### DRAWING LIST RAWIN PECIFICA AND SCH NT MECH OOR MECH

| 210         |               |
|-------------|---------------|
| DRAWING NO. | DR            |
| M00-00      | MECHANICAL SP |
| M00-01      | BASEMEN       |
| M01-01      | MAIN FLO      |

MECHANICAL SPECIFICATIONS:

1. GENERAL 1.1. ALL WORK SHOWN OR IMPLIED ON THESE DRAWINGS SHALL BE CARRIED OUT IN ACCORDANCE WITH: 1.1.1. ALBERTA BUILDING CODE (ABC) 2006

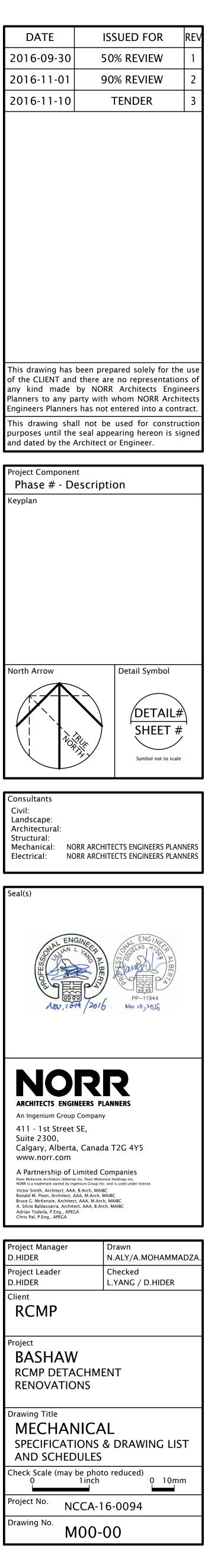
- 1.1.2. PLUMBING CODE OF CANADA 2010 1.1.3. CAN/CSA-B125-05 PLUMBING FITTINGS.
- 1.1.4. LOCAL AUTHORITY HAVING JURISDICTION. 1.1.5. NFPA 10-2002 PORTABLE FIRE EXTINGUISHERS.
- 1.1.6. ULC STANDARDS
- 1.2. PRIOR TO SUBMITTING TENDERS, EACH TRADE SHALL EXAMINE THE SITE TO DETERMINE THE CONDITIONS WHICH MAY AFFECT THE PROPOSED WORK. NO CLAIM FOR EXTRA PAYMENT WILL BE CONSIDERED BECAUSE OF FAILURE TO FULFILL THIS CONDITION. START OF WORK WILL BE DEEMED EVIDENCE OF ACCEPTANCE OF, AND SATISFACTION WITH, EXISTING CONDITIONS. 1.3. THE DRAWINGS SHALL BE CONSIDERED TO SHOW THE GENERAL CHARACTER AND SCOPE OF THE WORK AND NOT THE EXACT DETAILS OF THE INSTALLATION. THE INSTALLATION SHALL BE COMPLETE WITH ALL ACCESSORIES AND SUPPORTS REQUIRED FOR A COMPLETE AND OPERATIVE INSTALLATION. THESE MECHANICAL DRAWINGS MUST BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS. 1.4. THE MECHANICAL CONTRACTOR SHALL COORDINATE THE WORK WITH ALL OTHER TRADES AND THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR COMMUNICATING SAFETY REQUIREMENTS TO ITS EMPLOYEES AND COMPLY WITH
- OCCUPATIONAL HEALTH AND SAFETY ACT. 1.5. ARRANGE, COORDINATE AND PAY ALL REQUIRED FEES AND PERMITS. SUBMIT DRAWINGS AND SPECIFICATIONS TO ALL AUTHORITIES AND OBTAIN APPROVAL BEFORE COMMENCING ANY WORK. PAY FOR FEES AND CHARGES LEVIED BY THE MUNICIPALITY, UTILITIES AND OTHER GOVERNING AUTHORITY FOR PERMITS, INSPECTIONS AND CERTIFICATES, AND WORK PERFORMED BY THE MUNICIPALITY OR UTILITIES IN CONNECTION WITH THE MECHANICAL WORK. ARRANGE AND
- COORDINATE SUCH WORK AND OBTAIN PERMITS. KEEP A COPY OF ALL SUCH PERMITS AND CERTIFICATES ON THE JOB SITE DURING THE PROJECT DURATION. 1.6. WORKMANSHIP AND MATERIALS SHALL MATCH OR EXCEED THAT OF THE EXISTING. 1.7. ALL WORK TO BE CONDUCTED DURING HOURS SPECIFIED BY THE PROJECT MANAGER. NO DISRUPTION TO BUILDING OPERATIONS WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE OWNER. ALL CHANGES AND CONNECTIONS TO EXISTING SERVICES, REQUIRING THE SHUTDOWN OF THAT SERVICE SHALL BE DONE AT A TIME DESIGNATED BY THE PROJECT MANAGER. ALLOW FOR PREMIUM TIME NEEDED.
- 1.8. CARRY OUT DEMOLITION IN A MANNER TO CAUSE AS LITTLE INCONVENIENCE TO THE OCCUPIED BUILDING AREA AS POSSIBLE. CO-ORDINATE THIS ACTIVITY WITH THE FACILITY MANAGER. 1.9. CAREFULLY REMOVE EQUIPMENT TO BE REUSED OR HANDED OVER TO THE OWNER. STORE EQUIPMENT FOR RE-INSTALLATION. RELOCATE ANY PIPING, DUCTWORK, OR EQUIPMENT INTERFERING WITH NEW CONSTRUCTION. 1.10. THE CONTRACTOR SHALL AT ALL TIMES KEEP PREMISES FREE FROM THE ACCUMULATION OF WASTE MATERIAL TO THE SATISFACTION OF THE PROJECT MANAGER. THE CLEANING OF THE AFFECTED AREA SHALL BE CONTINUOUS. PLACE DUST PROTECTION IN THE FORM OF COVER SHEETS OVER EQUIPMENT AND FURNITURE TO ENSURE NO DUST INFILTRATION.
- 1.11. MANUFACTURER'S INSTRUCTIONS REGARDING THE HANDLING, INSTALLATION AND TESTING OF EQUIPMENT SPECIFIED HEREIN SHALL BE CONSIDERED PART OF THIS SPECIFICATION. 1.12. SUPPLY TOOLS, EQUIPMENT AND PERSONNEL TO DEMONSTRATE AND INSTRUCT OPERATING AND MAINTENANCE PERSONNEL IN OPERATING, CONTROLLING, ADJUSTING, TROUBLESHOOTING AND SERVICING OF ALL SYSTEMS AND
- EQUIPMENT DURING REGULAR WORK HOURS, PRIOR TO ACCEPTANCE. 1.13. MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR HOISTING OF MECHANICAL EQUIPMENT. COORDINATE HOISTING SCHEDULE WITH PROJECT MANAGER. ARRANGE AND PAY FOR ANY REQUIRED PERMITS. 1.14. INSPECT ALL EQUIPMENT UPON DELIVERY AND NOTIFY PROJECT ENGINEER OF ANY DAMAGE OR DEFICIENCIES.
- 1.15. SUBMIT ONE (1) COPY OF SHOP DRAWINGS AND PRODUCT DATA IN ELECTRONIC PDF FORMAT OF ALL SPECIFIED EQUIPMENT & SYSTEMS. HARD COPY SHOP DRAWINGS WILL NOT BE ACCEPTED. CERTIFY THAT SHOP DRAWINGS HAVE BEEN REVIEWED BY GENERAL CONTRACTOR PRIOR TO SUBMITTING TO CONSULTANT FOR REVIEW. REVIEWED ELECTRONIC SHOP DRAWINGS WILL BE RE-DISTRIBUTED AS PER PROJECT MANAGER'S INSTRUCTIONS.
- 6 ALL FOLIPMENT, PIPING, DUCTWORK AND WIRING SHALL BE RUN AT RIGHT ANGLES TO AND RE SUSPENDED FROM THE RUILDING STRUCTURE 1.17. PROVIDE BLACK WITH WHITE WRITING LAMACOID PLATE ON ALL NEW EQUIPMENT. LABEL UNIT AS SHOWN ON DRAWINGS. LETTERING SIZE TO BE MINIMUM 25MM HIGH. MOUNT NEAR CONTROL SECTION OF THE UNIT. 1.18. PROVIDE CUTTING, PATCHING AND CORING OF ALL WALLS, CEILING AND OTHER SURFACES AS REQUIRED FOR MECHANICAL WORK. OBTAIN WRITTEN VERIFICATION OF LOCATIONS FROM THE ENGINEER PRIOR TO CUTTING. ALL ROOFING
- WORK FOR MECHANICAL EQUIPMENT TO BE UNDERTAKEN BY QUALIFIED ROOFING CONTRACTORS UNDER THIS SECTION. 1.19. INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS WITH ADEQUATE ACCESS. 1.20. PIPING LAYOUT ILLUSTRATED ON DRAWINGS INDICATES GENERAL ROUTING OF PIPE WORK AND DOES NOT SHOW ALL FITTINGS AND OFFSETS REQUIRED FOR COMPLETE INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL
- PIPING FITTINGS & OFFSETS REQUIRED FOR COORDINATED INSTALLATION WITH OTHER SYSTEMS (DUCTWORK, PIPING, CONDUITS, LIGHTS, ETC.). 1.21. CONTRACTOR SHALL BE RESPONSIBLE FOR DEACTIVATION. DRAINING. REFILLING AND REACTIVATING OF OPERATIONAL SYSTEMS. COORDINATE WITH OWNER AND ENSURE THAT NO UNDUE DISRUPTION OF BUILDING OPERATIONS OCCUR. 1.22. MAINTAIN A SET OF WHITE PRINTS MARKED UP TO "AS BUILT" CONDITION ON SITE, UPDATED ON AN ONGOING BASIS THROUGHOUT THE COURSE OF THE PROJECT. PURCHASE, FROM THE CONSULTANT, SET OF CADD FILES OF THE MECHANICAL CONTRACT DRAWINGS AND TRANSFER ALL INFORMATION ONTO THE CAD DRAWINGS. HAND OVER 2 SETS OF WHITE PRINTS AND CD WITH CADD FILES SHOWING THE "AS BUILT" CONDITION TO THE CONSULTANT FOR FINAL REVIEW PRIOR TO FINAL INSPECTIONS.
- 1.23. SUBMIT THREE (3) COPIES OF OPERATION AND MAINTENANCE MANUALS FOR ENGINEER'S APPROVAL. 1.24. WARRANTY PERIOD SHALL BE FOR TWELVE (12) MONTHS AFTER THE DATE OF SUBSTANTIAL COMPLETION AS DETERMINED BY ENGINEER.
- 2. INSULATION 2.1. ALL COMPONENTS OF INSULATION SYSTEM TO BE SUITABLE FOR PLENUM INSTALLATION, HAVING MAXIMUM FLAME SPREAD RATING OF 25 AND MAXIMUM SMOKE DEVELOPED RATING OF 50 IN ACCORDANCE WITH CAN4-5102
- 2.2. INSULATE DOMESTIC COLD WATER PIPING WITH 1" FIBER GLASS INSULATION WITH FACTORY APPLIED VAPOUR BARRIER JACKED, MOLDED TO CONFORM TO PIPING K VALUE AT 24 C.
- 2.2. PROVIDE ISOLATING VALVES ON MAIN AND/OR BRANCH LINES AND AT ALL EQUIPMENT OR FIXTURES OR WHERE SHOWN. ALL VALVES SHALL BE SUITABLE FOR THE OPERATING PRESSURE OF THE SYSTEM. 2.3. ALL THE INDOOR SUPPLY DUCT WORK TO BE INSULATED WITH 25mmTHICK FIBERGLASS INSULATION.
- 2.4. OUTDOOR & COMBUSTION AIR DUCT WORKS ARE TO BE INSULATED WITH 50mm OF INSULATION.
- 2.5. INSULATE EXHAUST DUCTS WITH 25mm INSULATION FOR 3000mm FROM OUTSIDE WALL.
- 3. PLUMBING
- 3.1. PROVIDE DIELECTRIC COUPLINGS/UNION UNIONS WHERE DISSIMILAR METALS ARE JOINED. 3.2. PROVIDE ISOLATING VALVES ON MAIN AND/OR BRANCH LINES AND AT ALL EQUIPMENT OR FIXTURES OR WHERE SHOWN. ALL VALVES SHALL BE SUITABLE FOR THE OPERATING PRESSURE OF THE SYSTEM IN WHICH THEY ARE INSTALLED.
- MAKE AND MODEL SHALL BE AS PER BASE BUILDING STANDARDS AND SPECIFICATIONS UNLESS NOTED OTHERWISE.
- 3.3. INSTALL ALL ABOVE GRADE PIPING TO ALLOW COMPLETE DRAINAGE.
- 3.4. DOMESTIC COLD WATER PIPING: COPPER TUBE, HARD DRAWN, TYPE "L" WITH WROUGHT COPPER FITTINGS USING LEAD FREE SOLDER AND PRESSURE TESTED TO PLUMBING CODE.
- 3.5. BALL VALVES NPS 2 AND UNDER, SCREWED, CLASS 150, BRONZE BODY, STAINLESS STEEL BALL, PTFE TEFLON ADJUSTABLE PACKING, BRASS GLAND AND PTFE TEFLON SEAT, STEEL LEVER HANDLE, CRANE OR APPROVED EQUAL.
- 3.6. HANGERS AND SUPPORTS SHALL BE OF MANUFACTURED TYPE AND ASSEMBLED AS PER MANUFACTURER'S INSTRUCTIONS. DESIGN HANGERS AND SUPPORTS TO OPERATE UNDER ALL OPERATING CONDITIONS. ALLOW FOR FREE EXPANSION AND CONTRACTION AND PREVENT THE TRANSMISSION OF EXCESSIVE STRESSES INTO PIPE WORK OR CONNECTED EQUIPMENT. PROVIDE FOR VERTICAL ADJUSTMENT AFTER INSTALLATION. DESIGN SHALL BE IN ACCORDANCE WITH ANSI B31.1 AND MSS-SP58. SUPPORT FROM TOP OR BOTTOM OF STRUCTURAL MEMBERS. WHERE STRUCTURAL BEARING DOES NOT EXIST OR INSERTS ARE NOT IN SUITABLE LOCATIONS, PROVIDE SUPPLEMENTARY STRUCTURAL STEEL MEMBERS. PROVIDE ADDITIONAL SUPPORTS AT CHANGES IN PIPE DIRECTION AND FOR CONCENTRATION OF LOADS DUE TO WEIGHT OF VALVES, STRAINERS, ETC. HANGER SPACING: COPPER PIPING UP TO NPS 1/2 EVERY 5 FT, STEEL PIPING EVERY 10'.
- HANGERS SHALL BE WITHIN 12" OF EACH ELBOW. 3.7. PROVIDE PIPE IDENTIFICATION TO MATCH EXISTING BASE BUILDING STANDARD; IDENTIFY PIPE ON EITHER SIDE OF WALL / SLAB / ROOF PENETRATIONS, AND AT NOT LESS THAN 30' INTERVALS THROUGH LARGE ROOMS. 3.8. SHUT-OFF VALVE: BALL TYPE FOR NPS 2 ID AND SMALLER. BUTTERFLY TYPE FOR 65 MM (2-1/2") AND LARGER.
- 3.9. PLUMBING FIXTURES TO BE AS DWG M00-02.
- 4. HEATING, VENTILATION, AND COOLING 4.1. GALVANIZED STEEL DUCT LOCK FORMING QUALITY: TO ASTM A 525M, Z90 ZINC COATING. THICKNESS, FABRICATION, JOINTS AND REINFORCEMENT: TO ASHRAE AND SMACNA. ALL TRANSVERSE JOINTS AND CONNECTIONS SHALL BE SEALED WITH WATER BASED DUCT SEALANT AND TAPE.
- 4.2. HANGERS: ALL DUCTWORK AND HANGERS SHALL BE FABRICATED IN ACCORDANCE WITH THE LATEST ASHRAE AND SMACNA RECOMMENDATIONS AND STANDARDS. 4.3. IDENTIFICATION DUCTWORK SYSTEMS STENCILLED LETTERS 50 MM (2") HIGH. DIRECTIONAL ARROWS 150 MM (6") LONG X 50 MM (2") HIGH. COLORS: BLACK, OR CO-ORDINATED WITH BASE COLOR TO ENSURE STRONG CONTRAST.
- 5. TESTING, ADJUSTING AND BALANCING 5.1. TEST, ADJUST AND BALANCE NEW DUCTWORK.
- 5.2. REPORT: PROVIDE REPORT INDICATING AIR VOLUMES AND LOCATION OF TESTING ON A COPY OF CONSTRUCTION DRAWINGS. SUBMIT 3 BOUND COPIES OF TAB REPORTS, COMPLETE WITH INDEX TABS FOR VERIFICATION AND APPROVAL OF ENGINEER.
- 6. CONTROLS
- 6.1. PROVIDE ALL CONTROLS AND WIRING INCLUDING APPURTENANCES NECESSARY FOR COMPLETE AND OPERATING SYSTEM.
- 7. LIST OF APPROVED MANUFACTURERS
- 7.1. AIR TERMINALS GRILLES, REGISTERS, DIFFUSERS: E.H PRICE, TITUS, NAILOR OR APPROVED EQUIVALENT. 7.2. ACCESS DOORS: MAXAM, MILCOR, MIFAB, ACUDOR OR APPROVED EQUIVALENT.
- 7.3. AIR VENTS: HOFFMAN, MAID-O-MIST, TACO OR APPROVED EQUIVALENT. 7.4. BALANCING AGENTS: KD ENGINEERING, MDT SYSTEMS, WESTERN MECHANICAL SYSTEMS OR APPROVED EQUIVALENT.
- 7.5. DRAINS-FLOOR, CLEANOUTS, PRIMERS: ZURN, ANCON, PPP, J.R-SMITH OR APPROVED EQUIVALENT. 7.6. FANS: BROAN, GREENHECK, ACME, NUTONE, COOK OR APPROVED EQUIVALENT.
- 7.7. FIRE EXTINGUISHERS: FLAG, NFE, WILSON & COUSINS OR APPROVED EQUIVALENT.
- 7.8. ELECTRIC HEATERS: OULLET, CHROMALOX, STELPRO, QMARK OR APPROVED EQUIVALENT. 7.9. GAS FIRED HEATER: MODINE, REZNOR OR APPROVED EQUIVALENT.

|  | <u>.</u>                            |  | 1  |                                      |  | · ·   | FURN                              | IACE SCHEDU   | ILE  | i  |                                      |                        |  |                         | 1  | 2016-09-30   |
|--|-------------------------------------|--|--|--------------------------------------|--|---|-----------------------------------|---|--|--|--------------------------------------|------------------------|--|-------------------------|--|--|
| TAG LC                                       | CATION                              | MANUF. AND<br>MODEL/SERIES   | AIR FLOW<br>RANGE<br>(L/S)                 | HEAD<br>(IN W.C)                     | GAS MANIFOLD<br>PRESSURE<br>(IN.W.C)                     | HEAT INPUT<br>(KW)                                  | HEAT OUTPUT<br>(KW)               | TEMPERATURE<br>RISE RANGE (C°)  | V/Hz/P                                     | BLOWER<br>MOTOR FULL<br>LOAD (AMPS)              |                                      | MOTOR<br>(HP)          | DIMENSIONS<br>LxWxH (mm)               | SHIPPING<br>WEIGHT (KG) | NOTES  | 2016-11-01   |
| FU-1 M                                       | ECH ROOM                            | LENNOX - ML193UH070XP36B   | (L/ <b>3</b> )                             | 0.58                                 | 3.5/10   | 19.34   | 18.17                             | 4.4-21.1  | 120/60/1                                   | 6.1  | 15                                   | 1/3                    | 730x446x838                            | 57.6                    | C/W DX COOLING CC-1, SIDE RETURN AIR FILTER KIT,<br>FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN<br>COMFORTSENSE 7500- 7 DAY PROGRAMMABLE |  |
| FU-2,3 M                                     | ECH ROOM                            | LENNOX - ML193UH070XP36B   | 311/762                                    | 0.5                                  | 3.5/10   | 19.34   | 18.17                             | 4.4-21.1  | 120/60/1                                   | 6.1  | 15                                   | 1/3                    | 730x446x838                            | 57.6                    | C/W SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE<br>TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE  |  |
|  |                                     |  |  |                                      |  |   |                                   |   |  |  |                                      |                        |  |                         | 7500- 7DAY PROGRAMMABLE THERMOSTAT   |  |
|  |                                     |  |  |                                      |  |   | EVAPORA                           | TOR COIL SCI  | HEDULE                                     |  |                                      |                        |  |                         |  |  |
| TAG LC                                       | CATION                              | MANUF. AND   |  |                                      | INDOOR COIL  | DIMENSIONS  | SHIPPING                          |   |  |  |                                      | Ν                      | IOTES                                  |                         |  |  |
|  | ECH ROOM                            | MODEL/SERIES   | (TON<br>3.5                                |                                      | # ROWS   | LxWxH (mm)  | VEIGHT (IBS)                      |   |  |  |                                      |                        | CTED TO FU-1                           |                         |  |  |
|  |                                     |  |  |                                      |  |   | 27.2                              |   |  |  |                                      |                        |  |                         |  |  |
|  |                                     |  | -  |                                      |  |   | CONDENS                           | SING UNIT SCI   | HEDULE                                     |  |                                      |                        |  |                         |  |  |
| TAG LC                                       | CATION                              | MANUF. AND<br>MODEL/SERIES   | COOLING C                                  |                                      | OUT DOOR FAN<br>(L/S)                                    | OUT DOOR FAN<br>(RPM)                               | OUT DOOR FA                       | AN V/Hz/P   | MOTO<br>(HP)                               |  |                                      | DIMENSIOI<br>LxWxH (mi |  |                         | NOTES  | This drawing has of the CLIENT an  |
| CU-1   | DUTDOOR                             | LENNOX - 13ACXN-036-230  | 3  |                                      | 1132   | 1090  | 185                               | 208/1/60  | 1/5  | 35   | 22                                   | 617x617x74             |  | ,<br>                   | REFRIGERANT R-410A CHARGE  | any kind made<br>Planners to any<br>Engineers Planne   |
|  |                                     |  | 1  |                                      |  |   |                                   |   |  |  |                                      |                        |  |                         |  | This drawing sh<br>purposes until th   |
|  | DERS THIS SPECI                     | FICATION AND ANY ADDENDA HERETO FO   | ORM PART OF THE CON                        |                                      | S AND SHALL BE READ IN CON                               |   | 20.2.<br>20.3.                    |   | <b>Y</b> AS FOLLOWS:<br>LL PARTITIONS WITH | HIN ONE ROOM TO INTERC                           |                                      | RICAL DEVICES, EX      | CEPT THAT THE CONNECTIO                | N FROM THE JUNCTION E   | 30X ABOVE THE SUSPENDED CEILING DOWN TO THE FIRST  | and dated by the   |
| -,   | IALS UNLESS SPEC                    | IFICALLY NOTED OTHERWISE TO COMPLE   |  |                                      |  |   |                                   | ELECTRICAL DEVICE I<br>20.3.2. INDIVIDUAL DROPS FF<br>20.3.3. WITH THE ABOVE EXC          | ROM JUNCTION BOXE                          |  | UMINAIRES TO A M                     |                        |  | NG" OF LUMINAIRES IS NO | T PERMITTED).  | Project Compone<br>Phase # - D   |
|  |                                     | /INGS AND BE OF THE QUALITY SPECIFIE<br>SHALL BE OF THE BEST COMMERCIAL QU   |  |                                      | RDS OF THE CANADIAN STANE                                | DARDS ASSOCIATION. WHERE E                          | 20.4.                             | 20.3.4. WIRING SHALL BE COL<br>CONDUIT TO BE SIZED IN ACC                                 | CORDANCE WITH THE                          |  |                                      |                        |  |                         |  | Keyplan  |
| G THE PROGRESS OF T                          | HE WORK.                            | BY QUALIFIED TRADESMEN. ELECTRICA  |  |                                      |  | Y ASSISTANTS, ALL SATISFACTO                        | RY TO THE 20.5.                   | WIRING SHALL BE COLOUR C<br>120/208V 277/48<br>A PHASE RED ORAN                           | 30V 347/600V                               |  |                                      |                        |  |                         |  |  |
| ALLY CALLED FOR IN TH                        | IE SPECIFICATIONS                   | 5, UNIFORMITY OF MANUFACTURE SHALL   | BE MAINTAINED FOR AI                       |                                      |  | G.  |                                   | B PHASE BLACK BROW<br>C PHASE BLUE YELLO<br>NEUTRAL WHITE WHIT                            | OW YELLOW                                  |  |                                      |                        |  |                         |  |  |
|  |                                     | ITAINED FOR ANY PARTICULAR ITEM THROUGHOU  |  | NG.                                  |  |   | 20.6.                             | GROUND GREEN GREE<br>ALL LINE VOLTAGE WIRING SI   | EN GREEN                                   | IN CONDUIT.                                      |                                      |                        |  |                         |  |  |
| RAWINGS.<br>PPEAR BETWEEN THE                | DRAWINGS AND SP                     | TO THE OTHER, AND WHAT IS CALLED   | TRICAL CONTRACTOR                          | R IN DOUBT AS TO T                   | THE TRUE INTENT AND MEANIN                               |   | 20.8.                             | COMPUTER RECEPTACLES SI   | HALL BE COMPLETE                           | WITH A DEDICATED NEUTR                           | AL CONDUCTOR P                       | PER PHASE.             |  |                         | TION OF CONNECTORS OR TERMINATING CONDUCTORS.<br>DISTANCES (120VAC) TO MAINTAIN MAX. 3% VOLTAGE DROP                                     |  |
| ION  |                                     | , IT WILL BE ASSUMED THAT THE MOST E   |  |                                      |  | WOOD BUFFALO ELECTRICAL IN                          |                                   | ARE AS FOLLOWS:<br>20.9.1. 15A-1P BREAKER - #1  | 2AWG WIRING - 80                           | FEET (24 METRES)                                 |                                      | LEOTRIONE CODE.        |  |                         |  |  |
| R SHALL OBTAIN ALL I                         | PERMITS REQUIRED                    | D AT THEIR EXPENSE AND DISPLAY THE   | M IN THE ELECTRICAL                        | l room, and coop                     | RDINATE INSPECTIONS AS REC                               | QUIRED AND OBTAIN A FINAL IN                        | SPECTION                          | 20.9.2. 15A-1P BREAKER - #1<br>20.9.3. 20A-1P BREAKER - #1<br>20.9.4. 20A-1P BREAKER - #1 | 12AWG WIRING - 60                          | FEET (18 METRES)                                 |                                      |                        |  |                         |  | North Arrow  |
|  |                                     | SHALL CAREFULLY EXAMINE THE SITE A<br>A THOROUGH EXAMINATION OF THE SITE   |  | ONDITIONS, WHICH                     | I SHALL AFFECT HIS TRADE. N                              | NO EXTRAS WILL BE ALLOWED I                         |                                   | DEMOLITION<br>GENERAL   |  |  |                                      |                        |  |                         |  |  |
|  |                                     | IMES DURING CONSTRUCTION, KEEP THE   |  | ,                                    |  | ORK OF THIS TRADE.                                  |                                   | 21.1.1. ALL UNUSED AND ABE<br>21.1.2. ABANDONED BREAKE<br>21.1.3. AS NOTED ON DRAWI       | RS IN PANEL BOARD                          | S SHALL BE MARKED AS SF                          | PARE IF THEY NO L                    | LONGER SERVICE A       | NY LOAD.                               |                         | BUILDING MANAGEMENT SHALL BE REMOVED FROM SITE BY  |  |
| AND LAMPS SHALL BE                           | DONE WITH CLEAN                     | D OF GREASE, DIRT AND LINT AS REQUIRI<br>GLOVES. TO ENSURE CLEANLINESS AND   |  |                                      |  |   |                                   | THE CONTRACTOR.<br>21.1.4. THE CONTRACTOR SH  | HALL SEAL ALL UNUS                         | ED OPENINGS DUE TO ELE                           | CTRICAL DEMOLIT                      | TION TO ENSURE TH      | IAT FIRE-RESISTANCE RATING             |                         | O "FIRE STOPPING" SECTION OF THIS SPEC.  |  |
| R SHALL BE RESPONSI                          | BLE FOR CORRECT                     | ERTED FROM LANDFILL.   |  |                                      |  | BEAR ALL COSTS FOR SAME. W                          | 21.2.<br>HERE THE                 | 21.1.5. IF INDICATED ON DRA<br>LIGHTING<br>21.2.1. ALL UNUSED AND ABA                     |  |  |                                      |                        |  |                         |  |  |
| R SHALL GIVE THE WO<br>GS SHALL TAKE PRECE   | RK THEIR PERSONA<br>DENCE OVER SCAL |  | RK, DO ALL NECESSAR                        | RY LEVELLING AND M                   | MEASURING OR EMPLOY A CO                                 |   | 21.3.                             | 21.2.2. EXISTING BUILDING LU<br>POWER   |  |  |                                      |                        |  |                         |  | Consultants<br>Civil:  |
| O ALLOW NECESSARY                            | OPENINGS TO BE LI                   | IUST BE BUILT IN WITH THE WORK OF OT<br>EFT SO AS NOT TO HOLD UP THE WORK.<br>AUSED TO THE OWNER OR ANY OF THE C         | ,  |                                      |  |   | ENT TO BE                         | 21.3.1. ALL CIRCUITS ORIGIN<br>21.3.2. THE ELECTRICAL CON<br>21.3.3. ALL ELECTRICAL DEV   | ITRACTOR SHALL IN                          | FORM THE ENGINEER OF A                           | NY DEFICIENCIES                      | THAT ARE ENCOUN        |  |                         |  | Landscape:<br>Architectural:<br>Structural:  |
| GHT TO CHANGE LOC.                           | ATION OF OUTLETS                    | S TO WITHIN 3.0 METRES OF POINTS IN  | NDICATED ON PLANS                          | WITHOUT EXTRA C                      | CHARGE PROVIDING ELECTRIC                                | CAL CONTRACTOR IS ADVISED                           |                                   |   |  |  |                                      |                        | RUN SHALL BE RE-FED TO BE              | COME FULLY FUNCTIONAL   | TO THE SATISFACTION OF THE ENGINEER.   | Mechanical: 1<br>Electrical: 1   |
| NG<br>RESPONSIBLE FOR A                      | L CUTTING AND P                     | ATCHING REQUIRED FOR THE ELECTRIC  | CAL INSTALLATION. ST                       | TRUCTURAL MEMBE                      | ERS SHALL NOT BE CUT WITH                                | OUT THE CONSENT OF THE ST                           | RUCTURAL 21.5.                    | 21.4.1. N/A<br>SYSTEMS<br>21.5.1. SECURITY DEVICES A                                      |  |  |                                      |                        |  |                         |  | Seal(s)  |
| RILLED FOR CONDUIT I                         | NSTALLATION TO W                    | OTHER TRADES, THE ELECTRICAL CONTR   | TTINGS THE FLOOR SH                        | HALL BE DRY CORE                     | DRILLED. AFTER CONDUIT INS                               |   | 22.                               | WIRING DEVICES<br>BOXES, EXCEPT WHERE OTH   |  |  |                                      |                        |  |                         |  |  |
| ,  |                                     | O PAY FOR ALL ASSOCIATED X-RAY COST  |  |                                      |  |   | 22.2.<br>22.3.                    | FLUSH MOUNTING VOICE/DAT  | A WALL OUTLETS SH                          | HALL BE NO. 52151 SERIES (                       | 4-INCH SQUARE, 1                     |                        |  |                         | R SINGLE OR 2-GANG OUTLETS OR 4-GANG OUTLETS.  | WALE   |
| SSIBLE TO SERVICE                            | CERTAIN EQUIPME                     | IESE BOXES ARE TO BE LOCATED IN REM<br>ENT THROUGH REMOVABLE TYPE CEILIN<br>QUIRED FOR SERVICING OF SUCH WORK.           |  |                                      |  |   | 22.4.<br>ENGINEER, 22.5.<br>22.6. | USE A SINGLE COVER PLATE<br>GANG BOXES AND WIRING DE<br>SECTIONAL TYPE BOXES OR I         | EVICES ARE GROUPE                          | ED. ELECTRO-GALVANIZED                           |                                      | IG BOXED SHALL BE      | USED WHERE MORE THAN 2                 | DEVICES ARE GANGED TO   | DGETHER.   | PESSO<br>PFESSO  |
|  |                                     | CCESS PANELS TO BE OF NOT LESS TH  |  | , PRIME COATED AI                    | ND PAINTED ON THE JOB TO                                 | MATCH THE WALL OR CEILING                           | FINISH AS 22.7.<br>22.8.          | RECEPTACLES SHALL BE WHI<br>SPECIAL RECEPTACLES WILL                                      | BE AS SHOWN ON T                           | HE DRAWINGS.                                     |                                      |                        |  |                         |  | Ores   |
| PPORTS, HANGER                               |                                     | S, CHANNEL FRAMES, CONDUIT RACK  |  | BRACKETS, CLAMP                      | 'S, ETC., SHALL HAVE GALV.                               | ANIZED FINISH OR PAINT FIN                          | ISH OVER                          | RECEPTACLES TO BE OF SPE<br>PLATES FOR ALL FLUSH MOU<br>P-TOUCH ADHESIVE LABEL CO         | NTING DEVICES SHA                          | LL BE WHITE DECORA. EXIS                         | STING DAMAGED F                      | FACEPLATES ARE T       | O BE REPLACED WITH NEW.                |                         |  | Nov. (   |
| r.<br>Dry finished Units ti<br>Finished.     | IAT ARE SCRATCHE                    | ED OR MARKED DURING INSTALLATIONS  | SHALL BE TOUCHED UF                        | P WITH MATCHING S                    | SPRAY OR DRY LACQUER AND                                 | IF REQUIRED TO PROVIDE SATI                         | REACTORY                          | TRACE CIRCUITS FOR EXISTII  |  |  |                                      |                        |  |                         |  |  |
|  |                                     |  |  |                                      |  |   | 23.1.                             | CONDUIT SUPPORTS<br>23.1.1. SINGLE RUNS - TO BE<br>23.1.2. MULTIPLE RUNS (THR             |  |  | RANGE 1 TYPE HA                      | ANGERS                 |  |                         |  |  |
| RE ALARM EQUIPMENT<br>MINIMUM 5 BUSINESS     | AND TELECOMMUN<br>DAYS TO RETURN R  | W, ONE (1) SET OF ELECTRONIC SHOP D<br>ICATIONS EQUIPMENT AND CABLING.<br>REVIEWED SHOP DRAWINGS.                        |  |                                      | UDISTRIBUTI  | 2.4, LUIVIIIVAIRES, EXIT SIGNS, O                   | CCUPANCY<br>23.2.                 | 23.1.2. MULTIPLE RUNS (THR<br>23.1.3. VERTICAL RUNS - CHA<br>INSTALL TO MAINTAIN HEADR    | ANNEL SUPPORT WIT                          | TH CONDUIT FITTINGS.                             | ) SUPPORT EQUIP                      | PMENT LOADS REQU       | JIRED.                                 |                         |  | ARCHITECTS ENG   |
| ECIFIC TO THIS PROJE<br>WINGS WITHOUT CONT   | CT ONLY. GENERIC<br>RACTOR REVIEWED | ARE UNCLEAR WILL BE REJECTED AND R<br>C DRAWINGS WILL NOT BE ACCEPTED. II<br>D STAMP WILL BE RETURNED REJECTED F         | NDICATING ARROWS S<br>FOR RESUBMISSION.    | shall highlight t                    |  |   | 23.4.                             | WHERE INSERTS ARE REQUIN<br>ALL ELECTRICAL DISTRIBUTION<br>THE USE OF ANY PART OF TH      | ON INCLUDING CABL                          | E TRAY AND CONDUIT, WHI                          | CH IS MOUNTED AI                     | BOVE THE SUSPEN        | DED CEILING, SHALL BE SUPP             | PORTED DIRECTLY AND IN  | DEPENDENTLY FROM THE CONCRETE SLAB.  | An Ingenium Grou<br>411 - 1st Stree<br>Suite 2300,   |
|  | MATERIALS. THE<br>PANYING SUCH DR/  |  |  |                                      |  |   | - /                               | THE USE OF ANY PART OF TH<br>THE USE OF ANY DRYWALL O<br>SUPPORT HANGERS AND OTH          | R WALL PARTITION A                         | AS A SUPPORT OR FOUNDA                           | TION FOR CABLE 1                     | TRAY OR CONDUIT        | ROUTED HORIZONTALLY THR                | OUGH THE CEILING SPAC   | E IS FORBIDDEN.  | Calgary, Alber<br>www.norr.com   |
| TO THE RETURN OF R                           | EVIEWED SHOP DR/                    | AWINGS IS DONE AT THE RISK OF THE CC   |  |                                      |  |   | 23.8.<br>24.                      | ALL EQUIPMENT THAT MAY TH<br>GROUNDING  | RANSMIT VIBRATION                          | TO THE BUILDING STRUCT                           | URES IS TO BE INS                    | STALLED USING SU       | TABLE METHODS TO PREVEN                | IT THE TRANSMISSION OF  | THE VIBRATIONS TO THE BUILDING STRUCTURE.  | A Partnership o<br>Poon McKenzie Architects (Alb<br>NORR is a trademark owned by<br>Victor Smith, Architect, A   |
| ETS, CONDUIT, LUMINAI<br>CLEARLY MARKED IN F | RES EQUIPMENT BE                    | ET OF WHITE PRINTS TO BE USED FOR RE<br>REAKER CHANGES IN PANELS, ETC. AS AC<br>. CHANGES TO THE ORIGINAL TENDER DR      | CTUALLY INSTALLED ON<br>RAWINGS COVERED BY | N THE JOB. ANY CH<br>ADDENDA, CHANGE | HANGES TO THE CONTRACT WO<br>E ORDERS, FIELD CHANGES, JO | DRK SHALL BE SIMILARLY RECORD<br>B CONDITIONS, ETC. | 24.2.                             | SUPPLY AND INSTALL COMPL<br>ALL COMPONENTS SHALL BE<br>FOR TELEPHONE, LOW VOLTA           | SECURELY AND ADE                           | EQUATELY GROUNDED AND                            | WHERE REQUIRE                        | ED TO ACCOMPLISH       | THE GROUNDING STUDS AN                 |                         | ED. ENSURE THAT ALL RACEWAYS, TERMINAL PANELS, ETC.,   | Victor Smith, Architect, A.<br>Ronald M. Poon, Architect<br>Bruce G. McKenzie, Archit<br>A. Silvio Baldassarra, Arch<br>Adrian Todeila, P.Eng., AF<br>Chris Pal, P.Eng., APEGA |
|  |                                     | -BUILT DRAWINGS ARE RECEIVED BY THE  |  |                                      | ) BE TURNED OVER TO THE EN                               | GINEER AT TIME OF FINAL INSPE                       | 24.3.<br>25.                      | PROVIDE 1#6 INSULATED GRO<br>MECHANICAL EQUIPMENT WI                                      | RING                                       |  |                                      |                        |  |                         |  |  |
| EQUIPMENT SHALL HA                           | VE A LAMACOID NA                    | IMEPLATE FASTENED TO THE OUTSIDE FF  | Ront of the equipme                        | ENT.                                 | XX. SUBMIT PROPOSED TAGGI                                | NG FOR ENGINEER'S APPROVAL                          |                                   | ELECTRICAL CONTRACTOR.  | LS AND CONTROL W                           | IRING WILL BE THE RESPO<br>CONTROLS CONTRACTOR F | NSIBILITY OF THE<br>OR LOCATION.     | MECHANICAL TRA         | DE AND/OR HIS CONTROL SU               |                         | TION FOR CONTROLS CONTRACTOR SHALL BE PROVIDED BY  | Project Manager<br>D.HIDER<br>Project Leader   |
|  | THE SYSTEM AND                      |  |  |                                      |  |   | 25.3.<br>26.<br>26.1.             | ELECTRICAL CONTRACTOR S<br>ENGINEER'S INSPECTIONS<br>AT MINIMUM, AN INSPECTION            |  | ,  | - , -                                | ,                      |  | AL EQUIPMENT BEFORE II  | NSTALLATION OF CONDUITS, OUTLETS, HEATERS ETC.   | Project Leader<br>D.HIDER<br>Client  |
| IER SYSTEMS CABLES                           | AND DEVICES ARE                     | D PANEL IDENTIFICATION. UTILIZE P-TOUC<br>TO BE IDENTIFIED AS PER THE EIA/TIA 60<br>D WITH P-TOUCH LABEL INDICATING PANE | 06 STANDARDS. CONFIF                       | RM PROTOCOL WITH                     | H OWNER OR ENGINEER PRIOF                                | R TO COMMENCEMENT OF LABEL                          | S. 26.2.<br>26.3.                 | THE ELECTRICAL CONTRACTOR   | OR SHALL ADVISE TH                         | HE ENGINEER WHEN ALL WO                          | ORK HAS BEEN CC<br>AL OF ALL CEILING | OMPLETED ABOVE         | THE SUSPENDED CEILING, EIT<br>PURPOSES |                         |  | RCMP   |
| RTION OF THE ELECTRI                         | CAL SYSTEM, PERF                    | KED FOR SATISFACTORY OPERATION.  | RESULTS OF SUCH TE                         | ESTS SHALL CONFC                     | ORM TO THE REQUIREMENTS (                                | OF THE CANADIAN ELECTRICAL                          | 26.4.<br>CODE AND                 | THE ELECTRICAL CONTRACT   | OR SHALL NOTIFY TH                         | HE ENGINEER AND SHALL A                          | LLOW AT LEAST 3                      | WORKING DAYS NO        | DTICE OF THE INSTALLATION              | OF CEILING.             |  | Project  |
| THE ENGINEER FOR AF                          | PROVAL<br>UM REQUIREMENT            | ICY AND THE ENGINEER.  | ELECTRICAL CODE, AL                        | UTHORIZED INSPEC                     | CTION AGENCY AND THE ENG                                 | NEER SHALL BE REPAIRED IN                           | A METHOD                          |   |  |  |                                      |                        |  |                         |  | BASHAV<br>RCMP DET   |
|  | PRIOR TO FINAL IN                   | CONTRACTOR.<br>NSPECTION AND TAKEOVER, CHECK THE<br>IG LOAD CURRENT BALANCE. IF LOAD UN                                  |  |                                      |  | -   | E CARRIED                         |   |  |  |                                      |                        |  |                         |  | RENOVATIO  |
|  |                                     | M DEFECTS OF MATERIAL AND WORKMA   |  |                                      |  |   |                                   |   |  |  |                                      |                        |  |                         |  | Drawing Title<br>MECHA   |
|  | OWN EXPENSE, REP                    | PAIR AND REPLACE ALL SUCH DEFECTIVE  |  | .,                                   |  |   | ·                                 |   |  |  |                                      |                        |  |                         |  | SPECIFICA<br>AND SCHE  |
| EE SPECIFIED SHALL IN                        | NO WAY SUPPLAN                      | T ANY OTHER GUARANTEE OF A LONGER<br>PERIOD DATES FOR ALL EQUIPMENT.   | PERIOD BUT SHALL BE                        | E BINDING ON WORK                    | K NOT OTHERWISE COVERED.                                 |   |                                   |   |  |  |                                      |                        |  |                         |  | Check Scale (may   |
| WITH RW90 X-I INK INS                        | II ATION IN ELECTR                  | RICAL METALLIC TUBING UNLESS INDICAT   | ED OTHERWISE ON DR                         | RAWINGS.                             |  |   |                                   |   |  |  |                                      |                        |  |                         |  | Project No.  |

|  |  |   | -  | 1                                    |  |  | FURI  | NACE SCHEDU  | ILE                                     |  | -                               |                        |  |                         |   | 2016-09-30   |
|--|--|---|--|--------------------------------------|--|--|---|--|---|--|---------------------------------|------------------------|--|-------------------------|---|--|
| TAG LO   | CATION   | MANUF. AND<br>MODEL/SERIES  | AIR FLOW<br>RANGE<br>(L/S)                 | HEAD<br>(IN W.C)                     | GAS MANIFOLD<br>PRESSURE<br>(IN.W.C)                   | HEAT INPUT<br>(KW)                             | HEAT OUTPUT<br>(KW)                                 | T TEMPERATURE<br>RISE RANGE (C°)   | V/Hz/P                                  | BLOWER<br>MOTOR FULL<br>LOAD (AMPS)                | MOCP<br>(AMPS)                  | MOTOR<br>(HP)          | DIMENSIONS<br>LxWxH (mm)                         | SHIPPING<br>WEIGHT (KG  | ) NOTES   | 2016-11-01<br>2016-11-10   |
| FU-1 ME  | CH ROOM  | LENNOX - ML193UH070XP36B  | 558  | 0.58                                 | 3.5/10   | 19.34  | 18.17   | 4.4-21.1   | 120/60/1                                | 6.1  | 15                              | 1/3                    | 730x446x838                                      | 57.6                    | C/W DX COOLING CC-1, SIDE RETURN AIR FILTER KIT<br>FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN<br>COMFORTSENSE 7500- 7 DAY PROGRAMMABLE |  |
| FU-2,3 ME  | CH ROOM  | LENNOX - ML193UH070XP36B  | 311/762                                    | 0.5                                  | 3.5/10   | 19.34  | 18.17   | 4.4-21.1   | 120/60/1                                | 6.1  | 15                              | 1/3                    | 730x446x838                                      | 57.6                    | C/W SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE<br>TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE   |  |
|  |  |   |  |                                      |  |  |   |  |   |  |                                 |                        |  |                         | 7500- 7DAY PROGRAMMABLE THERMOSTAT  |  |
|  |  |   |  |                                      |  |  | EVAPORA   | TOR COIL SCI   | HEDULE                                  |  |                                 |                        |  |                         |   |  |
| TAG LO   | CATION   | MANUF. AND<br>MODEL/SERIES  | COOLING C                                  |                                      | INDOOR COIL<br># ROWS                                  | DIMENSIONS<br>LxWxH (mm)                       | SHIPPING<br>WEIGHT (IBS)                            |  |   |  |                                 | N                      | OTES   |                         |   |  |
| CC-1 ME  | ECH ROOM                                       | LENNOX - CX34-43B-6F  | 3.5  |                                      | 3  | 533x445x699                                    | 27.2  |  |   |  |                                 | CONNE                  | CTED TO FU-1                                     |                         |   |  |
|  |  |   |  |                                      |  |  |   |  |   |  |                                 |                        |  |                         |   |  |
|  |  |   |  |                                      |  |  |   | SING UNIT SCI  |   |  |                                 |                        |  |                         |   |  |
| TAG LO   | CATION   | MANUF. AND<br>MODEL/SERIES  | COOLING C                                  |                                      | OUT DOOR FAN<br>(L/S)                                  | OUT DOOR FAN<br>(RPM)                          | I OUT DOOR F<br>(W)                                 | FAN V/Hz/P   | MOTC<br>(HP)                            |  |                                 | DIMENSION<br>LxWxH (mn |  |                         | NOTES   | This drawing has<br>of the CLIENT and<br>any kind made   |
| CU-1 O   | OUTDOOR  | LENNOX - 13ACXN-036-230   | 3  |                                      | 1132   | 1090   | 185   | 208/1/60   | 1/5                                     | 35   | 22                              | 617x617x744            | 68.  | 5                       | REFRIGERANT R-410A CHARGE   | Planners to any pa<br>Engineers Planners   |
|  |  |   |  |                                      |  |  | 20.2.   | NO WIRE SMALLER THAN NO.   |   | ALL BE USED FOR BRANCH (                           | CIRCUIT WIRING.                 |                        |  |                         |   | This drawing sha<br>purposes until the<br>and dated by the A   |
| ,  | -,   | FICATION AND ANY ADDENDA HERETO FO<br>IFICALLY NOTED OTHERWISE TO COMPL   |  |                                      |  |  |   | 20.3.1. WITHIN NEW DRYWAI<br>ELECTRICAL DEVICE I   | LL PARTITIONS WITH<br>N THE DRYWALL SH  | ALL BE WIRED IN THE EMT C                          | CONDUIT.                        | , -                    |  |                         | BOX ABOVE THE SUSPENDED CEILING DOWN TO THE FIRST   | Project Componen   |
| SCRIBED HEREIN AND SI<br>WORKMANSHIP                           |  |   |  |                                      |  |  |   | 20.3.2. INDIVIDUAL DROPS FF<br>20.3.3. WITH THE ABOVE EXC<br>20.3.4. WIRING SHALL BE CO  | CEPTIONS, ALL 120-V<br>LOUR CODED TO MA | OLT BRANCH CIRCUIT WIRI                            | NG MUST BE INST.<br>DN.         |                        |  | Or LOWINAIRED IS N      | <b></b>   | Phase # - De<br>Keyplan  |
| BY TECHNICAL DESCRIF   | PTION ONLY, THEY                               | INGS AND BE OF THE QUALITY SPECIFIE<br>SHALL BE OF THE BEST COMMERCIAL Q<br>BY QUALIFIED TRADESMEN. ELECTRICA                           | UALITY OBTAINABLE FO                       | OR THE PURPOSE.                      |  |  | 20.4.   | WIRING SHALL BE COLOUR C   |   | E CANADIAN ELECTRICAL CO                           | DDE.                            |                        |  |                         |   |  |
|  |  | ND SHALL BE MINIMUM OF THE CURRENT  |  |                                      |  |  |   | A PHASE RED ORAN<br>B PHASE BLACK BROW<br>C PHASE BLUE YELLO                             | VN BROWN                                |  |                                 |                        |  |                         |   |  |
|  |  | FOR ANY PARTICULAR ITEM THROUGHO<br>TAINED FOR ANY PARTICULAR ITEM THR  |  | NG.                                  |  |  | 20.6.   | NEUTRAL WHITE WHI<br>GROUND GREEN GREI<br>ALL LINE VOLTAGE WIRING SI                     | EN GREEN                                | IN CONDUIT.  |                                 |                        |  |                         |   |  |
| ATIONS ARE COMPLEM<br>AWINGS.<br>PEAR BETWEEN THE D            | RAWINGS AND SPE                                | TO THE OTHER, AND WHAT IS CALLED  | CTRICAL CONTRACTOR                         | IN DOUBT AS TO T                     | THE TRUE INTENT AND MEANII                             |  | 20.8.   | COMPUTER RECEPTACLES SI  | HALL BE COMPLETE                        | WITH A DEDICATED NEUTR                             | AL CONDUCTOR P                  | PER PHASE.             |  |                         | ATION OF CONNECTORS OR TERMINATING CONDUCTORS.<br>R DISTANCES (120VAC) TO MAINTAIN MAX. 3% VOLTAGE DROP                                 |  |
| ON   |  | IT WILL BE ASSUMED THAT THE MOST E  |  |                                      |  | F WOOD BUFFALO ELECTRICA                       |   | ARE AS FOLLOWS:<br>20.9.1. 15A-1P BREAKER - #1<br>20.9.2. 15A-1P BREAKER - #1            | 2AWG WIRING - 80                        | FEET (24 METRES)                                   |                                 |                        |  |                         |   |  |
| Shall obtain all pi  | ERMITS REQUIRED                                | ) AT THEIR EXPENSE AND DISPLAY THE  | EM IN THE ELECTRICAL                       | ROOM, AND COO                        | RDINATE INSPECTIONS AS RE                              | equired and obtain a fina                      |   | 20.9.3. 20A-1P BREAKER - #*<br>20.9.4. 20A-1P BREAKER - #*                               |   | ,  |                                 |                        |  |                         |   | North Arrow  |
|  |  | SHALL CAREFULLY EXAMINE THE SITE A<br>A THOROUGH EXAMINATION OF THE SITI  |  | ONDITIONS, WHICH                     | I SHALL AFFECT HIS TRADE.                              | NO EXTRAS WILL BE ALLOWE                       | 21.<br>ED FOR WORK 21.1.                            | DEMOLITION<br>GENERAL<br>21.1.1. ALL UNUSED AND ABE                                      | 3ANDONNED CONDU                         | IT, WIRE, HANGERS, ETC. SI                         | HALL BE REMOVE                  | D FROM THE CEILIN      | SPACE.   |                         |   |  |
| ORK, THE ELECTRICAL I  | INSTALLATION SHA                               | MES DURING CONSTRUCTION, KEEP THE<br>ILL BE LEFT IN A CLEAN FINISHED CONDI<br>) OF GREASE, DIRT AND LINT AS REQUIR                      | ITION TO THE SATISFAC                      | -,, -                                | -, -,  | NORK OF THIS TRADE.                            |   | 21.1.2. ABANDONED BREAKE<br>21.1.3. AS NOTED ON DRAW<br>THE CONTRACTOR.                  |   |  |                                 |                        |  | MENT NOT REQUIRED BY    | BUILDING MANAGEMENT SHALL BE REMOVED FROM SITE BY   |  |
|  |  | GLOVES. TO ENSURE CLEANLINESS AND<br>ERTED FROM LANDFILL.   | ) LAMP LIFE.                               |                                      |  |  | 21.2  | 21.1.4. THE CONTRACTOR SH<br>21.1.5. IF INDICATED ON DRA<br>LIGHTING                     |   |  |                                 |                        |  | IG IS MAINTAINED. REFER | TO "FIRE STOPPING" SECTION OF THIS SPEC.  |  |
| PECIFICATIONS IS NO  | T CLEAR, HE SHALI                              | ING ALL WORK COMPLETED CONTRARY<br>L OBTAIN THE CLARIFICATION OF THE EN<br>L SUPERVISION, LAY OUT HIS OWN WOI                           | NGINEER BEFORE PROC                        | CEEDING WITH THE                     | WORK.  |  | . WHERE THE<br>SO. FIGURES,                         | 21.2.1. ALL UNUSED AND ABA<br>21.2.2. EXISTING BUILDING LI                               | ,                                       | ,,   |                                 |                        |  |                         |   | Consultants  |
| ALLOW NECESSARY C  | AL CONTRACTOR M<br>DPENINGS TO BE LE           | UST BE BUILT IN WITH THE WORK OF OT<br>EFT SO AS NOT TO HOLD UP THE WORK.   |  |                                      |  |  | 21.3.<br>IPMENT TO BE                               | POWER<br>21.3.1. ALL CIRCUITS ORIGIN<br>21.3.2. THE ELECTRICAL CON                       |   |  |                                 |                        |  |                         |   | Civil:<br>Landscape:<br>Architectural:   |
|  |  | AUSED TO THE OWNER OR ANY OF THE O  |  |                                      |  |  | ed prior to<br>21.4.                                |  |   |  |                                 |                        | UN SHALL BE RE-FED TO B                          | ECOME FULLY FUNCTION    | AL TO THE SATISFACTION OF THE ENGINEER.   | Structural:<br>Mechanical: NC<br>Electrical: NC  |
| g<br>Responsible for Ali                                       | L CUTTING AND PA                               | ATCHING REQUIRED FOR THE ELECTRIC   | CAL INSTALLATION. ST                       | TRUCTURAL MEMBI                      | ERS SHALL NOT BE CUT WITH                              | HOUT THE CONSENT OF THE                        |   | 21.4.1. N/A<br>SYSTEMS   |   |  |                                 |                        |  |                         |   | Seal(s)  |
| RILLED FOR CONDUIT IN  | ISTALLATION TO W                               | OTHER TRADES, THE ELECTRICAL CONTI  | ITTINGS THE FLOOR SH                       | HALL BE DRY CORE                     | DRILLED. AFTER CONDUIT IN                              |  | 22.   | 21.5.1. SECURITY DEVICES A<br>WIRING DEVICES<br>BOXES, EXCEPT WHERE OTH                  |   |  |                                 |                        |  |                         |   |  |
| ,  |  | O PAY FOR ALL ASSOCIATED X-RAY COS  |  |                                      |  |  | 22.2.<br>22.3.<br>22.4.                             | FLUSH MOUNTING VOICE/DAT   | A WALL OUTLETS SI                       | HALL BE NO. 52151 SERIES (                         | 4-INCH SQUARE, <sup>2</sup>     |                        |  |                         | DR SINGLE OR 2-GANG OUTLETS OR 4-GANG OUTLETS.  | NAL EN   |
| OSSIBLE TO SERVICE (<br>UPPLY AND INSTALL AC                   | CERTAIN EQUIPME                                | ESE BOXES ARE TO BE LOCATED IN REM<br>NT THROUGH REMOVABLE TYPE CEILIN<br>QUIRED FOR SERVICING OF SUCH WORK                             | NGS OR RECESSED LU<br>K.                   | IMINAIRES AND WH                     | IERE SPECIAL PERMISSION H                              | AS BEEN OBTAINED FROM TH                       | HE ENGINEER, 22.5.<br>22.6.                         | GANG BOXES AND WIRING DE<br>SECTIONAL TYPE BOXES OR                                      | EVICES ARE GROUPE<br>HANDY BOXES SHAL   | ED. ELECTRO-GALVANIZED \$<br>.L NOT BE USED.       | STEEL MULTI GAN                 |                        |  | 2 DEVICES ARE GANGED 1  | OGETHER.  | OFESS  |
|  |  | CCESS PANELS TO BE OF NOT LESS TH   |  | , OUATED A                           |  | OR CELL  | NG FINISH AS 22.7.<br>22.8.<br>22.9.                | SPECIAL RECEPTACLES WILL   | BE AS SHOWN ON T                        | HE DRAWINGS.                                       |                                 |                        |  | BETTS, COOPER WIRING E  | DEVICES.  | AN. IN   |
| Y FINISHED UNITS TH  |  | , CHANNEL FRAMES, CONDUIT RACK  |  |                                      |  |  | 22.11.  | PLATES FOR ALL FLUSH MOU<br>P-TOUCH ADHESIVE LABEL CO<br>TRACE CIRCUITS FOR EXISTII      | OMPLETE WITH A MI                       | NIMUM 5MM LETTERS TO BE                            | PROVIDED ON A                   | LL EXISTING AND NE     |  | NG CIRCUIT AND PANEL D  | ESIGNATION.   |  |
| INISHED.   |  |   |  |                                      |  |  | 22.12.<br>23.<br>23.1.                              | SUPPORTING DEVICES<br>CONDUIT SUPPORTS   |   |  |                                 |                        |  |                         |   |  |
| LL SUBMIT TO THE ENG<br>E ALARM EQUIPMENT A                    | GINEER FOR REVIE                               | ALL SHOP DRAWINGS PRIOR TO SUBMIT<br>W, ONE (1) SET OF ELECTRONIC SHOP E<br>ICATIONS EQUIPMENT AND CABLING.                             |  |                                      | T NOT LIMITED TO DISTRIBUTI                            | ION, LUMINAIRES, EXIT SIGNS                    | , OCCUPANCY   | 23.1.1. SINGLE RUNS - TO BE<br>23.1.2. MULTIPLE RUNS (THR<br>23.1.3. VERTICAL RUNS - CH/ | EE OR MORE) - CON                       | DUIT RACK  | KANGE 1 TYPE HA                 | angeRS                 |  |                         |   |  |
| ST BE LEGIBLE. SHOP D  | DRAWINGS WHICH A                               | EVIEWED SHOP DRAWINGS.<br>ARE UNCLEAR WILL BE REJECTED AND F<br>: DRAWINGS WILL NOT BE ACCEPTED. I<br>9 STAMP WILL BE RETURNED REJECTED | INDICATING ARROWS S                        |                                      | THE PRODUCT FOR REVIEW. (                              | GENERIC DRAWINGS, DRAWI                        | 23.2.<br>NGS WITHOUT<br>23.4.                       | WHERE INSERTS ARE REQUIR   | RED IN CONCRETE, E                      | EXPANSION INSERTS, LEAD                            | INSERTS OR PLAS                 | STIC INSERTS MAY B     | E USED IN DRILLED HOLES.                         |                         | NOT PERMITTED.<br>NDEPENDENTLY FROM THE CONCRETE SLAB.  | ARCHITECTS ENGI<br>An Ingenium Group<br>411 - 1st Street   |
| OP DRAWINGS SHALL<br>AND FURNISHING OF I<br>RING LETTER ACCOMP | BE FOR GENERAL MATERIALS. THE PANYING SUCH DRA | DESIGN ONLY AND SHALL NOT RELIEVE<br>REVIEW SHALL NOT BE CONSTRUED AS<br>AWINGS.  | THE ELECTRICAL CON                         |                                      |  |  | FITTING, AND23.5.RES ARE NOT23.6.                   | THE USE OF ANY PART OF TH<br>THE USE OF ANY DRYWALL O                                    | IE CEILING SUSPENS                      | SION SYSTEM AS A SUPPOR<br>AS A SUPPORT OR FOUNDA  | T OR FOUNDATIO                  | N FOR THE SUSPENS      | ION OF CABLE TRAY, CONE<br>OUTED HORIZONTALLY TH | DUIT OR FLEXIBLE CONDU  | IT IS FORBIDDEN.<br>CE IS FORBIDDEN.  | Suite 2300,<br>Calgary, Alberta<br>www.norr.com  |
|  | VIEWED SHOP DRA                                | AWINGS IS DONE AT THE RISK OF THE CO  |  |                                      |  |  | 23.7.<br>23.8.<br>24.                               | SUPPORT HANGERS AND OTH<br>ALL EQUIPMENT THAT MAY TI<br>GROUNDING                        |   |  |                                 |                        |  |                         | R.<br>F THE VIBRATIONS TO THE BUILDING STRUCTURE.   | A Partnership of L<br>Poon McKenzie Architects (Alberta<br>NORR is a trademark owned by Ing  |
| S, CONDUIT, LUMINAIR   | RES EQUIPMENT BR                               | T OF WHITE PRINTS TO BE USED FOR RE<br>REAKER CHANGES IN PANELS, ETC. AS A<br>CHANGES TO THE ORIGINAL TENDER DF                         | CTUALLY INSTALLED OI<br>RAWINGS COVERED BY | N THE JOB. ANY CH<br>ADDENDA, CHANGI | ANGES TO THE CONTRACT W<br>E ORDERS, FIELD CHANGES, JO | ORK SHALL BE SIMILARLY RECORD CONDITIONS, ETC. | CORDED. 24.2.                                       | FOR TELEPHONE, LOW VOLTA   | SECURELY AND ADI<br>AGE, FIRE ALARM, C/ | EQUATELY GROUNDED AND<br>ABLE TRAY, SOUND, ETC., A | WHERE REQUIRE<br>RE SECURELY AN | ED TO ACCOMPLISH       | THE GROUNDING STUDS AN                           |                         | T.<br>SED. ENSURE THAT ALL RACEWAYS, TERMINAL PANELS, ETC.,   | Victor Smith, Architect, AAA<br>Ronald M. Poon, Architect, A<br>Bruce G. McKenzie, Architec<br>A. Silvio Baldassarra, Archit<br>Adrian Todeila, P.Eng., APEG<br>Chris Pal, P.Eng., APEGA |
| CAL EQUIPMENT USING  |  | BUILT DRAWINGS ARE RECEIVED BY THE  | EN LABELS ARE UNACCE                       | EPTABLE.                             | URNED OVER TO THE EN                                   | NGINEER AT TIME OF FINAL IN                    | SPECTION.         24.3.           25.         25.1. | PROVIDE 1#6 INSULATED GRO<br>MECHANICAL EQUIPMENT WI<br>ELECTRICAL CONTRACTOR T          | RING                                    |  |                                 | REQUIRED FOR MEC       | IANICAL EQUIPMENT.                               |                         |   | Project Manager  |
| CONTAIN A MINIMUM  | OF; THE EQUIPMEN                               | MEPLATE FASTENED TO THE OUTSIDE F<br>NT NAME, VOLTAGE, PHASE, WIRE (3 OR  |  |                                      | XX. SUBMIT PROPOSED TAGG                               | SING FOR ENGINEER'S APPRO                      | 25.2.   | ELECTRICAL CONTRACTOR.   | COORDINATE WITH                         | CONTROLS CONTRACTOR F                              | OR LOCATION.                    |                        |  |                         | TION FOR CONTROLS CONTRACTOR SHALL BE PROVIDED BY   | D.HIDER<br>Project Leader  |
| BELED WITH THE CIRCU   | THE SYSTEM AND C<br>UIT NUMBERS AND            | DR CIRCUITS CONTAINED WITHIN.<br>PANEL IDENTIFICATION. UTILIZE P-TOUC   |  |                                      |  |  | 26.<br>26.1.  | ENGINEER'S INSPECTIONS<br>AT MINIMUM, AN INSPECTION                                      | WILL BE CARRIED C                       | OUT BY THE ENGINEER AT R                           | OUGH-IN STAGE A                 | AND AT COMPLETION      |  |                         |   | D.HIDER<br>Client  |
| ) EMERGENCY CIRCUIT  | TS TO BE LABELLED                              | TO BE IDENTIFIED AS PER THE EIA/TIA 60  |  |                                      |  |  | BELS. 26.2.<br>26.3.<br>26.4.                       | FAILURE TO NOTIFY THE ENG  | INEER IN TIME WILL                      | NECESSITATE THE REMOVA                             | AL OF ALL CEILING               | FOR INSPECTION P       | URPOSES  |                         |   | RCMP   |
| TION OF THE ELECTRIC<br>N OF THE AUTHORIZED                    | CAL SYSTEM, PERFO                              | ED FOR SATISFACTORY OPERATION.<br>ORM MEGGER TESTS ON ALL FEEDERS<br>CY AND THE ENGINEER.   | S. RESULTS OF SUCH TE                      | ESTS SHALL CONFO                     | DRM TO THE REQUIREMENTS                                | OF THE CANADIAN ELECTRIC                       | AL CODE AND   |  |   |  |                                 |                        |  |                         |   | Project<br>BASHAW  |
| ND RETESTED AT THE   | JM REQUIREMENTS                                | S OF THE MANUFACTURER, CANADIAN<br>CONTRACTOR.<br>INSPECTION AND TAKEOVER, CHECK THE  |  |                                      |  |  |   |  |   |  |                                 |                        |  |                         |   | RCMP DETA<br>RENOVATIO   |
|  |  | G LOAD CURRENT BALANCE. IF LOAD UN  |  |                                      |  | -  |   |  |   |  |                                 |                        |  |                         |   | Drawing Title  |
|  |  | M DEFECTS OF MATERIAL AND WORKMA  |  |                                      |  |  |   |  |   |  |                                 |                        |  |                         |   | MECHAN<br>SPECIFICAT   |
| CH FAILURE IS NOT DUE<br>E SPECIFIED SHALL IN I                | E TO IMPROPER US<br>NO WAY SUPPLANT            | GAGE.<br>F ANY OTHER GUARANTEE OF A LONGER  |  |                                      |  |  |   |  |   |  |                                 |                        |  |                         |   | AND SCHED<br>Check Scale (may  |
|  |  | ERIOD DATES FOR ALL EQUIPMENT.  |  | RAWINGS                              |  |  |   |  |   |  |                                 |                        |  |                         |   | Project No. NC   |

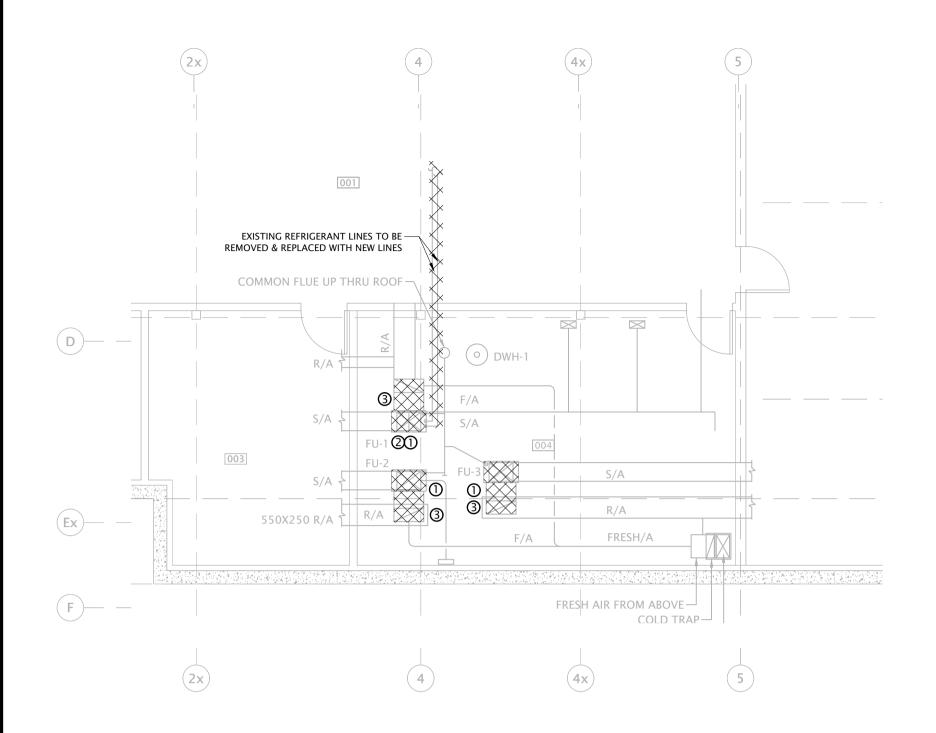
|                                       |  |   |                               |  |                               | FUR                                  | NACE SCHEDU  | JLE                            |                                    |                   |                        |                            |                        |  | 2016-09-30  |
|---------------------------------------|--|---|-------------------------------|--|-------------------------------|--------------------------------------|--|--------------------------------|------------------------------------|-------------------|------------------------|----------------------------|------------------------|--|---|
| ТАС                                   | LOCATION   | MANUF. AND<br>MODEL/SERIES  |                               | EAD<br>W.C)<br>GAS MANIFOL<br>PRESSURE<br>(IN.W.C) | D HEAT INPUT (KW)             | HEAT OUTPUT<br>(KW)                  | T TEMPERATURE<br>RISE RANGE (C°)   | V/Hz/P                         | BLOWER<br>MOTOR FULL<br>LOAD (AMPS |                   |                        | DIMENSIONS<br>LxWxH (mm)   | SHIPPING<br>WEIGHT (KC | ;) NOTES   | 2016-11-01<br>2016-11-10  |
| FU-1                                  | MECH ROOM  | LENNOX - ML193UH070XP36B  |                               | .58 3.5/10   | 19.34                         | 18.17                                | 4.4-21.1   | 120/60/1                       | 6.1                                | 15                | 1/3                    | 730x446x838                | 57.6                   | C/W DX COOLING CC-1, SIDE RETURN AIR FILTER KIT,<br>FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN<br>COMFORTSENSE 7500- 7 DAY PROGRAMMABLE | -   |
| FU-2,:                                | MECH ROOM  | LENNOX - ML193UH070XP36B  | 311/762 (                     | 0.5 3.5/10   | 19.34                         | 18.17                                | 4.4-21.1   | 120/60/1                       | 6.1                                | 15                | 1/3                    | 730x446x838                | 57.6                   | C/W SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE<br>TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE  |   |
|                                       |  |   |                               |  |                               |                                      |  |                                |                                    |                   |                        |                            |                        | 7500- 7DAY PROGRAMMABLE THERMOSTAT   |   |
|                                       |  |   |                               |  |                               | EVAPORA                              | ATOR COIL SC   | HEDULE                         |                                    |                   |                        |                            |                        |  | ]   |
| ТАС                                   | LOCATION   | MANUF. AND<br>MODEL/SERIES  | COOLING CAPAC<br>(TONS)       | ITY INDOOR COIL<br># ROWS                          | DIMENSIONS<br>LxWxH (mm)      | SHIPPING<br>WEIGHT (IBS)             |  |                                |                                    |                   | N                      | OTES                       |                        |  |   |
| CC-1                                  | MECH ROOM  | LENNOX - CX34-43B-6F  | 3.5                           | # ROWS   | 533x445x699                   | 27.2                                 |  |                                |                                    |                   | CONNEG                 | CTED TO FU-1               |                        |  | -   |
|                                       | <b>I</b>   |   |                               |  |                               |                                      |  |                                |                                    |                   |                        |                            |                        |  | _   |
|                                       |  | 1   | 1                             |  | 1                             | CONDEN                               | SING UNIT SC   | HEDULE                         |                                    |                   |                        |                            |                        |  | _   |
| TAC                                   |  | MANUF. AND<br>MODEL/SERIES  | COOLING CAPAC<br>(TONS)       | ITY OUT DOOR FAN<br>(L/S)                          | OUT DOOR FAN<br>(RPM)         | I OUT DOOR F<br>(W)                  | FAN V/Hz/P   | MOTC<br>(HP)                   |                                    | MIN.<br>AMP.      | DIMENSION<br>LxWxH (mn |                            |                        | NOTES  | This drawing has be<br>of the CLIENT and th   |
| CU-1                                  | OUTDOOR  | LENNOX - 13ACXN-036-230   | 3                             | 1132   | 1090                          | 185                                  | 208/1/60   | 1/5                            | 35                                 | 22                | 617x617x744            | 68.5                       |                        | REFRIGERANT R-410A CHARGE  | any kind made by<br>Planners to any part<br>Engineers Planners h  |
|                                       |  |   |                               |  |                               | 20.2.                                | NO WIRE SMALLER THAN NO  | . 12 AWG GAUGE SHA             | ALL BE USED FOR BRANCH             | I CIRCUIT WIRING  | Э.                     |                            |                        |  | This drawing shall<br>purposes until the se<br>and dated by the Arc   |
| REMENTS, INSTRUC                      | FIONS TO BIDDERS, THIS SPI                         | ECIFICATION AND ANY ADDENDA HERETO F  | ORM PART OF THE CONTRACT DC   | OCUMENTS AND SHALL BE READ IN C                    | ONJUNCTION WITH THEM. WOR     | 20.3.<br>K SHALL                     | BX CABLE MAY BE USED <b>ONI</b><br>20.3.1. WITHIN NEW DRYWA                            | <b>Y</b> AS FOLLOWS:           |                                    | CONNECT ELEC      |                        | EPT THAT THE CONNECTION    | N FROM THE JUNCTION    | BOX ABOVE THE SUSPENDED CEILING DOWN TO THE FIRST  | Project Component   |
|                                       | AND MATERIALS UNLESS SF                            | PECIFICALLY NOTED OTHERWISE TO COMPL  | LETE AND PUT INTO OPERATING C | ONDITION ALL ELECTRICAL SYSTEM                     | S AS INDICATED ON THE DRAWI   | IGS AND                              | 20.3.2. INDIVIDUAL DROPS F<br>20.3.3. WITH THE ABOVE EX                                | ROM JUNCTION BOXE              | ES IN CEILING SPACES TO            | LUMINAIRES TO     |                        |                            | NG" OF LUMINAIRES IS I | IOT PERMITTED).  | Phase # - Des   |
|                                       | PECIFICALLY NOTED ON DR                            | AWINGS AND BE OF THE QUALITY SPECIFI  |                               |  | ANDARDS ASSOCIATION. WHER     | 20.4.                                | 20.3.4. WIRING SHALL BE CO<br>CONDUIT TO BE SIZED IN AC                                | CORDANCE WITH TH               |                                    |                   |                        |                            |                        |  | Keyplan   |
| B DURING THE PRO                      | GRESS OF THE WORK.                                 | ER BY QUALIFIED TRADESMEN. ELECTRIC,<br>T AND SHALL BE MINIMUM OF THE CURREN  |                               |  |                               | TORY TO THE 20.5.                    | WIRING SHALL BE COLOUR (<br>120/208V 277/4<br>A PHASE RED ORAI                         | 80V 347/600V                   |                                    |                   |                        |                            |                        |  |   |
|                                       |  | ONS, UNIFORMITY OF MANUFACTURE SHALL  |                               | CULAR ITEM THROUGHOUT THE BUILI                    | DING.                         |                                      | B PHASE BLACK BRO<br>C PHASE BLUE YELL<br>NEUTRAL WHITE WHI                            | OW YELLOW                      |                                    |                   |                        |                            |                        |  |   |
| S, UNIFORMITY OF                      | MANUFACTURE SHALL BE M                             | AINTAINED FOR ANY PARTICULAR ITEM THE   | Roughout the Building.        |  |                               | 20.6.                                | GROUND GREEN GRE   | EN GREEN<br>SHALL BE INSTALLED |                                    |                   |                        |                            |                        |  |   |
| P THE DRAWINGS.                       | WEEN THE DRAWINGS AND                              | H TO THE OTHER, AND WHAT IS CALLED<br>SPECIFICATIONS WHICH LEAVES THE ELED<br>INE, IT WILL BE ASSUMED THAT THE MOST B       | CTRICAL CONTRACTOR IN DOUBT   | AS TO THE TRUE INTENT AND MEA                      |                               | 20.8.                                | COMPUTER RECEPTACLES S   | HALL BE COMPLETE               | WITH A DEDICATED NEUTR             | RAL CONDUCTOF     | R PER PHASE.           |                            |                        | ATION OF CONNECTORS OR TERMINATING CONDUCTORS.<br>R DISTANCES (120VAC) TO MAINTAIN MAX. 3% VOLTAGE DROP                                  |   |
| NSPECTION                             |  | CURRENT EDITION OF THE CANADIAN ELE   |                               |  | OF WOOD BUFFALO ELECTRICA     |                                      | ARE AS FOLLOWS:<br>20.9.1. 15A-1P BREAKER - #<br>20.9.2. 15A-1P BREAKER - #            |                                | - /                                |                   |                        |                            |                        |  |   |
|                                       | BTAIN ALL PERMITS REQUI                            | RED AT THEIR EXPENSE AND DISPLAY THI  | EM IN THE ELECTRICAL ROOM, A  | ND COORDINATE INSPECTIONS AS                       | REQUIRED AND OBTAIN A FINA    | L INSPECTION                         | 20.9.3. 20A-1P BREAKER - #<br>20.9.4. 20A-1P BREAKER - #                               | 12AWG WIRING - 60              | FEET (18 METRES)                   |                   |                        |                            |                        |  | North Arrow   |
| ,                                     |  | OR SHALL CAREFULLY EXAMINE THE SITE<br>ON A THOROUGH EXAMINATION OF THE SIT   |                               | S, WHICH SHALL AFFECT HIS TRADE                    | E. NO EXTRAS WILL BE ALLOWE   | 21.<br>ED FOR WORK 21.1.             | DEMOLITION<br>GENERAL  |                                |                                    |                   |                        |                            |                        |  |   |
|                                       |  | L TIMES DURING CONSTRUCTION, KEEP TH<br>SHALL BE LEFT IN A CLEAN FINISHED COND  | , -                           | -,, -,   | M WORK OF THIS TRADE.         |                                      | 21.1.1. ALL UNUSED AND AB<br>21.1.2. ABANDONED BREAKI<br>21.1.3. AS NOTED ON DRAW      | ERS IN PANEL BOARD             | DS SHALL BE MARKED AS S            | SPARE IF THEY NO  | O LONGER SERVICE AN    | IY LOAD.                   | IENT NOT REQUIRED B    | 9 BUILDING MANAGEMENT SHALL BE REMOVED FROM SITE BY  |   |
| NAIRES AND LAMP                       | , -  | NED OF GREASE, DIRT AND LINT AS REQUIF<br>AN GLOVES. TO ENSURE CLEANLINESS AND  |                               |  |                               |                                      | THE CONTRACTOR.<br>21.1.4. THE CONTRACTOR S<br>21.1.5. IF INDICATED ON DR/             |                                |                                    |                   |                        |                            | G IS MAINTAINED. REFER | TO "FIRE STOPPING" SECTION OF THIS SPEC.   |   |
| ORK<br>RACTOR SHALL B                 | E RESPONSIBLE FOR CORRI                            | ECTING ALL WORK COMPLETED CONTRAR   |                               |  | LL BEAR ALL COSTS FOR SAME    | 21.2.<br>WHERE THE                   |  |                                |                                    |                   |                        |                            |                        |  |   |
| RACTOR SHALL G<br>DRAWINGS SHALL      | VE THE WORK THEIR PERSO<br>TAKE PRECEDENCE OVER SO |   | ORK, DO ALL NECESSARY LEVELLI | NG AND MEASURING OR EMPLOY A                       |                               | 21.3.                                |  |                                |                                    |                   |                        |                            |                        |  | Consultants<br>Civil:   |
| IENTS TO ALLOW I                      | ECESSARY OPENINGS TO B                             | R MUST BE BUILT IN WITH THE WORK OF O<br>E LEFT SO AS NOT TO HOLD UP THE WORK.<br>E CAUSED TO THE OWNER OR ANY OF THE       |                               |  |                               | ITMENT TO BE                         | 21.3.1. ALL CIRCUITS ORIGIN<br>21.3.2. THE ELECTRICAL CO<br>21.3.3. ALL ELECTRICAL DEV | NTRACTOR SHALL IN              | FORM THE ENGINEER OF A             | ANY DEFICIENCIE   | ES THAT ARE ENCOUNT    |                            |                        |  | Landscape:<br>Architectural:<br>Structural:   |
| THE RIGHT TO C                        | IANGE LOCATION OF OUTL                             | ETS TO WITHIN 3.0 METRES OF POINTS  | INDICATED ON PLANS WITHOUT    | EXTRA CHARGE PROVIDING ELECT                       | TRICAL CONTRACTOR IS ADVIS    | ED PRIOR TO<br>21.4.                 | 21.3.4. ENSURE THAT ALL EX   |                                |                                    |                   |                        | UN SHALL BE RE-FED TO BE   | COME FULLY FUNCTION    | AL TO THE SATISFACTION OF THE ENGINEER.  | Mechanical: NORR<br>Electrical: NORR  |
|                                       |  | D PATCHING REQUIRED FOR THE ELECTRI   |                               |  |                               | 21.3.                                | 21.4.1. N/A<br>SYSTEMS<br>21.5.1. SECURITY DEVICES /                                   |                                |                                    | SHALL PE DEMO     |                        | ) OWNER                    |                        |  | Seal(s)   |
| AB IS DRILLED FO                      | R CONDUIT INSTALLATION T                           | OF OTHER TRADES, THE ELECTRICAL CONT  | FITTINGS THE FLOOR SHALL BE D | RY CORE DRILLED. AFTER CONDUIT                     |                               | 22.                                  | 21.5.1. SECURITY DEVICES /<br>WIRING DEVICES<br>BOXES, EXCEPT WHERE OTH                |                                |                                    |                   |                        |                            |                        |  |   |
|                                       | ,  | R TO PAY FOR ALL ASSOCIATED X-RAY COS   |                               |  |                               | 22.2.<br>22.3.                       | ALL OUTLETS FOR FLUSH WA   |                                |                                    |                   |                        |                            |                        | OR SINGLE OR 2-GANG OUTLETS OR 4-GANG OUTLETS.   | AL ENGIN  |
| ELY IMPOSSIBLE                        | O SERVICE CERTAIN EQUIF                            | THESE BOXES ARE TO BE LOCATED IN REP<br>PMENT THROUGH REMOVABLE TYPE CEILI<br>REQUIRED FOR SERVICING OF SUCH WORK           | NGS OR RECESSED LUMINAIRES    |  |                               | 22.4.<br>HE ENGINEER, 22.5.<br>22.6. |  | EVICES ARE GROUPE              | ED. ELECTRO-GALVANIZED             |                   | ANG BOXED SHALL BE     | USED WHERE MORE THAN 2     | DEVICES ARE GANGED     | TOGETHER.  | S UNAN L. L   |
| HELD CLOSED V<br>CHITECT.             | ITH CAPTIVE TYPE STUDS.                            | ACCESS PANELS TO BE OF NOT LESS T   | THAN 14 GAUGE STEEL, PRIME CO | OATED AND PAINTED ON THE JOB                       | TO MATCH THE WALL OR CEILI    |                                      | RECEPTACLES SHALL BE WH  | IITE DECORA TO MAT             | CH EXISTING. COMPUTER              | R RECEPTACLES     | SHALL BE GREY DECO     | RA.                        |                        |  |   |
|                                       |  | XES, CHANNEL FRAMES, CONDUIT RACK   |                               | , CLAMPS, ETC., SHALL HAVE GA                      | ALVANIZED FINISH OR PAINT     | FINISH OVER                          | RECEPTACLES TO BE OF SPI<br>PLATES FOR ALL FLUSH MOU<br>P-TOUCH ADHESIVE LABEL C       | JNTING DEVICES SHA             | ALL BE WHITE DECORA. EX            | ISTING DAMAGEI    | D FACEPLATES ARE TO    | BE REPLACED WITH NEW.      |                        |  | Nov. 10th   |
|                                       | ED UNITS THAT ARE SCRAT                            | CHED OR MARKED DURING INSTALLATIONS   | S SHALL BE TOUCHED UP WITH MA | ATCHING SPRAY OR DRY LACQUER A                     | ND IF REQUIRED TO PROVIDE S   | ATISEACTORY                          | P-TOUCH ADHESIVE LABEL C<br>TRACE CIRCUITS FOR EXIST<br>SUPPORTING DEVICES             |                                |                                    |                   |                        |                            | L CINCUIT AND PANEL [  |  |   |
|                                       |  | BLE ALL SHOP DRAWINGS PRIOR TO SUBMIT   |                               |  |                               | 23.1.                                | CONDUIT SUPPORTS<br>23.1.1. SINGLE RUNS - TO BE  |                                |                                    | T RANGE 1 TYPE    | HANGERS                |                            |                        |  |   |
| CKS, FIRE ALARM                       | EQUIPMENT AND TELECOMM                             | VIEW, ONE (1) SET OF ELECTRONIC SHOP<br>UNICATIONS EQUIPMENT AND CABLING.<br>N REVIEWED SHOP DRAWINGS.                      | DRAWINGS IN PDF FORMAT INCLU  | JDING BUT NOT LIMITED TO DISTRIBL                  | JTION, LUMINAIRES, EXIT SIGNS | , OCCUPANCY<br>23.2.                 | 23.1.2. MULTIPLE RUNS (THF<br>23.1.3. VERTICAL RUNS - CH<br>INSTALL TO MAINTAIN HEADF  | ANNEL SUPPORT WIT              | TH CONDUIT FITTINGS.               |                   | JIPMENT LOADS REOU     | RED.                       |                        |  | ARCHITECTS ENGINEE  |
| BE SPECIFIC TO                        | THIS PROJECT ONLY. GENE                            | CH ARE UNCLEAR WILL BE REJECTED AND<br>RIC DRAWINGS WILL NOT BE ACCEPTED.<br>VED STAMP WILL BE RETURNED REJECTED            | INDICATING ARROWS SHALL HIG   | HLIGHT THE PRODUCT FOR REVIEW                      | V. GENERIC DRAWINGS, DRAWI    | 23.3.                                | WHERE INSERTS ARE REQU   | RED IN CONCRETE, E             | EXPANSION INSERTS, LEAD            | D INSERTS OR PL   | ASTIC INSERTS MAY B    | E USED IN DRILLED HOLES. \ |                        | NOT PERMITTED.<br>NDEPENDENTLY FROM THE CONCRETE SLAB.   | An Ingenium Group Co<br>411 - 1st Street SE   |
| E WORK AND FUR                        | NISHING OF MATERIALS. T<br>TER ACCOMPANYING SUCH   |   |                               |  |                               | RES ARE NOT 23.6.                    |  | OR WALL PARTITION              | AS A SUPPORT OR FOUND              | ATION FOR CABL    | E TRAY OR CONDUIT R    | OUTED HORIZONTALLY THR     | OUGH THE CEILING SPA   | CE IS FORBIDDEN.   | Suite 2300,<br>Calgary, Alberta, C<br>www.norr.com  |
|                                       | PONSIBLE FOR VERIFYING A                           | LL DIMENSIONS.<br>DRAWINGS IS DONE AT THE RISK OF THE C   | ONTRACTOR.                    |  |                               | 23.7.<br>23.8.<br>24.                | SUPPORT HANGERS AND OT<br>ALL EQUIPMENT THAT MAY 1<br>GROUNDING                        |                                |                                    |                   |                        |                            |                        | R.<br>F THE VIBRATIONS TO THE BUILDING STRUCTURE.  | A Partnership of Lim<br>Poon McKenzie Architects (Alberta) Inc. F<br>NORR is a trademark owned by Ingenium  |
| OUTLETS, COND                         | JIT, LUMINAIRES EQUIPMEN                           | E SET OF WHITE PRINTS TO BE USED FOR R<br>F BREAKER CHANGES IN PANELS, ETC. AS A<br>ALL CHANGES TO THE ORIGINAL TENDER DI   | ACTUALLY INSTALLED ON THE JOB | ANY CHANGES TO THE CONTRACT                        | WORK SHALL BE SIMILARLY RE    |                                      | SUPPLY AND INSTALL COMP<br>ALL COMPONENTS SHALL BE<br>FOR TELEPHONE, LOW VOLT          | SECURELY AND ADE               | EQUATELY GROUNDED AN               | D WHERE REQUI     | RED TO ACCOMPLISH      | THE GROUNDING STUDS AND    |                        | IT.<br>ISED. ENSURE THAT ALL RACEWAYS, TERMINAL PANELS, ETC.,  | Victor Smith, Architect, AAA, B.Ar<br>Ronald M. Poon, Architect, AAA, I<br>Bruce G. McKenzie, Architect, AA<br>A. Silvio Baldassarra, Architect, A<br>Adrian Todeila, P.Eng., APEGA |
| CONTRACTOR WI                         | LL NOT BE RELEASED UNTIL                           | AS-BUILT DRAWINGS ARE RECEIVED BY TH  | E ENGINEER. AS-BUILT DRAWING  | ,  | ,                             | SPECTION. 24.3.<br>25.               |  | OUND TO EACH DATA              |                                    |                   |                        |                            |                        |  | Chris Pal, P.Eng., APEGA  |
| BUTION EQUIPME                        | IT SHALL HAVE A LAMACOID                           | UCH LABELS OR LAMACOIDS. HAND-WRITTE<br>NAMEPLATE FASTENED TO THE OUTSIDE F<br>MENT NAME, VOLTAGE, PHASE, WIRE (3 OF        | FRONT OF THE EQUIPMENT.       | LOAD: XXXX. SUBMIT PROPOSED TAG                    | GGING FOR ENGINEER'S APPRO    | 25.1.<br>25.2.<br>VAL PRIOR TO       | ELECTRICAL CONTRACTOR T<br>ALL LOW VOLTAGE CONTRO<br>ELECTRICAL CONTRACTOR.            | LS AND CONTROL W               | IRING WILL BE THE RESPO            | ONSIBILITY OF TI  |                        |                            | B-TRADE. 120V CONNE    | CTION FOR CONTROLS CONTRACTOR SHALL BE PROVIDED BY   | Project Manager<br>D.HIDER  |
|                                       | FOR ALL PANELS.<br>INDICATING THE SYSTEM AI        | ND OR CIRCUITS CONTAINED WITHIN.  |                               |  |                               | 25.3.<br>26.                         | ELECTRICAL CONTRACTOR S  | SHALL CONFIRM WITH             | H THE MECHANICAL TRADE             | E, THE SIZE, CHAI | ,                      |                            | AL EQUIPMENT BEFOR     | INSTALLATION OF CONDUITS, OUTLETS, HEATERS ETC.  | Project Leader<br>D.HIDER   |
| AND OTHER SYST                        | EMS CABLES AND DEVICES A                           | ND PANEL IDENTIFICATION. UTILIZE P-TOU<br>RE TO BE IDENTIFIED AS PER THE EIA/TIA 6<br>LED WITH P-TOUCH LABEL INDICATING PAN | 606 STANDARDS. CONFIRM PROTO  | COL WITH OWNER OR ENGINEER PR                      | IOR TO COMMENCEMENT OF LA     | 26.1.<br>BELS. 26.2.<br>26.3.        | AT MINIMUM, AN INSPECTION<br>THE ELECTRICAL CONTRACT<br>FAILURE TO NOTIFY THE ENG      | OR SHALL ADVISE TH             | HE ENGINEER WHEN ALL W             | VORK HAS BEEN     | COMPLETED ABOVE TH     | HE SUSPENDED CEILING, EITI | HER DRYWALL OR T-BA    | <del>.</del>   | Client<br>RCMP  |
| NY PORTION OF T                       | HE ELECTRICAL SYSTEM, PI                           | ECKED FOR SATISFACTORY OPERATION.<br>ERFORM MEGGER TESTS ON ALL FEEDERS   | S. RESULTS OF SUCH TESTS SHAL | LL CONFORM TO THE REQUIREMENT                      | IS OF THE CANADIAN ELECTRIC   | 26.4.<br>AL CODE AND                 | THE ELECTRICAL CONTRACT  | OR SHALL NOTIFY TH             | HE ENGINEER AND SHALL /            | ALLOW AT LEAST    | F 3 WORKING DAYS NO    | TICE OF THE INSTALLATION O | DF CEILING.            |  | Project   |
| ULTS TO THE ENGIN<br>"HAT DO NOT MEE" |  | ENTS OF THE MANUFACTURER, CANADIAN  | I ELECTRICAL CODE, AUTHORIZEI | D INSPECTION AGENCY AND THE E                      | NGINEER SHALL BE REPAIRED     | IN A METHOD                          |  |                                |                                    |                   |                        |                            |                        |  | RCMP DETACI   |
| F THE WORK AND I                      |  | HE CONTRACTOR.<br>AL INSPECTION AND TAKEOVER, CHECK TH<br>KING LOAD CURRENT BALANCE. IF LOAD U                              |                               |  | -                             | L BE CARRIED                         |  |                                |                                    |                   |                        |                            |                        |  | RENOVATION  |
|                                       |  |   |                               |  |                               |                                      |  |                                |                                    |                   |                        |                            |                        |  | Drawing Title<br>MECHANI  |
| URTHER AGREE TO                       | , AT THEIR OWN EXPENSE, F                          | ROM DEFECTS OF MATERIAL AND WORKM/  |                               |  |                               |                                      |  |                                |                                    |                   |                        |                            |                        |  | SPECIFICATIO<br>AND SCHEDU  |
| UARANTEE SPECIF                       |  | R USAGE.<br>ANT ANY OTHER GUARANTEE OF A LONGER<br>Y PERIOD DATES FOR ALL EQUIPMENT.  | R PERIOD BUT SHALL BE BINDING | ON WORK NOT OTHERWISE COVERE                       | Ð.                            |                                      |  |                                |                                    |                   |                        |                            |                        |  | Check Scale (may be<br>0 1i   |
|                                       |  | CTRICAL METALLIC TUBING UNLESS INDICA   |                               |  |                               |                                      |  |                                |                                    |                   |                        |                            |                        |  | Project No. NCC   |

|   |                                      |  |   |  |                                       |                                      |   | FU                                  |  | ULE  | -   |                                     |                    |   |                        |  | 2016-09-30   |   |
|---|--------------------------------------|--|---|--|---------------------------------------|--------------------------------------|---|-------------------------------------|--|--|---|-------------------------------------|--------------------|---|------------------------|--|--|---|
| E<br>DRAWING LIST   | TAG                                  | LOCATION   | MANUF. AND<br>MODEL/SERIES  | AIR FLOW<br>RANGE<br>(L/S)                 | HEAD<br>(IN W.C)                      | GAS MANIFOLD<br>PRESSURE<br>(IN.W.C) | HEAT INPUT<br>(KW)                                | HEAT OUTP<br>(KW)                   | UT TEMPERATUR<br>RISE RANGE (C   |  | BLOWER<br>MOTOR FULL<br>LOAD (AMPS)   |                                     | MOTOR<br>(HP)      | DIMENSIONS<br>LxWxH (mm)                            | SHIPPING<br>WEIGHT (KG | ) NOTES  | 2016-11-01<br>2016-11-10   |   |
| AYOUT   | FU-1                                 | MECH ROOM  | LENNOX - ML193UH070XP36B  | 558  | 0.58                                  | 3.5/10                               | 19.34   | 18.17                               | 4.4-21.1   | 120/ 60 /1                                 | 6.1   | 15                                  | 1/3                | 730x446x838   | 57.6                   | C/W DX COOLING CC-1, SIDE RETURN AIR FILTER KIT,<br>FLUE CONDENSATE TRAP ASSEMBLY, TOUCH SCREEN<br>COMFORTSENSE 7500- 7 DAY PROGRAMMABLE |  |   |
| AYOUT   | FU-2,3                               | MECH ROOM  | LENNOX - ML193UH070XP36B  | 311/762                                    | 0.5                                   | 3.5/10                               | 19.34   | 18.17                               | 4.4-21.1   | 120/ 60 /1                                 | 6.1   | 15                                  | 1/3                | 730x446x838   | 57.6                   | THERMOSTAT<br>C/W SIDE RETURN AIR FILTER KIT, FLUE CONDENSATE<br>TRAP ASSEMBLY, TOUCH SCREEN COMFORTSENSE                                |  |   |
|   |                                      |  |   |  |                                       |                                      |   |                                     |  |  |   |                                     |                    |   |                        | 7500- 7DAY PROGRAMMABLE THERMOSTAT   |  |   |
|   |                                      |  |   |  |                                       |                                      |   | EVAPOR                              |  | CHEDULE                                    |   |                                     |                    |   |                        |  |  |   |
|   | TAG                                  |  | MANUF. AND  |  | APACITY                               | INDOOR COIL                          | DIMENSIONS  | SHIPPING                            |  |  |   |                                     | Ν                  | OTES  |                        |  |  |   |
|   |                                      | LOCATION   | MODEL/SERIES  | (TON                                       |                                       | # ROWS                               | LxWxH (mm)  | WEIGHT (IBS                         | 5)   |  |   |                                     |                    |   |                        |  |  |   |
|   | CC-1                                 | MECH ROOM  | LENNOX - CX34-43B-6F  | 3.5  |                                       | 3                                    | 533x445x699                                       | 27.2                                |  |  |   |                                     | CONNE              | CTED TO FU-1  |                        |  |  |   |
|   |                                      |  |   |  |                                       |                                      |   | CONDE                               | NSING UNIT S   | CHEDULE                                    |   |                                     |                    |   |                        |  |  |   |
|   | ТАС                                  | LOCATION   | MANUF. AND  |  | APACITY                               | OUT DOOR FAN                         | OUT DOOR FAN                                      |                                     | R FAN V/Hz/  | , мото                                     | DR MOCP   | MIN.                                | DIMENSION          | SHIPPING  | VEIGHT                 | NOTES  | This drawing ha  | us been                                       |
|   |                                      | LOCATION   | MODEL/SERIES  | (TON                                       | IS)                                   | (L/S)                                | (RPM)   | (W)                                 |  |  | ) (AMPS) /  | AMP. I                              | LxWxH (mr          |   |                        |  | of the CLIENT ar<br>any kind made<br>Planners to any   | e by N  |
|   | CU-1                                 | OUTDOOR  | LENNOX - 13ACXN-036-230   | 3  |                                       | 1132                                 | 1090  | 185                                 | 208/1/60   | 1/5  | 35  | 22                                  | 617x617x744        | 68.5  |                        | REFRIGERANT R-410A CHARGE  | Engineers Planne<br>This drawing sh  | ers has i                                     |
| PECIFICATIONS:  |                                      |  |   |  |                                       |                                      |   |                                     | <ol> <li>NO WIRE SMALLER THAN</li> <li>BX CABLE MAY BE USED C</li> </ol>         |  | ALL BE USED FOR BRANCH  | CIRCUIT WIRING.                     |                    |   |                        |  | purposes until th<br>and dated by the  |   |
| LUDE THE FURNISHING (   | ,                                    | ,  | IFICATION AND ANY ADDENDA HERETO FO<br>CIFICALLY NOTED OTHERWISE TO COMPL   |  |                                       |                                      |   | K SHALL                             | 20.3.1. WITHIN NEW DRY<br>ELECTRICAL DEVI  | VALL PARTITIONS WI<br>E IN THE DRYWALL SI  | HALL BE WIRED IN THE EMT  | CONDUIT.                            | ·                  |   |                        | BOX ABOVE THE SUSPENDED CEILING DOWN TO THE FIRST  | Project Compone  |   |
| CIFIED HEREIN.<br>SCOPE OF WORK IS AS<br>NDARD OF MATERIAL AN       |                                      | IN AND SHOWN ON THE DR   | RAWINGS.  |  |                                       |                                      |   |                                     | 20.3.3. WITH THE ABOVE   | EXCEPTIONS, ALL 120-                       | VOLT BRANCH CIRCUIT WIRI  | ING MUST BE INSTA                   |                    | (3) METRES. ("DAISY-CHAINI<br>UIT.                  | NG" OF LUMINAIRES IS N | OTPERMITTED).  | Phase # - [<br>Keyplan   | Jesci   |
| ATERIALS ARE SPECIFI  | ED BY TECHNICAL                      | DESCRIPTION ONLY, THEY   | WINGS AND BE OF THE QUALITY SPECIFIE<br>Y SHALL BE OF THE BEST COMMERCIAL Q<br>R BY QUALIFIED TRADESMEN. ELECTRICA        | UALITY OBTAINABLE FC                       | R THE PURPOSE.                        |                                      |   | 20.                                 |  |  | IE CANADIAN ELECTRICAL C  | CODE.                               |                    |   |                        |  |  |   |
| NEER, ON THE JOB DUF<br>KMANSHIP SHALL BE OI<br>ORMITY OF EQUIPMENT | F THE HIGHEST ST                     |  | AND SHALL BE MINIMUM OF THE CURREN  | T TRADE PRACTICES FC                       | R ELECTRICAL INST                     | FALLATIONS IN THIS BUILDING          |   |                                     | 120/208V 27<br>A PHASE RED OF<br>B PHASE BLACK B                                 |  |   |                                     |                    |   |                        |  |  |   |
| SS OTHERWISE SPECIF   | FICALLY CALLED FO                    |  | S, UNIFORMITY OF MANUFACTURE SHALL<br>) FOR ANY PARTICULAR ITEM THROUGHO  |  | NY PARTICULAR ITE                     | M THROUGHOUT THE BUILDIN             | IG.   |                                     | C PHASE BLUE YE<br>NEUTRAL WHITE V   | LLOW YELLOW                                |   |                                     |                    |   |                        |  |  |   |
| INGS AND SPECIFICAT   | TIONS                                |  | TAINED FOR ANY PARTICULAR ITEM THR  |  |                                       | CALLED FOR BY BOTH W                 | HERE INFORMATION IS CONF                          |                                     | GROUND GREEN G<br>6. ALL LINE VOLTAGE WIRIN<br>7. ALUMINUM CONDUCTORS            | SHALL BE INSTALLED                         |   | /INGS. APPLY ZINC                   | : JOINT COMPOUND   | ON ALL ALUMINUM CONDUC                              | ORS PRIOR TO INSTALLA  | ATION OF CONNECTORS OR TERMINATING CONDUCTORS.   |  |   |
| IFICATIONS TRUMP THI  | E DRAWINGS.<br>′ APPEAR BETWEE       | en the drawings and sp   | PECIFICATIONS WHICH LEAVES THE ELEC   | CTRICAL CONTRACTOR                         | IN DOUBT AS TO T                      | HE TRUE INTENT AND MEANIN            |   | 20.                                 | <ol> <li>COMPUTER RECEPTACLE</li> <li>VOLTAGE DROP FOR WIR</li> </ol>            | SHALL BE COMPLET                           | WITH A DEDICATED NEUTR  | RAL CONDUCTOR P                     | PER PHASE.         |   |                        | R DISTANCES (120VAC) TO MAINTAIN MAX. 3% VOLTAGE DROP  |  |   |
| S, PERMITS AND INSPENSE<br>STALLATION SHALL C                       |                                      | REQUIREMENTS OF THE C  | URRENT EDITION OF THE CANADIAN ELEC   | CTRICAL CODE AND THE                       | E REGULATIONS OF                      | THE RURAL MUNICIPALITY OF            | WOOD BUFFALO ELECTRICA                            | L INSPECTION                        | ARE AS FOLLOWS:<br>20.9.1. 15A-1P BREAKER<br>20.9.2. 15A-1P BREAKER              |  |   |                                     |                    |   |                        |  |  |   |
|   | TOR SHALL OBTAI                      | IN ALL PERMITS REQUIRE   | D AT THEIR EXPENSE AND DISPLAY THE  | EM IN THE ELECTRICAL                       | ROOM, AND COOF                        | DINATE INSPECTIONS AS RE             | QUIRED AND OBTAIN A FINAL                         | L INSPECTION                        | 20.9.3. 20A-1P BREAKER<br>20.9.4. 20A-1P BREAKER                                 |  | , , , , , , , , , , , , , , , , , , ,   |                                     |                    |   |                        |  | North Arrow  |   |
| TO SUBMITTING THE   | ,                                    |  | SHALL CAREFULLY EXAMINE THE SITE A  |  | ONDITIONS, WHICH                      | SHALL AFFECT HIS TRADE.              | NO EXTRAS WILL BE ALLOWE                          |                                     | 1. GENERAL   |  |   |                                     |                    |   |                        |  |  | 7   |
|   |                                      |  | TIMES DURING CONSTRUCTION, KEEP THE   |  |                                       |                                      | VORK OF THIS TRADE.                               |                                     | 21.1.2. ABANDONED BREA   | KERS IN PANEL BOAR                         | JIT, WIRE, HANGERS, ETC. S<br>DS SHALL BE MARKED AS SI<br>CTOR SHALL TURN OVER F( | PARE IF THEY NO L                   | LONGER SERVICE A   | NY LOAD.  |                        | BUILDING MANAGEMENT SHALL BE REMOVED FROM SITE BY  |  |   |
| JMINAIRES AND ELECT   | RICAL DEVICES SH                     | HALL BE WASHED, CLEANE   | ED OF GREASE, DIRT AND LINT AS REQUIR<br>I GLOVES. TO ENSURE CLEANLINESS AND  | ED.  |                                       |                                      |   |                                     | THE CONTRACTOR   |  |   |                                     |                    |   |                        | TO "FIRE STOPPING" SECTION OF THIS SPEC.   |  |   |
| ING OUT OF THE WORK   | K                                    |  | /ERTED FROM LANDFILL.<br>TING ALL WORK COMPLETED CONTRARY   |  |                                       |                                      | REAR ALL COSTS FOR SAME                           |                                     | .2. LIGHTING   | ·  | LANK COVER PLATE MATCH  |                                     |                    |   |                        |  |  |   |
| T OF THE DRAWINGS A   | AND SPECIFICATION                    | NS IS NOT CLEAR, HE SHAI   | LL OBTAIN THE CLARIFICATION OF THE EN<br>AL SUPERVISION, LAY OUT HIS OWN WOI  | NGINEER BEFORE PROC                        | EEDING WITH THE                       | WORK.                                |   | SO. FIGURES,                        |  |  | , WIRE, HANGERS, ETC. SHA<br>BE REMOVED AS NOTED ON                               |                                     |                    |   |                        |  | Consultants<br>Civil:  |   |
| IN OR MEASUREMENT   | S TO ALLOW NECE                      | SSARY OPENINGS TO BE L   | MUST BE BUILT IN WITH THE WORK OF OT<br>LEFT SO AS NOT TO HOLD UP THE WORK.<br>CAUSED TO THE OWNER OR ANY OF THE (        | ,  |                                       |                                      |   | IPMENT TO BE                        |  |  |   |                                     |                    | RE-USED SHALL BE PULLED                             |                        |  | Landscape:<br>Architectural:   |   |
| ATION OF OUTLETS<br>NEER RESERVES THE                               |                                      |  | s to within 3.0 metres of points i  |  |                                       |                                      |   |                                     | 21.3.4. ENSURE THAT ALL  |  | WALLS BEING DEMOLISHED<br>ES LEFT ISOLATED BY THE                                 |                                     |                    | RUN SHALL BE RE-FED TO BE                           | COME FULLY FUNCTION    | AL TO THE SATISFACTION OF THE ENGINEER.  |  | NORR A<br>NORR A                              |
| LLATION.<br>NG, CUTTING AND PAT<br>GENERAL TRADE WILL               |                                      | FOR ALL CUTTING AND F  | PATCHING REQUIRED FOR THE ELECTRIC  | CAL INSTALLATION. ST                       | RUCTURAL MEMBE                        | RS SHALL NOT BE CUT WITH             | OUT THE CONSENT OF THE                            |                                     | <ul> <li>.4. COMMUNICATIONS</li> <li>21.4.1. N/A</li> <li>.5. SYSTEMS</li> </ul> |  |   |                                     |                    |   |                        |  |  |   |
| NEER.<br>Re work by the elec<br>Engineer.                           | TRICAL CONTRAC                       | TOR DAMAGES WORK OF  | OTHER TRADES, THE ELECTRICAL CONTI  | RACTOR SHALL REPAIR                        | AND MAKE GOOD                         | SUCH DAMAGE TO THE SATIS             | FACTION OF THE TRADE CON                          | ICERNED AND<br>22.                  |  | S AND ASSOCIATED W                         | IRING NOT BEING REUSED S  | SHALL BE REMOVE                     | D AND RETURNED T   | O OWNER   |                        |  | Seal(s)  |   |
|   |                                      |  | WALL JUNCTION BOXES OR TO FLOOR FI<br>TO PAY FOR ALL ASSOCIATED X-RAY COST  |  |                                       | DRILLED. AFTER CONDUIT IN            | STALLATION, THE OPENING S                         | 22.                                 | 2. ALL OUTLETS FOR FLUSH   | WALL-MOUNTING SWI                          |   | EPHONE AND LV OU                    | UTLETS SHALL BE N  | O.52151 BOX WITH APPROPF                            |                        | DR SINGLE OR 2-GANG OUTLETS OR 4-GANG OUTLETS.   |  |   |
| RE ACCESS IS REQUIR   | ED TO PULLBOXES                      | S AND JUNCTION BOXES, TH   | OOR LOCATIONS WILL BE COORDINATED<br>HESE BOXES ARE TO BE LOCATED IN REM  | IOVABLE TYPE CEILING                       | AREAS WHERE POS                       | SSIBLE OR ADJACENT TO REC            |   | 22.<br>22.<br>22.                   | 4. USE A SINGLE COVER PLA  | TE FOR RECEPTACLE                          | OUTLET BOXED WHERE SHO  | OWN GANGED.                         |                    | TH APPROPRIATE PLASTER (                            | ,                      | OCETHER  | ONAL EL  | NGINE LANG                                    |
| RICAL CONTRACTOR  | TO SUPPLY AND IN<br>LD CLOSED WITH   | ISTALL ACCESS DOORS RE   | ENT THROUGH REMOVABLE TYPE CEILIN<br>EQUIRED FOR SERVICING OF SUCH WORK<br>ACCESS PANELS TO BE OF NOT LESS TH             |  |                                       |                                      |   | 1E ENGINEER,<br>22.                 | .6. SECTIONAL TYPE BOXES   | OR HANDY BOXES SHA                         |   |                                     |                    |   |                        |  | E PROFEC   | 影   |
|   |                                      | PER SHOP DRAWINGS ARE  | TO BE SUBMITTED FOR APPROVAL, PRIO  | R TO INSTALLATION.                         |                                       |                                      |   | 22.<br>22.                          | 9. RECEPTACLES TO BE OF  | PECIFICATION GRADE                         | AND OF ONE MANUFACTUR   |                                     |                    | RE LEVITON, THOMAS AND B                            | ETTS, COOPER WIRING D  | EVICES.  | Nav, 1   | Ser /   |
| DSION-RESISTANT PRI   | MER.                                 | ,  | S, CHANNEL FRAMES, CONDUIT RACK   | -, ,                                       | ,                                     | -, -,                                |   | 22.                                 | 11. P-TOUCH ADHESIVE LABE  | . COMPLETE WITH A N                        |   | E PROVIDED ON AL                    | LL EXISTING AND NE |   | G CIRCUIT AND PANEL DE | ESIGNATION.  |  |   |
| ALL BE COMPLETELY   |                                      |  |   |  |                                       |                                      |   | 22.                                 |  | NEVERTAULES                                | AND ENSURE EXISTING REC   | ULEO ARE LA                         | U.                 |   |                        |  |  |   |
| ECTRICAL CONTRACT   | SHALL SUBMIT TO                      | THE ENGINEER FOR REVI  | E ALL SHOP DRAWINGS PRIOR TO SUBMIT<br>EW, ONE (1) SET OF ELECTRONIC SHOP D<br>VICATIONS EQUIPMENT AND CABLING.           |  |                                       | I NOT LIMITED TO DISTRIBUTI          | ON, LUMINAIRES, EXIT SIGNS,                       | , OCCUPANCY                         | 23.1.2. MULTIPLE RUNS (1   | HREE OR MORE) - COI                        |   | RANGE 1 TYPE HA                     | ANGERS             |   |                        |  |  | )「  |
| ER SHALL BE ALLOW   | ED MINIMUM 5 BUS                     | SINESS DAYS TO RETURN F  | REVIEWED SHOP DRAWINGS.<br>I ARE UNCLEAR WILL BE REJECTED AND F   | RETURNED FOR RESUB                         | MISSION.                              |                                      |   | 23.<br>23.                          |  | DROOM, NEAT MECHA                          | NICAL APPEARANCE AND TO   |                                     |                    | IRED.<br>E USED IN DRILLED HOLES.                   | wood or fibre Plugs    |  | ARCHITECTS ENC   |   |
| ING ARROWS AND D  | RAWINGS WITHOU<br>F SHOP DRAWINGS    | T CONTRACTOR REVIEWER  | C DRAWINGS WILL NOT BE ACCEPTED. I<br>D STAMP WILL BE RETURNED REJECTED<br>. DESIGN ONLY AND SHALL NOT RELIEVE            | FOR RESUBMISSION.<br>THE ELECTRICAL CON    | FRACTOR OR SUPP                       | LIER FROM THEIR RESPONSIE            | BILITY FOR ERRORS, PROPER                         | NGS WITHOUT 23.<br>FITTING, AND 23. | 4. ALL ELECTRICAL DISTRIB  | TION INCLUDING CAB                         | LE TRAY AND CONDUIT, WHI  | CH IS MOUNTED A                     | BOVE THE SUSPEN    |   | ORTED DIRECTLY AND II  | NDEPENDENTLY FROM THE CONCRETE SLAB.   | 411 - 1st Stree<br>Suite 2300,   | <b>,</b>                                      |
| ICALLY NOTED IN A C   | OVERING LETTER                       | HING OF MATERIALS. THE<br>ACCOMPANYING SUCH DR<br>ISIBLE FOR VERIFYING ALL |   | S APPROVING DEPARTU                        | JRES FROM THE C                       | ONTRACT DOCUMENT REQUI               | REMENTS IF SUCH DEPARTUF                          | 23.<br>23.                          | 7. SUPPORT HANGERS AND   | OTHER TRADES TO SU                         | PPORT NON-ELECTRICAL SE   | ERVICES OR DEVIC                    | CES SHALL NOT USE  | ROUTED HORIZONTALLY THR<br>TRAYS INSTALLED BY THE E | LECTRICAL CONTRACTO    | R.   | Calgary, Alber<br>www.norr.com   | n   |
| RDS PLANS   |                                      |  | RAWINGS IS DONE AT THE RISK OF THE CO   |  | ALLY INSTALL FD F                     |                                      |   | 23.<br>24.<br>N THIS SET OF 24.     | GROUNDING  |  |   |                                     |                    | AL CODE AND ELECTRICAL I                            |                        | F THE VIBRATIONS TO THE BUILDING STRUCTURE.  | A Partnership of<br>Poon McKenzie Architects (Albe<br>NORR is a trademark owned by<br>Victor Smith, Architect, A<br>Ronald M. Poon, Architect  | oerta) Inc. Poo<br>y Ingenium C<br>AAA, B.Arc |
| , DAY BY DAY, ALL OU<br>LT DRAWINGS SHALL                           | TLETS, CONDUIT, L<br>BE CLEARLY MARK | LUMINAIRES EQUIPMENT B   | REAKER CHANGES IN PANELS, ETC. AS A<br>L CHANGES TO THE ORIGINAL TENDER DE<br>S-BUILT DRAWINGS ARE RECEIVED BY THI        | CTUALLY INSTALLED ON<br>RAWINGS COVERED BY | N THE JOB. ANY CH.<br>ADDENDA, CHANGE | ANGES TO THE CONTRACT W              | ORK SHALL BE SIMILARLY REC<br>DB CONDITIONS, ETC. | CORDED. 24.                         | 2. ALL COMPONENTS SHALL<br>FOR TELEPHONE, LOW VC                                 | BE SECURELY AND AL<br>LTAGE, FIRE ALARM, ( | EQUATELY GROUNDED AND<br>ABLE TRAY, SOUND, ETC., A                                | O WHERE REQUIRE<br>ARE SECURELY ANI | ED TO ACCOMPLISH   | THE GROUNDING STUDS AN                              |                        | I.<br>SED. ENSURE THAT ALL RACEWAYS, TERMINAL PANELS, ETC.,  | Ronald M. Poon, Architect<br>Bruce G. McKenzie, Archit<br>A. Silvio Baldassarra, Arc<br>Adrian Todeila, P.Eng., Af<br>Chris Pal, P.Eng., APEGA | itect, AAA,<br>hitect, AAA                    |
| MENT IDENTIFICATIO  | N                                    |  | S-BUILT DRAWINGS ARE RECEIVED BY THE  |  |                                       |                                      | LENGT TIME OF FINAL INS                           | SPECTION. 24.<br>25.<br>25.         | MECHANICAL EQUIPMENT   | WIRING                                     | A RACK AND TELEPHONE S  |                                     | REQUIRED FOR MEO   | HANICAL EQUIPMENT                                   |                        |  | Droject Manager  |   |
|   |                                      |  | AMEPLATE FASTENED TO THE OUTSIDE F<br>ENT NAME, VOLTAGE, PHASE, WIRE (3 OR  |  |                                       | XX. SUBMIT PROPOSED TAGG             | ING FOR ENGINEER'S APPROV                         | 25.<br>VAL PRIOR TO                 | 2. ALL LOW VOLTAGE CONT<br>ELECTRICAL CONTRACTO                                  | Rols and control N<br>R. Coordinate with   | VIRING WILL BE THE RESPO<br>CONTROLS CONTRACTOR F                                 | ONSIBILITY OF THE<br>FOR LOCATION.  | MECHANICAL TRAD    | E AND/OR HIS CONTROL SU                             |                        |  | Project Manager<br>D.HIDER<br>Project Leader   |   |
|   | BE LABELED INDI                      | CATING THE SYSTEM AND  | OR CIRCUITS CONTAINED WITHIN.   |  | MDI ETE איידי איי                     |                                      | PNI -007 "  | 25.<br>26.<br>26.                   | ENGINEER'S INSPECTION  | 3  | H THE MECHANICAL TRADE,<br>OUT BY THE ENGINEER AT R                               |                                     |                    |   | RL EQUIPMENT BEFORE    | INSTALLATION OF CONDUITS, OUTLETS, HEATERS ETC.  | D.HIDER<br>Client  |   |
| MMUNICATIONS AND  | OTHER SYSTEMS                        | CABLES AND DEVICES ARE   | D PANEL IDENTIFICATION. UTILIZE P-TOUC<br>E TO BE IDENTIFIED AS PER THE EIA/TIA 6<br>ED WITH P-TOUCH LABEL INDICATING PAN | 06 STANDARDS. CONFIF                       | RM PROTOCOL WITH                      | OWNER OR ENGINEER PRIO               | R TO COMMENCEMENT OF LA                           | 00                                  | 2. THE ELECTRICAL CONTRA   | CTOR SHALL ADVISE                          |   | ORK HAS BEEN CC                     | OMPLETED ABOVE T   | HE SUSPENDED CEILING, EIT                           | HER DRYWALL OR T-BAR   | <b>λ</b> .   | RCMP   |   |
| RE ENERGIZING ANY P   | PORTION OF THE E                     |  | KED FOR SATISFACTORY OPERATION.<br>FORM MEGGER TESTS ON ALL FEEDERS<br>NCY AND THE ENGINEER.                              | . RESULTS OF SUCH TE                       | STS SHALL CONFC                       | RM TO THE REQUIREMENTS               | OF THE CANADIAN ELECTRIC,                         | 26.<br>AL CODE AND                  | 4. THE ELECTRICAL CONTRA   | CTOR SHALL NOTIFY <sup>-</sup>             | HE ENGINEER AND SHALL A   | ALLOW AT LEAST 3                    | WORKING DAYS NC    | TICE OF THE INSTALLATION                            | DF CEILING.            |  | Project<br>BASHAV  |   |
| /IT ALL TEST RESULTS T  | TO THE ENGINEER<br>DO NOT MEET THE   | FOR APPROVAL   | TS OF THE MANUFACTURER, CANADIAN  | ELECTRICAL CODE, AL                        | ITHORIZED INSPEC                      | TION AGENCY AND THE ENG              | INEER SHALL BE REPAIRED                           | IN A METHOD                         |  |  |   |                                     |                    |   |                        |  | RCMP DET   | ACH   |
| COMPLETION OF THE   | WORK AND IMME                        | DIATELY PRIOR TO FINAL I   | INSPECTION AND TAKEOVER, CHECK THE<br>NG LOAD CURRENT BALANCE. IF LOAD UN   |  |                                       | ,                                    |   | L BE CARRIED                        |  |  |   |                                     |                    |   |                        |  | Drawing Title  | Cri-C   |
|   | UNDER THIS CON                       | ITRACT WILL BE FREE FRC  | DM DEFECTS OF MATERIAL AND WORKMA   | NSHIP FOR A PERIOD (                       | OF ONE (1) YEAR FR                    | OM THE DATE OF FINAL ACC             | EPTANCE FROM ENGINEER (C                          | 2 SCHEDULE)                         |  |  |   |                                     |                    |   |                        |  | MECHA  |   |
|   |                                      | THEIR OWN EXPENSE, REI<br>NOT DUE TO IMPROPER U                            | PAIR AND REPLACE ALL SUCH DEFECTIVE<br>ISAGE.   | E WORK AND OTHER WO                        | ORK DAMAGED THE                       | REBY WHICH FAILS OR BECO             | MES DEFECTIVE DURING THE                          | TERM OF THE                         |  |  |   |                                     |                    |   |                        |  | SPECIFICA<br>AND SCHE  |   |
| RICAL CONTRACTOR  |                                      |  | IT ANY OTHER GUARANTEE OF A LONGER<br>PERIOD DATES FOR ALL EQUIPMENT.   | R PERIOD BUT SHALL BE                      | BINDING ON WORK                       | NOT OTHERWISE COVERED.               |   |                                     |  |  |   |                                     |                    |   |                        |  | Check Scale (may<br>0  | ıy be p<br>1 ir                               |
| DING WIRING   | ER WITH RWOO Y-                      | INK INSULATION IN FLECT  | RICAL METALLIC TUBING UNLESS INDICAT  | TED OTHERWISE ON DR                        | AWINGS                                |                                      |   |                                     |  |  |   |                                     |                    |   |                        |  | Project No.  |   |



Drawing No.

M00-00





MECHANICAL KEY NOTES:

SCHEDULE.

REPLACE EXISTING FURNACES WITH NEW

2 REPLACE EXISTING EVAPORATOR COIL

3 DEMOLISH HIGHLIGHTED RETURN AIR

4 DEMOLISH HIGHLIGHTED SUPPLY AIR

ON FU-1 AS PER SCHEDULE.

FU-1, FU-2 AND FU-3 AS PER FURNACE

DUCT TO THE FLEXIBLE CONNECTION.

DUCT TO THE FLEXIBLE CONNECTION.

### ELECTRICAL GENERAL NOTES:

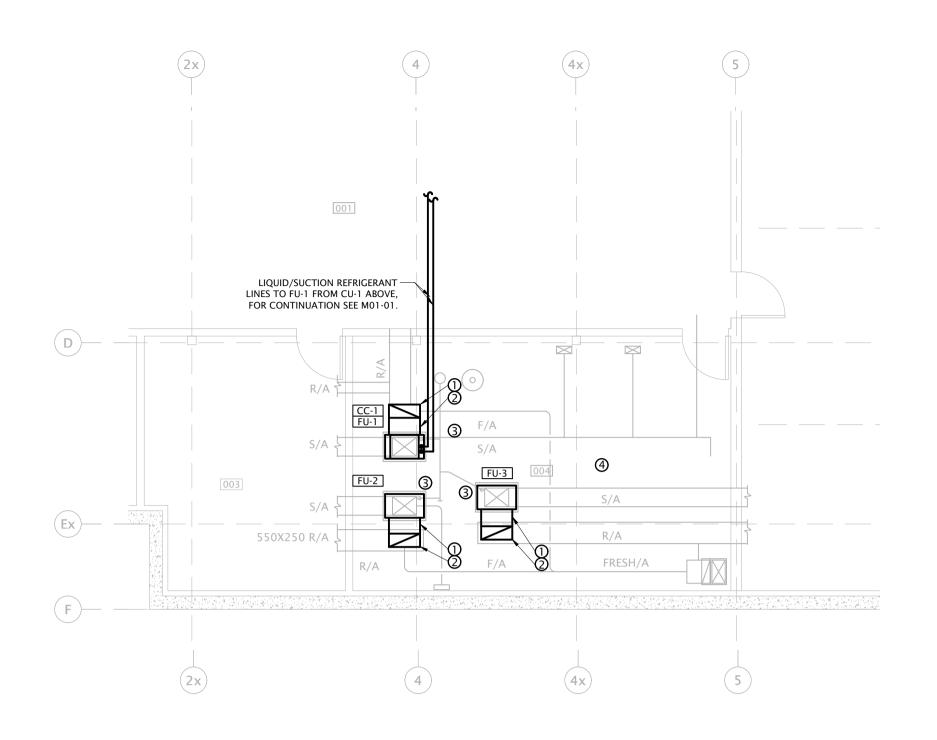
- GENERALLY THE ELECTRICAL SCOPE OF WORK CONSISTS OF PROVIDING ELECTRICAL CONNECTIONS TO MECHANICAL EQUIPMENT THAT IS BEING REPLACED WITH NEW. ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING MECHANICAL EQUIPMENT BEING DEMOLISHED AND RECONNECT NEW EQUIPMENT ONCE INSTALLED. EXISTING CONNECTIONS CAN BE REUSED PROVIDED THE CIRCUIT BREAKER AND WIRING ARE SUFFICIENTLY SIZED TO SERVICE NEW EQUIPMENT.
- CONTRACTOR TO VERIFY THE EXISTING CIRCUIT BREAKERS AND CABLES FEEDING THE FURNACES AND CONDENSING UNIT. THE REQUIRED BREAKER FOR EACH FURNACE FU-1, FU-2 AND FU-3 IS 15A-1P (120V/1PH/60Hz) AND FOR CONDENSER UNIT IS 35A-2P (208V/1PH/60Hz ) AND CABLES TO MATCH THE FEEDER BREAKER. CONTRACTOR TO REPLACE BREAKERS AND CABLES IF DON'T MATCH THE REQUIREMENTS.
- ALL NEW ELECTRICAL WORKS AND ALL NEW ELECTRICAL EQUIPMENT RATINGS (INCLUDING ALL CABLES AND CIRCUIT BREAKERS) TO MEET THE CEC REQUIREMENTS.
- ELECTRICAL CONTRACTOR TO REFER TO MECHANICAL SCHEDULE AND EQUIPMENT LAYOUT FOR ALL MECHANICAL EQUIPMENT RATING AND ELECTRICAL REQUIREMENTS.

1:50

M00-01

BASEMENT MECHANICAL DEMOLITION LAYOUT





### ELECTRICAL GENERAL NOTES:

- GENERALLY THE ELECTRICAL SCOPE OF WORK CONSISTS OF PROVIDING ELECTRICAL CONNECTIONS TO MECHANICAL EQUIPMENT THAT IS BEING REPLACED WITH NEW. ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING MECHANICAL EQUIPMENT BEING DEMOLISHED AND RECONNECT NEW EQUIPMENT ONCE INSTALLED. EXISTING CONNECTIONS CAN BE REUSED PROVIDED THE CIRCUIT BREAKER AND WIRING ARE SUFFICIENTLY SIZED TO SERVICE NEW EQUIPMENT.
- CONTRACTOR TO VERIFY THE EXISTING CIRCUIT BREAKERS AND CABLES FEEDING THE FURNACES AND CONDENSING UNIT. THE REQUIRED BREAKER FOR EACH FURNACE FU-1, FU-2 AND FU-3 IS 15A-1P (120V/1PH/60Hz) AND FOR CONDENSER UNIT IS 35A-2P (208V/1PH/60Hz ) AND CABLES TO MATCH THE FEEDER BREAKER. CONTRACTOR TO REPLACE BREAKERS AND CABLES IF DON'T MATCH THE REQUIREMENTS.
- ALL NEW ELECTRICAL WORKS AND ALL NEW ELECTRICAL EQUIPMENT RATINGS (INCLUDING ALL CABLES AND CIRCUIT BREAKERS) TO MEET THE CEC REQUIREMENTS.
- ELECTRICAL CONTRACTOR TO REFER TO MECHANICAL SCHEDULE AND EQUIPMENT LAYOUT FOR ALL MECHANICAL EQUIPMENT RATING AND ELECTRICAL REQUIREMENTS.

### MECHANICAL GENERAL NOTES:

- A. CONTRACTOR TO VERIFY THE EXISTING CONDITION BEFORE COMMENCEMENT OF DEMOLITION.
- B. DISCONNECT AND REMOVE FURNACES AND DX COOLING COIL. ALL EXISTING DUCTWORK, GAS LINES, FLUES, ARE TO BE REMAINED AND CAPPED FOR FUTURE **RE-CONNECTION**.
- C. SUPPLY AND INSTALL ALL FIRE STOPPING MATERIAL AND ENSURE THAT ALL FIRE PENETRATIONS ARE PROTECTED AS REQUIRED BY THE ALBERTA BUILDING CODE AND THE LOCAL AUTHORITIES.
- MECHANICAL SYSTEMS AND THEIR SUPPORTS, AND THE LIKE, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED UNDER 'SERVICEABILITY CRITERIA' ON THE STRUCTURAL DRAWINGS.
- DESIGN AND DETAIL ALL NECESSARY SEISMIC RESTRAINTS FOR MECHANICAL SYSTEMS SHOWN ON THE CONTRACT DOCUMENTS. SUBMIT SHOP DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, FOR REVIEW BY THE CONSULTANT.
- MECHANICAL CONTRACTOR SHALL SUBMIT SLEEVING DRAWINGS INDICATING LAYOUT AND SIZES OF ALL INTENDED PENETRATIONS THROUGH ANY STRUCTURAL ELEMENTS, INCLUDING ANY EMBEDDED ITEMS, FOR REVIEW BY CONSULTANT WELL IN ADVANCE OF COMPLETING THE WORK.
- G. PROVIDE COLLAR CONNECTION; LENGTH TO SUIT SITE CONDITION.

### MECHANICAL KEY NOTES:

- () NEW 584x406mm HORIZONTAL RETURN AIR DUCT FROM FURNACE.
- $\bigcirc$ NEW 584x250mm VERTICAL RETURN AIR DUCT TO BE CONNECTED TO EXISTING FLEXIBLE CONNECTION.
- (3) EXTEND VENT PIPE AND CONNECT TO EXISTING PIPE TO SUITE NEW FURNACE HEIGHT (TYPICAL FOR THREE FURNACES).
- (4) REPLACE EXISTING THERMOSTAT WITH NEW SPECIFIED THERMOSTAT AS PER SCHEDULE; CONTRACTOR TO VERIFY LOCATION ON SITE.

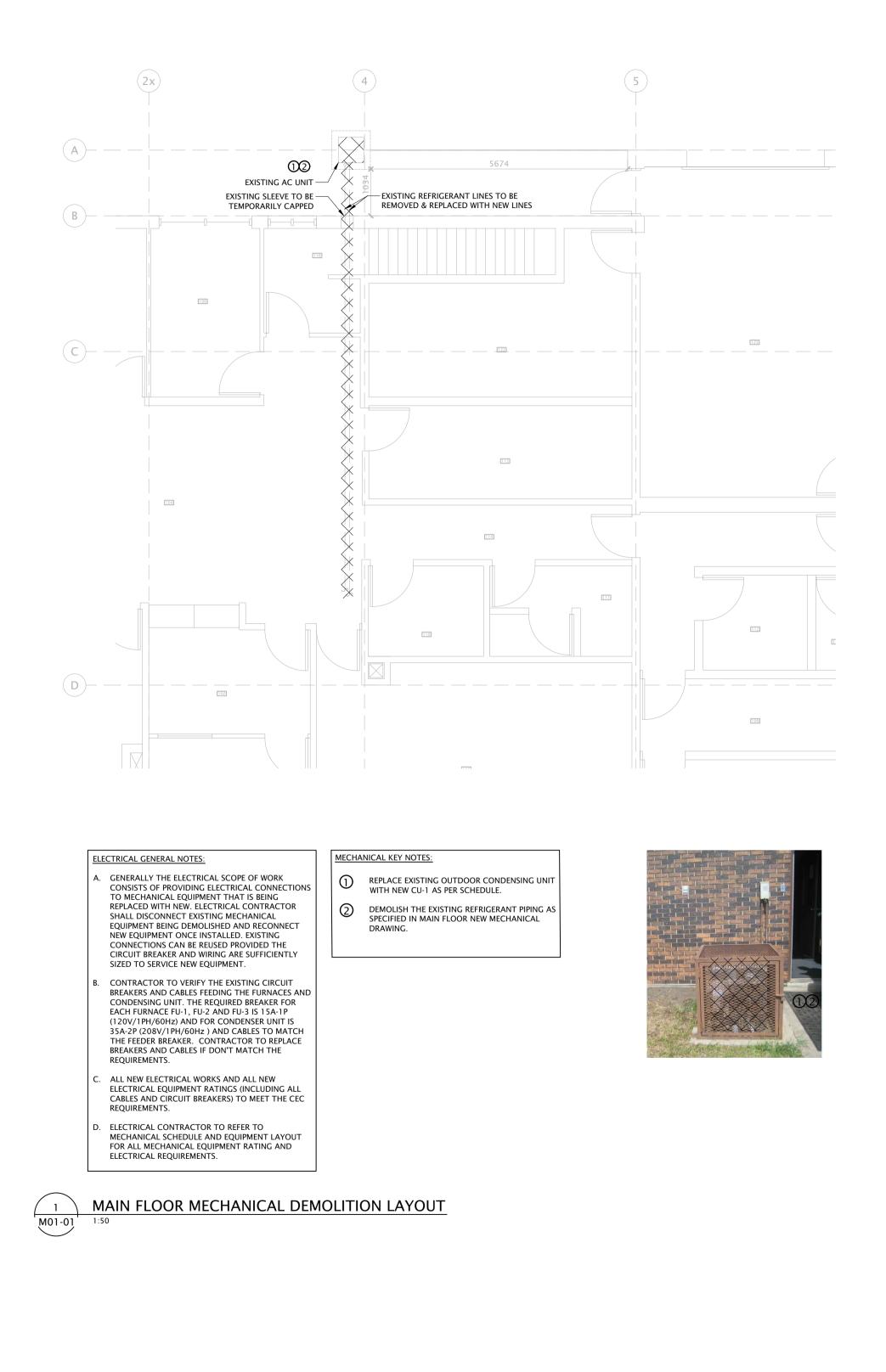
## MECHANICAL LEGEND:

EXISTING TO REMAIN EXISTING TO BE REMOVED NEW

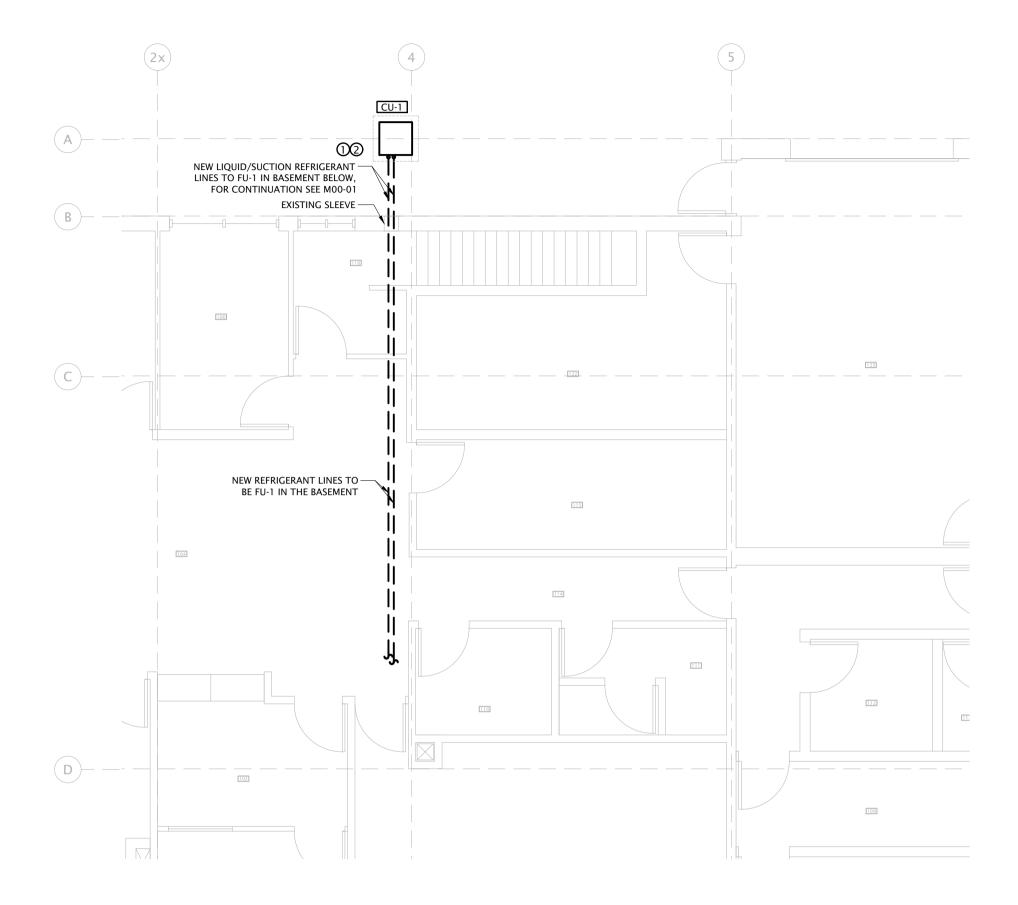
2 M00-01

BASEMENT MECHANICAL NEW LAYOUT 1:50

| DATE   | ISS  | SUED FOR                                  | REV                                       |
|--|--|---|---|
| 2016-09-30   | 50   | % REVIEW                                  | 1   |
| 2016-11-01   | 90   | % REVIEW                                  | 2   |
| 2016-11-10   | 7  | TENDER                                    | 3   |
| of the CLIENT and<br>any kind made<br>Planners to any p<br>Engineers Planner<br>This drawing sha   | d there are<br>by NORR<br>arty with v<br>s has not e<br>ull not be<br>e seal appe<br>Architect o   |   | ns of<br>neers<br>tects<br>ract.<br>ction |
| North Arrow  |  | Detail Symbol                             |   |
| 1 Nog  |  | DETAIL#<br>SHEET #<br>Symbol not to scale | Ĵ   |
| $\overline{}$  |  |   |   |
|  |  | CTS ENGINEERS PLAN<br>CTS ENGINEERS PLAN  |   |
| Seal(s)  |  |   |   |
| AND ANDERSON   | ALL TANGE AND  | PP-11944<br>Nov 10,370 JG                 |   |
| Architects engl<br>Architects engl<br>An Ingenium Group<br>An Ingenium Group<br>Atta - 1 st Street<br>Suite 2300,<br>Calgary, Alberta<br>www.norr.com<br>A Partnership of I<br>Promakenze Architect, AAR<br>Ronald A. Poon, Architect,<br>A Silvio Baldasarra, Archite<br>A Silvio Baldasarra, Archite | NEERS PLAN<br>9 Company<br>SE,<br>a, Canada 7<br>Limited Comm<br>10 Inc. Poon McKenzie H<br>20 McKenzie H<br>2 | "2G 4Y5<br>panies<br>sued under license.  |   |
| Project Manager  | Di   | rawn                                      |   |
| D.HIDER<br>Project Leader  | Cł   | ALY/A.MOHAMMA<br>necked                   | DZA.                                      |
| D.HIDER<br>Client  | L.'  | YANG / D.HIDER                            |   |
| RCMP   |  |   |   |
| Project<br>BASHAW<br>RCMP DETA<br>RENOVATIC  | CHMEN  | Т   |   |
| Drawing Title<br>BASEME<br>LAYOUT<br>Check Scale (may  |  |   | ۹L  |
|  | linch  | 0 10mr                                    | n   |
| Drawing No.  | CCA-16-  |   |   |
|  |  | -   |   |



: November 10, 2016 TIME: 9:11 AM FULL PATH AND FILENAME: P:\RCMP\_PROJECTS\NCCA16009499 RCMP BASHAW RENOVATIONS\BASHAW-DRAWINGS\MECHANICAL\WD\M01-01.DWG PLOTSYLE TABLE: Inger



### ELECTRICAL GENERAL NOTES:

- A. GENERALLY THE ELECTRICAL SCOPE OF WORK CONSISTS OF PROVIDING ELECTRICAL CONNECTIONS TO MECHANICAL EQUIPMENT THAT IS BEING REPLACED WITH NEW. ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING MECHANICAL EQUIPMENT BEING DEMOLISHED AND RECONNECT NEW EQUIPMENT ONCE INSTALLED. EXISTING CONNECTIONS CAN BE REUSED PROVIDED THE CIRCUIT BREAKER AND WIRING ARE SUFFICIENTLY SIZED TO SERVICE NEW EQUIPMENT.
- B. CONTRACTOR TO VERIFY THE EXISTING CIRCUIT BREAKERS AND CABLES FEEDING THE FURNACES AND CONDENSING UNIT. THE REQUIRED BREAKER FOR EACH FURNACE FU-1, FU-2 AND FU-3 IS 1 SA-1P (120V/1PH/60Hz) AND FOR CONDENSER UNIT IS 3 SA-2P (208V/1PH/60Hz) AND CABLES TO MATCH THE FEEDER BREAKER. CONTRACTOR TO REPLACE BREAKERS AND CABLES IF DON'T MATCH THE REQUIREMENTS.
- C. ALL NEW ELECTRICAL WORKS AND ALL NEW ELECTRICAL EQUIPMENT RATINGS (INCLUDING ALL CABLES AND CIRCUIT BREAKERS) TO MEET THE CEC REQUIREMENTS.
- D. ELECTRICAL CONTRACTOR TO REFER TO MECHANICAL SCHEDULE AND EQUIPMENT LAYOUT FOR ALL MECHANICAL EQUIPMENT RATING AND ELECTRICAL REQUIREMENTS.

#### MECHANICAL GENERAL NOTES:

- A. CONTRACTOR TO VERIFY THE EXISTING CONDITION BEFORE COMMENCEMENT OF DEMOLITION.
- B. DISCONNECT AND REMOVE CONDENSING UNIT AND ASSOCIATED REFRIGERANT LINES. PROTECT THE EXISTING REFRIGERANT ROUTE FOR FUTURE REPLACEMENT.
- C. SUPPLY AND INSTALL ALL FIRE STOPPING MATERIAL AND ENSURE THAT ALL FIRE PENETRATIONS ARE PROTECTED AS REQUIRED BY THE ALBERTA BUILDING CODE AND THE LOCAL AUTHORITIES.
- D. MECHANICAL SYSTEMS AND THEIR SUPPORTS, AND THE LIKE, MUST BE DESIGNED AND DETAILED TO ACCOMMODATE THE ANTICIPATED MOVEMENTS NOTED UNDER 'SERVICEABILITY CRITERIA' ON THE STRUCTURAL DRAWINGS.
- E. DESIGN AND DETAIL ALL NECESSARY SEISMIC RESTRAINTS FOR MECHANICAL SYSTEMS SHOWN ON THE CONTRACT DOCUMENTS. SUBMIT SHOP DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE PROVINCE OF ALBERTA, FOR REVIEW BY THE CONSULTANT.
- F. MECHANICAL CONTRACTOR SHALL SUBMIT SLEEVING DRAWINGS INDICATING LAYOUT AND SIZES OF ALL INTENDED PENETRATIONS THROUGH ANY STRUCTURAL ELEMENTS, INCLUDING ANY EMBEDDED ITEMS, FOR REVIEW BY CONSULTANT WELL IN ADVANCE OF COMPLETING THE WORK.

### MECHANICAL KEY NOTES:

- O PROVIDE AND INSTALL NEW CONDENSING UNIT CU-1 AS PER SCHEDULE.
- 2 PROVIDE AND INSTALL NEW REFRIGERANT PIPING.

### MECHANICAL LEGEND:

EXISTING TO REMAIN
EXISTING TO BE REMOVED
NEW



# MAIN FLOOR MECHANICAL NEW LAYOUT

| DATE<br>2016-09-30  |  | SUED FOR<br>% REVIEW  | REV   |  |  |  |  |  |
|---|--|---|---|--|--|--|--|--|
| 2016-11-01  |  | % REVIEW  | 2   |  |  |  |  |  |
| 2016-11-10  | 7  | TENDER  | 3   |  |  |  |  |  |
| This drawing has<br>of the CLIENT and<br>any kind made<br>Planners to any p<br>Engineers Planner<br>This drawing sha<br>purposes until the<br>and dated by the .<br>Project Componer<br><b>Phase # - D</b><br>Keyplan                               | d there are<br>by NORR<br>arty with v<br>s has not e<br>all not be<br>e seal appe<br>Architect o   | no representation<br>Architects Engin<br>whom NORR Archi<br>ntered into a cont<br>used for constru<br>aring hereon is si<br>r Engineer. | ns of<br>neers<br>itects<br>tract.<br>ction |  |  |  |  |  |
|   |  |   |   |  |  |  |  |  |
| North Ame   |  | Detail Court  |   |  |  |  |  |  |
| North Arrow   |  | Detail Symbol   | - <br>;<br>/                                |  |  |  |  |  |
|   |  | CTS ENGINEERS PLAN<br>CTS ENGINEERS PLAN  |   |  |  |  |  |  |
| Seal(s)   |  |   |   |  |  |  |  |  |
| NO  | ALLERAY<br>2016  | PP-11944<br>Nov 10, 70 JG   |   |  |  |  |  |  |
| ARCHITECTS ENGI<br>An Ingenium Group<br>411 - 1st Street<br>Suite 2300,<br>Calgary, Alberta<br>www.norr.com   | Company<br>SE,   |   |   |  |  |  |  |  |
| A Partnership of<br>Poon McKenzie Architects (Albert<br>NORR is a trademark owned by In<br>Victor Smith, Architect, AA<br>Ronald M. Poon, Architect,<br>Bruce G. McKenzie, Archite<br>A. Silvio Baldassarra, Archit<br>Adrian Todeila, P.Eng., APEG | a) Inc. Poon McKenzie H<br>genium Group Inc. and<br>A, B.Arch, MAIBC<br>AAA, M.Arch, MAIBC<br>It, AAA, M.Arch, MA<br>ect, AAA, B.Arch, M | oldings Inc.<br>is used under license.<br>IBC   |   |  |  |  |  |  |
| Project Manager<br>D.HIDER  |  | rawn<br>ALY/A.MOHAMMA   |   |  |  |  |  |  |
| Project Leader<br>D.HIDER   | CI   | necked<br>YANG / DI.HIDER   |   |  |  |  |  |  |
|   | L.   |   |   |  |  |  |  |  |
|   |  |   |   |  |  |  |  |  |
| Project<br>BASHAW<br>RCMP DETA<br>RENOVATIC   | CHMEN  | Т   |   |  |  |  |  |  |
| Drawing Title<br>MAIN FLOOR<br>MECHANICAL LAYOUT  |  |   |   |  |  |  |  |  |
| Check Scale (may be photo reduced)<br>0 linch 0 10mm  |  |   |   |  |  |  |  |  |
| Drawing No.   | CCA-16-  |   |   |  |  |  |  |  |
| N   | 101-0  | I   |   |  |  |  |  |  |