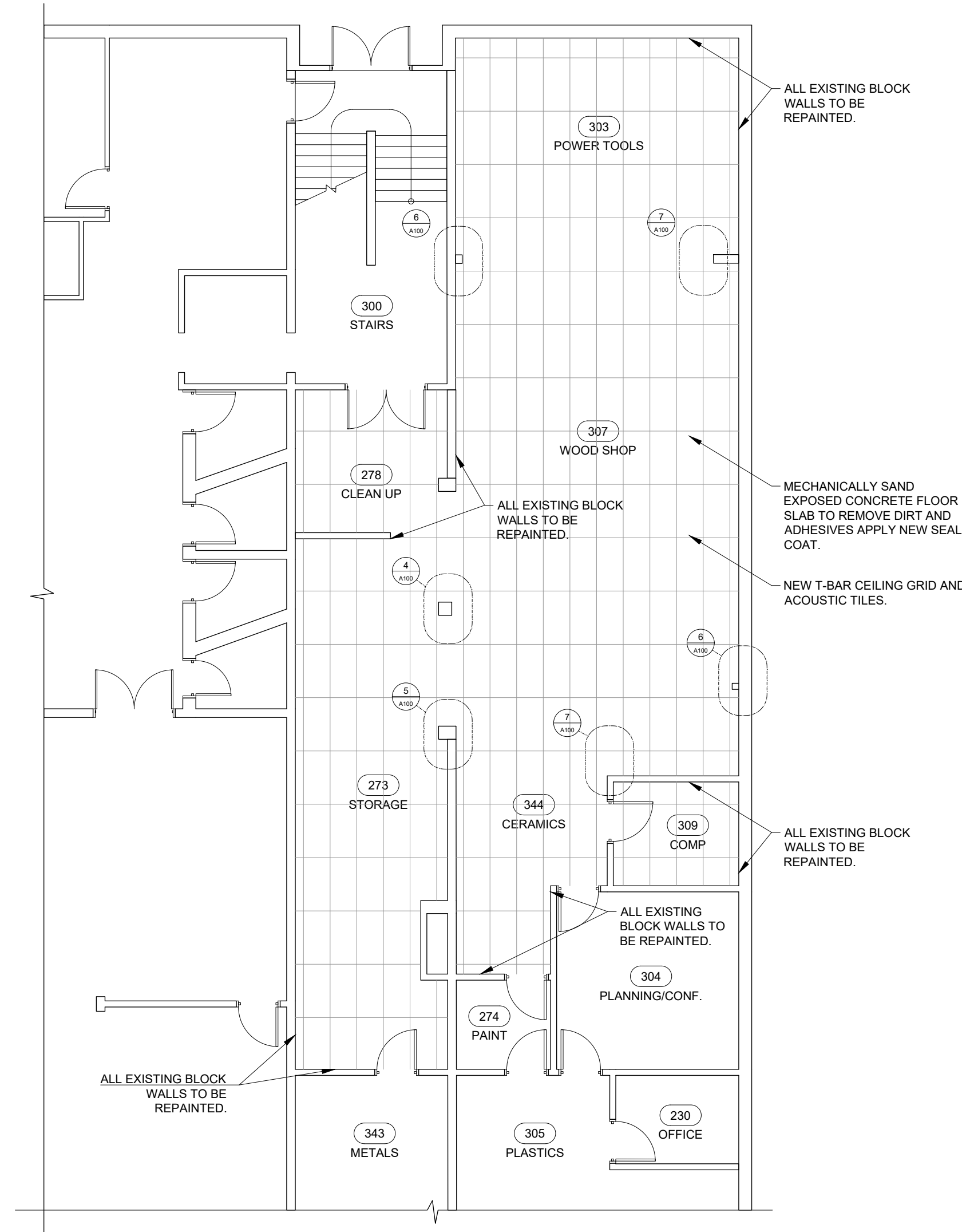
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FLOOR PLAN LEGEND	
	EXISTING WALLS
	TO BE DEMOLISHED
	ROOM NAME
	ROOM NUMBER AND NAME

- GENERAL NOTES**
1. VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.
 2. THE WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE OF CANADA (NBCC 2020).
 3. COMPLY WITH ALL LOCAL, MUNICIPAL AND PROVINCIAL BY-LAWS AND REGULATIONS.
 4. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION.
 5. BENCH MARKS TO BE ESTABLISHED BY CONTRACTOR.
 6. ALL PENETRATIONS IN RATED PARTITIONS/ASSEMBLIES FOR PLUMBING, DUCTING OR ELECTRICAL ARE TO BE SEALED. FIRE STOP IN ACCORDANCE WITH WALL AND/OR FLOOR TYPES. SUBMIT ULC DETAILS AND MATERIALS DURING SHOP DRAWING PROCESS FOR REVIEW PRIOR TO INSTALLATION.
 7. VENT ALL FANS TO OUTSIDE AIR. PROVIDE WEATHERPROOF VENT.
 8. PROVIDE SUB-SLAB DEPRESSURIZATION DETAIL FOR FUTURE RADON GAS TESTING AS PER NBCC 2020 REQUIREMENTS.
 9. ALL WALL DIMENSIONS ARE TO FINISH FACE OF GYPSUM WALL BOARD UNLESS NOTED OTHERWISE.
 10. ALL WALL DIMENSIONS ARE TO FINISH FACE OF WOOD STUD, CENTER OF STUD OR EXTERIOR FACE OF FOUNDATION WALL.
 11. ALL OTHER DISCIPLINES SHOWN FOR GENERAL INTENT ONLY. REFER TO CORRESPONDING DRAWINGS.
 12. REFER TO MATERIAL / FINISH SCHEDULE IN THE APPENDIX OF THE SPECIFICATION FOR INFO ON ALL MATERIAL TAGS.
 13. REFER TO MATERIAL / FINISH SCHEDULE ON THE OUTLINE SPECIFICATION SHEET FOR INFO ON ALL MATERIAL TAGS.
 14. THE ATTIC OR ROOF SPACE ACCESS HATCH IS TO BE A RATED CLOSURE WITH A MIN. FIRE RESISTANCE RATING THAT MATCHES THE ADJACENT ROOF/CEILING ASSEMBLY. CLEAR OPENING TO BE MIN. 550mm x 900mm. PROVIDE ONE TO ACCESS THE AREA BETWEEN EACH FIRE BLOCK.



2 DEMO PLAN
A100 1:100



3 FLOOR PLAN
A100 1:100

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Demo Plan, Floor Plan & Reflected Ceiling
Plan

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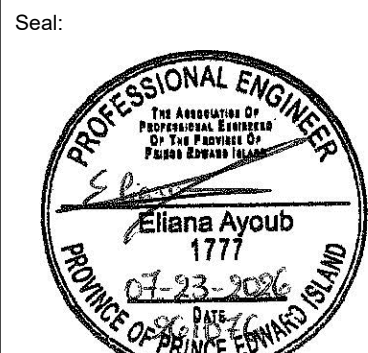
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ELECTRICAL SPECIFICATIONS									
1. GENERAL CONDITIONS 1.1. TENDER REQUIREMENTS, THE PROJECT CONTRACT, RELATED DOCUMENTATION AND GENERAL REQUIREMENTS GOVERN THE WORK OF THIS CONTRACT/TRADE. 1.2. ALL ELECTRICAL WORK IS TO BE CARRIED OUT BY QUALIFIED, LICENSED ELECTRICIANS OR APPRENTICES FOR THE PROVINCE OF PRINCE EDWARD ISLAND AND THE ELECTRICAL CONTRACTOR MUST HAVE A VALID CONTRACTOR LICENSE ISSUED BY THE PROVINCE OF PRINCE EDWARD ISLAND. 1.3. ELECTRICAL CONTRACTOR TO FURNISH ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE ALL WORK SHOWN ON THE DRAWINGS AND HEREIN SPECIFIED. THE WORK IS TO BE IN ACCORDANCE WITH RULES AND REGULATIONS OF ALL AUTHORITIES HAVING LEGAL JURISDICTION OVER THE WORK. PROVIDE ANY SMALL ITEMS OF WORK NOT SPECIFICALLY CALLED FOR BUT REQUIRED TO COMPLETE THE INTENDED INSTALLATION. 1.4. THE TERM "OWNER" TO HEREIN AFTER REFER TO DEPARTMENT OF TRANSPORTATION, INFRASTRUCTURE & ENERGY. THE TERM "ENGINEER" TO HEREIN AFTER REFER TO COLES ASSOCIATES LTD. 1.5. THE ENGINEER RESERVES THE RIGHT TO APPROVE THE QUALITY OF MATERIAL AND WORKMANSHIP, AND TO CALL FOR ANY TESTS WHICH THEY DEEM NECESSARY TO ESTABLISH THE INTEGRITY OF THE INSTALLATION DURING THE PROGRESS OF THE WORK AND A COMPLETE TEST OF EACH SYSTEM AT THE COMPLETION OF THE WORK. THE COST OF SUCH TESTS ARE NOT TO BE CONSIDERED AS EXTRAS. 2. DESCRIPTION OF WORK 2.1. THE WORK IS TO CONSIST OF, BUT NOT BE LIMITED TO, THE FOLLOWING: 2.1.1. POWER DISTRIBUTION INCLUDING MODIFICATIONS TO EXISTING SYSTEM 2.1.2. WIRING DEVICES 2.1.3. LIGHTING 2.1.4. EXIT AND EMERGENCY LIGHTING 2.1.5. PUBLIC ADDRESS SYSTEM INCLUDING MODIFICATIONS TO EXISTING SYSTEM 2.1.6. POWER, STARTERS/DISCONNECTS FOR MECHANICAL MOTORS AND EQUIPMENT 2.1.7. ALL CABLE AND CONDUIT INSTALLATION 2.1.8. ALL NECESSARY CONNECTIONS FOR A COMPLETE SYSTEM 3. CODES, PERMITS AND INSPECTION 3.1. ALL WORK IS TO BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE CANADIAN ELECTRICAL CODE (CSA 22.1-24), THE NATIONAL BUILDING CODE (NBC 2020), AND THE NATIONAL FIRE CODE (NFC). 3.2. ELECTRICAL CONTRACTOR TO BE RESPONSIBLE FOR AND IS TO OBTAIN ALL PERMITS, INSPECTIONS, ETC. AS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION OVER THIS WORK AND IS TO PAY FOR SAME. THESE COSTS ARE TO BE INCLUDED IN THE TENDER PRICES. ALL PERMITS ARE TO BE DELIVERED TO THE OWNER'S REPRESENTATIVE AS SOON AS THEY BECOME AVAILABLE. 4. DRAWINGS 4.1. PREPARE AT OWN EXPENSE, ANY LARGE SCALE WORKING DRAWINGS WHICH MAY BE REQUIRED BY THE EXAMINING AUTHORITIES TO FACILITATE INSTALLATION. 5. AS-BUILT DRAWINGS 5.1. PROVIDE AS-BUILT DRAWINGS TO GENERAL REQUIREMENTS. 6. SHOP DRAWINGS 6.1. SUBMIT SHOP DRAWINGS OF ALL ELECTRICAL EQUIPMENT FOR REVIEW BY THE ENGINEER. SHOP DRAWINGS ARE TO INCLUDE POWER DISTRIBUTION AND CONTROL EQUIPMENT; WIRING DEVICES; LIGHTINGS AND ANY OTHER EQUIPMENT REQUESTED BY THE ENGINEER. CONTRACTOR IS TO STAMP, SIGN AND DATE SHOP DRAWINGS PRIOR TO SUBMISSION AS PROOF OF THEIR APPROVAL. COORDINATION WITH FIELD MEASUREMENTS, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS. 7. EXAMINATION OF SITE AND DRAWINGS 7.1. EXAMINE ARCHITECTURAL AND ELECTRICAL DRAWINGS, VISIT THE SITE AND BECOME FAMILIAR WITH THE PROJECT. ANY DEVIATION AND/OR CONFLICTS ON THE PLANS OR SITE IS TO BE REPORTED TO THE ENGINEER PRIOR TO SUBMITTING TENDER. OTHERWISE IT WILL BE CONSIDERED THAT THEY HAVE BEEN ACCOUNTED FOR IN TOTAL TENDERED PRICE. 8. CONSTRUCTION SCHEDULE 8.1. SCHEDULE AND PERFORM WORK TO MEET THE COMPLETION SCHEDULE, ANY OVERTIME WORK IS TO BE INCLUDED IN TOTAL TENDERED PRICE. 9. BILLINGS, REVISIONS AND EXTRAS 9.1. BILLINGS FOR WORK ARE TO BE BROKEN DOWN INTO A NUMBER OF SUBSECTIONS TO INDICATE HOW VALUES WERE DERIVED. SUBMIT PROPOSED BREAKDOWN TO ENGINEER FOR APPROVAL, PRIOR TO FIRST BILLING. MATERIALS ON SITE TO BE SUPPORTED WITH PACKING SLIPS. 9.2. NO ADDITIONAL MONEY OVER THE CONTRACT PRICE WILL BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED. CLAIMS FOR EXTRAS MUST BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR, HOURLY RATES, ETC. 10. CLEANUP 10.1. REMOVE ALL WASTE PRODUCTS AND DEBRIS AND KEEP THE WORK AREA CLEAN AT ALL TIMES. 10.2. PRIOR TO FINAL REVIEW REMOVE SURPLUS PRODUCTS, TOOLS, AND CONSTRUCTION EQUIPMENT. 11. CUTTING AND PATCHING 11.1. BE RESPONSIBLE FOR ANY CUTTING, PATCHING AND OPENINGS NECESSARY FOR WORK. USE APPROPRIATE POWER DRIVEN TOOLS TO MAKE ANY OPENINGS. KEEP OPENINGS TO A MINIMUM, AND MAKE OPENINGS ONLY AS LARGE AS REQUIRED FOR ELECTRICAL SERVICES. 11.2. PATCH, CAULK, AND SEAL AROUND OPENINGS PLACED THROUGH FULL HEIGHT WALLS TO REDUCE NOISE. 12. EXISTING STRUCTURES AND SERVICES 12.1. CONTRACTOR TO BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY CUTTING OR DISRUPTING EXISTING STRUCTURES OR SERVICES DESIGNATED TO REMAIN IN USE. 13. VAPOUR BARRIER PENETRATIONS 13.1. EVERY OUTLET AND JUNCTION BOX INSTALLED IN A WALL OR CEILING WHICH IS EQUIPPED WITH, OR MAY BE EQUIPPED WITH A VAPOUR BARRIER, IS TO BE SURROUNDED WITH A MOISTURE RESISTANT BARRIER. 13.2. OPENINGS PLACED THROUGH VAPOUR BARRIERS FOR THE INSTALLATION OF ELECTRICAL WIRING, OUTLET BOXES AND EQUIPMENT ARE TO BE EFFECTIVELY SEALED TO MAINTAIN THE INTEGRITY OF THE VAPOUR BARRIER. 14. REMOVALS AND ALTERATIONS 14.1. WORK OF THIS SECTION CONSISTS OF THE COMPLETE REMOVAL OF ALL OBSOLETE OR ABANDONED ELECTRICAL EQUIPMENT AND MATERIALS IN THE AREA TO BE RENOVATED, AND THE ALTERATIONS OF EXISTING ELECTRICAL SERVICES AFFECTED BY THE RENOVATIONS. 14.2. PRIOR TO TENDER SUBMISSION, VISIT THE SITE AND SURVEY AND QUANTIFY THE EXTENT OF THE REMOVALS AND ALTERATIONS REQUIRED FOR THIS CONTRACT AND INCLUDE FOR ALL COSTS IN THE TOTAL TENDERED PRICE. 14.3. IN CONJUNCTION WITH SITE VISIT, REVIEW ARCHITECTURAL AND ELECTRICAL DRAWINGS AND INCLUDE ALL COSTS DUE TO EXISTING CONDITIONS IN TOTAL TENDERED PRICE. 14.4. PRIOR TO DEMOLITION, OWNER WILL IDENTIFY ANY ITEMS OF ELECTRICAL EQUIPMENT WHICH ARE TO BE SET ASIDE AS DIRECTED FOR FUTURE USE BY OWNER. 14.5. UNLESS SPECIFICALLY INDICATED OTHERWISE, ALL OTHER MATERIALS AND EQUIPMENT REMOVED UNDER WORK OF THIS SECTION BECOMES THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL OFF THE PROPERTY. 14.6. COMPLY WITH ALL MUNICIPAL, PROVINCIAL AND FEDERAL BYLAWS AND STANDARDS WHEN DISPOSING OF WASTE. 14.7. REMOVE ALL OBSOLETE OR ABANDONED ELECTRICAL SERVICES INCLUDING EXPOSED WIRE AND CONDUIT, EXCEPT THOSE DESIGNATED FOR REUSE. 14.8. REMOVE ELECTRICAL SERVICES ASSOCIATED WITH OBSOLETE OR ABANDONED MECHANICAL SYSTEMS. 14.9. COORDINATE WORK OF THIS SECTION WITH OTHER TRADES. 14.10. ANY EXISTING CONDUIT, WIRING, BOXES OR EQUIPMENT THAT IS TO REMAIN IN SERVICE IS TO BE PROPERLY SUPPORTED AS REQUIRED BY THE CEC. ANY ADDITIONAL HANGERS, STRAPS OR FASTENERS THAT ARE REQUIRED ARE TO BE SUPPLIED AND INSTALLED UNDER THIS CONTRACT. 14.11. MAKE ALTERATIONS TO EXISTING ELECTRICAL SERVICES AS REQUIRED AND MAKE GOOD ALL CIRCUITS AFFECTED BY THE RENOVATIONS. 14.12. ANY EXISTING ELECTRICAL CIRCUITS AND/OR EQUIPMENT THAT ARE INTERRUPTED DURING CONSTRUCTION TO ACCOMMODATE ALTERATIONS BUT ARE TO REMAIN IN SERVICE ARE TO BE RECONNECTED AND CIRCUITS MADE GOOD. 14.13. ANY RELOCATING OF EXISTING EQUIPMENT AND ANY REROUTING OF EXISTING WIRE AND CONDUIT TO COORDINATE WITH NEW WORK TO BE INCLUDED IN TOTAL TENDERED PRICE. 14.14. THE OWNER INTENDS TO CARRY OUT DAY-TO-DAY BUSINESS AS USUAL THROUGHOUT THE FACILITY DURING THE RENOVATION. ALL POTENTIALLY DISRUPTIVE WORK INCLUDING POWER OUTAGES ARE TO BE COORDINATED AND SCHEDULED WITH THE OWNER IN AN EFFORT TO MINIMIZE DISRUPTION. 14.15. EXISTING CONDUCTOR AND CIRCUIT BREAKERS AND ELECTRICAL EQUIPMENT MAY BE REUSED AT THE CONTRACTORS DISCRETION IF DEEMED SUITABLE FOR THE INTENDED INSTALLATION AND IN ACCORDANCE WITH CSA 22.1-24; OTHERWISE, PROVIDE NEW. 15. DELIVERY DATES 15.1. PLACE ORDER FOR ALL MATERIAL AND EQUIPMENT IMMEDIATELY AFTER SIGNING OF CONTRACT. SUBMIT A LIST OF DELIVERY DATES FOR EACH TYPE OF EQUIPMENT WITHIN 5 DAYS OF THE AWARD OF CONTRACT. THE LIST IS TO INCLUDE SUPPLIERS AND MANUFACTURERS NAMES. USE ONLY MATERIALS THAT CAN BE DELIVERED ON TIME TO MEET CONSTRUCTION SCHEDULE, OTHERWISE PROVIDE TEMPORARY AT NO COST TO OWNER. 16. EQUIPMENT AND MATERIAL 16.1. ALL EQUIPMENT AND MATERIAL, UNLESS SPECIFICALLY NOTED OTHERWISE, IS TO BE NEW AND WITHOUT BLEMISH OR DEFECT. ALL MATERIAL AND EQUIPMENT ARE TO BE CERTIFIED BY A CERTIFICATION AGENCY WHICH IS ACCREDITED BY THE CANADIAN STANDARDS COUNCIL OF CANADA IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARDS OR OTHER RECOGNIZED DOCUMENTS AND HAVE ALL REQUIRED LABELS PERMANENTLY AFFIXED AND VISIBLE WHEN INSTALLED. 17. TESTING 17.1. PERFORM TEST ON EACH SYSTEM TO THE SATISFACTION OF THE ENGINEER AND SUBMIT TEST RESULTS FOR APPROVAL PRIOR TO THE FINAL ACCEPTANCE OF THE WORK. 17.2. MEGAR ALL CIRCUITS PHASE-TO-PHASE-TO-GROUND, INCLUDE SIGNED AND DATED TEST SHEETS IN MAINTENANCE MANUALS. 17.3. ALL MOTORS TO BE TESTED FOR PROPER PHASE ROTATION. 17.4. ALL ELECTRICAL EQUIPMENT AND SYSTEMS TO BE COMMISSIONED BY ELECTRICAL CONTRACTOR, READY FOR USE BY OWNER. 17.5. AT COMPLETION OF WORK SUBMIT WITH THE MAINTENANCE MANUALS A REPORT LISTING PHASE AND NEUTRAL CURRENTS ON PANELBOARDS, OPERATING UNDER NORMAL LOAD, STATE HOUR AND DATE WHICH EACH LOAD WAS MEASURED AND VOLTAGE AT TIME OF TEST. 18. DEMONSTRATION OF THE SYSTEM 18.1. DEMONSTRATE THE FUNCTION AND OPERATION OF EACH SYSTEM TO THE ENGINEER AND OWNER. 19. IDENTIFICATION 19.1. EACH MODIFIED BRANCH PANEL IS TO HAVE A TYPEWRITTEN BREAKER DIRECTORY INDICATING THE LOAD CONNECTED TO EACH CIRCUIT. REVISED DIRECTORIES ARE TO BE MOUNTED ON THE INSIDE OF THE PANEL DOOR WITH A TRANSPARENT PLASTIC COVER. 19.2. EACH WIRE TO HAVE SELF-LAMINATING OR HEAT SHRINK STYLE CABLE MARKER INDICATING THE CIRCUIT NUMBER IT IS CONNECTED TO. 19.3. COLOR CODE CONDUITS, BOXES AND METALLIC SHEATHED CABLES WITH PLASTIC TAPE OR PAINT. CONDUIT AND METALLIC SHEATHED CABLES ARE TO BE PAINTED OR TAPED ON BOTH SIDES OF WALL OR CEILING PENETRATIONS AND AT 15m INTERVALS. EXISTING COLOR CODE SCHEME TO BE FOLLOWED. 19.4. ALL JUNCTION/PULL BOXES ARE TO BE MARKED WITH AN INDELIBLE INK MARKER TO IDENTIFY THE CIRCUIT NUMBER OF ENCLOSED WIRING AND THE PANEL NAME. 20. COORDINATION 20.1. BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF EQUIPMENT, CONDUIT AND CABLE WORK, LIGHTING FIXTURES, ETC. WITH OTHER TRADES PRIOR TO THE ACTUAL INSTALLATION. 21. ACCESSIBILITY 21.1. ALL WORK IS TO BE INSTALLED SO IT CAN BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIRS. 22. RESPONSIBILITY 22.1. BE RESPONSIBLE FOR WORK UNTIL THE COMPLETION AND FINAL ACCEPTANCE, INCLUDING REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT. 23. WARRANTY 23.1. WARRANT ALL WORK AND MATERIALS INSTALLED UNDER THIS CONTRACT, AGAINST ALL DEFECTS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER ACCEPTANCE OF SAME BY OTHERS. 24. FASTENINGS AND SUPPORTS 24.1. PROVIDE FASTENINGS AND SUPPORTS SPECIFICALLY DESIGNED TO SUPPORT THE LOAD FOR ALL ELECTRICAL EQUIPMENT. 24.2. SUPPORT CHANNELS TO BE U-SHAPED, 41mm x 41mm x 2.6mm THICK, PRE-GALVANIZED STEEL, SURFACE MOUNTED OR SUSPENDED AS REQUIRED. THREADED ROD, NUTS AND WASHERS TO BE ZINC PLATED. 24.3. SPECIFIC PURPOSE HEAT TREATED, SPRING STEEL FASTENERS TO SUPPORT BOXES, CONDUIT AND CABLE FROM MAIN STRUCTURES, CHANNELS, METAL STUDS AND T-BAR CEILING. ACCEPTABLE MATERIAL: COOPER B-LINE, CADDY. 24.4. SURFACE MOUNTED EQUIPMENT REQUIRING ADDITIONAL SUPPORT TO BE INSTALLED USING METAL FRAMING CHANNELS, FITTINGS AND HARDWARE. 24.5. USE BAR TYPE BOX HANGER FASTENED TO T-BAR GRID WITH SPRING STEEL FASTENERS TO SUPPORT FLUSH MOUNTED BOXES. ENSURE THAT T-BARS ARE ADEQUATELY SUPPORTED TO CARRY THE WEIGHT OF EQUIPMENT. PROVIDE ADDITIONAL EQUIPMENT SUPPORT WHERE REQUIRED. 24.6. BOXES INSTALLED IN STUD WALLS ARE TO BE SUPPORTED BETWEEN STUDS USING SPECIFIC PURPOSE BOX SUPPORTS. ACCEPTABLE MATERIAL: COOPER B-LINE, CADDY. 24.7. SECURE EQUIPMENT TO HOLLOW MASONRY WALLS WITH TOGGLE BOLTS AND TO POURED CONCRETE WITH EXPANDABLE INSERTS. 24.8. PROVIDE METAL BRACKETS, FRAMES, HANGERS, CLAMPS AND RELATED TYPES OF SUPPORT AS REQUIRED TO SUPPORT CONDUIT AND CABLE. DO NOT USE TY-WRAPS OR ZIP TIES. 24.9. ENSURE ADEQUATE SUPPORT FOR RACEWAYS AND CABLES DROPPED VERTICALLY. PROVIDE CHANNEL AS REQUIRED. 24.10. DO NOT USE SUPPORTS OR EQUIPMENT INSTALLED BY OTHER TRADES FOR CONDUIT OR CABLE SUPPORT UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER. 24.11. USE COOPER B-LINE FLEX-RITE SERIES OR APPROVED EQUAL FASTENERS TO SUPPORT CONDUIT AND CABLE FROM T-BAR HANGER WIRES. 24.12. DO NOT INSTALL CABLE, RACEWAYS AND BOXES DIRECTLY TO UNDERSIDE OF ROOF DECKING. SUPPORT CABLES, RACEWAY AND BOXES SO THAT THE NEAREST OUTSIDE SURFACE OF THE CABLE RACEWAY OR BOX IS NOT LESS THAN 40mm FROM BOTTOM OF ROOF DECKING. 25. CONDUIT AND FITTINGS 25.1. WHEN SHOWN, CONDUIT SIZES ARE TO BE AS INDICATED ON THE DRAWINGS AND ARE NOT TO BE REDUCED IN SIZE UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER. OTHERWISE, SIZE CONDUIT TO CSA 22.1-24 REQUIREMENTS. CONDUIT INSTALLED IN FINISHED AREAS IS TO BE CONCEALED WHERE POSSIBLE. ALL CONDUIT IS TO BE INSTALLED PARALLEL OR PERPENDICULAR TO BUILDING LINES. CONDUIT IS TO BE INSTALLED TO CONSERVE HEADROOM IN SPACES THROUGH WHICH THEY PASS. 25.2. EMT COMPLETE WITH STEEL SET SCREW COUPLINGS AND CONNECTORS TO BE USED FOR ALL BRANCH CIRCUIT WORK UNLESS OTHERWISE INDICATED. INSTALL A SEPARATE BOND WIRE SIZED IN ACCORDANCE WITH CEC REQUIREMENTS IN ALL CONDUITS. 25.2.1. AC90 IS AN ACCEPTABLE ALTERNATE TO CONDUIT FOR INTERIOR BRANCH CIRCUITS CONCEALED IN STUD WALL CONSTRUCTION. 25.3. WHERE CONDUIT PENETRATES THROUGH FIRE RATED STRUCTURES, FIREPROOFING AND SMOKE SEALING IS TO BE PACKED AROUND CONDUIT TO MAINTAIN FIRE RATING OF STRUCTURE WHICH IT PASSES THROUGH. ACCEPTABLE MATERIAL: 3M BRAND FIRE BARRIER CAULK CP 25 OR 303 PUTTY COMPOUND OR APPROVED EQUAL. PROVIDE FIRE COLLARS IN ADDITION TO FIRE CAULKING WHERE REQUIRED. 25.4. MINIMUM CONDUIT SIZE IS TO BE 21mm UNLESS OTHERWISE INDICATED. 25.5. ARMOURED CABLE TO BE USED FOR DROPS TO LIGHT FIXTURES, MAXIMUM 5' LONG. FLEX CONDUIT OR ARMOURED CABLE MAY BE USED FOR DROPS TO NEW EQUIPMENT IN EXISTING WALLS. INSTALL ANTI-SHORTS, STRAPS AND CONNECTORS AS REQUIRED. 25.6. FOR EXTERIOR AND WET LOCATIONS USE LIQUID TIGHT FLEX OR TECK CABLE WITH PROPER FITTINGS. 25.7. CONDUIT AND ARMOURED CABLES ARE TO BE SUPPORTED INDEPENDENTLY OF OTHER EQUIPMENT USING ONE-HOLE STEEL STRAPS FOR UNDER 2" C, TWO-HOLE STEEL STRAPS FOR 2" C AND LARGER, AND BEAM CLAMPS, AND SPRING STEEL FASTENERS IN ACCORDANCE WITH THE CEC. 25.7.1. AC90 CABBING TO BE FASTENED WITH STEEL CABLE STAPLES. 25.8. PROVIDE LOW VOC MASTIC COMPOUND WEATHERPROOF SEAL WHERE CONDUITS PASS THROUGH EXTERIOR WALLS OR STRUCTURES. 26. OUTLET, PULL AND JUNCTION BOXES 26.1. BOXES TO BE CODE GAUGE STEEL, SIZED TO MEET CSA 22.1-24 REQUIREMENTS AND SUITABLE FOR FLUSH MOUNTING FOR THE TYPE OF CONSTRUCTION. USE CAST FS OR FD BOXES FOR SURFACE MOUNTED OUTLETS IN SERVICE ROOM. 26.2. EXTERIOR BOXES TO BE WATERTIGHT. 26.3. PROVIDE STEEL SEPARATION BARRIERS IN BOXES WHERE DIFFERENT VOLTAGES ARE USED. 26.4. PROVIDE PULL BOXES ON CONDUIT RUNS AT A MAXIMUM OF 100' INTERVALS. 26.5. BOXES TO BE SUPPORTED INDEPENDENT OF CONDUIT RUNS. 27. INSTALLATION OF ELECTRICAL 27.1. PLANS SHOW APPROXIMATE LOCATION OF ELECTRICAL WORK. EXACT LOCATION TO BE COORDINATED ON THE SITE WITH OTHER TRADES, ARCHITECTURAL PLANS, EQUIPMENT, ETC. LOCATIONS MAY VARY BY 10' WITHOUT CREDIT OR EXTRA. INACCURATELY LOCATED ELECTRICAL TO BE RE-ADJUSTED OR RELOCATED AT THE CONTRACTORS EXPENSE. 27.2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, LOCATE ELECTRICAL EQUIPMENT AT THE FOLLOWING MOUNTING HEIGHTS TAKEN FROM EQUIPMENT CENTERLINE TO FINISHED FLOOR. 27.2.1. EXIT OR EMERGENCY LIGHTS: 2286mm OR AS INDICATED ON DRAWINGS 27.3. DO NOT INSTALL OUTLETS BACK-TO-BACK IN WALLS. ALLOW 6" MINIMUM HORIZONTAL CLEARANCE BETWEEN BOXES. WHEN BOXES ARE INSTALLED WITHIN THE SAME STUD CAVITY, INSTALL VAPOUR BARRIER BOXES AND SEAL AROUND BOXES WITH INSULATING EXPANSION FOAM. ACCEPTABLE MATERIAL: MONO COMC No. 09421-R BY TREMCO. 28. WIRE AND CABLE 28.1. ALL WIRES TO BE COPPER RW90, RATED 600V, INSTALLED IN CONDUIT UNLESS OTHERWISE INDICATED. AC90 IS AN ACCEPTABLE ALTERNATE TO CONDUIT FOR INTERIOR BRANCH CIRCUITS CONCEALED IN STUD WALL CONSTRUCTION. 28.2. ALL WIRING TO BE SIZED TO MEET ALL REQUIREMENTS OF THE CSA 22.1-24. MINIMUM SIZE FOR BRANCH CIRCUIT WIRING TO BE #12 AND #14 FOR CONTROL WIRING UNLESS INDICATED OTHERWISE. 28.3. ALL WIRES TO BE NEW AND DELIVERED TO THE SITE OF THE PROJECT IN THEIR ORIGINAL PACKING. WIRES #8 AND LARGER TO BE STRANDED, #10 AND SMALLER TO BE SOLID. WIRES TO BE FACTORY IDENTIFIED SHOWING SIZE, VOLTAGE RATING AND INSULATION TYPE. 28.4. NEUTRAL CONDUCTOR TO BE WHITE THROUGHOUT, THREE PHASE WIRES TO BE: ONE RED, ONE BLACK AND ONE BLUE. 28.5. WHERE COMMON NEUTRALS ARE USED ENSURE THAT CIRCUITS ARE FROM DIFFERENT PHASES. 28.6. CABLES ARE TO BE INSTALLED WITHOUT SPLICES AND BE RUN CONTINUOUS FROM SOURCE TO LOAD. 28.7. TECK CABLE RATED FOR 600V WITH FT4 JACKET TO BE USED FOR FINAL CONNECTIONS TO MECHANICAL EQUIPMENT AND WHERE INDICATED. TERMINATE WITH SPIN-ON STYLE CONNECTORS. ACCEPTABLE MATERIAL: T & B STAR-TECK. 29. CONNECTORS FOR WIRES 29.1. USE TWIST-ON PRESSURE TYPE WIRE CONNECTORS FOR #8 TO #14 SIZED WIRE CONNECTIONS. ACCEPTABLE MATERIAL: MARETTE. 29.2. USE CRIMP STYLE ALLOY WIRE CONNECTORS, NYLON INSULATED FOR #16 AND SMALLER WIRES AND FOR CONNECTING SOLID TO STRANDED CONDUCTORS. 29.3. COMPRESSION TYPE CONNECTORS TO BE USED FOR CONNECTING #6 CONDUCTORS AND LARGER. 29.4. USE GEL FILLED TWIST-ON CONNECTORS IN DAMP OR WET LOCATIONS. ACCEPTABLE MATERIAL: KING INNOVATION DRY CONN. 29.5. PREMANUFACTURED MOTOR LEAD SPLICING KITS TO BE USED FOR WIRING CONNECTIONS TO MOTORS. 30. GROUNDING AND BONDING 30.1. ENTIRE ELECTRICAL SYSTEM TO BE GROUNDED AND BONDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CEC AND LOCAL AUTHORITIES. 30.2. ALL CONDUITS TO HAVE SEPARATE INSULATED BONDING CONDUCTOR. 30.3. ALL INSULATED GROUNDING AND BONDING WIRES TO HAVE GREEN JACKET. 31. POWER DISTRIBUTION SYSTEM 31.1. CIRCUIT BREAKER 31.1.1. CIRCUIT BREAKERS TO HAVE THERMAL MAGNETIC TRIP PROTECTION WITH BIMETALLIC ELEMENTS FOR DELAY OVERLOAD PROTECTION. BREAKERS ARE TO BE BOLT-IN FIELD INTERCHANGEABLE, 10 KAIC AT 208V. PROVIDE ALL MOUNTING HARDWARE AS REQUIRED FOR INSTALLING NEW BREAKERS IN EXISTING PANELS. 31.1.2. CIRCUIT BREAKERS TO BE BY THE SAME MANUFACTURER AS THE PANELBOARD IN WHICH THEY ARE BEING INSTALLED. BREAKERS MUST BE NEW, COMPLETE WITH ORIGINAL FACTORY WARRANTY AND SUPPLIED FROM AN AUTHORIZED MANUFACTURER'S DISTRIBUTOR. 31.1.3. ACCEPTABLE MATERIAL: SQUARE D, SIEMENS, EATON. 32. LUMINAIRES 32.1. PROVIDE LUMINAIRES C/W DRIVERS AND LAMPS AS SPECIFIED IN THIS SECTION. LUMINAIRES TO BE C/W ALL NECESSARY HANGERS, LOUVERS, DIFFUSERS, SUPPORTS, ETC. 32.1.1. 010mm (w) X 1219mm (l), LOW PROFILE LED FLAT PANEL, SEAMLESS ALUMINUM FRAME, STAIN WHITE LENS, 0-10V DIMMING DRIVER, 120V DRIVER, 4000 LUMENS, 28W, L80AT >60,000h, 80 CRI, 4000K. 32.1.2. ACCEPTABLE OR APPROVED MATERIAL: 32.1.3. LITHONIA ICPFX 2X4 AL08 80CRI S1WW7 SWL MVOLT 32.1.4. METALUX #2ACOTS-NUV 32.1.5. CFI # 2SBP4060L8CSP-4-UN3-DIM 32.1.6. 24-FPL-BL-LED-3000x/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85 32.2. CO-ORDINATE THE MOUNTING AND LOCATION OF LUMINAIRES WITH OTHER TRADES TO AVOID CONFLICTS. 32.3. JUNCTION BOXES IN SUSPENDED CEILING SPACE ARE TO BE ACCESSIBLE THROUGH THE FIXTURES OR BY REMOVABLE PANELS. 32.4. PROVIDE TWO ADJUSTABLE SAFETY CABLES (ONE AT EACH END, GRIPPLE OR EQUAL) ATTACHED SECURELY TO BUILDING STRUCTURE ON SUSPENDED LUMINAIRES AND LUMINAIRES IN SUSPENDED CEILINGS. 32.5. ALIGN LUMINAIRES IN CONTINUOUS ROWS TO FORM STRAIGHT UNINTERRUPTED LINE. ALIGN LUMINAIRES MOUNTED INDIVIDUALLY PARALLEL OR PERPENDICULAR TO BUILDING LINES. 33. EXIT SIGNS AND EMERGENCY LIGHTS 33.1. EXIT SIGNS TO BE LED, 120V NORMAL POWER, PICTORIAL, GREEN RUNNING MAN ON WHITE FACE, 222.2 #141-10, C860 COMPLIANT. ACCEPTABLE MATERIAL: AIMLITE, RRPST SERIES, LUMACELL, #LS1WLL00, READY-LITE #RS1W, STANPRO #RMS1WNOCAT. EXIT LIGHTS TO HAVE A TEN YEAR UNCONDITIONAL PARTS AND LABOUR GUARANTEE. 33.2. EMERGENCY LIGHT TO BE 4W, 12V, MR16 LED LAMP VANDAL RESISTANT REMOTE HEAD(S), WHITE COLOR, SINGLE OR DOUBLE AS INDICATED. ACCEPTABLE MATERIAL: AIMLITE #RMMDZ-6-24-4WLRWHT, LUMACELL #MQM2LD7, READY-LITE #RM2LD7, STANPRO #S2-6-24-4WLRWH. 33.3. EMERGENCY BATTERY TO BE RATED 36W FOR 30 MIN., 12V DC OUTPUT, WITH TWO 4W MR16 LED LAMPS, AUTO-TEST, WHITE HOUSING. ACCEPTABLE MATERIAL: AIMLITE #BST1236-2MB4WLJWH7AT, LUMACELL #RS12362LD7AT, READY-LITE #LDX12362LD7, STANPRO #SLA1236-24WLJWHAT. BATTERY TO HAVE A TEN YEAR UNCONDITIONAL PARTS AND LABOUR GUARANTEE. 33.4. INSTALL EXIT AND EMERGENCY LIGHTING AS INDICATED AND MAKE NORMAL AND EMERGENCY POWER CONNECTIONS. TEST EMERGENCY POWER FOR 30 MINUTES. 34. MAINTENANCE MANUALS 34.1. AT COMPLETION OF CONTRACT PROVIDE THREE COPIES OF MAINTENANCE MANUALS TO GENERAL REQUIREMENTS. INCLUDE ALL SHOP DRAWINGS, CERTIFICATES, TEST SHEETS, GUARANTEES, WARRANTIES AND MAINTENANCE INFORMATION NAME, ADDRESS AND TELEPHONE NUMBER OF CONTRACTOR, PLUS NAMES, ADDRESSES AND TELEPHONE NUMBERS OF DISTRIBUTORS, MANUFACTURERS, AND SUPPLIERS OF EQUIPMENT. NOTES THE PLANS FOR THE WORK ACCOMPANYING THESE SPECIFICATIONS ARE MADE AS ACCURATELY AS POSSIBLE, BUT ABSOLUTE ACCURACY OF DIMENSIONS CANNOT BE GUARANTEED. THEY ARE INTENDED TO SUPPLEMENT AND SIMPLIFY THE GENERAL CONTRACT DRAWINGS. NO CLAIMS FOR EXTRA PAYMENT ON ACCOUNT OF THE DIFFERENCE OF ACTUAL AND ESTIMATED DIMENSIONS WILL BE ALLOWED. IN THE CASE OF DISCREPANCY OF FIGURE DIMENSIONS OR ANY OTHER CONFLICT IN THE PLANS OR THE SPECIFICATIONS, THE MATTER IS TO BE IMMEDIATELY DIRECTED TO THE OWNER AND ENGINEER FOR THEIR DECISION. WITHOUT A DECISION, THE DISCREPANCY MUST NOT BE ADJUSTED BY THIS CONTRACTOR SAVE AT THEIR OWN RISK, AND IN THE SETTLEMENT OF ANY COMPLICATIONS ARISING FROM SUCH ADJUSTING, THE CONTRACTOR WILL BEAR ALL EXTRA EXPENSE INVOLVED. EXACT LOCATION OF ALL ELECTRICAL WORK TO BE DETERMINED WITH ARCHITECTURAL FLOOR PLANS, FURNITURE AND EQUIPMENT LAYOUTS PRIOR TO ANY INSTALLATION. THE PLANS LISTED BELOW FORM AN INTEGRAL PART OF THIS SPECIFICATION: E001 ELECTRICAL SPECIFICATION & LEGEND E100 MAIN LEVEL DEMOLITION & REVISED FLOOR PLAN - POWER, COMMUNICATIONS, SYSTEMS, & LIGHTING GENERAL LEGEND — LIGHT LINEWEIGHT INDICATES EXISTING TO REMAIN — HEAVY LINEWEIGHT INDICATES NEW WORK — SURFACE MOUNTED WIRING — INDICATES 2#12 DC WIRING GENERAL SUB SCRIPTS CM- CEILING MOUNTED ELECTRICAL LEGEND ⊕ SINGLE RECEPTACLE ⊕ DUPLEX RECEPTACLE ⊕ DUPLEX RECEPTACLE, MOUNTED IN ACCESSIBLE CEILING SPACE RECEPTACLE SUB SCRIPTS 20 - CSA TYPE 5-20R ⊠ EXISTING MANUAL MOTOR SWITCH ⊠ EXISTING COMBINATION MAGNETIC MOTOR STARTER L' ELECTRICAL PANEL, SURFACE MOUNTED L' - INDICATES PANEL DESIGNATION ⊠ EXISTING LUMINAIRE, CEILING MOUNTED # LUMINAIRE, CEILING MOUNTED # - INDICATES TYPE IN LUMINAIRE SCHEDULE # LUMINAIRE, CEILING MOUNTED # - INDICATES TYPE IN LUMINAIRE SCHEDULE ⊠ DUAL HEAD EMERGENCY LIGHTING UNIT \$ SINGLE POLE SWITCH <									

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Coles Associates Ltd.
Suite 201, 85 Fitzroy Street
Charlottetown, PEI Canada, C1A 1R6
Phone: (902) 368-2300
www.colesassociates.com



Client:

Prince Edward Island - Department of Transportation, Infrastructure & Energy

Project Title:

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Sheet Title:

Specification & Legend

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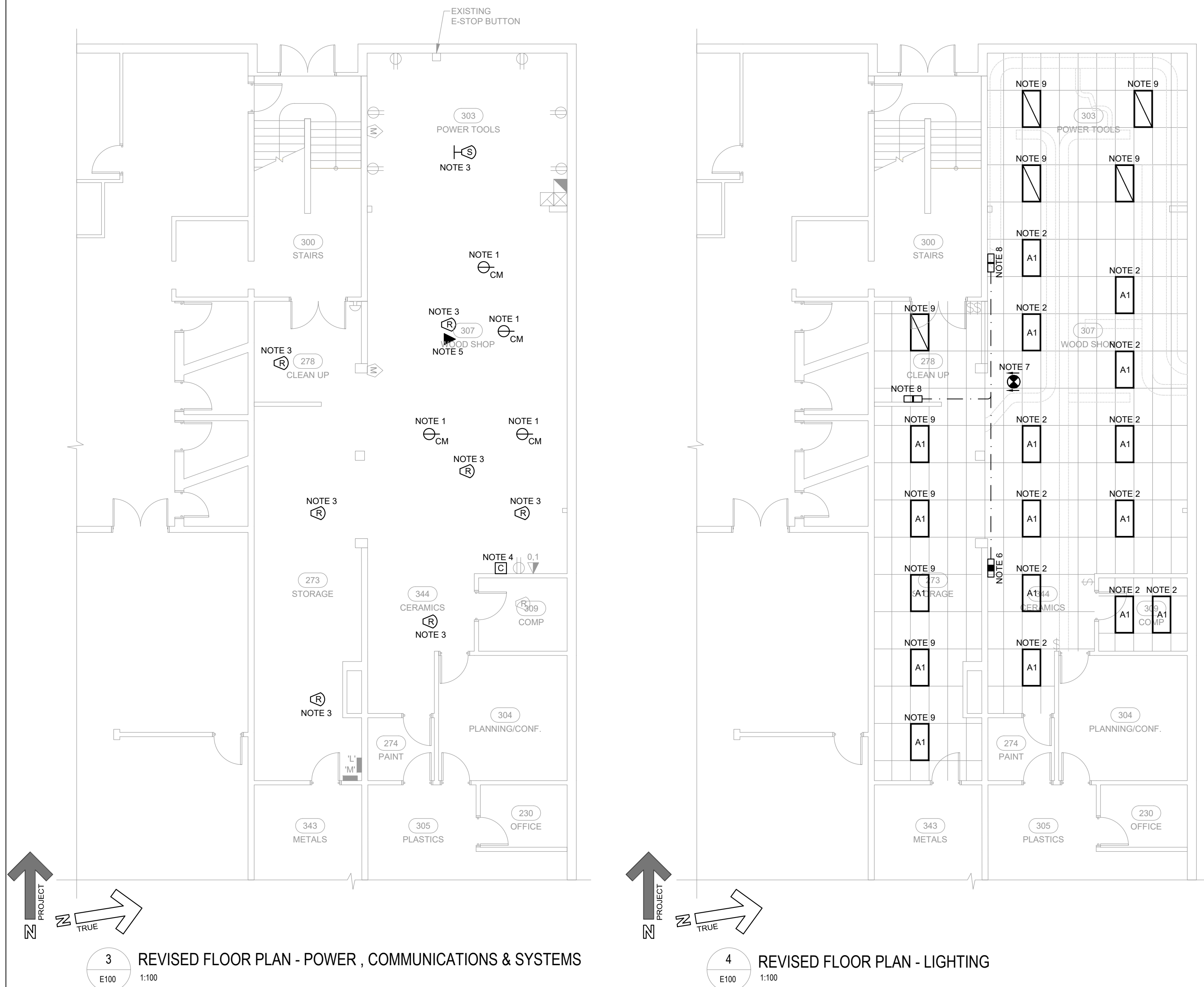
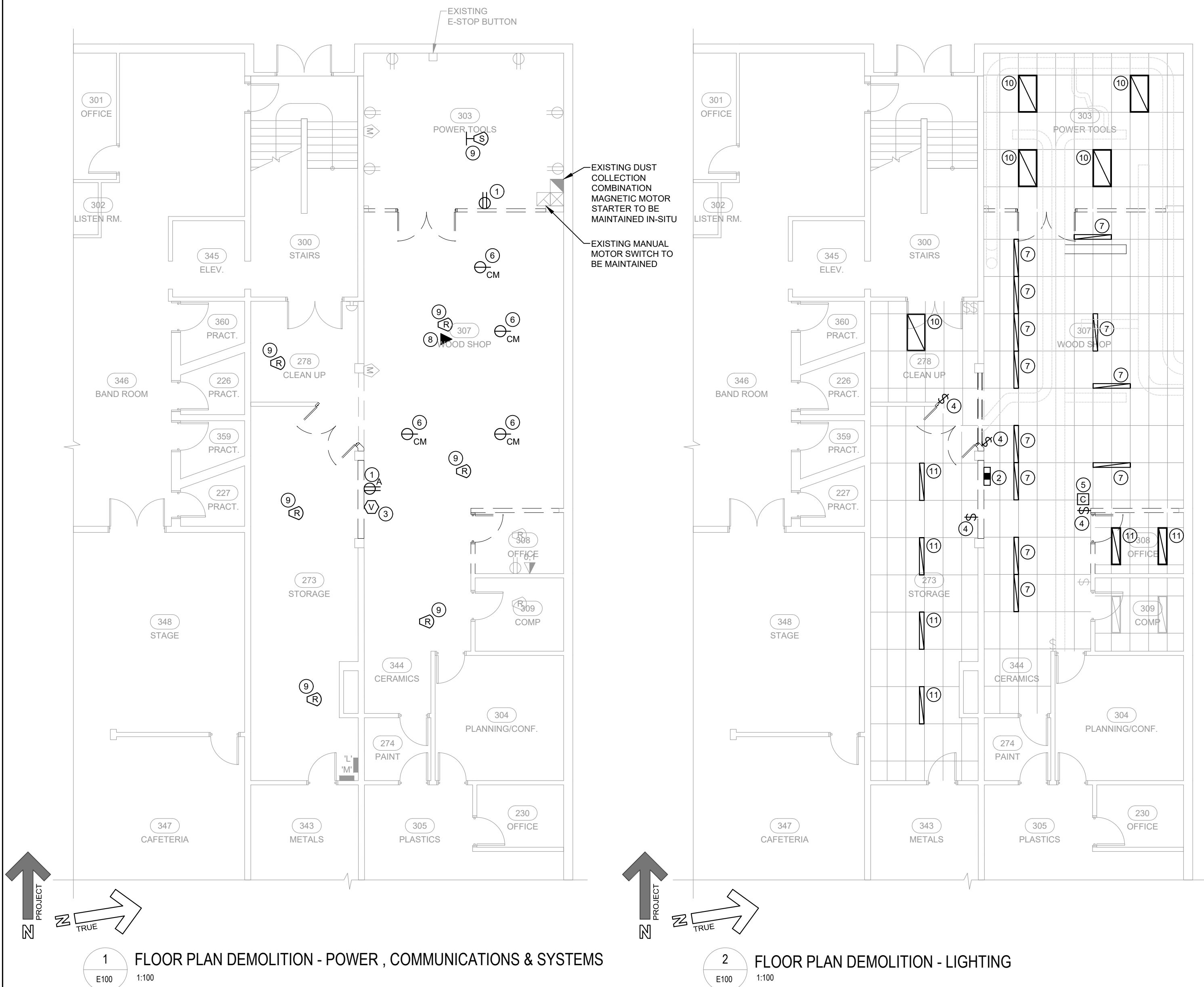
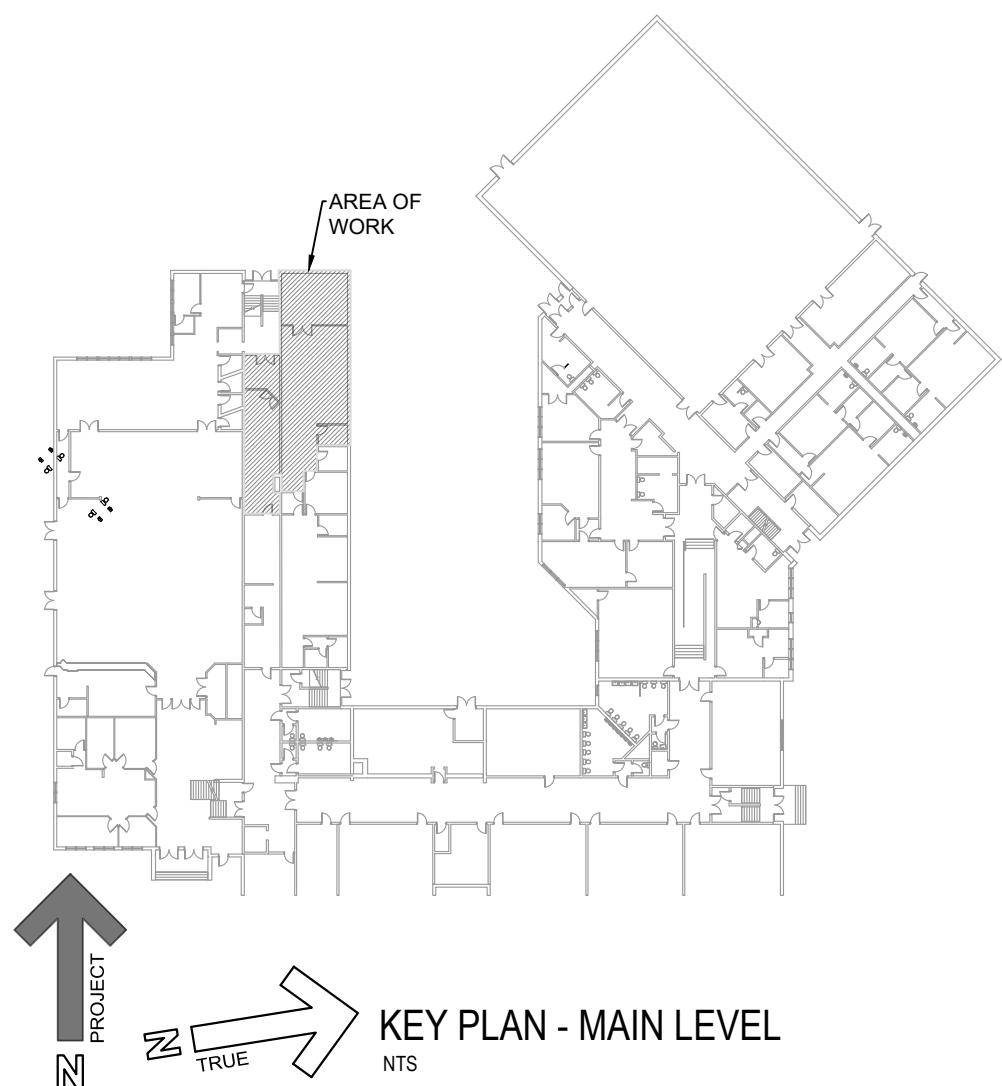
- 1 CONTRACTOR TO TRACE OUT AND DISCONNECT EXISTING DUPLEX RECEPTACLE AND ASSOCIATED BRANCH CIRCUIT WIRING BACK TO SOURCE.
- 2 CONTRACTOR TO TRACE OUT AND DISCONNECT EXISTING EMERGENCY LIGHTING BATTERY PACK AND ASSOCIATED BRANCH CIRCUIT WIRING BACK TO SOURCE
- 3 CONTRACTOR TO TRACE OUT AND DISCONNECT EXISTING VIDEO DISPLAY PORT AND ASSOCIATED AV CABLING BACK TO SOURCE. EXISTING WIREMOLD STUBBED WITHIN EXISTING ACCESSIBLE CEILING SPACE TO BE REMOVED.
- 4 CONTRACTOR TO DISCONNECT EXISTING LIGHT SWITCH. ASSOCIATED BRANCH CIRCUIT WIRING TO BE TRACED OUT, DISCONNECTED, PULLED BACK, NEATLY COILED, CAPPED AND LABELLED FOR THEIR RE-CONNECTION TO NEW LOCATION OF NEW LIGHT SWITCH.
- 5 CONTRACTOR TO DISCONNECT, REMOVE AND STORE EXISTING WALL-MOUNTED EQUIPMENT CONTROLLER TO FACILITATE EXISTING WALL DEMOLITION. ASSOCIATED BRANCH CIRCUIT WIRING TO BE TRACED OUT, DISCONNECTED, PULLED BACK, NEATLY COILED AND LABELLED FOR RECONNECTION TO EQUIPMENT CONTROLLER NEW LOCATION. COORDINATE ALL WORK WITH GENERAL CONTRACTOR PRIOR TO WALL REMOVAL.
- 6 CONTRACTOR TO DISCONNECT AND REMOVE EXISTING CEILING MOUNTED, CSA TYPE LS-15R TWIST LOCK RECEPTACLE. ASSOCIATED BRANCH CIRCUIT WIRING TO BE TRACED OUT, DISCONNECTED, NEATLY COILED AND LABELLED FOR RECONNECTION TO NEW TWIST LOCK RECEPTACLE. EXISTING YELLOW PULL CORDS TO BE TURNED OVER TO OWNER'S DEPARTMENTAL REPRESENTATIVE. COORDINATE ALL WORK WITH GENERAL CONTRACTOR PRIOR TO CEILING RENOVATION.
- 7 CONTRACTOR TO DISCONNECT AND REMOVE EXISTING CEILING MOUNTED LIGHT FIXTURE. ASSOCIATED BRANCH CIRCUIT WIRING TO BE TRACED OUT, DISCONNECTED, PULLED BACK, NEATLY COILED AND LABELLED FOR RECONNECTION TO NEW TYPE A1 LIGHT FIXTURE. COORDINATE ALL WORK WITH GENERAL CONTRACTOR PRIOR TO CEILING RENOVATION.
- 8 CONTRACTOR TO DISCONNECT, REMOVE AND STORE EXISTING SURFACE MOUNTED WIRELESS ACCESS POINT FOR ITS RE-INSTALLATION FOLLOWING THE CEILING RENOVATION. ASSOCIATED COMMUNICATIONS CABLING TO BE TRACED OUT, DISCONNECTED, PULLED BACK, NEATLY COILED AND LABELLED FOR RECONNECTION TO WIRELESS ACCESS POINT NEW LOCATION. COORDINATE ALL WORK WITH GENERAL CONTRACTOR PRIOR TO CEILING RENOVATION.
- 9 CONTRACTOR TO DISCONNECT, REMOVE AND STORE EXISTING RECESS MOUNTED PUBLIC ADDRESS SPEAKER FOR ITS RE-INSTALLATION FOLLOWING THE CEILING RENOVATION. ASSOCIATED SPEAKER CABLING TO BE TRACED OUT, DISCONNECTED, PULLED BACK, NEATLY COILED AND LABELLED FOR RECONNECTION TO RECESS MOUNTED PUBLIC ADDRESS SPEAKER NEW LOCATION. COORDINATE ALL WORK WITH GENERAL CONTRACTOR PRIOR TO CEILING RENOVATION.
- 10 CONTRACTOR TO DISCONNECT, REMOVE AND STORE EXISTING RECESS MOUNTED LED FLAT PANEL FOR ITS RE-INSTALLATION FOLLOWING THE CEILING RENOVATION. ASSOCIATED BRANCH CIRCUIT WIRING TO BE TRACED OUT, DISCONNECTED AND REMOVED BACK TO SOURCE. COORDINATE ALL WORK WITH GENERAL CONTRACTOR PRIOR TO CEILING RENOVATION.
- 11 CONTRACTOR TO DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE AND ASSOCIATED BRANCH CIRCUIT WIRING BACK TO SOURCE. COORDINATE ALL WORK WITH GENERAL CONTRACTOR PRIOR TO CEILING RENOVATION.

GENERAL NOTES

- CONTRACTOR TO EXAMINE THE NEW T-BAR CEILING LAYOUT AND COORDINATE THE INSTALLATION OF THE TYPE A1 LIGHT FIXTURES WITH EXISTING CEILING DUCTWORK. VERIFY ALL CLEARANCES PRIOR TO ROUGH-IN TO ENSURE THE PROPOSED LIGHTING IS FREE FROM OBSTRUCTIONS.
- CONTRACTOR TO COORDINATE THE EXACT LOCATIONS OF ALL NEW AND EXISTING DEVICES WITHIN THE NEW T-BAR CEILING WITH THE OWNER AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN AND INSTALLATION.

NOTES

1. NEW CSA TYPE LS-15R TWIST LOCK RECEPTACLE TO BE RECESS MOUNTED IN NEW T-BAR CEILING. ASSOCIATED COILED BRANCH CIRCUIT WIRING TO BE TERMINATED TO NEW RECEPTACLE AS REQUIRED. COORDINATE EXACT LOCATION ON SITE PRIOR TO RECONNECTION.
2. TYPE A1 LUMINAIRES TO BE RECESS MOUNTED IN NEW T-BAR CEILING. ASSOCIATED COILED BRANCH CIRCUIT WIRING TO TERMINATED TO NEW LUMINAIRES. PROVIDE FOR SPLICING AND EXTENSION OF EXISTING BRANCH CIRCUIT WIRING AS REQUIRED. OTHERWISE, PROVIDE NEW. COORDINATE EXACT LOCATION ON SITE PRIOR TO RECONNECTION.
3. EXISTING PUBLIC ADDRESS SPEAKER TO BE RE-INSTALLED IN NEW T-BAR CEILING. ASSOCIATED COILED SPEAKER CABLING TO BE RE-TERMINATED TO PUBLIC ADDRESS SPEAKER AS REQUIRED. COORDINATE EXACT LOCATION ON SITE PRIOR TO RECONNECTION.
4. EQUIPMENT CONTROLLER TO BE MOUNTED AT 1580 mm AFF ALONG COMP 309 WALL. ASSOCIATED COILED BRANCH CIRCUIT WIRING TO BE RE-TERMINATED TO EQUIPMENT CONTROLLER NEW LOCATION. PROVIDE FOR SPLICING AND EXTENSION OF EXISTING BRANCH CIRCUIT WIRING TO NEW LOCATION AS REQUIRED. OTHERWISE, PROVIDE NEW. CONTRACTOR TO CONFIRM EXACT LOCATION AND MOUNTING HEIGHT PRIOR TO ROUGH-IN.
5. WIRELESS ACCESS POINT TO BE SURFACE MOUNTED TO NEW T-BAR CEILING. ASSOCIATED COMMUNICATIONS CABLING TO BE RE-TERMINATED TO WIRELESS ACCESS POINT NEW LOCATION. COORDINATE EXACT LOCATION ON SITE PRIOR TO RECONNECTION.
6. WIRE NEW EMERGENCY LIGHTING BATTERY PACK WITH 2#12 AC90 CABLING ROUTED THROUGH ACCESSIBLE CEILING SPACE TO EXISTING WOOD SHOP 307 LIGHTING CIRCUIT. COORDINATE EXACT CONDUIT ROUTING AND INSTALLATION ON SITE PRIOR TO ROUGH-IN.
7. WIRE NEW CEILING MOUNTED EXIT SIGN WITH 2#12, 1#14 BOND IN 21mmC ROUTED THROUGH THE ACCESSIBLE CEILING SPACE TO A NEW 15A/1P CIRCUIT BREAKER LOCATED IN POSITION 38 OF EXISTING PANELBOARD 'L'. NEW CIRCUIT BREAKER TO BE C.W A LOCKING MECHANISM TO MAINTAIN THE BREAKER IN THE ON POSITION. COORDINATE EXACT LOCATION ON SITE PRIOR TO ROUGH-IN.
8. WIRE NEW DUAL HEAD EMERGENCY LIGHTING UNIT TO BE WIRED TO EMERGENCY LIGHTING BATTERY PACK WITH 2#12 DC WIRING ROUTED THROUGH THE ACCESSIBLE CEILING SPACE. COORDINATE EXACT LOCATION AND ENSURE NO OBSTRUCTION WITH EXISTING EXPOSED MECHANICAL DUCTS ON SITE PRIOR TO ROUGH-IN.
9. WIRE EXISTING LED FLAT PANEL/NEW TYPE A1 LIGHT FIXTURE TO EXISTING WOOD SHOP 307 LIGHTING CIRCUIT WITH NEW 2#12 AC90 CABLING ROUTED THROUGH THE ACCESSIBLE CEILING SPACE. COORDINATE EXACT LOCATION AND CABLE INSTALLATION ON SITE PRIOR TO ROUGH-IN.



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								Chk By: EA	
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