Prueter Public School – Office & HVAC Upgrades
Tender No. 7161-KP-21

PROJECT NO. 20123
HOSSACK & ASSOCIATES ARCHITECTS

ADDENDUM NO. 5 **Issued March 31, 2021**

The following additions, deletions, modifications and clarifications issued herein are hereby an integral part of the Tender and Contract Documents. Minor Typographic or spelling mistakes in the Contract Documents which do not significantly affect the meaning of the sentence or phrase in which they occur may not necessarily be corrected by Addenda.

GENERAL

1. Ensure that all parties submitting bids are aware of this **Addendum No. 5** and its contents.
2. **Contents**: Addendum No. 5 - in its entirety consists of the following:
   - .1 Three (3) typed page of instructions.
   - .2 Four (4) 42x30 sized drawings. (A01, A02, A03, A05)
   - .3 Mechanical & Electrical Addendum – two (2) typed page of instruction, nineteen (19) 8.5 x 11" sized specification & schematics, five (5) 42x30" sized drawing (M02, M04, M06, E2.1, E3.1).

Item 1 - QUESTIONS & ANSWERS:

Q1. What will be the method and routing of new electrical feeders to the new condensing units?

A1. Feeds to condensing units are to be routed through corridor ceiling space and up to units through roof cones indicated on plans.

Q2. Please proceed detail of new incoming feeder when entering the school (overhead or underground into new switchboard)

A2. The feed into the switchboard will be from overhead as the switchboard is in the basement.

Q3. Please confirm which windows are to receive a new laminate window sill. Is this just for the enlarged windows?

A3. Windows W1 & W2 will receive new laminate window sills. All existing classroom windows will have laminate counter tops adjacent to them from new millwork shelving. Refer to floor plans for location of new/reinstalled counter tops.

Q4. The bid form asks for a Separate Price for an entrance canopy; please confirm if this should be revised for the separate rice for the basement storage room renovation.

A4. There are no Separate Prices in this tender. There is no entrance canopy work. The basement storage room renovation is to be an Itemized Price (cost included in base bid). The Bid Form has been updated.

Q5. SC5 Screens – The SC5 screen elevation is shown on 13 / A06. There are none of these screens shown on the floor plans or any of the elevations. Do any of these SC5 screens exist in the scope of work? Does 45 / A06 relate to these SC5 screens and there is no glazing at these transoms? Please review and advise.

A5. Refer to note 14 on Drawings A03. Existing wood louvers are to be removed and replaced with SC5.

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Q6. Can you please clarify section 6400 1.5.1. Guarantee - Is a standard two year warranty required or AWMAC GIS?

A6. AWMAC Guarantee Inspection Program (GIS) is not required for this project. A two year Guarantee Certificate is required from the sub-contractor.

Q7. Aluminum Curtain Wall framing – This type of exterior framing is noted in 08 44 13 – 1.8.1 but 08 44 13 – 2.1.1 notes an interior storefront framing system. We are assuming that screens SC1 to SC4 are all non-thermally broken framing with single glazing and W1 & W2 frames are exterior thermally broken window framing with insulated glass units – there is no curtain wall in this scope of work. Please confirm.

A7. Thermally-broken windows are to be provided per Section 08 50 50 Windows. Non-thermally-broken store-front system to be provided per Section 08 44 13. Clarification provided per item 4 below.

Q8. Regarding the Condensing Units being installed on the roof. The detail drawing shows the Power & Refrigerant piping coming through a gooseneck flashing. Will each condensing unit require 1 gooseneck or 2? DWG M07 appears to show 2 but please clarify.

A8. Please refer to details on M08. One gooseneck is required.

AMENDMENTS TO SPECIFICATION BINDER:

Item 2: BID Form:

1. The on-line BID FORM has been REVISED to include the following:

ITEMIZED Price No. 1: (INCLUDED in Bid Price)

Lower Level Washroom, Meeting Room & Storage Room:

The amount included in the Bid Price for renovation work of the following spaces in the lower level (Basement) for the new Washroom A001, Meeting A002 and Storage A003 including all mechanical and electrical components to the renovation work, as described on drawing A04 "Partial Basement - Demo. & Proposed Floor Plans & RCP" associated specifications and engineering drawings.

$_____

ALTERNATE Price No. 1: (NOT included in Bid Price)

Incentive Application Documentation Requirements:
To provide the required information and complete the requirements outlined in Appendix D (Incentive Application Documentation Requirements).

$_____

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ADDENDUM NO. 5 **Issued March 31, 2021**

Item 3: Section 01 33 00 Submittal Procedures:
2. DELETE item 1.13.1: "~~Note that Millwork shop drawings are to be submitted to AWMAC~~…"

Item 4: Section 08 44 13 Glazed Aluminum Wall Systems:
1. REVISE item 1.8.1: "Drawings and specifications for work of this section are based upon **FlushGlaze TL 1800 series storefront system by Alumicor**…"

AMENDMENTS TO DRAWINGS – ARCHITECTURAL:

Item 5: Drawing A01 – Key Plans, Site Plan & OBC Matrix:
1. REPLACE drawing with attached A01 dated March 30, 2021

Item 6: Drawing A02 – Ground Floor Demolition Plans:
1. REPLACE drawing with attached A02 dated March 30, 2021

Item 7: Drawing A03 – Ground Floor Proposed Plans:
1. REPLACE drawing with attached A03 dated March 30, 2021

Item 8: Drawing A05 – Partial Ground Floor Demolition & Proposed RCP:
1. REPLACE drawing with attached A05 dated March 30, 2021

Item 9: Mechanical & Electrical
.1 Find attached "Mechanical and Electrical Addendum", dated March 32, 2021, issued by DEI Consulting Engineers, which includes two (2) typed page of instruction, nineteen (19) 8.5 x 11" sized specification & schematics, five (5) 42x30" sized drawing (M02, M04, M06, E2.1, E3.1).

End of Addendum No. 5

GENERAL DEMOLITION NOTES

to be followed for Demolition Floor Plans and Reflected Ceiling Plans

1. REMOVE ANY LEFTOVER EXISTING MOUNTING HARDWARE, FITTINGS ETC. ON WALLS DUE, BUT NOT LIMITED TO BRACKETS, SHELVING AND WINDOW COVERINGS BEING REMOVED AND NOT NOTED FOR RE-INSTALLATION IN AREA OF WORK. PATCH AND MAKE GOOD HOLES IN WALL FROM FITMENT REMOVAL AS REQUIRED FOR NEW FINISHES.
2. PATCH AND MAKE GOOD ANY MINOR HOLES DUE TO HARDWARE IN EXISTING WALLS TO PREPARE FOR NEW FINISHES.
3. OWNER TO REMOVE ALL PLAQUES, MIRRORS AND ARTWORK PRIOR TO DEMOLITION, PATCH AND MAKE GOOD ANY MINOR HOLES FROM REMOVALS IN EXISTING WALLS TO PREPARE FOR NEW FINISHES.
4. ALL PERIMETER WALLS IN AREA OF WORK TO REMAIN SHALL RECEIVE NEW PAINT FINISH. REFER TO ROOM FINISH SCHEDULE.
5. FOLLOWING REMOVALS OF FLOORING, ENSURE PREPARATION FOR NEW SURFACES INCLUDES PREPARATION OF REQUIRED, INCLUDING GRINDING, PATCHING AND LEVELING TO SUIT NEW FLOORING DEPTHS AND FLUSH TRANSITIONS. ALSO REFER TO SPECIFICATION AND FINISH SCHEDULE
6. WHERE APPLICABLE LEVEL ALL EXISTING FLOORS AND CONNECTIONS BETWEEN NEW AND EXISTING FLOORS TO AS REQUIRED TO RECEIVE NEW FLOOR FINISHES. FEATHER NEW CONCRETE SLABS FOR TRANSITION AT EXISTING WITH REQUIRED FINISHES. INSTALL REQUIRED TRANSITION_PIECES BETWEEN VARIOUS FLOOR FINISHES SUITABLE FOR CONDITIONS AND ACCEPTABLE TO THE OWNER. MATCH EXISTING WHERE NOTED. REFER TO ROOM FINISH SCHEDULE FOR REQUIRED FLOOR FINISHES AND LOCATIONS.
7. COORDINATE AND PREPARE FOR NEW WORK INCLUDING REMOVALS, CUTTING, PREPARATION ETC. WHETHER ITEMS ARE SHOWN ON DEMOLITION PLAN OR NOT. INCLUDE ALL REQUIREMENTS FOR DEMOLITION AND PREPARATION TO SUIT PROPOSED FLOOR PLANS. ALL NECESSARY DISCONNECTS AND ALTERATIONS TO EXISTING MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INCLUDED. PATCH AND MAKE GOOD ALL EXISTING FINISHES TO REMAIN. REFER TO SCHEDULES AND SPECIFICATIONS FOR OTHER NECESSARY REQUIREMENTS.
8. REFER TO STRUCTURAL DRAWINGS FOR TYPICAL FLOOR INFILL DETAILS
9. PATCH AND MAKE GOOD ANY EXISTING HOLES DUE TO MECHANICAL / STRUCTURAL / ELECTRICAL PENETRATIONS INCLUDING MATCHING RATED AND NON-RATED FIRE SEPARATIONS AT ALL REQUIRED WALLS AND BETWEEN FLOORS
10. RENOVATED AREAS TO BE THOROUGHLY CLEANED TO OWNER SATISFACTION, ALL OF CONSTRUCTION DUST, DEBRIS AND MATERIALS.
11. ALL DIMENSIONS IN AREA OF WORK TO BE FIELD VERIFIED BY G.C. PRIOR TO START OF CONSTRUCTION.

DEMOLITION RCP NOTES

ALL REMOVALS/DEMOLITIONS TO BE COORDINATED WITH STRUCTURAL, MECHANICAL, ELECTRICAL DRAWINGS PRIOR TO DEMOLITION START. FOR ADDITIONAL DEMOLITION, DOCUMENTS AND DETAILS SEE STRUCTURAL, MECH. AND ELECT. DWGS..

NOT ALL EXISTING LIGHT FIXTURES, GRILLES, DIFFUSERS, SPRINKLER HEADS ETC. ARE NOT SHOWN ON THIS PAGE. REFER TO DEMOLITION MECH AND ELECTRICAL DRAWINGS.

PATCH AND MAKE GOOD ALL EXISTING WALLS TO REMAIN FROM CEILING DEMOLITION AND REMOVED WALL MTD. LIGHT FIXTURES AND DEVICES. REFER TO PROPOSED PLANS AND FOR NEW CEILING MATERIALS AND FINISHES

GENERAL CONTRACTOR IS RESPONSIBLE TO REVIEW ABATEMENT REPORT IN SPECIFICATION FOR EXTENT OF ALL DESIGNATED SUBSTANCE AND HAZARDOUS MATERIALS SURVEYS AND EXTENT OF ABATEMENT WORK.

NOTE: ALL EXISTING CEILING HEIGHTS ARE +/- AND MAY VARY. FIELD VERIFY AS REQUIRED.

C1 REMOVE & REPLACE EXISTING ACOUSTIC CEILING TILES, GRIDS, ETC. AS REQUIRED FOR DEMOLITION, TO THE NEAREST TEE. PATCH AND MAKE GOOD EXISTING WALLS TO REMAIN AS REQUIRED FOR NEW CEILING. REMOVE AND/OR RELOCATE EXISTING LIGHT FIXTURES, GRILLES, AND ELECTRICAL AND MECHANICAL DEVICES. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR LIGHTING AND HVAC REMOVALS NOT SHOWN ON THIS DRAWING.

C2 REMOVE & REPLACE EXISTING GYPSUM CEILING, FURRING, STEEL STUD, WOOD FRAMING, ETC. AS REQUIRED FOR DEMOLITION. PATCH AND MAKE GOOD EXISTING WALLS TO REMAIN AS REQUIRED FOR NEW CEILING. REMOVE AND/OR RELOCATE EXISTING LIGHT FIXTURES, GRILLES, SPRINKLER HEADS AND ELECTRICAL AND MECHANICAL DEVICES. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR LIGHTING AND HVAC REMOVALS NOT SHOWN ON THIS DRAWING.

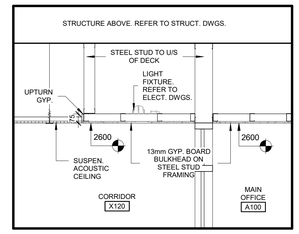
C3 EXISTING GYPSUM CEILING TO REMAIN. PATCH AND MAKE GOOD AS REQUIRED FOR RE/RE OF LIGHT FIXTURES AND NEW LIGHT FIXTURES, INCLUDING REMOVAL OF ALL MISC. HOOKS AND BRACKETS. PREPARE FOR NEW PAINT FINISH. REFER TO ROOM FINISH SCHEDULE.

C4 REMOVE EXISTING ACOUSTIC CEILING TILES, GRIDS, DIFFUSERS, LIGHTING, RETURNS, ETC. TO EXTENT SHOWN AS REQUIRED TO INSTALL NEW CEILING. SEE MECH./ELECT DRAWINGS.

C5 REMOVE EXISTING DRYWALL CEILING, BULKHEADS, AND STUD FRAMING. PATCH AND MAKE GOOD EXISTING WALLS TO REMAIN AS REQUIRED FOR NEW CEILING. REMOVE AND/OR RELOCATE EXISTING LIGHT FIXTURES, GRILLES, AND ELECTRICAL AND MECHANICAL DEVICES. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR LIGHTING AND HVAC REMOVALS NOT SHOWN ON THIS DRAWING.

C6 REMOVE EXISTING ACOUSTIC CEILING ON 3/4" WOOD STRAPPING (STRAPPING TO REMAIN) PATCH AND MAKE GOOD EXISTING WALLS TO REMAIN AS REQUIRED FOR NEW CEILING. CLEAN AND PREPARE STRAPPING FOR NEW PAINT FINISH. REMOVE AND/OR RELOCATE EXISTING LIGHT FIXTURES, GRILLES, AND ELECTRICAL AND MECHANICAL DEVICES. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR LIGHTING AND HVAC REMOVALS NOT SHOWN ON THIS DRAWING.

C7 REMOVE EXISTING ACOUSTIC CEILING TILES, GRIDS, DIFFUSERS, LIGHTING, RETURNS, ETC. TO EXTENT SHOWN AS REQUIRED TO INSTALL NEW CEILING. SEE MECH./ELECT DRAWINGS. CONTRACTOR TO REFER TO ABATEMENT REPORT IN SPECIFICATION FOR DEMILITION OF SECOND FRIABLE SOFT TEXTURED CEILING ABOVE ACOUSTIC CEILING TO BE REMOVED.



3/A05 *CEILING DETAIL @ CORRIDOR & MAIN OFFICE*
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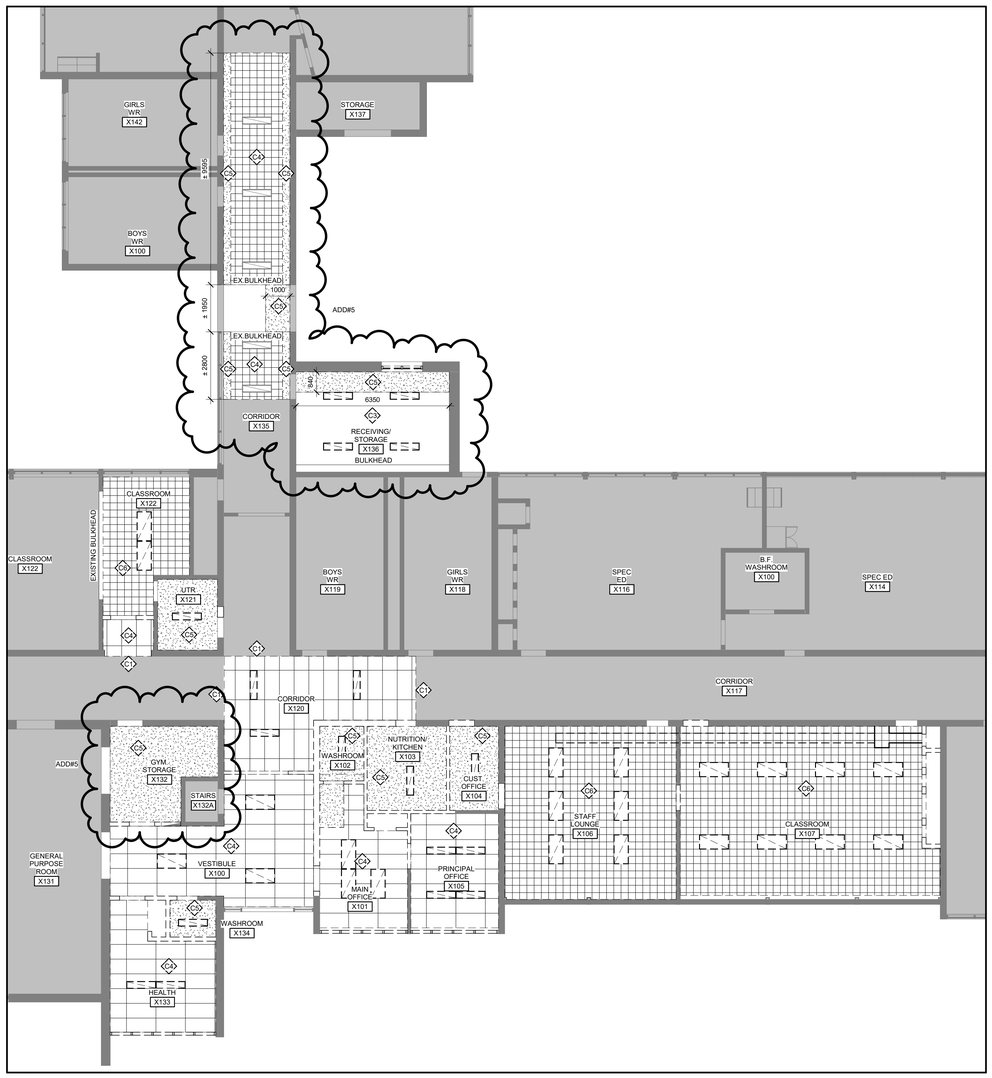
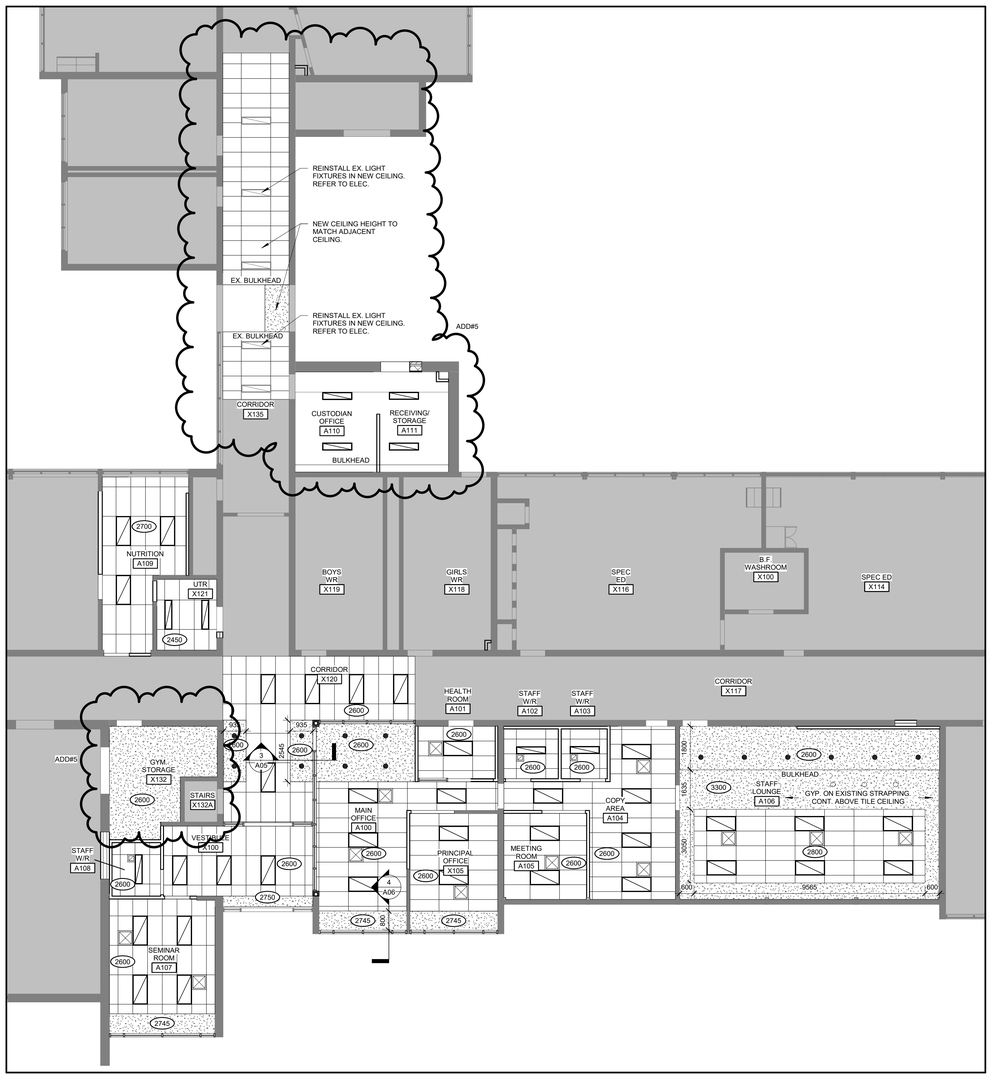


2/A05 *PARTIAL GROUND FLOOR RCP - DEMOLITION*
SCALE: 1 : 100



1/A05 *PARTIAL GROUND FLOOR RCP - PROPOSED*
SCALE: 1 : 100

RCP LEGEND

- LIGHT FIXTURE REFER TO LIGHTING PLANS/LIGHTING SCHEDULES FOR TYPE
- LIGHT FIXTURE. REFER TO LIGHTING PLANS/LIGHTING SCHEDULES FOR TYPE
- ACOUSTIC CEILING PANELS REFER TO SPECIFICATIONS FOR DESCRIPTION OF TYPES
- SUPPLY DIFFUSER
- RETURN DIFFUSER
- RP — RADIANT PANEL
- GYPSUM BOARD CEILING: 13MM GYPSUM BOARD ON 92mm STEEL STUD FRAMING @ 400 O.C.
- ##### — CEILING HEIGHT FROM FINISHED FLOOR
- LF — LIGHT FIXTURE
- GBB — GYPSUM BOARD BULKHEAD: 13mm GYPSUM BOARD ON 92mm STEEL STUD FRAMING @ 400 O.C.

NO.	DESCRIPTION	DATE
2	ISSUED FOR ADDENDUM	21 03 30
1	ISSUED FOR TENDER & PERMIT	21 03 11

DRAWINGS ARE NOT TO BE SCALED. CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE PROJECT, AND MUST REPORT ANY DISCREPANCIES TO THE CONSULTANTS BEFORE PROCEEDING WITH THE WORK. THE USE OF THIS DRAWING OR PART THEREOF IS FORBIDDEN WITHOUT THE WRITTEN APPROVAL OF THE CONSULTANTS.

ONTARIO ASSOCIATION OF ARCHITECTS
PRISCILLA LADOUCEUR
LICENCE 6053
Mar. 11/21
CERTIFICATE OF PRACTICE #4292

OFFICE RENOVATION AND HVAC UPGRADES TO PRUETER PUBLIC SCHOOL

40 Prueter Ave, Kitchener, ON N2H 6G6

Waterloo Region District School Board

PARTIAL GROUND FLOOR DEMOLITION & PROPOSED RCP

HOSSACK & ASSOCIATES ARCHITECTS
4-2155 DUNWIN DRIVE
MISSISSAUGA, ONTARIO L5L 5M8
Tel (905) 607-8284 Fax (905) 607-8290

SCALE	As indicated
DATE	03/30/21
DRAWN	JK
CHECKED	CC
PROJECT	20123
DRAWING	A05
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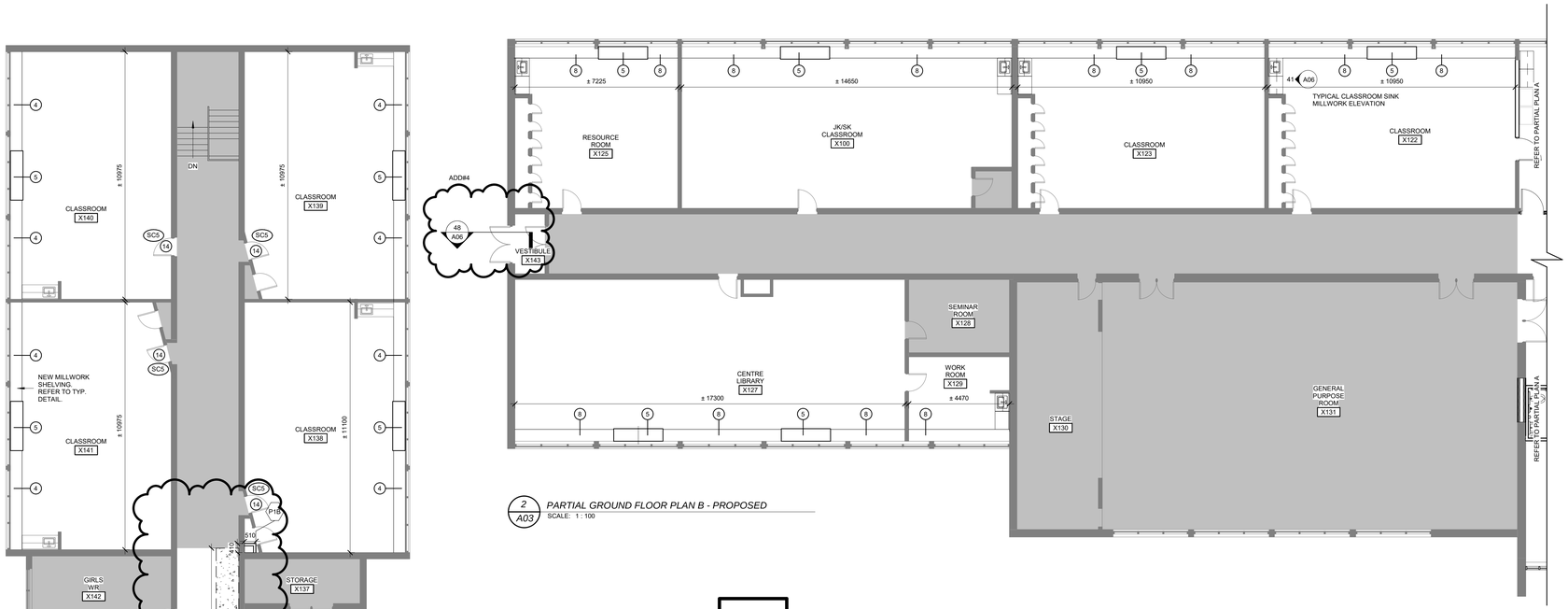
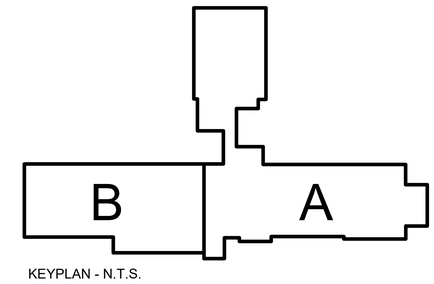
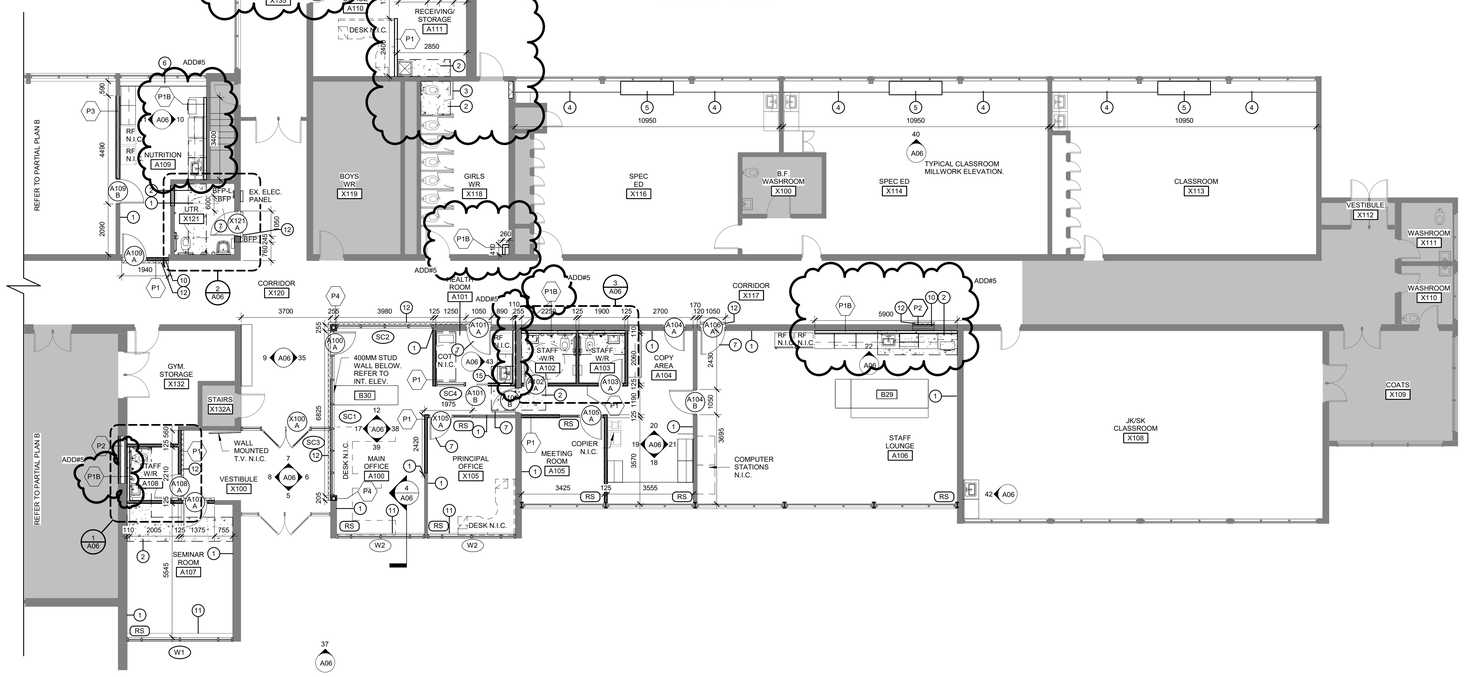


2 / A03 PARTIAL GROUND FLOOR PLAN B - PROPOSED
SCALE: 1 : 100



KEYPLAN - N.T.S.



1 / A03 PARTIAL GROUND FLOOR PLAN A - PROPOSED
SCALE: 1 : 100

WALL & FLOOR HATCH LEGEND

- EXISTING PORTIONS OF BUILDING NOT PART OF THIS RENOVATION
- EXISTING WALLS TO REMAIN
- EXISTING WALLS TO BE DEMOLISHED. REFER TO DEMOLITION PLANS AND NOTES
- EXISTING CONCRETE SLAB ON GRADE AND SUB-BASE TO BE REMOVED. REF. DEMOLITION PLANS & NOTES
- NEW CONCRETE SLAB INFILL C/W SUB-BASE AND NEW FLOOR FINISH. REF. STRUCT. DWGS. AND ROOM FINISH SCHEDULE
- RE-RE FLOOR FINISH. REFER TO ROOM FINISH SCHEDULE.

GENERAL CONSTRUCTION NOTES

GENERAL CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO CONSTRUCTION.

ALL REMOVAL/DEMOLITIONS TO BE COORDINATED WITH STRUCTUERAL, MECHANICAL, ELECTRICAL DRAWINGS PRIOR TO DEMOLITION. FOR ADDITIONAL DEMOLITION DOCUMENTS AND DETAILS SEE DRAWINGS AND SPEC.

OWNER WILL MOVE AND RELOCATE ALL EXISTING FUNITURE AND TEACHING TOOLS WITHIN SCOPE OF WORK PRIOR TO CONSTRUCTION.

GENERAL CONTRACTOR TO X-RAY ALL EXISTING CONCRETE FLOOR SLABS AS REQUIRED PRIOR TO ANY DEMOLITION. IF EXISTING WIRES, CONDUT, ETC. ARE CUT DURING SLAB DEMOLITION, CONTRACTOR IS RESPONSIBLE TO RESTORE ALL DEVICES. SEE SPEC.

CONTRACTOR TO REPAIR AND MAKE GOOD ALL EXISTING GYPSUM LAMINATED BLOCK WALLS AND PAINT WITHIN CONSTRUCTION AREA (INCLUDING CORRIDORS AFFECTED BY RENOVATION) SEE SPEC.

ALL NOTED DIMENSIONS TO EXISITNG WALL ASSEMBLIES ARE +/- AND MAY VARY. CONTRACTOR TO FIELD VERIFY AS REQUIRED.

ALL AREAS OF WORK TO BE THOROUGHLY CLEANED TO OWNER SATISFACTION PER SPECIFICATIONS.

1. REFINISH/PATCH EXISTING WALL TO REMAIN WITH NEW GYPSUM LAMINATED ON WALL TO MATCH ADJACENT WALL FINISH DUE TO DEMOLITION. REFER TO SCHEDULE FOR NEW PAINT FIN. COORDINATE WITH MECHANICAL & ELECTRICAL DRAWINGS.
2. NEW CONCRETE SLAB & COMPACTED SUB-BASE INFILL AND FLOOR FINISH. REFER TO ROOM FINISH SCHEDULE FOR FLOOR FINISH. NEW CONCRETE SLAB TO BE SLOPED MIN. 1% TO DRAIN TO FLOOR DRAINS WHERE APPLICABLE. REFER TO MECH. DWGS. AND SPECIFICATIONS.
3. CONTRACTOR TO REINSTALL PORTION OF EXISTING WASHROOM PARTIION UPON PROJECT COMPLETION.
4. NEW MILLWORK LOWER CABINETS. REFER TO TYPICAL DETAILS. CONTRACTOR TO CONFIRM DIMENSIONS ON SITE CONTRACTOR TO COORDINATE WITH NEW MECHANICAL UNIT AND EXISTING MILLWORK. CONTRACTOR TO CUT EXISTING COUNTERTOP STORED ON SITE TO ACCOMIDATE NEW MECHANICAL UNIT AND INSTALL ON NEW MILLWORK.
5. PROPOSED UNIT VENTILATOR. REFER TO MECHANICAL DRAWINGS.
6. NEW PAINTED RADIATOR COVER. REFER TO MECHANICAL DRAWINGS.
7. NEW DOOR, FRAME & LINTEL IN EXISTING WALL, REFER TO STRUCT. FOR LINTEL SIZE AND DOOR SCHEDULE.
8. NEW MILLWORK LOWER CABINETS & COUNTERTOP. REFER TO TYPICAL DETAILS. CONTRACTOR TO CONFIRM DIMENSIONS ON SITE. CONTRACTOR TO COORDINATE WITH NEW MECHANICAL UNIT VENTILATORS.
9. NEW MILLWORK LOWER & UPPER CABINETS. REFER TO TYPICAL DETAILS. CONTRACTOR TO CONFIRM DIMENSIONS. AND LOCATION OF EXISTING PLUMBING CONNECTION ON SITE. PROVIDE NEW SILICONE JOINT BETWEEN COUNTERTOP AND BLOCK WALL. INSTALL NEW RUBBER BASE AT ALL LOWER CABINETS. REFER TO MECH. DRAWINGS FOR PLUMBING FIXTURES AND CONNECTIONS.
10. ENSURE SMOOTH TRANSITION BETWEEN NEW INFILL WALLS AND EXISTING WALLS. SUPPLY AND INSTALL WOOD TRIM PIECES TO MATCH ADJACENT WALLS. PAINT WOOD TRIM TO MATCH EXISTING.
11. REFINISH/PATCH EXISTING WALL TO REMAIN WITH NEW 13MM GYPSUM ON FURRING TO MATCH ADJACENT WALL FINISH. REFER TO SCHEDULE FOR NEW PAINT FIN. COORDINATE WITH MECHANICAL & ELECTRICAL DRAWINGS. REFER TO TYPICAL SECTION 4/A06.
12. PATCH EXISTING TERRAZZO FLOORING AND INSTALL NEW COVE BASE AT LOCATION OF NEW WALLS TO MATCH EXISTING.
13. PATCH CONCETE FOUNDATION & SLAB FOR NEW OPENING. TOOTH IN SALVAGED VENEER AT NEW OPENING, AND INSTALL NEW METIC MASONRY BLOCK ON INTERIOR. TIE IN NEW VAPOUR BARRIER WITH EXISTING. LAMINATE EXPOSED INTERIOR BLOCK WALL WITH 13MM GYPSUM BOARD RESILIENT GYPSUM BOARD. COLOUR TO BE DETERMINED BY ARCHITECT
14. CONTRACTOR TO PAINT EX. FRAME AND INSTALL NEW SCREEN IN EXISTING FRAME. REFER TO TYPICAL ELEVATION 45/A06
15. CONTRACTOR TO FRAME WALL TO ACCOMMODATE DOUBLE DOOR AND HARDWARE

WALL TYPE LEGEND

- EX. INTERIOR CONCRETE BLOCK WALL, LAMINATED WITH GYPSUM
- P1 — 16mm ABUSE RESISTANT GYPSUM BOARD ON 93mm STEEL STUD (BOTH SIDES), C/W MINERAL WOOL INSULATION.
- P1B — 16mm ABUSE RESISTANT GYPSUM BOARD ON 93mm STEEL STUD (ONE SIDE).
- P2 — 16mm ABUSE RESISTANT GYPSUM BOARD ON DOUBLE 93mm STEEL STUD (EXPOSED SIDES), C/W MINERAL WOOL INSULATION. INFILL TO MATCH EXISTING WALL WIDTH.
- P3 — 16mm ABUSE RESISTANT GYPSUM BOARD ON 140mm STEEL STUD (BOTH SIDES), C/W MINERAL WOOL INSULATION. INFILL TO MATCH EXISTING ADJACENT WALLS.
- P4 — 16mm ABUSE RESISTANT GYPSUM BOARD ON 18mm FURRING CHANNEL ON EXISTING CONCRETE BLOCK WALL.
- P5 — SALAVAGED MASONRY VENEER, 38mm AIRSPACE, 50MM RIGID INSULATION, AIR/VAPOUR BARRIER (TIED IN WITH ADJACENT), 190mm METRIC CONCRETE BLOCK, 18MM FURRING CHANNEL, 2 LAYERS OR 16MM ABUSE RESISTANT GYPSUM BOARD.

NOTE: ALL NEW WALLS TO UNDERSIDE OF DECK UNLESS SPECIFIED ON DRAWINGS.

ABBREVIATION LEGEND

A	ACTIVE LEAF
AFF	ABOVE FINISHED FLOOR
BD	BOARD
B/F	BARRIER FREE
BFP	BARRIER FREE PUSH BUTTON
BFPL	BARRIER FREE PUSH BUTTON LOCK
BH	BREAK-AWAY HOOK
BL	BARRIER FREE LOCKER
BV	BRICK VENT
CJ	CONTROL JOINT
CH	CABINET HEATER (RECESSED)
CHSM	CABINET HEATER (SURFACE MTD)
CHSR	CABINET HEATER (SEMI-RECESSED)
CHT	CHANGE TABLE STATION REFER TO SPEC
CONT.	CONTINUOUS
CR+S	COAT RACK AND SHELF. REFER TO SPEC
CS	CONVENIENCE SHELF
C/W	COMPLETE WITH
CWT	CERAMIC WALL TILE
DF	DRINKING FOUNTAIN
D/W	DISHWASHER
EM	ELECTROMAGNETIC HOLD OPEN DEVICE
EP	ELECTRICAL PANEL. REF. ELEC. DWGS.
EPC	EMERGENCY PULL CORD
FB	FIRE BLANKET
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FD	FLOOR DRAIN
GALV	GALVANIZED
GYP	GYPSUM BOARD
GB	GRAB BAR
GBL	GRAB BAR "L" SHAPE
GBF	GRAB BAR "FOLDING"
GM	GAS METER
HB	HOSE BIB
HD	HAND DRYER
HDs	HAND DRYER WITH SHROUD
HFS	HORIZONTAL FIRESTOP
HORZ.	HORIZONTAL
HSS	HOLLOW STRUCTURAL STEEL
HWT	HOT WATER TANK
JS	JANITORIAL SHELF
LF	LIGHT FIXTURE
M	MIRROR
ML	MIRROR LONG
MCP	MODULAR CONTROL PANEL
MR	METAL RACKING
MS	MOP SINK
NIC	NOT IN CONTRACT
NFHB	NON FREEZE HOSE BIB. REF. DIV 15
PAS	PUBLIC ANNOUNCEMENT SYSTEM (NIC)
PB	PROGRAM BELL
PTD	PAPER TOWEL DISPENSER
PTW	PAPER TOWEL + WASTE RECEPTACLE
RD	ROOF DRAIN
RF	REFRIGERATOR
RM	REMOVABLE HARDWARE MULLION
RS	ROLLER SHADE. REFER TO SPECS
RWL	RAIN WATER LEADER
SD	SOAP DISPENSER
SN	SANITARY NAPKIN DISPOSAL
SND	SANITARY NAPKIN DISPENSER
SR+C	SHOWER ROD + CURTAIN
SWR	SEMI-RECESSED WASTE RECEPTACLE
TEC	TECTUM ACOUSTIC PANELS
TB	TACKBOARD
TD	TOILET PAPER DISPENSER
TM	TILT MIRROR
VFS	VERTICAL FIRESTOP
WB	WHITEBOARD
W/D	WASHER/ DRYER NIC
WM	WIREMOLD
W/R	WASHROOM

NO.	DESCRIPTION	DATE
2	ISSUED FOR ADDENDUM	21 03 30
1	ISSUED FOR TENDER & PERMIT	21 03 11

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ONTARIO ASSOCIATION OF ARCHITECTS
Mar. 11/21
PRISCILLA LADOUCEUR
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CERTIFICATE OF PRACTICE #4292

OFFICE RENOVATION AND HVAC UPGRADES TO PRUETER PUBLIC SCHOOL

40 Prueter Ave, Kitchener, ON N2H 6G6

Waterloo Region District School Board

GROUND FLOOR PROPOSED PLANS

HOSSACK & ASSOCIATES ARCHITECTS
4-2150 DUNWIN DRIVE
MISSISSAUGA, ONTARIO L5L 5M8
Tel: (905) 607-6264 Fax: (905) 607-6290

SCALE As indicated	PROJECT 20123
DATE 03/30/21	
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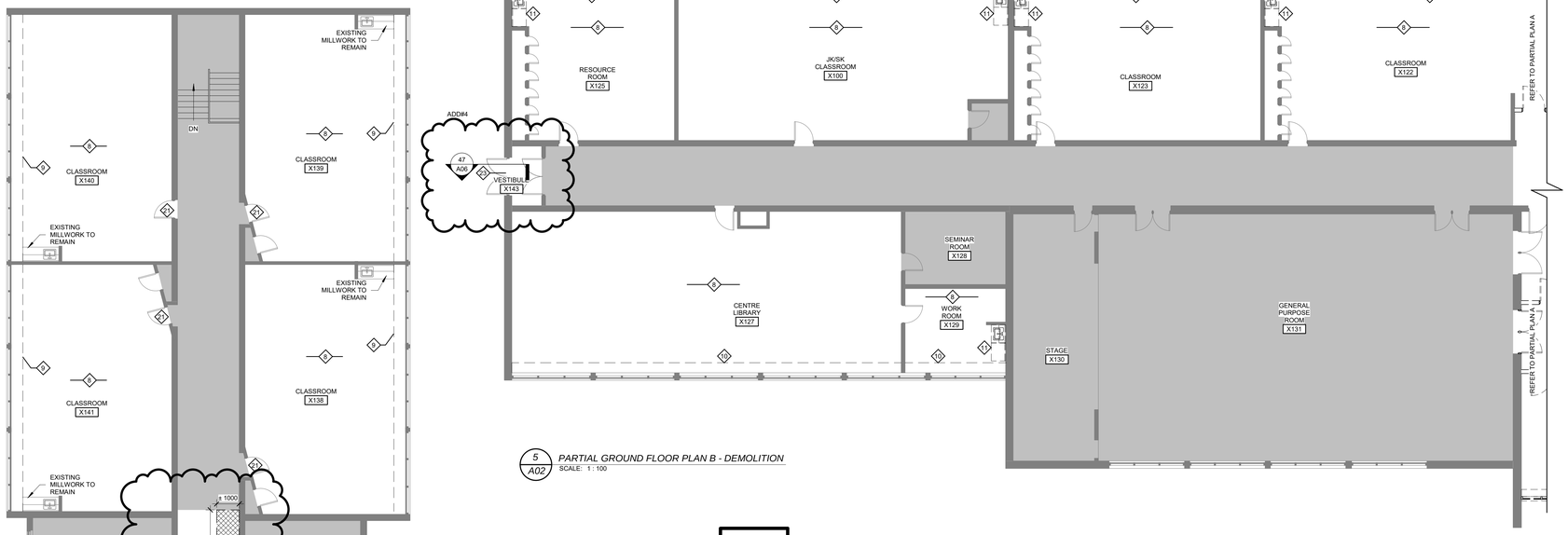
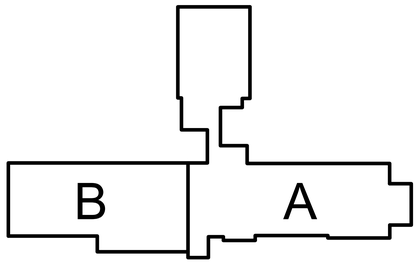


5 / A02 *PARTIAL GROUND FLOOR PLAN B - DEMOLITION*
SCALE: 1 : 100



KEYPLAN - N.T.S.

1 / A02 *PARTIAL GROUND FLOOR PLAN A - DEMOLITION*
SCALE: 1 : 100

DEMOLITION NOTES

GENERAL CONTRACTOR TO FIELD VERIFY ALL EXISTING DIMENSIONS PRIOR TO CONSTRUCTION.

ALL REMOVAL/DEMOLITIONS TO BE COORDINATED WITH STRUCTUERAL, MECHANICAL, ELECTRICAL DRAWINGS PRIOR TO DEMOLITION. FOR ADDITIONAL DEMOLITION DOCUMENTS AND DETAILS SEE DRAWINGS AND SPEC.

OWNER WILL MOVE AND RELOCATE ALL EXISTING FUNITURE AND TEACHING TOOLS WITHIN SCOPE OF WORK PRIOR TO CONSTRUCTION.

GENERAL CONTRACTOR TO X-RAY ALL EXISTING CONCRETE FLOOR SLABS AS REQUIRED PRIOR TO ANY DEMOLITION. IF EXISTING WIRES, CONDUIT, ETC. ARE CUT DURING SLAB DEMOLITION, CONTRACTOR IS RESPONSIBLE TO RESTORE ALL DEVICES. SEE SPEC.

CONTRACTOR TO REPAIR AND MAKE GOOD ALL EXISTING BLOCK WALLS AND PAINT WITHIN CONSTRUCTION AREA (INCLUDING CORRIDORS AFFECTED BY RENOVATION) SEE SPEC.

ALL NOTED DIMENSIONS TO EXISITNG WALL ASSEMBLIES ARE +/- AND MAY VARY. CONTRACTOR TO FIELD VERIFY AS REQUIRED.

ALL AREAS OF WORK TO BE THOROUGHLY CLEANED TO OWNER SATISFACTION PER SPECIFICATIONS.

1. REMOVE EXISTING WALL ASSEMBLY INCLUDING, HARDWARE & BASEBOARDS. PATCH AND MAKE GOOD FLOOR SLAB ADJACENT EXISTING WALLS, AND CEILING AS REQUIRED FOR NEW ROOM LAYOUT. PATCH AND REPLACE FINISHES TO MATCH EXISTING WHERE APPLICABLE. G.C. TO COORDINATE WITH STRUCUTRAL DRAWINGS FOR REMOVAL FOR INSTALLATION OF PROPOSED BEAMS AND LINTELS.
2. REMOVE EXISTING DOOR/SCREEN ASSEMBLY INCLUDING FRAME. PATCH AND MAKE GOOD EXISTING WALL TO REMAIN AS REQUIRED FOR NEW WALL INFILL WHERE APPLICABLE. REFER TO DWGS FOR NEW WALL AND DOOR FINISH WHERE ADJACENT WALL IS TO REMAIN.
3. REMOVE EXISTING LOOSE PAINT/FINISH ON EXISTING WOOD/H.M. FRAME AND DOOR/WIDOW ASSEMBLY. CONTRACTOR TO GRIND, SAND AS REQUIRED TO REMOVE ALL SURFACE RUST. FILL ANY HOLES IN FRAME AND DOORS AS REQUIRED. PRIME AND PAINT.
4. REMOVE EXISTING WINDOWS AND WALL BELOW FOR NEW EXTERIOR DOOR ASSEMBLY. SALAVAGE EXISTING VENEED TO TOOTH IN AT NEW OPENING. REFER TO DOOR ELEVATIONS FOR OPENING DIMENSIONS. PATCH AND MAKE GOOD EXISTING WALLS AND FLOOR AS REQUIRED TO ACCEPT NEW FINISHES. REFER TO ROOM SCHEDULE. EXISTING LINTEL TO REMAIN.
5. REMOVE EXISTING FLOORING (INCLUDING CARPET, VINYL AND PORCELAIN TILE), BASE, AND ANY UNDER PAD/NAILING STRIPS. PATCH AND MAKE GOOD EXISTING SUBFLOOR TO ACCEPT NEW FLOORING TO SATISFACTION OF FLOORING SUBTRADE. PATCH AND MAKE GOOD EXISTING WALLS TO REMAIN FOR NEW FINISHES. REFER TO FINISH SCHEDULE.
6. CAREFULLY REMOVE EXISTING TACKBOARDS AND HAND OVER TO OWNER. COMPLETELY REMOVE ALL BASE AND MISC HOOKS ON WALL UNLESS OTHERWISE NOTED. PATCH AND MAKE GOOD WALL SURFACE (SKIM COAT SMOOTH WALL AND PATCH WHERE ADHESIVE REMAINS) FROM REMOVAL TO ACCEPT NEW FINISHES TO SATISFACTION OF SUBTRADE.
7. REMOVE EXISTING FLOORING AND REINFORCED CONCRETE SLAB INCLUDING SUB-BASE AS REQUIRED FOR NEW/DEMO. PLUMBING LINE & CONNECTIONS. COORDINATE EXACT SLAB REMOVAL LOCATIONS WITH MECH. SERVICES AND DWGS.
8. CONTRACTOR TO PROTECT EXISTING FLOOR IN AREAS OF NEW WORK WHERE EXISTING FLOOR IS TO REMAIN.
9. CONTRACTOR TO CAREFULLY REMOVE EXISTING MILLWORK COUNTER AND STORE ON SITE TO BE REINSTALLED ON NEW MILLWORK. DEMOLISH EXISTING MILLWORK UNDER COUNTER AND PREPARE ADJACENT WALL AND FLOOR FOR NEW MILLWORK.
10. CONTRACTOR TO DEMOLISH EXISTING MILLWORK (UPPER AND LOWER), INCLUDING DISCONNECTING AND REMOVING ALL PLUMBING. PATCH AND MAKE GOOD EXISTING WALL FOR NEW FINISH, REFER TO MECHANICAL DRAWINGS.
11. CONTRACTOR TO CAREFULLY DISCONNECT EXISTING SINK (EXISTING PLUMBING TO REMAIN) AND REMOVE EXISTING MILLWORK CABINETS & SHELVES (UPPERS AND OR LOWERS). PATCH AND MAKE GOOD EXISTING WALLS FOR NEW MILLWORK INSTALLATION AS SHOWN.SEE MECH. AND ELECT. DWGS.
12. CONTRATOR TO DEMOLISH ALL EXISTING PLUMBING FIXTURES, WASHROOM HARDWARE AND ACCESSORIES, (INCLUDING TOILET PAPER DISPENSERS, GRAB BARS, MIRRORS, ETC.). REFER TO MECHANICAL DRAWINGS FOR NEW PLUMBING FIXTURE LOCATIONS.
13. CONTRACTOR TO DEMOLISH EXISTING RAD. PATCH AND MAKE GOOD WALL FOR NEW FINISH. REFER TO MECHANICAL DRAWINGS.
14. CONTRACTOR TO CAREFULLY REMOVE ROLLER SHADE AND HAND OVER TO OWNER.
15. REMOVE EXISTING WINDOWS, SILL. CAREFULLY REMOVE AND SALVAGE PORTION OF WALL BELOW FOR NEW WINDOW ASSEMBLY. SALAVAGE BRICK & BLOCK TO BE USED TO TOOTH IN AT NEW OPENING. REFER TO EXTERIOR ELEVATIONS FOR OPENING DIMENSIONS. PATCH AND MAKE GOOD EXISTING WALLS AS REQUIRED TO ACCEPT NEW FINISHES. EXISTING LINTEL TO REMAIN.
16. REMOVE EXISTING WINDOW COVERINGS, TRACK AND ASSOCIATES HARDWARE. PATCH AND MAKE GOOD WALL/WINDOW FRAME.
17. CONTRACTOR TO CAREFULLY REMOVE PORTION OF EXISTING WASHROOM PARTIION FOR NEW PLUMBING CONNECTION. STORE ON SITE IN SAFE PLACE AND PROTET FOR REINSTALLATION UPON PROJECT COMPLETION.
18. CONTRACTOR TO DEMOLISH EXISTING TOILET FOR NEW PLUMBING CONNECTION. REFER TO MECHANICAL DRAWINGS FOR NEW FIXTURE.
19. CONTRACTOR TO DEMOLISH EXISTING PLASTER/GYPSUM & WOOD FURRING ON WALLS AND PREPARE FOR NEW GYPSUM FINISH.
20. CONTRACTOR TO REMOVE AND RELOCATE EXISTING DEFIBRILLATOR UNIT DUE TO DEMOLATION. PROPOSED LOCATION TO BE COORDINATED ON SITE.
21. CONTRACTOR TO DEMOLISH EXISTING WOOD LOUVERS IN EXISTING FRAME ABOVE DOOR. REMOVE EXISTING LOOSE PAINT/FINISH ON EXISTING H.M. FRAME. CONTRACTOR TO GRIND, SAND AS REQUIRED TO REMOVE ALL SURFACE RUST. FILL ANY HOLES IN FRAME AND DOORS AS REQUIRED. PRIME AND PAINT. PREPARE FOR NEW GLAZING INSERT.
22. REMOVE. EXISTING TERRAZZO FLOORING AND BASED BASE. TO ACCOMIDATE NEW FLOOR FINISH AND/OR TERRAZZO FLOOR PATCHING AND COVE BASE. REFER TO PROPOSED DRAWING AND ROOM FINISH SCHEDULE.
23. DEMOLISH EXISTING LOUVER FAN AND PREPARE OPENING FOR NEW INFILL. REFER TO PROPOSED DRAWINGS FOR INFILL DETAILS. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.
24. REMOVE EXISTING DOOR/SCREEN ASSEMBLY. FRAME TO REMAIN. REMOVE EXISTING LOOSE PAINT/FINISH ON EXISTING FRAME. CONTRACTOR TO GRIND, SAND AS REQUIRED TO REMOVE ALL SURFACE RUST. FILL ANY HOLES IN FRAME AS REQUIRED. PRIME AND PAINT.
25. CONTRACTOR TO REMOVE EXISTING WOOD PANEL FINISH AND TRIM ON EXISTING WALLS IN ITS ENTIRETY AND PREPARE EXISTING FRAMING FOR NEW GYPSUM FINISH.
26. CONTRACTOR TO REMOVE EXISTING WOOD TRIM AT UNDERSIDE OF CEILING ON EXISTING WALLS. PATCH AND INFILL EXISTING GYPSUM WALL AS REQUIRED. PREPARE FOR NEW FINISH.
27. REMOVE. EXISTING PORCELAIN TILE FLOORING AND BASED BASE TO ACCOMIDATE NEW FLOOR FINISH AND/OR TERRAZZO FLOOR PATCHING AND COVE BASE. REFER TO PROPOSED DRAWING AND ROOM FINISH SCHEDULE.
28. SAWCUT EXISTING BLOCK WALL AND REMOVE SECTION AS REQUIRED FOR NEW MECHANICAL PIPING CONNECTION. REFER TO MECHANICAL DRAWINGS. PREP WALL FOR NEW INFILL.

GENERAL DEMOLITION NOTES

to be followed for Demolition Floor Plans and Reflected Ceiling Plans

1. REMOVE ANY LEFTOVER EXISTING MOUNTING HARDWARE, FITTINGS ETC. ON WALLS DUE, BUT NOT LIMITED TO BRACKETS, SHELVING AND WINDOW COVERINGS BEING REMOVED AND NOT NOTED FOR RE-INSTALLATION IN AREA OF WORK. PATCH AND MAKE GOOD HOLES IN WALL FROM FITMENT REMOVAL AS REQUIRED FOR NEW FINISHES.
2. PATCH AND MAKE GOOD ANY MINOR HOLES DUE TO HARDWARE IN EXISTING WALLS TO PREPARE FOR NEW FINISHES.
3. OWNER TO REMOVE ALL PLAQUES, MIRRORS AND ARTWORK PRIOR TO DEMOLITION, PATCH AND MAKE GOOD ANY MINOR HOLES FROM REMOVALS IN EXISTING WALLS TO PREPARE FOR NEW FINISHES.
4. ALL PERIMETER WALLS IN AREA OF WORK TO REMAIN SHALL RECEIVE NEW PAINT FINISH. REFER TO ROOM FINISH SCHEDULE.
5. FOLLOWING REMOVALS OF FLOORING, ENSURE PREPARATION FOR NEW SURFACES INCLUDES PREPARATION OF REQUIRED, INCLUDING GRINDING, PATCHING AND LEVELING TO SUIT NEW FLOORING DEPTHS AND FLUSH TRANSITIONS. ALSO REFER TO SPECIFICATION AND FINISH SCHEDULE
6. WHERE APPLICABLE LEVEL ALL EXISTING FLOORS AND CONNECTIONS BETWEEN NEW AND EXISTING FLOORS TO AS REQUIRED TO RECEIVE NEW FLOOR FINISHES. FEATHER NEW CONCRETE SLABS FOR TRANSITION AT EXISTING WITH REQUIRED FINISHES. INSTALL REQUIRED TRANSITION_PIECES BETWEEN VARIOUS FLOOR FINISHES SUITABLE FOR CONDITIONS AND ACCEPTABLE TO THE OWNER. MATCH EXISTING WHERE NOTED. REFER TO ROOM FINISH SCHEDULE FOR REQUIRED FLOOR FINISHES AND LOCATIONS.
7. COORDINATE AND PREPARE FOR NEW WORK INCLUDING REMOVALS, CUTTING, PREPARATION ETC. WHETHER ITEMS ARE SHOWN ON DEMOLITION PLAN OR NOT. INCLUDE ALL REQUIREMENTS FOR DEMOLITION AND PREPARATION TO SUIT PROPOSED FLOOR PLANS. ALL NECESSARY DISCONNECTS AND ALTERATIONS TO EXISTING MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INCLUDED. PATCH AND MAKE GOOD ALL EXISTING FINISHES TO REMAIN. REFER TO SCHEDULES AND SPECIFICATIONS FOR OTHER NECESSARY REQUIREMENTS.
8. REFER TO STRUCTURAL DRAWINGS FOR TYPICAL FLOOR INFILL DETAILS
9. PATCH AND MAKE GOOD ANY EXISTING HOLES DUE TO MECHANICAL / STRUCTURAL / ELECTRICAL PENETRATIONS INCLUDING MATCHING NON-RATED FIRE SEPARATIONS AT ALL REQUIRED WALLS AND BETWEEN FLOORS
10. RENOVATED AREAS TO BE THOROUGHLY CLEANED TO OWNER SATISFACTION, ALL OF CONSTRUCTION DUST, DEBRIS AND MATERIALS.
11. ALL DIMENSIONS IN AREA OF WORK TO BE FIELD VERIFIED BY G.C. PRIOR TO START OF CONSTRUCTION.

WALL & FLOOR HATCH LEGEND

- EXISTING PORTIONS OF BUILDING NOT PART OF THIS RENOVATION
- EXISTING WALLS TO REMAIN
- EXISTING WALLS TO BE DEMOLISHED. REFER TO DEMOLITION PLANS AND NOTES
- EXISTING CONCRETE SLAB ON GRADE AND SUB-BASE TO BE REMOVED. REF. DEMOLITION PLANS & NOTES
- NEW CONCRETE SLAB INFILL C/W SUB-BASE AND NEW FLOOR FINISH. REF. STRUCT. DWGS. AND ROOM FINISH SCHEDULE
- RE-RE FLOOR FINISH. REFER TO ROOM FINISH SCHEDULE.

ABBREVIATION LEGEND

A	ACTIVE LEAF
AFF	ABOVE FINISHED FLOOR
BD	BOARD
B/F	BARRIER FREE
BFP	BARRIER FREE PUSH BUTTON
BFPL	BARRIER FREE PUSH BUTTON LOCK
BH	BREAK-AWAY HOOK
BL	BARRIER FREE LOCKER
BV	BRICK VENT
CJ	CONTROL JOINT
CH	CABINET HEATER (RECESSED)
CHSM	CABINET HEATER (SURFACE MTD)
CHSR	CABINET HEATER (SEMI-RECESSED)
CHT	CHANGE TABLE STATION REFER TO SPEC
CONT.	CONTINUOUS
CR+S	COAT RACK AND SHELF. REFER TO SPEC
CS	CONVENIENCE SHELF
C/W	COMPLETE WITH
CWT	CERAMIC WALL TILE
DF	DRINKING FOUNTAIN
D/W	DISHWASHER
EM	ELECTROMAGNETIC HOLD OPEN DEVICE
EP	ELECTRICAL PANEL. REF. ELEC. DWGS.
EPC	EMERGENCY PULL CORD
FB	FIRE BLANKET
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FEC	FIRE EXTINGUISHER CABINET
FD	FLOOR DRAIN
GALV	GALVANIZED
GYP	GYPSUM BOARD
GB	GRAB BAR
GBL	GRAB BAR "L" SHAPE
GBF	GRAB BAR "FOLDING"
GM	GAS METER
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HD	HAND DRYER
HDs	HAND DRYER WITH SHROUD
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HWT	HOT WATER TANK
JS	JANITORIAL SHELF
LF	LIGHT FIXTURE
M	MIRROR
ML	MIRROR LONG
MCP	MODULAR CONTROL PANEL
MR	METAL RACKING
MS	MOP SINK
NIC	NOT IN CONTRACT
NFHB	NON FREEZE HOSE BIB. REF. DIV 15
PAS	PUBLIC ANNOUNCEMENT SYSTEM (NIC)
PB	PROGRAM BELL
PTD	PAPER TOWEL DISPENSER
PTW	PAPER TOWEL + WASTE RECEPTACLE
RD	ROOF DRAIN
RF	REFRIGERATOR
RM	REMOVABLE HARDWARE MULLION
RS	ROLLER SHADE. REFER TO SPECS
RWL	RAIN WATER LEADER
SD	SOAP DISPENSER
SN	SANITARY NAPKIN DISPOSAL
SND	SANITARY NAPKIN DISPENSER
SR+C	SHOWER ROD + CURTAIN
SWR	SEMI-RECESSED WASTE RECEPTACLE
TEC	TECTUM ACOUSTIC PANELS
TB	TACKBOARD
TD	TOILET PAPER DISPENSER
TM	TILT MIRROR
VFS	VERTICAL FIRESTOP
WB	WHITEBOARD
W/D	WASHER/ DRYER NIC
WM	WIREMOLD
W/R	WASHROOM

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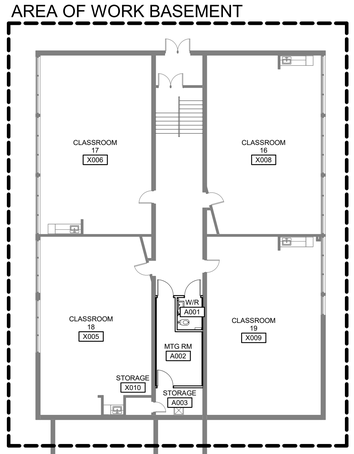
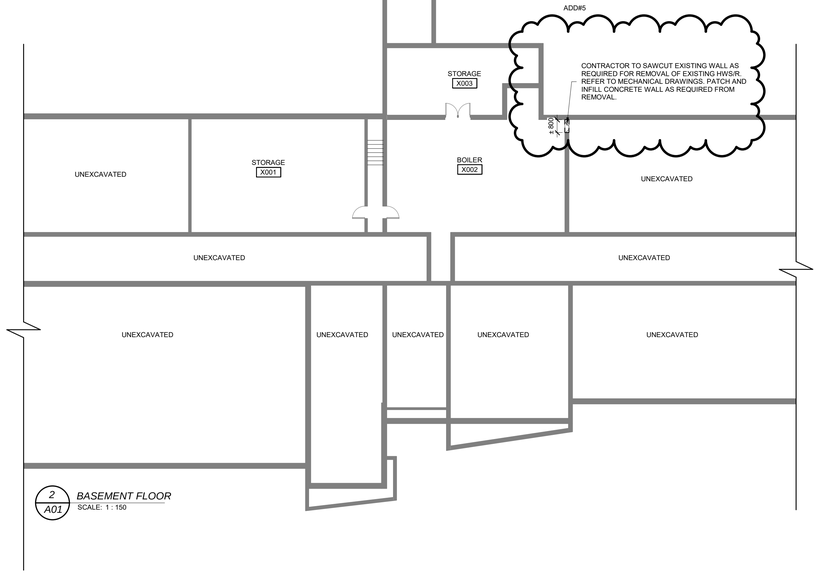
AREA OF WORK BASEMENT



OBC DATA MATRIX - PART 11

Item			OBC Ref.
11.1	Existing building classification:	Describe Existing Use: ELEMENTARY SCHOOL (EX. NOT SPRINKLER) Construction Index: 5 - Non-combustible construction Hazard Index: 6 - Large Building - A2 Occupancy ■ Not applicable (no change of major occupancy)	11.2.1 T 11.2.1.1A T 11.2.1.1B to N
11.2	Alteration to Existing Building is:	Basic Renovation: ■ Extensive Renovation: □	11.3.3.1 11.3.3.2
11.3	Reduction in Performance Level:	Structural: ■ No □ Yes By increase in occupant load: ■ No □ Yes By change of major occupancy: ■ No □ Yes Plumbing: N/A ■ No □ Yes Sewage-system: N/A ■ No □ Yes	11.4.2 11.4.2.1 11.4.2.2 11.4.2.3 11.4.2.4 11.4.2.5
11.4	Compensating Construction:	Structural: ■ No □ Yes Increase in occupant load: ■ No □ Yes Change of major occupancy: ■ No □ Yes Plumbing: N/A ■ No □ Yes Sewage-system: N/A ■ No □ Yes	11.4.2 11.4.2.1 11.4.2.2 11.4.2.3 11.4.2.4 11.4.2.5
11.5	Compliance Alternatives Proposed:	■ No (not required) □ Yes (give number(s))	11.5.1
11.6	Alternative Measures Proposed:	■ No □ Yes (explain)	11.5.2



2 A01 *BASEMENT FLOOR*
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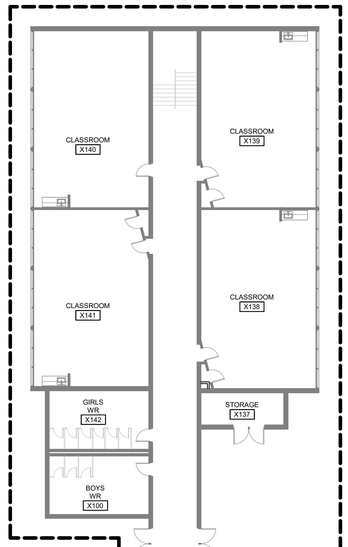

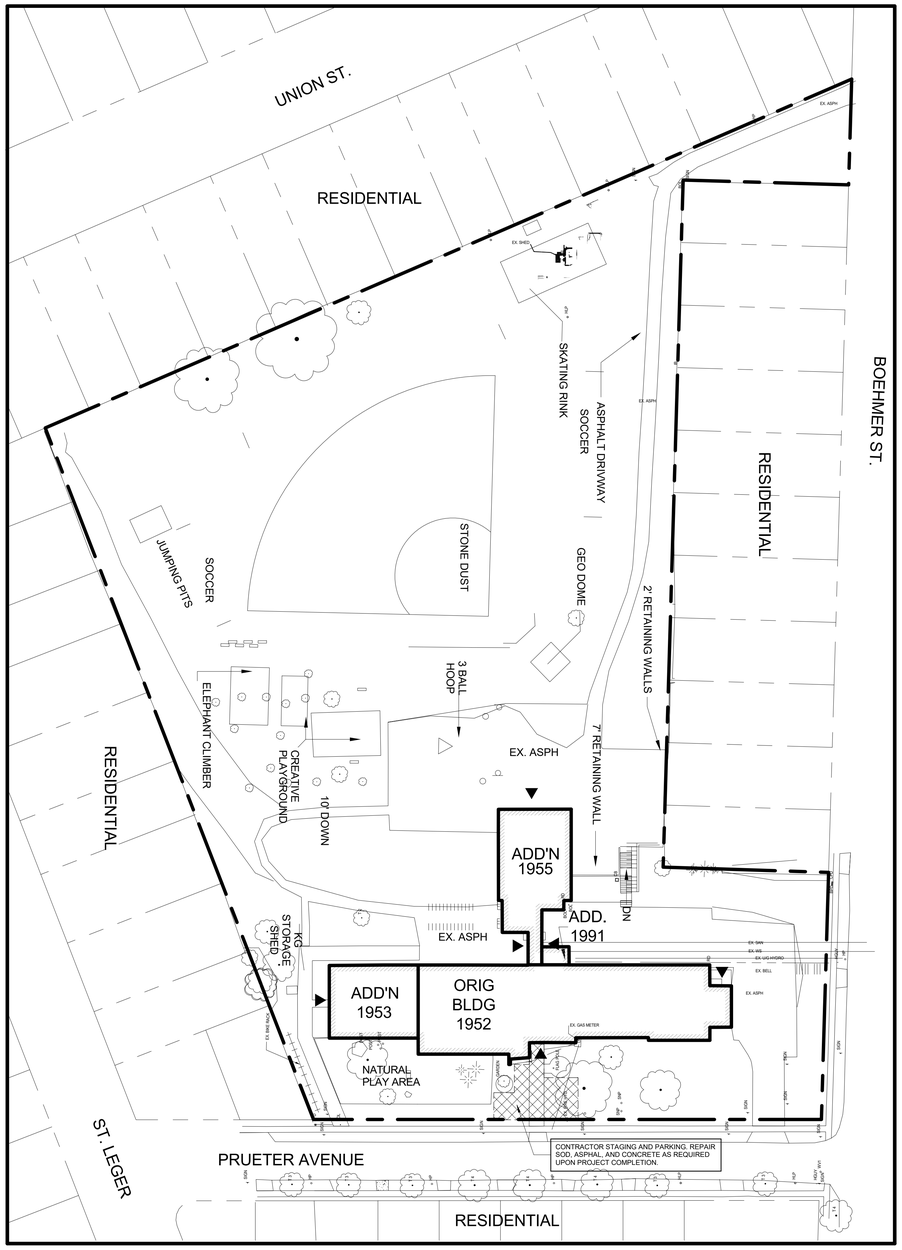

3 A01 *Site Plan*
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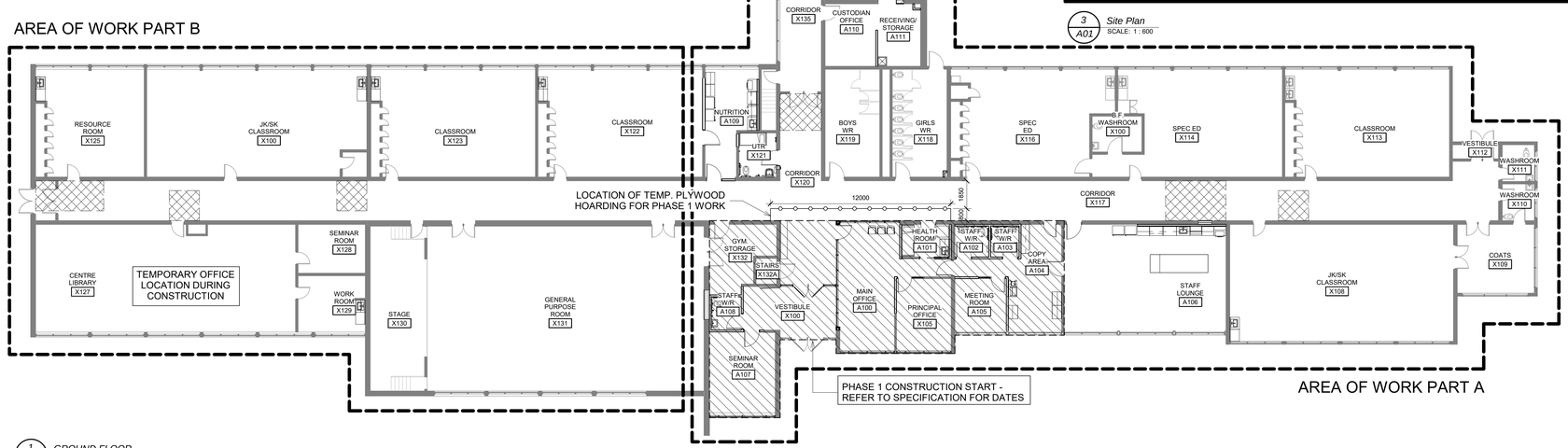
AREA OF WORK PART B



1 A01 *GROUND FLOOR*
SCALE: 1 : 150

ROOF PENETRATIONS

REFER TO MECH., ELEC., STRUCTURAL DRAWINGS FOR NEW ROOF PENETRATIONS. G.C. TO SCRAPE BACK MIN. 400mm OF EXISTING ROOF FOR INSTALLATION AND TIES INTO EXISTING MEMBRANE AND INSULATION. COORDINATE WITH DIV. 15 & 16 & ROOFING DETAILS. PROVIDE PRESSURE TREATED WOOD BLOCKING AND CANT STRIP AT EDGES OF PENETRATION FROM NEW PENETRATIONS. COMPLETE WITH TRANSITION FLASHING MEMBRANES AND PREFIN. METAL FLASHING, AS REQUIRED FOR PENETRATIONS.

LEGEND

REMOVE AND REINSTALL CEILING TILE, GRID, DEVICES & GYPSUM CEILING ABOVE AS REQUIRED FOR M&E WORK. REFER TO MECH. & ELEC. DWGS FOR WORK IN HATCHED AREA.

ABBREVIATION LEGEND

A	ACTIVE LEAF
AFF	ABOVE FINISHED FLOOR
BD	BOARD
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BFP	BARRIER FREE PUSH BUTTON
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NFHB	NON FREEZE HOSE BIB, REF. DIV 15
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DEI Consulting Engineers
MECHANICAL | ELECTRICAL | AQUATIC

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March 31, 2021

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Mississauga, Ontario
L5L 5M8

RE: Prueter Public School – HVAC Upgrades
Kitchener, Ontario

Job #: 20285

Attn: Mr. Jonathan Knight, B.Arch.Sci., M.Arch., OAA/Mr. Priscilla Ladouceur, B.E.S., B.Arch., OAA, MRAIC

MECHANICAL AND ELECTRICAL ADDENDUM

MECHANICAL

Item 1

1.0 Reference Re-issued Specification 25 40 11

.1 Replace specification section 25 40 11 with the attached, which now includes controls sequences.

Item 2

2.0 Reference Re-issued Drawings M02, M04, M06

.1 Remove buried hydronic piping in two locations indicated complete. Refer to re-issued drawings M02 and M04.

.2 Provide new overhead hydronic piping where indicated. Refer to re-issued drawings M02 and M06.

.3 Work in basement Meeting Room A002 and W/R A001 to form part of an identified price (not a separate price). Refer to specifications for details.

ELECTRICAL

Item 1

1.0 Reference Drawing E2.0

.1 Revise note 3 from “Separate Price” to “Itemized Price”.

Item 2

2.0 Reference Drawing E3.0

.1 Revise note 3 from “Separate Price” to “Itemized Price”.

Item 3

3.0 Reference Drawing E3.2

.1 Revise note 2 from “Separate Price” to “Itemized Price”.

Item 4

4.0 Reference Re-Issued Drawings E2.1 and E3.1

.1 Electrical contractor to remove and re-install ceiling devices and lighting within corridor as shown on re-issued drawing and described in note 5 on drawing E2.1.

Ann Demaiter, EIT
Associate

20285 Addendum (M&E)(Spec 25 40 11 Dwg M02 04 06) Mar 31 21
ad/dm

Part 1 General

1.1 GENERAL REQUIREMENTS

.1 Conform to General Conditions for Mechanical Trades.

.2 Related Work Specified Elsewhere.

.1 General Conditions for Mechanical Trades

.2 Plumbing & Drainage

.3 Heating, Ventilation & Air Conditioning

.4 Heating, Ventilation & Air Conditioning Equipment

.5 Electrical

1.2 DESCRIPTION OF SYSTEM

.1 Furnish and install all components, devices and control wiring for a fully integrated Energy Management and Environmental Control System incorporating Direct Digital Control (DDC), and equipment monitoring. The system shall control/monitor HVAC and plumbing equipment and systems as specified in this section. The work shall include but is not limited to the following:

.1 All necessary hardware, software, control panels, control wiring, field devices, installation, documentation and owner training as specified.

.2 The installed system shall incorporate electronic and digital control devices to perform the control sequences and monitoring outlined herein. Specific control sequence requirements are as detailed elsewhere in this Section of the specification.

.3 Control and monitoring of the equipment and systems shown on the drawings (refer also to 'Sequence of Operation' for additional details).

.4 VVT zone control dampers shall be supplied by this trade but installed in the duct system by the sheet metal trade complete with necessary duct transitions, access doors, etc. The temperature control contractor shall be responsible for coordination with the HVAC contractor and the installation of the actuators.

.5 Control valves shall be supplied by this Trade but installed in the piping system by the Mechanical Trade complete with transitions and unions as required.

.6 Testing, debugging, calibrating, adjustment, programming and confirmation of total system operation.

.7 Electrical power for controls items from local electrical panel. Coordinate with electrician. All work to be done in accordance with electrical division.

1.3 MANUFACTURER AND INSTALLING CONTRACTOR

.1 The temperature control manufacturer shall be Tour Andover (TAC).

.2 All controls shall be supplied, installed and wired by Energy Controls (phone 519-893-2638).

.3 Any new building must be a seamless extension of the current Energy Management and Building Control System.

.1 The existing TAC Vista software is, and shall continue to be, the only head-end BAS server for the entire School Board.

.2 The head-end server contains the secure Energy Management Settings (i.e. Master Setpoints & Schedules) that are sent to all schools in real-time. The control system must be an extension of the head-end server and be able to be managed exclusively through the Vista head-end server.

.3 Monitoring of all school board control systems are done in real-time and must be presented at the exclusive Vista head-end server as first-priority data.

.4 The Vista head-end server has all the required controller databases and software to be able to centrally maintain and modify network configuration and controller software for the entire School Board. The Vista head-end server is the only system that can access the LacNet programming variables inside the controllers for real-time configuration of setpoint and time scheduling parameters.

.5 The graphics and controller database must be presented inside the Vista head-end server in its native format in order to preserve the real-time speed, integrity and multi-site administration of the entire system.

1.4 QUALITY ASSURANCE

.1 The system components shall be listed by Underwriters Laboratories Inc. and Canadian Standards Association.

.2 The system control products shall be stored and handled according to manufacturer' recommendations.

.3 The work shall be performed by skilled technicians all of whom shall be properly trained and qualified for this work.

1.5 SUBMITTALS

.1 Prior to the installation of any equipment, the Contractor shall provide the Consultant with shop drawings and specifications for all devices and equipment used for the complete system installation. Shop drawings shall include the following:

.1 Identified schematic control diagrams for all systems, each diagram indicating or referencing input / output connection points, control components, component catalogue numbers, operation sequence, interlocking and RPU's to which they are connected.

.2 Complete network schematic indicating all programmable controllers and data connections.

.3 Detailed listing of inputs and outputs of each programmable controller.

.4 Control damper schedule indicating damper size, required torque and blade type.

.5 Technical data sheets / manufacturer application manuals of each system component.

.2 Upon completion of the installation and prior to acceptance and Owner training, the Contractor shall furnish the Consultant with three copies of installation and operation manuals for the system. Each manual shall include:

.1 Record drawings, including plan layout indicating major device locations and wiring diagrams as finally installed.

.2 All shop drawings, incorporating all required revisions to reflect as-built conditions.

.3 The Contractor shall also keep one copy of backup programs for the system archived in a software storage vault at their business location.

Part 2 Products

2.1 GENERAL

.1 The control system shall be a Tour Andover (TAC) Xenta building automation system (BAS).

.2 The system shall integrate the operation of intelligent building management controllers distributed into the network.

.3 The DDC System shall be generally comprised of the following devices to achieve the control functions described in this section:

.1 Input/ output programmable controllers.

.2 Control relays.

.3 Control dampers and valves.

.4 Sensors, actuators and other input/output devices.

.4 Controllers shall execute the application programs, calculations, and commands to provide the control function specified for that unit. Each controller shall include its own micro-computer controller, power supply, input/output modules, termination modules and real time clock.

.5 Controllers shall be capable of full control functionality and alarm reporting independently or as a part of the DDC network.

.6 The system shall be stored in flash ram so no batteries are required.

.7 Each control device shall be modular and expandable to provide additional inputs and outputs and control functionality for that device

.8 Each controller shall be able to transfer and receive data via the network for performance of control functions.

.9 The system shall be modular, permitting expansion by adding hardware and software without changes in communication or processing equipment.

.10 The complete system shall be capable of communication over a LonWorks network.

.11 The controllers shall monitor the status of all overrides and include this information in logs and summaries to inform the operator that automatic control has been inhibited.

.12 Controllers shall continuously perform self-diagnostics, communication diagnosis and diagnosis of all subsidiary equipment and provide both local and remote annunciation of any component failures.

.13 Controllers shall activate an orderly shutdown of their operation in the event of loss of normal electrical power. Non-volatile memory shall be incorporated for all controller configuration data. The controllers shall automatically resume full operation without manual intervention.

.14 The controllers shall have sufficient memory to support their own operating system and data bases including:

.1 control processes

.2 energy management applications

.3 alarm management

.4 trend data

.5 operator input/output

.6 remote communications

.7 manual override monitoring

.15 Controllers shall incorporate the following software features:

.1 Energy management:

.1 Time of Day Scheduling

.2 Calendar Based Scheduling

.3 Holiday Scheduling

.4 Optimal Start and Stop

.5 Demand Limiting

.6 Heating/Cooling Interlock

.2 Alarm Management:

.1 Alarm Management shall be provided to monitor, buffer and direct alarm reports to operator devices and memory files. The controllers shall perform alarm analysis and filtering to minimize operator interruptions due to non-critical alarms, minimize network traffic and prevent alarms from being lost.

.2 All alarm or point change report shall include the points English language description and the time and date of occurrence.

.3 The user shall be able to define the specific reaction for each point, the priority level (3 in total) and ability to inhibit alarm reporting for each point.

.4 The user shall be able to define conditions under which point changes need to be acknowledged by an operator and logged for analysis at a later date.

.5 The user shall be able to print, display or store a unique 60 character alarm message to more fully describe the alarm condition or direct operator response. The message shall be customizable to describe each individual alarm.

.6 In web access applications only critical alarms shall initiate a call to a remote operator device, otherwise call activity shall be minimized by time stamping and saving reports until a manual request is received or until the buffer space (minimum 50 alarms) is full.

.3 Trend Logs:

.1 Controllers shall provide an automatic roll-over trend log, which stores records up to an operator-selected number at an operator-selected sampling rate and then overwrites the oldest record with each new record.

.2 Sample intervals shall be from 1 minute to 24 hours.

.3 Provide graphical and tabular displays.

.4 Runtime Totalization:

.1 The controllers shall automatically accumulate and store runtime hours for binary points with a sampling resolution of 1 minute. The user shall have the ability to define a warning limit to trigger maintenance or user-defined messages.

.5 Custom Programming:

.1 The controllers shall permit user defined custom control processes based on:

.1 any system measured data or status

.2 any calculated data

.3 any results from other processes

.4 Boolean logic

.2 The custom processes may be triggered by:

.1 Time-of-day

.2 calendar date

.3 events (point alarm etc.)

.16 The control strategy for each control loop shall be performed by software within the controller. The sequence of events required for each control loop is described for each system in the control sequence.

.17 Outdoor air temperature indication shall be available at each controller as an integral part of the control strategies for that controller. Should the network transmission of the common outdoor air temperature (or any other common value) fail, then each controller shall use the last good value received.

.18 Controls and Requirements for VVT Systems

.19 Where VVT controls are specified, units are to operate as part of a Variable Volume/Variable Temperature System complete with all necessary controls including zone dampers, temperature sensors, static pressure sensor probes and bypass damper.

2.2 NETWORK ARCHITECTURE

.1 The controllers on the local network shall communicate via a two wire LonTalk TP/FT-10 network.

.2 The control network shall be able to expand to match the requirements of the facility, including any future building additions.

.3 The control network shall be able to support a total developed length of 305 meters without using a network repeater.

2.3 CONTROL PANELS

.1 Control panels shall be fully enclosed cabinets with all steel construction. Cabinets shall have a hinged door with locking latch or bolt-on cover plate. All cabinet locks shall be common keyed. Cabinets shall be finished with two coats of paint.

2.4 TEMPERATURE SENSORS

.1 Provide thermistor temperature sensors, not requiring transmitters, to measure temperature.

.2 Accuracy shall be +/-0.2°C from 0 to 70°C.

.3 Temperature sensors shall be Greystone EC200 series.

.4 Space sensors in occupied areas shall be type AE having an integral push button for unoccupied override and an integral slider to adjust set point (LED display not required).

.5 In corridors and where noted on the drawings, provide stainless steel plate type sensors (push button override and LED display not required), type AS.

.6 Duct temperature sensors shall be type B having a stainless steel probe length to suit application and ABS enclosure. Duct averaging temperature sensors shall be type FD having an element length to suit application, copper probe and ABS enclosure.

.7 Immersion temperature sensors shall be type C having a ¼" OD stainless steel probe, 4" long and ABS enclosure. Immersion sensors shall be complete with thermowells. Thermal conductive compound shall be added inside the thermowell to provide optimum thermal transfer from the fluid to sensor. Stainless steel thermowells shall be used for steel pipe and brass thermowells shall be used in copper pipe.

.8 Outdoor temperature sensors shall be type F having an ABS gasketed cover. A thermal radiation cover shall limit the sensor to solar radiation exposure.

2.5 CARBON DIOXIDE SENSORS

.1 Sensors shall Greystone CDD series having the following features:

.1 0-2000 ppm factory default detection range, field adjustable.

.2 Non-dispersive infrared sensing element with self-calibration algorithm.

.3 Guaranteed 5 year calibration interval.

.4 Powered by either AC or DC source.

.5 Accuracy: within 50 ppm or 3% of reading (whichever is greater).

.6 Operating humidity range: 0-95% RH.

.7 Operating temperature range: 0 to 50°C or greater.

.8 Stability: less than 2% full scale in 15 years

.9 Response time: less than 2 minutes for 90% step change.

.2 Duct mounted sensors shall be complete with ABS enclosure complete with sampling tube.

.3 Space mounted sensors shall be executive space type without LCD display.

2.6 VVT SYSTEM DAMPERS AND OPERATORS

.1 Rectangular dampers shall be Nailor 1010, parallel blade type complete with blade and edge seals. Use low profile dampers for heights less than 12" (300 mm). Dampers with heights less than 10" (250 mm) shall be single blade.

.2 Round dampers shall be Nailor 1090 complete with blade gaskets and mounting bracket.

.3 Actuators shall be Belimo LMB24-SR-T proportional control, non-spring return, direct coupled, 24 V for 2-10 VDC or 4-20 mA, 45 in-lb torque, suitable for a maximum damper size of 6 square feet.

2.7 WATER CONTROL VALVES

.1 Heating and cooling control valves shall be Belimo CCV series characterized ball valves, complete with chrome plated brass trim and NPT female pipe connections. Radiation valves shall be complete with non-spring return modulating actuators. Control valves for coils heating a portion of outdoor air shall have spring return modulating actuators.

.2 Control valves shall be sized to provide approximately one half the circuit branch pressure drop to obtain good modulation control but they shall be no smaller than two pipe sizes less than the pipe they are installed in.

.3 Control valves in contact with domestic water (domestic flush valve) shall be Belimo HTCCV high temperature characterized ball valve with stainless steel ball and stem, NPT female pipe connections and TFX24 spring return to closed position actuator.

2.8 DIFFERENTIAL PRESSURE SENSORS

.1 Differential pressure sensors shall be provided for liquid or air differential pressure applications. The differential pressure range shall be selected to match the application. Select materials suitable for the measured variable, i.e.: water or air, and to withstand a minimum of two times the maximum pressure of the highest pressure range.

.2 Each sensor shall be provided with an industry standard, 0 to 10 Vdc output signal mounted at the sensor. The transmitter and sensor shall have a combined accuracy and repeatability of 1.0% of the differential pressure range. A pushbutton zero adjustment shall be provided.

2.9 FREEZESTATS

.1 Freezestats shall be complete with a vapour filled 20 foot bulb and 4 foot capillary. Wire freezestats to shut down the respective fans should temperature over any 12 in. of sensor length drop below the adjustable setpoint (2°C). Freezestats shall have manual reset.

Part 3 Execution

3.1 INSTALLATION

.1 Installation

.1 All controllers and components in the system and on the network shall be installed according to manufacturer recommendations, general installation standards for digital controls and in accordance with the approved shop drawings.

.2 Locate room sensors in the locations shown on the mechanical drawings. All sensors shall be mounted at barrier free height (3'-11" (1175 mm) above finished floor).

.3 Provide serial data communication ports in the rooftop units where noted on the drawings, or at least one on each roof level, for operator interface. Also provide communication ports in the Custodian Office. Note that these shall be in addition to the associated rooftop unit controller with its built-in network port.

.4 All programmable controllers, web access components, relays and other control components shall be located within control panels. Control Panels shall be wall mounted and shall be located within suspended ceiling spaces or other locations approved by the Consultant.

.5 The Electrical Contractor will provide hand-off-auto switches in all starters controlled by the BAS.

.2 Generally duct mount carbon dioxide sensors shall be used where specified for air handling units; but, for gyms and single zone libraries, a wall mount carbon dioxide sensor shall be mounted next to the room temperature sensor.

.3 All carbon dioxide levels which are measured by the carbon dioxide sensors shall be made available to the Owner in the form of trend logs. Record readings at 10 minute intervals and keep them for at least 30 days.

.4 Freeze-stats shall be installed so that their sensing element runs horizontally across the coil face (not diagonally) with no more than 12" vertical drops at the outside coil frame. The full face of the coil shall be covered with no horizontal runs being more than 12" apart. The top and bottom horizontal run shall be within 6" of the coil frame. If more than one freezestat is required they shall be wired in series in order to detect a low temperature in portion of the coil. The sensing elements shall be firmly secured in place to avoid vibration without added air restriction.

3.2 SYSTEM START-UP AND ACCEPTANCE

.1 Upon completion of installation, test, adjust and calibrate controls provided under this Section.

.2 On system completion, a demonstration of complete system operation shall be made to the Owner's authorized representative and Consultant.

.3 The Consultant shall verify through the Owners representatives that the entire system is complete and operating to the satisfaction of the Owner before final acceptance is approved.

3.3 TRAINING

.1 The Contractor shall provide competent instructors to give full instruction to designated personnel in the adjustment, operation and maintenance of the system installed rather than a general training course. Instructors shall be thoroughly familiar with all aspects of the subject matter they are to teach. All training shall be held during normal work hours of 8:00 a.m. to 4:30 p.m. weekdays as follows:

.2 Provide 4 hours of training for Owner's operating personnel. Training shall include:

.1 Explanation of drawings, operations and maintenance manuals

.2 Explanation of web access program

.3 Explanation of adjustment procedures

.4 Trend Analysis

3.4 WARRANTY

.1 Equipment, material and software shall be unconditionally guaranteed for a period of two years form the date of substantial completion.

.2 Provide warranty service at no cost to the Owner for the warranty period, which shall include but not be limited to the following:

.1 Emergency repair service on regular working hour basis.

.2 Replacing defective parts and components as required.

.3 System software support.

3.5 IDENTIFICATION

.1 Provide system identification and provide nameplates identifying the following (nameplates shall be keyed to the wiring diagrams):

.1 Duct mounted sensors.

.2 Control panels (identify as to equipment / systems controlled). Each panel shall include an as-built drawing showing all the connected control points.

3.6 TESTING AND BALANCING

.1 During the system testing and balancing by the Testing and Balancing Agency, demonstrate the operation of all controls. During balancing procedures, set controls to a fixed mode (bypass damper locked fully closed and all zone dampers locked fully open) to prevent any changes during the balancing procedure.

3.7 ELECTRICAL WIRING

.1 All wiring shall be installed to the standards specified in the Electrical Division.

.2 Use Echelon recommended orange jacket cable for all network wiring.

.3 Run all wiring in EMT conduit where exposed, where running within concrete block walls and where required by the Ontario Electrical Code. Plenum rated cable shall be used in return air ceiling plenums.

.4 Control relays necessary for BAS operation shall be provided by the Temperature Control Contractor but all contactors and their power supplies handling power wiring to the equipment shall be by the Electrical Contractor.

.5 Controls contractor will coordinate with electrician for location of thermostat rough-ins with light switches and other devices.

.6 Where low voltage wire is run in corridor ceiling, it shall be installed/run in wall hooks (provided by electrical division).

3.8 GENERAL REQUIREMENTS FOR VVT SYSTEMS

.1 Each VVT system shall be capable of maintaining an independent setback schedule. If any over-ride pushbutton in the associated system is activated, the complete VVT system shall reset to occupied mode for a pre-set time period. At the end of the override time period, setback mode will resume.

.2 Each zone thermostat shall be capable of maintaining independent comfort setpoints, adjustable by the zone occupants. The upper and lower limits of the permissible setpoint range shall be adjustable by the operator.

.3 When the HVAC unit is not in the heating or the cooling mode, the system shall go to ventilation mode. Ventilation mode is automatically sequenced every 20 minutes to avoid stale air in the space. The duration of ventilation mode is 5 minutes, after which the system resumes heating / cooling mode as required.

.4 Zone damper control shall be proportional modulation, not two- position control. Each zone thermostat shall be capable of initiating a heating or cooling mode. Averaging zone systems are not acceptable.

.5 There shall be an adjustable deadband between heating and cooling setpoints.

.6 The pressure control system must display duct static pressure and modulate the bypass damper or supply fan speed to maintain the desired system static pressure. During changeover from heating to cooling or cooling to heating the bypass controller will take control of all dampers in order to purge the duct system of extreme temperature air. Systems that use a time delay during system mode changeover are not acceptable.

Part 4 Sequence of Operation

4.1 GENERAL

.1 All setpoints shall be adjustable.

.2 Outdoor air temperature shall be broadcasted to all controllers.

.3 Heating mode: Heating is enabled between October 15 and April 15 or if the outdoor air temperature is below 10°C. This heating mode is used in all controllers for the building.

.4 Cooling Mode: Mechanical cooling is enabled if the outdoor air temperature is above 18°C.

.5 Carbon Dioxide Damper Override: In any air handling system with a return air or room air carbon dioxide sensor, it shall override the minimum position of the outdoor air damper during occupied mode. It shall override the minimum outdoor air damper between 0 and 40 % as the carbon dioxide varies between 1000 and 1200 ppm. All limit controls shall take priority to maintain safe supply air temperatures. An alarm shall be generated if the carbon dioxide level is higher than 1700 ppm or lower than 200 ppm.

.6 Occupancy mode shall be determined by a weekly schedule with an annual holiday schedule. Each system shall have this schedule but there shall be provision for operating under a general (to the building) schedule as well. An adjustable parameter shall be available to select the local or general schedule for each system.

.7 Lead/lag: Devices designed for lead lag operation shall operate in automatic lead/lag mode to equalize run time. If the lead unit fails the lag shall automatically start and an alarm shall be generated. The lead unit shall be advanced through the series of devices in sequence every Tuesday at noon.

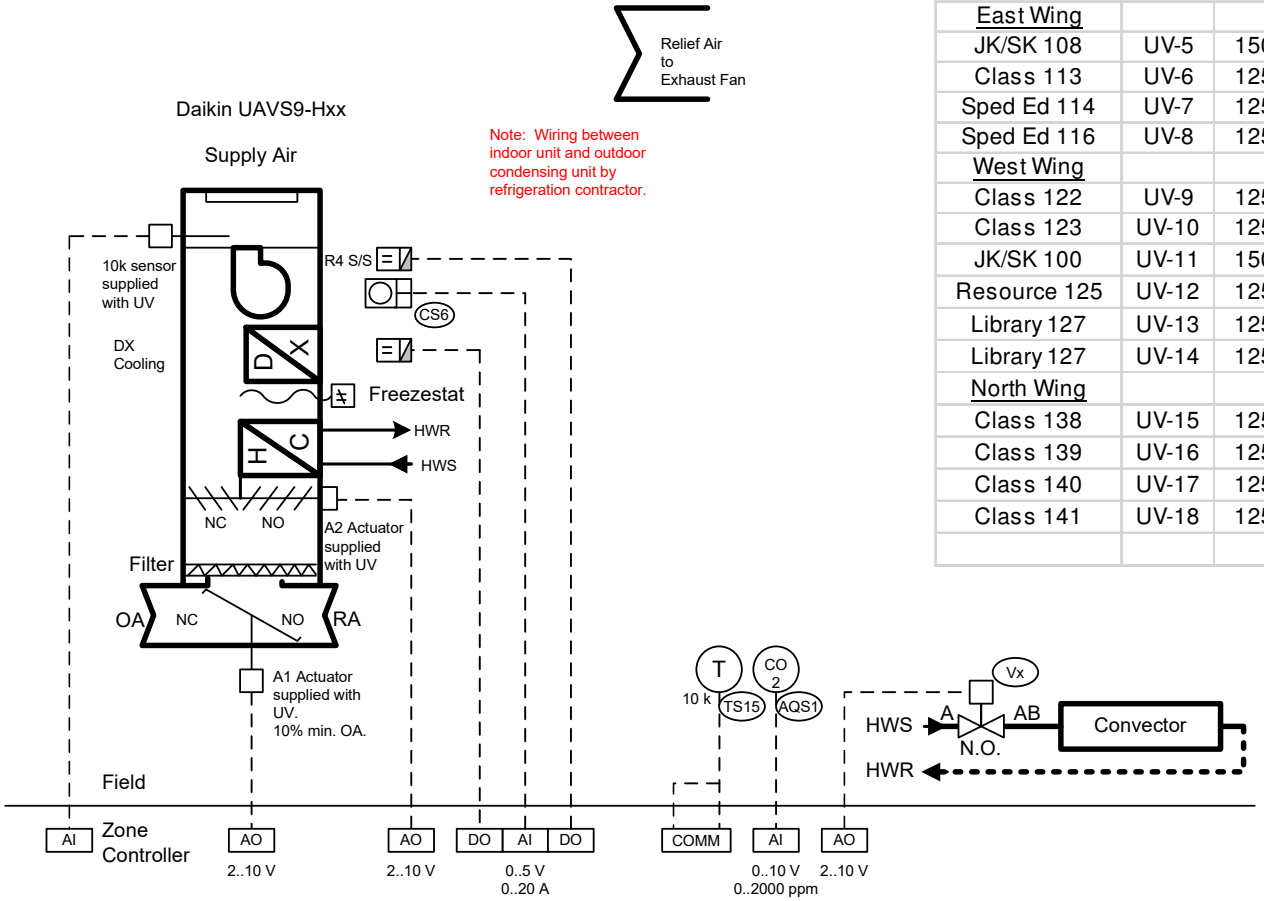
4.2 EQUIPMENT SERVICES

.1 See the graphical sequence of operations attached to the end of this specification for equipment and systems.

END OF SECTION

Notes:
1) Freezestat is factory wired to shut down fan and close outside air damper.
2) Belimo mixing damper actuator supplied with unit (SR) “A1”, 2 V = OA closed
3) Belimo face & bypass actuator supplied with unit (NSR) “A2”, 2 V = bypass, 10 V = open to coil.

Room	Unit	Air (cfm)	DX Clg (tons)	Htg (MBh)	Notes
Basement					
Class 005	UV-1	1100	3	62	no FBD
Class 006	UV-2	1250	3	75	
Class 008	UV-3	1250	3	75	
Class 009	UV-4	1100	3	62	no FBD
East Wing					
JK/SK 108	UV-5	1500	4	107	
Class 113	UV-6	1250	3	75	
Sped Ed 114	UV-7	1250	3	75	
Sped Ed 116	UV-8	1250	3	75	
West Wing					
Class 122	UV-9	1250	3	75	
Class 123	UV-10	1250	3	75	
JK/SK 100	UV-11	1500	4	107	
Resource 125	UV-12	1250	3	75	
Library 127	UV-13	1250	3	75	
Library 127	UV-14	1250	3	75	Share UV-13 Stat
North Wing					
Class 138	UV-15	1250	3	75	
Class 139	UV-16	1250	3	75	
Class 140	UV-17	1250	3	75	
Class 141	UV-18	1250	3	75	



UV-1 & UV-4 Airdale CMS36,
no face & bypass dampers

	Job #:	Owner: Waterloo Region District School Board	Drawn By:	Title: **Unit Vent Controls Schematic**	1
	Job Name: Prueter P.S. HVAC Renovations		Revision Date: March 26, 2021		

SEQUENCE OF OPERATION

Unoccupied Mode

The fan is off, the face & bypass damper is in the face position, the DX cooling is off and the mixing dampers are in the 0% outside air position. First the rad valve opens then the fan cycles with full heating to maintain the unoccupied heating setpoint (initially 17.5℃). If the pushbutton on the room sensor is pressed, the system will revert to occupied mode for a period of 2 hours.

Occupied Mode

An optimized start routine for heating advances the system start time when morning warm-up is required. The fan runs continuously to maintain room temperature. The room temperature sensor modulates the mixing dampers in sequence with DX cooling to maintain the cooling setpoint, and modulates the face & bypass dampers and rad valve to maintain the heating setpoint. The setpoint can be adjusted +/-2℃ at the room temperature sensor. The cooling setpoint is maintained at 2℃ higher than the heating setpoint and will not go below 23.5℃. Fan status is monitored by a current sensor.

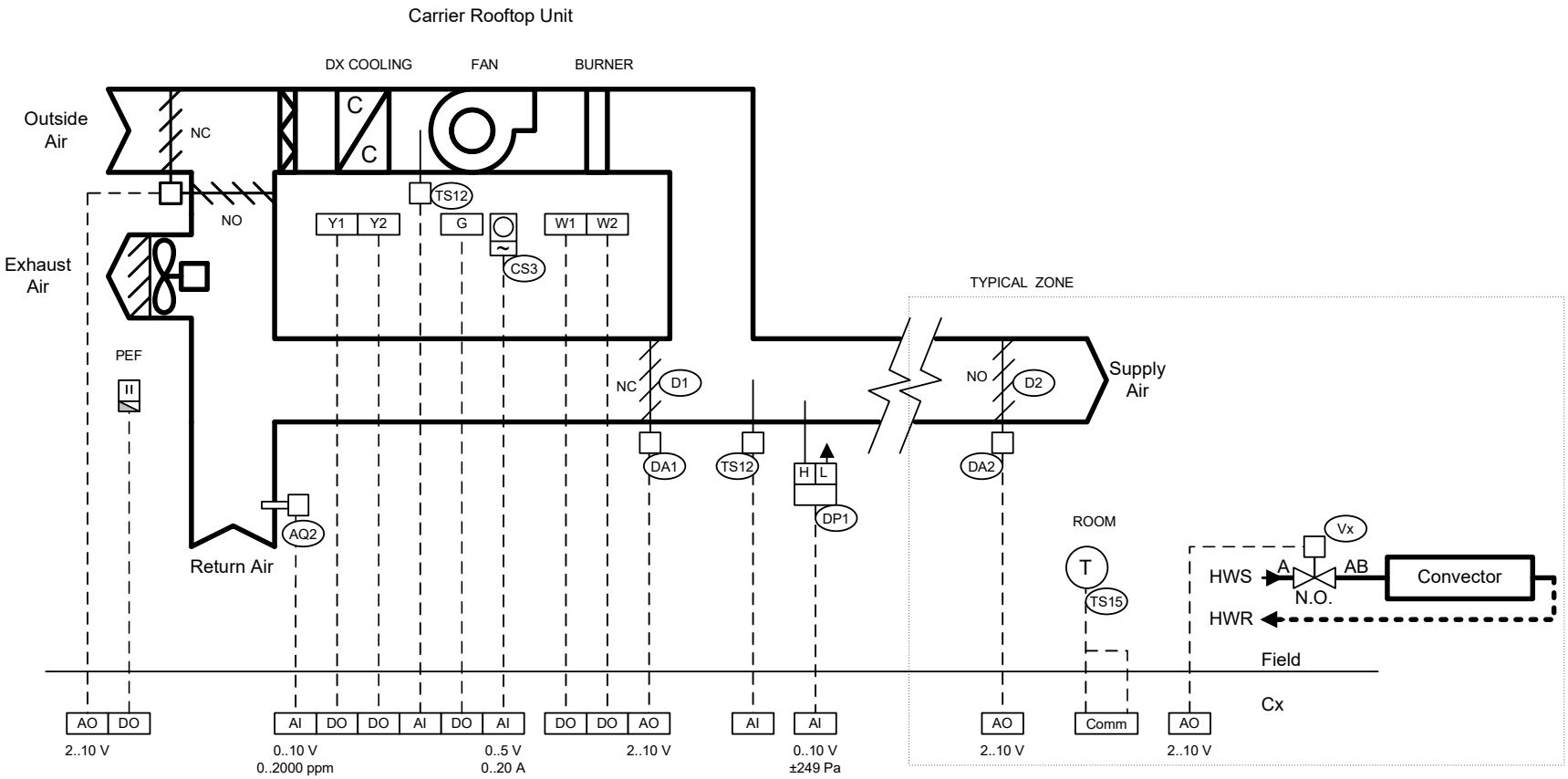
Limits and Safeties

1) If the outside air temperature exceeds the free cooling setpoint, the mixing dampers return to minimum position.
2) Mixed air damper minimum position control is provided during occupied periods (initially 10% OA).
3) The minimum outdoor damper position is increased from minimum to 40% as the CO_2 increases from 1000 to 1200 ppm.
4) The fan must be running before the mixing dampers and DX cooling will operate.
5) The supply air sensor acts as a low limit to ensure temperature does not fall below setpoint (initially 16℃, reset to 13℃ on a call for free cooling).
6) A software freezestat on the supply air temperature shuts the fan down and closes the outdoor air damper when the supply air temperature is below 3℃ for 30 seconds (resets at 6℃ with 5 minute delay before restart).
7) If the hard-wired freezestat trips, the fan shuts down, outside air damper closes and face & bypass damper opens to face.
8) DX cooling is disabled when the outside air temperature falls below the global mechanical cooling disable setpoint (initially 14℃).
9) DX cooling has a minimum off time of 5 minutes.
10) DX cooling has a supply air temperature low limit (6/12℃).
11) The face & bypass damper is in the face position when DX cooling is operating.

Alarms

An alarm is indicated at the operator's terminal if any of the following occur:

1) Fan status does not match fan start/stop signal.
2) Room temperature too high (36/34℃) or too low (14/15℃).
3) Supply air temperature too high (65/60℃) or too low (8/10℃).
4) Software freezestat tripped.
5) Fan runtime exceeded weekly runtime setpoint.
6) Room CO_2 level too high (1700/1650 ppm) or too low (250/300 ppm).



			One System As Shown						
Unit	Serves	Supply Air	Zones	Cooling	Heating	Power Exh.	Perim. Rad	RPU	Notes
		(cfm)		Stages	Stages				
HVAC-1	Office Area	3000	7	2	2	Yes	Z2,Z5,Z6,Z7	1	x

	Job #:	Owner: Waterloo Region District School Board	Drawn By:	Title: **Office Rooftop Unit, HVAC-1**
	Job Name: Prueter P.S. HVAC Renovations		Revision Date: March 26, 2021	

SEQUENCE OF OPERATION

UNOCCUPIED MODE

The supply fan is off, the power exhaust fan is off, the mixing dampers are in the 0% outside air position, the heating is off and the cooling is off. The bypass damper is in the 100% open position. The zone dampers are in the 50% open position. The system cycles on a call for unoccupied heating, with the supply air static pressure setpoint increased by 20%. If the override pushbutton is pressed, the system will switch to the occupied mode for 2 hours (adjustable).

OCCUPIED MODE

Fan Operation

The supply fan operates continuously. An optimized start routine is provided for heating and cooling.

Zone Damper

The room sensor modulates the zone damper between minimum and maximum settings to maintain setpoint. The setpoint is adjustable +/-1℃ at the sensor. The control is reverse acting when the supply air temperature is more than 1℃ above room temperature and direct acting when the supply air temperature is more than 1℃ below room temperature. If the system mode is different from the zone mode (e.g. system is in heating mode but zone requires cooling), the zone damper closes to a reduced minimum position to minimize overheating/overcooling.

System Heating/Cooling Decision Process

The system mode is determined by the number of zones that deviate from their respective zone heating/cooling setpoints. If the total number of zones requesting heating outnumber (or are equal to) the total number of zones requesting cooling, the system will go to heating mode. If the total number of zones requesting cooling outnumber the total number of zones requesting heating, the system will go to cooling mode. Once in the heating or cooling mode, the reference zone becomes the zone with the greatest call. The system will lock-in the selected mode until all zones are satisfied. If any zone is deprived of ventilation air for more than 20 minutes, the system will "unlock", go into forced ventilation mode for 5 minutes, and then reselect the required mode of operation. Zones designated as "slave zones" (typically corridors) cannot request heating or cooling, but will utilize heating/cooling when it is available.
The rad valve operates as the first stage of heating.

Ventilation Mode

The system operates in ventilation mode (no heating or cooling) under the following conditions:

1) No zones are calling for heating or cooling.
2) System is switching between heating and cooling (system operates in ventilation mode for 5 minutes).
3) One or more zones have been operating at a reduced min. position for more than 20 minutes (system operates in forced ventilation mode for 5 minutes).

System Heating Control

Stage 1 and stage 2 heating are controlled from the reference zone as follows:

	Reference Zone Call for Heat
Stage 1 On	1.0℃
Stage 1 Off	0.5℃
Stage 2 On	1.5℃
Stage 2 Off	1.0℃

System Cooling Control

Stage 1 and stage 2 cooling are controlled from the reference zone as follows:

	Reference Zone Call for Cooling
Stage 1 On	1.2℃
Stage 1 Off	0.5℃
Stage 2 On	1.5℃
Stage 2 Off	0.9℃

SEQUENCE OF OPERATION (CONTINUED)

Economizer Operation

Economizer operation will be substituted for first stage cooling when the outside air temperature is suitable. The power exhaust fan runs when the outside air damper is more than 50% open. The CO_2 sensor will increase the amount of minimum outside air as the CO_2 level increases from 1000 ppm to 1200 ppm. During morning warm-up or cool-down the outside air minimum position is set to zero.

Bypass Operation

The supply air static pressure sensor modulates the bypass damper between minimum and maximum settings to maintain setpoint.

Limits & Safeties (VVT ver. 3)

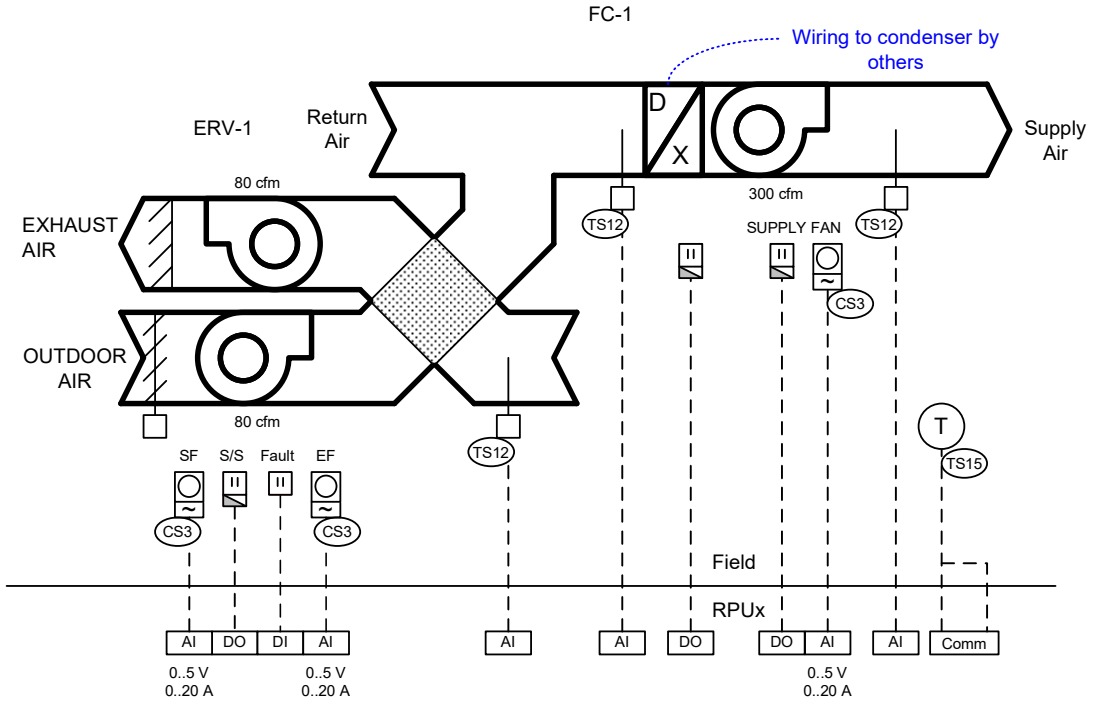
1) If the outside air temperature exceeds the global free cooling setpoint, the mixing dampers return to minimum outside air position.
2) The maximum amount of outside air is limited based on the outside air temperature to prevent excessively low supply air temperatures during startup.
3) The mixed air temperature sensor acts as a low limit to ensure temperature does not fall below setpoint. In applications where the mixed air sensor is located after the DX coil, the setpoint is reduced when DX cooling is enabled.
4) The supply air temp. sensor acts as a high limit for heating (70/55°C, 60/45°C) and a low limit for cooling (5/10°C, 8/13°C).
5) The supply air temperature sensor acts as a software freezestat (1/5°C, 3 minute delay, auto reset after 5 minute delay).
6) The supply fan has a delay-off time of 90 seconds.
7) DX cooling has a minimum-off time of 5 minutes.
8) DX cooling is disabled when the outside air temperature is below the global DX disable setpoint or when the fan is off.
9) Gas heating is disabled when the outside air temperature is above the global heating disable setpoint or when the fan is off.
10) Stage 1 gas heating has a minimum run time of 3 minutes.
11) During ventilation mode, if the supply air temperature falls below 15°C for more than two minutes, stage 1 heating will turn on until the temperature exceeds 25°C (to improve comfort).
12) The default zone setpoint is increased by 1°C when mechanical cooling is enabled (providing heating is disabled).
13) When the ventilation lockout switch is engaged, the outside air dampers close, and the system switches to unoccupied mode of operation.
14) Minimum outside air is set to zero when the global ventilation schedule is off (stand-by occupancy).

Alarms

An alarm will be generated upon the following conditions:

1) Fan status does not match start/stop signal.
2) Mixed air temperature too high (50/48°C) or too low (5/7°C).
3) Supply air temperature too high (65/63°C) or too low (5/7°C).
4) Space temperature too high (38/36°C) or too low (14/16°C).
5) Supply air static pressure too low (10/20 Pa) or too high (240/230 Pa).
6) Weekly fan runtime limit exceeded.
7) Return air CO_2 too high (1700/1650 ppm) or too low (250/300 ppm).
8) Software freezestat tripped.

MEETING ROOM HVAC

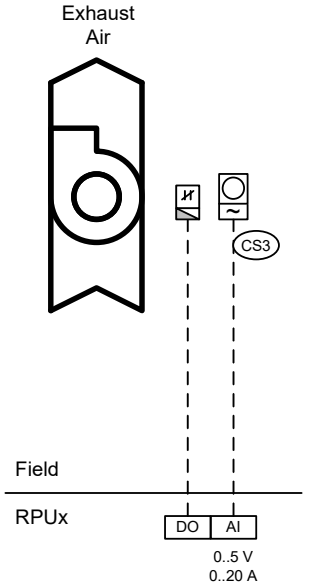


SEQUENCE OF OPERATION

The fan coil operates according to the time schedule. The ERV runs when the fan coil is on and when ventilation is enabled.
There is no heating.
An alarm is generated at the BAS if the room temperature is too low (14/16°C) or too high (38/36°C), or if a fan has an incorrect status.

	Job #:	Owner: Waterloo Region District School Board	Drawn By:	Title: **Fan Coil & ERV**	6
	Job Name: Prueter P.S. HVAC Renovations		Revision Date: March 26, 2021		

CLASSROOM EXHAUST FANS



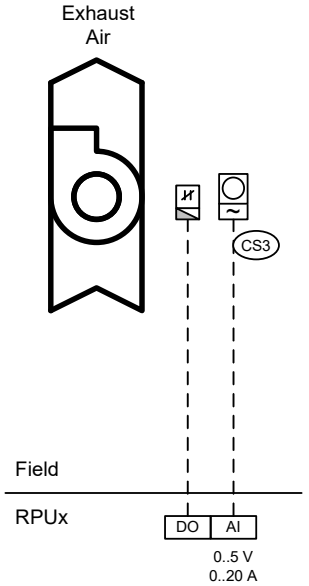
8 System as Shown

EF-1 UV-1,2
EF-2 UV-3,4
EF-3 UV-17,18
EF-4 UV-15,16
EF-9 UV-13,14
EF-10 UV-9,10,11,12
EF-11 UV-6,7,8
EF-12 UV-5

SEQUENCE OF OPERATION

Fans operate according to the time schedule.
An alarm is generated at the BAS if the room temperature exceeds programmed alarm limits.

GENERAL EXHAUST FANS



4 System as Shown

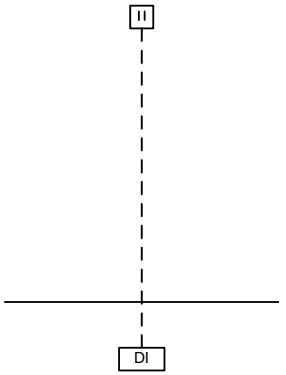
EF-8 Washrooms
EF-13 Closets
EF-14 Closets
EF-15 Washrooms

SEQUENCE OF OPERATION

Fans operate according to the time schedule.
An alarm is generated at the BAS if the room temperature exceeds programmed alarm limits.

FIRE ALARM

Connect to relay contacts
(provided by electrical contractor)
located near fire alarm panel.



SEQUENCE OF OPERATION

On a fire alarm condition, all fans controlled by the BAS will stop.

OUTDOOR AIR HUMIDITY FREE COOLING SETPOINT

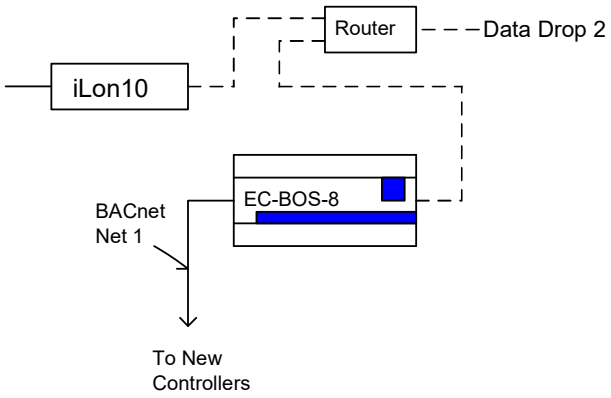
Add new mixed air dampers into existing free cooling setpoint system with outdoor air humidity sent from the central server.

STAND-BY VENTILATION OCCUPANCY SCHEDULE

Add to Existing Programs

Weekly Schedule on Main Graphic

ADD NEW WEB-SERVER



SEQUENCE OF OPERATION

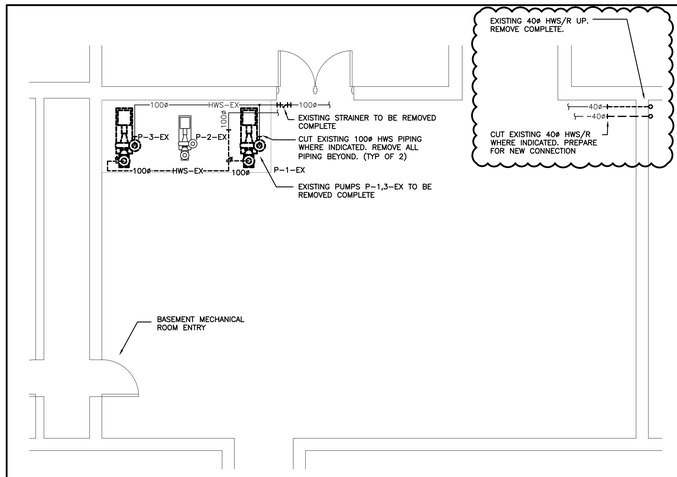
The free cooling signal is 100% when the outdoor air temperature is more than 2°C less than the free cooling setpoint. It drops linearly as the outdoor air temperature increases from 2°C less than the free cooling setpoint to 0% at the setpoint.

SEQUENCE OF OPERATION

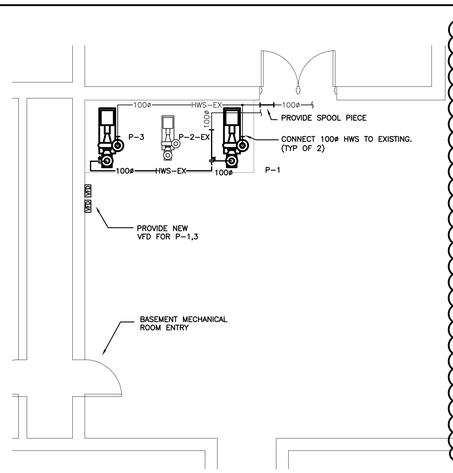
Minimum outdoor air damper position is 0% even during occupied periods unless the Minimum Outdoor Air Schedule for the school is in Occupied mode.
Each unit has an 'opt-out' parameter so that it can run with an individual minimum outdoor air schedule.

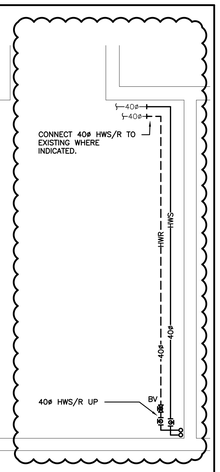
AIR COOLED CONDENSING UNIT SCHEDULE

Item	Type	Service	Tons	Capacity MBH	Compressor			Refrig.	Sct. Suction Temp °F	No. of Cond. Fans	Electrical			Manufacturer	Model	Remarks
					Type	No.	No. Stages				Voltage	MCA	MOCP			
CU-1	OUTDOOR ROOF MOUNTED	CLASSROOM X005	3.0	36.0	SCROLL	1	2	R410A	52	1	208/1/60	19.7	30	DAIKIN	DX16TC0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-1. TWO STAGE COOLING
CU-2	OUTDOOR ROOF MOUNTED	CLASSROOM X006	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-2.
CU-3	OUTDOOR ROOF MOUNTED	CLASSROOM X008	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-3.
CU-4	OUTDOOR ROOF MOUNTED	CLASSROOM X009	3.0	36.0	SCROLL	1	2	R410A	52	1	208/1/60	19.7	30	DAIKIN	DX16TC0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-4. TWO STAGE COOLING
CU-5	OUTDOOR ROOF MOUNTED	CLASSROOM X108	4.0	48.0	SCROLL	1	1	R410A	52	1	208/1/60	26.2	45	DAIKIN	DX13SN0481	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-5
CU-6	OUTDOOR ROOF MOUNTED	CLASSROOM X113	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-6.
CU-7	OUTDOOR ROOF MOUNTED	CLASSROOM X114	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-7.
CU-8	OUTDOOR ROOF MOUNTED	CLASSROOM X116	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-8.
CU-9	OUTDOOR ROOF MOUNTED	CLASSROOM X122	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-9.
CU-10	OUTDOOR ROOF MOUNTED	CLASSROOM X123	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-10.
CU-11	OUTDOOR ROOF MOUNTED	CLASSROOM X100	4.0	48.0	SCROLL	1	1	R410A	52	1	208/1/60	26.2	45	DAIKIN	DX13SN0481	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-11.
CU-12	OUTDOOR ROOF MOUNTED	RESOURCE ROOM X125	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-12.
CU-13	OUTDOOR ROOF MOUNTED	LIBRARY X127	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-13.
CU-14	OUTDOOR ROOF MOUNTED	LIBRARY X127	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-14.
CU-15	OUTDOOR ROOF MOUNTED	CLASSROOM X138	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-15.
CU-16	OUTDOOR ROOF MOUNTED	CLASSROOM X139	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-16.
CU-17	OUTDOOR ROOF MOUNTED	CLASSROOM X140	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-17.
CU-18	OUTDOOR ROOF MOUNTED	CLASSROOM X141	3.0	36.0	SCROLL	1	1	R410A	52	1	208/1/60	18.6	30	DAIKIN	DX13SN0361	PROVIDE CONTINUOUS SUPPORT AS PER DETAIL. CONNECT TO UV-18.

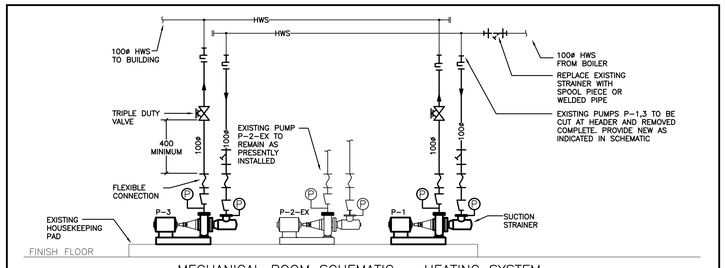


PART BASEMENT MECHANICAL ROOM FLOOR PLAN – DEMOLITION
SCALE: 1/8" = 1'-0" 1:100





PART BASEMENT MECHANICAL ROOM FLOOR PLAN – RENOVATION
SCALE: 1/8" = 1'-0" 1:100



MECHANICAL ROOM SCHEMATIC – HEATING SYSTEM

GRILLE SCHEDULE

Item	Type	Equalizing Grid	Volume Damper	Acceptable Manufacturer	Description
D1	SQUARE CEILING DIFFUSER	YES	NONE	EH PRICE SCDA	MULTICONE, FULLY ADJUSTABLE, 24x24, STEEL CEILING DIFFUSER W/ROUND NECK. SUITABLE FOR LAY-IN T-BAR CEILING, OR DRYWALL CEILING WHEN C/W FRAME. PROVIDE FIRE STOP FLAP & FIRE BLANKET.
LD1	LINEAR CEILING DIFFUSER	NO	NONE	EH PRICE SDS-100, SDAI	3 SLOT (1" WIDE) LINEAR DIFFUSER, EXTRUDED ALUMINUM CONSTRUCTION, 180° AIR PATTERN ADJUSTMENT, SUITABLE FOR DRYWALL BULKHEAD W/MITRED END FLANGES, & INSULATED PLENUM. LENGTH AS INDICATED.
E1	SIDEWALL EXHAUST GRILLE	NO	NONE	EH PRICE 70-FLA	FIXED BLADE AT 45°, 1/2" SPACING, EXTRUDED ALUMINUM BLADES PARALLEL TO LONG DIMENSION, C/W 1 1/4" FLAT BORDER & SCREWED FASTENING FOR SURFACE MOUNTING.
E2	EXHAUST GRILLE (DUCTED)	NO	NONE	EH PRICE 80-FA	1/2x1/2x1/2 ALUMINUM EGGCRATE CORE, C/W 1 1/4" FLAT BORDER & SCREWED FASTENING FOR SURFACE MOUNTING.
R1	CEILING RETURN GRILLE (NON-DUCTED)	NO	NONE	EH PRICE 80-CH	1/2x1/2x1/2 ALUMINUM EGGCRATE CORE, C/W CHANNEL BORDER FOR LAY-IN T-BAR CEILING.

GENERAL DIFFUSER/GRILLE NOTES:
1. ACCEPTABLE MANUFACTURERS: EH PRICE, NAILOR, TITUS, KRUEGER, CARNES, METALAIRE, TUTTLE & BAILEY
2. GRILLE COLOURS ARE SELECTED BY ARCHITECT FROM STANDARD COLOUR CHART, UNLESS OTHERWISE NOTED.
3. PAINT INTERIOR OF DUCTWORK BEHIND GRILLE MATT BLACK (WHERE VISIBLE THRU GRILLE).

HEAT RECOVERY UNIT SCHEDULE

CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.

Item	Type	Capacity		SP in wc	Electrical		Manufacturer & Model	Remarks
		Supply cfm	EXH cfm		MCA	Voltage		
ERV-1	ENERGY RECOVERY VENTILATOR	80	80	0.3	0.5	120/1/60	ALDES EB0-HRX	

PACKAGED HVAC UNIT SCHEDULE

Item	Type	Nominal Capacity				ESP in wc	Motor hp	Electrical Data			Acceptable Manufacturer	Notes
		tons	cfm	Heat MBH	Cool MBH			Voltage	MCA	MOCP		
HVAC-1	PACKAGED ROOFTOP HVAC UNIT	7.5	3000	180	90	1.2	2	208/3/60	47.4	60	CARRIER 48HC08 LENNOX KGB092H TRANE YHC092	MED HEAT, DOWN DISCHARGE & RETURN

GENERAL HVAC UNIT NOTES:
1. ACCEPTABLE MANUFACTURERS: CARRIER (NO ALTERNATES)
2. UNITS HAVE 2 STAGE NATURAL GAS HEAT, 2 STAGE DX COOLING PLUS ECONOMIZER (1 STAGE ON SMALLER UNITS), BELT DRIVE FANS, VFD FAN MOTOR CONTROL
3. PROVIDE STANDARD INSULATED 600mm HIGH ROOF CURB, ADDITIONAL ISOLATION/VIBRATION RAIL/CURB, STAINLESS STEEL GAS HEAT EXCHANGER, CONDENSER COIL GUARD, STAINLESS STEEL FLUE GAS EXTENSION, POWER EXHAUST ON UNITS 7.5 TONS AND LARGER, ECONOMIZER, AND ALL HOODS & INLET SCREENS, 2 SETS MERV 13 DISPOSABLE FILTERS, AND HINGED ACCESS DOORS
4. CONTROLS: SYSTEM CONTROLS BY BAS CONTRACTOR, PROVIDE ELECTRO-MECHANICAL CONTROLS WITH THERMOSTAT INTERFACE.

HYDRONIC HEATING COMPONENT SCHEDULE

Item	Type	Acceptable Manufacturer	Description
H1	CONVECTOR	ENG-A C-3W	16ga STEEL CABINET WITH ALL MOUNTING HARDWARE. ELEMENT TO BE 4x4 ALUMINUM FINS ON 1/2ø COPPER TUBE WITH 50 FINS/FT. PROVIDE STAMPED GRILLES ON FRONT INLET & OUTLET. SURFACE MOUNTED ON WALL WITH TOP OF UNIT AT 42" AFF.
H2	CABINET FORCE FLOW HEATER (SURFACE)	ENG-A CUH SERIES	16ga STEEL CABINET WITH ROUNDED CORNERS, REMOVABLE PANELS, AND ALUMINUM FIN COIL, 3-SPEED DIRECT DRIVE DOUBLE WIDTH CENTRIFUGAL FANS, AND WASHABLE FILTER. STAMPED GRILLES ON FRONT TOP INLET & FRONT BOTTOM OUTLET. SURFACE MOUNTED ON WALL.
H3	RADIATION	ENG-A WF-1A	WALL HUNG, 16ga STEEL CABINET WITH ALL MOUNTING HARDWARE, CORNERS, LAP PIECES, END CAPS ETC. ELEMENT TO BE 4x4 ALUMINUM FINS ON 1 1/4ø COPPER TUBE WITH 50 FINS/FT. PROVIDE STAMPED GRILLE ON SLOPED TOP, OPEN BOTTOM, 24" HIGH CABINET WITH 2 ELEM ROWS.

GENERAL HEATING COMPONENT NOTES:
1. ACCEPTABLE MANUFACTURERS: ENGINEERED AIR, SIGMA, RITTLING, SLANT-FIN, ROSEMEX, DUNHAM-BUSH
2. TEMPERATURE RATINGS: EWT-150°F, LWT-130°F, EAT-68°F
3. SIZES & HEAT CAPACITIES ARE NOTED ON THE FLOOR PLANS
4. RAD & CABINET HEATER CABINET FINISHES ARE TO BE FACTORY PRIME COATED ; FACTORY APPLIED BAKED ON ENAMEL SELECTED FROM STANDARD MANUFACTURER'S COLOURS UNLESS OTHERWISE NOTED.
5. UNIT HEATERS FINISH ARE FACTORY APPLIED BAKED ON ENAMEL SELECTED FROM STANDARD MANUFACTURER'S COLOURS.

VVT CONTROL DAMPER SCHEDULE

Item	Capacity (cfm)			Size	Remarks
	Design	Minimum	Maximum		
VVT-1.0	2100			28x12	BYPASS
VVT-1.1	300	90	510	10x10	
VVT-1.2	1200	360	2040	20x12	
VVT-1.3	200	60	340	10"ø	
VVT-1.4	200	60	340	10"ø	
VVT-1.5	300	90	510	12"ø	
VVT-1.6	400	120	680	12x10	
VVT-1.7	400	120	680	14x8	

FAN SCHEDULE

Item	Type	Capacity cfm	ESP in wc	Fan Speed rpm	Motor		Acceptable Manufacturer	Description
					hp	Voltage		
EF-1	ROOF EXHAUST FAN	2400	0.5	822	1/2	208/3/60	GREENHECK GB180	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-2	ROOF EXHAUST FAN	2400	0.5	822	1/2	208/3/60	GREENHECK GB180	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-3	ROOF EXHAUST FAN	2400	0.5	822	1/2	208/3/60	GREENHECK GB180	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-4	ROOF EXHAUST FAN	2400	0.5	822	1/2	208/3/60	GREENHECK GB180	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-5	CEILING EXHAUST FAN	100	0.20	640	Fhp	120/1/60	BROAN L100MG	ACOUSTICALLY INSULATED STEEL HOUSING, CENTIFUGAL BLOWER WHEEL, 90° DISCHARGE OUTLET W/BACKDRAFT DAMPER, C/W WHITE PAINTED ENAMEL STEEL GRILLE, VIBRATION ISOLATORS. 1.1 SONES
EF-6	CEILING EXHAUST FAN	100	0.20	640	Fhp	120/1/60	BROAN L100MG	ACOUSTICALLY INSULATED STEEL HOUSING, CENTIFUGAL BLOWER WHEEL, 90° DISCHARGE OUTLET W/BACKDRAFT DAMPER, C/W WHITE PAINTED ENAMEL STEEL GRILLE, VIBRATION ISOLATORS. 1.1 SONES
EF-7	CEILING EXHAUST FAN	100	0.20	640	Fhp	120/1/60	BROAN L100MG	ACOUSTICALLY INSULATED STEEL HOUSING, CENTIFUGAL BLOWER WHEEL, 90° DISCHARGE OUTLET W/BACKDRAFT DAMPER, C/W WHITE PAINTED ENAMEL STEEL GRILLE, VIBRATION ISOLATORS. 1.1 SONES
EF-8	ROOF EXHAUST FAN	600	0.5	1200	1/4	208/3/60	GREENHECK GB100	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-9	ROOF EXHAUST FAN	2400	0.5	822	1/2	208/3/60	GREENHECK GB180	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-10	ROOF EXHAUST FAN	2400	0.5	822	1/2	208/3/60	GREENHECK GB180	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-11	ROOF EXHAUST FAN	3750	0.5	650	1.0	208/3/60	GREENHECK GB220	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-12	ROOF EXHAUST FAN	1500	0.5	1090	1/2	208/3/60	GREENHECK GB140	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-13	ROOF EXHAUST FAN	800	0.5	1320	1/4	208/3/60	GREENHECK GB100	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-14	ROOF EXHAUST FAN	800	0.5	1320	1/4	208/3/60	GREENHECK GB100	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
EF-15	ROOF EXHAUST FAN (W/Ra)	500	0.375	1100	FHP	208/3/60	GREENHECK GB100	SPUN ALUMINUM MOTOR COVER & FAN SHROUD, DOWN DISCHARGE, W/BELT DRIVE CENTRIFUGAL BACKWARD INCLINED FAN, GALV BIRD SCREEN, 600 HIGH INSULATED ROOF CURB, BACKDRAFT DAMPER & DVR BY BAS CONTRACTOR.
RH-1	RANGEHOOD (DUCTED)	210	0.20	3 SPD	Fhp	120/1/60	BROAN SAHALE BKDF1	CONTOURED STEEL HOUSING, FULLY ENCLOSED BOTTOM, TOP DISCHARGE, CENTIFUGAL BLOWER WHEELS, WASHABLE ALUMINUM FILTERS, 3 SPEED BLOWER CONTROL, PROVIDE 2 LEVEL LED LIGHTING. COLOUR SELECTED BY CONSULTANT.
RH-2	RANGEHOOD (DUCTED)	210	0.20	3 SPD	Fhp	120/1/60	BROAN SAHALE BKDF1	CONTOURED STEEL HOUSING, FULLY ENCLOSED BOTTOM, TOP DISCHARGE, CENTIFUGAL BLOWER WHEELS, WASHABLE ALUMINUM FILTERS, 3 SPEED BLOWER CONTROL, PROVIDE 2 LEVEL LED LIGHTING. COLOUR SELECTED BY CONSULTANT.

GENERAL FAN NOTES:
1. ACCEPTABLE MANUFACTURERS: GREENHECK, PENN-BARRY, COOK, CARNES, ACME, TWIN CITY, JENCO, BUFFALO. (CEILING FANS: BROAN, GREENHECK, ZONEX)
2. PROVIDE 24" TALL PREFABRICATED, INSULATED ROOF CURB FOR ALL ROOF MOUNTED FANS.

SPLIT AIR CONDITIONING UNIT SCHEDULE

CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.

Item	Type	Capacity		Cooling Capacity MBH	Heating Capacity MBH	Electrical			Manufacturer (or Approved Alternate)	Remarks
		tons	cfm			Voltage	MCA	Fuse		
FC-1	INDOOR FAN COIL	3/4	300	9.0	–	208/1/60	1	15	DAIKIN RX09	CONNECT TO CU-1
CU-19	CONDENSING UNIT	3/4		20.0	22.0	208/1/60	9	15	DAIKIN FDMQ09	PROVIDE POWER FOR FC-1 FROM CU-1. PROVIDE BAS CONTROL MODULE. C/W FACTORY INSTALLED ULTRA LOW AMBIENT OPTION

PUMP SCHEDULE

CAPACITY INDICATED ON SCHEDULE REFER TO SPECIFICATION FOR CONSTRUCTION STANDARDS, ACCESSORIES AND ADDITIONAL INFORMATION.

Item	Type	Capacity USgpm	Head ft	Size hp	Electrical Voltage	Speed rpm	Manufacturer & Model	Remarks
P-1	BASE MOUNTED SYSTEM PUMP	150	55	5.0	208/3/60	1750	ARMSTRONG 4030 3x2x8	C/W WALL MOUNTED VFD.
P-3	BASE MOUNTED SYSTEM PUMP	150	55	5.0	208/3/60	1750	ARMSTRONG 4030 3x2x8	C/W WALL MOUNTED VFD.

NO.	DESCRIPTION	DATE
2	ISSUED FOR PERMIT & TENDER	11/03/21
1	ISSUED FOR OWNER'S REVIEW	01/03/21

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RENOVATION TO PRUETER PUBLIC SCHOOL

40 Prueter Ave
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SCHEDULES (2 OF 2)

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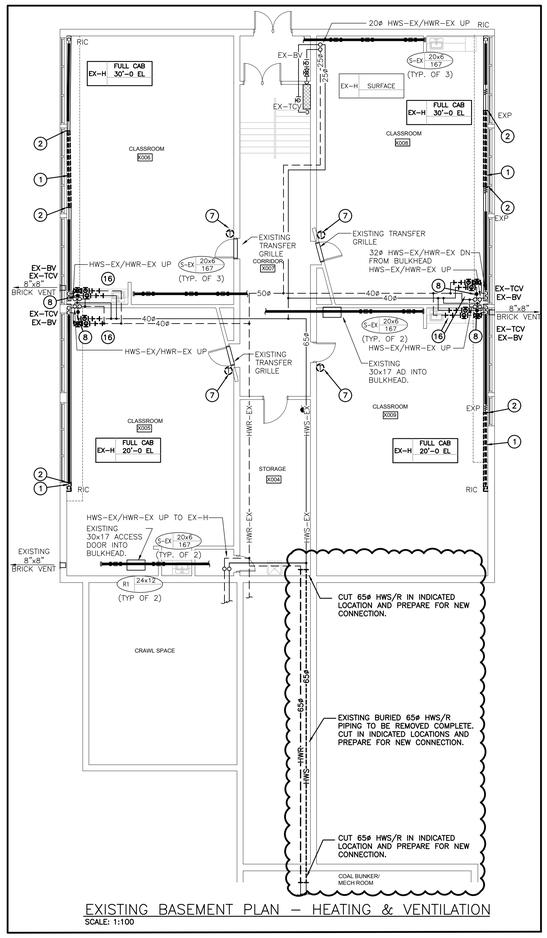
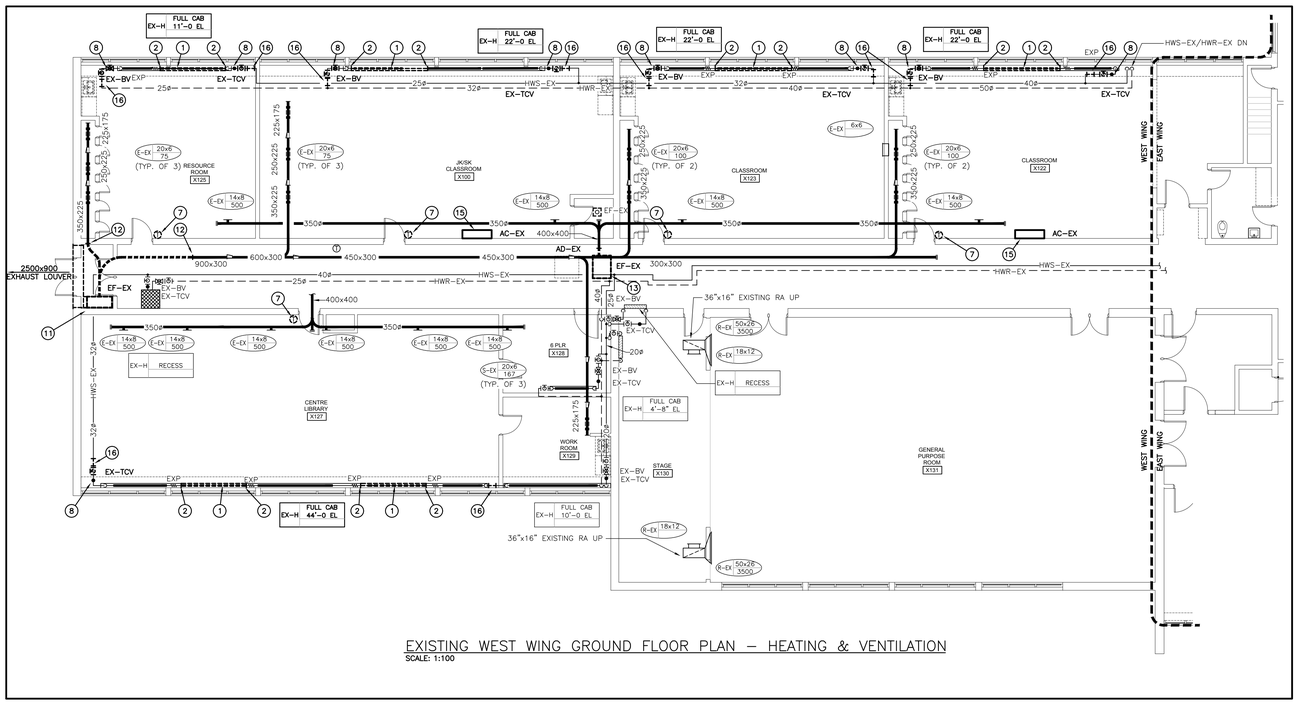
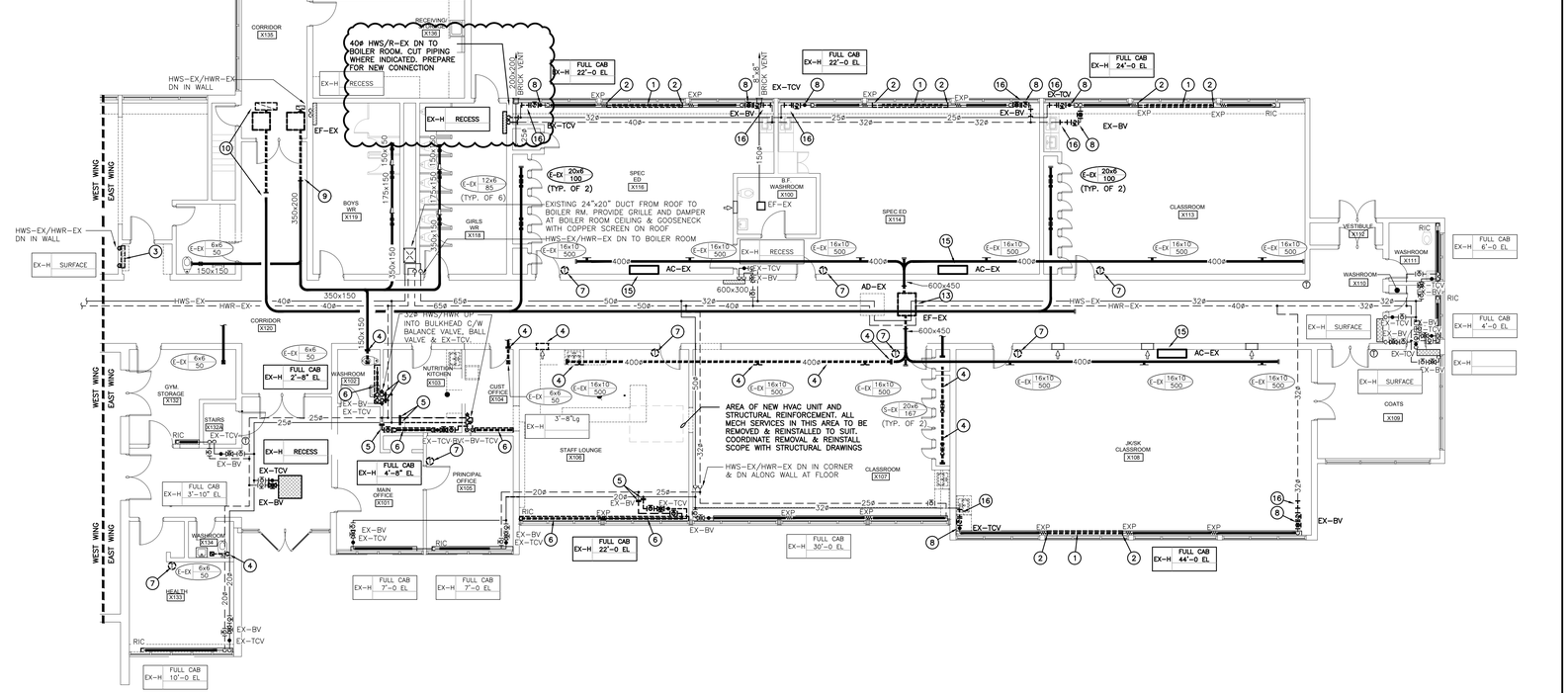
SCALE	As indicated
DATE	210108
DRAWN	AC
CHECKED	AD
PRINT DATE	1/8/2021
REVIT FILE	
PROJECT	18116
DRAWING	M02



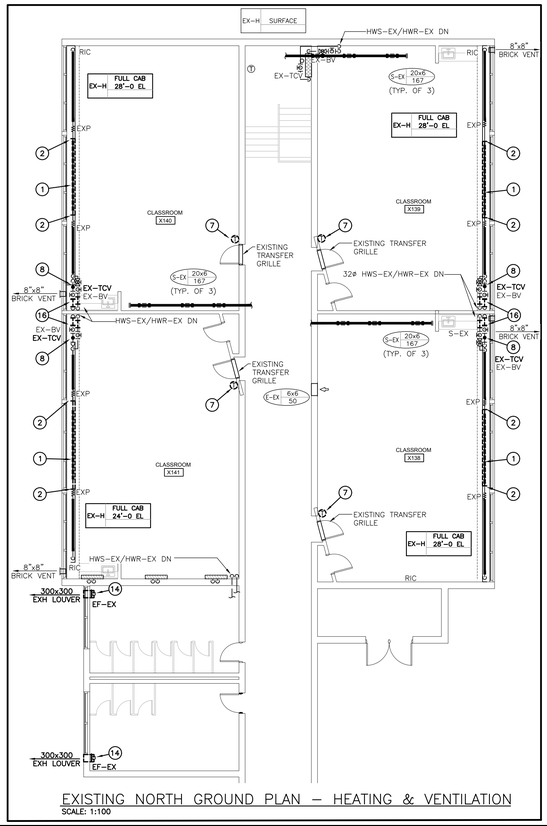
EXISTING BASEMENT PLAN – HEATING & VENTILATION
SCALE: 1:100



EXISTING WEST WING GROUND FLOOR PLAN – HEATING & VENTILATION
SCALE: 1:100



EXISTING NORTH & EAST WING FLOOR PLAN – HEATING & VENTILATION
SCALE: 1:100



EXISTING NORTH GROUND PLAN – HEATING & VENTILATION
SCALE: 1:100

GENERAL DEMOLITION NOTES

- EXISTING MECHANICAL ITEMS NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.
- EXISTING MECHANICAL ITEMS SHOWN BUT NOT NOTED AS BEING REMOVED OR RENOVATED SHALL REMAIN AS PRESENTLY INSTALLED AND OPERATING.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ON SITE ALL LOCATIONS AND SIZES OF ALL SERVICES & EQUIPMENT PRIOR TO THE COMMENCEMENT OF WORK.
- ALL OPENINGS THAT RESULT FROM THE REMOVAL OF EQUIPMENT OR SERVICES SHALL BE NEATLY PATCHED WITH SUITABLE NEW MATERIALS TO SUIT EXISTING CONSTRUCTION.
- PLUMBING VENTS ARE NOT INDICATED OR IDENTIFIED. REMOVE ALL REDUNDANT VENTS WHILE MAINTAINING INTEGRITY OF EXISTING SYSTEMS TO REMAIN.
- REMOVAL OF EXISTING PIPING, OR DUCT SYSTEMS INCLUDES REMOVAL OF ALL HANGERS, INSULATION, FITTINGS, ETC.
- MAINTAIN INTEGRITY OF EXISTING SYSTEMS THAT ARE TO REMAIN OR BE MODIFIED.
- INSTALL NEW SYSTEM OR SERVICES WHERE REQUIRED TO MAINTAIN SYSTEM OPERATION PRIOR TO DEMOLITION OF EXISTING SERVICES.
- THIS CONTRACTOR IS TO REMOVE & REPLACE CEILINGS AS REQUIRED FOR REMOVAL/REPLACEMENT OF SERVICES.

SPECIFIC DEMOLITION NOTES

1. EXISTING SECTION OF RADIATION AND CABINET TO BE REMOVED COMPLETE.
2. EXISTING HWS/R PIPING, AND CABINET TO BE CUT AND REMOVED BEYOND COMPLETE.
3. EXISTING CONVECTOR, ASSOCIATED VALVES & PIPING TO BE REMOVED COMPLETE, PREPARE FOR NEW CONNECTION.
4. EXISTING DIFFUSER/GRILLES AND ASSOCIATED DUCTWORK TO BE REMOVED AS INDICATED.
5. EXISTING HWS/R PIPING TO BE CUT, CAPPED & REMOVED BEYOND COMPLETE.
6. EXISTING RAD TO BE REMOVED COMPLETE.
7. EXISTING THERMOSTAT TO BE REMOVED COMPLETE. EXISTING PNEUMATIC TUBING TO BE REMOVED COMPLETE. PROVIDE STAINLESS STEEL COVER PLATE WHERE THERMOSTAT REMOVED BUT NOT REPLACED.
8. EXISTING PNEUMATIC CONTROL VALVE & ASSOCIATED ISOLATION & BALANCING VALVES TO BE REMOVED & REPLACED WITH DDC VALVE. REFER TO RENOVATION DRAWINGS. EXISTING PNEUMATIC TUBING TO BE REMOVED COMPLETE.
9. EXISTING EXHAUST FAN TO BE REMOVED COMPLETE. CUT DUCTWORK WHERE INDICATED AND PREPARE FOR NEW CONNECTION.
10. EXISTING EXHAUST FAN TO BE REMOVED COMPLETE. CUT DUCTWORK WHERE INDICATED AND CAP.
11. EXISTING BLOWER FAN MOUNTED IN FURRED SPACE BETWEEN CEILING & ROOF TO BE REMOVED COMPLETE.
12. EXISTING DUCT TO BE CUT WHERE INDICATED. REMOVE BEYOND. PREPARE FOR NEW CONNECTION.
13. EXISTING EXHAUST FAN TO BE REMOVED COMPLETE. CUT DUCTWORK WHERE INDICATED AND PREPARE FOR NEW CONNECTION.
14. EXHAUST FAN TO BE DISCONNECTED AND REMOVED COMPLETE.
15. EXISTING A/C UNIT TO BE REMOVED COMPLETE. TURN OVER UNIT TO OWNER.
16. EXISTING HWS/R PIPING TO BE CUT IN INDICATED LOCATION. PREPARE FOR NEW CONNECTION. REFER TO RENOVATION DRAWINGS.

NO.	DESCRIPTION	DATE
2	ISSUED FOR PERMIT & TENDER	11/03/21
1	ISSUED FOR OWNER'S REVIEW	01/03/21

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RENOVATION TO PRUETER PUBLIC SCHOOL

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DEMOLITION PLANS - HEATING & VENTILATION

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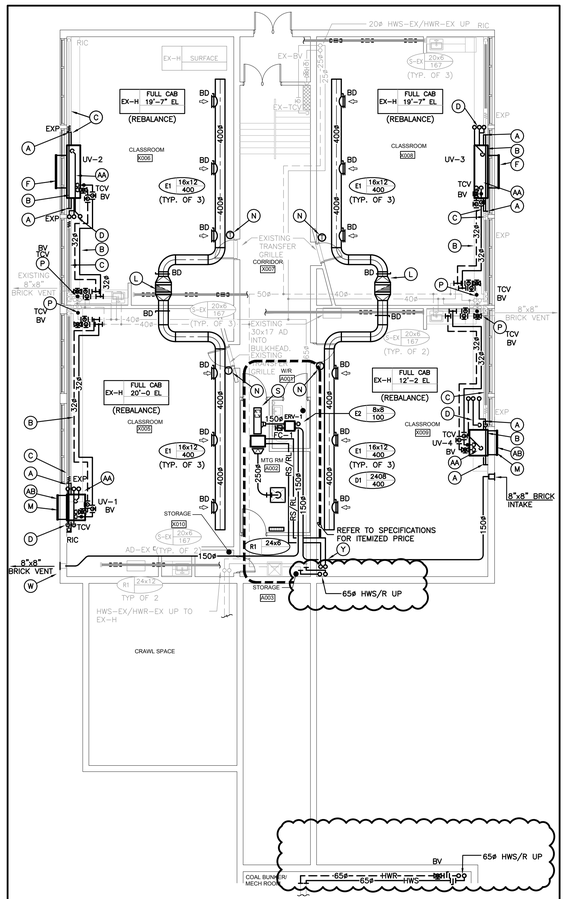
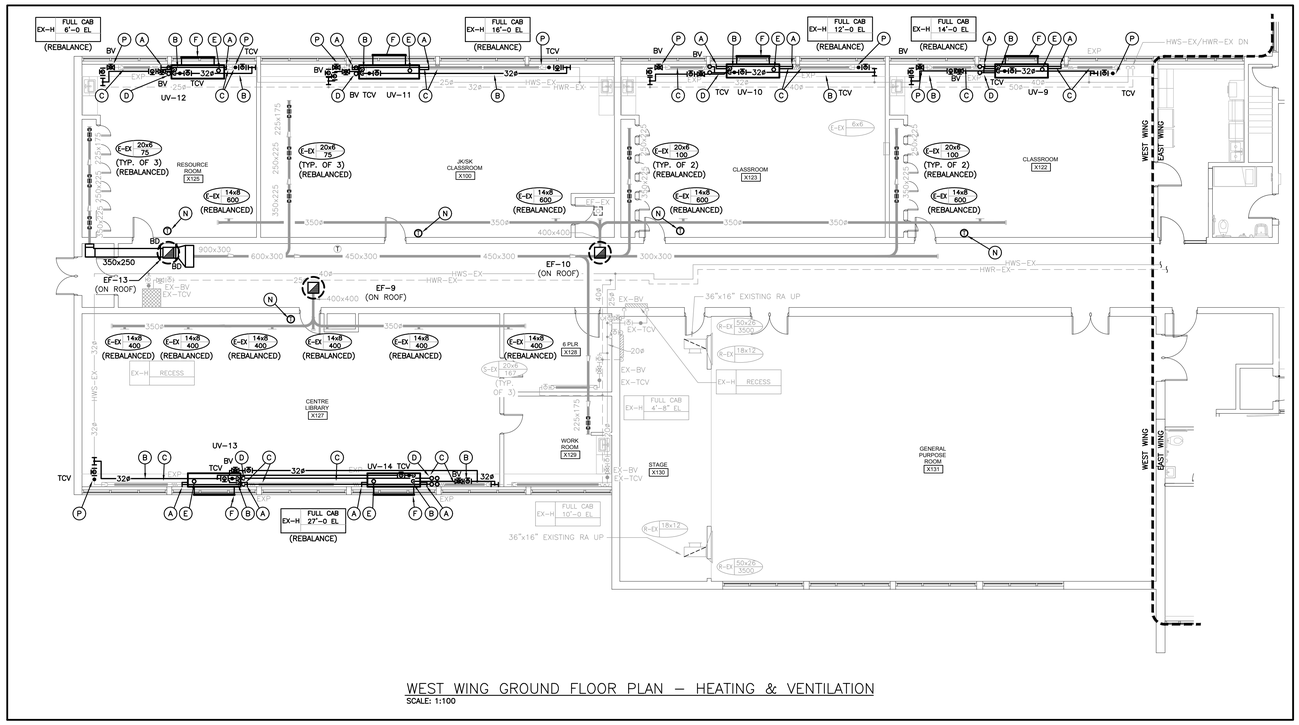
Project Number: 20285

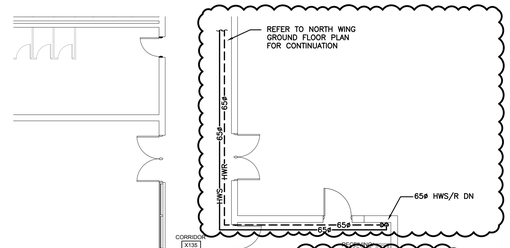
SCALE	As indicated
DATE	210108
PROJECT	18116
DRAWN	AC
CHECKED	AD
DRAWING	M04
PRINT DATE	1/8/2021
REVIT FILE	



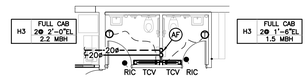
BASEMENT PLAN – HEATING & VENTILATION
SCALE: 1:100



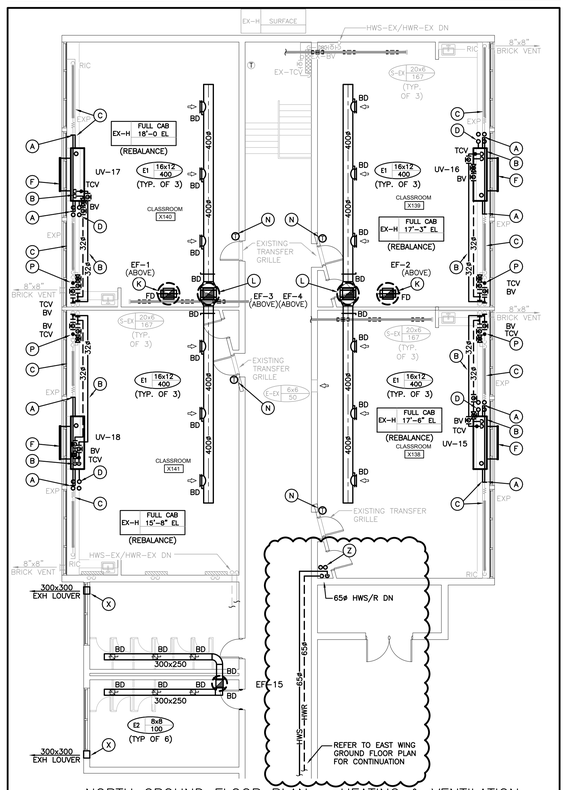
WEST WING GROUND FLOOR PLAN – HEATING & VENTILATION
SCALE: 1:100



EAST WING GROUND FLOOR PLAN – HEATING & VENTILATION
SCALE: 1:100



PART EAST WING GROUND FLOOR PLAN – HEATING
SCALE: 1:100



NORTH GROUND FLOOR PLAN – HEATING & VENTILATION
SCALE: 1:100

GENERAL RENOVATION NOTES

- REFER TO ALL DRAWINGS FOR THERMOSTAT/SENSORS NOT INDICATED ON THIS DRAWING.
- CLEAN AND VACUUM EXISTING DUCTWORK ADJACENT TO NEW CONNECTIONS ± 10'–0" IN EACH DIRECTION.

SPECIFIC RENOVATION NOTES

A. CONNECT NEW HWS/R PIPING TO EXISTING HWS/R PIPING. ROUTE THRU BACK OF UNIT VENTILATOR CABINET. REFER TO DETAIL.

B. ROUTE 32ø HWS/R PIPING THRU DEDICATED PIPING CHASE AT BACK OF NEW UV. REFER TO DETAIL.

C. EXISTING RADIATION INSTALLED WITHIN MILLWORK TO REMAIN OPERATIONAL. EXISTING GRILLES AT TOP AND BASE OF MILLWORK TO BE RE–INSTALLED IN NEW MILLWORK AND COUNTERTOPS.

D. RS/RL PIPING UP TO ROOF, ROUTED ALONG COLUMN IN CHASE. OFFSET RS/RL PIPING THRU PLENUM AND MILLWORK TO UNIT VENTILATOR DX COIL CONNECTION.

E. 25ø CONDENSATE DRAIN PIPING THRU WALL TO GRADE.

F. 1350x350 LOUVER THROUGH WALL C/W HEAVY DUTY LATTICE GRILLE.

G. N/A.

H. N/A.

J. NEW 1150x800 LOUVER THROUGH WALL C/W HEAVY DUTY LATTICE GRILLE.

K. 300x650 EA UP&DN.

L. 300x650 EA UP.

M. NEW 1000x800 LOUVER THROUGH WALL C/W HEAVY DUTY LATTICE GRILLE.

N. PROVIDE NEW THERMOSTAT FOR ADDED UV & EXISTING RADIATION. RUN THE WIRING IN WIRE MOLD FROM THE THERMOSTAT TO THE CEILING AND THEN FROM CEILING TO NEW UV AND EXISTING RADIATION.

P. NEW DDC CONTROL VALVE, ISOLATION VALVES & BALANCING VALVES.

Q. 200ø EA UP. TERMINATE IN GOOSENECK ON ROOF.

R. EXTEND 350x200 DUCTWORK IN LOCATION TO SUIT REMOVED EXHAUST FAN.

S. 300x200 RA OPENING IN TOP OF DUCT.

T. ALL EXISTING WALLFIN MILLWORK GRILLES (TOP AND TOE) TO BE REMOVED AND REPLACED IN SAME LOCATION.

U. CAP EXISTING DUCT OPENING.

V. EXTEND 400ø EA DUCT INTO CUBBY ROOM AS INDICATED.

W. PROVIDE NEW BRICK VENT LOUVER.

X. PROVIDE INSULATED PANEL BEHIND LOUVER. REFER TO DETAIL.

Y. RS/RL UP.

Z. RS/RL UP&DN.

AA. 25ø CD ROUTED THRU MILLWORK. TIE IN TO UNIT VENTILATOR CD AND ROUTE TO EXTERIOR.

AB. PROVIDE STEEL STAND FOR UNIT VENTILATOR TO SUIT EXTERIOR GRADE CHANGE. LOUVER TO BE LOCATED AT HIGH LEVEL IN CLASSROOM.

AC. NEW 300x300 TRANSFER DUCT.

AD. NEW 450x350 TRANSFER DUCT.

AE. NEW 750x350 TRANSFER DUCT.

AF. 20ø HWS/R DN IN WALL SERVING H3 COMPLETE WITH ISOLATION AND BALANCING VALVES FOR EACH HEATER.

AG. CONNECT NEW 25ø HWS/R TO EXISTING PIPING.

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2	ISSUED FOR PERMIT & TENDER	11/03/21
1	ISSUED FOR OWNER'S REVIEW	01/03/21

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RENOVATION TO PRUETER PUBLIC SCHOOL

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RENOVATION PLANS - HEATING & VENTILATION

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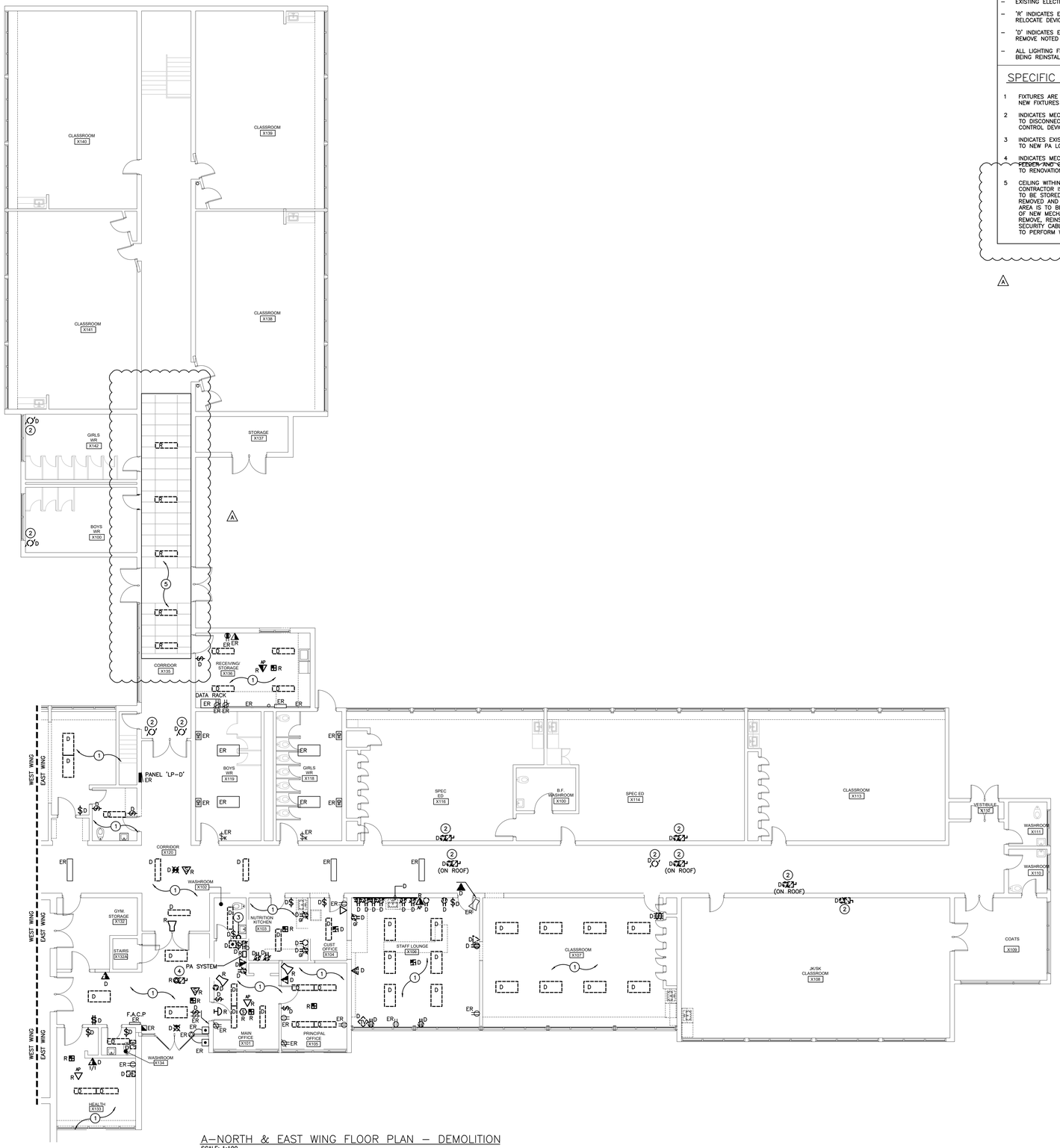
Project Number: 20285

SCALE	As indicated
DATE	210108
DRAWN	AC
CHECKED	AD
PROJECT	18116
DRAWING	M06
PRINT DATE	1/8/2021
REVIT FILE	



A–NORTH & EAST WING FLOOR PLAN – DEMOLITION

SCALE: 1:100

GENERAL DEMOLITION NOTES

- 'ER' DENOTES EXISTING ITEM TO REMAIN.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.
- 'R' INDICATES EXISTING ITEM TO BE RELOCATED. REFER TO RENOVATION DRAWINGS AND RELOCATE DEVICE AND WIRING TO SUIT. UNLESS OTHERWISE NOTED.
- 'D' INDICATES EXISTING ITEM TO BE DELETED. UNLESS OTHERWISE NOTED DISCONNECT AND REMOVE NOTED DEVICE AND WIRING BACK TO SOURCE.
- ALL LIGHTING FIXTURES BEING RELOCATED SHALL BE CLEANED AND CHECKED PRIOR TO BEING REINSTALLED.

SPECIFIC DEMOLITION NOTES

1 FIXTURES ARE TO BE DISCONNECTED AND REMOVED. MAINTAIN WIRING FOR CONNECTION TO NEW FIXTURES AND CONTROLS AS NOTED ON THE RENOVATION DRAWINGS

2 INDICATES MECHANICAL UNIT BEING REMOVED BY MECHANICAL TRADE. THIS CONTRACTOR IS TO DISCONNECT AND REMOVE FEEDER BACK TO SOURCE. DISCONNECT AND REMOVE ALL CONTROL DEVICES. LABEL SOURCE BREAKER AS SPARE.

3 INDICATES EXISTING PA CONDUIT TO BE REMOVED UP INTO CEILING SPACE AND EXTENDED TO NEW PA LOCATION, REFER TO RENOVATION DRAWINGS FOR FURTHER INFORMATION.

4 INDICATES MECHANICAL UNIT TO BE RELOCATED, DISCONNECT AND RE–CONNECT EXISTING FEEDER AND CONTROLS. EXTEND EXISTING FEEDER AND CONTROLS AS REQUIRED, REFER TO RENOVATION PLANS FOR FURTHER INFORMATION.

5 CEILING WITHIN INDICATED AREA TO BE REMOVED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR IS TO REMOVE AND REPLACE ALL CEILING MOUNTED DEVICES. DEVICES ARE TO BE STORED IN A DRY SAFE LOCATION DURING CONSTRUCTION. LIGHT FIXTURES TO BE REMOVED AND RE–INSTALLED IN NEW CEILING. ALL EXISTING ELECTRICAL CONDUIT IN THIS AREA IS TO BE REMOVED, RELOCATED, AND REINSTALLED AS REQUIRED FOR INSTALLATION OF NEW MECHANICAL UNITS. COORDINATE WITH MECHANICAL CONTRACTOR ON SITE. REMOVE, REINSTALL, REROUTE EXISTING BRANCH CIRCUITS, BRANCH FEEDERS, PA CABLING, SECURITY CABLING, FIRE ALARM, ETC. TO SUIT. INCLUDE FOR TWO (2) DAYS TRADE TIME TO PERFORM WORK ON THESE SYSTEMS.

NO.	DESCRIPTION	DATE
A	ISSUED FOR ADDENDUM	31/03/21
2	ISSUED FOR PERMIT & TENDER	11/03/21
1	ISSUED FOR OWNER'S REVIEW	01/03/21

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RENOVATION TO PRUETER PUBLIC SCHOOL

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GROUND FLOOR DEMOLITION PLANS

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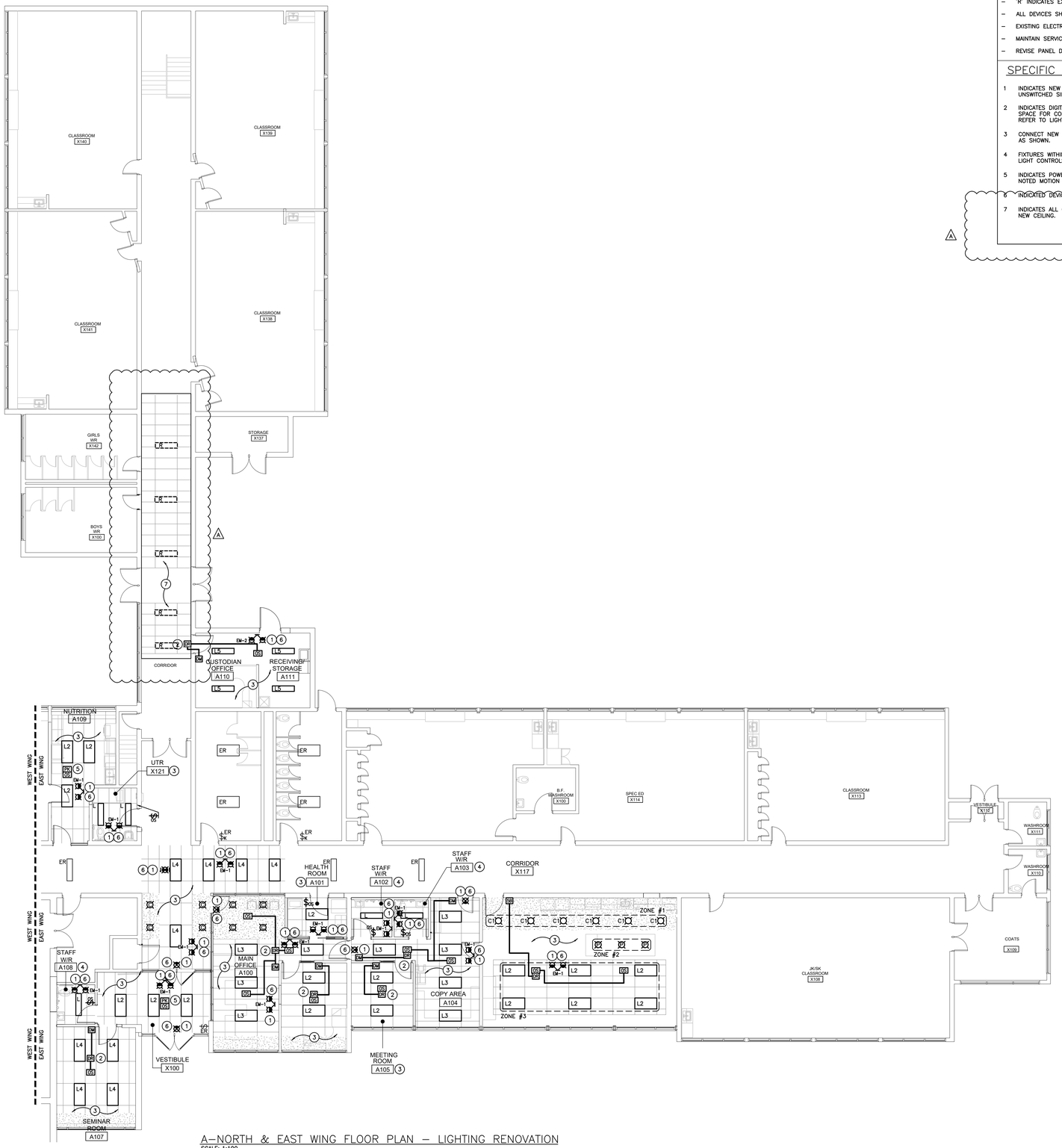
Project Number: 20285

SCALE: As indicated	PROJECT: 18116
DATE: 210108	
DRAWN: KM	DRAWING: E2.1
CHECKED: DM	
PRINT DATE	1/8/2021
REVIT FILE	



A–NORTH & EAST WING FLOOR PLAN – LIGHTING RENOVATION

SCALE: 1:100

GENERAL RENOVATION NOTES

- 'ER' INDICATES EXISTING ITEM TO REMAIN.
- 'R' INDICATES EXISTING ITEM IN RELOCATED POSITION.
- ALL DEVICES SHOWN ARE NEW UNLESS OTHERWISE NOTED.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.
- MAINTAIN SERVICE TO ALL EXISTING DEVICES TO REMAIN.
- REVISE PANEL DIRECTORIES TO SUIT CHANGES (TYPED).

SPECIFIC RENOVATION NOTES

1 INDICATES NEW EMERGENCY BATTERY UNIT OR EXIT SIGN TO BE CONNECTED TO UNSWITCHED SIDE OF LOCAL LIGHTING CIRCUIT.

2 INDICATES DIGITAL ROOM CONTROLLER RELAY PACK INSTALLED WITHIN ACCESSIBLE CEILING SPACE FOR CONTROL OF NOTED MOTION SENSOR(S)/LOCAL LIGHTING CONTROL AS SHOWN. REFER TO LIGHTING CONTROL DETAILS.

3 CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT AND NEW LIGHT CONTROLS AS SHOWN.

4 FIXTURES WITHIN THIS ROOM ARE TO BE CONNECTED TO LOCAL LIGHTING CIRCUIT AND NEW LIGHT CONTROLS AS SHOWN.

5 INDICATES POWER PACK INSTALLED WITHIN ACCESSIBLE CEILING SPACE FOR CONTROL OF NOTED MOTION SENSOR(S). REFER TO LIGHTING CONTROL DETAILS.

6 INDICATED DEVICE TO BE CEILING MOUNTED, PROVIDE ADEQUATE SUPPORT.

7 INDICATES ALL CEILING MOUNT DEVICES AND LIGHT FIXTURES ARE TO BE RE-INSTALLED IN NEW CEILING.

NO.	DESCRIPTION	DATE
A	ISSUED FOR ADDENDUM	31/03/21
2	ISSUED FOR PERMIT & TENDER	11/03/21
1	ISSUED FOR OWNER'S REVIEW	01/03/21

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RENOVATION TO PRUETER PUBLIC SCHOOL

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GROUND FLOOR LIGHTING RENOVATION PLANS

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Project Number: 20185

SCALE	As indicated
DATE	210108
DRAWN	KM
CHECKED	DM
PRINT DATE	1/8/2021
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PROJECT	18116
DRAWING	E3.1