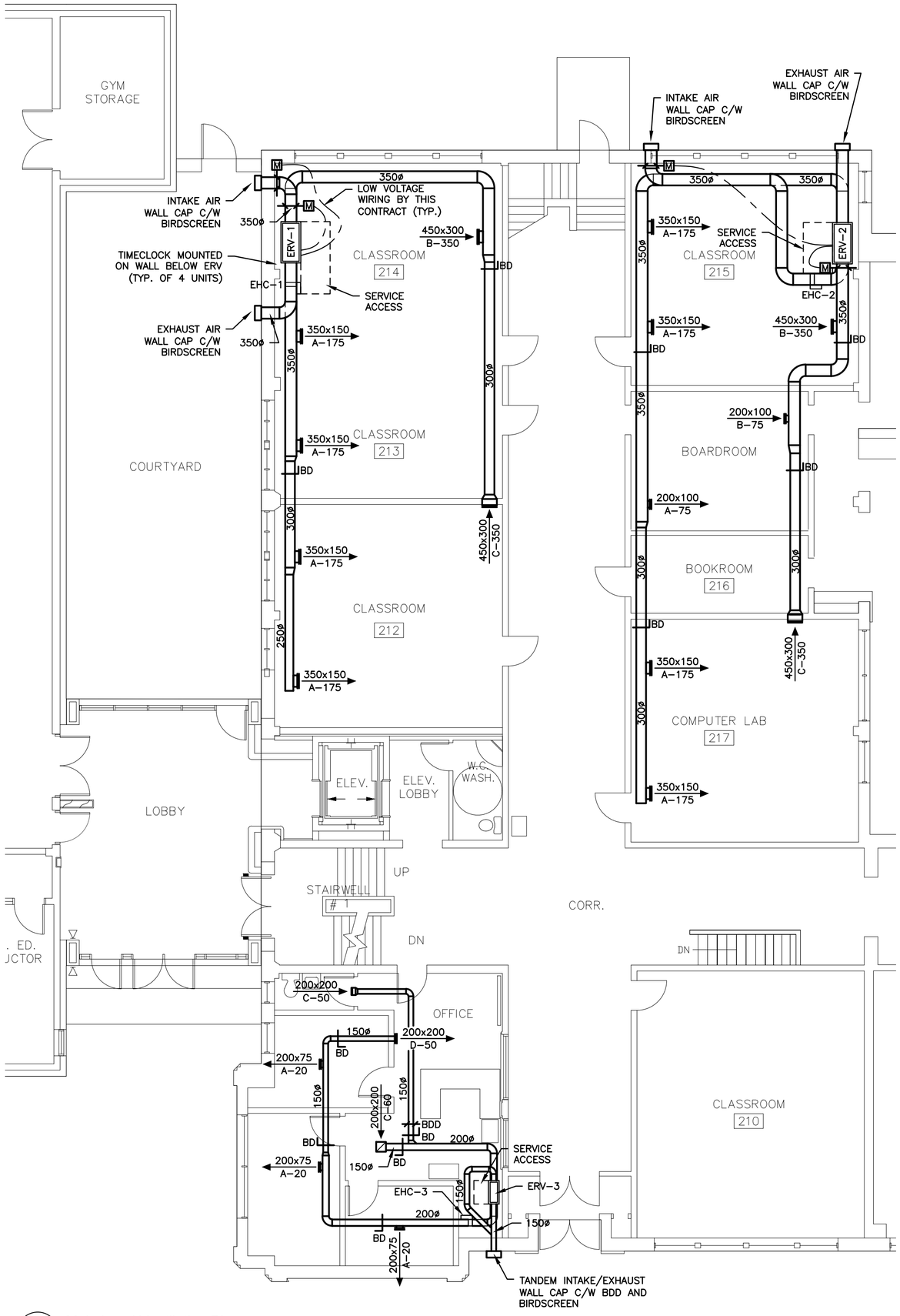
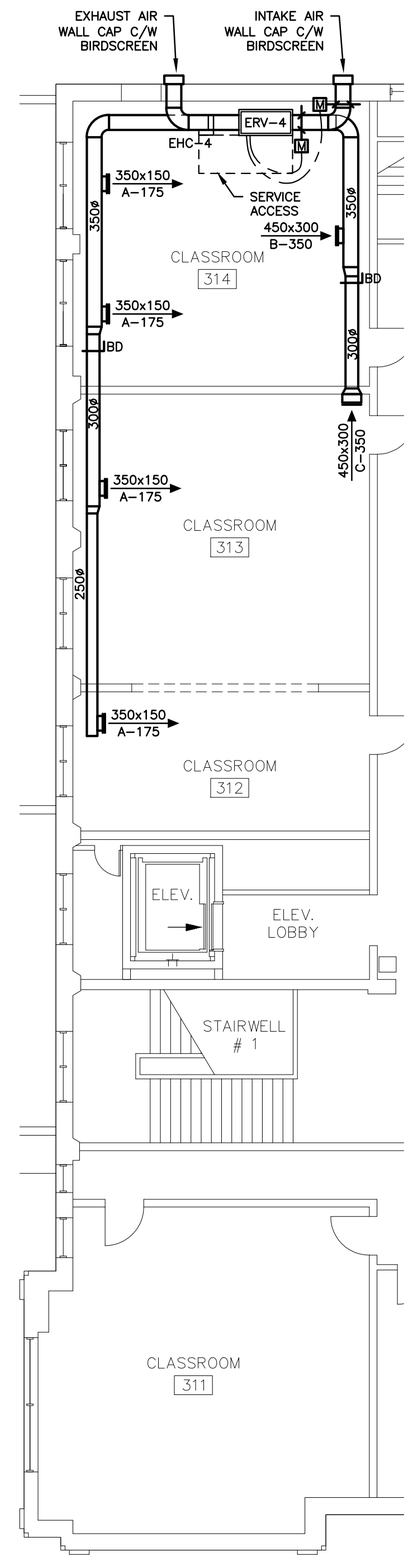
LEDGER M AEC

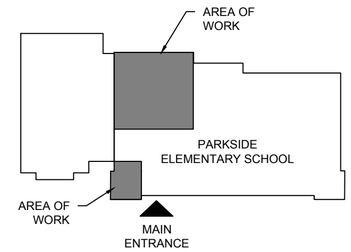


1 M1 M1 Main Level Ventilation Plan 1:100



2 M1 M1 Second Level Ventilation Plan 1:100

KEY PLAN



LEGEND

- SUPPLY AIR GRILLE
- RETURN AIR GRILLE
- SIDEWALL GRILLE
- BD BALANCING DAMPER
- M MOTORIZED DAMPER
- BACKDRAFT DAMPER
- DUCTWORK

SIZE OF GRILLE OR DIFFUSER — 254ø — 600x600 — A-116 — TYPE OF GRILLE OR DIFFUSER — AIR FLOW (CFM)

REGISTERED PROFESSIONAL ENGINEER J. DOUGLAS MATHESON No. 380 PROVINCE OF PRINCE EDWARD ISLAND

ISSUED FOR TENDER
3/18/21

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Project Title :
Parkside Elementary School Air Exchange Upgrade

Drawing Title :
Ventilation Plans

Scale : 1 : 100	Design By : JDM
Drawn By : NFS	Date : March 18, 2021
Project No.: (20-193) 440 - 20080	Drawing No.: M-1 of 3

C:\USERS\NEIL SWEET\APPLEMCA CONSULTANTS\MCA CONSULTANTS TEAM SITE - DOCUMENTS\PEI PROJECTS\20-193 (PARKSIDE ELEMENTARY SCHOOL - CLASSROOM VENTILATION)\WORKING DRAWINGS\20-193 PARKSIDE VENTILATION.DWG

1.0 GENERAL:

1.1 GENERAL CONDITIONS:
ALL CONTRACT GENERAL CONDITIONS APPLY TO THIS SECTION.

1.2 SCOPE OF WORK:
THE WORK INCLUDED SHALL INCLUDE THE FURNISHING OF ALL LABOR, MATERIALS, EQUIPMENT, PLANT TOOLS AND SERVICES NECESSARY FOR THE INSTALLATION OF THE MECHANICAL SYSTEMS AS INDICATED.

1.3 SITE VISITS:
BEFORE COMMENCING WORK VISIT SITE AND VERIFY THAT REQUIREMENTS OF PLANS AND SPECIFICATIONS ARE CONSISTENT WITH SITE CONDITIONS.

ADVISE THE ENGINEER IN WRITING OF ANY DISCREPANCIES OR CONFLICTS.

NO ALLOWANCE SHALL BE MADE FOR FAILURE TO INCLUDE ITEMS WHICH A THOROUGH INVESTIGATION WOULD HAVE SHOWN TO BE REQUIRED.

BIDDERS SHOULD NOTE THAT THIS PROJECT IS A RENOVATION OF AN EXISTING BUILDING AND NO ATTEMPT HAS BEEN MADE TO SHOW ALL EXISTING CONDITIONS. EACH BIDDER IS RESPONSIBLE TO DETERMINE THE EXTENT OF THEIR WORK INVOLVED IN TYING INTO EXISTING SYSTEMS OR RE–ROUTING HIS WORK AROUND OBSTRUCTIONS.

1.4 THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC, INTENDED TO SHOW GENERAL ARRANGEMENT AND SIZES OF SYSTEM COMPONENTS, AND SHALL NOT BE SCALED. THE EXISTING CONDITIONS SHALL GOVERN SPACE CONSTRAINTS, ACTUAL CONNECTION ARRANGEMENTS, DIMENSIONS AND FINISHES.

CONTRACTOR SHALL VISIT THE PROJECT SITE, THOROUGHLY INVESTIGATE AND BE FAMILIAR WITH ALL EXISTING CONDITIONS WHICH WILL AFFECT THEIR WORK.

THE EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE AND MUST BE SIZED AS PER SITE SPECIFIC REQUIREMENTS AND APPROVED BY OWNER.

ALL OFFSETS AND FITTINGS WHICH WILL BE NECESSARY TO ACCOMPLISH THE FINISHED INSTALLATION SHALL BE PROVIDED AT NO ADDITIONAL COST OR INCREASE IN THE CONTRACT. ALL EQUIPMENT AND MATERIALS SHALL BE NEW UNLESS NOTED OR SPECIFIED OTHERWISE.

PROTECT ALL EQUIPMENT AND MATERIALS FROM DAMAGE. PROVISIONS SHALL BE MADE TO PREVENT NOISE AND VIBRATION.

1.5 SAFETY REQUIREMENTS:

.1 CARRY OUT WORK OF THIS CONTRACT PLACING MAXIMUM EMPHASIS ON SAFETY FOR ALL WORKERS AND OTHER AUTHORIZED PERSONS WORKING OR CIRCULATING ON THE CONSTRUCTION SITE AS WELL AS SAFETY FOR BUILDING TENANTS ON FEDERAL GOVERNMENT PROPERTY. CONTRACTOR TO PREPARE SAFETY PLAN FOR REVIEW AND ACCEPTANCE PRIOR TO WORK PROCEEDING ON SITE.

.2 OBSERVE AND ENFORCE CONSTRUCTION SAFETY MEASURES REQUIRED BY THE NATIONAL BUILDING CODE OF CANADA, THE CANADA LABOR CODE PART 11, THE PROVINCIAL OCCUPATIONAL HEALTH AND SAFETY REGULATIONS, PROVINCIAL WORKER'S COMPENSATION BOARD, MUNICIPAL STATUTES AND AUTHORITIES, AND OWNER"S PLANT SAFETY REQUIREMENTS.

.3 IN EVENT OF CONFLICT BETWEEN ANY PROVISIONS OF ABOVE AUTHORITIES WITH THE MOST STRINGENT PROVISIONS WILL APPLY.

.4 COMPLY WITH REQUIREMENTS OF STANDARD FOR BUILDING CONSTRUCTION OPERATIONS FCC NO. 301 AND STANDARD FOR WELDING AND CUTTING FCC NO. 302 ISSUED BY THE FIRE COMMISSIONER OF CANADA.

.5 ELECTRICAL LOCK–OUT:

ENSURE THAT ELECTRICAL LOCK–OUT PROCEDURES ARE IN PLACE AND THAT A GUARANTEE OF ISOLATION IS OBTAINED BEFORE STARTING WORK ON ANY ELECTRICAL CIRCUIT OR FACILITY. CHECK FOR AND OBTAIN ANY SITE SPECIFIC GUARANTEE OF ELECTRICAL ISOLATION RULES AND PROCEDURES AS MAY BE ESTABLISHED BY CLIENT/BUILDING OWNER.

CLIENT/BUILDING OWNER:

THE ELECTRICAL LOCK–OUT PROCEDURES SHALL BE IN ACCORDANCE WITH SAFETY MEASURES REFERENCED IN .2 ABOVE AND SHALL INCLUDE LOCK–OUT TAGS, A WRITTEN RECORD OF ALL EVENTS (SIGNED OFF), ETC.

.6 WHMIS:

COMPLY WITH REQUIREMENTS OF WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) REGARDING USE, HANDLING, STORAGE AND DISPOSAL OF HAZARDOUS MATERIALS AND REGARDING LABELING AND PROVISION OF MATERIAL SAFETY DATA SHEETS ACCEPTABLE TO LABOUR CANADA AND HEALTH AND WELFARE CANADA.

DELIVER COPIES OF WHMIS DATA SHEETS TO THE PROJECT MANAGER ON DELIVERY OF MATERIALS.

1.6 REFERENCE STANDARDS AND REGULATIONS:

.1 ALL WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND REGULATIONS IN THE EVENT OF A CONFLICT THE MORE STRINGENT REQUIREMENT SHALL BE MET.

- NATIONAL BUILDING CODE OF CANADA
- REGULATIONS OF PROVINCIAL DEPARTMENT OF LABOUR
- REGULATIONS OF PROVINCIAL DEPARTMENT OF HEALTH
- REGULATIONS OF PROVINCIAL DEPARTMENT OF THE ENVIRONMENT
- REQUIREMENTS OF PROVINCIAL FIRE MARSHALL
- REQUIREMENTS OF MUNICIPAL FIRE AUTHORITY

1.7 PERMITS AND TESTING:

.1 CONTRACTOR SHALL OBTAIN AND PAY FOR ANY PERMITS REQUIRED BY LOCAL CODES AND REGULATIONS AND ARRANGE FOR INSPECTIONS.

.2 ANY ADDITIONAL MATERIALS OR LABOUR REQUIRED TO CONFORM TO ANY OF THE REGULATIONS OF REFERENCED STANDARDS SHALL BE FURNISHED UNDER THE CONTRACT WITH NO ADDITIONAL COST TO THE OWNER.

.3 TEST SYSTEMS IN ACCORDANCE WITH THE REQUIREMENTS OF THE REFERENCED STANDARDS, REGULATIONS AND AUTHORITIES HAVING JURISDICTION (AHJ).

1.8 QUALIFICATIONS:

EXECUTION OF THE WORK SHALL BE BY LICENSED CONTRACTOR CERTIFIED FOR THE INSTALLATION OF SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL CODES AND REGULATIONS.

1.9 SHOP DRAWINGS:

CONTRACTOR TO SUBMIT ELECTRONIC PDF SHOP DRAWINGS C/W TRANSMITTAL AND SEQUENTIAL NUMBERING SYSTEM FOR REVIEW.

1.10 CUTTING AND PATCHING:

ALL CUTTING AND PATCHING WILL BE THE RESPONSIBILITY OF THIS CONTRACTOR.

1.11 INSTALLATION AND COMMISSIONING OF EQUIPMENT:

MANUFACTURER'S INSTRUCTIONS SHALL BE MADE AVAILABLE TO BOTH THE INSTALLING TRADESMEN AND THE ON–SITE INSPECTOR PRIOR TO INSTALLATION OF EQUIPMENT, THESE INSTRUCTIONS ARE TO BE READ, UNDERSTOOD AND CLOSELY FOLLOWED. FAILURE TO ABIDE BY THIS REQUIREMENT WILL PROVIDE JUSTIFICATION FOR THE ENGINEER TO REQUIRE REMOVAL AND RE–INSTALLATION.

ENSURE THAT ALL SAFETY DEVICES AND OTHER SIGNIFICANT ACCESSORIES ARE IN PLACE AND OPERABLE BEFORE STARTING MAJOR PIECES OF EQUIPMENT. AS PART OF THE COMMISSIONING PROCESS ACCESSORIES ARE TO BE CHECKED, CALIBRATED AND ADJUSTED AS NECESSARY TO ENSURE SAFE OPERATION.

FOLLOW MANUFACTURER'S INSTRUCTIONS IN DETAIL IN ESTABLISHING COMMISSIONING PROCEDURE.

1.12 IDENTIFICATION:

MANUFACTURER'S NAMEPLATE:
PROVIDE ON EACH PIECE OF EQUIPMENT A METAL NAMEPLATE, MECHANICALLY FASTENED WITH RAISED OR RECESSED LETTERS.

SYSTEM NAMEPLATE:
PROVIDE LAMINATED PLASTIC PLATE WITH BLACK FACE AND WHITE CENTER. MINIMUM SIZE 6" X 3" X 1/8" NOMINAL THICKNESS, ENGRAVED WITH 1/4" HIGH LETTERING. USE 1" LETTERING FOR MAJOR EQUIPMENT

1.13 DEMONSTRATION OF COMPLETE SYSTEMS:

AT THE CONCLUSION OF THE JOB, THE CONTRACTOR SHALL REVIEW AND DEMONSTRATE TO THE OWNER ALL EQUIPMENT AND THEIR RESPECTIVE FUNCTIONS AND OPERATION. SUCH DEMONSTRATION SHALL BE PROVIDED FOR SUCH REASONABLE PERIODS OF TIME AS THE COMPLEXITY OF THE JOB WARRANTS, AND AS APPROVED BY THE ENGINEER. SUCH REVIEW AND DEMONSTRATION SHALL BE MADE BY AN AUTHORIZED REPRESENTATIVE OF THE CONTRACTOR, FULLY KNOWLEDGEABLE OF THE PROJECT, ITS INSTALLATION AND OPERATION.

PROVIDE THE ENGINEER WITH A SCHEDULE OF SYSTEM DEMONSTRATION AT LEAST TWO (2) WEEKS PRIOR TO DEMONSTRATION.

1.14 FINAL INSPECTION:

PRIOR TO SUBSTANTIAL COMPLETION AND FINAL INSPECTION OF THE PROJECT, CONTRACTOR WILL INSPECT THE PROJECT, PROVIDE A MECHANICAL DEFICIENCY LIST. PROVIDE CONFIRMATION THAT ALL ITEMS ON THE LIST HAVE BEEN CORRECTED AND PROVIDE THE OPERATION AND MAINTENANCE MANUALS. PROVIDE THE RECORD DRAWINGS AND PROVIDE THE DEMONSTRATION OF THE COMPLETE MECHANICAL SYSTEMS.

ALL OF THE ABOVE MUST BE COMPLETED PRIOR TO THE FINAL INSPECTION BY THE ENGINEER AND SUBSTANTIAL COMPLETION OF THE MECHANICAL SYSTEMS.

1.15 OPERATION AND MAINTENANCE MANUALS:

CONTRACTOR TO PROVIDE MAINTENANCE MANUALS FOR ALL EQUIPMENT INSTALLED. THREE (3) COPIES ORGANIZED IN 8 1/2" X 11" BINDERS TO BE PROVIDED.

1.16 RECORD DRAWINGS:

CONTRACTOR TO PROVIDE AS–BUILT RECORD DRAWINGS.

1.17 GUARANTEE:

THE CONTRACTOR SHALL GUARANTEE ALL HIS WORK FREE FROM DEFECTS FOR A PERIOD OF ONE (1) YEAR (UNLESS SPECIFICALLY NOTED OTHERWISE) FROM THE DATE OF SUBSTANTIAL PERFORMANCE OF THE WORK AS DETERMINED BY THE CONSULTANT AND SHALL MAKE GOOD ALL DEFECTS OTHER THAN NORMAL WEAR AND TEAR DURING THE LIFE OF THE GUARANTEE.

THE CONTRACTOR SHALL GUARANTEE ALL WORK AND EQUIPMENT SUPPLIED BY HIM TO WORK QUIETLY AND SATISFACTORILY AND TO ACCOMPLISH THE WORK FOR WHICH IT WAS INSTALLED DURING THE LIFE OF THE ABOVE GUARANTEE. AT ANY TIME DURING THIS PERIOD, HE SHALL MAKE ANY NECESSARY CHANGES AND ADJUSTMENTS, OR REPLACEMENTS, TO ACCOMPLISH THIS AT HIS OWN EXPENSE.

REGISTERED PROFESSIONAL ENGINEER
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Project Title :
Parkside Elementary School
Air Exchange Upgrade

Drawing Title :
Mechanical Specifications

Scale : 1 : 100	Design By : JDM
Drawn By : NFS	Date : March 18, 2021
Project No.: (20-193) *440 - 20080*	Drawing No.: *M-2* of *3*

LEDGER M AEC
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LEDGER M AEC

2.0 INSULATION:

2.1 DEFINITIONS:

UNLESS OTHERWISE SPECIFIED, TERMS "EXPOSED PIPE" OR "EXPOSED DUCTWORK" AS USED IN THIS SECTION SHALL REFER TO PIPE OR DUCTWORK IN FINISHED SPACES AND SHALL INCLUDE ALL AREAS EXCEPT; FURRED SPACES, PIPE AND DUCT SHAFTS, SPACES ABOVE FURRED CEILINGS, SPACES OVER EXCAVATED AREAS, AND CRAWL SPACES. THESE LATTER AREAS WILL BE REFERRED TO AS "CONCEALED SPACES". WORKING CHASES OR CORES SHALL BE CONSIDERED AS FINISHED SPACES.

2.2 FIRE RATING:

ALL INSULATION TO HAVE MAXIMUM FLAME SPREAD RATING 25. MAXIMUM SMOKE DEVELOPED RATING 50.

2.4 DUCTWORK:

PROVIDE 50mm THICK DUCT INSULATION TO THE FOLLOWING:
.1 ALL OUTDOOR AIR INTAKE DUCTWORK.
.2 ALL EXHAUST DUCTWORK 3m IN FROM BUILDING EXIT

CONCEALED DUCT INSULATION SHALL BE FLEXIBLE FIBERGLASS BLANKET DUCT INSULATION WITH NOMINAL DENSITY OF 12 KG/M3. FLEXIBLE INSULATION VAPOUR JACKET TO BE FACTORY APPLIED FOIL–SCRIM–KRAFT FACING CONSISTING OF ALUMINUM FOIL REINFORCED WITH FIBER GLASS YARN MESH AND LAMINATED TO CHEMICALLY TREATED FIRE RESISTANT KRAFT.

EXPOSED DUCT INSULATION SHALL BE RIGID FIBER GLASS BOARD, HAVING A MINIMUM DENSITY OF 96 KG/M3. USE SEMI–RIGID PIPE AND TANK INSULATION FOR SPIRAL AND ROUND DUCTWORK APPLICATION HAVING A MINIMUM DENSITY OF 40KG/M3. RIGID DUCT INSULATION VAPOUR JACKET SHALL BE FACTORY APPLIED FOIL–SCRIM–KRAFT FACING CONSISTING OF ALUMINUM FOIL REINFORCED WITH FIBER GLASS YARN MESH AND LAMINATED TO 6LB. CHEMICALLY TREATED FIRE RESISTANT KRAFT.

PROVIDE INTERIOR SELF ADHERING WATERPROOF MEMBRANE EQUAL TO ALUMAGUARD LITE WHITE ON ALL EXPOSED DUCTWORK C/W SHEET METAL CORNERS UNDER MEMBRANE TO PROVIDE A SMOOTH FINISH TO THE SATISFACTION OF THE ENGINEER.

2.5 EXECUTION:

INSTALL INSULATION IN ACCORDANCE WITH THE THERMAL INSULATION ASSOCIATION OF CANADA (TIAC) BEST PRACTICES GUIDE. UNLESS SPECIFIC INSULATION DETAILS INDICATED ON DRAWINGS SUBMIT PROPOSED INSULATION DETAILS TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION. INSTALLATION DETAILS SHALL BE IN ACCORDANCE WITH APPLICABLE TIAC STANDARD INSTALLATION DETAILS.

3.0 HVAC:

3.1 GENERAL:

.1 DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA CONSTRUCTION STANDARDS FOR LOW PRESSURE DUCTWORK (2IN. W.C.).
.2 DUCTWORK AND HANGER MATERIALS TO BE GALVANIZED STEEL UNLESS OTHERWISE INDICATED.
.3 ALL DUCTWORK SHALL BE SEALED. ZERO LEAKAGE PERMITTED AT 2IN. W.C. ON DISCHARGE SIDE OF FAN.

3.2 DUCTWORK CONSTRUCTION:
.1 RECTANGULAR DUCTWORK
.1 FABRICATED FROM GALVANIZED STEEL.
.2 UNLESS CAPABLE OF INTERNAL SEALING, EXPOSED DUCT JOINTS SHALL BE DUCTMATE TYPE GASKETED CONNECTORS THAT DO NOT REQUIRE ADDITIONAL FIELD SEALING.
.2 ROUND DUCTWORK
.1 FABRICATED FROM GALVANIZED STEEL.
.2 EXPOSED NON–INSULATED ROUND DUCT JOINTS SHALL BE SPIRAL TYPE SUITABLE FOR FIELD PAINTING.
.3 EXPOSED SPIRAL DUCT JOINTS SHALL BE SPIRALMATE TYPE GASKETED CONNECTORS THAT DO NOT REQUIRE ADDITIONAL FIELD SEALING.

3.3 HANGERS AND SUPPORTS:

.1 PROVIDE FABRICATED HANGERS AND SUPPORTS IN ACCORDANCE WITH SMACNA CONSTRUCTION STANDARDS.

3.4 DUCT SEALERS AND TAPE:

.1 DUCT SEALERS SHALL CONSIST OF WOVEN FABRIC MATERIAL COATED WITH A SEALANT WHICH SHALL BE:
– WATER RESISTANT
– COMPATIBLE WITH DUCT MATERIALS
– SUITABLE FOR THE SERVICE INVOLVED
– MEET ULC S–102 (1975)
– FLAME SPREAD RATINGS OF 25 AND MAXIMUM SMOKE DEVELOPED RATING OF 50
– NON TOXIC

.2 ACCEPTABLE PRODUCT: TRANS CONTINENTAL TOUGH–BOND, DURO DYNE, BAKOR.

3.5 BALANCING DAMPERS:

A BALANCING DAMPER SHALL BE INSTALLED IN ALL BRANCHES OFF THE MAIN TRUNK DUCT. ADDITIONAL DAMPERS SHALL BE INSTALLED IN ANY SHORT BRANCHES LEADING TO SUPPLY OR RETURN OUTLETS, ALL CASES, SUFFICIENT DAMPERS SHALL BE INSTALLED IN THE BRANCHES SO THAT THE DAMPERS AT THE DIFFUSERS ARE USED FOR "FINE TUNING" ONLY.

3.6 GRILLES & DIFFUSERS:

.1 SCHEDULE:
TYPE 'A' – NAILOR 61DHC–DEX C/W AIRSCOOP. STANDARD WHITE COLOR, SIZE AS INDICATED.

TYPE 'B' – NAILOR 615SHC. STANDARD WHITE COLOR, SIZE AS INDICATED.

TYPE 'C' – NAILOR 615SH–O C/W BALANCING DAMPER. STANDARD WHITE COLOR, SIZE AS INDICATED.

TYPE 'D' – NAILOR 61DH–O C/W BALANCING DAMPER. STANDARD WHITE COLOR, SIZE AS INDICATED.

ACCEPTABLE PRODUCTS: TUTTLE & BAILEY, TITUS, E.H. PRICE.

3.7 BALANCING:

AIR DISTRIBUTION SYSTEMS:
TEST AND BALANCE ALL AIR SUPPLY, RETURN AND EXHAUST SYSTEMS SPECIFIED. EACH OUTLET SHALL BE ADJUSTED BY A FLOW HOOD. ANEMOMETER READINGS TO PROVIDE AIR QUANTITIES SPECIFIED. UPON COMPLETION OF THE BALANCING, SUPPLY THE ENGINEER WITH THREE (3) COMPLETE RECORDS WHICH SHALL INCLUDE AIR QUANTITIES AT EACH OUTLET, FAN PERFORMANCE AND OPERATING CONDITIONS, AND MOTOR ELECTRICAL DATA.

3.8 ELECTRIC DUCT REHEAT COILS:

.1 EHC–1, EHC–2, EHC–4

.1 THERMOLEC MODEL MRFC–40LS TYPE A SERPENTINE, FLANGED, ROUND DUCT REHEAT COILS FOR HORIZONTAL AIR FLOW.

.2 CAPACITY: 8 kW

.3 ELECTRICS: 208/3/60

.2 EHC–3

.1 THERMOLEC MODEL MRFC–40LS TYPE A SERPENTINE, FLANGED, ROUND DUCT REHEAT COILS FOR HORIZONTAL AIR FLOW.

.2 CAPACITY: 2 kW

.3 ELECTRICS: 208/1/60

.3 PROVIDE C/W ALL STANDARD FEATURES AND THE FOLLOWING:

– D21–PSSP ELECTRONIC MODULATING CONTROL WITH DS–600 REMOTE DUCT TEMPERATURE SENSOR.
– TRANSFORMER WITH SECONDARY FUSE
– CTH–291 CONTROLLER
– MAGNETIC CONTACTER FULL BREAK
– AUTOMATIC THERMAL CUT OUT
– MANUAL RESET THERMAL CUT OUT
– BUILT–IN AIRFLOW SENSOR
– SOLID STATE RELAY
– DISCONNECT SWITCH

.4 ACCEPTABLE PRODUCTS: STELPRO.

3.9 ENERGY RECOVERY VENTILATORS:

.1 ERV–1, ERV–2, ERV–4

RENEWAIRE MODEL HE1XINH
AIRFLOW – 800 CFM @ 0.5" E.S.P.
ELECTRICS – 208/3/60
MOTORS – 0.75 HP EACH, DIRECT DRIVE

.2 ERV–3

RENEWAIRE MODEL EV130
AIRFLOW – 110 CFM @ 0.5" E.S.P.
ELECTRICS – 120/1/60

.3 UNITS TO BE COMPLETE WITH:
– LOW LEAKAGE MOTORIZED OUTDOOR AND RETURN DAMPERS
– 2" PLEATED MERV 8 FILTERS, 2 COMPLETE SETS
– DISCONNECT SWITCH
– DIGITAL TIMECLOCK TC7D–W
– INTAKE AND EXHAUST WALL CAPS C/W BIRDSCREEN
–

4.0 AUTOMATIC CONTROLS:

4.1 GENERAL:

ALL CONTROL WIRING REGARDLESS OF VOLTAGE REQUIRED FOR THE OPERATION OF THE MECHANICAL SYSTEMS SHALL BE PROVIDED BY THIS CONTRACTOR UNLESS OTHERWISE INDICATED. WIRING SHALL INSTALLED IN CONDUIT IN ACCORDANCE WITH THE REQUIREMENTS OF DIVISION 16– ELECTRICAL AND INSTALLED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE. GENERALLY, ALL CONTROLS WILL BE LOW VOLTAGE (50V AND BELOW). CONTROLS CONTRACTOR SHALL PROVIDE CONTROL DAMPERS, ACTUATORS, CONTROL VALVES, THERMOSTATS, RELAYS, SWITCHES, TIMERS, TRANSFORMERS, SENSORS, ETC. AS REQUIRED TO COMPLETE CONTROLS SYSTEM AS INDICATED OR REQUIRED.

4.2 SEQUENCE OF OPERATION:

.1 ENERGY RECOVERY VENTILATORS:

UNIT SHALL OPERATE ON A TIME OF DAY SCHEDULE FROM THE 7–DAY PROGRAMMABLE TIMECLOCK SUPPLIED WITH EQUIPMENT. ON A START COMMAND, UNIT CONTROLS ACTIVE AFTER 10 SECOND DELAY CONTINUOUS DISCONNECT SWITCH IS CLOSED. THE EXHAUST FAN STARTS AFTER 3 SECOND DELAY AND CONFIRMATION EXHAUST MOTORIZED DAMPER END SWITCH CLOSES. THE SUPPLY FAN STARTS AFTER 6 SECOND DELAY AND CONFIRMATION OUTDOOR AIR MOTORIZED DAMPER END SWITCH CLOSES.

THE DUCT MOUNTED ELECTRIC REHEAT COIL SHALL MAINTAIN THE SUPPLY AIR TEMPERATURE OF 18°C (65°F) BY MODULATING OUTPUT TO THE INTEGRAL SCR CONTROLLER ON A STOP COMMAND, SUPPLY AND EXHAUST FANS ARE DE–ENERGIZED AND MOTORIZED DAMPERS CLOSE AFTER 10 SECOND DELAY.

4.3 INSTRUCTION AND TRAINING:

TRAINING IN THE OPERATION OF THE SYSTEM SHALL BE PROVIDED. DETAILED INSTRUCTIONS AND TRAINING SHALL BE PROVIDED TO DESIGNATED TECHNICAL PERSONNEL TO ENABLE THEM TO BECOME FULLY CONVERSANT WITH SYSTEMS.

5.0 ELECTRICAL:

.1 LINE VOLTAGE POWER WIRING WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

.2 ALL CONTROL WIRING (REGARDLESS OF VOLTAGE) SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

.3 ALL WIRING AND DEVICES TO BE INSTALLED AS INDICATED OR REQUIRED IN ACCORDANCE WITH THE LATEST ADDITION OF THE CANADIAN ELECTRICAL CODE.

REGISTERED PROFESSIONAL ENGINEER
J. DOUGLAS MATHESON
No. 380
PROVINCE OF PRINCE EDWARD ISLAND

ISSUED FOR TENDER
3/18/21

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Project Title :
Parkside Elementary School
Air Exchange Upgrade

Drawing Title :
Mechanical Specifications

Scale : 1 : 100	Design By : JDM
Drawn By : NFS	Date : March 18, 2021
Project No.: (20-193)	Drawing No.:
440 - 20080	M-3 of 3

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