ELECTRICAL SPECIFICATIONS

A. GENERAL CONDITIONS

- 1. CONFORM WITH LATEST EDITION OF THE ONTARIO BUILDING CODE (OBC), ONTARIO ELECTRICAL SAFETY CODE (OESC), CANADIAN STANDARDS ASSOCIATION (CSA), UNDERWRITERS LABORATORIES OF CANADA (ULC) AND LOCAL BY-LAWS AND AUTHORITIES HAVING JURISDICTION.
- 2. MATERIALS & EQUIPMENT SHALL CARRY APPROVAL AND CONFORM WITH CSA OR ULC STANDARDS. INSTALLATION SHALL COMPLY WITH ALL RULES AND REGULATIONS REGARDING MATERIALS AND WORKMANSHIP CONFORMING TO CSA, OESC, OBC AND LOCAL AUTHORITIES HAVING JURISDICTION.
- 3. VISIT JOB SITE PRIOR TO SUBMITTING TENDER AND EXAMINE ALL EXISTING CONDITIONS WHICH AFFECT THE WORK. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO DO SO.
- 4. SUPPLY AND INSTALL COMPLETE ELECTRICAL SYSTEMS AS SHOWN AND/OR SPECIFIED HEREIN. DRAWINGS SHALL BE USED FOR ROUTING PURPOSES ONLY, DO NOT SCALE DRAWINGS. PROVIDE ALL NECESSARY MATERIAL AND LABOUR
- 5. FURNISH ALL REQUIRED LABOUR AND MATERIALS, MACHINERY, AND TOOLS, WITH ALL PROPER AND REQUIRED FACILITIES FOR MOVING AND TRANSPORTING SAME, SO THAT THE CONTRACT AND ALL WORK TO BE DONE UNDER IT, CAN AND WILL BE CARRIED OUT IN A PROFESSIONAL MANNER, PROPERLY, SATISFACTORILY, CONTINUOUSLY, AND EXPEDITIOUSLY, TO COMPLETION, IN ALL RESPECTS, TO THE SATISFACTION OF THE OWNER.
- 6. COORDINATE WITH LOCAL HYDRO UTILITY AT THE START OF THE PROJECT REGARDING ENERGIZATION DATE OF MAIN INCOMING ELECTRICAL SERVICE, HYDRO METERING, DUCTBANK INSPECTIONS AND ANY REQUIRED UTILITY FEES. PROVIDE IN WRITING THE PROPOSED SERVICE ENERGIZATION DATE TO THE CONSULTANT AT THE START OF THE PROJECT. PROVIDE WRITTEN REQUEST TO THE CONSULTANT FOR A COPY OF THE ESA PLAN REVIEW REPORT AT THE START OF THE PROJECT.
- 7. MOUNTING HEIGHT OF EQUIPMENT IS FROM FINISHED FLOOR TO CENTER LINE OF EQUIPMENT, UNLESS SPECIFIED OR INDICATED OTHERWISE. IF MOUNTING HEIGHT OF EQUIPMENT IS NOT INDICATED. VERIFY BEFORE PROCEEDING WITH INSTALLATION. THE FOLLOWING IS GENERAL MOUNTING HEIGHTS:
- 7.1. GENERAL SWITCHES, DIMMERS: 1100mm (43")
- 7.2. WALL RECEPTACLES (GENERAL): 450mm (18") 7.3. DATA, VOIP, TELEPHONE OUTLETS: 450mm (18")
- 7.4. OUTLET ABOVE COUNTER: 150mm (6")

ETC. TO PROVIDE COMPLETE SYSTEMS.

- 7.5. POWER DOOR OPERATORS: 1050mm (41")
- 7.6. PANEL BOARDS: 1700mm (67") (MAXIMUM FROM TOP BREAKER) 7.7. FIRE PULL STATION: 1150mm (45")
- 7.8. FIRE ALARM VISUAL, AUDIBLE OR COMBINATION OF BOTH DEVICES" 150mm (6") BELOW CEILING TO THE TOP OF THE DEVICE WHERE THE CEILING HEIGHT IS LESS THAN 2450mm (96") A.F.F.. WHERE CEILING HEIGHT IS 2450mm (96") OR GREATER, MOUNT DEVICE AT 2300mm (90.5") A.F.F. TO THE TOP OF THE DEVICE.
- 8. CO-ORDINATE ON SITE THE LOCATION OF EQUIPMENT, CONTROL DEVICES, SERVICE DISTRIBUTION SYSTEMS, ETC. COORDINATE WORK AND SCHEDULE WITH OTHER TRADES.
- 9. AT ALL TIMES KEEP THE OWNER'S PROPERTY CLEAN AND IN TIDY CONDITION. CLEAN AFFECTED WORK AREA AND REMOVE ALL DEBRIS FROM EQUIPMENT. FOLLOW MANUFACTURERS' INSTALLATION AND STARTUP INSTRUCTIONS.
- 10. PROVIDE WARNING SIGNS AND BARRIERS AS REQUIRED TO MEET INSPECTION DEPARTMENT'S REQUIREMENTS.
- 11. DRAWINGS SHOW GENERAL INTENT OF WORK AND NOT THE DETAILS OF THE INSTALLATION.
- 12. GUARANTEE IN WRITING ALL MATERIAL AND WORKMANSHIP INCLUDING THE MANUFACTURER'S GUARANTEE FOR THE MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE UNLESS NOTED OTHERWISE IN MAIN FRONT END CONTRACT DOCUMENTS.
- 13. NO EXTRA CHARGES SHALL BE HONOURED EXCEPT WHERE THE CONTRACTOR RECEIVES A WRITTEN ORDER COUNTER-SIGNED OR OTHERWISE APPROVED BY THE OWNER.
- 14. AFTER THE APPROVAL OF DRAWINGS, THE RIGHT IS RESERVED TO MAKE REASONABLE CHANGES IN THE DESIGN OF THE WORK OR TO OMIT ANY SUCH PARTS AS THE OWNER MAY REQUIRE. IN THE CASE WHERE WORK OR MATERIAL IS ADDED TO OR DEDUCTED FOR THE WORK HEREIN SPECIFIED. A FAIR AND REASONABLE VALUATION OF THE SAME SHALL BE ADDED TO OR DEDUCTED FROM THE AMOUNT OF THIS CONTRACT.
- 15. THE CONSULTANT RESERVES THE RIGHT TO SELECT THE FINAL PRODUCT AND OR OPTIONS/ACCESSORIES DURING SHOP DRAWING REVIEW AT NO ADDITIONAL COST TO THE OWNER IN THE CASE OF ANY DISCREPANCIES LISTED BETWEEN CATALOGUE NUMBERS, WRITTEN PRODUCT DESCRIPTIONS AND OR DETAILS SHOWN ON THE DRAWINGS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE CONSULTANT IN WRITING BEFORE TENDER CLOSES OF ANY DISCREPANCIES THAT MAY BE SHOWN ON THE DRAWINGS REGARDING LISTED PRODUCT SPECIFICATIONS AND CATALOGUE NUMBERS THAT MAY AFFECT PRICING AND GET CLARIFICATION ON THESE ITEMS BEFORE SUBMITTING FINAL TENDER PRICE. FAILURE OF THE ELECTRICAL CONTRACTOR TO REQUEST CLARIFICATIONS ON SUCH ITEMS DURING TENDER MAKES NULL AND VOID ANY FUTURE CLAIMS RELATING TO FINAL PRODUCT SELECTION BY THE CONSULTANT.
- 16. ALL ELECTRICAL EQUIPMENT TO BE SPRINKLER PROOF.

B. <u>SUBMITTALS</u>

- 1. BEFORE FABRICATION OF ANY MATERIALS OR EQUIPMENT, SUBMIT ONE (1) COPY OF DETAILED MANUFACTURER'S SHOP DRAWINGS OF EQUIPMENT AND APPARATUS FOR REVIEW. DO NOT ORDER MATERIALS UNTIL UNTIL CONSULTANT HAS REVIEWED THE SHOP DRAWINGS. IF CORRECTIONS ARE REQUIRED, COPIES WILL BE RETURNED WITH CORRECTIONS NOTED. CORRECTED COPIES SHALL BE RESUBMITTED FOR REVIEW AND DISTRIBUTION. SUBMISSIONS SHALL BE MADE IN AMPLE TIME TO AVOID DELAYS IN THE WORK. THE REVIEW OF THE SHOP DRAWINGS SHALL BE, AND IS MUTUALLY UNDERSTOOD TO BE, IN REFERENCE TO GENERAL DESIGN ONLY. IF ERRORS IN THE DETAILED DIMENSIONS OR INTERFERENCE WITH THE WORKS ARE NOTICED, THE ATTENTION OF THE CONTRACTOR WILL BE CALLED TO SUCH ERRORS OR INTERFERENCE, BUT REVIEW OF THE DRAWINGS SHALL NOT IN ANY WAY RELIEVE THIS CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR INTERFERENCE, OR FROM THE NECESSITY OF FURNISHING SUCH WORKS AND MATERIALS AS MAY BE REQUIRED FOR THE COMPLETION OF THE WORK AT ANY TIME UNTIL FORMAL ACCEPTANCE.
- 2. THE ELECTRICAL CONTRACTOR IS TO REVIEW, DATE AND SIGN ALL ELECTRICAL SHOP DRAWINGS PRIOR TO SUBMITTING TO THE CONSULTANT FOR REVIEW.
- 3. THE ELECTRICAL CONTRACTOR SHALL SUBMIT A DETAILED PROGRESS DRAW BREAKDOWN IN THE FOLLOWING CATEGORIES AND INVOICE A PERCENTAGE AGAINST EACH CATEGORY MONTHLY OR AS REQUIRED UNDER THE
- CONTRACT. 3.1. PERMITS AND MOBILIZATION
- 3.2. DEMOLITION 3.3. EXTERIOR SITE WORK, CONDUITS, WIRING, DUCT BANKS AND LIGHTING- MATERIAL
- 3.4. EXTERIOR SITE WORK, CONDUITS, WIRING, DUCT BANKS AND LIGHTING- LABOUR 3.5. DISTRIBUTION EQUIPMENT - MATERIAL
- 3.6. DISTRIBUTION EQUIPMENT LABOUR
- 3.7. INTERIOR LIGHT FIXTURES AND CONTROLS MATERIAL
- 3.8. INTERIOR LIGHT FIXTURES AND CONTROLS LABOUR
- 3.9. INTERIOR CONDUIT AND BRANCH WIRING POWER AND LIGHTING MATERIAL 3.10. INTERIOR CONDUIT AND BRANCH WIRING POWER AND LIGHTING - LABOUR
- 3.8. INTERIOR CONDUIT AND WIRING FIRE ALARM MATERIAL 3.9. INTERIOR CONDUIT AND WIRING FIRE ALARM - LABOUR
- 3.10. FIRE ALARM VERIFICATION
- 3.11. INTERIOR CONDUIT AND WIRING FOR COMM AND SECURITY MATERIAL
- 3.12. INTERIOR CONDUIT AND WIRING FOR COMM AND SECURITY LABOUR
- 3.13. CLOSE OUT AND AS-BUILT DRAWINGS
- 4. THE ELECTRICAL CONTRACTOR TO PREPARE RECORD DRAWINGS (IN AUTOCAD AND PDF FORMATS) INCLUDING ALL CHANGES AND DEVIATIONS FROM CONSTRUCTION SET AND SUBMIT THEM TO THE CONSULTANT AND THE OWNER UPON THE COMPLETION OF THE PROJECT. AUTOCAD FILES CAN BE SUPPLIED BY THE CONSULTANT UPON REQUEST. THE CONSULTANT CAN PREPARE AS BUILT AUTOCAD DRAWINGS FOR THE ELECTRICAL CONTRACTOR FOR A NOMINAL FEE.
- 5. THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO THE CONSULTANT AND THE OWNER AT THE END OF THE PROJECT IN A HARD COVER, THREE-RING BINDER WITH TABS INDICATING EACH SECTION:
- 5.1. FINAL INSPECTION/VERIFICATION REPORTS FROM THE INSPECTION AUTHORITIES AND TESTING AGENCIES
- 5.2. MANUFACTURER'S SPECIFICATION SHEETS AND PHOTOMETRIC DATA FOR LIGHT FIXTURES 5.3. A COPY OF ALL FINAL REVIEWED SHOP DRAWINGS
- 5.4. AUTOCAD AND PDF RECORD DRAWINGS
- OPERATING INSTRUCTIONS FOR EACH SYSTEM INCLUDING CONTROL AND WIRING DIAGRAMS 5.6. MANUFACTURER RECOMMENCED MAINTENANCE PROCEDURES AND SCHEDULES
- 5.7. ALL PANELBOARD TYPEWRITTEN DIRECTORIES
- 5.8. USB DRIVE WITH ELECTRONIC COPY OF ITEMS 5.1 TO 5.7

PERMITS, TEST, REGULATIONS, ETC

- CARRY OUT ALL CHANGES AND ALTERATIONS REQUIRED BY THE AUTHORIZED INSPECTOR OF ANY AUTHORITY HAVING JURISDICTION WITHOUT DELAY TO THE PROGRESS OF THE WORK AND WITHOUT EXTRA COST.
- 2. PROVIDE WARNING SIGNS AND ARC FLASH LABELS AS SPECIFIED OR TO MEET REQUIREMENTS OF O.E.S.C. INSPECTION DEPARTMENT AND THE CONSULTANT.
- 3. UPON COMPLETION OF THE CONTRACT, ISSUE TO THE OWNER A FORMAL CERTIFICATION OF COMPLETION OF WORK BEFORE FINAL PAYMENT FOR WORK MAY BE CONSIDERED DUE.
- 4. PAYMENTS FOR ALL PERMITS, DEPOSITS, INSPECTION, SERVICES, AND OTHER FEES NECESSARY FOR THE WORK SHALL BE INCLUDED IN THE TENDER.

<u>MATERIALS</u>

- 1. ALL MATERIALS AND EQUIPMENT (PRODUCTS) TO BE NEW AND FREE OF DEFECTS, CSA, ULC OR CANADIAN RECOGNIZED CERTIFICATION.
- 2. THIS IS A <u>BASE BID</u> SPECIFICATION. ITEMS ON THE DRAWINGS AND SUBSEQUENT DIVISIONS OF THESE SPECIFICATIONS ARE LISTED WITH THE NAMES OF A SPECIFIC MANUFACTURER, THE FIRST OF WHICH IS BASE BID AND HAS BEEN USED IN THE DESIGN AND IS THE EQUIPMENT SHOWN ON THE DRAWINGS. THE PRICE SUBMITTED FOR THIS CONTRACT SHALL BE BASED ON THE USE OF MATERIALS AND EQUIPMENT SPECIFIED AS THE BASE BID.
- 3. WHERE MORE THAN ONE MANUFACTURER IS LISTED FOR A PARTICULAR ITEM OR GROUPS OF ITEMS, THE CONTRACTOR SHALL STATE IN HIS TENDER FORM COST SAVINGS (IF ANY) FOR THE USE OF ALTERNATE PRODUCTS AND SHALL NAME THE ALTERNATE MANUFACTURERS. HOWEVER, THESE PROPOSED MATERIALS MUST NOT BE USED IN CALCULATING THE BASE TENDER PRICE. THE CONSULTANT AND/OR OWNER SHALL HAVE THE FINAL OPTION OF ACCEPTING OR REJECTING ALTERNATE EQUIPMENT.
- 4. WHERE OTHER THAN A FIRST-NAMED PRODUCT IS PROPOSED, THE BIDDER WILL BE DEEMED TO REPRESENT THAT NAMED PRODUCT CONFORMS TO THE PERFORMANCE, QUALITY, SPACE AND WEIGHT CHARACTERISTICS OF THE BASE BID PRODUCT. THIS CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL DESIGN OR CONSTRUCTION COSTS GENERATED BY THE USE OF THE NON-FIRST NAMED BID MATERIAL. ACCEPTANCE OF NON-BASE MANUFACTURERS WITH RESPECT TO THEIR EQUIVALENCY SHALL BE SUBJECT TO THE CONSULTANT'S REVIEW OF SHOP DRAWINGS.

WIRES AND CABLES

- ALL WIRING SHALL BE MINIMUM COPPER NO. 12 AWG WITH 600V INSULATION FOR 120/208V WIRING AND 1000V FOR 600V WIRING OF CHEMICALLY CROSS-LINKED THERMOSETTING POLYETHYLENE (XLPE) MATERIAL SUITABLE FOR 90° OPERATION. CONDUCTORS NO. 10 AWG AND LARGER SHALL BE STRANDED. CONDUCTOR SIZES SHALL BE IN ACCORDANCE WITH THE OESC AND AS INDICATED ON THE DRAWINGS. ALUMINUM WIRING IS NOT ACCEPTABLE UNLESS NOTED OTHERWISE.
- ALL LOW VOLTAGE 6-24VDC EMERGENCY LIGHTING WIRING SHALL BE MINIMUM COPPER NO.10 AWG.
- AC90 CABLE MAY ONLY BE USED FOR SHORT RUNS WITH MAXIMUM DISTANCE OF 3660mm (12ft) TO LIGHT FIXTURES AND RECEPTACLES IN CONCEALED AREAS ONLY UNLESS NOTED OTHERWISE ON DRAWINGS. AC90 CABLE (INCLUDING FIRE ALARM) NOT TO BE USED IN OPEN CEILING AREAS, ELEVATOR SHAFT AND STAIRWELL.
- WHERE CONDUCTOR SIZES ARE NOT INDICATED THEY SHALL BE SIZED TO ENSURE THE VOLTAGE DROP DOES NOT EXCEED 2% FOR BRANCH CIRCUIT AND 3% FOR MAIN FEEDER AND THE REQUIREMENTS OF THE OESC.
- ALL RACEWAYS SHALL BE EQUIPPED WITH A GREEN INSULATED GROUND CONDUCTOR AND SHALL MEET THE REQUIREMENTS OF THE OESC.

F. <u>CONDUIT</u>

- 1. EMT AND RIGID GALVANIZED STEEL (RGS) CONDUIT TO BE CONCEALED IN FINISHED AREAS OF THE BUILDING.
- 2. FLEXIBLE METALLIC CONDUIT MAY BE USED FOR SHORT CONNECTIONS TO VIBRATING MECHANICAL EQUIPMENT.
- 3. MINIMUM CONDUIT SIZE SHALL BE 21mm (3/4") UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- 4. WHERE SLEEVES OR OPENINGS ARE INSTALLED IN WALLS, FLOORS, ROOF OR PARTITIONS TO ACCOMMODATE RACEWAYS OR CABLES, PROVIDE ALL NECESSARY SEALS, FITTINGS, BARRIERS AND FIRE—RESISTANT MATERIALS TO RESTORE THE INSTALLATION TO ITS ORIGINAL FIRE RATING TO THE SATISFACTION OF THE GOVERNING
- 5. WHERE CONDUIT MUST BE SURFACE MOUNTED TO EXPOSED CEILING/WALL SURFACES, PROVIDE EMT CONDUIT PAINTED TO MATCH CEILING/WALL SURFACES UNLESS NOTED OTHERWISE.

OUTLETS AND JUNCTION BOXES

- PROVIDE STICK ON LABELS (BLACK LETTERING ON WHITE BACKGROUND) INDICATING THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES AND CONTROL DEVICES.
- 2. THE OWNER/CONSULTANT RESERVES THE RIGHT TO CHANGE LOCATIONS OF OUTLETS TO WITHIN 3660mm (12ft) OF LOCATION INDICATED ON THE DRAWINGS WITHOUT EXTRA CHARGE, PROVIDING CONTRACTOR IS ADVISED PRIOR TO INSTALLATION.
- 3. ALL PULL/JUNCTION BOXES MUST BE ACCESSIBLE AFTER THE BUILDING IS COMPLETE. INSTALL PULL ROPE IN ALL EMPTY CONDUITS.
- 4. ALL JUNCTION BOXES AND CONDUIT SUPPORT SYSTEM SHALL BE SECURED TIGHT TO THE UNDERSIDE OF THE BUILDING STRUCTURE. SUSPENDED JUNCTION BOXES AND CONDUITS WILL NOT BE ACCEPTED.
- 5. ALL DEVICE BOXES TO BE RECESSED WHEREVER POSSIBLE. ALL JUNCTION BOXES SHALL BE SIZED TO ACCOMMODATE THE NUMBER OF RACEWAYS AND CONDUCTORS AND BE EASILY ACCESSIBLE AFTER INSTALLATION.
- 6. WHERE BOXES MUST BE SURFACE MOUNTED TO EXPOSED CEILING/WALL SURFACES, PROVIDE SURFACE MOUNTED DIE-CAST ALUMINUM BOXES UNLESS NOTED OTHERWISE.

H. WIRING DEVICES

- 1. SWITCHES, RECEPTACLES AND OUTLETS TO BE WHITE COLOR WITH STAINLESS STEEL COVER PLATES.
- 2. DUPLEX RECEPTACLES
- 2.1. 15 OR 20 AMP, 120 VOLT SPECIFICATION GRADE COMPLETE WITH BACK BOX 2.2. EXTERIOR RECEPTACLES TO HAVE WET LOCATION COVER PLATE AND MARKED "EXTRA DUTY"
- 3. TOGGLE SWITCHES TO BE 15 OR 20 AMP, 120 OR 347 VOLT AS REQUIRED COMPLETE WITH BACK BOX.
- 4. LOW VOLTAGE SWITCHES OR VACANCY SENSORS TO BE AS SPECIFIED COMPLETE WITH BACK BOX.

<u>GROUNDING</u>

- 1. GROUND THE SERVICE AND ALL NON-CURRENT CARRYING METAL PARTS IN ACCORDANCE WITH OESC.
- 2. PROVIDE COMPLETE GROUNDING AND BONDING SYSTEM AS REQUIRED BY OESC.

FIRE STOPPING

- SEALS FOR CABLES AND CONDUIT:
- PROVIDE SEALS FOR CONDUIT AT ALL FIRE RATED WALL/FLOOR PENETRATIONS. APPLY ALL THROUGH-FLOOR FIRE PUTTY SEALS (3M OR EQUIVALENT) THAT SEAL HOLES IN WALL/FLOOR.

DISCONNECT SWITCHES

- 1. INSTALL FUSED OR NON FUSED HORSE POWER RATED HEAVY DUTY DISCONNECT SWITCHES AS REQUIRED BY CODE OR AS SHOWN ON DRAWINGS. NEMA RATINGS OF DISCONNECT SWITCHES TO BE AS INDICATED ON DRAWINGS.
- 2. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL FUSES IN ANY FUSED DISCONNECT SWITCH.

- THE ELECTRICAL CONTRACTOR SHALL HIRE A FIRE ALARM SYSTEM COMPANY TO TEST AND VERIFY ANY NEW OR RELOCATED FIRE ALARM DEVICES AND PROVIDE WRITTEN VERIFICATION REPORT INDICATING THE DEVICES HAVE BEEN TESTED AND VERIFIED TO THE LATEST APPLICABLE CODES AND STANDARDS.
- 2. THE ELECTRICAL CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH TESTING AND VERIFICATION AS
- 4. THE FIRE ALARM SYSTEM SHALL BE VERIFIED IN CONFORMANCE WITH THE LATEST EDITION OF CAN/ULC-S537, "VERIFICATION OF FIRE ALARM SYSTEM" TO ENSURE SATISFACTORY PERFORMANCE.
- 5. ALL STROBE CANDELAS TO BE 15cd UNLESS OTHERWISE STATED.

- 3. KAIC RATINGS FOR PANELS AND BREAKERS TO BE AS INDICATED ON DRAWINGS. SERIES RATED
- 4. AFFIX TYPEWRITTEN DIRECTORY TO THE INSIDE OF PANEL BOARD INDICATING LOADS CONTROLLED BY EACH
- 5. ALL PANELBOARDS ARE TO BE SURFACE MOUNTED UNLESS INDICATED OTHERWISE.

- 1. EMERGENCY CALL KIT FOR USE WITHOUT POWER DOOR OPERATOR. CAMDEN DOOR CONTROLS CX-WEC10 c/w
- 1.2. SINGLE GANG LED ANNUNCIATOR WITH ADJUSTABLE SOUNDER (CM-AF501SO) 1.3. SINGLE GANG LED DOME LIGHT WITH ADJUSTABLE SOUNDER (CM-AF141SO)
- 1.4. WHITE SELF ADHESIVE VINYL ENGLISH SIGN, 152mm x 270mm (6"x10-5/8"), "IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE" (CM-SE21A)
- 2. DOOR CONTROL OPERATORS TO BE CAMDEN DOOR CONTROLS CX-WC13 c/w TRANSFORMER
- 2.1. CX-33 ADVANCED LOGIC CONTROL

FIRE ALARM SYSTEM RENOVATIONS

- REQUIRED BY THE FIRE ALARM WORK INDICATED ON THE ELECTRICAL DRAWINGS.
- 3. THE FIRE ALARM SYSTEM SHALL BE INSTALLED IN CONFORMANCE WITH THE LATEST EDITION OF CAN/ULC-S524, "INSTALLATION OF FIRE ALARM SYSTEMS".

BREAKER PANELBOARDS

- 1. PANEL TRIM TO HAVE CONCEALED HINGES, TRIM MOUNTING SCREWS, HINGED LOCKING DOOR AND FLUSH CATCH.
- 2. PANEL BOARDS TO HAVE COPPER MAIN BUS, COPPER GROUND BUS AND COPPER NEUTRAL BUS.
- BREAKERS/PANELS ARE NOT ACCEPTABLE.
- 6. ACCEPTABLE MANUFACTURERS ARE SCHNEIDER ELECTRIC, EATON OR SIEMENS.

N. <u>UNIVERSAL WASHROOM DOOR CONTROLS/EMERGENCY CALL SYSTEM</u>

- TRANSFORMER CX-TRK-2450.
- 1.1. SINGLE GANG MUSHROOM PUSH/PULL BUTTON c/w STAINLESS STEEL COVER PLATE (CM-450R/12)

- 2.2. CM-45/855SE1 FLUSH 4-1/2" 'PUSH TO LOCK' ILLUMINATED PUSH PLATE SWITCH WITH SIGN

ELECTRICAL DRAWING LIST

- 2.3. CM-45/455SE1 FLUSH 4-1/2" ILLUMINATED WHEELCHAIR & 'PUSH TO OPEN' PUSH PLATE WITH SIGN 2.4. CM-45/4 'PUSH TO OPEN' 4-1/2" SQUARE PUSH PLATE SWITCH
- 2.5. CM-55CBL FLUSH SQUARE MOUNTING BOX FOR CM-45/4 2.6. CX-MDH RECESSED MAGNETIC DOOR CONTACT

E1.1 | SPECIFICATIONS AND DRAWING LIST

E1.4 | SCHEDULES AND WIRING DIAGRAMS

E2.1 KEY PLAN GROUND FLOOR

E2.2 KEY PLAN THIRD FLOOR

E2.3 | KEY PLAN ROOF

E1.3 | SYMBOLS, LINE TYPES AND ABBREVIATIONS

E3.1 PANEL SCHEDULE AND MECHANICAL EQUIPMENT SCHEDULE NEW

E4.1 AREAS '1A', '1B' & '1C' PARTIAL GROUND FLOOR DEMOLITION

E5.2 | LIGHTING AREA '1C' PARTIAL GROUND FLOOR NEW

E4.2 | PARTIAL SECOND FLOOR & AREA '3A' THIRD FLOOR DEMOLITION

E5.1 | LIGHTING, POWER & SYSTEMS AREAS '1A' & '1B' PARTIAL GROUND FLOOR NEW

E5.3 POWER & SYSTEMS AREAS '1C', '1D', '3A' & 'RA' GROUND, THIRD FLOOR AND ROOF NEW

E1.2 | SPECIFICATIONS

Halton District School Board 2050 Guelph Line Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

1433F Baldwin Street Burlington, ON

Architect

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Consultants



Key Plan N.T.S.



Project North No. | Revisions

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings Drawings shall not be used for construction purposes until issued by the

Jun 4,2021

Apr 19,2021

Jan 21,2021

Issued For Construction

Issued For Tender

Issued For Permit

SPECIFICATIONS AND DRAWING LIST

NTS Date: MAY 2020 PI Checked by: Drawn by: Drawing No.

ELECTRICAL SPECIFICATIONS

O. <u>LIGHTING</u>

- 1. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL LIGHT FIXTURES AS SPECIFIED ON PLANS. ALTERNATE LIGHT FIXTURES SHALL NOT BE USED IN CALCULATING BASE TENDER PRICE. THE ELECTRICAL CONTRACTOR MAY SUBMIT AN ALTERNATE LIGHTING PACKAGE WITH TENDER PRICE IF THERE IS A COST SAVING OVER THE BASE SPECIFIED LIGHT FIXTURES. THE CONTRACTOR SHALL STATE THE COST SAVING FOR THE ALTERNATE FIXTURES WITH TENDER AND THE OWNER RESERVES THE RIGHT TO ACCEPT OR REJECT THE ALTERNATE FIXTURES PACKAGE COST SAVING.
- 2. PROVIDE ALL MOUNTING HARDWARE AND ACCESSORIES TO SUIT THE CEILING AND INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND PROVIDE REQUIRED MOUNTING ACCESSORIES AS REQUIRED. ALL FIXTURES TO BE CSA OR ULC LISTED.
- 3. EMERGENCY LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3.2.7.3 OF THE LATEST EDITION OF ONTARIO BUILDING CODE. EMERGENCY LIGHTING SHALL BE PROVIDED TO AN AVERAGE LEVEL OF ILLUMINATION NOT LESS THAN 10 LUX AT FLOOR OR TREAD LEVEL AS REQUIRED BY OBC.
- 4. LOCATE EACH EMERGENCY LIGHT ON SITE TO SUIT EXIT ROUTING AND LINE OF SIGHT. ELECTRICAL CONTRACTOR SHALL ARRANGE FOR TESTING OF EMERGENCY LIGHTS AND SUBMIT SEALED CERTIFICATE ALONG WITH TEST REPORT TO THE CONSULTANT BEFORE FINAL PAYMENT.
- 5. EACH EMERGENCY POWER BATTERY UNIT SHALL PROVIDE SUFFICIENT WATTAGE TO LIGHT ALL REMOTE EMERGENCY EXIT LIGHT HEADS WIRED TO IT FOR A MINIMUM PERIOD DESCRIBED IN SECTION 3.2.7.4 OF OBC.
- 6. ALL LOW VOLTAGE LIGHTING CONTROL DEVICES TO BE CSA OR ULC LISTED.

P. <u>LIGHTING CONTROLS</u>

- 1. ELECTRICAL CONTRACTOR TO PROVIDE ALL LOW VOLTAGE LIGHTING CONTROL DEVICES INCLUDING WIRING, CONDUIT, ACCESSORIES, COVER PLATES, ETC. ALL LOW VOLTAGE WIRING DETAILS TO BE CONFIRMED BY LIGHTING CONTROL MANUFACTURER.
- 2. WHERE CONDUIT MUST BE SURFACE MOUNTED TO EXPOSED CEILING/WALL SURFACES, PROVIDE CONDUIT OR METALLIC WIREMOLD PAINTED TO MATCH CEILING/WALL SURFACES UNLESS NOTED OTHERWISE.
- 3. ELECTRICAL CONTRACTOR TO SUBMIT DETAILED OCCUPANCY SENSOR, LOW VOLTAGE SWITCHING AND POWER PACK WIRING DIAGRAMS SPECIFIC TO THIS PROJECT DURING SHOP DRAWING SUBMISSION STAGE FOR REVIEW BY THE CONSULTANT.
- 4. ELECTRICAL CONTRACTOR TO FIELD ADJUST AIMING, SENSITIVITY AND TIME DELAY AS REQUIRED.
- 5. LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH DRAWINGS AND MANUFACTURES INSTALLATION INSTRUCTIONS. WHERE OCCUPANT SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULE CONTROLS, OR PHOTOSENSORS ARE INSTALLED, AT A MINIMUM, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
- 5.1. CERTIFY THAT OCCUPANT SENSORS HAVE BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.

5.2. OCCUPANCY SENSORS AND EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY.

- 5.2.1. STATUS INDICATOR OPERATES PROPERLY
- 5.2.2. CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN REQUIRED TIME 5.2.3. FOR AUTO—ON OCCUPANT SENSORS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WITH THE TIME
- 5.2.4. FOR MANUAL—ON SENSORS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED
- 5.2.5. THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN NEARBY AREAS OR BY HVAC OPERATION

5.2. AUTOMATIC TIME SWITCHES

- 5.2.1. CONFIRM THAT THE AUTOMATIC TIME—SWITCH CONTROL IS PROGRAMMED WITH APPROPRIATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES
- 5.2.2. DOCUMENT FOR OWNER AUTOMATIC TIME—SWITCH CONTROL IS PROGRAMMED WITH APPROPRIATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES AS WELL AS ALL SETUP AND PREFERENCE PROGRAM SETTINGS.
- 5.2.3. VERIFY CORRECT TIME AND DATE ARE PROPERLY SET IN THE TIME SWITCH 5.2.4. VERIFY BATTERY BACKUP IS INSTALLED AND ENERGIZED
- 5.2.5. VERIFY THAT OVERRIDE TIME LIMIT SET TO NO MORE THAN TWO (2) HOURS
- 5.2.6. SIMULATE OCCUPIED CONDITION. VERIFY THE FOLLOWING
- 5.2.6.1. ALL LIGHTS TURN ON AND OFF BY THEIR RESPECTIVE CONTROL SWITCH 5.2.6.2. THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
- 5.2.6.2. THE SWITCH UNLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
- 5.3. THE INDIVIDUALS RESPONSIBLE FOR THE FUNCTIONAL TESTING SHALL NOT BE DIRECTLY INVOLVED IN EITHER THE DESIGN OR CONSTRUCTION OF THE PROJECT AND SHALL PROVIDE DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET OR EXCEED ALL DOCUMENTED PERFORMANCE CRITERIA.

Q. <u>NETWORK AND SYSTEMS</u>

- 1. THE GENERAL CONTRACTOR TO CARRY CASH ALLOWANCE FOR HIRING THE NETWORK AND IT CONTRACTOR. THE NETWORK CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL COMMUNICATION WIRING, MAKING ALL NECESSARY TERMINATIONS AT SWITCHES AND OUTLETS, LABELING AND TESTING.
- 2. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL COMPLETE RACEWAY (CONDUIT) SYSTEM c/w PULL STRING AND NETWORK/DATA OUTLET BOXES. COORDINATE ALL WORK WITH NETWORK CONTRACTOR AS REQUIRED TO COMPLETE THE INSTALLATION OF NETWORK EQUIPMENT.
- 2. ALL VOICE AND DATA CABLING TO BE INSTALLED IN 3/4" EMT CONDUIT FROM EACH VOICE/DATA OUTLET TO ACCESSIBLE CEILING SPACE. ALL DATA CABLING IN EXPOSED CEILING SPACES TO BE INSTALLED IN EMT CONDUIT AND PULL BOXES AND SIZED ACCORDING TO NUMBER OF DATA CABLES LOCATED IN THAT SPACE. WHERE VOICE AND DATA CABLING IS INSTALLED ABOVE DROPPED ACCESSIBLE CEILING SPACES THE ELECTRICAL CONTRACTOR IS TO PROVIDE 'J HOOKS' AS REQUIRED TO SUPPORT ALL VOICE AND DATA CABLING. UNDER NO CIRCUMSTANCES SHOULD VOICE OR DATA CABLING BE INSTALLED LOOSE OR ON TOP OF T—BAR CEILINGS.
- 3. VOICE AND DATA CABLING WILL BE A 'CATEGORY 6' COMPLIANT UTP CABLING SYSTEM COMPRISING OF: FT6 RATED CAT6 UTP CABLES, RJ45 (WHITE) DVO SURFACE MOUNT BLOCKS C/W COLORED RJ45 JACKS, 10' PATCH CABLES FOR CONNECTION FROM NETWORK PATCH PANEL TO OWNER SUPPLIED NETWORK EQUIPMENT AND 10' FOR WORKSTATION END CONNECTION TO PC AND CABLE MANAGEMENT FOR PATCH CORDS.
- 4. VOICE CABLES (BOTH ANALOG AND VOIP) TO BE WHITE COLOR. DATA CABLES TO BE BLUE COLOR.
- 5. MAXIMUM CABLE LENGTH (JACK TO PATCH PANEL) IS 90 METERS.
- 6. EACH RJ45 OUTLET SHALL BE LABELED. PROVIDE BLACK LETTER ON WHITE BACKGROUND P-TOUCH TYPE LABELS.
- 7. ALL CABLE RUNS TO BE UNIQUELY NUMBERED AT BOTH ENDS AS WELL AS THE COVER OF EACH BLOCK AND OUTLET WITH P-TOUCH LABELS.
- 8. ALL DATA CABLING WITHIN CONCEALED CEILING TO BE SECURED TO STRUCTURE WITH 'J' HOOKS AND BUNDLED WITH ZIP TIES AS REQUIRED.

MECHANICAL EQUIPMENT

- PROVIDE LINE VOLTAGE CONNECTIONS AS REQUIRED FOR ALL MECHANICAL EQUIPMENT. CONFIRM FINAL CONNECTIONS, LOADS AND LOCATIONS PRIOR TO INSTALLATION. NO EXTRAS WILL BE ALLOWED FOR ELECTRICAL CONTRACTOR NOT THOROUGHLY REVIEWING ALL MECHANICAL DRAWINGS DURING TENDER AND SHOP DRAWINGS DURING CONSTRUCTION.
- 2. FUSES PROTECTING MOTOR FEEDERS TO BE TIME-DELAY TYPE UNLESS NOTED OTHERWISE.
- 3. PROVIDE ALL NECESSARY LINE VOLTAGE CONTROL WIRING FOR MECHANICAL CONTROLS CONTRACTOR AS REQUIRED. PROVIDE CONTROL WIRING AS SHOWN ON THE ELECTRICAL AND MECHANICAL DRAWINGS.
- 4. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY COMBINATION STARTERS FOR MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE ON MECHANICAL DRAWINGS.

S. PUBLIC ADDRESS (PA) AND CCTV SYSTEM SYSTEM

- 1. THE GENERAL CONTRACTOR TO CARRY CASH ALLOWANCE FOR HIRING HAMILTON VIDEO AND SOUND. HAMILTON VIDEO AND SOUND SHALL BE RESPONSIBLE FOR WIRING, MAKING ALL NECESSARY TERMINATIONS, TESTING AND SUPPLY AND INSTALLATION OF NEW EQUIPMENT.
- 2. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL COMPLETE RACEWAY (CONDUIT) SYSTEM c/w PULL STRING AND FIELD DEVICE BACK BOXES FOR PUBLIC ADDRESS/CCTV SYSTEM. COORDINATE ALL WORK WITH HAMILTON VIDEO AND SOUND AS REQUIRED TO COMPLETE THE INSTALLATION OF THE SYSTEM.

T. FIELD QUALITY CONTROL

- 1. TEST ALL WORK. REMEDY AND MAKE GOOD ANY DEFECTS DISCLOSED BY SUCH TESTS AND TEST THE WORK AGAIN. TEST IN ACCORDANCE WITH APPROVED PROCEDURE.
- 2. TEST EACH POWER AND CONTROL CONDUCTOR FOR CONTINUITY AND GROUNDS. IMMEDIATELY FOLLOWING THIS TEST, CONNECT CONDUCTOR TO ITS PERMANENT TERMINAL.
- 3. INSPECT ALL CONNECTIONS, PROTECTIVE AND SAFETY DEVICES PRIOR TO ENERGIZING ANY EQUIPMENT AND MAKE NECESSARY ADJUSTMENTS, WHERE REQUIRED, TO ASSURE A PROPER AND SAFE OPERATION.
- 4. ALL EQUIPMENT SHALL BE WIPED CLEAN AND VACUUMED.

U. <u>EXECUTION</u>

RACEWAYS:

- INSTALL CONDUIT AS A COMPLETE SYSTEM WITHOUT WIRES. CONTINUE CONDUIT FROM FITTING TO FITTING AND FASTEN SECURELY TO PLACE. CLEAN AND SEAL CONDUIT SYSTEM UNTIL WIRING IS INSTALLED.
- 2. INSTALL CONDUIT PARALLEL OR AT RIGHT ANGLES TO PROPERTY LINES, CURBS, ETC., WHERE PRACTICAL.
- 3. CUT ALL CONDUITS SQUARE AND REAM TO REMOVE SHARP EDGES AND BURRS. FIT CONDUITS CLOSELY AND TIGHTLY IN COUPLINGS.
- 4. INSTALL A PULL WIRE IN EACH EMPTY CONDUIT PROVIDED FOR FUTURE USE BY OTHERS.
- 5. CAP ALL CONDUITS WITH METAL, CARDBOARD OR PLASTIC, DURING CONSTRUCTION.

WIRES AND CABLES:

- 1. DO NOT PULL THE WIRES BEFORE THE ENTIRE CONDUIT SYSTEM IS COMPLETED AND CLEANED.
- 2. ENSURE THAT WIRES INSTALLED IN THE INTERIOR OF EQUIPMENT ARE NEATLY LACED WITH PLASTIC TIES AND GRASPED AND SECURED IN PLACE.
- 3. RUN POWER CONDUCTORS FULL LENGTH WITHOUT SPLICES OR TAPS FROM ORIGIN TO DESTINATION, UNLESS SPECIFICALLY CALLED FOR ON THE DRAWINGS. NO CABLE SPLICING ALLOWED IN UNDERGROUND INSTALLATION.
- 4. IDENTIFY EACH CABLE AND WIRE AT BOTH ENDS WITH PROPER CABLE AND WIRE NUMBER AS SHOWN ON THE DRAWINGS AND CABLE SCHEDULES IN ALL CONTROL PANELS, CONTROL DEVICES, DISTRIBUTION PANELS, PULL AND JUNCTION BOXES, ETC., USING APPROVED CABLE AND WIRE MARKERS.
- 5. FOLLOW NORMAL RECOMMENDED PRACTICES WHEN INSTALLING CABLES IN CABLE TRAYS TO AVOID DAMAGE TO CABLE SHEATHS, CONDUCTORS OR INSULATION. ENSURE THAT CABLES ARE NOT DAMAGED BY EXCESSIVE TENSION WHEN PULLING. REPLACE ANY DAMAGED AND REJECTED CABLE WITHOUT COST TO THE OWNER.
- 6. USE SUITABLE NON-HARDENING CABLE LUBRICANTS, WHERE REQUIRED, WHICH DO NOT CONTAIN ANY MATERIALS SUCH AS OIL, GREASE OR OTHER COMPOUNDS HARMFUL TO RUBBER, PVC OR POLYETHYLENE.
- 7. MAKE SPLICES AND TAPS FOR CONTROL CONDUCTORS AT APPROVED TERMINAL BLOCKS IN JUNCTION BOXES.

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Key Plan N.T.S.





Project North

No. Revisions

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SPECIFICATIONS

 Scale:
 NTS
 Date:
 MAY 2020

 Drawn by:
 PI
 Checked by:
 JS

 Job No.
 Drawing No.
 F1 2

GENERAL LIGHTING					
SYMBOL DESCRIPTION					
LX	2'X4' (610mmX1220mm) LIGHT FIXTURE. 'X' DENOTES TYPE				
LX	1'X4' (305mmX1220mm) LIGHT FIXTURE. 'X' DENOTES TYPE				
l _{TX}	CEILING MOUNTED STRIP LIGHT FIXTURE. 'X' DENOTES TYPE				
ŀ ^{LX} ⊥ ·	WALL MOUNTED STRIP LIGHT FIXTURE. 'X' DENOTES TYPE				

GENERAL NOTE: 1. REFER TO GENERAL LIGHTING SCHEDULE FOR DETAILED SPECIFICATIONS.

	EMERGENCY LIGHTING							
SYMBOL	DESCRIPTION							
CUX	EMERGENCY BATTERY UNIT AND RUNNING MAN OR EXIT SIGN COMBO WITH TWO DC HEADS. DENOTES TYPE							
BUX	EMERGENCY BATTERY UNIT WITH TWO DC HEADS. 'X' DENOTES TYPE							
- RX YUX.C	WALL MOUNTED EMERGENCY LIGHTING SINGLE REMOTE DC HEAD. 'X' DENOTES TYPE							
→ RX YUX.C	CEILING MOUNTED EMERGENCY LIGHTING SINGLE REMOTE DC HEAD. 'X' DENOTES TYPE							
RX YUX.C	WALL MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE DC HEADS. 'X' DENOTES TYPE							
RX YUX.C	CEILING MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE DC HEADS. 'X' DENOTES TYPE							
EMX	EMERGENCY CEILING MOUNTED RUNNING MAN OR EXIT SIGN. ARROW DENOTES DIRECTION OF EXIT. HATCHED AREA DENOTES ILLUMINATED FACE(ES). 'X' DENOTES TYPE							
EMX YUX.C	EMERGENCY WALL MOUNTED RUNNING MAN OR EXIT SIGN. ARROW DENOTES DIRECTION OF EXIT. HATCHED AREA DENOTES ILLUMINATED FACE(ES). 'X' DENOTES TYPE							
YUX.C	'Y' INDICATES BATTERY OR COMBO UNIT. 'X' INDICATES TYPE OF BATTERY OR COMBO UNIT. '.C' INDICATES DEDICATED BRANCH WIRING CIRCUIT FROM BATTERY OR COMBO UNIT. WIRE TO BE SIZED TO ENSURE NO MORE THAN 5% VOLTAGE DROP PER BRANCH							

GENERAL NOTE: 1. REFER TO EMERGENCY LIGHTING SCHEDULE FOR DETAILED SPECIFICATION.

	CONTROL DEVICE					
SYMBOL	DESCRIPTION DESCRIPTION					
\$x	120V OR 347V SINGLE GANG, SINGLE POLE SWITCH, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. 'X' DENOTES CONTROL DEVICE TYPE					
x\$x	120V OR 347V DOUBLE GANG, TWO SINGLE SWITCHES, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. 'X' DENOTES CONTROL DEVICE TYPE					
∞	CEILING MOUNTED VACANCY/OCCUPANCY SENSOR. 'X' DENOTES CONTROL DEVICE TYPE					
PPX	POWER PACK. 'X' DENOTES CONTROL DEVICE TYPE					
①	LINE VOLTAGE THERMOSTAT					
•	POWER DOOR OPERATOR PUSH TO OPEN BUTTON					
●L	POWER DOOR OPERATOR PUSH TO LOCK BUTTON					
SENERAL NOTE: 1. REFER TO CONTROL DEVICE SCHEDULE FOR DETAILED SPECIFICATION.						

	BARRIER FREE EMERGENCY CALL SYSTEM				
SYMBOL DESCRIPTION					
●E EMERGENCY CALL PUSH BUTTON					
LOCAL LED ANNUNCIATOR AND SIREN COMBO					
<u>S</u>	LOCAL DOME LIGHT AND SIREN STROBE COMBO				
GENERAL NOTE:	1. REFER TO "UNIVERSAL POWER DOOR OPERATOR/EMERGENCY CALL SYSTEM" IN ELECTRICAL SPECIFICATION FOR MORE DETAILS.				

	POWER AND SYSTEMS				
SYMBOL	DESCRIPTION 130VAC 15 AMB DUBLEY RECEPTACLE				
Ф	120VAC, 15 AMP DUPLEX RECEPTACLE				
Ф	120VAC, 15 AMP DUPLEX GROUND FAULT CIRCUIT INTERRUPT RECEPTACLE				
#	120VAC, 20 AMP T-SLOT DUPLEX RECEPTACLE				
•	120VAC, 20 AMP T-SLOT DUPLEX GROUND FAULT CIRCUIT INTERRUPT RECEPTACLE				
Φ 240VAC, 30 AMP 14-30R DRYER RECEPTACLE					
	HARD WIRED POWER CONNECTION RATED PER EQUIPMENT SPECIFICATION				
Øs	HARD WIRED POWER CONNECTION FOR HARDWIRED TOUCHLESS FAUCET				
	SURFACE MOUNTED ELECTRICAL PANEL BOARD				
	RECESSED ELECTRICAL PANEL BOARD				
9	FAN OR MOTOR				
THREE BLADE CEILING FAN					
라	NON-FUSED DISCONNECT SWITCH				
□ Ł	FUSED DISCONNECT SWITCH				
MAGNETIC MOTOR STARTER. 'X' DENOTES TYPE					
O P	WALL MOUNTED PROGRAM BELL				
VFD	VARIABLE FREQUENCY DRIVE				
JB	JUNCTION BOX				
РВ	PULL BOX				
X	ELECTRICAL POWER OR SYSTEMS DEVICE OR BOX. 'X' DENOTES TYPE				
\Box	HDMI OUTLET				
XD	DATA OUTLET. 'X' DENOTES NUMBER OF DATA OUTLET(S)				
XV ▼	TELEPHONE OUTLET. 'X' DENOTES NUMBER OF TELEPHONE CABLE(S)				
XD,XV	DATA/TELEPHONE OUTLET. 'XD' DENOTES NUMBER OF DATA CABLE(S). 'XV' DENOTES NUMBER OF TELEPHONE CABLE(S)				
XD	CEILING RECESSED DATA OUTLET. 'X' DENOTES NUMBER OF DATA CABLE(S)				
WA	WIRELESS ACCESS POINT				
P	CEILING MOUNTED PUBLIC ADDRESS SPEAKER				
P	WALL MOUNTED PUBLIC ADDRESS SPEAKER				
WMX	WIREMOLD. EXACT LENGTH TO BE VERIFIED AND FIELD CUT ON SITE AS REQUIRED. 'X' DENOTES TYPE				

GENERAL NOTE: 1. REFER TO POWER AND SYSTEMS SCHEDULE FOR DETAILED SPECIFICATION.

	FIRE ALARM AND CARBON MONOXIDE SYSTEMS
SYMBOL	DESCRIPTION
•	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR
•	FIRE ALARM FIXED HEAT DETECTOR
F	FIRE ALARM PULL STATION
O F	WALL MOUNTED FIRE ALARM BELL
Ď.	WALL MOUNTED FIRE ALARM STROBE
FACP	SURFACE MOUNTED FIRE ALARM CONTROL PANEL

GENERAL NOTE: 1. REFER TO "FIRE ALARM SYSTEM RENOVATIONS" IN ELECTRICAL SPECIFICATIONS FOR MORE DETAILS.

CCTV SYSTEMS				
SYMBOL DESCRIPTION				
CX	CEILING MOUNTED CAMERA. 'X' DENOTES TYPE			
GENERAL NOTE:	1. REFER TO SECURITY SYSTEMS SCHEDULE FOR DETAILED SPECIFICATION.			

	SECURITY SYSTEMS					
SYMBOL	SYMBOL DESCRIPTION					
(MS)- \	CEILING MOUNTED SECURITY MOTION SENSOR					
S1	CEILING MOUNTED EMERGENCY STROBE LIGHT					

GENERAL NOTE: 1. REFER TO SECURITY SYSTEMS SCHEDULE FOR DETAILED SPECIFICATION.

	ABBREVIATIONS
AFF	DENOTES ABOVE FINISHED FLOOR
AFG	DENOTES ABOVE FINISHED GRADE
СН	DENOTES COUNTER HEIGHT
c/w	DENOTES COMPLETE WITH
DS	DENOTES DISCONNECT SWITCH
ED	DENOTES EXISTING DEVICE TO BE DEMOLISHED INCLUDING WIRING/CONDUIT(S) STRIPPED BACK TO SOURCE
ER	DENOTES EXISTING DEVICE TO BE RELOCATED
EX	DENOTES EXISTING DEVICE TO REMAIN
GFCI	DENOTES GROUND FAULT CIRCUIT INTERRUPTER
HL	DENOTES DEVICE MOUNTED AT HIGH LEVEL NEAR CEILING
H/O /A	DENOTES HAND/OFF/AUTO
MF	DENOTES DEVICE MOUNTED AT THE FACE OF MILLWORK
NTS	DENOTES NOT TO SCALE
REL	DENOTES EXISTING DEVICE AT RELOCATED LOCATION
TR	DENOTES TAMPER RESISTANT
TYP	DENOTES TYPICAL
WP	DENOTES WEATHERPROOF

LINE TYPES					
LINE TYPE	DESCRIPTION				
	DENOTES LINE VOLTAGE WIRE				
	DENOTES 0-10V DIMMING WIRE				
	DENOTES LOW VOLTAGE WIRE				
	DENOTES LINE VOLTAGE AND 0-10V DIMMING WIRE				
	DENOTES DEVICE TO BE DEMOLISHED OR RELOCATED				
	DENOTES NEW OR RELOCATED DEVICE				
	DENOTES EXISTING DEVICE TO REMAIN				

Halton District School Board 2050 Guelph Line Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

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SYMBOLS, LINE TYPES
AND ABBREVIATIONS

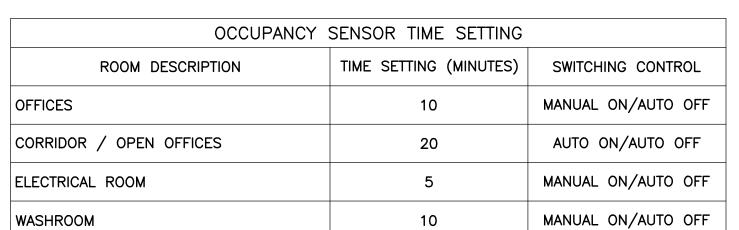
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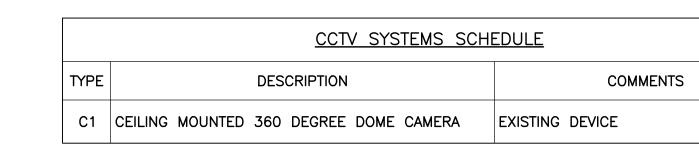
	GENERAL LIGHTING SCHEDULE									
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE (V)	WATTS (W)	LUMENS	0-10V DIMMING	COLOUR TEMP(K)	CRI	MOUNTING COMMENTS
L1			9"x4' (229mm x 1220mm) WRAP AROUND LED LIGHT FIXTURE	120						SURFACE EXISTING FIXTURE
L2			4' (1220mm) LONG LIGHT FIXTURE c/w TWO (2) T8 FLUORESCENT LAMPS	120						SUSPENDED EXISTING FIXTURE
L3			4' (1220mm) LONG LIGHT FIXTURE c/w ONE (1) T8 FLUORESCENT LAMP	120						SURFACE EXISTING FIXTURE
L4			1'x4' (305mm X 1220mm) FIXTURE c/w LENS AND TWO (2) T8 FLUORESCENT LAMPS	120						RECESSED EXISTING FIXTURE
L5			1'x4' (305mm x 1220mm) WRAP AROUND FIXTURE c/w TWO (2) T8 FLUORESCENT LAMPS	120						SURFACE EXISTING FIXTURE
L6			4' (1220mm) LONG LIGHT FIXTURE c/w LENS AND ONE (1) T8 FLUORESCENT LAMP	120						SURFACE EXISTING FIXTURE
L7	SIGNIFY	1FGG30L840-4-DS-UNV-DIM	1'x4' (305mm x 1220mm) LED TROFFER	120	25	3000	YES	4000	80	RECESSED
L8	SIGNIFY	1FGG41B840-4-DS-UNV-DIM	1'x4' (305mm x 1220mm) LED TROFFER	120	34	4100	YES	4000	80	RECESSED
L9	LITELINE	SLMPRO6-40K-C-WH	6" DIAMETER, ROUND, LOW PROFILE, LED DOWNLIGHT WITH WHITE TRIM FINISH	120	16	1400	YES	4000	80	RECESSED
L10	SIGNIFY	2FGG43L840-4-D-UNV-DIM	2'x4' (610mm x 1220mm) LED TROFFER	120	36	4300	YES	4000	80	RECESSED
L11			2'x4' (610mm x 1220mm) LIGHT FIXTURE	120						RECESSED EXISTING FIXTURE
L12			EXTERIOR WALL SCONE c/w HPS LAMP	120						WALL EXISTING FIXTURE
L13			EXTERIOR CANOPY LIGHT c/w HPS LAMP	120						SURFACE EXISTING FIXTURE
L14	SIGNIFY	101L16L530NW-G14UNVBK	EXTERIOR LED WALL SCONE	120	28	2747	NO	4000	70	WALL
L15	STANPRO	UCS/24IN/120V/12W/SEL/FR/WH/STD	2' UNDERCABINET LED LIGHT	120	12	800	NO	4000	90	SURFACE

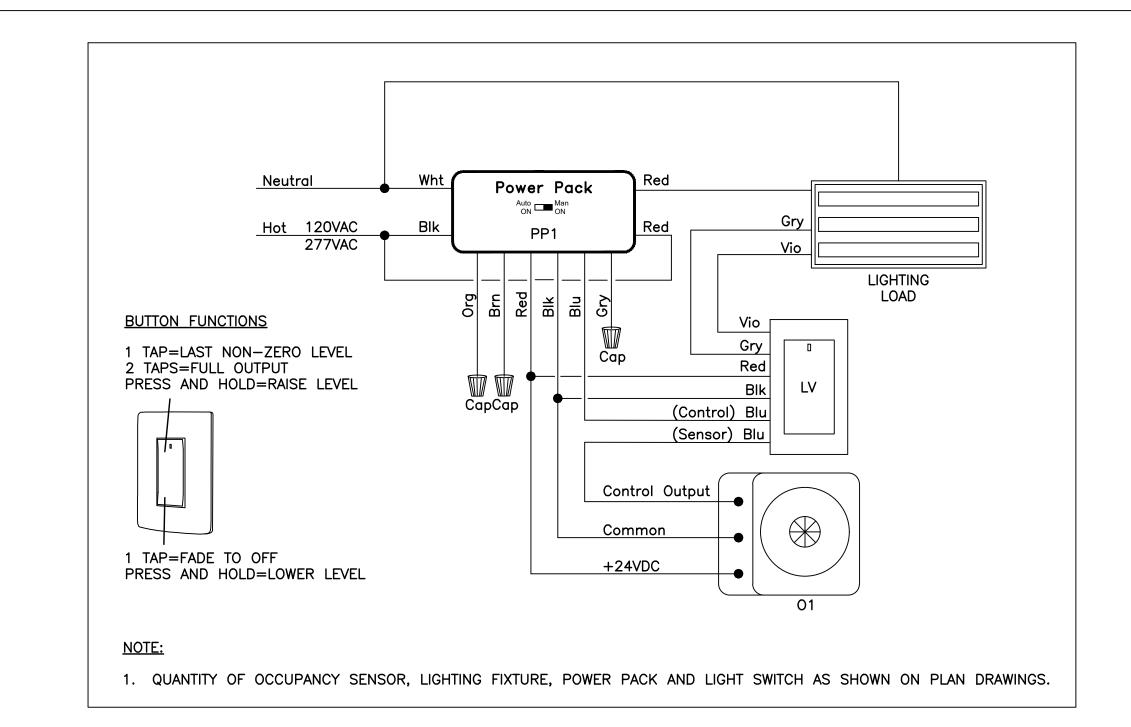
			EMERGENCY LIGH	HTING S	CHEDULE	<u> </u>			
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION		VOLTAGE DC (VDC)		LAMP TYPE	LAMP WATTS	COMMENTS
BU1			BATTERY UNIT c/w TWO DC HALOGEN HEADS	120					EXISTING BATTERY UNIT
BU2	LUMACELL	RG24S7202LD14	720W BATTERY UNIT c/w TWO LED HEADS	120	24	LED	MR16	2×6W	EXISTING BATTERY UNIT
BU3	LUMACELL	RGDIV20NLD2-VR	BATTERY UNIT WITH TWO DC HEADS, THERMOPLASTIC COVER, AND VANDAL RESISTANT SCREWS	120	6	LED	MR16	2x5W	
BU4	LUMACELL	RG12C442LD10-ZD	BATTERY UNIT WITH TWO DC HEADS	120	12	LED	MR16	2×6W	
CU1			BATTERY UNIT COMBO c/w TWO DC HEADS AND SINGLE ILLUMINATED EXIT SIGN	120					EXISTING COMBO UNIT
CU2	LUMACELL	LSC282LD2	BATTERY UNIT COMBO c/w TWO LED DC HEADS AND SINGLE ILLUMINATED RUNNING MAN SIGN	120	6	LED	MR16	2x5W	
EM1			REMOTE SINGLE FACE ILLUMINATED RUNNING MAN SIGN	120					EXISTING RUNNING MAN SIGN
EM2	LUMACELL	LS1W	REMOTE SINGLE FACE ILLUMINATED RUNNING MAN SIGN	120	24	LED			REFER TO PLAN DRAWING FOR PICTOGRAM REQUIREMENT
ЕМЗ	LUMACELL	LS2W	REMOTE DOUBLE FACES ILLUMINATED RUNNING MAN SIGN	120	24	LED			REFER TO PLAN DRAWING FOR PICTOGRAM REQUIREMENT
R1	LUMACELL	DR2130WHMR16LD14	REMOTE DOUBLE LED DC HEADS		24	LED	MR16	2×6W	EXISTING REMOTE DC HEADS
R2	LUMACELL	DR2130WHMR16LD14	REMOTE DOUBLE LED DC HEADS		24	LED	MR16	2x6W	

	CONTROL DEVICE SCHEDULE														
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION		VOLTAGE DC (VDC)		MOUNTING	COMMENTS							
K			TAMPER RESISTANT SWITCH	120				EXISTING SWITCH							
PC			PRIVACY CALL SWITCH FOR PA SPEAKER					EXISTING SWITCH							
LV			LOW VOLTAGE SWITCH					EXISTING LOW VOLTAGE SWITCH							
LV	LEGRAND	DCLV2	LOW VOLTAGE ON/OFF/0-10 DIMMING SWITCH		24	1	WALL	ALL LIGHT FIXTURES TO BE WIRED TO 0-10V CONNECTED TO THIS SWITCH							
VD	LEGRAND	PW-311	PASSIVE INFRARED ON/OFF/0-10V DIMMING WALL SWITCH OCCUPANCY SENSOR	120		1	WALL	ALL LIGHT FIXTURES TO BE WIRED TO 0-10V CONNECTED TO THIS SENSOR							
01	LEGRAND	CI-305-1	LOW VOLTAGE PASSIVE INFRARED CEILING SENSOR WITH HIGH DENSITY LENS		24	1	CEILING								
02	LEGRAND	PW-301	PASSIVE INFRARED MANUAL ON/AUTO OFF WALL SWITCH OCCUPANCY SENSOR	120		1	WALL								
03	LEGRAND	PW-302	PASSIVE INFRARED MANUAL ON/AUTO OFF DUAL RELAYS WALL SWITCH OCCUPANCY SENSOR	120		2	WALL	ONE BUTTON FOR LIGHTING AND ONE BUTTON FOR EXHAUST FAN							
PP1	LEGRAND	BZ-250	AUTO ON/MANUAL ON POWER PACK	120	24	1									

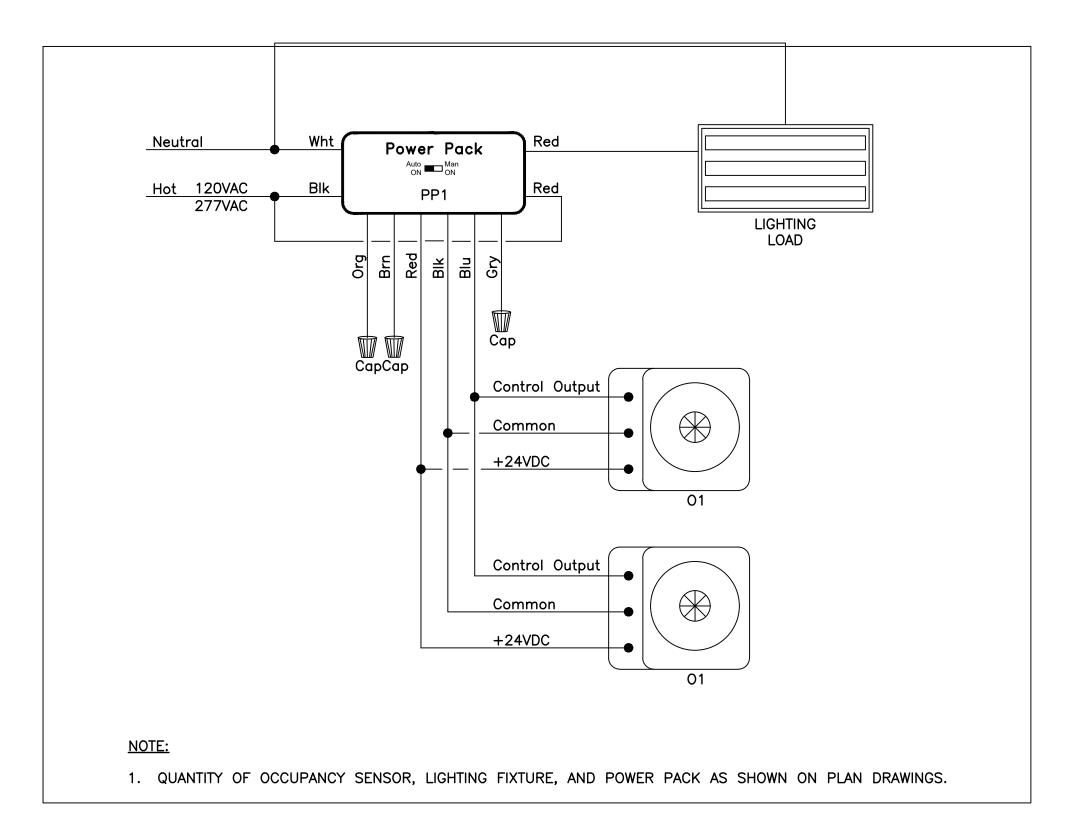
				POWER AND SYSTEMS	SCHEDU	<u>JLE</u>			
1	YPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE (V)	AMPS (A)	WATTS (W)	PHASE	COMMENTS
	WM1	LEGRAND	5400 SERIES RACEWAY AND FITTINGS	DUAL CHANNEL RACEWAY FOR NETWORK SYSTEMS AND POWER					COMPLETE WITH ALL REQUIRED ACCESSORIES FOR INSTALLATION
	WM2	LEGRAND	V700WH c/w V5748-2WH	SMALL SINGLE RACEWAY FOR PUSHBUTTON WIRING					COMPLETE WITH DOUBLE GANG DEVICE BOX FOR PUSHBUTTONS
	HD1	WORLD DRYER	SMARTdri K-973A2	SURFACE MOUNTED AUTOMATIC BRUSHED STAINLESS STEEL HAND DRYER	120		1200	1	







TYPICAL WIRING DIAGRAM FOR LOW VOLTAGE ON/OFF SWITCHING WITH 0-10V DIMMING



TYPICAL WIRING DIAGRAM FOR AUTO ON WITH NO LOCAL SWITCHING

Client

Halton District School Board

2050 Guelph Line

Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

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Consultants



Project North

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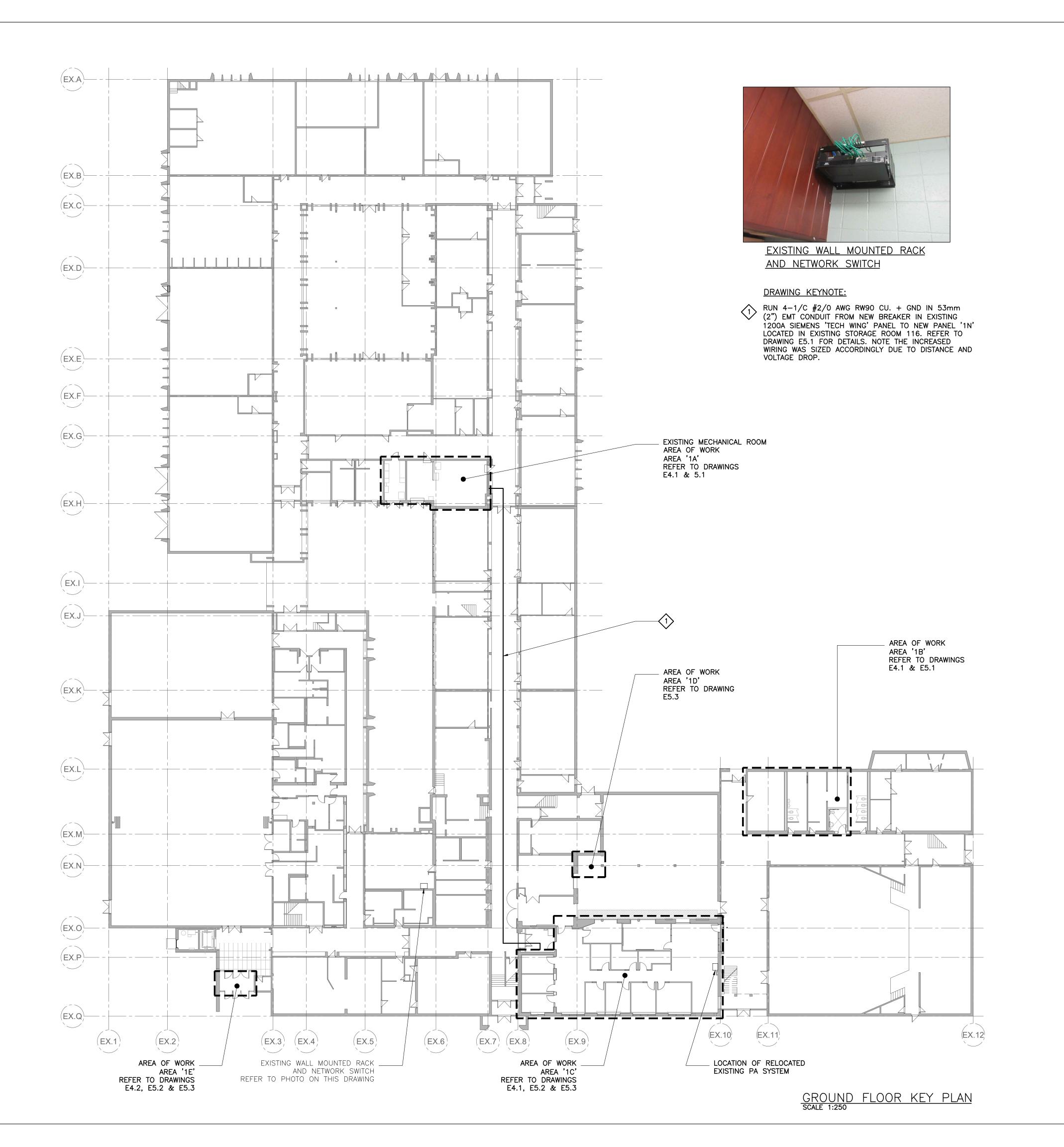
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Drawing Title:
SCHEDULES AND
WIRING DIAGRAMS

Scale:	NTS	Date:	MAY 20
Drawn by:	PI	Checked by:	
Job No.		Drawing No.	
2000	9		E1.4



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BURLINGTON CENTRAL H.S. RENOVATIONS

1433F Baldwin Street Burlington, ON





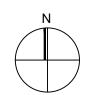
Snyder Architects Inc. 260 King St. E, Unit A101, Toronto, ON M5A 4L5 tel. 416.966.5444 fax. 416.966.4443 www.snyderarchitects.ca

Consultants



CK ENGINEERING INC
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3390 SOUTH SERVICE ROAD, SUITE 302
BURLINGTON, ON. L7N 3J5
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Key Plan N.T.S.



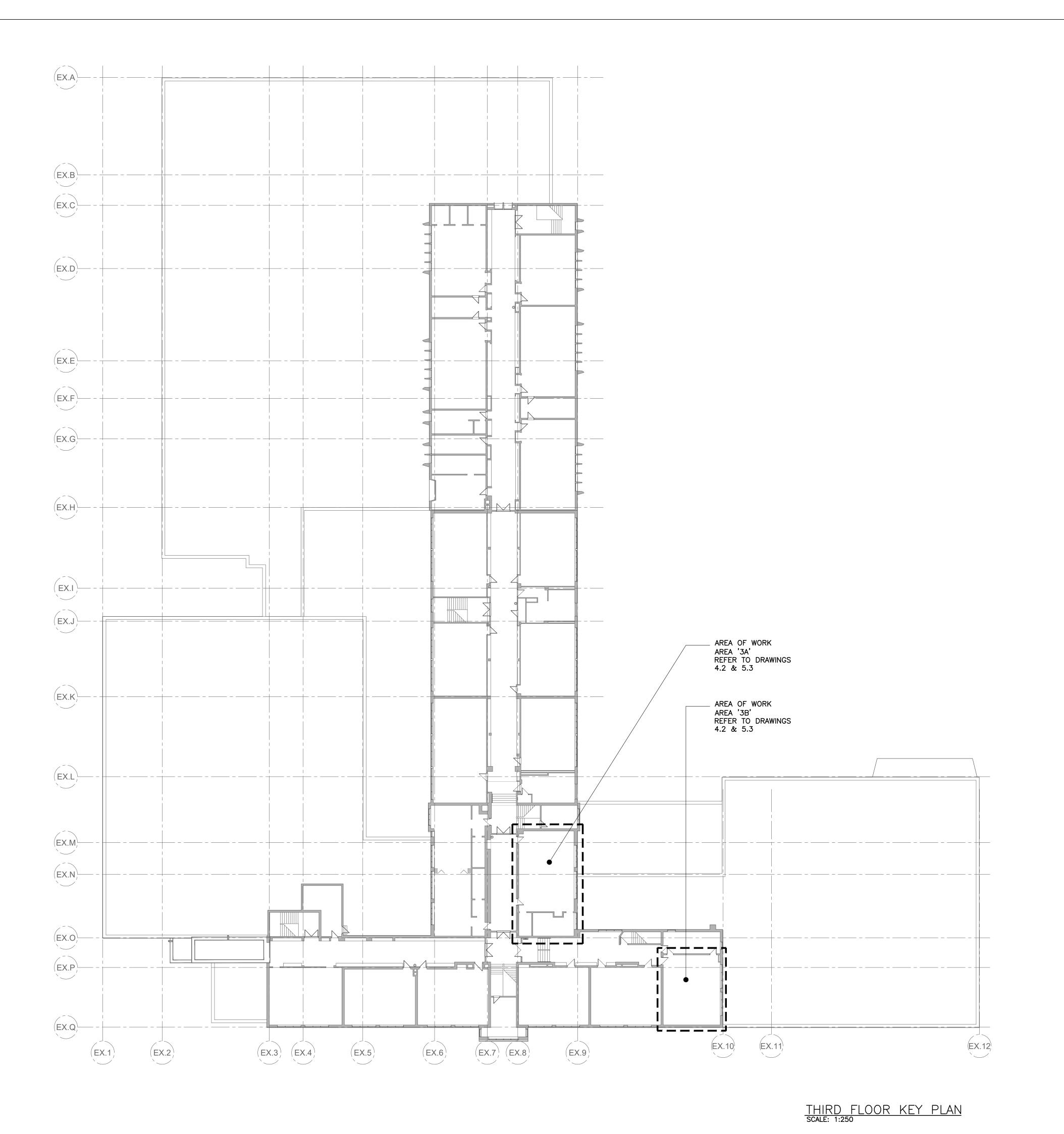


rioje	ct North	True North
No.	Revisions	Date
0	Issued For Construction	Jun 4,2021
В	Issued For Tender	Apr 19,2021
Α	Issued For Permit	Jan 21,2021
No.	Issue	Date

General Contractor shall check and verify all dimensions and report all errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the Architect for construction.

Drawing Title: KEY PLAN GROUND FLOOR

20	009		E2.1
Job No.		Drawing No.	
Drawn by:	PI	Checked by:	JS
Scale:	AS SHOWN	Date:	MAY 2020



Client **Halton District School Board**2050 Guelph Line

Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

1433F Baldwin Street Burlington, ON



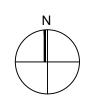


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Key Plan N.T.S.

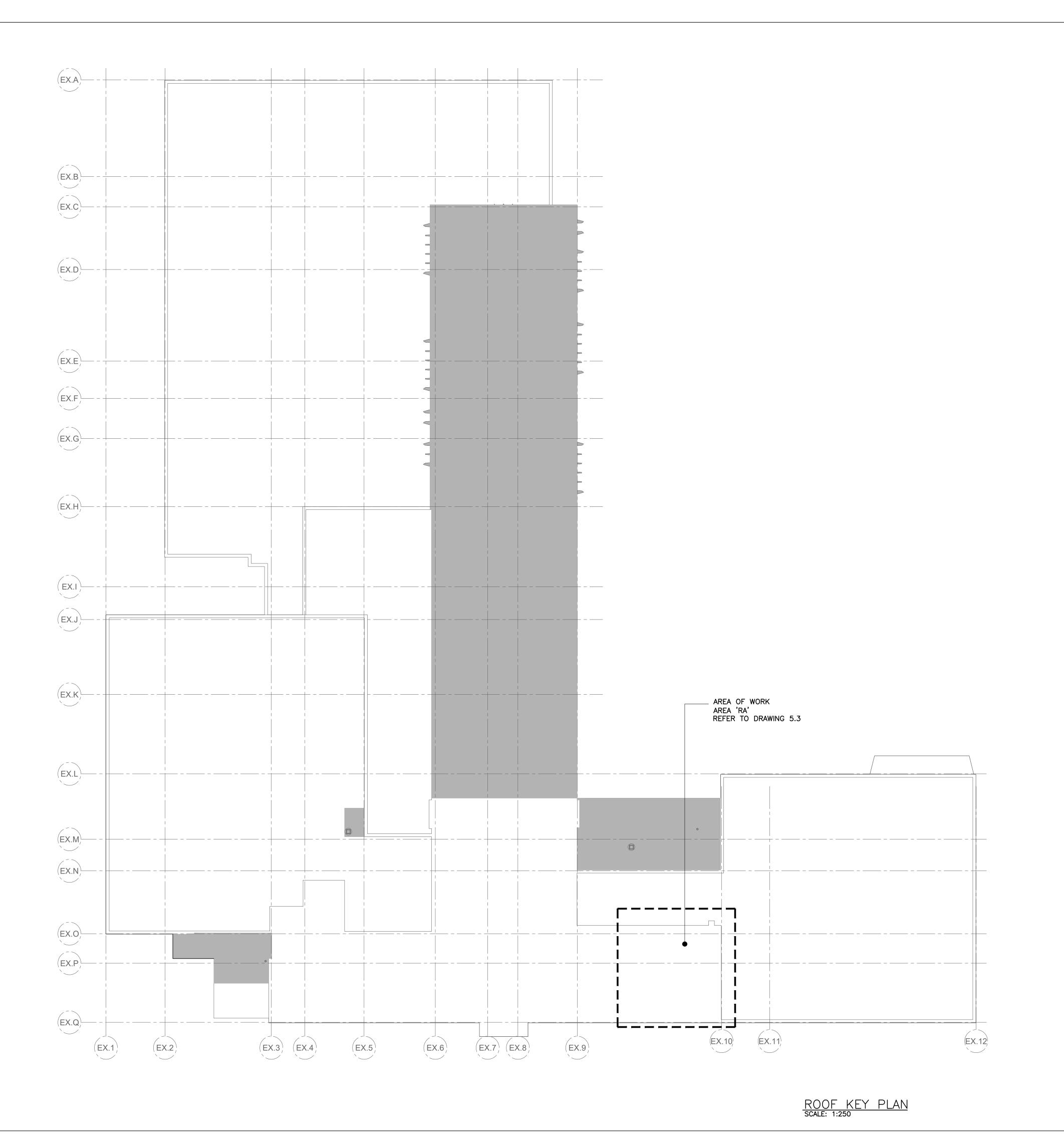




No.	Revisions	Date
0	Issued For Construction	Jun 4,20
В	Issued For Tender	Apr 19,20
Α	Issued For Permit	Jan 21,2
No.	Issue	Date

Drawing Title: KEY PLAN THIRD FLOOR

Job No.	009	Drawing No.	E 2 2
Drawn by:	PI	Checked by:	JS
Scale:	AS SHOWN	Date:	MAY 2020



Client **Halton District School Board**2050 Guelph Line

Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

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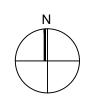


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Key Plan N.T.S.





No.	Revisions	Date
0	Issued For Construction	Jun 4,20
В	Issued For Tender	Apr 19,2
A	Issued For Permit	Jan 21,2
No.	Issue	Date

Drawing Title:
KEY PLAN
ROOF

 Scale:
 AS SHOWN
 Date:
 MAY 2020

 Drawn by:
 PI
 Checked by:
 JS

 Job No.
 Drawing No.
 E2.3

EXISTING SIEMENS PANEL CAT. NO. EQL32200D

PANEL ID: LP-CS	MOU	NTING:	SURFAC	E								PANEL MAINS: 200A
VOLTAGE: 120/240V	LOC	ATION:	EXISTIN	G EL/MI	ECH/S	STORA	AGE R	OOM 11	4			
PHASE/WIRE: 1PH/3W			DISTRIB	UTION F	ANEL	'DP1	,					KAIC RATING: 10 KAIC
DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION
SPACE					1	Α	2					SPACE
CAFE RECP	15A-1P				3A	В	4A				15A-1P	BREAKFAST RM RECP
POP MACHINE	15A-1P				3B		4B				15A-1P	TV PLUG STAIRS
	15A-1P				5A		6A				15A-1P	STORAGE LIGHTS
FRIDGE	15A-1P				5B	A	6B				15A-1P	BREAKFAST RM LIGHTS
	15A-1P				7A	В	8					
FRIDGE	15A-1P				7B		0				151 00	SPLIT RECP
	15A-1P				9A		10				13A-2P	SPLIT RECP
COPIER STAFF ROOM	15A-1P				9B	A	10					
CAFE LIGHTS EAST	15A-1P				11A	В	12					
	15A-1P				11B	В	12				15/ 20	SPLIT RECP
	15A-1P				13A		14				IJA-ZP	SPLIT RECP
	15A-1P				13B		14					
CAFE LIGHTS MIDDLE	15A-1P				15A	В	16					
	15A-1P				15B		10				15A-2P	
CAFE LIGHTS WEST	15A-1P				17A		18				IJA-ZF	
PANEL RECP	15A-1P				17B		10					
BIG STORAGE LIGHTS	15A-1P				19A	В	20					
SHOW CAFE PLUG	15A-1P				19B		20				15A 2D	FRIDGES
TV RECP	15A-1P				21A		22				IJA-ZP	FRIDGES
	15A-1P				21B		22					
SPLIT RECP	15A-2P				23	В	24				15A OD	SPLIT RECP
SPLII RECP	IJA-ZP				25	Α	26				IJA-ZP	SPLIT RECP
	30A-2P				27	В	28				15A OD	SPLIT STAFF MICROWAVE
	JUA-ZF				29	Α	30				IJA-ZF	SPEIT STAFF MICKOWAVE
					31	В	32					
BRK TYPE: * GFCI BREAKER												
** COMBINATION		LOAE) PHASE	A (W):					Т	OTAL L	OAD (W):	
*** LOCK ON BREAKER		LOAD) PHASE	B (W):					Т	OTAL A	MPS (A):	

PANEL ID: 1N			SURFAC		• OF 1	20014	110					PANEL MAINS: 125 A
VOLTAGE: 120/208V PHASE/WIRE: 3PH/4W			EXISTING 125A-3					TH WING	' PANEL			MAIN BREAKER: 125 A KAIC RATING: 10 KAIC
DESCRIPTION	BRK	BRK	WIRE	LOAD		BUS	CCT	LOAD	WIRE	BRK	BRK	DESCRIPTION
EMERG LITE/RUNNING MAN SIGNS	SIZE 15A-1P	TYPE	SIZE 2#12	100	1	A	2	400	SIZE 2#12	TYPE	SIZE	REC-OFFICES 113 & 114
LITE-OFFICES/ROOMS	15A-1P		2#12	786	3	В	4	400	2#12			REC-OFFICES 106 & 112
LITE-OFFICES/OPEN AREAS	15A-1P		2#12	892	5	С	6	400	2#12 2#12			REC-OFFICES 105 & 106
UNIV.WRLITE/EF-1/EMERG	15A-1P		2#12	250	7	A	8	200	2#12			REC-PRINCIPAL OFFICE 103
UNIV.WRREC CHANGE TABLE	15A-1P		2#12	100	9	В	10	200	2#12 2#12			REC-GUIDANCE FRONT/STOR
UNIV.WRDOOR OP	15A-1P		2#12	500	11	С	12	600	2#12			REC-GUIDANCE BACK/CORR
UNIV.WRHAND DRYER	15A-1P		2#12	1200	13	A	14	400	2#12			REC-OFFICES 107 & 115
UNIV.WRTOUCHLESS FAUCET	15A-1P		2#12	50	15	В	16	400	2#12			REC-MEETING 102
SPARE	15A-1P		2π 12	30	17	С	18	400	2#12 2#12			REC-COPY ROOM 108
	15A-1P		2#12	700				800	2#12			REC-LARGE PRINTER ROOM 108
REC-FRIDGE BREAKFAST AREA				700	19 21	A	20					
REC-FRIDGE BREAKFAST AREA	15A-1P		2#12	700		В	22	150	2#12			REC-SHREDDER 108
COUNTER REC-BREAKFAST AREA	15A-1P		2#12	200	23	С	24	500	2#12			REC-SMALL PRINTER 108
MOTORIZED DAMPERS	15A-1P		2#12	50	25	A	26	400	2#12			REC-GENERAL OFFICE/RECEPTION
REC-GENERAL OFFICE	15A-1P		2#12	100	27	В	28	200	2#12			REC-RECEPTION
REC-CCTV MONITOR RECEPTION	15A-1P		2#12	500	29	С	30	300	2#12			REC-PA SYSTEM
REC-KITCHENETTE FRIDGE	15A-1P		2#12	800	31	A	32	400	2#12			REC-OPEN STATIONS
REC-KITCHENETTE MW	15A-1P		2#12	800	33	В	34	100	2#12			20A CONVENIENCE REC-ROOF
FC-1 & FC-2 CONDENSATE PUMPS	15A-1P		2#12	500	35	С	36	600	2#12			REC-GFCI KITCHENETTE
SPARE	15A-1P				37	Α	38				20A-1P	
SPARE	15A-1P				39	В	40					SPACE
SPARE	15A-1P				41	С	42					SPACE
SPARE	15A-1P				43	Α	44					SPACE
SPARE	15A-1P				45	В	46					SPACE
SPARE	15A-1P				47	C .	48					SPACE
00.05	454 75				49	A	50				70. 70	00.05
SPARE	15A-3P				51	В	52				30A-3P	SPARE
				0505	53	С	54	0505				
01. 7	704 70		 3#8	2595	55	A	56	2595] 3#8		704 70	
CU-3	30A-3P		TECK90	2595	57	В	58	2595	TECK90		30A-3P	CU-4
				2595	59	C	60	2595				
DUCT HEATER DH-1	35A-2P		2#8	2500 2500	61	A B	62 64	553 553] 3#10		154_30	FAN COIL FC-1
SPACE				2300	65	С	66	553	$ \mathcal{I}_{\pi} $		I ISA-SE	TAN COIL IC-I
SPACE					67	A	68	553				
				260	69	В	70	553	3#10		15A-3P	FAN COIL FC-2
ERV-1	15A-2P		2#12	260	71	С	72	553	""			
BRK TYPE: * GFCI BREAKER		LOAD	PHASE	A (W):	1449	96		1	I			1
** COMBINATION AFCI			PHASE								OAD (W):	
*** LOCK ON BREAKER		LOAD	PHASE	C (W):	1194	1 8			T	OTAL A	MPS (A):	109.605

								<u>E</u>	QUIP	MENT	SCHE	DULE						
	EQUIPMENT		MOTOR								STARTER (SUPPLIED BY/INSTALLED BY)			ACCESSORIES (SUPPLIED BY/INSTALLED BY)			FIRE ALARM	
TAG	DESCRIPTION	LOCATION	VOLTAGE (V)	PHASE	HORSEPOWER (HP)	WATTS (W)	MCA (A)	LOAD FLA (A)	MOCP (A)	PACKAGED STARTER	MANUAL STARTER	COMB. FVNR	VFD	LINE VOLTAGE THERMOSTAT	LOW VOLTAGE THERMOSTAT	LOCAL DISCONNECT SWITCH	FIRE ALARM SHUTDOWN	COMMENTS
ERV-1	INDOOR ERV UNIT		208	1			3.1		15							E/E		
DH-1	ELECTRIC DUCT HEATER	ERV-1 DUCT	208	1		5000			35							E/E		
FC-1	FAN COIL	GENERAL OFFICE	208	3			5.75		15							M/E		
CU-3	CONDENSING UNIT	ROOF	208	3			18		30							E/E		
FC-2	FAN COIL	GENERAL OFFICE	208	3			5.75		15							M/E		
CU-4	CONDENSING UNIT	ROOF	208	3			18		30							E/E		
EF-1	EXHAUST FAN	UNIV. WR 117	120	1				0.17	15		E/E							EF-1 CONTROLLED THROUGH OCCUPANCY SENSOR
	·		•											•			LEGEND:	'M' DENOTES MECHANICAL CONTRACTOR
																		'E' DENOTES ELECTRICAL CONTRACTOR
																		'G' DENOTES GENERAL CONTRACTOR

Client
Halton District School Board 2050 Guelph Line Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

1433F Baldwin Street Burlington, ON

Architect

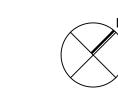
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Consultants



Key Plan N.T.S.





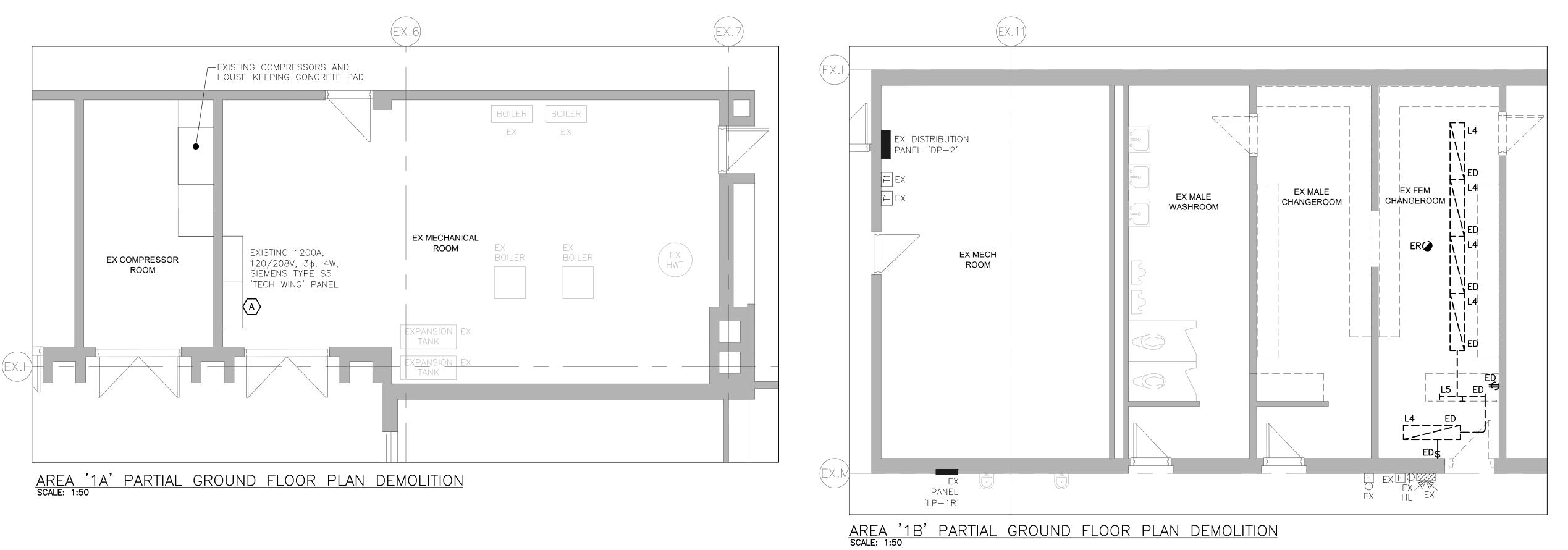
Proje	ct North	True North
No.	Revisions	Date
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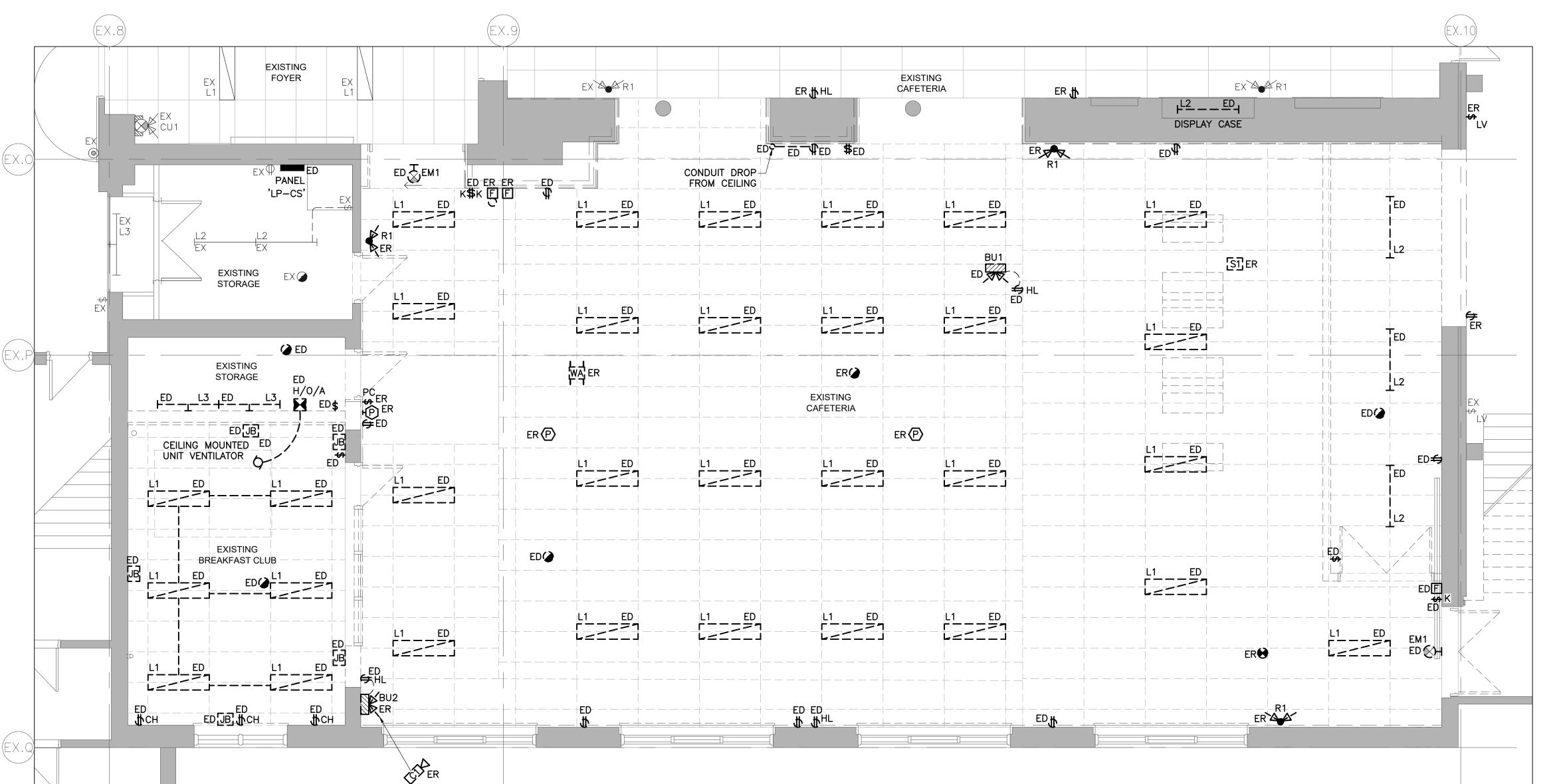
PANEL SCHEDULE
AND MECHANICAL

EQUIPMENT SCHEDULE NEW

20009

E3.1





AREA '1C' PARTIAL GROUND FLOOR PLAN DEMOLITION SCALE: 1:50

GENERAL NOTES:

- 1. THE ELECTRICAL CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFYING ALL ELECTRICAL ITEMS ON SITE PRIOR TO COMMENCING WORK. IF THERE ARE ERRORS OR OMISSIONS ON THE DRAWINGS, THE CONTRACTOR WILL MODIFY THE DRAWINGS AND NOTIFY THE CONSULTANT OF ANY MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND SITE CONDITIONS.
- 2. THE ELECTRICAL CONTRACTOR IS FULLY RESPONSIBLE FOR REMOVING/RELOCATING ALL ELECTRICAL DEVICES/CABLES/CONDUITS ETC. IN AREAS BEING DEMOLISHED AS SHOWN ON ARCHITECTURAL AND ELECTRICAL DRAWINGS. NO ATTEMPT HAS BEEN MADE TO IDENTIFY EVERY SINGLE EXISTING ELECTRICAL DEVICE ON EXISTING DRAWINGS. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO SUBMITTING TENDER PRICE TO REVIEW WHAT IS REQUIRED WITH RESPECT TO DEMOLITION. NO EXTRAS WILL BE ALLOWED FOR NOT THOROUGHLY REVIEWING THE EXISTING SITE.
- 3. FOR INDICATED DEVICES SHOWN TO BE DEMOLISHED, ELECTRICAL CONTRACTOR TO REWORK EXISTING WIRING OR PROVIDE NEW WIRING AND CONDUITS TO SUIT NEW DEVICES AS SHOWN ON DRAWINGS.
- 4. FOR INDICATED DEVICES ARE TO BE RELOCATED, ELECTRICAL CONTRACTOR TO REWORK EXISTING WIRING AND REINSTALL EXISTING DEVICES AS SHOWN IN RENOVATION PLAN.
- 5. ELECTRICAL CONTRACTOR SHALL COORDINATE AND VERIFY WITH THE OWNER ALL DEVICES TO BE SALVAGED, MOVED & STORED PRIOR TO DEMOLITION.

DEMOLITION KEYNOTES:

EXISTING 70A-3P CIRCUIT BREAKER IN EXISTING 1200A, 120/208V SIEMENS PANEL TO BE REPLACED WITH NEW. REFER TO NEW DRAWING E5.1 FOR DETAILS.

Halton District School Board
2050 Guelph Line
Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

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Architect

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Key Plan N.T.S.

Project North

True North

No. Revisions

Date

O Issued For Construction

C Issued For Addendum No.1

B Issued For Tender

Apr 19,2021

A Issued For Permit

Jan 21,2021

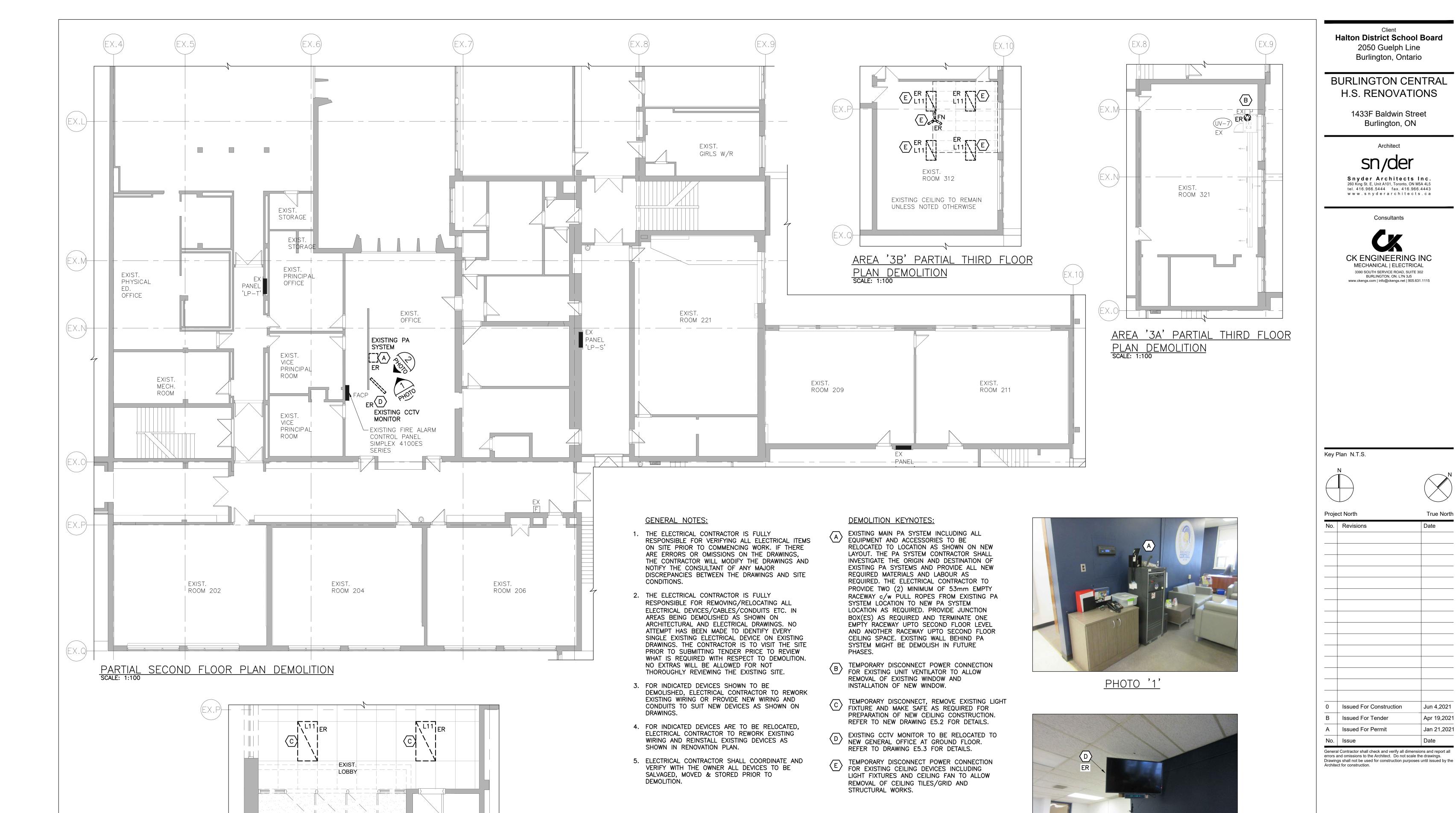
No. Issue

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Drawings shall not be used for construction purposes until issued by the

Drawing Title:
AREAS '1A', '1B' & '1C'
PARTIAL GROUND FLOOR
DEMOLITION

	•	
AS SHOWN	Date:	MAY 2020
PI	Checked by:	JS
	Drawing No.	
20009		E4.1
	AS SHOWN PI	PI Checked by: Drawing No.



EXIST.

STOR. RM.

EXIST.

ENTRANCE

VESTIBULE

PLAN DEMOLITION
SCALE: 1:50

AREA '1E' PARTIAL GROUND FLOOR

PARTIAL SECOND FLOOR & AREA '3A' THIRD FLOOR

True North

Jun 4,2021

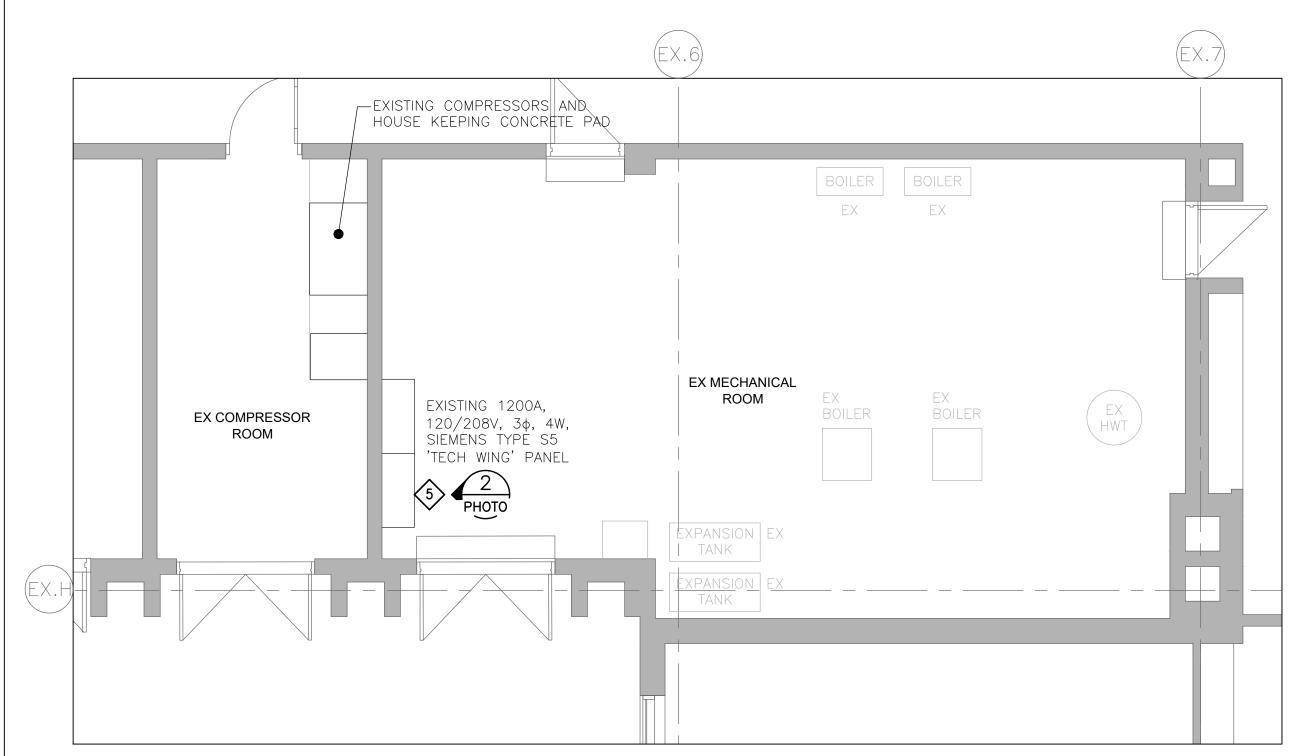
Apr 19,2021

Jan 21,2021

Date

DEMOLITION AS SHOWN Date: MAY 2020 PI Checked by: Drawn by: Drawing No. 20009 E4.2

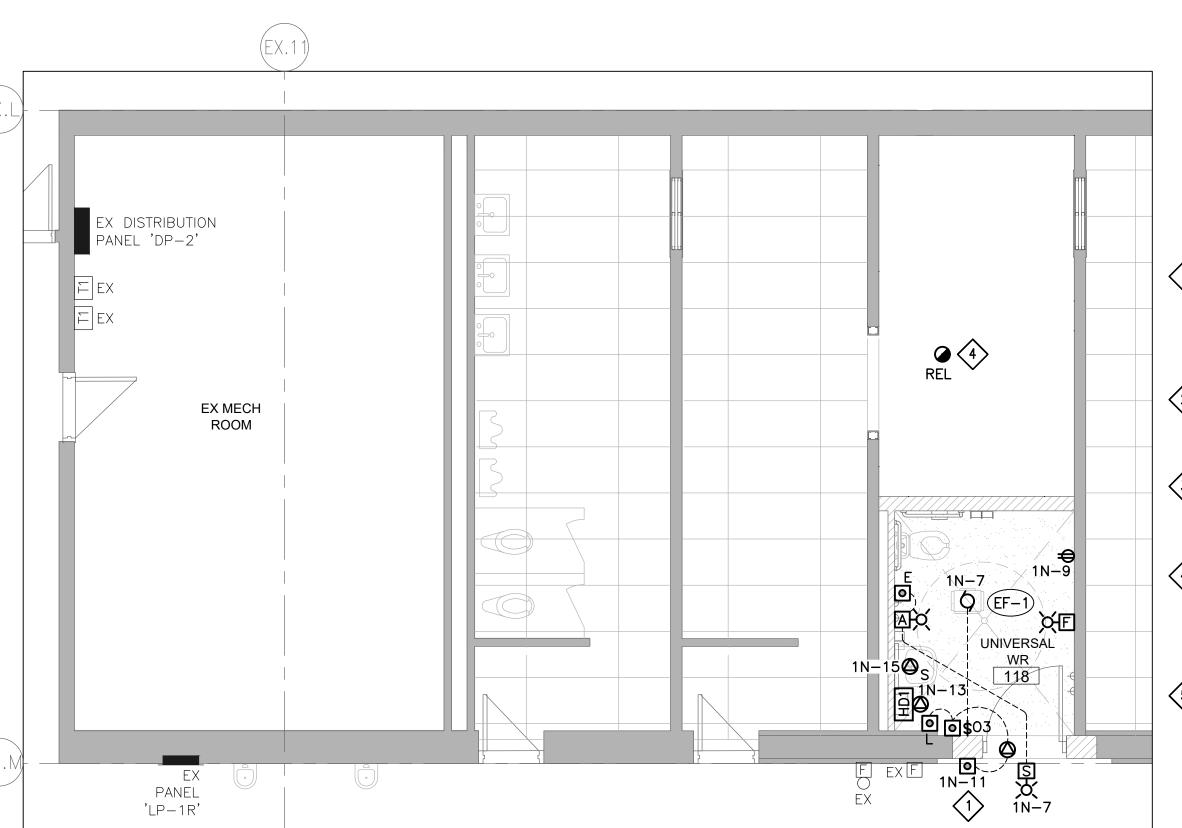
<u>PHOTO '2'</u>



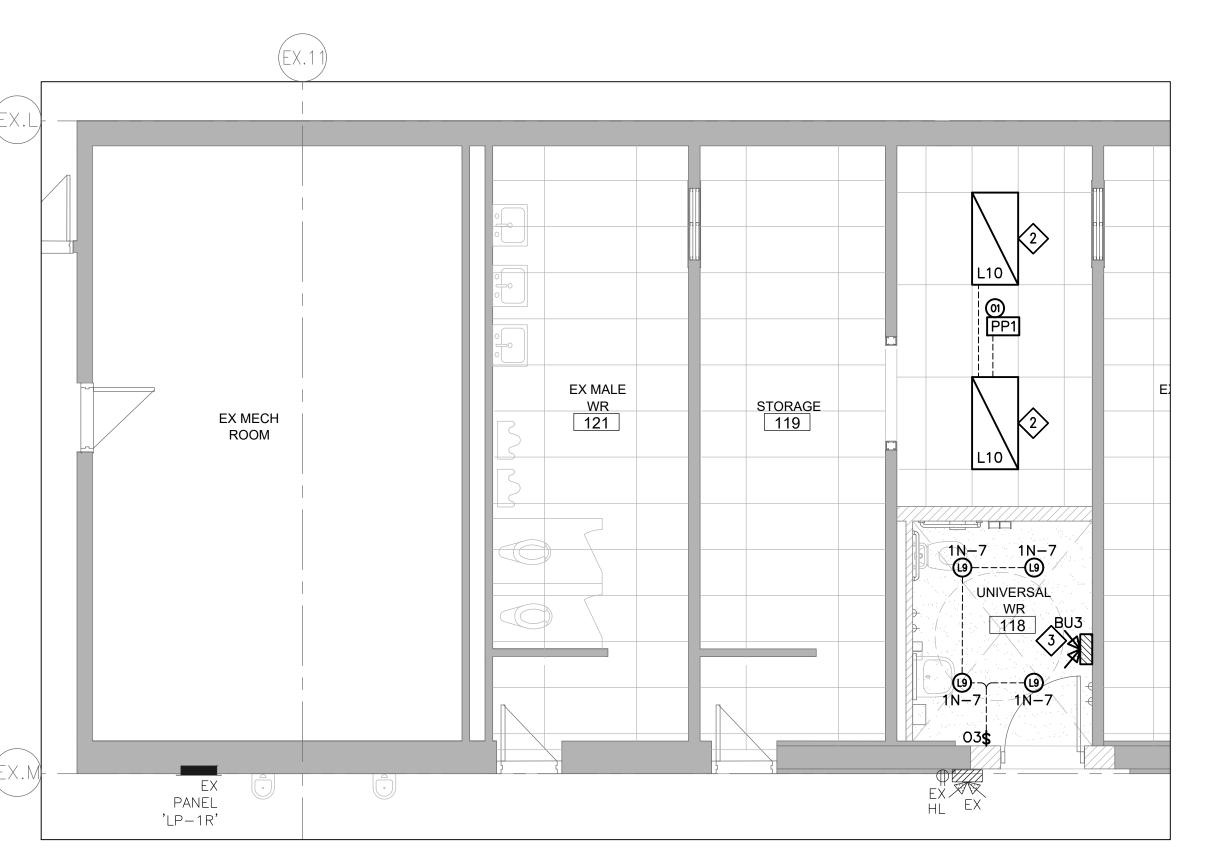
AREA '1A' PARTIAL GROUND FLOOR PLAN NEW SCALE: 1:50



<u>PHOTO '2'</u>



POWER & SYSTEMS AREA '1B' PARTIAL GROUND FLOOR PLAN NEW SCALE: 1:50



LIGHTING AREA '1B' PARTIAL GROUND FLOOR PLAN NEW SCALE: 1:50

GENERAL NOTE:

 ALL EXPOSED EMT CONDUIT TO BE PAINTED TO MATCH EXISTING WALL/CEILING COLOUR.

DRAWING KEYNOTES:

- NEW DOOR OPERATOR SUPPLIED BY GENERAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR. FOR FIRE RATED DOORS (REFER TO ARCHITECTURAL DRAWINGS) PROVIDE INTERLOCK TO FIRE ALARM CONTROL PANEL SO THE DOOR OPERATOR GETS DE-ENERGIZED IN CASE OF FIRE.
- REUSE EXISTING BRANCH CIRCUIT BREAKER, PROVIDE NEW BOX, CONDUITS AND BRANCH WIRING AS REQUIRED AND WIRE TO NEW LIGHT FIXTURES AS SPECIFIED.
- REUSE EXISTING EMERGENCY LIGHTING CIRCUIT
 BREAKER, PROVIDE NEW WIRING/CONDUITS AS
 REQUIRED FOR NEW EMERGENCY BATTERY UNIT AS
 SPECIFIED.
- RELOCATE EXISTING FIRE ALARM DEVICE AS SHOWN. PROVIDE NEW WIRING/CONDUIT/BOX AND WIRE TO EXISTING FIRE ALARM SYSTEM AS REQUIRED. REFER TO DRAWING E1.1 FIRE ALARM SYSTEM RENOVATIONS SPECIFICATIONS REGARDING VERIFICATION REQUIREMENT.
- REPLACE EXISTING SPARE BREAKER WITH NEW 125A-3P CIRCUIT BREAKER IN EXISTING SIEMENS PANEL TO FEED NEW PANEL '1N' LOCATED ON GROUND FLOOR EXISTING STORAGE ROOM 116. REFER TO DRAWINGS E2.1 FOR ROUTING OF POWER CABLE AND E5.3 FOR NEW PANEL '1N'.

Halton District School Board
2050 Guelph Line
Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

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Architect

sn/der

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Key Plan N.T.S.



Project North

No. Revisions

Date

O Issued For Construction

B Issued For Pendiatr

Alpry 125, 220220

No. Issue

No. Issue

Date

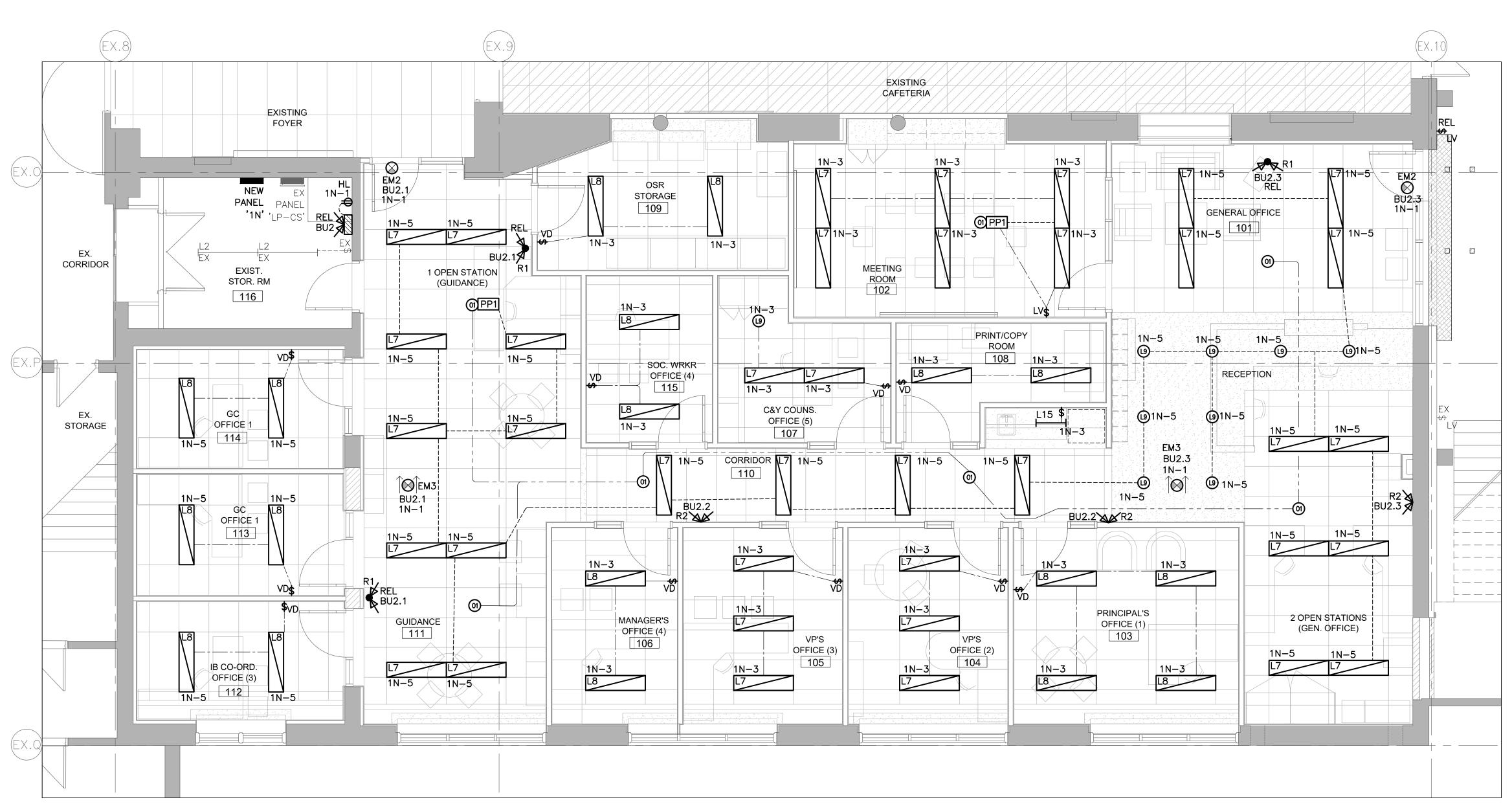
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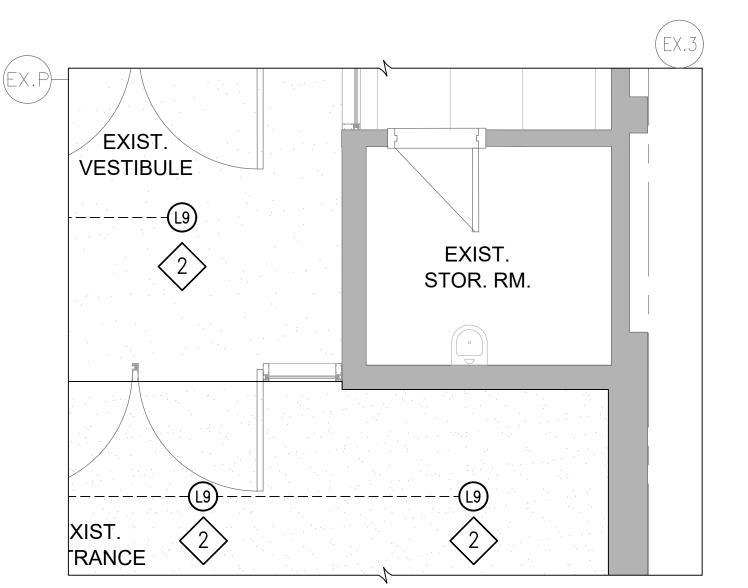
Drawing Title:

LIGHTING, POWER & SYSTEMS AREAS '1A' & '1B' PARTIAL GROUND FLOOR NEW

Scale:	AS SHOWN	Date:	MAY 2020
Drawn by:	PI	Checked by:	JS
Job No.		Drawing No.	
20009		E5.1	



AREA '1C' LIGHTING PARTIAL GROUND FLOOR PLAN NEW SCALE: 1:50



AREA '1E' LIGHTING PARTIAL GROUND FLOOR PLAN NEW SCALE: 1:50

Halton District School Board 2050 Guelph Line Burlington, Ontario

BURLINGTON CENTRAL H.S. RENOVATIONS

1433F Baldwin Street Burlington, ON

Architect SN / CF

DRAWING KEYNOTES:

REINSTALL AND RECONNECT EXISTING LIGHT FIXTURE AFTER INSTALLATION OF NEW CEILING CONSTRUCTION.

REUSE EXISTING LIGHTING BRANCH CIRCUIT, PROVIDE NEW WIRING/CONDUITS/BOX AS REQUIRED FOR NEW LIGHT FIXTURE AS SPECIFIED.

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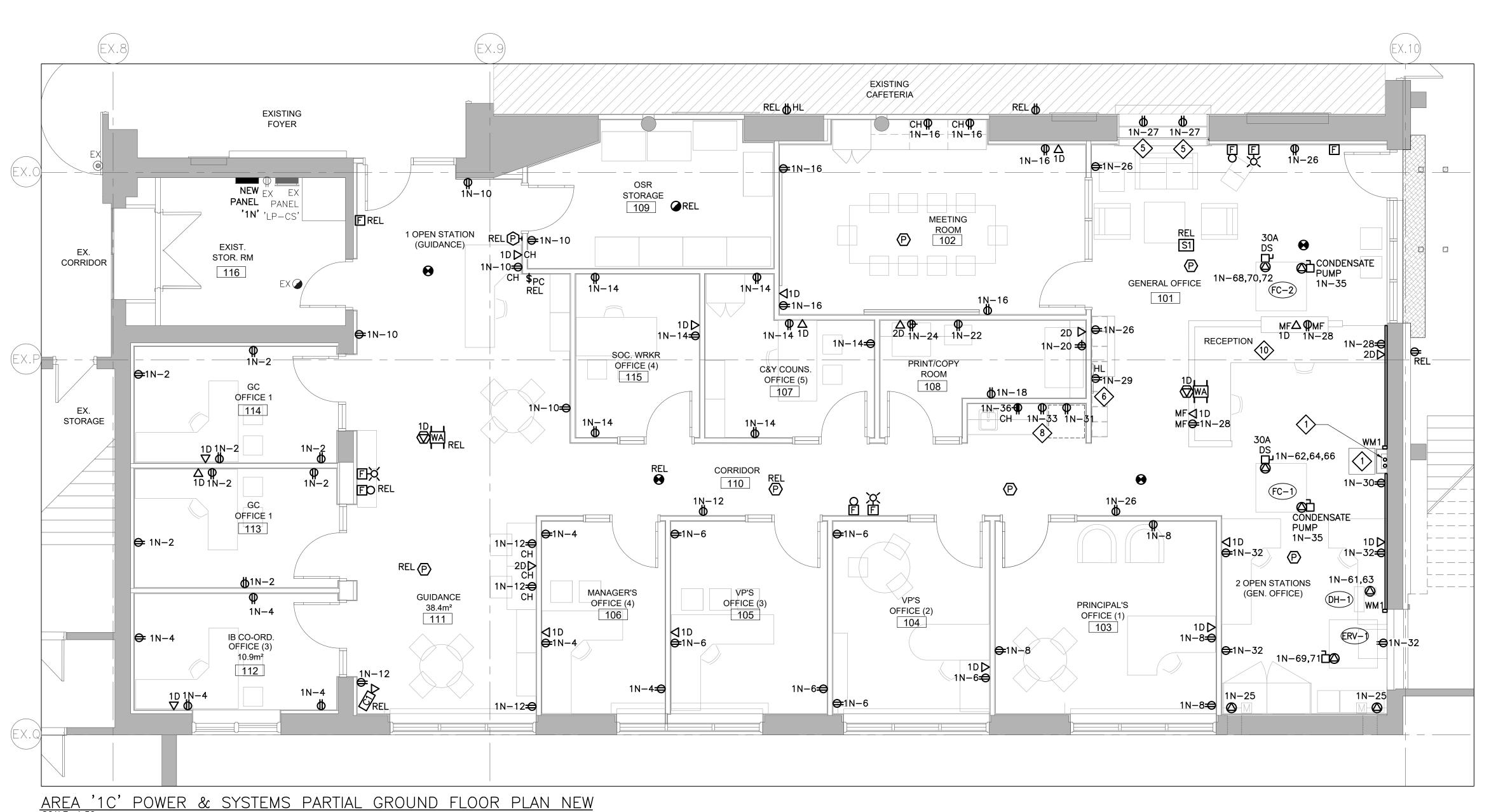




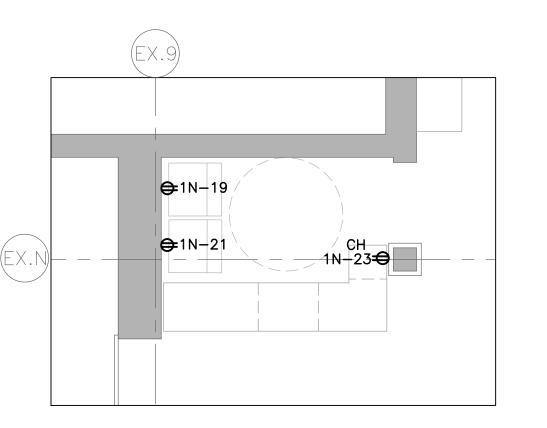
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Α	Issued For Permit	Jan 21,202
No.	Issue	Date

Drawing Title:
LIGHTING AREA '1C'
PARTIAL GROUND FLOOR
NEW

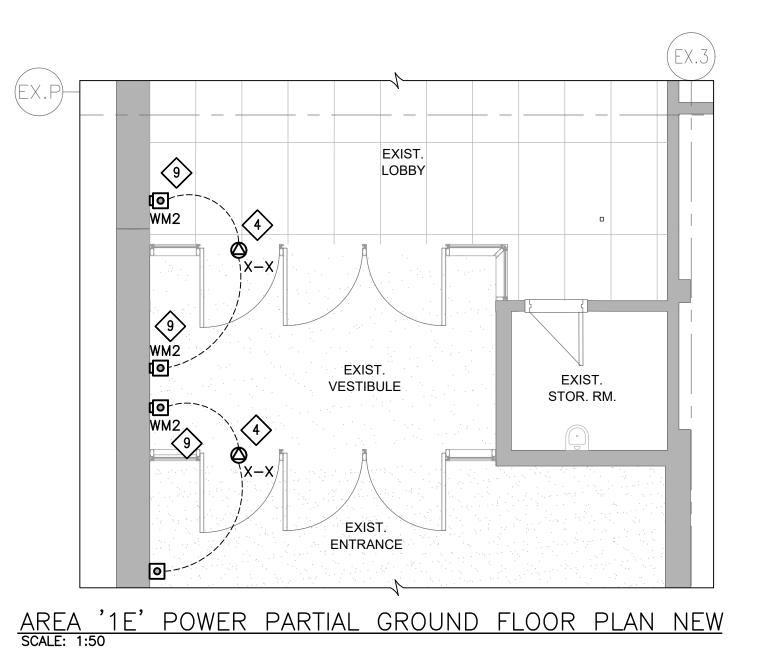
20	009		E5.2
Job No.		Drawing No.	
Drawn by:	PI	Checked by:	JS
Scale:	AS SHOWN	Date:	MAY 2020

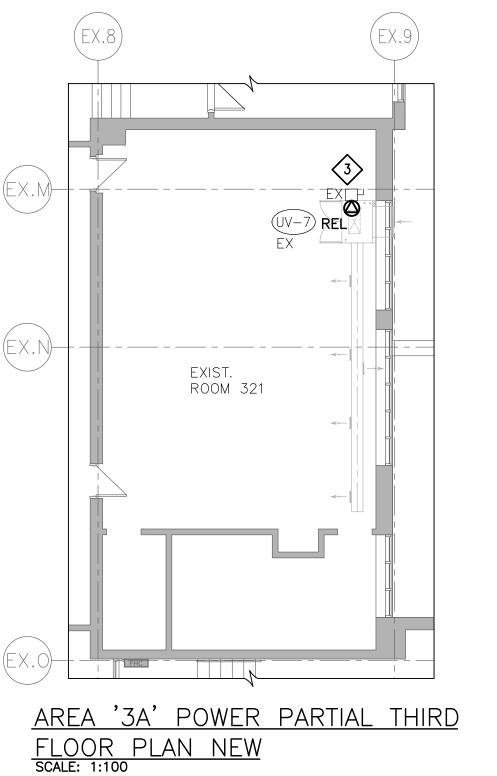


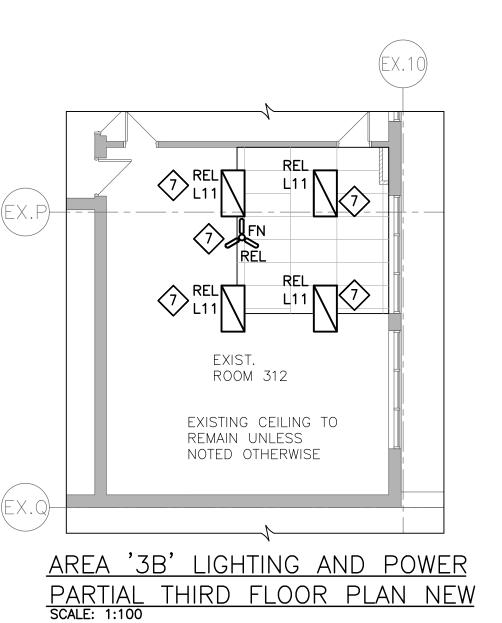
AREA '1C' POWER & SYSTEMS PARTIAL GROUND FLOOR PLAN NEW SCALE: 1:50

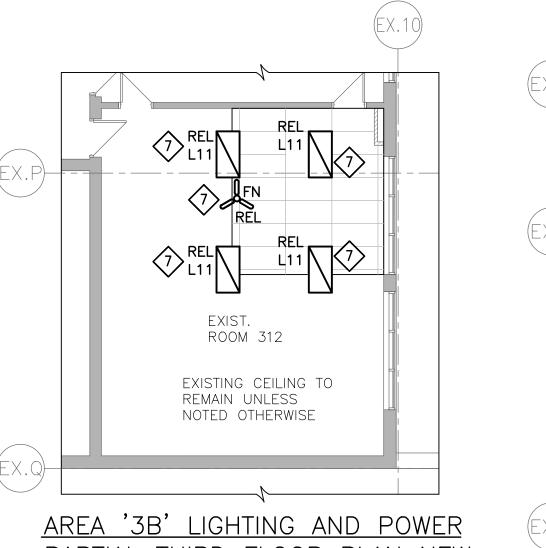


AREA '1D' POWER PARTIAL GROUND FLOOR PLAN NEW SCALE: 1:50









AREA 'RA' POWER PARTIAL ROOF PLAN NEW SCALE: 1:100

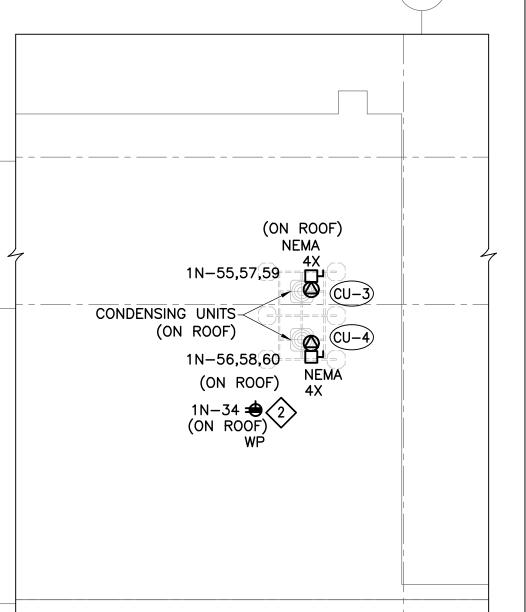
GENERAL NOTE:

1. ALL EXPOSED EMT CONDUIT TO BE PAINTED TO MATCH EXISTING WALL/CEILING COLOUR.

DRAWING KEYNOTES:

- EXISTING MAIN PA SYSTEM INCLUDING THE EQUIPMENT AND ACCESSORIES TO BE RELOCATED EXISTING MAIN PA SYSTEM INCLUDING ALL AS SHOWN. NEW TWO (2) MINIMUM OF 53mm EMPTY RACEWAY c/w PULL ROPES PROVIDED BY ELECTRICAL CONTRACTOR TO BE TERMINATE AT THIS LOCATION. ELECTRICAL CONTRACTOR TO FIELD DETERMINE THE BEST SUITABLE ROUTING OF THE NEW RACEWAY. THE PA SYSTEM CONTRACTOR SHALL PROVIDE ALL NEW REQUIRED MATERIALS. LABOUR AND REWIRE ALL EXISTING PA DEVICES TO MAIN PA SYSTEM.
 - PROVIDE NEW WEATHERPROOF 20A GFCI RECEPTACLE FOR MAINTENANCE OF MECHANICAL EQUIPMENT ON ROOF AS PER ESA STANDARDS SECTION '26-710'. NEW RECEPTACLE TO BE MOUNTED ON STAINLESS STEEL PEDESTAL AT MINIMUM OF 750mm ABOVE FINISHED ROOF LEVEL.
- RECONNECT EXISTING POWER CONNECTION FOR EXISTING UNIT VENTILATOR AFTER INSTALLATION OF NEW WINDOW.
- ELECTRICAL CONTRACTOR TO FIELD VERIFY TO REUSE EXISTING SPARE BREAKER OR PROVIDE NEW DEDICATED 15A-1P CIRCUIT BREAKER IN EXISTING PANEL. PROVIDE NEW BOX, CONDUITS AND BRANCH WIRING AS REQUIRED AND WIRE FROM THE NEAREST PANEL TO NEW POWER DOOR OPERATOR (SUPPLIED BY GENERAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR) AS REQUIRED.
- REFER TO ARCHITECTURAL DRAWING A501 FOR EXACT LOCATION AND FURTHER INFORMATION.
- ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL NEW RECEPTACLE AS REQUIRED FOR RELOCATED EXISTING CCTV MONITOR. COORDINATE WITH CCTV CONTRACTOR FOR EXACT MONITOR LOCATION PRIOR TO DEVICE ROUGH-IN. CCTV MONITOR TO BE INSTALLED AT 610mm (2ft) BELOW CEILING.
- REINSTALL AND RECONNECT EXISTING CEILING REINSTALL AND RECOGNIZED LAND.

 DEVICES INCLUDING LIGHT FIXTURES AND CEILING FAN AFTER REINSTALLATION OF CEILING TILES/GRID.
- REFER TO ARCHITECTURAL ELEVATION DRAWINGS FOR EXACT LOCATION OF KITCHENETTE MW RECEPTACLE.
- PROVIDE SURFACE MOUNTED RACEWAY TO CEILING SPACE FROM PUSHBUTTON BOX. PUSHBUTTON TO BE MOUNTED ON SURFACE MOUNTED WIREMOLD DEVICE BOX
- FOR MOUNTING LOCATION OF RECEPTACLES AND DATA OUTLETS IN RECEPTION DESK REFER TO ARCHITECTURAL DRAWING A601



Halton District School Board 2050 Guelph Line Burlington, Ontario

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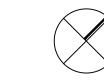
Consultants



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Key Plan N.T.S.





True North Jun 4,2021 **Issued For Construction** May 5,2021 Issued For Addendum No.1 Apr 19,2021 Issued For Tender Jan 21,2021 **Issued For Permit** Date General Contractor shall check and verify all dimensions and report all

errors and omissions to the Architect. Do not scale the drawings. Drawings shall not be used for construction purposes until issued by the

POWER & SYSTEMS AREAS '1C', '1D', '3A' & 'RA' GROUND THIRD FLOORS AND ROOF NEW

20009		E5.3	
Job No.		Drawing No.	
Drawn by:	PI	Checked by:	J
Scale:	AS SHOWN	Date:	MAY 202