

WORKSHOP

Addendum 02

Project: CSV Pavillon de la Jeunesse Child Care Addition
105 High St, Hamilton, ON
Tender No.: 24-142

Date: 12 December 2024
Pages incl. cover: 10

The following changes, additions, deletions and clarifications are hereby made an integral part of the documents, including the drawings and specifications for the above project.

Item	Description
1.00	Refer to the attached: Electrical Addendum E-02 (8 pages attached) dated 12 December 2024, prepared by Mantecon Partners. Door hardware group No. 18 (1 page attached)
1.01	Clarification: For additional clarity, within project technical specifications any and all reference to testing & inspections "by Owner" shall be understood to be carried out by a 3rd party testing and inspection agency acceptable to the Owner and paid for from the Cash Allowance value identified within the Bid Form. Testing/Inspections by Contractor, if any, shall be included within the Bid Price.
1.02	Addition: Provide a card reader at door DS06. Refer to the attached Electrical Addendum and revised hardware group No. 18.
1.03	Revision: Provide 150mm (6") of mineral wool insulation at EW2a. Refer to the revised Assembly Schedule on A0.1 attached.
1.04	Addition: Remove 1 existing wall-mounted basketball hoop at the location of new W7 windows at Classroom 131. Hand over to Owner.
1.05	Question: Can we request the abatement scope of work for this job? There is just a DSS report. Answer: A cash allowance of \$50,000 has been added to cover abatement.
1.06	Question: D105A and D105B require ADOs as per the door schedule and hardware schedule but show nothing on the electrical power plan. Please confirm if these are required. Answer: Yes, power door operators are required at door D105A and D105B. Refer to Electrical Addendum E-02.
1.07	Question: D115A, D115B, & D115C require ADOs as per the door schedule and electrical power plan but show nothing on the hardware schedule. Please confirm if these are required, and if so please update the hardware schedule. Answer: Refer to the door hardware schedule issued in Addendum 01 and revised Hardware Group #18 attached to this addendum.
1.08	Question: Are we to go by the written door schedule in spec starting page 170 or the door schedule in arch Drawing A0.1. The door schedule makes sense and matches the architectural floor plans and electrical for ADO's. However the spec door #'s do not match? Answer: Refer to the door hardware schedule issued in Addendum 01 and revised Hardware Group #18 attached to

WORKSHOP

	this addendum.
1.09	Question: Which specific windows require sprinkler protection? The print references existing glass to be protected but the area denoted is new construction. Answer: Sprinkler protection of glazed assemblies is not required.

End of Addendum 02

ADDENDUM

E-02

Architect:	Workshop	Date:	December 12 th , 2024
Project:	CSV Pavillon de la Jeunesse Childcare Addition	Project No.:	22-059

This addendum forms part of the contract documents and amends the original bidding requirements, drawings and specifications noted below.

1 Electrical

1.1 Drawings

- .1 E0.1 Electrical Specifications
 - Updated specifications to include additional security information
- .2 E0.2 Electrical Specifications
 - Updated specifications to include additional security information
- .3 E1.0 First Floor Power and Lighting Demolition Plan
 - Updated scale in title block
- .4 E2.1 First Floor Proposed Power Plan
 - Added security hardware to door DS06
 - Added ADOs to doors D105A and D105B
 - Updated circuits to accommodate new ADOs
 - Updated scale in title block
- .5 E2.2 Existing Power Plan
 - Updated scale in title block
- .6 E4.0 Electrical Schedules
 - Updated ADO circuits
- .7 E5.0 Electrical Details
 - Added side view and depth to classroom control panel detail

END OF ADDENDUM E-02

ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

- DEFINITIONS: FOLLOWING ARE DEFINITIONS OF WORDS FOUND IN THIS SPECIFICATION AND ON ASSOCIATED DRAWINGS:
 - "CONCEALED" - HIDDEN FROM NORMAL SIGHT IN FURRED - SPACES, SHAFTS, CEILING SPACES, WALLS, UNDERFLOOR, AND PARTITIONS.
 - "EXPOSED" - ALL ELECTRICAL WORK VISIBLE TO BUILDING OCCUPANTS.
 - "PROVIDE" - (AND ALL TENSES OF "PROVIDE") SUPPLY, INSTALL, WIRE AND CONNECT COMPLETE.
 - "INSTALL" - (AND ALL TENSES OF "INSTALL") - INSTALL, WIRE AND CONNECT COMPLETE, PRODUCTS AND SERVICES SPECIFIED.
 - "SUPPLY" - SUPPLY ONLY.
 - "FINISHED AREA" - ANY AREA OR PART OF AN AREA WHICH RECEIVES A FINISH SUCH AS PAINT, OR IS FACTORY FINISHED.
 - "GOVERNING AUTHORITY" AND/OR "REGULATORY AUTHORITY" AND/OR "MUNICIPAL AUTHORITY" - ALL GOVERNMENT DEPARTMENTS, AGENCIES, STANDARDS, RULES AND REGULATIONS THAT APPLY TO AND GOVERN THE ELECTRICAL WORK AND TO WHICH THE WORK MUST ADHERE.
 - "OR APPROVED EQUAL" - MATERIAL OR EQUIPMENT PROPOSED BY CONTRACTOR, IN LIEU OF THAT SPECIFIED, AS APPROVED BY CONSULTANT.
 - "AS INDICATED" - AS SHOWN ON DRAWINGS AND/OR NOTED IN SPECIFICATIONS.
 - "CONSULTANT" - ARCHITECT OR CONSULTING ENGINEER WHO HAS PREPARED THE CONTRACT DOCUMENTS ON BEHALF OF THE OWNER.
- PROVIDE ALL WORK AND MATERIALS IN ACCORDANCE WITH THE LATEST EDITIONS OF THE ONTARIO ELECTRICAL SAFETY CODE FOR PROPRIETARY BUILDING CODE, APPLICATION CSA AND ULC STANDARDS, THE REQUIREMENTS OF THE ELECTRICAL SAFETY AUTHORITY AND ALL OTHER APPLICABLE MUNICIPAL AND PROVINCIAL CODES AND REGULATIONS, ANY MATERIALS, EQUIPMENT OR INSTALLATIONS NOT MEETING ALL REQUIREMENTS OF THE APPROPRIATE REGULATORY AGENCIES WILL NOT BE ACCEPTED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THESE REQUIREMENTS ARE MET AND PROVIDE EVIDENCE OF SUCH AS REQUESTED.
- CAREFULLY EXAMINE THE SITE AND TENDER DOCUMENTS FOR THE WORK IN ACCORDANCE WITH THE INSTRUCTIONS TO BIDDERS, VISIT THE EXISTING BUILDING AND BECOME FAMILIAR WITH EXISTING ARCHITECTURAL, STRUCTURAL AND MECHANICAL CONDITIONS, THE LOCATION OF EXISTING ELECTRICAL EQUIPMENT AND INSTALLATIONS, AND OTHER FACTORS RELATED TO THE WORK TO BE DONE. NO EXTRA CHARGES WILL BE CONSIDERED FOR ANYTHING WHICH COULD HAVE BEEN REVEALED IN THE COURSE OF SUCH EXAMINATIONS.
- THE ELECTRICAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF ALL WORK BEARING UPON THE ELECTRICAL TRADE. PLAN WORK WELL IN ADVANCE TO ELIMINATE DELIVERY AND INSTALLATION DIFFICULTIES. CO-ORDINATE WORK WITH OTHER TRADES TO PREVENT CONFLICTS ON SITE AND RESOLVE INTERFERENCES. PROVIDE WORK IN STAGES AND AT TIMES REQUIRED BY THE PROJECT SCHEDULE.
- ALL ELECTRICAL WORK SHALL BE COMPLETED TO BUILDING OWNER REQUIREMENTS AND BUILDING STANDARDS IN ACCORDANCE WITH THE RELEVANT CODE SECTIONS, ARTICLES AND DETAILS OF THE BASE BUILDING SPECIFICATIONS AND DRAWINGS.
- OBTAIN AND PAY FOR PERMITS REQUIRED BY THE ELECTRICAL SAFETY AUTHORITY (ESA) AND LOCAL INSPECTION AUTHORITIES FOR THIS WORK. PRESENT FINAL CERTIFICATES TO CONSULTANT AND OWNER.
- ALL WORK SHALL BE PROVIDED BY QUALIFIED JOURNEYMAN ELECTRICIANS OR APPRENTICES HOLDING VALID ONTARIO CERTIFICATES OF QUALIFICATION AND BE SUPERVISED BY A COMPETENT FOREMAN.
- REPORT TO THE CONSULTANT RELEASING THEIR COMPLIANCE LETTER THE WORK MUST BE COMPLETE AND SAFE. THE FOLLOWING DOCUMENTATION MUST BE SUBMITTED WITH NO DEFICIENCIES:
 - ESA INSPECTION CERTIFICATE
 - FIRE ALARM VERIFICATION REPORT (WITHOUT EXCEPTIONS)
 - FIRE ALARM AUDIBILITY REPORT (WITHOUT EXCEPTIONS)
 - EMERGENCY LIGHTING TEST REPORT
- CARRY OUT ALL WORK IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE (OESC) REGULATIONS INCLUDING BULLETINS, AND ELECTRICAL SAFETY AUTHORITY INSPECTION REQUIREMENTS.
- PAY ALL FEDERAL AND PROVINCIAL SALES TAXES APPLICABLE.
- ALL EQUIPMENT SHALL BE NEW AND CSA (OR EQUIVALENT PER OESC) APPROVED UNLESS OTHERWISE NOTED.
- MATERIALS SUPPLIED SHALL CONFORM TO MINIMUM PUBLISHED REQUIREMENTS AND RECOMMENDATIONS, OR BETTER, OF APPLICABLE STANDARDS OF:
 - CSA - CANADIAN STANDARDS ASSOCIATION
 - EMEA-C - ELECTRICAL AND ELECTRONIC MANUFACTURERS' ASSOCIATION OF CANADA
 - NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
 - ULC - UNDERWRITERS LABORATORIES OF CANADA LTD.
 - OESC - ONTARIO ELECTRICAL SAFETY CODE
 - ESA - ELECTRICAL SAFETY AUTHORITY
 - OBC - ONTARIO BUILDING CODE
- DRAWINGS WHICH ACCOMPANY THESE SPECIFICATIONS ARE DIAGRAMMATIC AND SHOW THE REQUIRED DISTRIBUTION, NUMBER AND LOCATIONS OF THE ELECTRICAL EQUIPMENT, FIXTURES AND OUTLETS, AND INDICATE SUGGESTED CIRCUITING. DO NOT SCALE DRAWINGS BUT USE ONLY DIMENSIONS WHICH ARE SHOWN. WHERE EXACT BUILDING DIMENSIONS AND DETAILS ARE REQUIRED, USE ONLY DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS OR JOB SITE DIMENSIONS.
- KEEP A COMPLETE AND SEPARATE SET OF PRINTS ON SITE AT ALL TIMES AND NOTE THEREON CLEARLY, HEAVILY, ACCURATELY AND PROMPTLY ALL ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL CHANGES, REVISIONS AND ADDITIONS TO THE WORK AND DEVIATIONS FROM THE CONTRACT DOCUMENTS. ACCURATE LOCATIONS, DEPTH, SIZE AND TYPE OF UNDERGROUND UTILITIES SHALL BE INCLUDED IN THESE RECORD DRAWINGS. INDICATE ALSO ON THE RECORD DRAWINGS THE LOCATION OF ACCESS PANELS OR REMOVABLE CEILING TILES WHICH COVER EQUIPMENT OR JUNCTION BOXES WHICH MAY REQUIRE FUTURE ACCESS OR WHERE CONDUIT OR WIRING FOR FUTURE USE IS LOCATED. THE FINAL AS-BUILT DRAWINGS SHALL BE SUBMITTED AT THE COMPLETION OF THE PROJECT WITH AN APPLICATION FOR A CERTIFICATE OF TOTAL PERFORMANCE. INDICATE IN RED INK ON AS-BUILT DRAWINGS ALL DEVIATIONS AND APPROVED CHANGES FROM THE CONTRACT DRAWINGS.
- SUBMIT FOR REVIEW A SINGLE (1) SET OF SHOP DRAWINGS AND DATA SHEETS IN EITHER .PDF OR HARD COPY FORMAT COVERING ALL ITEMS OR EQUIPMENT TO BE INSTALLED UNDER THE CONTRACT. SHOP DRAWINGS SHALL SHOW ALL RELEVANT PERFORMANCE AND INSTALLATION INFORMATION. EQUIPMENT WILL NOT BE ACCEPTED ON SITE UNTIL REVIEW OF SHOP DRAWINGS IS COMPLETE. SUBMIT SHOP DRAWINGS FOR LIGHTING FIXTURES, EXT LIGHTS, EMERGENCY LIGHTS AND BATTERY UNITS, DISCONNECT SWITCHES, STARTERS, TRANSFORMERS, NEW PANELS, FIRE ALARM, VOICE/DATA WIRING, AND OTHER SYSTEMS SPECIFIED IN THIS PROJECT TO CONSULTANT FOR REVIEW.
- ARCHITECTURAL SPECIFICATIONS AND DRAWINGS SHALL BE REVIEWED IN CONJUNCTION WITH THESE DRAWINGS AS THEY ARE PART OF THIS WORK.
- COORDINATE WITH ALL TRADES AND ARRANGE EQUIPMENT IN PROPER RELATION WITH OTHER APPARATUS, DUCTS, PIPES, ETC., AND WITH BUILDING CONSTRUCTION AND ARCHITECTURAL FINISHES.
- IN GENERAL, ALL NECESSARY CUTTING AND PATCHING FOR THE ELECTRICAL WORK SHALL BE PROVIDED BY THE APPROPRIATE TRADE AT THE EXPENSE OF THE CONTRACTOR UNLESS INDICATED OTHERWISE ON THE DRAWINGS. HOLES THROUGH EXTERIOR WALLS AND ROOF ARE TO BE PROPERLY FLASHED AND MADE WEATHERPROOF. REPAIR ANY DAMAGE CAUSED BY THE ELECTRICAL TRADE TO EXISTING BUILDINGS OR EQUIPMENT, ETC.. TO THE OWNER'S SATISFACTION. IN GENERAL, PAINTING OF ELECTRICAL WORK AND PATCHES AS REQUIRED WILL BE PROVIDED BY THE ELECTRICAL TRADE.
- PROVIDE ALL EXCAVATION, TRENCHING, BACKFILLING, COMPACTION AND CONCRETE REQUIRED FOR THE ELECTRICAL WORK UNLESS OTHERWISE INDICATED. ALL EXCAVATIONS SHALL BE BACKFILLED WITH CLEAN MATERIALS (SAND TO 100 mm (4") COVER ALL AROUND FOR DIRECT BURIED CONDUIT OR CABLES) AND BE POWER COMPACTED TO A MINIMUM OF 100% PROCTOR UNLESS INDICATED OTHERWISE. ALL CONCRETE SHALL BE FORMED IN PLACE, BE RATED MINIMUM 25 MPa AND BE PROVIDED AS A CONTINUOUS POUR. PROVIDE STEEL REINFORCEMENT WHERE INDICATED. CONCRETE ENCASED DUCTS SHALL BE PROVIDED WITH A MINIMUM 75 mm (3") CONCRETE ENVELOPE, RESTORE TO ORIGINAL CONDITION ALL SURFACES, LANDSCAPING, ETC. DISTURBED BY EXCAVATION WORK.
- MATERIALS REMOVED AND NOT REUSED WILL BECOME OWNER'S PROPERTY, AND SHALL BE DISPOSED OF FROM THE SITE PRIOR TO COMPLETION OF WORK AS DIRECTED BY OWNER.
- THOROUGHLY CLEAN ALL ELECTRICAL EQUIPMENT DURING CONSTRUCTION AND ON COMPLETION OF CONTRACT. REMOVE ALL ELECTRICAL DEBRIS FROM THE SITE.
- PROVIDE LEGIBLE SIGNS AND BARRIERS TO BE AROUND ALL LIVE PANELS AND EQUIPMENT DURING CONSTRUCTION TO PREVENT INJURY OR SHOCK.
- TEST ALL EQUIPMENT AND WIRING AT ANY TIME REQUESTED BY THE OWNER AS PART OF THE CONTRACT. PROVIDE ALL METERS, MATERIALS AND LABOUR REQUIRED TO CARRY OUT THIS WORK. PRIOR TO CONNECTION OF ADDITIONAL LOADS TO EXISTING SOURCES, ENSURE THROUGH LOAD MEASUREMENT AND MONITORING THAT THE REQUIRED EXCESS CAPACITY IS AVAILABLE.
- UPON COMPLETION OF THE ELECTRICAL INSTALLATIONS, TRIAL OPERATE ALL EQUIPMENT, SYSTEMS AND DEVICES TO ENSURE CORRECT FUNCTIONING. FOLLOWING SATISFACTORY TRIAL OPERATION, INSTRUCT THE OWNERS REPRESENTATIVE REGARDING OPERATION AND MAINTENANCE OF THE SYSTEMS AND EQUIPMENT INSTALLED.
- PERFORM ALL WORK IN SUCH A MANNER AS TO CAUSE AS LITTLE DISTURBANCE OR INCONVENIENCE AS POSSIBLE TO THE EXISTING OPERATIONS, WHERE DEEMED NECESSARY BY THE OWNER OR CONSULTANT. PROVIDE TEMPORARY MEASURES AS REQUIRED TO MAINTAIN SPECIFIC SERVICES AND/OR PROVIDE WORK OUTSIDE REGULAR HOURS AT NO ADDITIONAL COST. DO NOT INTERRUPT ANY ELECTRICAL SERVICES WITHOUT PRIOR AUTHORIZATION.
- PROVIDE ALL SLEEVES, INSERTS, HANGERS AND CORE DRILLING OF SLAB REQUIRED FOR THE ELECTRICAL WORK. TREAT ALL SLEEVES OR HOLES PERFORMED ACUSTICAL SEPARATIONS FOR

ELECTRICAL SPECIFICATIONS

- INSTALLATIONS OF THIS DIVISION TO MAINTAIN ACOUSTICAL RATING. ALL GAPS SHALL BE PACKED WITH ACOUSTICAL INSULATION AND SEALED AT BOTH ENDS WITH ACOUSTICAL CAULKING. PATCH ALL OPENINGS AROUND INSTALLATIONS OF THIS DIVISION PERCING FIRE OR SMOKE SEPARATIONS WITH AN APPROVED WATERIGHT SMOKE AND FIRE STOP SEALANT.
- PROVIDE ALL ACCESS DOORS REQUIRED FOR THE ELECTRICAL INSTALLATIONS. ACCESS DOOR SIZE, TYPE AND FIRE RATING SHALL BE IN ACCORDANCE WITH THE ARCHITECTURAL SPECIFICATIONS AND CONDITIONS.
- GENERALLY, MOUNT EQUIPMENT AS CLOSE AS PRACTICAL TO THE LOCATION SHOWN ON THE DRAWINGS TAKING INTO CONSIDERATION SITE CONDITIONS. ENSURE ALL EQUIPMENT IS LOCATED IN A MANNER ALLOWING EASY ACCESS FOR MAINTENANCE, REPAIR OR ADJUSTMENT. CONFIRM ALL ARCHITECTURAL CONDITIONS SUCH AS GLAZING, DOOR SWINGS, FURNITURE AND EQUIPMENT TYPES AND LAYOUTS, ETC., ON-SITE PRIOR TO INSTALLING ANY RELATED ITEM OR WIRING.
- REFER TO LIGHTING CONTROL SEQUENCE OF OPERATION FOR EACH SPACE. CONTRACTOR SHALL PROVIDE A COMPLETE SYSTEM CONSISTING OF ALL CONTROL DEVICES, WIRING, CONNECTIONS, ETC. AS REQUIRED.
- THE OWNER RESERVES THE RIGHT TO RELOCATE ANY FIXTURE, OUTLET, DEVICE, EQUIPMENT, ETC., UP TO 3 m (10') PRIOR TO INSTALLATION WITHOUT INCURRING ANY EXTRA COST. CONFIRM LOCATIONS, MOUNTING HEIGHT AND ARRANGEMENT OF ALL OUTLETS ON-SITE PRIOR TO INSTALLATION.
- PROVIDE SPINKERPROOF HOODS AND DOORS FOR ELECTRICAL EQUIPMENT INSTALLED IN SPRINKLERED AREAS.
- ARRANGE WITH COMMUNICATIONS SERVICE PROVIDER FOR INSTALLATION OF NEW PHONE/INTERNET/CATV WIRING AND RACEWAYS AS REQUIRED. RACEWAYS SHALL BE EMT IN WALLS AND CEILING SPACES; PVC BELOW FLOOR SLABS ON GRADE.
- IF ASBESTOS MATERIAL IS ENCOUNTERED, STOP WORK IN THE AFFECTED AREA IMMEDIATELY AND NOTIFY THE CONSULTANT AND OWNER.
- GUARANTEE ALL MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER/CONSULTANT. PROVIDE WRITTEN GUARANTEE.
- OWNER RESERVES RIGHT TO TRIAL AND/OR TEMPORARY USE PRIOR TO ACCEPTING INSTALLATION.
- ON COMPLETION OF PROJECT AND BEFORE FINAL PAYMENT, SUBMIT:
 - ONE (1) SET OF PDF'S AS-BUILT DRAWINGS WITH ALL CHANGES AND BURED SERVICES EXACT LOCATIONS NOTED THEREON. PLOT USING THE CONSULTANT CIB FILE. DRAWING SHALL HAVE THE ELECTRICAL CONTRACTORS LOGO AND CONTACT INFORMATION, ISSUED FOR AS-BUILT WITH THE CURRENT DATE.
 - SUBMIT THREE (3) COPIES (BOTH ELECTRONIC (CD) AND HARD COPIES) OF MAINTENANCE DATA AND OPERATING INSTRUCTIONS IN A HARD-CASE, 3 RING BINDER. EACH OF WHICH IS TO INCLUDE:
 - 1 COPY OF EACH SHOP DRAWING (REVISED AS PER THE REVIEWED DRAWINGS).
 - 1 COPY OF EQUIPMENT PARTS LIST.
 - 1 COPY OF RECOMMENDED LIST OF SPARE PARTS.
 - 1 COPY OF OPERATING AND MAINTENANCE INSTRUCTIONS.
 - 1 COPY OF EQUIPMENT INSTALLATION DETAILS, CONSTRUCTION AND PERFORMANCE DATA.
 - 1 LIST OF ALL MANUFACTURING AND EQUIPMENT SERVICE DEPOTS INCLUDING TELEPHONE NUMBERS.
 - 1 COPY OF THE ELECTRICAL SAFETY AUTHORITY FINAL INSPECTION CERTIFICATE.
 - 1 COPY OF THE EMERGENCY LIGHTING TEST RESULTS
 - 1 COPY OF THE FIRE ALARM VERIFICATION CERTIFICATE
 - 1 COPY OF ANY OTHER CERTIFICATES, APPROVAL LETTERS, ETC.
- WIRING AND CONDUIT SHALL BE CONCEALED IN WALLS OR ABOVE CEILINGS UNLESS OTHERWISE APPROVED.
- SUPPLY, INSTALL, WIRE AND CONNECT ALL EQUIPMENT SHOWN, SPECIFIED OR MENTIONED.
- ARRANGE WITH SUPPLY AUTHORITY FOR INCOMING SERVICE AND PAY ALL SUPPLY AUTHORITY CHARGES.
- FOR WIRING, WIRING AND ACCESS CONTROL SYSTEMS, WHERE INDICATED, SECURITY AND ACCESS CONTROL SYSTEMS, REFERENCE STANDARD:
 - CAN/ULC-552S - (LATEST EDITION) - STANDARD FOR INSTALLATION AND CLASSIFICATION OF BURGLAR ALARM SYSTEMS FOR RESIDENTIAL AND COMMERCIAL PREMISES, SAFES AND VAULTS
 - CAN/ULC-538S, LOCAL BURGLAR ALARM UNITS AND SYSTEMS
 - CAN/ULC-530A, INTRUSION DETECTION
 - CAN/ULC-530A, INTRUSION DETECTION UNITS
 - CAN/ULC-530A - (LATEST EDITION), SIGNAL RECEIVING CENTRE AND PREMISE BURGLAR ALARM CONTROL UNITS
 - CAN/ULC-531 - (LATEST EDITION) STANDARD FOR CENTRAL AND MONITORING STATION BURGLAR ALARM SYSTEMS
 - OBC- CSA, CONNECTORS AND SWITCHES FOR USE WITH BURGLAR ALARM SYSTEMS ILL 1016 - (LATEST EDITION), STANDARD FOR SAFETY FOR PROPRIETARY BURGLAR ALARM UNITS AND SYSTEMS
 - ULC-531B, POWER SUPPLIES FOR BURGLAR ALARM SYSTEMS, CAN/ULC-552A - (LATEST EDITION) - INSTALLATION OF FIRE ALARM SYSTEMS
 - CAN/ULC-555S - (LATEST EDITION) - EQUIPMENT FOR FIRE SIGNAL RECEIVING CENTERS AND SYSTEMS
 - CAN/ULC-556I - (LATEST EDITION) - INSTALLATION AND SERVICES FOR FIRE RECEIVING CENTERS AND SYSTEMS
 - OBC- CANADA, CONNECTORS AND SWITCHES FOR USE WITH BURGLAR ALARM SYSTEMS ILL 1016 - (LATEST EDITION), STANDARD FOR SAFETY FOR PROPRIETARY BURGLAR ALARM UNITS AND SYSTEMS
 - ULC-531B, POWER SUPPLIES FOR BURGLAR ALARM SYSTEMS, CAN/ULC-552A - (LATEST EDITION) - INSTALLATION OF FIRE ALARM SYSTEMS
 - CAN/ULC-555S - (LATEST EDITION) - EQUIPMENT FOR FIRE SIGNAL RECEIVING CENTERS AND SYSTEMS
 - CAN/ULC-556I - (LATEST EDITION) - INSTALLATION AND SERVICES FOR FIRE RECEIVING CENTERS AND SYSTEMS
 - UL294 - (LATEST EDITION) STANDARD FOR SAFETY FOR ACCESS CONTROL SYSTEMS.
- COORDINATION:
 - THE COST FOR THIS SUB-TRADE TO SUPPLY AND INSTALL THIS SYSTEM WILL BE CARRIED BY THE ELECTRICAL SUB-CONTRACTOR. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL RACEWAYS AS NOTED ON THE DRAWINGS AND WITHIN THESE DOCUMENTS.
 - THE FOLLOWING SPECIFICATIONS ARE PROVIDED AS A GUIDELINE FOR THE ELECTRICAL CONTRACTOR TO UNDERSTAND THE WORK OF THIS SUB-TRADE.
 - THE ELECTRICAL CONTRACTOR IS TO INCLUDE IN THE TENDER ALL COSTS REQUIRED TO CO-ORDINATE WORK WITH THIS SUB-TRADE.
- SCOPE:
 - THE CONTRACTOR SHALL INSTALL AND PROVIDE ALL LABOUR, MATERIAL, EQUIPMENT, NECESSARY TO IMPLEMENT A PROPRIETARY INTRUSION ALARM AND ACCESS CONTROL SYSTEM AS DESCRIBED IN THE FOLLOWING SPECIFICATION, AS WELL AS CARBIDE GRINDER, ELECTRIC STRIKE, DOOR VIDEO INTERCOM STATION AT MAIN ENTRY, AND DESK MOUNT MONITOR/DOOR RELEASE AT THE SECRETARIAL WORK STATION.
 - DETECTION OF AN ALARM FROM MOTION DETECTORS, OR ALARM OPERATION OF FIRE ALARM SYSTEM, SHALL BE ZONE ANNUNCIATED IN THE CONTROL PANEL AND INITIATE A PROGRAMMED SIGNAL TO BE TRANSMITTED TO A CENTRAL STATION (OF THE OWNER SPECIFICATION) OVER A BELL CANADA TELEPHONE SYSTEM.
 - ALL WIRING SHALL BE INSTALLED IN CONDUIT PROVIDED.
- CONTRACTORS:
 - FOR CO-ORDINATION INFORMATION ONLY, ONE BIDDING SECURITY SUB-CONTRACTOR IS:
 - ARCHIE GALANG
 - CHUBB FIRE & SECURITY 410 LEWIS ROAD UNIT #18
 - STONEY CREEK, ONTARIO, L8E 5V7 DIRECT: 519-580-0917
 - ARCHIE.GALANG@CHUBBS.COM
- OTHER CHUBB CERTIFIED CONTRACTORS ARE INVITED TO BID WITH THE UNDERSTANDING THAT THE FOLLOWING INFORMATION SHALL BE SUBMITTED TO THE CONSULTANT A MINIMUM OF ONE WEEK PRIOR TO TENDER CLOSE FOR CONSIDERATION.
 - CONFIRMATION THAT THE CONTRACTOR HAS BEEN IN BUSINESS AT LEAST 5 YEARS PROVIDING INSTALLATION AND TESTING OF SIMILAR SERVICES.
 - A MINIMUM OF FIVE REFERENCES FOR WHOM YOU HAVE PROVIDED SERVICES.
 - CONFIRMATION OF GENERAL AND FAILURE TO PERFORM LIABILITY INSURANCE WITH A MINIMUM \$5,000,000.00 COVERAGE.
 - CONFIRMATION OF VALID WORKERS COMPENSATION COVERAGE.
- NOTE: ALL BIDDING SECURITY SUB-CONTRACTORS MUST BE CHUBB REPS OR CHUBB CERTIFIED INSTALLER.
- PROVIDE INTEGRATED CONTROL TECHNOLOGY PROTEGE GX.
- SYSTEM DESCRIPTION:
 - PROVIDE A COMPLETE AND OPERATING INTRUSION DETECTION AND ACCESS CONTROL SYSTEM. THE SYSTEM SHALL INCLUDE ALL THE NECESSARY EQUIPMENT AND WIRING TO ACCOMPLISH FUNCTIONS SPECIFIED, COMPLETE IN EVERY DETAIL. THE SYSTEM SUPPLIER WILL BE RETAINED TO SUPERVISE THE INSTALLATION, MAKE FINAL CONNECTIONS AND TEST.
 - DETECTION OF AN ALARM FROM MOTION DETECTORS, ALARM OPERATION OF FIRE ALARM SYSTEM, DETECTION OF LOW TEMPERATURE BY THERMOSTATS OR DETECTION OF A POWER FAILURE SHALL BE ZONE ANNUNCIATED IN THE CONTROL PANEL AND INITIATE A PROGRAMMED SIGNAL TO BE TRANSMITTED TO A ULC APPROVED MONITORING STATION WITH A COMPLETE BILINGUAL CAPABILITIES OVER A BELL CANADA TELEPHONE SYSTEM.
 - THE SYSTEM SHALL BE CAPABLE OF MANUALLY ARMING AND DISARMING BY:
 - ALARM CONTROL KEY PAD
 - THE SYSTEM SHALL ACCEPT ALARM AND TROUBLE SIGNALS FROM:
 - THE MECHANICAL BUILDING AUTOMATION SYSTEM
 - FIRE ALARM
 - HYDRO POWER FAILURE.
 - THE SYSTEM SHALL BE FULLY INTEGRATED WITH THE ACCESS CONTROL SYSTEM.
 - THE ACCESS CONTROL SYSTEM CONSISTS OF FIELD DEVICES INCLUDING, BUT NOT LIMITED TO:

ELECTRICAL SPECIFICATIONS

- KEY FORBS
 - CARD READERS
 - DOOR CONTROLLERS
 - ELECTRONIC DOOR HARDWARE SUCH AS ELECTRIC STRIKES, LATCHES AND LOCKS
 - POWER TRANSFER AND CONCEALED HINGES/SWITCHE WITH ANCILLARY CONNECTIONS TO:
- INTERCOM STATIONS FOR DOOR RELEASE
 - CONTROL AND TERMINATION EQUIPMENT INCLUDING, BUT NOT LIMITED TO:
 - ACCESS CONTROL SYSTEM SERVER
 - POWER SUPPLIES
 - BATTERIES
 - UNINTERRUPTIBLE POWER SUPPLIES (UPS)
 - ALL SYSTEM DEVICES / DOORS CONNECT TO CENTRALLY LOCATED DOOR CONTROL PANELS AT THIS SCHOOL LOCATION. CONNECTIVITY FROM DOOR CONTROL PANELS TO THE SYSTEM SERVER FRONT END IS BASED ON ETHERNET IP BASED PROTOCOLS OVER THE COUNSEL SCOLLAIRE WIREMESH NETWORK.
- PART 2 - PRODUCTS
- IDENTIFICATION FOR ELECTRICAL SYSTEMS
- PROVIDE LABELS TO ALL PANELS (3/4" WHITE LETTERED OR BLACK LETTERING ON A HIGH LETTERING ON ALL ELECTRICAL EQUIPMENT SUPPLIED, MOUNTED AND/OR CONNECTED BY THIS CONTRACT.
 - PROVIDE BRADY LABELING ON ALL RECEPTACLE COVER PLATES INDICATING PANEL AND CIRCUITING NUMBER CONNECT BY THIS CONTRACT.
 - ALL WIRING SHALL BE COLOUR CODED as per OESC and BE IDENTIFIED WITH BRADY OR EQUIVALENT SELF-STICKING PERMA-CODE WIRE MARKERS.
 - IN GENERAL, ALL WIRING SHALL BE TYPE #90 XLPE INSTALLED IN CONDUIT OR RACEWAYS UNLESS OTHERWISE SPECIFIED. USE ONLY COPPER CONDUCTORS, MINIMUM SIZE NO. 12, SEED AND COLOUR CODED ACCORDING TO THE ELECTRICAL SAFETY CODE WHERE NOT INDICATED.
 - SIZE ALL WIRING FOR A MAXIMUM OF 3% VOLTAGE DROP IN A FEEDER OR BRANCH CIRCUIT, AND 2% VOLTAGE DROP FROM THE SUPPLY SIDE OF THE CONSUMER SERVICE TO THE POINT OF UTILIZATION.
 - 750 MCM ALUM. MAY BE USED IN LIEU OF #90 FOR INTERIOR INSTALLATIONS UP TO SIZE #10, HOWEVER, CONDUIT FILL SHALL BE BASED ON #90 RATING.
 - THE USE OF FLEXIBLE CABLE (TYPE AC90 ONLY) IS TO BE RESTRICTED TO INTERIOR PARTITION WALLS, ACCESSIBLE CEILING SPACES AND FINAL CONNECTIONS TO LIGHT FIXTURES. THE FLEXIBLE CABLE SHALL BE RESTRICTED TO 3600 mm (12') IN LENGTH AND BE SUITABLY CLIPPED AND SUPPORTED EVERY 900 mm (3').
 - ALL 120 V SINGLE PHASE BRANCH CIRCUITS SHALL BE PROVIDED WITH A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. FINAL CONNECT NEUTRAL CONDUCTORS AT ALL DEVICES. JOIN ALL CONDUCTORS USING APPROVED SOLDERLESS WING NUT PRESSURE CONNECTORS.
 - ALL WIRING SHALL BE INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDATIONS, ALL REGULATORY REQUIREMENTS AND SHALL SATISFY ALL APPLICABLE CODES. IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND REPLACE AS REQUIRED ANY EXISTING WIRING BEING RE-USED.
 - FEEDERS AND BRANCH CIRCUITS RATED 100 AMPERES OR GREATER SHALL BE CHECKED WITH A 1000 V MEGGGER FOR 15 SECONDS BEFORE ENERGIZATION.
 - WIRE AND CONNECT MOTORS, SUPPLIED BY OTHERS, AS INDICATED.
 - 8X [CAN-90] CABLE IS ONLY PERMITTED TO LIGHT FIXTURES WITH A MAXIMUM LENGTH OF 1500mm.
 - PROVIDE VFD CERTIFIED CABLES ON THE LOAD SIDE OF VFDs TO MOTOR TERMINAL CONNECTIONS. COORDINATE WITH EQUIPMENT AND CABLE SUPPLIER RECOMMENDATIONS TO MATCH MOTOR LOAD REQUIREMENTS.
- DISCONNECT SWITCHES
- FUSED AND NON-FUSED, HEAVY DUTY, VISIBLE BLADES IN THE OFF POSITION, QUICK-MAKE, QUICK-BREAK MECHANISM, LOAD BREAK TYPE WITH DOOR/HANDLE SWITCHING MECHANISM, INTERLOCK WITH OVERRIDE, LOCK-OFF PROVISION, ARC EXTINGUISHERS, SILVER PLATED WIRE ACTION CONTACTS, AND SPRING REINFORCED FUSE CLIPS, OF SIZE INDICATED, CSA CERTIFIED, PROVIDE DISCONNECT SWITCHES AHEAD OF EACH PIECE OF EQUIPMENT WHERE NECESSARY TO MEET CODE REQUIREMENTS.
 - FUSIBLE SWITCH UNITS INSTALLED IN EXISTING SWITCHBOARD EXTENSION SHALL HAVE QUICK MAKE/QUICK BREAK MECHANISM WITH PROVISIONS FOR LOOKING IN THE OPEN OR CLOSED POSITION, AND DOOR/HANDLE/SWITCHING MECHANISM INTERLOCK WITH OVERRIDE. ALL FUSIBLE UNITS SHALL BE MODULAR TYPE EQUIPPED FOR HRCI FUSES AND INCLUDE AUXILIARY CONTACTS OR OTHER SPECIAL FEATURES AS NOTED ON THE DRAWINGS.
 - SWITCH FUSE HOLDERS SHALL HAVE REINFORCED CLIPS. FUSES SHALL BE EASILY REMOVABLE WHEN THE SWITCH IS IN THE OFF POSITION.
 - ALL SWITCHES SHALL HAVE AMPLE GUTTER SPACE FOR TOP OR BOTTOM WIRING AND BE PROVIDED WITH ENCLOSURES TO SUIT THE SPECIFIC APPLICATION.
- MOTOR STARTERS, CONTACTORS AND RELAYS
- PROVIDE MANUAL AND MAGNETIC MOTOR STARTERS FOR MOTORS AND EQUIPMENT AS INDICATED. STARTERS SHALL INCLUDE MANUAL RESET, ADJUSTABLE thermal OVERLOAD UNITS WITH INTEGRAL SINGLE PHASE PROTECTION AND BE COMPLETE WITH INTERLOCKS, AUXILIARY RELAYS, CONTROL, TRANSFORMERS, TERMINALS, ETC., REQUIRED FOR PROPER OPERATION. REFER TO THE DRAWINGS FOR FURTHER DETAILS OF MECHANICAL EQUIPMENT CONTROL AND WIRING REQUIREMENTS.
 - PROVIDE AC CONTROL RELAYS AND CONTACTORS WITH REQUIRED COIL AND CONTACT RATING AND PILOT LIGHTING AND CONTROL OF EQUIPMENT AND MISCELLANEOUS LOADS AS SHOWN. PROVIDE AUXILIARY COMPONENTS INCLUDING TRANSFORMERS, TERMINALS, SWITCHES, ETC., REQUIRED FOR CONTROL AND CONNECTION.
- FUSES
- PROVIDE 400V 20000 RMS SYMMETRICAL INTERRUPTING RATING, HRCI TYPE J (600A OR LESS) AND HRCI TYPE I (OVER 600A), FOR MOTOR PROTECTION; TIME DELAY 200,000 RMS SYMMETRICAL RATING, HRCI TYPE J TIME DELAY (600A OR LESS) AND HRCI TYPE L TIME DELAY (OVER 600A).
 - PROVIDE FUSE SIZE AND TYPE COMPATIBLE WITH VFD MANUFACTURER REQUIREMENTS.
- PANEL BOARDS
- PANELS SHALL BE OF THE TYPE WITH VOLTAGE AND CURRENT RATING AS SHOWN ON THE DRAWINGS, SIZED TO ACCOMMODATE BRANCH CIRCUIT BREAKERS AND SPACES AS INDICATED. BUS BRACINGS SHALL BE PROVIDED TO SUIT THE SHORT CIRCUIT CAPACITY RATING INDICATED ON THE DRAWINGS OR MINIMUM 10 KA AT 208 V, 3 PHASE. RESTRICTIVE DIMENSIONS SHALL BE AS SHOWN. PROVIDE LOCKED DOORS FOR ALL PANELS. ALL PANEL DOORS, TRIM AND SURFACE MOUNT TUBS SHALL BE FINISHED IN LIGHT GRAY ENAMEL PAINT. TUBS FOR FLUSH MOUNT PANELS SHALL BE GALVANIZED.
 - PROVIDE PANEL LABELS AND NEATLY TYPED/WRITTEN PANEL DIRECTORY INSIDE DOOR IN PLASTIC SLEEVE.
 - UNLESS OTHERWISE NOTED ALL BREAKERS SHALL BE RATED MINIMUM 10 KA SYMMETRICAL INTERRUPTING CAPACITY AT 208 VOLTS, 3 PHASE AS APPROPRIATE AND NOT LESS THAN THE SHORT CIRCUIT CAPACITY AS SHOWN ON THE DRAWINGS.
 - PROVIDE BREAKER LOCK-ON DEVICES FOR ALL ESSENTIAL AND EQUIPMENT LOADS.
 - CONNECT ALL SINGLE PHASE LOADS SUCH THAT THERE IS THE LEAST POSSIBLE IMBALANCE OF PHASES UNDER NORMAL CONDITIONS.
 - PROVIDE LOCKABLE, PAINTED RED BREAKERS FOR FIRE ALARM CONTROL. PANEL POWER SOURCE.
 - PROVIDE OUTLET BOXES OF ADEQUATE SIZE OF TYPE APPROVED FOR THE PARTICULAR APPLICATION AS REQUIRED FOR ALL WIRING DEVICES, LIGHT FIXTURES, ETC., OR AS SHOWN. PROVIDE JUNCTION BOXES, COMPLETE WITH BLANK COVERS AS REQUIRED OR PROVIDED FOR ALL WIRING SYSTEMS. INSTALL ALL BOXES TO BE ACCESSIBLE. IF NECESSARY PROVIDE ACCESS PANELS. SECURE ALL BOXES INDEPENDENT OF THE CONDUIT/WIRING SYSTEM.
 - IN ALL CASES USE ONLY CONDUIT AND RACEWAYS APPROVED FOR THE PARTICULAR APPLICATION AND OF ADEQUATE SIZE TO SUIT TYPE AND NUMBER OF CONDUCTORS BEING CARRIED. PROVIDE A SEPARATE GROUND CONDUCTOR IN ALL CONDUITS. THE CONDUIT SYSTEM SHALL NOT BE USED AS THE GROUND PATH, WHERE INDICATED. USE CONDUIT AS SPECIFIED EVERY CONDUIT OR SECTION OF ARMOURRED CABLE SHALL BE ADEQUATELY SECURED USING APPROVED SUPPORTS, CLAMPS AND FASTENERS TO ENSURE A SAFE AND SOUND INSTALLATION. ALL CONDUIT OR ARMOURRED CABLE RUN IN FINISHED AREAS SHALL BE CONCEALED IN WALLS, CEILINGS OR FURNING UNLESS OTHERWISE INDICATED OR APPROVED BY THE OWNER. ARMOURRED CABLE SHALL NOT BE USED WHERE EXPOSED UNLESS OTHERWISE NOTED.
 - BOXES FOR OUTDOOR USE: GALVANIZED CAST FERRALLOY COMPLETE WITH NEOPRENE GASKET.
 - BOXES FOR INDOOR USE: CODE GAUGE ELECTRO-GALVANIZED STEEL FOR CONCEALED MOUNTING AND GALVANIZED CAST FERRALLOY OR CAST BRUSHED ALUMINUM FOR EXPOSED USE, UNLESS OTHERWISE NOTED.
 - FIXTURE BOXES: ELECTRO-GALVANIZED STEEL 100mm (4") OCTAGON COMPLETE WITH 10mm (3/8") FIXTURE STUD WHERE NECESSARY.
 - WHERE OUTLET BOXES ARE INSTALLED IN EXTERIOR WALLS AND/OR INSULATED CEILING HAVING ASSOCIATED VAPOUR BARRIERS ON THE WARM SIDE OF THE INSULATION AND WHERE OUTLET BOXES PERFORATE THE VAPOUR BARRIER, PROVIDE ELECTRICAL BOX VAPOUR BARRIERS BEHIND AND AROUND OUTLET BOXES. VERIFY EXACT REQUIREMENTS ON-SITE PRIOR TO PROCEEDING

ELECTRICAL SPECIFICATIONS

- WITH INSTALLATIONS.
- ALL JUNCTION BOXES IN CONCEALED CEILING SPACES SHALL BE LABELED WITH PEN MARKER AS TO CIRCUITS CONTAINED THEREIN.
 - SWITCHES AND RECEPTACLE BOXES SHALL BE 1104 TYPE FOR RECESSED MOUNTING.
 - RIGID METAL CONDUIT SHALL BE USED WHERE INSTALLED AS AN EXTERIOR BRANCH CIRCUIT ABOVE FINISHED GRADES. ALL FITTINGS MUST BE THREADED TYPE. ALL CONDUIT TERMINATIONS SHALL HAVE BUSINGS WITH INSULATED PLASTIC LINING. RIGID METAL EXPANSION JOINT - CROUSE HINDS "XJ" SERIES WITH BONDING STRAP OR EQUIVALENT.
 - IN AREAS WITH SOLID CEILINGS, ELECTRICAL AND SYSTEMS JUNCTION BOXES ALONG WITH ASSOCIATED WIRE AND CONDUIT SHALL BE LOCATED IN AREAS WHERE CEILING ACCESS IS POSSIBLE, OR ACCESS PANELS MAY BE PROVIDED WITH THE APPROVAL OF THE OWNER OR CONSULTANT.
 - EXT CONDUIT SHALL BE USED FOR WIRING AND CONCEALED WHEREVER POSSIBLE. EMT COUPLINGS AND CONNECTORS SHALL BE STEEL SET/SCREW CONCRETE TIGHT OR STEEL COMPRESSION RING TIGHT.
 - ALL CONDUIT IN PUBLIC AREAS WITH EXPOSED CEILING MUST BE PAINTED EMT. PAINT COLOUR TO BE CONFIRMED BY ARCHITECT.
- EMERGENCY/EXIT LIGHTING
- EXIT SIGNS SHALL BE CSA APPROVED, PICTOGRAM GREEN "RUNNING-MAN" ON WHITE BACKGROUND MADE OF DURABLE EXTRUDED ALUMINUM HOUSING C/W WHITE FINISH, WHITE LED SOURCE, ENERGY EFFICIENT, AND UNIVERSAL MOUNTING.
 - REMOTE HEADS SHALL BE 4-WATT HEAD, COMPATIBLE WITH THE VOLTAGE SUPPLIED, INSTANT RESISTANT, FLAME RETARDANT THERMOPLASTIC, ROTATIONAL, SUPPLIED WITH A CANOPY C/W WHITE FINISH.
 - PROVIDE COMPLETE 12V DC BATTERY POWERED EMERGENCY LIGHTING SYSTEMS FOR THE BUILDING AREAS INDICATED. SYSTEMS SHALL CONSIST OF FULLY AUTOMATIC BATTERY UNITS (SPECIFIED WATTS OR 12 HOUR) PROVIDING BACKUP POWER AND RECHARGEABLE BATTERY UNITS. TERMINATE CONDUITS WITH AN APPROPRIATE INSULATED BUSHING. FOR EACH GENERAL WALL OUTLET INDICATED PROVIDE A 17mm (3/4") EMPT CONDUIT FROM A STANDARD SINGLE GANG BOX WITH BLANK COVERPLATE TO AN ACCESSIBLE CEILING SPACE WITHIN 3 m (10') OF THE MAIN RACEWAY.
 - THE EMERGENCY BATTERIES SHALL BE LONG LIFE LEAD-ACID, CALCIUM ALLOY TYPE IN SEALED PLASTIC CONTAINERS AND BE TOTALLY MAINTENANCE FREE WITH A MINIMUM LIFE EXPECTANCY OF 10 YEARS.
 - THE BATTERY CAPACITY SHALL BE SIZED TO SUPPLY THE NUMBER OF FIXTURES INDICATED ON THE DRAWINGS, PLUS HAVE AN ADDITIONAL MINIMUM 10% SPARE CAPACITY FOR FUTURE HEADS. THE BATTERIES SHALL BE CAPABLE OF PROVIDING POWER TO THE FIXTURES FOR THIRTY MINUTES WITHOUT DROPPING BELOW NINETY ONE (91) PERCENT OF THE RATED BATTERY VOLTAGE.
 - PROVIDE GREY COLOURED CONDUCTORS IN A SEPARATE CONDUIT SYSTEM, FOR THE D.C. WIRING. WIRE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO MAINTAIN VOLTAGE DROP TO LESS THAN 5% TO FURTHEST FIXTURE. CONNECT REMOTE LAMP HEADS AND EXIT SIGN EMERGENCY SOCKETS TO BATTERY UNIT INSTALLED. INSTALL A SINGLE RECEPTACLE ADJACENT TO EACH CIRCUIT. FINAL CONNECT NEUTRAL CONDUCTORS AT ALL DEVICES. JOIN ALL CONDUCTORS USING APPROVED SOLDERLESS WING NUT PRESSURE CONNECTORS.
 - ALL 120 V (SINGLE PHASE) BRANCH CIRCUITS SHALL BE PROVIDED WITH A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT. FINAL CONNECT NEUTRAL CONDUCTORS AT ALL DEVICES. JOIN ALL CONDUCTORS USING APPROVED SOLDERLESS WING NUT PRESSURE CONNECTORS.
 - ALL WIRING SHALL BE INSTALLED ACCORDING TO MANUFACTURERS RECOMMENDATIONS, ALL REGULATORY REQUIREMENTS AND SHALL SATISFY ALL APPLICABLE CODES. IT IS THE CONTRACTORS RESPONSIBILITY TO CHECK AND REPLACE AS REQUIRED ANY EXISTING WIRING BEING RE-USED.
 - FEEDERS AND BRANCH CIRCUITS RATED 100 AMPERES OR GREATER SHALL BE CHECKED WITH A 1000 V MEGGGER FOR 15 SECONDS BEFORE ENERGIZATION.
 - WIRE AND CONNECT MOTORS, SUPPLIED BY OTHERS, AS INDICATED.
 - 8X [CAN-90] CABLE IS ONLY PERMITTED TO LIGHT FIXTURES WITH A MAXIMUM LENGTH OF 1500mm.
 - PROVIDE VFD CERTIFIED CABLES ON THE LOAD SIDE OF VFDs TO MOTOR TERMINAL CONNECTIONS. COORDINATE WITH EQUIPMENT AND CABLE SUPPLIER RECOMMENDATIONS TO MATCH MOTOR LOAD REQUIREMENTS.
- DISCONNECT SWITCHES
- FUSED AND NON-FUSED, HEAVY DUTY, VISIBLE BLADES IN THE OFF POSITION, QUICK-MAKE, QUICK-BREAK MECHANISM, LOAD BREAK TYPE WITH DOOR/HANDLE SWITCHING MECHANISM, INTERLOCK WITH OVERRIDE, LOCK-OFF PROVISION, ARC EXTINGUISHERS, SILVER PLATED WIRE ACTION CONTACTS, AND SPRING REINFORCED FUSE CLIPS, OF SIZE INDICATED, CSA CERTIFIED, PROVIDE DISCONNECT SWITCHES AHEAD OF EACH PIECE OF EQUIPMENT WHERE NECESSARY TO MEET CODE REQUIREMENTS.
 - FUSIBLE SWITCH UNITS INSTALLED IN EXISTING SWITCHBOARD EXTENSION SHALL HAVE QUICK MAKE/QUICK BREAK MECHANISM WITH PROVISIONS FOR LOOKING IN THE OPEN OR CLOSED POSITION, AND DOOR/HANDLE/SWITCHING MECHANISM INTERLOCK WITH OVERRIDE. ALL FUSIBLE UNITS SHALL BE MODULAR TYPE EQUIPPED FOR HRCI FUSES AND INCLUDE AUXILIARY CONTACTS OR OTHER SPECIAL FEATURES AS NOTED ON THE DRAWINGS.
 - SWITCH FUSE HOLDERS SHALL HAVE REINFORCED CLIPS. FUSES SHALL BE EASILY REMOVABLE WHEN THE SWITCH IS IN THE OFF POSITION.
 - ALL SWITCHES SHALL HAVE AMPLE GUTTER SPACE FOR TOP OR BOTTOM WIRING AND BE PROVIDED WITH ENCLOSURES TO SUIT THE SPECIFIC APPLICATION.
- MOTOR STARTERS, CONTACTORS AND RELAYS
- PROVIDE MANUAL AND MAGNETIC MOTOR STARTERS FOR MOTORS AND EQUIPMENT AS INDICATED. STARTERS SHALL INCLUDE MANUAL RESET, ADJUSTABLE thermal OVERLOAD UNITS WITH INTEGRAL SINGLE PHASE PROTECTION AND BE COMPLETE WITH INTERLOCKS, AUXILIARY RELAYS, CONTROL, TRANSFORMERS, TERMINALS, ETC., REQUIRED FOR PROPER OPERATION. REFER TO THE DRAWINGS FOR FURTHER DETAILS OF MECHANICAL EQUIPMENT CONTROL AND WIRING REQUIREMENTS.
 - PROVIDE AC CONTROL RELAYS AND CONTACTORS WITH REQUIRED COIL AND CONTACT RATING AND PILOT LIGHTING AND CONTROL OF EQUIPMENT AND MISCELLANEOUS LOADS AS SHOWN. PROVIDE AUXILIARY COMPONENTS INCLUDING TRANSFORMERS, TERMINALS, SWITCHES, ETC., REQUIRED FOR CONTROL AND CONNECTION.
- OCCUPANCY SENSORS
- DUAL TECHNOLOGY CEILING AND WALL MOUNT SENSORS.
 - SENSORS SHALL SENSE A PERSON OF AVERAGE SIZE MOVING DISTANCE OF 2" AND RETAIN LIGHTS IN "ON" STATE.
 - SENSORS SHALL HAVE AN INTEGRAL BYPASS SHUNT SWITCH FOR SERVICE OR MANUAL OPERATION.
 - MULTIPLE SENSORS SHALL BE WIRED IN PARALLEL TO OBTAIN COVERAGE NOTED ON DRAWINGS.
 - TIME DELAY TO "OFF" SHALL BE ADJUSTABLE FROM 3 TO 30 MINUTES AND THE SENSOR SHALL BE COMPLETE WITH WALK-THROUGH AND TEST MODES.
 - SENSORS SHALL CARRY A 5 YEAR WARRANTY.
 - SENSORS SHALL INTERFACE WITH POWER/RELAY PACKS AS REQUIRED BY THE SAME MANUFACTURER TO CONTROL THE LOADS NOTED ON THE DRAWINGS.
 - CEILING MOUNT OCCUPANCY SENSOR TO HAVE COVERAGE OF 2000 SQUARE FEET.
- WIRING DEVICES
- SWITCHES AND RECEPTACLES PROVIDE SPECIFICATION GRADE WIRING DEVICES AS SHOWN ON THE DRAWINGS. DEVICES SHALL BE AS MANUFACTURED BY HUBBELL (OR APPROVED EQUAL) AS NOTED BELOW:
 - 15 AMP., 120 V TOGGLE SWITCH - 1201
 - 20 AMP., 347 V TOGGLE SWITCH - 18220
 - 15 AMP., 120 V DUPLEX RECEPTACLE - S252
 - 20 AMP., DUPLEX RECEPTACLE (T-SLOT) - S352
 - 15 AMP., GROUND FAULT DUPLEX RECEPTACLE - GFS552
 - 20 AMP., GROUND FAULT DUPLEX RECEPTACLE - GFS532
 - WEATHERPROOF IN-USE RECEPTACLE COVER - WP626
 - DECORATOR STYLE 120 VOLT DEVICES - DS115
 - 20 AMP., 120 V ROCKER SWITCH - DS120
 - 15 AMP., 120 V DUPLEX RECEPTACLE - DR15
 - 20 AMP., DUPLEX RECEPTACLE (T-SLOT) - DR20
 - 15 AMP., GROUND FAULT DUPLEX RECEPTACLE - GFR15
 - 20 AMP., GROUND FAULT DUPLEX RECEPTACLE - GFR20
 - PROVIDE VERTICALLY BRUSHED STAINLESS STEEL COVERPLATES, COLOURED TO MATCH DEVICE FOR FLUSH MOUNTED DEVICES OR GALVANIZED STEEL TYPE COVERPLATES WITH ROUNDED CORNERS FOR SURFACE MOUNTED DEVICES AS APPROPRIATE FOR ALL OUTLETS, GANGED TYPE FOR ALL GROUPED OUTLETS. PROVIDE SPECIAL RECEPTACLES AND OUTLET TYPES AS IDENTIFIED ON THE DRAWINGS.
 - ALL EXTERIOR RECEPTACLES SHALL BE GF-CI AND COME WITH WHILE-IN-USE COVERS AS PER OESC.
 - MOUNT DEVICES AT THE FOLLOWING HEIGHTS UNLESS NOTED OTHERWISE OR TO COMPLY WITH OBC, BARRIER FREE DESIGN:
 - SWITCHES - 1200mm (47")
 - RECEPTACLES - 450mm (17.7")

ELECTRICAL SPECIFICATIONS

- COMMUNICATION BACKBOXES - 450MM (17.7")
 - ELECTRICAL PANELS - 1981MM (78") TO TOP
 - PUSH BUTTONS - 1200MM (47")
 - EXIT SIGNS - ABOVE DOOR OR 2032MM (80")
 - FIRE ALARM PULL STATION - 1150MM (45")
- TIME SWITCHES & PHOTOCELLS
- PROVIDE TIME SWITCHES FOR CONTROL OF MECHANICAL AND ELECTRICAL LOADS AND SYSTEMS AS DESCRIBED BELOW AND IDENTIFIED ON THE DRAWINGS.
 - PROVIDE INDIVIDUAL SINGLE CIRCUIT, 120V, 7 DAY/24 HOUR DPM DIGITAL TYPE TIME CLOCKS C/W PROGRAMMING KEYPAD, LCD DISPLAY, MANUAL OVERRIDE CONTROL, RECHARGEABLE BATTERY RESERVE POWER AND 15A, 120V RATED CONTACTS FOR CONTROL OF GENERAL LOADS AS INDICATED ON THE DRAWINGS. PROVIDE 120V, SPDT, 10A, MOMENTARY CONTACT ADAPTER AS REQUIRED FOR CORRECT CONTACT INTERFACE.
 - PROVIDE 120V, SPST, 2.000 W RATED ADJUSTABLE LEVEL SETTING PHOTOCELLS FOR CONTROL OF INTERIOR AND/OR EXTERIOR LIGHTING AS INDICATED ON DRAWINGS. INSTALL UNITS AND AIM AS INSTRUCTED ON-SITE. CONNECT TO CONTACTORS, TIME CLOCKS, ETC., FOR DESIRED CONTROL AS SHOWN.
- EMPTY CONDUIT SYSTEMS
- PROVIDE EMPTY CONDUIT/OUTLET BOX SYSTEM TO ALLOW INSTALLATION OF CONDUITS, CABLES AND SPECIAL SYSTEMS (TELEPHONE, SECURITY, PAGING, AND COMPUTER) EQUIPMENT AND WIRING AS DETAILED BELOW AND INDICATED ON THE DRAWINGS. INSTALL PULL CORDS IN ALL EMPTY CONDUITS.
 - IN GENERAL, PROVIDE 38 mm (1 1/2") EMPTY CONDUITS FROM THE SYSTEM EQUIPMENT MOUNTING BACKBOARD TO SUITABLE AREAS OF ACCESSIBLE CEILING SPACES AS SHOWN. TO ALLOW INSTALLATION OF TELEPHONE AND COMPUTER SYSTEMS DISTRIBUTION WIRING, TERMINATE CONDUITS WITH AN APPROPRIATE INSULATED BUSHING. FOR EACH GENERAL WALL OUTLET INDICATED PROVIDE A 17mm (3/4") EMPT CONDUIT FROM A STANDARD SINGLE GANG BOX WITH BLANK COVERPLATE TO AN ACCESSIBLE CEILING SPACE WITHIN 3 m (10') OF THE MAIN RACEWAY.
 - REFER TO CONDUIT SYSTEM RISER DIAGRAMS (WHERE PROVIDED) FOR DETAILS OF DISTRIBUTION CONDUIT AND COMPONENT DETAILS AND TO FLOOR PLANS FOR COMPONENT AND OUTLET LOCATIONS. CONTACT OWNER'S SYSTEMS INSTALLATION CONTRACTORS TO VERIFY ALL CONDUIT SIZES, OUTLET LOCATIONS AND INSTALLATION DETAILS PRIOR TO PROCEEDING WITH INSTALLATION.
 - PROVIDE EMPTY CONDUIT/OUTLET BOX SYSTEM AS REQUIRED TO ALLOW THE INSTALLATION OF THE MECHANICAL CONTRACTORS THERMOSTATS. COORDINATE INSTALLATION WITH THE MECHANICAL CONTRACTOR AND MECHANICAL DRAWINGS PRIOR TO ROUGH-IN. INSTALL PULL CORDS IN ALL EMPTY CONDUITS.
- FIRE ALARM SYSTEM
- COMPLY WITH CAN/CSA-5524 (INSTALLATION OF FIRE ALARM SYSTEMS), CAN/CSA-5537 (VERIFICATION OF FIRE ALARM SYSTEMS), AND OBC.
 - SUBMIT SHOP DRAWINGS FOR FIRE ALARM CONTROL PANEL, ANNUNCIATOR, SIGNALING DEVICES, DETECTION DEVICES, AND PULL STATIONS.
 - PROVIDE COMPLETE ELECTRICALLY SUPERVISED, CLOSED CIRCUIT, FIRE ALARM SYSTEM WITH ZONE COMPONENTS AND SIGNAL CIRCUIT COMPONENTS FOR PRESENT AND FUTURE AS INDICATED. IF FIRE ALARM IS EXISTING AND WORK DESCRIBED IS TO THE INTO EXISTING, PROVIDE DEVICES COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM.
 - DESIGN FIRE ALARM SYSTEM SO THAT THE OPERATION OF ANY ONE OF THE MANUAL FIRE ALARM STATIONS OR OUTLET DETECTORS WILL CAUSE ALL FIRE ALARM SIGNALS TO SOUND IF THE SYSTEM IS SINGLE STAGE.
 - MANUAL FIRE ALARM PULL STATIONS SHALL BE PROVIDED WITH TWELVE (12) SPARE GLASS RODS TO BE LEFT WITH OWNER.
 - AUTOMATIC THERMAL DETECTORS: CONSTRUCTED AS PER CAN/ULC-5530.
 - rated AT 58°C (135°F) FIXED TEMPERATURE NON-RESTORABLE AND 8°C DEGREES PER MINUTE RATE-OF-RISE. WHERE NORMAL TEMPERATURES DO NOT EXCEED 38°C (100°F) OF 80 LUMENS PER WATT.
 - rated AT 88°C (194°F) FIXED TEMPERATURE NON-RESTORABLE AND 8°C DEGREES PER MINUTE RATE-OF-RISE. WHERE NORMAL TEMPERATURES FLUCTUATIONS EXIST, BUT AMBIENT TEMPERATURES EXCEED 38°C (100°F), BUT DO NOT EXCEED 45°C (115°F).
 - rated 58°C (135°F) FIXED TEMPERATURE NON-RESTORABLE, USE WHERE VIOLENT TEMPERATURE FLUCTUATIONS EXIST, BUT NORMAL TEMPERATURES DO NOT EXCEED 38°C (100°F).
 - rated 88°C (194°F) FIXED TEMPERATURE NON-RESTORABLE, USE WHERE VIOLENT TEMPERATURE FLUCTUATIONS EXIST, BUT NORMAL TEMPERATURES EXCEED 38°C (100°F) BUT DO EXCEED 66°C (150°F).
 - SMOKE DETECTOR:
 - PROVIDE COMPLETE SMOKE DETECTOR SYSTEM AS INDICATED.
 - MOUNT DETECTORS ON CEILING AS INDICATED. AT THE HIGHEST POINT WHERE VARIATIONS IN CEILING HEIGHT EXIST, DO NOT MOUNT DETECTORS ON SIDES, UNDERSIDES, OR LESS THAN 12" (300mm) FROM WALLS, BEAMS, JOISTS, DUCTS, OPEN WEB STEEL JOISTS OR ANY STRUCTURE PROJECTING BELOW ACTUAL CEILING HEIGHT, OR LESS THAN 48" (1220mm) FROM AIR HANDLING OR HEATING OUTLETS, COMPLY WITH CAN/CSA-5524.
 - SHOULD INTERFERENCE FROM OBSTRUCTION, LAMP POSITIONS, AIR OUTLET OR HEAT RADIATING SURFACES BE ENCOUNTERED IN LOCATING ANY DETECTOR WHERE SHOWN, LOCATE THE DETECTOR AS NEAR AS POSSIBLE TO THE INDICATED POSITION, CLEAR OF OBSTACLES, TO THE SATISFACTION OF THE CONSULTANT, BUT MAINTAIN A CLEAR SPACE OF 24" (610mm), ON THE CEILING, BELOW AND AROUND PROJECTIVE WIRE GUARDS OR GLASS COVERS FOR DETECTORS IN AREAS PRONE TO DAMAGE OR TAMPER MAY EXIST.
 - PHOTO ELECTRIC TYPE SMOKE DETECTORS: PROVIDE RELAY BASE WHEN DETECTORS ARE INSTALLED IN ELEVATOR LOBBIES, MACHINE ROOMS, CONTROL ROOMS, SHAFTS OR ADJACENT TO HALL OPEN DEVICES.
 - ST

ELECTRICAL SPECIFICATIONS

DOOR CONTACTS

102. ON SINGLE DOORS, DOOR CONTACTS SHALL BE RECESS MOUNTED AND OF HIGH QUALITY, WIDE-GAP SERIES TYPE, (SENTROL CAT. # 1078).

FIRE ALARM AND FIRE PANEL TROUBLE

103. THE CONTROL PANEL SHALL BE UTILIZED TO RELAY FIRE SIGNALS FROM THE BUILDING FIRE ALARM PANEL TO THE CENTRAL MONITORING STATION, THESE RELAYS ARE TO BE LABELLED AND LOCATED INSIDE THE FIRE ALARM PANEL IN A SECURE JUNCTION BOX, RELAYS AND BOX BY DIVISION 16 TO THE REQUIREMENTS OF THE SECURITY SUB-CONTRACTOR.

104. TWO (2) ZONES OF THE CONTROL PANELS SHALL BE ASSIGNED AS FOLLOWS:

- FIRE ZONE 1 – FIRE BUILDING FIRE SYSTEM ACTIVATED.
- FIRE ZONE 2 – FIRE TROUBLE BUILDING FIRE SYSTEM IS IN TROUBLE.

105. FIRE ZONES SHALL BE DESIGNATED TWENTY-FOUR (24) HOUR ZONES AND SHALL NOT BE ARMED/DISARMED BY THE DIGITAFIREL KEYPAD.

106. FIRE MONITORING SHALL BE TO ULCC STANDARDS, SUBMIT REGISTRATION OF SITE WITH PROJECT CONFORMANCE PAPERWORK.

LIGHTING CONTROL

107. THE SECURITY SYSTEM IS TO PROVIDE A CONTACT CLOSURES TO A LIGHTING CONTACTOR CONTROLLING CORRIDOR (BOTH FLOORS) AND ATRIUM LIGHTING.

108. UPON DISARMING OF THE SYSTEM, A CONTACT IS TO SIGNAL A LIGHTING CONTACTOR TO ENERGIZE AND PROVIDE POWER TO SEVERAL LIGHTING CIRCUITS.

109. UPON ARMING OF THE SYSTEM, A CONTACT IS TO SIGNAL A LIGHTING CONTACTOR TO DE-ENERGIZE THUS DISCONNECTING POWER TO SEVERAL LIGHTING CIRCUITS.

110. THE WIRING FROM THE CONTROL PANEL CONTACTS TO THE LIGHTING CONTACTOR CONTROL CIRCUIT SHALL BE BY THE ELECTRICAL SUB-CONTRACTOR.

TELEPHONE CONNECTION AND OFFSITE MONITORING

111. ALL SYSTEMS SHALL BE MONITORED ON A 24 HOUR A DAY, 7 DAYS A WEEK BASES. AT NO TIME SHALL A SYSTEM BE LEFT UNMONITORED.

112. ALL SYSTEMS SHALL BE PROVIDED WITH BOTH PRIMARY AND BACK-UP MEANS OF COMMUNICATION:

- PRIMARY COMMUNICATION FROM THE THIRD PARTY ALARM MONITORING CENTER TO THE SYSTEM FRONT END SHALL BE BASED ON STANDARD DIGITAL DIALER PROTOCOLS OVER STANDARD TELEPHONE LINES.
- BACK-UP COMMUNICATIONS SHALL BE PROVIDED VIA GSM – RADIO COMMUNICATIONS.

IF SUPPORTED AND AGREED TO BY CONSEIL SCOLAIRE VIAMONDE PRIOR TO INSTALLATION, IP BASED MONITORING AND COMMUNICATIONS MAY ALSO BE USED AS A PRIMARY MEASURE TO MONITOR THE ALARM PANEL, THE USE OF A SECONDARY COMMUNICATIONS METHOD MUST ALSO BE PROVIDED, (STANDARD TELEPHONE LINE – POTS OR GSM).

113. A SELF-TEST OF THE DIGITAL DIALER SHALL BE CARRIED OUT DAILY TO ENSURE COMMUNICATION IS ON LINE TO THE STATION.

114. THE BOARD'S INTERCONNECT TELEPHONE COMPANY SHALL BE CONTRACTED, AS A SUB-CONTRACTOR UNDER DIVISION 16 – ELECTRICAL TO INSTALL A CASBA JACKS ON THE STREET SIDE OF THE LAST LISTED TELEPHONE LINE. THE JACK SHALL BE WIRED FOR LINE SECURE AND THE LINE TELEPHONE NUMBER SHALL BE SUITABLE MARKED ON THE JACK COVER.

115. WIRING FROM THE CASBA JACKS TO THE SURVEILLANCE CONTROL PANELS SHALL BE THE RESPONSIBILITY OF DIVISION 16. THE CASBA JACKS SHALL BE WIRED WITH A PULLOUT PLUG ON SURVEILLANCE SIDE OF THE JACKS.

COORDINATION

116. THE SECURITY SUB-CONTRACTOR SHALL BE RESPONSIBLE TO CO-ORDINATE THE INSTALLATION OF TWO CA- 38A TELEPHONE JACKS (BY THE TELEPHONE SUB-CONTRACTOR) AT THE TELEPHONE SERVICE IN THE SCHOOL FOR THE TRANSMISSION OF ALARMS.

DOOR VIDEO INTERCOMLATION

117. THE MAIN ENTRY SYSTEM WILL CONSIST OF THE FOLLOWING COMPONENTS:

- MASTER MONITOR STATION COMPLETE WITH INTEGRAL COLOUR MONITOR, DOOR COMMUNICATION AND RELEASE BUTTONS, DESK STAND AND ASSOCIATED POWER SUPPLY, AIPHONE CAT. #JP-4MED COMPLETE WITH MCW-SJA AND PS-2400L.
- FLUSH MOUNTED VANDAL-RESISTANT DOOR STATION COMPLETE WITH PIT CAPABILITIES AIPHONE CAT. #JK-DVF.
- ELECTRIC STRIKE SUITABLE FOR INDICATED DOOR. CO-ORDINATE WITH HARDWARE SUPPLIER, APPROVED MANUFACTURER, RUTHERFORD CONTROLS.

118. THE CHILDCARE ENTRY SYSTEMS WILL CONSIST OF SIMILAR COMPONENTS EXCEPT THE MASTER STATION MUST ALSO COMMUNICATE WITH SUB-INTERCOM STATIONS AND THIS AREA'S MASTER AND SUB- STATIONS MUST RELEASE THE TWO (2) NOTED ENTRY POINTS.

119. APPROVED MANUFACTURERS: AIPHONE

CARD READER

120. CARD READERS ARE TO BE PROVIDED AND SHALL SECURELY READ ACCESS CONTROL DATA FROM CARDS AND FOBs.

121. CARD READERS SHALL BE INTEGRATED CONTROL TECHNOLOGY PRX-TSEC-EXTRA-KP-BT-W.

CHILDCARE DOOR ALARM SYSTEM

122. PROVIDE AS DETAILED ON THE DRAWINGS FOR THE CHILDCARE AREA, A DOOR ALARM SYSTEM, COMPLETE WITH DOOR ALARM CONTACTS, LOCAL BUZZER/TROBE AND ARMYPASS KEYSWITCH AND ALL NECESSARY SUPPORT HARDWARE AND WIRING FOR A COMPLETE AND OPERATIONAL SYSTEM.

WIRING

123. ALL NECESSARY CABLE WILL BE SUPPLIED BY THE SECURITY SUB-CONTRACTOR FOR INSTALLATION BY THE ELECTRICAL CONTRACTOR. ALL WIRING REQUIREMENTS MUST BE CONFIRMED WITH THE SECURITY SUB-CONTRACTOR PRIOR TO TENDER CLOSE.

124. ALL SECURITY WIRING SHALL BE 20AWG MINIMUM, MULTI-CONDUCTOR, STATION 2' LOW-VOLTAGE WIRE OR EQUIVALENT.

125. ALL WIRING MUST BE FT6 CABLE. WIRING SUPPLYING POWER TO THE CONTROL PANELS SHALL BE NO 12 AWG MINIMUM, TWTS.

126. ALL WIRING TERMINATIONS SHALL BE CLEARLY MARKED AT THE SURVEILLANCE CONTROL PANEL AND DIGITAL KEYPADS. A WIRING COLOUR CODE AND TERMINATION CHART SHALL BE LEFT AT THE SURVEILLANCE CONTROL PANEL.

127. ALL WIRING IS TO BE INSTALLED IN A CONDUIT NETWORK PROVIDED BY THE ELECTRICAL CONTRACTOR.

PART 3 - EXECUTION

1. PROVIDE ALL GROUNDING REQUIRED BY THE ONTARIO ELECTRICAL SAFETY CODE OR ANY LOCAL AUTHORITIES REGARDLESS OF WHETHER IT HAS BEEN SHOWN. THIS INCLUDES EQUIPMENT GROUNDING AS WELL AS SYSTEM (SERVICE) AND DISTRIBUTION GROUNDING. PROVIDE ADDITIONAL SPECIFIC PROVISIONS AS INDICATED, INCLUDING GROUND CONNECTIONS FOR MAIN ELECTRICAL ROOM AND BUILDING STRUCTURE. PROVIDE THESE INSTALLATIONS ACCORDING TO ELECTRICAL SAFETY CODE REGULATIONS. COLLECT ALL GROUND CONNECTIONS AT A COMMON POINT IN THE MAIN ELECTRICAL ROOM, WHICH IN TURN IS CONNECTED TO THE MAIN SERVICE GROUND.
2. ALL GROUNDED FEEDERS AND BRANCH CIRCUITS SHALL BE PROVIDED WITH A SEPARATE GROUND CONDUCTOR SIZED ACCORDING TO THE ELECTRICAL SAFETY CODE REGULATIONS. THE CONDUIT SYSTEM SHALL NOT BE USED AS THE GROUND PATH, HOWEVER ALL CONDUITS SHALL BE SOLIDLY GROUNDED.
3. ARRANGE GROUNDS SUCH THAT UNDER NORMAL OPERATING CONDITIONS CURRENT FLOW IN ANY GROUNDING CONDUCTOR IS NOT OBJECTIONABLE AND WILL NOT HARM PERSONNEL OR EQUIPMENT. ARRANGE SERVICE GROUNDS AND DISTRIBUTION GROUNDS TO PROVIDE GROUND RESISTANCE READINGS WITHIN VALUES REQUIRED BY THE ONTARIO ELECTRICAL SAFETY CODE AND THE ELECTRICAL SAFETY AUTHORITY.
4. IN GENERAL, PROVIDE ALL POWER SUPPLY WIRING, LINE VOLTAGE CONTROL WIRING AND ELECTRICAL SAFETY CODE REQUIRED DISCONNECT SWITCHES FOR ANY EQUIPMENT INSTALLED BY OTHER TRADES. VERIFY THE ELECTRICAL CHARACTERISTICS AND WIRING REQUIREMENTS OF ALL EQUIPMENT BEFORE PROCEEDING WITH THE ACTUAL INSTALLATIONS. REFER TO THE DRAWINGS FOR A DESCRIPTION OF EQUIPMENT WIRING AND CONTROL REQUIREMENTS AND COMPONENTS TO BE PROVIDED BY THE CONTRACTOR.
5. CO-OPERATE WITH ALL OTHER TRADES ON THE JOB SUCH THAT ALL EQUIPMENT CAN BE INSTALLED WITHOUT ANY CONFLICTS OR DELAYS. PROVIDE AND MAINTAIN TEMPORARY WIRING, LIGHTING AND POWER SUPPLY INSTALLATIONS AS REQUIRED BY OTHER TRADES DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE THE EXTENT OF DEMOLITION, REMOVAL, RELOCATION, RE-ROUTING AND RECONNECTION OF EXISTING ELECTRICAL EQUIPMENT, FIXTURES, OUTLETS AND WIRING REQUIRED FOR THE DEMOLITION AND COMPLETION OF THE PROJECT. IN GENERAL, RELOCATE EXISTING SERVICES AS REQUIRED TO ACCOMMODATE NEW EQUIPMENT AND INSTALLATIONS AND ARCHITECTURAL CHANGES. IN AREAS BEING TOTALLY RENOVATED, PROVIDE ALL ELECTRICAL DEMOLITION WORK AND REPLACE EXISTING INSTALLATIONS WITH NEW AS SHOWN, EXTRA CHARGES FOR PREMIUM TIME LABOUR, IF REQUIRED TO COMPLETE THE PROJECT AS DESCRIBED, SHALL BE INCLUDED IN THE BID PRICE.
7. SEQUENCE OF DISCONNECTION AND REMOVAL AND/OR RELOCATION OF EXISTING EQUIPMENT AND WIRING SHALL BE CO-ORDINATED WITH THE OWNER AND OTHER TRADES AND SHALL CONFORM TO THE REQUIREMENTS AND CONDITIONS OUTLINED IN THE SPECIFICATIONS.
8. WIRING LOCATED IN AREAS BEING ALTERED BUT FEEDING OUTLETS OR EQUIPMENT IN OTHER AREAS REQUIRED TO REMAIN IN SERVICE, SHALL BE REWORKED, EXTENDED AND RE-ROUTED AS REQUIRED TO MAINTAIN THE CONTINUITY OF THESE SERVICES. PROVIDE ADEQUATE PROTECTION TO EXISTING WIRING AND EQUIPMENT WHICH HAS BECOME EXPOSED TO MECHANICAL INJURY IN THE COURSE OF ALTERATIONS OR NEW INSTALLATIONS.
9. INSTALL ALL CONDUIT AND FEEDERS RUNNING THROUGH THE EXISTING BUILDING ALONG ROUTES APPROVED ON SITE BY THE OWNER. NEW INSTALLATIONS WILL NOT NECESSARILY BE ALLOWED ALONG SHORTEST ROUTES BUT SHOULD FOLLOW CORRIDORS OR ROUTES OF EXISTING MAIN RUNS WHERE POSSIBLE.
10. IN SOME INSTANCES, NEW OUTLETS AND EQUIPMENT ARE SHOWN IN THE SAME LOCATION AS THE EXISTING OUTLETS. THESE MAY BE FED THROUGH THE EXISTING CONDUITS PROVIDED THAT THE CONDUITS ARE IN GOOD CONDITION AND ARE ACCEPTABLE TO THE ELECTRICAL SAFETY AUTHORITY FOR RE-USE. ALL WIRING TO NEW OUTLETS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE INDICATED. ALL UNUSED CONDUIT ENTRANCE OPENINGS SHALL BE SEALED.
11. UNLESS NOTED OTHERWISE, ALL EXISTING ELECTRICAL EQUIPMENT WHICH IS NOT TO BE RE-USED SHALL BECOME THE PROPERTY OF THIS CONTRACTOR (FOR DISPOSAL OR REMOVAL FROM THE SITE AS APPLICABLE) AND HAVE AN APPROPRIATE SALVAGE VALUE INCLUDED IN THE CONTRACT. EXISTING ELECTRICAL EQUIPMENT TO BE RE-USED (RELOCATED AND RECONNECTED) SHALL BE CLEANED, PAINTED, REFURBISHED AND REPAIRED AS REQUIRED BEFORE REINSTALLATION. (TURN OVER EXISTING LIGHT FIXTURES, ELECTRICAL PANELS AND STIPULATED DEVICES NOT TO BE RE-USED OR DISPOSED OF TO THE OWNER.)
12. IN FINISHED AREAS OF THE EXISTING BUILDING, AS MUCH WIRING AS POSSIBLE SHALL BE CONCEALED. WHERE, IN THE CONTRACTOR'S OPINION IT IS ABSOLUTELY NECESSARY OR ADVANTAGEOUS TO RUN WIRING ON THE SURFACE, (NOT SIMPLY TO AVOID CUTTING WALL OR FLOOR) OBTAIN APPROVAL FROM THE OWNER BEFORE PROCEEDING. ALL SURFACE RACEWAYS INSTALLED SHALL BE AS MANUFACTURED BY WIREMOLD UNLESS OTHERWISE INDICATED. WIREMOLD RACEWAYS SHALL BE SIZED AS INDICATED OR TO SUIT CONDUCTORS BEING CARRIED. USE ONLY APPROVED COMPONENTS, FITTINGS AND METHODS FOR SECURING, JOINING AND SUPPORTING SURFACE RACEWAYS AND OUTLET BOXES. SURFACE MOUNT RACEWAYS SHALL BE PAINTED BY THE CONTRACTOR TO MATCH THE ADJACENT WALL OR CEILING FINISH.
13. SERVICE AND DISTRIBUTION SYSTEM POWER INTERRUPTIONS SHALL BE KEPT TO A MINIMUM. POWER INTERRUPTIONS MUST BE CO-ORDINATED WITH THE OWNER AND ALL OTHER TRADES BY THIS CONTRACTOR. WRITTEN APPLICATION FOR ELECTRICAL INTERRUPTIONS MUST BE RECEIVED FROM THE CONTRACTOR INDICATING THE DATE, TIME AND ESTIMATED DURATION OF THE INTERRUPTION. APPLICATION FOR APPROVAL OF THE POWER INTERRUPTIONS MUST BE SUBMITTED TO THE OWNERS AND CONSULTANT AT LEAST TWO WEEKS PRIOR TO THE REQUESTED SHUT-DOWN

ELECTRICAL SPECIFICATIONS

- DATE.
14. IN SOME SECTIONS OF THIS SPECIFICATION, MATERIALS AND EQUIPMENT ARE SPECIFICALLY DESCRIBED AND NAMED BY MANUFACTURER FOR THE PURPOSE OF ESTABLISHING A MINIMUM STANDARD OF MATERIALS, PRODUCT QUALITY AND OTHER SPECIFIED REQUIREMENTS.
15. THE PROJECT SYSTEMS DESIGN AS PER THE DRAWINGS AND SPECIFICATIONS IS BASED ON THE SPECIFIED MANUFACTURER'S EQUIPMENT BUT IS INTENDED TO BE APPROPRIATE FOR EQUIVALENT EQUIPMENT OF ALL OTHER MANUFACTURERS CONTAINED ON THE "APPROVED MANUFACTURERS LIST"
16. PRODUCTS OF MANUFACTURER'S LISTED AS "ALTERNATES" ARE SUBJECT TO SHOP DRAWING REVIEW TO ENSURE THAT THEY ARE EQUIVALENT TO THE PRODUCTS OF THE SPECIFIED MANUFACTURER. ALTERNATE MANUFACTURER'S EQUIPMENT SHALL CONFORM TO THE SPACE LIMITATIONS IMPOSED BY THE PROJECT AND THE INTENT AS OUTLINED IN THIS SPECIFICATION AND DRAWINGS.
17. THE CONTRACTOR MAY SUBMIT ALTERNATIVE PROPOSALS OF MANUFACTURERS NOT LISTED IN THE APPROVED MANUFACTURERS LIST OF PROPOSALS OR MODIFIED DESIGN WITH APPROPRIATE COSTS, DELIVERY, AND SYSTEM DESIGN ADJUSTMENTS WHICH HE FEELS MAY BE ADVANTAGEOUS CONSIDERATIONS FOR THE PROJECT.

SECURITY AND ACCESS CONTROLS SYSTEMS

INSTALLATION

18. INSTALL CONDUIT NETWORK.
 19. INSTALL CABLE AS SUPPLIED BY SECURITY SUB-CONTRACTOR.
 20. STUB CONDUIT FLUSH ON WALL AT DETECTOR LOCATIONS SHOWN (DO NOT PROVIDE BOX). CONFIRM LOCATIONS ON SITE WITH SYSTEM SUPPLIER. ALL EQUIPMENT SHALL BE MOUNTED AND CONNECTED IN COMPLETE ACCORDANCE WITH THE SYSTEM SUPPLIERS SPECIFICATIONS.
 21. ALL FINAL DEVICE CONNECTIONS, INSTALLATIONS AND TESTING SHALL BE PERFORMED BY THE SECURITY SUB-CONTRACTOR.
 22. INSTALL DOOR VIDEO INTERCOM SYSTEM IN ACCORDANCE WITH MANUFACTURER'S CIRCUITRY AND SCHEMATICS AND PROVIDE TRAINING FOR USERS (MINIMUM 1.5 HOURS) OVER TWO (2) SEPARATE SESSIONS.
- SYSTEM PROGRAMMING**
23. THE CONTRACTOR IS REQUIRED TO PROVIDE ALL SYSTEM PROGRAMING INCLUDING BUT NOT LIMITED TO:
- ALL SYSTEM(S) CONFIGURATION.
 - OFFSITE MONITORING AND COMMUNICATION PARAMETERS
 - USER ENROLMENT AND SETUP
24. ALL SYSTEM NAMING CONVENTIONS SHALL BE PRESENTED BY THE CONTRACTOR FOR APPROVAL BY CONSEIL SCOLAIRE VIAMONDE.
25. THE CONTRACTOR IS REQUIRED TO CONDUCT AND CHAIR PRE-INSTALLATION MEETINGS AS REQUIRED WITH CONSEIL SCOLAIRE VIAMONDE OR THEIR REPRESENTATIVE TO IDENTIFY SPECIFIC REQUIREMENTS OF THE SYSTEM PROGRAMMING.
26. THE CONTRACTOR SHALL BE RESPONSIBLE TO DOCUMENT ALL DECISION ON SOFTWARE CONFIGURATION PARAMETERS AND SUBMIT FOR APPROVAL TO CONSEIL SCOLAIRE VIAMONDE.
27. ALL FIELD-DEFINED PROGRAMS SHALL BE STORED IN NON-VOLATILE MEMORY AND SHALL NOT BE LOST IF AC MAINS AND/OR BATTERY IS LOST.
28. ALL PROGRAMMING MAY BE ACCOMPLISHED THROUGH THE STANDARD LCD KEYPAD, AS WELL THROUGH USING A PC.
29. ALL PROGRAMMING OR EDITING OF THE EXISTING PROGRAM IN THE SYSTEM SHALL BE ACHIEVED WITHOUT SPECIAL EQUIPMENT AND WITHOUT INTERRUPTING THE ALARM MONITORING FUNCTIONS OF THE FIRE ALARM CONTROL PANEL / CONTROL PANEL AND / OR THE IDS.
30. PROVIDE PARTITIONING OF THE SYSTEM TO SUIT THE MULTIPLE BUILDING USERS AND THEIR SCHEDULES. CO-ORDINATE ALL REQUIREMENTS WITH BOARD REPRESENTATIVES.

TESTING AND COMMISSIONING

31. ACCEPTANCE TEST PROCEDURES
 - A MINIMUM OF 5 DAYS PRIOR TO ON-SITE TESTING, PREPARE AND SUBMIT TWO (2) COPIES OF A PROPOSED ACCEPTANCE TEST PLAN (ATP) FOR REVIEW BY CONSEIL SCOLAIRE VIAMONDE.
 - CONSEIL SCOLAIRE VIAMONDE RESERVES THE RIGHT TO REQUEST THAT TESTS COMPLETED BE REPEATED OR TO REQUEST ANY ADDITIONAL TESTS REQUIRED TO DEMONSTRATE COMPLIANCE WITH THIS STANDARD.
 - UPON APPROVAL OF THE ATP BY CONSEIL SCOLAIRE VIAMONDE THE CONTRACTOR SHALL PERFORM ALL TESTS AND FORWARD THE DOCUMENTED RESULTS TO CONSEIL SCOLAIRE VIAMONDE.
32. SITE ACCEPTANCE TESTS (SAT)
 - AFTER A REVIEW OF THE PRELIMINARY TESTS AS OUTLINED IN THE ATP, A SITE ACCEPTANCE TEST DATE SHALL BE ESTABLISHED. A DATE WILL NOT BE ESTABLISHED UNTIL ALL EQUIPMENT IS AVAILABLE FOR TESTING.
 - CONSEIL SCOLAIRE VIAMONDE SHALL BE ENTITLED TO WITNESS TESTING ON THE AGREED DATE.
 - ON THE DATE OF SITE ACCEPTANCE THE CONTRACTOR SHALL BE PRESENT TO PERFORM TESTING. CONSEIL SCOLAIRE VIAMONDE OR THEIR REPRESENTATIVE SHALL BE PRESENT TO WITNESS ALL OF THE TESTS PERFORMED.
 - IN THE EVENT THAT CONSEIL SCOLAIRE VIAMONDE OR THEIR REPRESENTATIVE PROCEED TO THE SITE FOR SITE ACCEPTANCE TESTING, ON THE AGREED DATE, AND FINDS THE SYSTEM INCOMPLETE OR NOT OPERATIONAL THE CONTRACTOR SHALL COVER ALL COSTS ASSOCIATED WITH RETURNING FOR REPEAT TESTING.
 - THE CONTRACTOR SHALL DEMONSTRATE THAT ALL EQUIPMENT AND ITS CONFIGURATION IS COMPLIANT TO THE CONSEIL SCOLAIRE VIAMONDE STANDARDS. ALL DEFICIENCIES IDENTIFIED SHALL BE CORRECTED BY THE CONTRACTOR PRIOR TO FINAL SYSTEM ACCEPTANCE.
 - THE SYSTEM AND ALL DEVICES SHALL BE TESTED BY THE CONTRACTOR BACK TO THE ALARM MONITORING STATION. AT THE END OF TESTING THE CONTRACTOR SHALL REQUEST AND RECEIVE FROM THE MONITORING STATION, A HARD COPY PRINT OUT OF ALL ALARMS RECEIVED BY THE MONITORING STATION DURING THE TEST PERIOD. THE CONTRACTOR SHALL FORWARD A COPY OF THIS TEST REPORT TO CONSEIL SCOLAIRE VIAMONDE FOR REVIEW, AS WELL AS PROVIDE AN ADDITIONAL COPY WITH THEIR AS-BUILD DOCUMENTATION.
33. FINAL SYSTEM ACCEPTANCE
 - AFTER SUCCESSFUL COMPLETION OF THE SAT, THE CONTRACTOR SHALL PREPARE A DEFICIENCY LIST. THE CONTRACTOR SHALL CORRECT ALL DEFICIENCIES AND NOTIFY CONSEIL SCOLAIRE VIAMONDE WHEN ALL ON-SITE WORK IS COMPLETED.
 - CONSEIL SCOLAIRE VIAMONDE WILL PROVIDE FINAL ACCEPTANCE OF THE WORK ONLY WHEN ALL REQUIREMENTS OF THIS SPECIFICATION HAVE BEEN FULFILLED, THE HAND OVER REPORT HAS BEEN RECEIVED AND ALL NOTED DEFICIENCIES HAVE BEEN CORRECTED.

TRAINING

34. TRAINING SHALL BE PROVIDED ON SITE AND CONDUCTED BY CONTRACTOR. ALL ASSOCIATED TRAINING COST SHALL BE CARRIED BY THE CONTRACTOR UNDER HIS COST. TRAINING SHALL CONSIST OF THE FOLLOWING MINIMUM REQUIREMENTS:
 - USER TRAINING – SHALL CONSIST OF TYPICAL SYSTEM OPERATIONS INCLUDING BUT NOT LIMITED TO: ARMING, DISARMING, BYPASS OF ZONE(S), CHANGING INDIVIDUAL USER CODE, TROUBLE CONDITIONS.
 - ADMINISTRATIVE TRAINING
 - THE TRAINING SHALL BE PERFORMED IN TWO (2) STAGES:
 - STAGE 1: CONTRACTOR CONDUCTED TRAINING, TRAINING SHALL BE PROVIDED AT TWO (2) DIFFERENT TIMES IN TWO SEPARATE GROUPS. EACH GROUP SHALL CONSIST OF 5 INDIVIDUALS FOR A TOTAL OF 10, DATES AND TIMES ARE SUBJECT TO APPROVAL BY THE CONSEIL SCOLAIRE VIAMONDE.
 - STAGE 2: A MINIMUM OF 4 HOURS OF FOLLOW-UP ON-SITE TRAINING CONDUCTED BY THE CONTRACTOR. AT A TIME CONVENIENT TO BOTH PARTIES TO REINFORCE THE STAGE 1 TRAINING AND ANSWER ANY QUESTIONS THAT MAY ARISE IN THE INTERIM. A PORTION OF THIS TRAINING MAY TAKE THE FORM OF TELEPHONE SUPPORT DURING THE FIRST FEW MONTHS OF OPERATION. (THIS TELEPHONE SUPPORT WILL BE AT THE DISCRETION OF THE BOARD REP.)

APPROVED MANUFACTURERS LIST

DIVISION 26

DISCONNECT SWITCHES, LIGHTING AND POWER PANELS:

EATON; SIEMENS; SCHNEIDER ELECTRIC

MOTOR CONTROLS, RELAYS, CONTACTORS, ETC.:

ALLEN-BRADLEY; SIEMENS; EATON; SCHNEIDER ELECTRIC

FUSES:

GOULD; BUSSMAN

WIRING DEVICES:

HUBBELL; PASS AND SEYMOUR; LEVITON

TIME SWITCHES AND PHOTO ELECTRIC CONTROLS:

TORK; PARAGON; INTERMATIC

LIGHTING CONTROLS:

LEGRAND/WATTI STOPPER; LEVITON; SENSOR SWITCH/ACCUTY; LUTRON; EATON; PHILIPS

INTERIOR LIGHT FIXTURES:

LITHONIA; EATON; HUBBELL; PHILIPS

EXTERIOR LIGHT FIXTURES:

EATON; HOLOPHANE; HUBBELL; LITHONIA; PHILIPS; CREE

EMERGENCY LIGHTING FIXTURES AND BATTERY UNITS:

THOMAS & BETTS; BEGHELLI; STANPRO; AIMUTE

EXIT SIGNS:

THOMAS & BETTS; BEGHELLI; STANPRO; AIMUTE

DIVISION 27

CLOCKS:

ELECTRICAL SPECIFICATIONS

MATCH EXISTING SYSTEM

PA:

CAREHAWK

STRUCTURED CABLING:

SYSIMAX

DIVISION 28

FIRE ALARM SYSTEM:

MIRCOM

SECURITY SYSTEM:

MONITORED BY CHUBB

INTEGRATION:

ICT

MOTION DETECTORS:

HONEYWELL

DOOR CONTACTS:

SENTROL 1076

SECURITY INTERCOMS AND STATIONS:

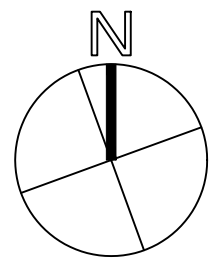
AIPHONE

ELECTRIC STRIKE:

RUTHERFORD CONTROLS

CARD READER:

ICT COMPATIBLE



PROJECT NORTH



15 Foundry Street, Dundas, ON, L9H 2V6
Phone: (905)488 0373 www.manteconpartners.com

SEAL

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS, SHALL BE RETURNED TO THE ENGINEER. DOCUMENTS ARE THE COPYRIGHT PROPERTY OF 'MANTECON PARTNERS' AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

6	ISSUED FOR ADDENDUM E-02	2024/11/20	P.O.
5	ISSUED FOR TENDER	2024/11/20	P.O.
4	ISSUED FOR PERMIT	2024/10/25	R.L.
3	ISSUED FOR 90% REVIEW	2024/09/11	P.O.
2	ISSUED FOR 80% REVIEW	2023/02/17	R.R.
1	ISSUED FOR 40% REVIEW	2022/11/18	R.R.

NO.	ISSUED	DATE	BY
-----	--------	------	----

KEY MAP: N.T.S



CLIENT

WORKSHOP ARCHITECTURE

PROJECT:

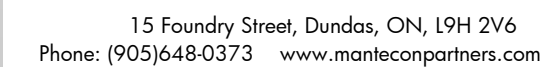
CSV PAVILION DE LA JEUNESSE
CHILDCARE ADDITION
105 HIGH STREET
HAMILTON, ON

DRAWING TITLE:

ELECTRICAL SPECIFICATIONS

DRAWN BY:	SCALE:
J.J.	N.T.S.
CHECKED BY:	DRAWING NUMBER:
N.A.	
DATE:	
NOV 2022	
PROJECT NUMBER:	
22-059	

E0.2



SEAL

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF 'MANTECON PARTNERS' AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

6	ISSUED FOR ADDENDUM E-02	2024/12/12	P.O.
5	ISSUED FOR TENDER	2024/11/20	P.O.
4	ISSUED FOR PERMIT	2024/10/25	R.L.
3	ISSUED FOR 90% REVIEW	2024/09/11	P.O.
2	ISSUED FOR 80% REVIEW	2023/02/17	R.R.
1	ISSUED FOR 60% REVIEW	2022/11/18	R.R.
NO.	ISSUED	DATE	BY

KEY MAP: N.T.S.



WORKSHOP ARCHITECTURE

PROJECT:

CSV PAVILLON DE LA JEUNESSE
CHILD CARE ADDITION
105 HIGH STREET
HAMILTON, ON

DRAWING TITLE:

FIRST FLOOR POWER AND LIGHTING DEMOLITION PLAN

DRAWN BY:

||

CHECKED BY:

N/A

N.A.

DATE: _____

NOW

NOV

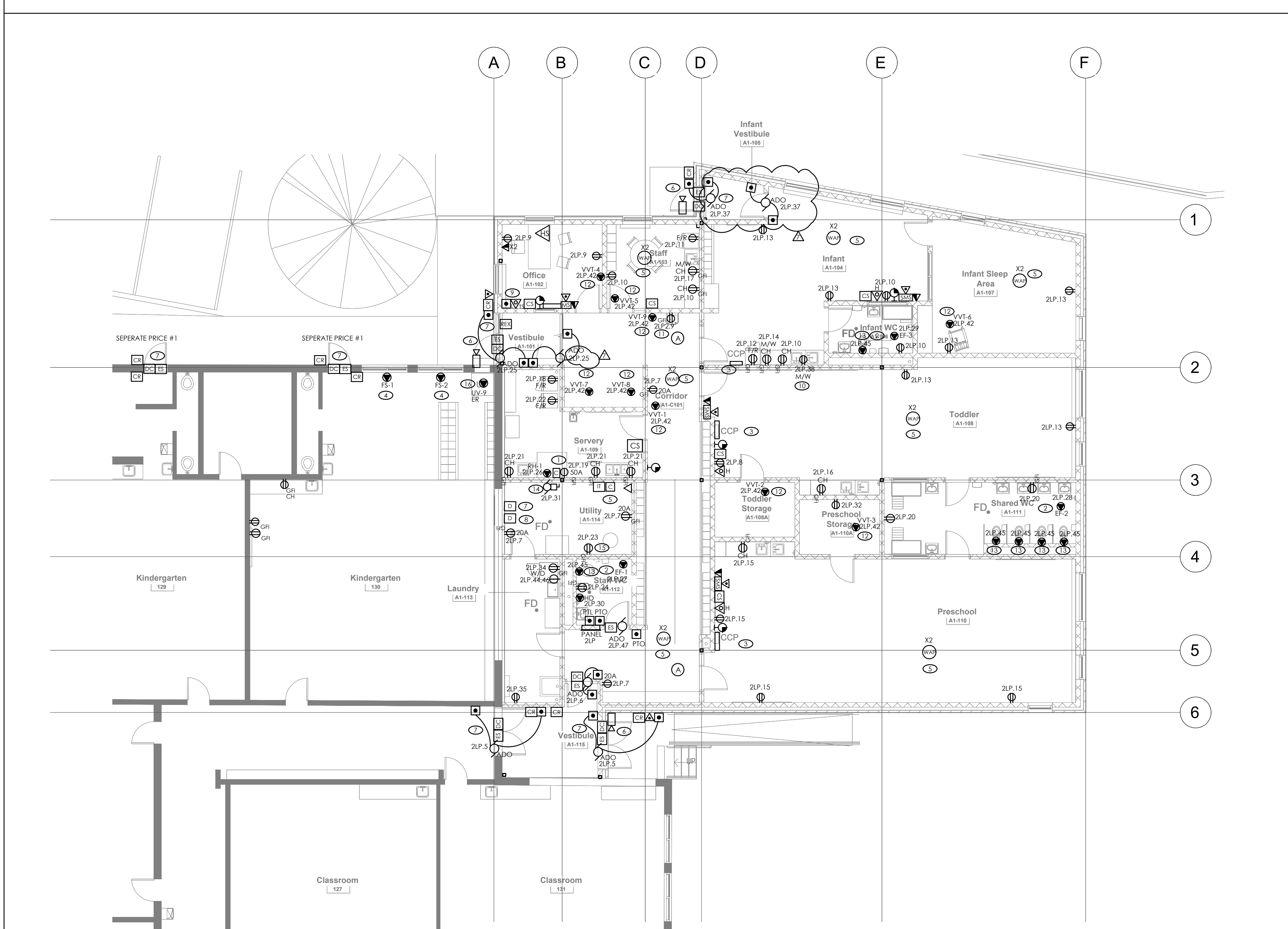
PROJECT NUM

SCA

AS INDICATED

DRAWING NUMBER

E1.0

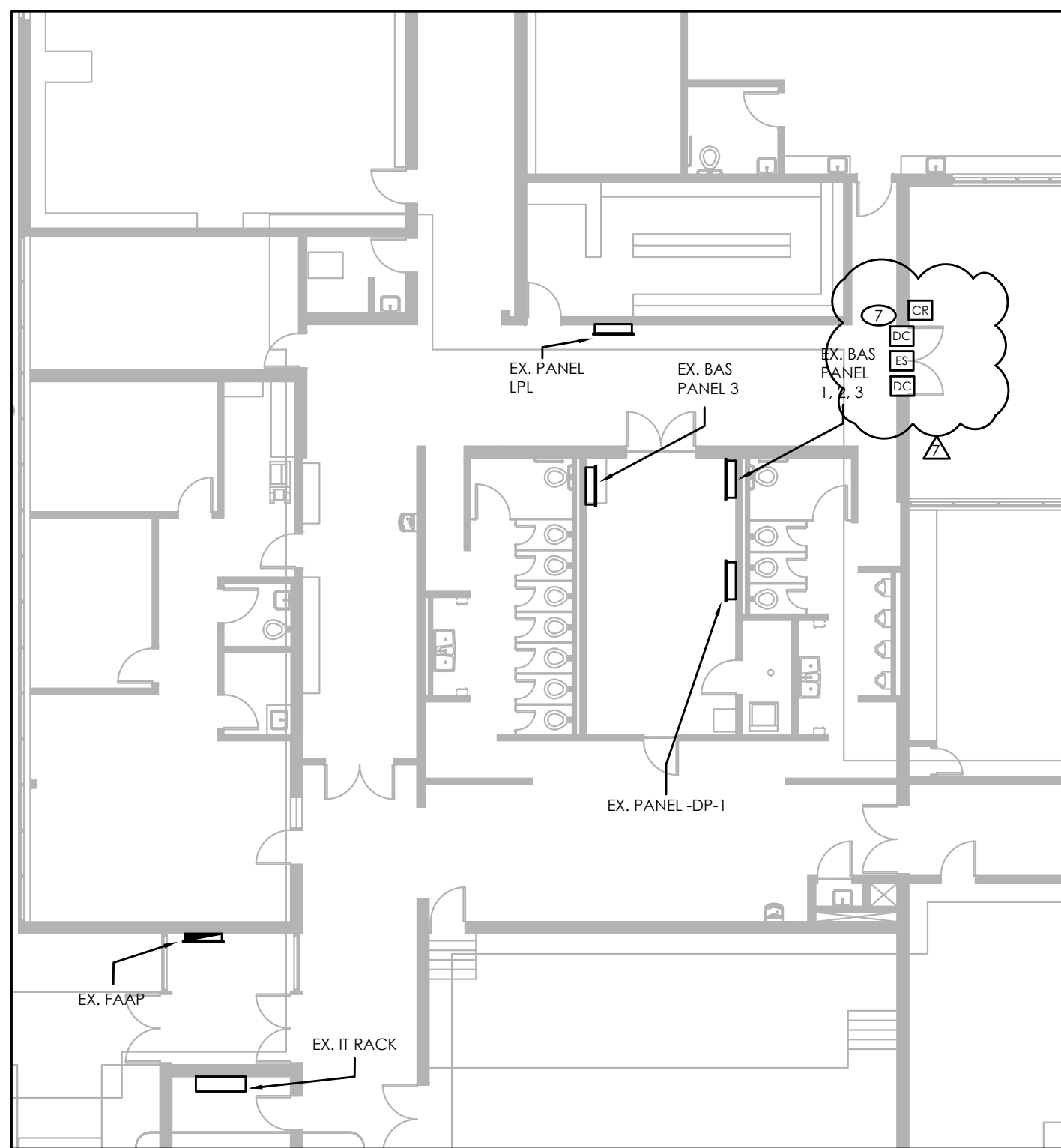


DRAWING NOTES

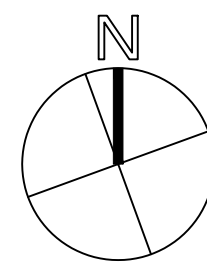
1. PROVIDE WIRING/CONDUIT AS REQUIRED TO FEED OVEN RECEPTACLE AND RANGE HOOD. OVEN/STOVE RECEPTACLE SHALL BE DOWNSTREAM OF SWITCH SHIPPED WITH RANGE HOOD TO SHUT OFF POWER TO THE STOVE AND OVEN IN THE EVENT THE FIRE SUPPRESSION SYSTEM IN THE RANGE HOOD IS ACTIVATED. PROVIDE WIRING BETWEEN RANGE HOOD AND SWITCH. OVEN RECEPTACLE AND UPSTREAM SWITCH SHALL BE SURFACE MOUNTED.
2. INDICATED EXHAUST FANS SHALL COME ON WITH WASHROOM LIGHTS.
3. PROVIDE EQUIPMENT INDICATED IN DETAIL 1 ON DRAWING E5.0 IN CLASSROOM CONTROL PANEL.
4. PROVIDE WIRING/CONDUIT AS REQUIRED TO POWER FIRE SHUTTERS. FIRE SHUTTERS SHALL BE TIED TO FIRE ALARM SYSTEM.
5. PROVIDE WIRING/CONDUIT FROM EXISTING IT RACK TO WIRELESS ACCESS POINTS. REFER TO DRAWING E0.3 FOR IT RACK LOCATION. PROVIDE SPARE WIRING TO EACH WIRELESS ACCESS POINT.
6. PROVIDE SECURITY CAMERA AND WIRING/CONDUIT AS REQUIRED TO CONNECT TO EXISTING SURVEILLANCE SYSTEM. FINAL LOCATION TBD.
7. PROVIDE DOOR CONTACT, CARD READER, ELECTRIC STRIKE, AND ALL ASSOCIATED DOOR HARDWARE TO PROPOSED DOOR LOCATIONS. PROVIDE WIRING/CONDUIT AS REQUIRED TO CONNECT DOOR HARDWARE TO PROPOSED DOOR CONTROLLERS.
8. PROVIDE DOOR CONTROLLERS AND WIRING/CONDUIT AS REQUIRED TO THE PROPOSED DEVICES TO EXISTING ACCESS CONTROL SYSTEM.
9. PROVIDE BLUE LOCKDOWN BUTTONS IN INDICATED LOCATIONS. BUTTONS SHALL BE TIED TO EXISTING P.A. SYSTEM. REFER TO DRAWING E0.3 FOR P.A. SYSTEM LOCATION.
10. PROVIDE WIRING AND CONDUIT TO RECEPTACLE FOR MICROWAVE TO BE PLACED IN UPPER CABINETS. COORDINATE WITH ARCHITECTURAL FOR MOUNTING HEIGHT IN CABINET.
11. PROVIDE WIRING AND CONDUIT TO RECEPTACLE FOR THE WATER FOUNTAIN. MOUNTED AT 14 7/16\"/>

GENERAL NOTES

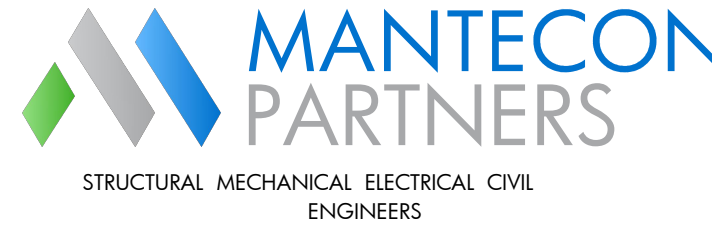
1. PROPOSED P.A. DEVICES SHALL BE TIED BACK TO EXISTING P.A. SYSTEM. REFER TO DRAWING E0.3 FOR P.A. SYSTEM LOCATION. DAYCARE SHALL BE ON SEPARATE ZONE FROM EXISTING BUILDING.
2. PROPOSED FIRE ALARM DEVICES SHALL BE TIED BACK TO EXISTING FACP IN MAIN ELECTRICAL ROOM. DAYCARE SHALL BE ON SEPARATE ZONE FROM EXISTING BUILDING.
3. AIPHONE VIDEO INTERCOMS SHALL BE TIED TO PROPOSED MASTER AND SUB-MASTER STATIONS.



2 PARTIAL FIRST FLOOR POWER AND SYSTEMS PLAN
E2.1 SCALE: 1:150



PROJECT NORTH



15 Foundry Street, Dundas, ON, L9H 2V6
Phone: (905)648-0373 www.manteconpartners.com

SEAL

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF "MANTECON PARTNERS" AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

NO.	ISSUED	DATE	BY
7	ISSUED FOR ADDENDUM E-02	2024/12/12	P.O.
6	ISSUED FOR ADDENDUM E-01	2024/12/05	P.O.
5	ISSUED FOR TENDER	2024/11/20	R.L.
4	ISSUED FOR PERMIT	2024/10/25	R.L.
3	ISSUED FOR 90% REVIEW	2024/09/11	P.O.
2	ISSUED FOR 80% REVIEW	2023/02/17	R.R.
1	ISSUED FOR 60% REVIEW	2022/11/18	R.R.

KEY MAP: N.T.S



CLIENT

WORKSHOP ARCHITECTURE

PROJECT:

CSV PAVILLON DE LA JEUNESSE
CHILDCARE ADDITION
105 HIGH STREET
HAMILTON, ON

DRAWING TITLE:

FIRST FLOOR POWER
PROPOSED PLAN

DRAWN BY:

J.J.J.

CHECKED BY:

N.A.

DATE:

NOV 2022

PROJECT NUMBER:

22-059

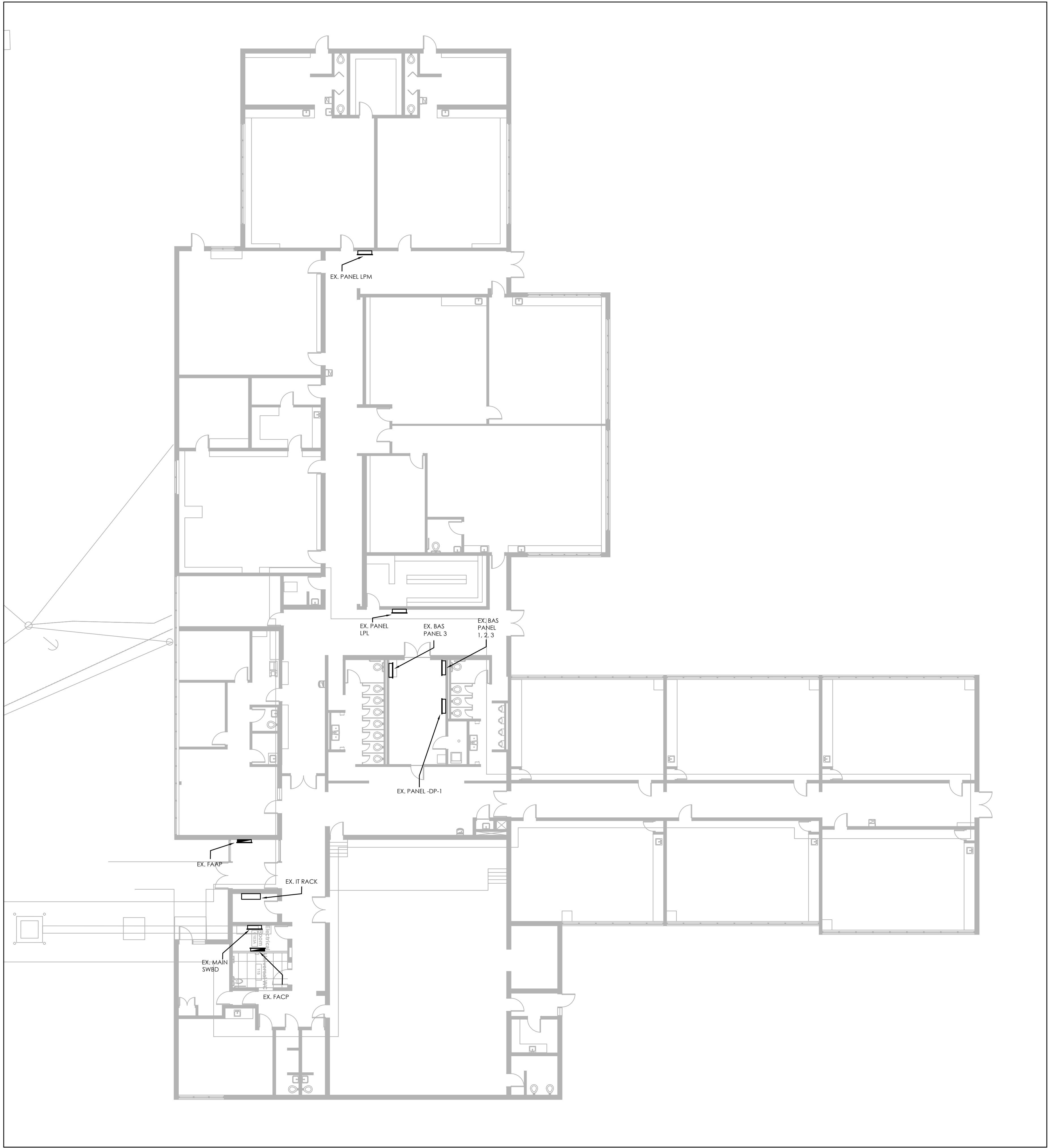
SCALE:

AS INDICATED

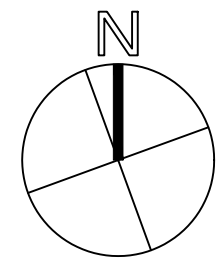
DRAWING NUMBER:

E2.1

December 12, 2024 - 11:54am Plotted by: rwang



1
E2.2
EXISTING POWER
SCALE: 1:150



PROJECT NORTH



15 Foundry Street, Dundas, ON, L9H 2V6
Phone: (905)648-0373 www.manteconpartners.com

SEAL

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF 'MANTECON PARTNERS' AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

NO.	ISSUED	DATE	BY
6	ISSUED FOR ADDENDUM E-02	2024/12/12	P.O.
5	ISSUED FOR TENDER	2024/11/20	P.O.
4	ISSUED FOR PERMIT	2024/10/25	R.L.
3	ISSUED FOR 90% REVIEW	2024/09/11	P.O.
2	ISSUED FOR 80% REVIEW	2023/02/17	R.R.
1	ISSUED FOR 60% REVIEW	2022/11/18	R.R.

KEY MAP: N.T.S



CLIENT

WORKSHOP ARCHITECTURE

PROJECT:

CSV PAVILLON DE LA JEUNESSE
CHILDCARE ADDITION
105 HIGH STREET
HAMILTON, ON

DRAWING TITLE:

EXISTING POWER PLAN

DRAWN BY:

J.J.J.

CHECKED BY:

N.A.

DATE:

NOV 2022

PROJECT NUMBER:

22-059

SCALE:

AS INDICATED

DRAWING NUMBER:

E2.2

PANEL : 2LP

VOLTAGE: 120/208V 3PH 4W

AMPERAGE: 100A

KA RATING: 10

PANEL LOCATION: CORRIDOR 102

FED FROM: SHDB

LOAD (KW): -

LOAD (A): -

☒ RECESSED

☐ SPINKLEPROOF

☐ MAIN BREAKER

☐ FEED THRU LGUG

☐ GROUND LG

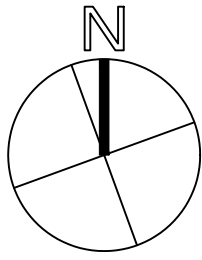
WATTS	DESCRIPTION	BRK	CCT	PH	CCT	BRK	DESCRIPTION	WATTS
	LIGHTING (101,108,110,116)	15	1	A	2	15	LIGHTING (102,113,114,115,117)	
	LIGHTING (103,104,105,112)	15	3	B	4	15	LIGHTING (106,107)	
	ADO (VESTIBULE 115)	15	5	C	6	15	ADO (NEAR VESTIBULE 115)	
	RECEPTACLES (CORRIDOR 101)	20	7	A	8	15	RECEPTACLES	
	RECEPTACLES (OFFICE 102)	15	9	B	10	15	RECEPTACLES (103, 104)	
	REFRIGERATOR (STAFF 103)	15	11	C	12	15	REFRIGERATOR (INFANT 104)	
	RECEPTACLES (107,108)	15	13	A	14	15	MICROWAVE RECEPTACLE (104)	
	RECEPTACLES (PRESCHOOL 107)	15	15	B	16	15	RECEPTACLE (108)	
	MICROWAVE (STAFF 103)	15	17	C	18	15	REFRIGERATOR (SERVERY 109)	
	STOVE (SERVERY 109)	50	19	A	20	15	RECEPTACLE (WASHROOM 111)	
	RECEPTACLES (SERVERY 109)	15	21	B	22	15	REFRIGERATOR (SERVERY 109)	
	WATER HEATER RECEPTACLE	15	23	C	24	15	RECEPTACLE (WASHROOM 112)	
	ADOS (VESTIBULE A1-101)	15	25	A	26	15	RH-1	
	LIGHTING AND EF-2 (106)	15	27	B	28	15	LIGHTING AND EF-2 (106)	
	LIGHTING AND EF-3 (115)	15	29	C	30	15	HD (112)	
	JOCKEY PUMP	20	31	A	32	15	RECEPTACLE (STORAGE 110)	
	EXTERIOR LIGHTS	15	33	B	34	15	WASHER (LAUNDRY)	
	RECEPTACLE (LAUNDRY)	15	35	C	36	20	RECEPTACLES (ROOF)	
	ADOS (D105A AND D105B)	15	37	A	38	15	MICROWAVE RECEPTACLE (104)	
	EXIT SIGNS	15	39	B	40	15	EMERGENCY LIGHTING BATTERYS	
	EXTERIOR LIGHTS	15	41	C	42	15	VVT CONTROL TRANSFORMER	
	SENSOR PLUMBING FIXTURES	15	43	A	44	30	DRYER (LAUNDRY)	
	STAFF WASHROOM ADO	15	47	C	48			
			49	A	50			
			51	B	52			
			53	C	54			
			55	A	56			
			57	B	58			
			59	C	60			
			61	A	62			
			63	B	64			
			65	C	66			
			67	A	68			
			69	B	70			
			71	C	72			
			73	A	74			
			75	B	76			
			77	C	78			
			79	A	80			
			81	B	82			
			83	C	84			

1

E4.0

PANEL 2LP SCHEDULE

SCALE: 1:100



PROJECT NORTH



15 Foundry Street, Dundas, ON, L9H 2V6
Phone: (905)648-0373 www.manteconpartners.com

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF "MANTECON PARTNERS" AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

7	ISSUED FOR ADDENDUM E-02	2024/12/12	P.O.
6	ISSUED FOR ADDENDUM E-01	2024/12/05	P.O.
5	ISSUED FOR TENDER	2024/11/20	P.O.
4	ISSUED FOR PERMIT	2024/10/25	R.L.
3	ISSUED FOR 90% REVIEW	2024/09/11	P.O.
2	ISSUED FOR 80% REVIEW	2023/02/17	R.R.
1	ISSUED FOR 60% REVIEW	2022/11/11	R.R.
NO.	ISSUED	DATE	BY

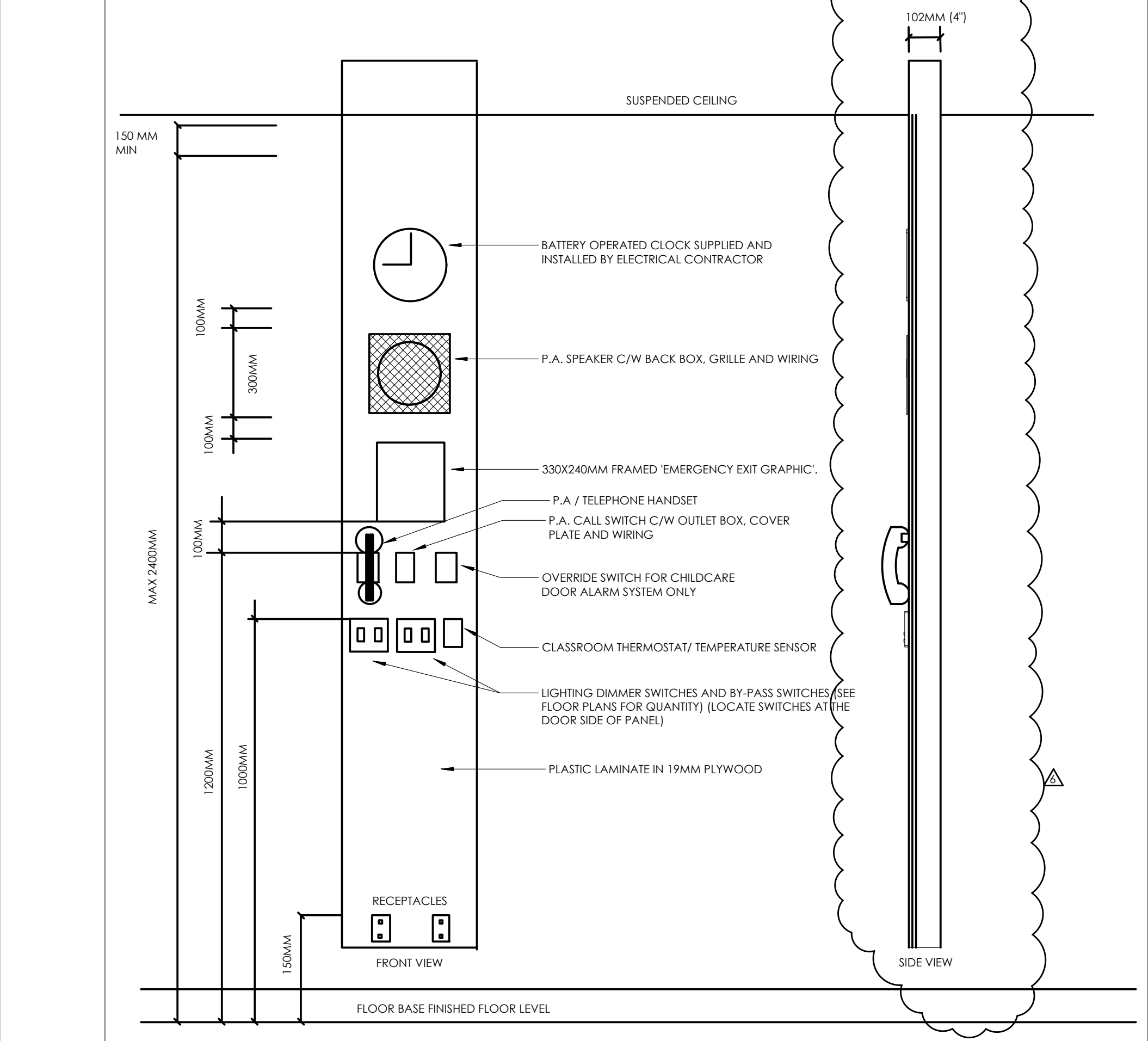


CLIENT
WORKSHOP ARCHITECTURE

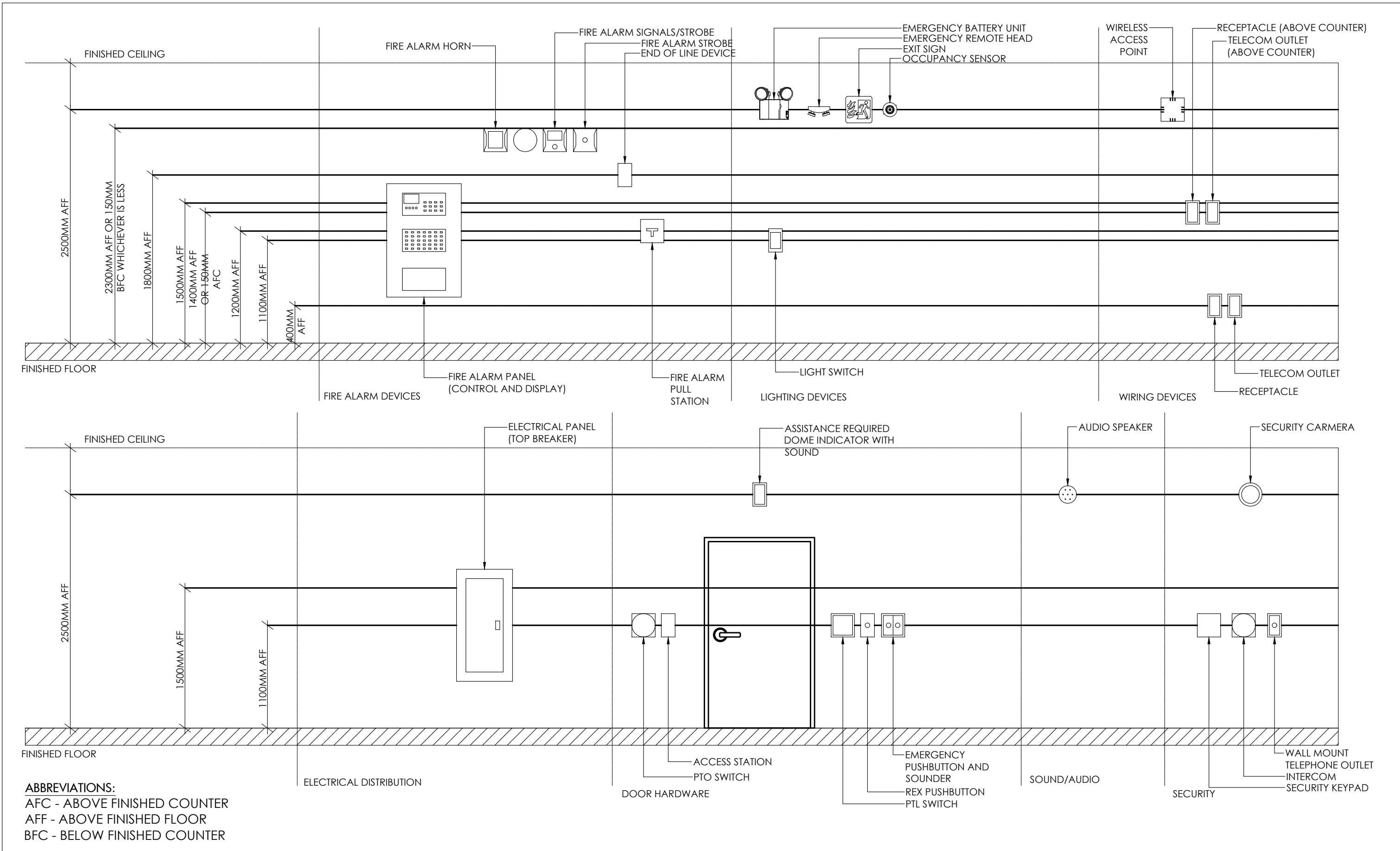
PROJECT:
CSV PAVILION DE LA JEUNESSE
CHILDCARE ADDITION
105 HIGH STREET
HAMILTON, ON

DRAWING TITLE:
ELECTRICAL SCHEDULES

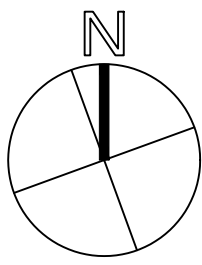
DRAWN BY: J.J.J.	SCALE: N.T.S.
CHECKED BY: N.A.	DRAWING NUMBER:
DATE: NOV 2022	E4.0
PROJECT NUMBER: 22-059	



CLASSROOM CONTROL PANEL



DEVICE MOUNTING HEIGHT



PROJECT NORTH



15 Foundry Street, Dundas, ON, L9H 2V6
Phone: (905)648-0373 www.manteconpartners.com

REVIEW ALL DRAWINGS AND VERIFY ALL DIMENSIONS AT THE SITE. DO NOT SCALE THE DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH ANY CONSTRUCTION OR SHOP FABRICATION. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT PROPERTY OF 'MANTECON PARTNERS' AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN PART OR WHOLE IS FORBIDDEN WITHOUT THE ENGINEER'S WRITTEN PERMISSION.

NO.	ISSUED	DATE	BY
6	ISSUED FOR ADDENDUM E-02	2024/12/12	P.O.
5	ISSUED FOR TENDER	2024/11/20	P.O.
4	ISSUED FOR PERMIT	2024/10/25	R.L.
3	ISSUED FOR 90% REVIEW	2024/09/11	P.O.
2	ISSUED FOR 80% REVIEW	2023/02/17	R.R.
1	ISSUED FOR 60% REVIEW	2022/11/18	R.R.

KEY MAP: N.T.S



CLIENT
WORKSHOP ARCHITECTURE

PROJECT:
CSV PAVILION DE LA JEUNESSE
CHILDCARE ADDITION
105 HIGH STREET
HAMILTON, ON

DRAWING TITLE:
ELECTRICAL DETAILS

DRAWN BY: J.J.J.	SCALE: AS INDICATED
CHECKED BY: N.A.	DRAWING NUMBER: E5.0
DATE: NOV 2022	
PROJECT NUMBER: 22-059	

CSV Pavillon de la Jeunesse Childcare Addition

Hardware Group No. 18-CARD READER

For use on Door #(s):

DS06

Provide each PR door(s) with the following:

QT		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
Y						
6	EA	HINGE	5BB1HW 5 X 4.5 NRP		652	IVE
1	EA	REMOVABLE MULLION	<u>KR4854 STAB</u> (KR4954)		689	VON
1	EA	PANIC HARDWARE	98-EO		626	VON
1	EA	PANIC HARDWARE	98-NL-OP-110MD		626	VON
1	EA	RIM CYLINDER	20-057 ICX		626	SCH
1	EA	MORTISE CYLINDER	20-061 (REMOVABLE MULLION)		626	SCH
2	EA	PRIMUS CORE	20-740-XP EV29 T		626	SCH
<u>1</u>	<u>EA</u>	<u>ELECTRIC STRIKE</u>	<u>6111 FSE DS CON 12/24 VAC/VDC</u> <u>USE DS FOR REX</u>	 ⚡	<u>630</u>	<u>VON</u>
1	EA	SURFACE CLOSER	4040XP SCUSH ST-3068		689	LCN
2	EA	KICK PLATE	8400 205MM X LDW B-CS		630	IVE
1	EA	GASKETING	139N			ZER
			FOR THE FACE OF MULLION			
2	EA	JAMB SEALS	328AA X DR HT		AA	ZER
1	EA	HEAD SEAL	429AA-S X DR WIDTH		AA	ZER
2	EA	DOOR SWEEP	8192AA X DR WIDTH		AA	ZER
1	EA	THRESHOLD	625A X DR WIDTH		A	ZER
<u>1</u>	<u>EA</u>	<u>WIRE HARNESS</u>	<u>CON- (SIZE TO SUIT)</u>	⚡		<u>SCH</u>
<u>1</u>	<u>EA</u>	<u>WIRE HARNESS</u>	<u>CON-6W</u>	⚡		<u>SCH</u>
2	EA	DOOR CONTACT	BY SECURITY	⚡		UNK
<u>1</u>	<u>EA</u>	<u>CARD READER</u>	<u>BY SECURITY</u>	⚡		<u>UNK</u>