



***Spectra
Engineering
Ltd.***

250 SHEPPARD AVE. EAST, SUITE #306, TORONTO, ONTARIO, M2N 6M9
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BOWMANVILLE HIGH SCHOOL - HVAC UPGRADE
49 LIBERTY STREET, BOWMANVILLE, ON L1C 2L8
DRAWINGS ISSUED FOR PERMIT AND TENDER
PROJECT NUMBER: 1021027
MAY 2021

LIST OF DRAWINGS

MECHANICAL

M-101 MECHANICAL SERVICES - MECHANICAL SPECIFICATIONS
M-102 MECHANICAL SERVICES - MECHANICAL SPECIFICATIONS
M-103 MECHANICAL SERVICES - MECHHANICAL LEGENDS
M-300 MECHANICAL SERVICES - HVAC DEMOLITION WORK , SECOND FLOOR - AREA 'A'
M-301 MECHANICAL SERVICES - HVAC DEMOLITION WORK , SECOND FLOOR - AREA 'B'
M-302 MECHANICAL SERVICES - HVAC DEMOLITION WORK , SECOND FLOOR - AREA 'C'
M-303 MECHANICAL SERVICES - HVAC NEW WORK PLAN , SECOND FLOOR - AREA 'A'
M-304 MECHANICAL SERVICES - HVAC NEW WORK PLAN , SECOND FLOOR - AREA 'B'
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M-306 MECHANICAL SERVICES - DEMOLITION WORK ,FIRST FLOOR - BOILER ROOM
M-307 MECHANICAL SERVICES - NEW WORK ,FIRST FLOOR - BOILER ROOM
M-500 MECHANICAL SERVICES - GRILL AND REGISTER AND PUMP SCHEDULE
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M-701 MECHANICAL SERVICES - STANDARD DETAIL
M-702 MECHANICAL SERVICES - STANDARD DETAIL

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S-01 STRUCTURAL SERVICES - GENERAL NOTES AND SPECIFICATIONS
S-02 STRUCTURAL SERVICES - KEY PLAN - SECOND FLOOR DEMOLITION WORKS

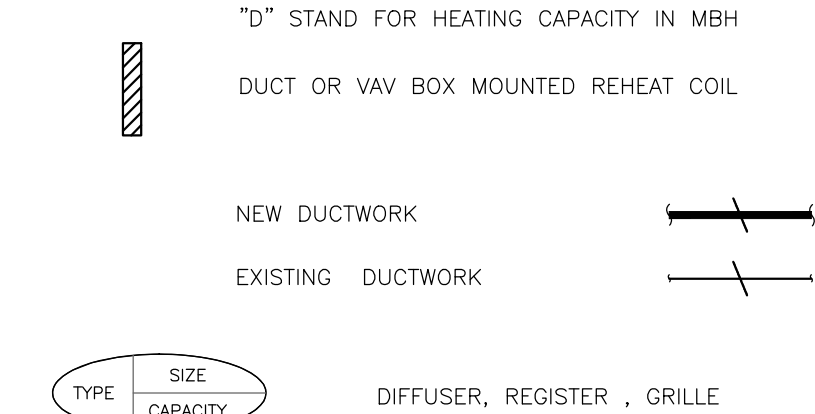
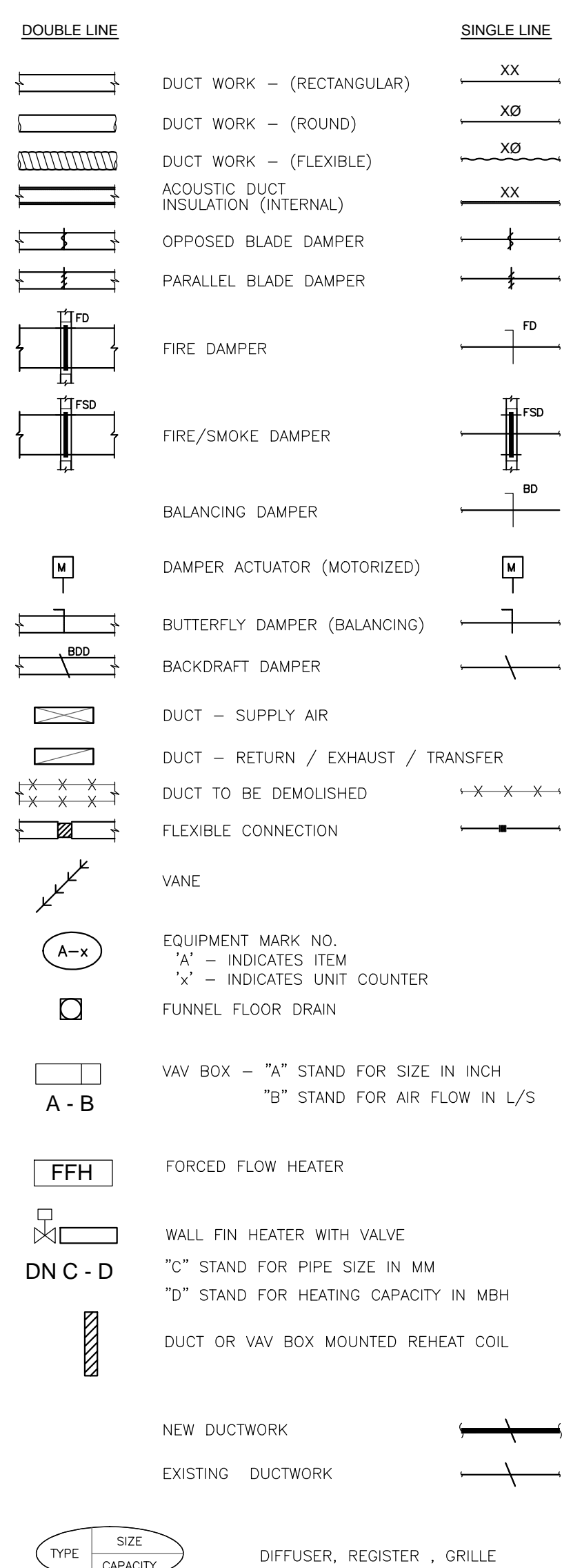
ELECTRICAL

E-001 ELECTRICAL SERVICES - SPECIFICATIONS
E-002 ELECTRICAL SERVICES - GENERAL NOTES & LEGENDS
E-100 ELECTRICAL SERVICES - SINGLE LINE DIAGRAM
E-201 ELECTRICAL SERVICES - BOILER ROOM - FIRST FLOOR DEMOLITION PLAN
E-212 ELECTRICAL SERVICES - SECOND FLOOR CEILING DEMOLITION PLAN AREA "A"
E-213 ELECTRICAL SERVICES - SECOND FLOOR CEILING DEMOLITION PLAN AREA "B"
E-214 ELECTRICAL SERVICES - SECOND FLOOR CEILING DEMOLITION PLAN AREA "C"
E-301 ELECTRICAL SERVICES - BOILER ROOM - FIRST FLOOR NEW WORK PLAN

MECHANICAL LEGEND

- C. ALL SHUTDOWNS OF ANY PORTION OF EXISTING BASE BUILDING SYSTEMS SHALL BE PERFORMED BY THE LANDLORD'S BUILDING OPERATIONS STAFF AND/OR COORDINATED WITH THE LANDLORD FOR TIME AND DURATION OF INTERRUPTIONS AND ADHERENCE TO THE LANDLORD'S INSTRUCTIONS IN THIS REGARD.
- B. **ALL THE WORK MUST COMPLY WITH KPRD8'S GUIDELINES WHERE APPLICABLE. COMPLY WITH ALL APPLICABLE CODES.**
- C. **BE SURE TO READ THE SPECIFICATIONS AND ALL DRAWINGS BEFORE ORDERING MATERIALS OR COMMENCING CONSTRUCTION WORK. IF ANY OF THE ABOVE INSTRUCTIONS ARE NOT CARRIED OUT AND IT RESULTS IN ADDITIONAL COSTS DURING OR AFTER CONSTRUCTION, NO ADDITIONAL CHARGES WILL BE PAID BY THE KPRD88 OR ITS AGENTS.**
- D. **WORK SHALL INCLUDE TESTING AND BALANCING OF ALL AIR AND HYDRONIC SYSTEMS AS APPLICABLE. MAKE ALL ADJUSTMENTS TO PROVIDE DESIGN REQUIREMENTS.**
- E. **ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH KPRD88 STANDARD DETAILS IF APPLICABLE. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.**
- F. **SECURE AND PAY FOR ALL REQUIRED PERMITS.**
- G. **INCLUDE COST OF PREMIUM TIME IN TENDER PRICE FOR WORK DURING NIGHTS, WEEKENDS, OR OTHER TIMES OUTSIDE NORMAL WORKING HOURS NECESSARY TO MAINTAIN ALL MECHANICAL SERVICES IN OPERATION.**
- H. **WORK IN OCCUPIED AREAS, DRILLING OF FLOORS AND WALLS, AND OTHER WORK OPERATIONS THAT MAY CREATE NOISE SHALL BE PERFORMED IN COORDINATION WITH BUILDING MANAGEMENT.**
- I. **TIES-INS TO EXISTING SERVICES MUST BE ARRANGED AS ITEM ABOVE.**
- J. **ALLOW FOR REVISIONS / CHANGES TO EXISTING INSTALLATIONS IN ORDER TO INSTALL NEW SERVICES AND AT NO EXTRA COST TO THE OWNER.**
- K. **ALL EXISTING STRUCTURES AND SERVICES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL STANDARD AND AT NO ADDITIONAL COST TO OWNER.**
- L. **CO-OPERATE WITH ALL TRADES INSTALLING EQUIPMENT WHICH MAY AFFECT THE MECHANICAL WORK AND ARRANGE THE WORK IN PROPER RELATION WITH EQUIPMENT INSTALLED UNDER ALL DIVISIONS OF THE CONTRACT FOR THE SATISFACTORY COMPLETION OF THE JOB.**
- M. **PROVIDE WHERE SHOWN AND/OR REQUIRED BY SITE CONDITIONS, ALL ACCESS DOORS COMPATIBLE WITH CEILING/WALL TYPES AND FINISHES. MARK IN AN APPROVED MANNER, T-BAR CEILING TIES WHICH ARE USED FOR ACCESS. PROVIDE MILCORE OR APPROVED EQUAL ACCESS DOORS. IN ADDITION, PROVIDE ACCESS DOORS TO ALL EXISTING BUILDING SYSTEMS CLEANOUTS ON VERTICAL STACKS, BACKWATER VALVES AND CEILING SUMPENDING EQUIPMENT. PROVIDE MINIMUM SIZE OF CEILING ACCESS OF A SQUARE FEET.**
- N. **THE CONTRACTOR SHALL ARRANGE THE SCHEDULE AND PROCEED WITH THE WORK DESCRIBED WITH THE MINIMUM DISTURBANCE AND INTERRUPTION OF EXISTING FACILITIES AND SERVICES.**
- O. **ASSUME FULL RESPONSIBILITY FOR LAYOUT OF THE WORK AND FOR ANY DAMAGE CAUSED TO THE OWNER OR OTHERS BY IMPROPER LOCATION OR CARRYING OUT OF THIS WORK.**
- P. **X-RAY FLOORWALL OR ANY CONCRETE SURFACES PRIOR TO CUTTING OR CORING OPENINGS FOR MECHANICAL PROVISIONING.**
- Q. **CONTRACTOR SHALL VISIT THE SITE DURING THE TENDER AND REVIEW DRAWINGS WITH THE EXISTING CONDITION AND IDENTIFY ANY DISCREPANCIES OR INTERFERENCES BETWEEN DRAWINGS AND SITE CONDITIONS AND ALLOW IN THEIR PRICING TO MODIFY/ RELOCATE EXISTING SERVICES (CONDUITS, PIPING, DUCTWORK, ETC) FOR INSTALLATION OF NEW SERVICES. ADDITIONAL FEES FOR THE ABOVE WILL NOT BE APPROVED AFTER CLOSING THE TENDER.**
- R. **CONTRACTOR SHALL PROVIDE ACCESS TO PIPING ABOVE CEILING WHEN EXISTING PIPING TO BE REMOVED/ NEW PIPING TO BE INSTALLED ABOVE CEILING AND RE-INSTALL CEILING FOLLOWING COMPLETION OF WORK AND PAINT WHOLE CEILING TO MAKE GOOD.**
- S. **CONTRACTOR TO PRE-AUDIT FOR ALL AIR SYSTEMS IN THIS CONTRACT.**
- T. **CONTRACTOR SHALL PERFORM A COMPLETE TEST AND BALANCING AFTER COMPLETION OF THE WORK AND SUBMIT REPORT TO CONSULTANT AND KPRD88.**
- U. **THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING OF REPLACED AND NEW HEATING/COOLING EQUIPMENT AND CW ALL ASSOCIATED DAMPERS, VALVES, DAMPERS.**
- V. **CONTRACTOR SHALL PROVIDE ANY EQUIPMENT NECESSARY FOR PERFORMING AIR BALANCING AND HOT WATER SYSTEM BALANCING.**
- W. **10 FT OF SUPPLY DUCTS AND WHOLE LENGTH OF RETURN AIR AND O/A DUCTS TO BE CLEANED AND VACUUMED AND FILTERS TO BE REPLACED AT THE END OF CONSTRUCTION.**

HVAC



TYPE	SIZE	DIFFUSER, REGISTER, GRILLE
	CAPACITY	

TYPE	SIZE	DIFFUSER, REGISTER, GRILLE
	CAPACITY	

TYPE	SIZE	DIFFUSER, REGISTER, GRILLE
	CAPACITY	

TYPE	SIZE	DIFFUSER, REGISTER, GRILLE
	CAPACITY	

The diagram consists of two rectangular boxes. The left box is labeled "Key Plan" and is empty. The right box is labeled "True North" and contains a circular diagram. The circular diagram features a central black triangle pointing upwards. Surrounding this triangle are four curved arrows, each pointing towards the center. The background of the circle is filled with a grid pattern. Four lines extend from the center of the circle towards the corners of the box, representing the cardinal directions.

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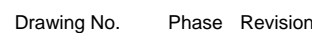
**Kawartha Pine Ridge
District School Board**

AS SHOWN

BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
TY STREET NORTH BOWMANVILLE, ON L1C 2L8

MECHANICAL SERVICES
MECHANICAL LEGENDS

Engineer / Architect Stamp



M-103	T	1
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TYP FOR ALL
WALL FIN HEATER

MUNICIPALITY OF CLARINGTON
FITNESS CENTER

1

SECOND FLOOR DUCT- AREA "A" - DEMOLITION WORK

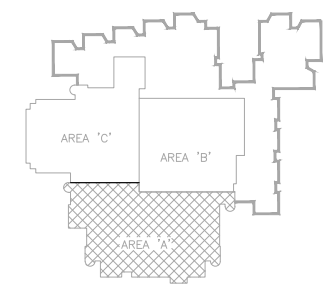
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DEMOLITION NOTES:

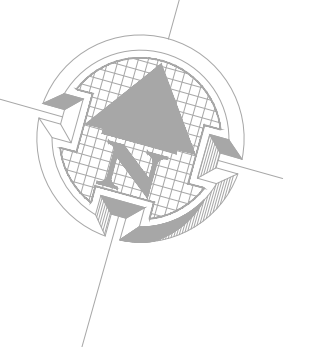
- CONTRACTOR TO DEMOLISH ALL EXISTING SUPPLY AIR, RETURN AIR AND EXHAUST AIR DUCTWORK CW ALL ASSOCIATED DIFFUSERS, FIRE DAMPERS, SUPPORTS, BALANCING DAMPERS AND INSULATIONS AS PER DRAWINGS, MAKE LOCATION READY FOR NEW INSTALLATION.
- CONTRACTOR TO PRE-AUDIT AIR AND SUBMIT THE REPORT TO ENGINEER FOR REVIEW. AFTER INSTALLATION OF THE NEW SERVICES, CONTRACTOR SHALL PERFORM AIR BALANCING TO BALANCE THE SYSTEM. AIR BALANCING REPORT TO BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- CONTRACTOR TO DEMOLISH T. BAR CEILING IN ORDER TO DEMOLITION DUCTWORK AS REQUIRED, REFER TO STRUCTURAL DRAWINGS FOR MORE DETAILS.
- EXISTING DUCTWORK IN DRYWALL CEILING AREA TO REMAIN. CONTRACTOR TO DEMOLISH ALL DIFFUSERS AND GRILLS AS SHOWN IN THE DRAWINGS.
- CONTRACTOR TO VACUUM AND CLEAN TO REMAIN DUCTWORK IN DRYWALL AREA. CONTRACTOR SHALL PERFORM THE DUCTWORK CLEANING REPORT TO ENGINEER FOR REVIEW AND APPROVAL.
- CONTRACTOR TO INCLUDE CUTTING / PATCHING / PAINTING WALLS IN ORDER TO DEMOLISH EXISTING AND INSTALL THE NEW DUCTWORK AND GRILLS. FOR DETAIL REFER TO STRUCTURAL DRAWING.
- EXISTING DRY WALL CEILING TO REMAIN. CONTRACTOR TO ALLOW FOR CUTTING / PATCHING / PAINTING DRY WALL CEILING IF REQUIRED FOR AUDIT, VACUUM, CLEANING AND DEMOLITION OF DUCTWORK AND SERVICES.
- CONTRACTOR TO INCLUDE ALL REMOVING SERVICES INCLUDING BUT NOT LIMITED TO ELECTRICAL CONDUIT, HOT WATER AND DOMESTIC COLD WATER PIPES, FIRE FIGHTING PIPES, ELECTRICAL CABLE TRAY, CONTROL WIRES IN ORDER TO DEMOLITION WORK.
- EXISTING MIXING BOX TO REMAIN. CONTRACTOR TO VACUUM CLEAN ALL MIXING BOXES
- EXISTING TEMPERATURE SENSOR/ THERMOSTAT TO REMAIN.
- EXISTING INDICATED EXHAUST FAN TO REMAIN.

1	15/05/2021	ISSUED FOR PERMIT AND TENDER
0	10/02/2021	ISSUED FOR REVIEW
REV.	DATE	DESCRIPTION

Key Plan



True North



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Client

**Kawartha Pine Ridge
District School Board**

Drawing Overall Scale

AS SHOWN

Project Name & Address

BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title

MECHANICAL SERVICES
DEMOLITION WORK SECOND FLOOR
AREA "A"

DATE: 2021-JAN-14
DESIGNED BY: B.E.
DRAWN BY: B.E.
APPROVED BY: M.A.
PROJECT NO.: 1021027

Engineer / Architect Stamp

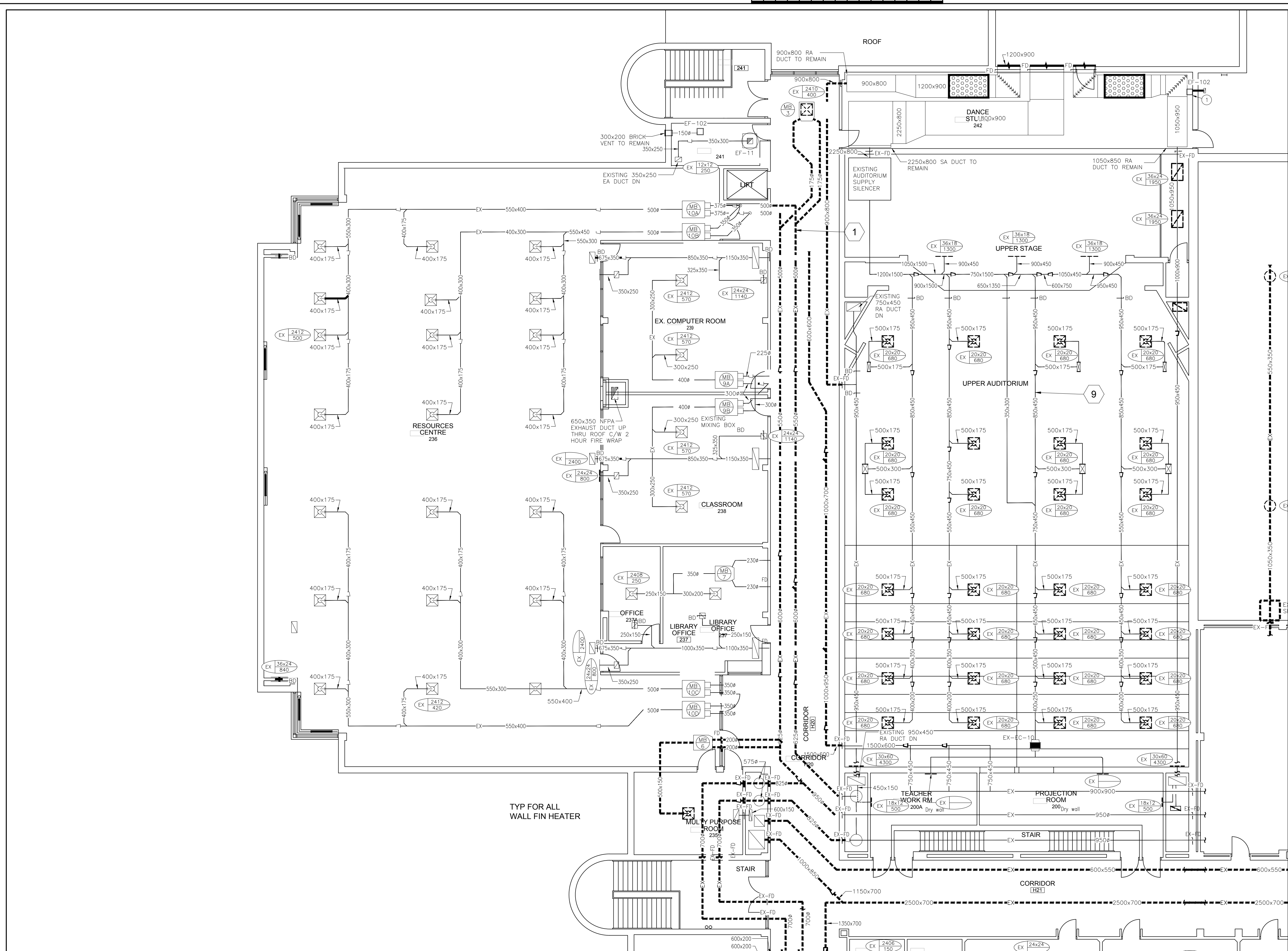


Drawing No. Phase Revision

M-300 T 1



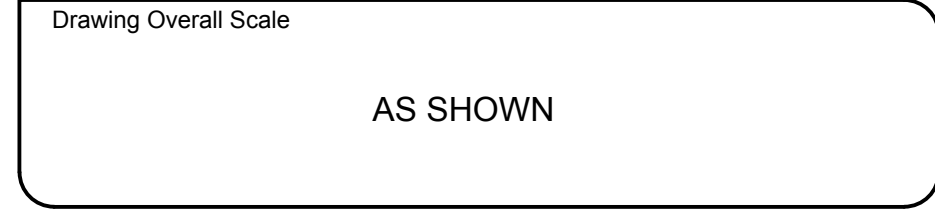
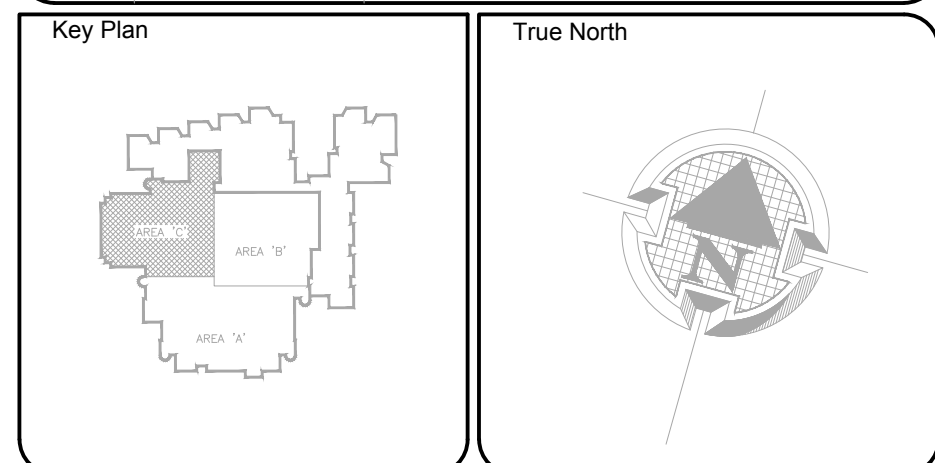
M-301	T	1
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DEMOLITION NOTES:

- CONTRACTOR TO DEMOLISH ALL EXISTING SUPPLY AIR, RETURN AIR AND EXHAUST AIR DUCTWORK CW ALL ASSOCIATED DIFFUSERS, FIRE DAMPERS, SUPPORTS, BALANCING DAMPERS AND INSULATIONS AS PER DRAWINGS, MAKE LOCATION READY FOR NEW INSTALLATION.
- CONTRACTOR TO PRE-AUDIT AIR AND SUBMIT THE REPORT TO ENGINEER FOR REVIEW. AFTER INSTALLATION OF THE NEW SERVICES, CONTRACTOR SHALL PERFORM AIR BALANCING TO BALANCE THE SYSTEM. AIR BALANCING REPORT TO BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- CONTRACTOR TO DEMOLISH T. BAR CEILING IN ORDER TO DEMOLITION DUCTWORK AS REQUIRED, REFER TO STRUCTURAL DRAWINGS FOR MORE DETAILS.
- EXISTING DUCTWORK IN DRYWALL CEILING AREA TO REMAIN. CONTRACTOR TO DEMOLISH ALL DIFFUSERS AND GRILLS AS SHOWN IN THE DRAWINGS.
- CONTRACTOR TO VACUUM AND CLEAN TO REMAIN DUCTWORK IN DRYWALL AREA. CONTRACTOR SHALL PERFORM THE DUCTWORK CLEANING REPORT TO ENGINEER FOR REVIEW AND APPROVAL.
- CONTRACTOR TO INCLUDE CUTTING / PATCHING / PAINTING WALLS IN ORDER TO DEMOLISH EXISTING AND INSTALL THE NEW DUCTWORK AND GRILLS. FOR DETAIL REFER TO STRUCTURAL DRAWING.
- EXISTING DRY WALL CEILING TO REMAIN. CONTRACTOR TO ALLOW FOR CUTTING / PATCHING / PAINTING DRY WALL CEILING IF REQUIRED FOR AUDIT, VACUUM, CLEANING AND DEMOLITION OF DUCTWORK AND SERVICES.
- CONTRACTOR TO INCLUDE ALL REMOVING SERVICES INCLUDING BUT NOT LIMITED TO ELECTRICAL CONDUIT, HOT WATER AND DOMESTIC COLD WATER PIPES, FIRE FIGHTING PIPES, ELECTRICAL CABLE TRAY, CONTROL WIRES IN ORDER TO DEMOLITION WORK.
- EXISTING MIXING BOX TO REMAIN. CONTRACTOR TO VACUUM CLEAN ALL MIXING BOXES.
- EXISTING TEMPERATURE SENSOR/ THERMOSTAT TO REMAIN.
- EXISTING INDICATED EXHAUST FAN TO REMAIN.

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REV.	DATE	DESCRIPTION



Project Name & Address
BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title
MECHANICAL SERVICES
DEMOLITION WORK SECOND FLOOR
AREA "C"

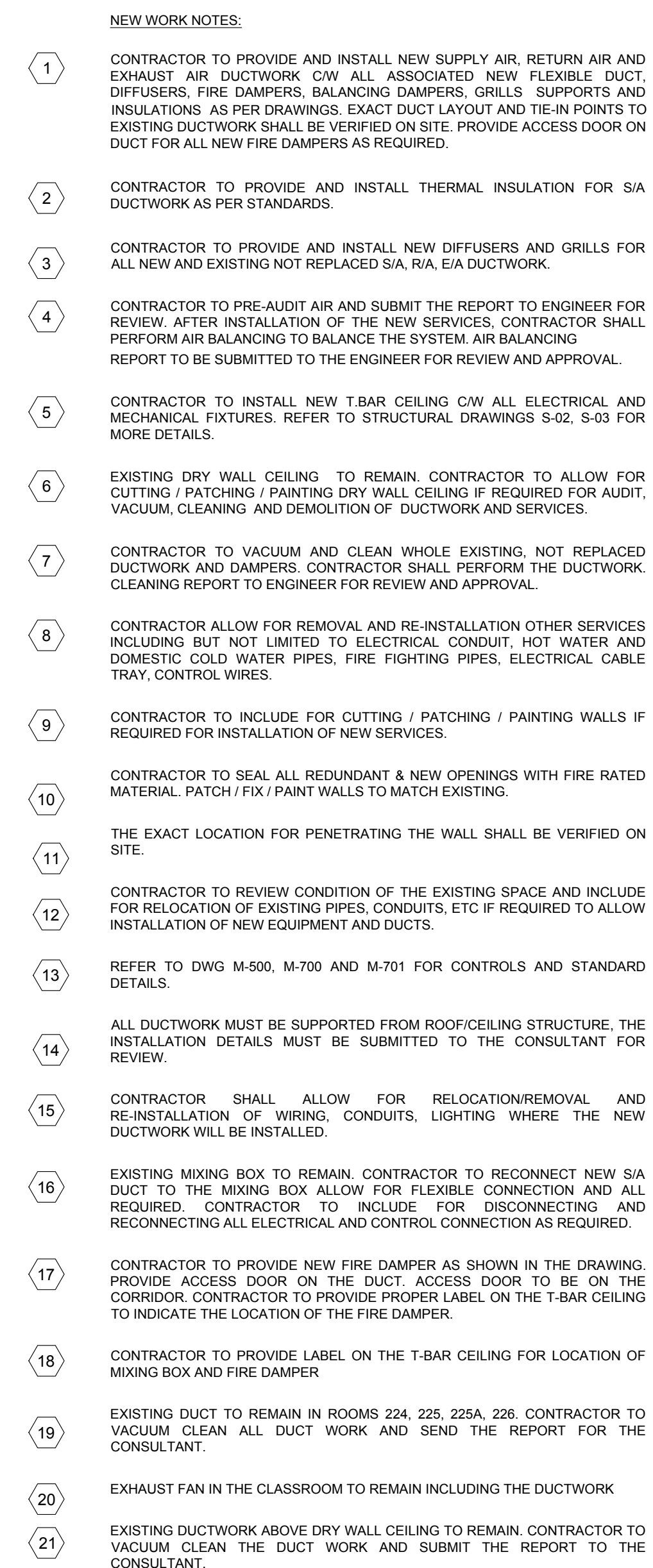
DATE: 2021-JAN-14
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Engineer / Architect Stamp



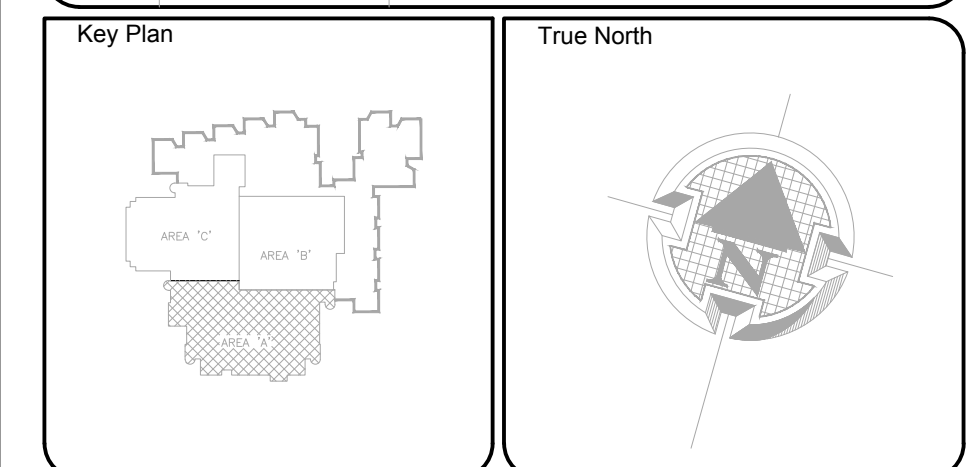
Drawing No. Phase Revision

M-302 T 1



- GENERAL NOTES:
1. ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS NOT ALL EXISTING SERVICES/SITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
 2. ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
 3. ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
 4. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING OR AT THE DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE, ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
 5. COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
 6. ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
 7. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
 8. CONNECTIONS BETWEEN DUCTS AND FANS/AHUS SHALL BE MADE WITH 6" LONG FLEXIBLE NEOPRENE.
 9. SUPPORT ALL NEW DUCTS AND PIPES FROM THE CEILING/ROOF STRUCTURE.
 10. ALL NEW AIR HANDLING UNITS SHALL BE INSTALLED ON NEW VIBRATION ISOLATOR PROPERLY SIZED FOR THE WIDTH OF THE UNIT.
 11. ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY KPROSB APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
 12. NEW CONTROL SYSTEM TO BE DDC.

1	15/05/2021	ISSUED FOR PERMIT AND TENDER
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REV.	DATE	DESCRIPTION



Engineer Logo



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Drawing Overall Scale


AS SHOWN

Project Name & Address

BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title

MECHANICAL SERVICES
NEW WORK SECOND FLOOR
AREA "A"

DATE:	2021-JAN-14	Engineer / Architect Stamp
DESIGNED BY:	B.E.	
DRAWN BY:	B.E.	
APPROVED BY:	M.A.	
PROJECT NO.: 1021027		

Drawing No.	Phase	Revision
M-303	T	1

Scale: 1:150



Scale: 1:100

- GENERAL NOTES:

1. ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/SITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
2. ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
3. ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
4. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE, ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
5. COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
6. ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
7. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
8. CONNECTIONS BETWEEN DUCTS AND FANS/AHUS SHALL BE MADE WITH 6" LONG FLEXIBLE NEOPRENE.
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10. ALL NEW AIR HANDLING UNITS SHALL BE INSTALLED ON NEW VIBRATION ISOLATOR PROPERLY SIZED FOR THE WIDTH OF THE UNIT.
11. ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY KPRDSB APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
12. NEW CONTROL SYSTEM TO BE DDC.

The left diagram, titled "Key Plan", shows a site layout with three labeled areas: "AREA 'C'" (top left), "AREA 'B'" (center, shaded with a grid pattern), and "AREA 'A'" (bottom). The right diagram, titled "True North", shows a circular map with a grid pattern and a shaded triangular area, with a north arrow pointing towards the top right.

Engineer Logo



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Drawing Overall Scale


AS SHOWN

Project Name & Address


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HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title

MECHANICAL SERVICES
NEW WORK SECOND FLOOR
AREA "B"

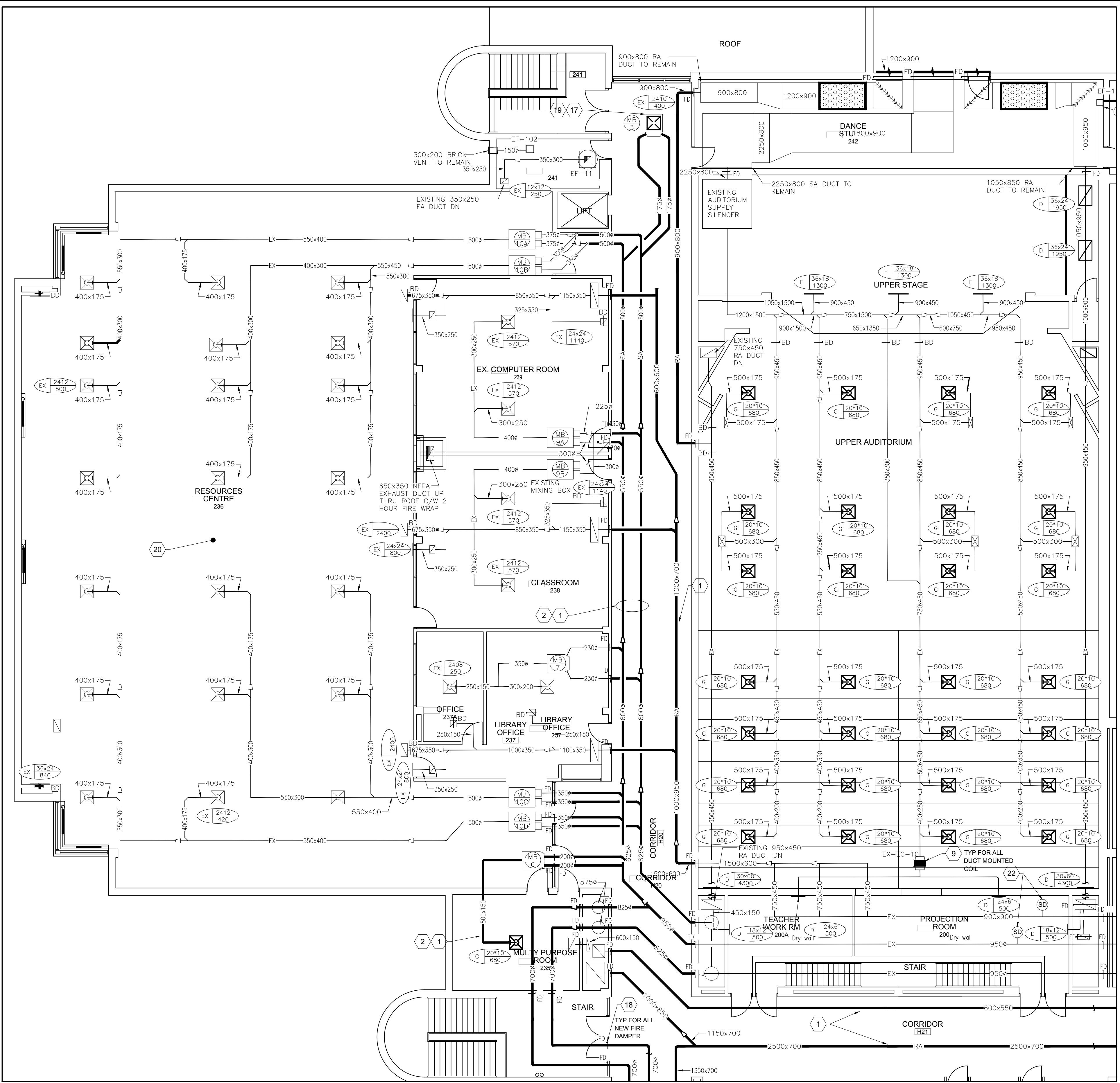
DATE:	2021-JAN-14	Engineer / Architect Stamp 
DESIGNED BY:	B.E.	
DRAWN BY:	B.E.	
APPROVED BY:	M.A.	
PROJECT NO.:	1021027	

Engineer / Architect Stamp



A circular professional engineer stamp from the Province of Ontario. The outer ring contains the text "LICENSED PROFESSIONAL ENGINEER" at the top and "PROVINCE OF ONTARIO" at the bottom. Inside the ring, the name "M. Akhavan-Bazaz" is written in cursive. Below the name, the license number "100088319" is printed. At the bottom of the inner circle, the expiration date "30 APRIL 2021" is printed.

Drawing No.	Phase	Revision
M-304	T	1



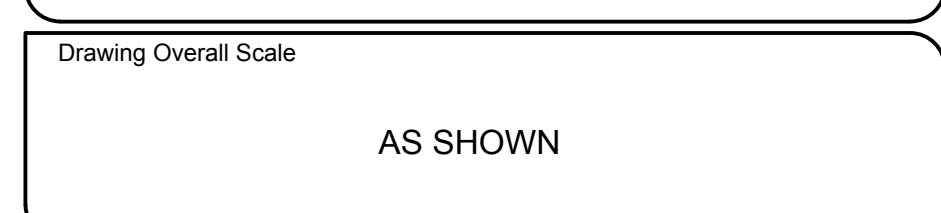
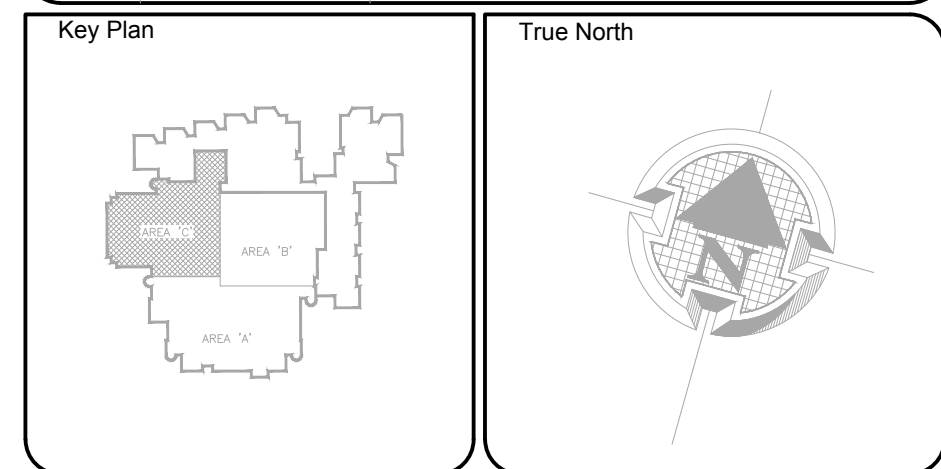
NEW WORK NOTES:

- CONTRACTOR TO PROVIDE AND INSTALL NEW SUPPLY AIR, RETURN AIR AND EXHAUST AIR DUCTWORK C/W ALL ASSOCIATED NEW FLEXIBLE DUCT, DIFFUSERS, FIRE DAMPERS, BALANCING DAMPERS, GRILLS, SUPPORTS AND INSULATIONS AS PER DRAWINGS. EXACT DUCT LAYOUT AND TIE-IN POINTS TO EXISTING DUCTWORK SHALL BE VERIFIED ON SITE. PROVIDE ACCESS DOOR ON DUCT FOR ALL NEW FIRE DAMPERS AS REQUIRED.
- CONTRACTOR TO PROVIDE AND INSTALL THERMAL INSULATION FOR S/A DUCTWORK AS PER STANDARDS.
- CONTRACTOR TO PROVIDE AND INSTALL NEW DIFFUSERS AND GRILLS FOR ALL NEW AND EXISTING NOT REPLACED S/A, R/A, E/A DUCTWORK.
- CONTRACTOR TO PRE-AUDIT AIR AND SUBMIT THE REPORT TO ENGINEER FOR REVIEW. AFTER INSTALLATION OF THE NEW SERVICES, CONTRACTOR SHALL PERFORM AIR BALANCING TO BALANCE THE SYSTEM. AIR BALANCING REPORT TO BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- CONTRACTOR TO RE-INSTALL T-BAR CEILING C/W ALL ELECTRICAL AND MECHANICAL FIXTURES. REFER TO STRUCTURAL DRAWINGS S-02, S-03 FOR MORE DETAILS.
- EXISTING DRY WALL CEILING TO REMAIN. CONTRACTOR TO ALLOW FOR CUTTING / PATCHING / PAINTING DRY WALL CEILING IF REQUIRED FOR AUDIT, VACUUM, CLEANING AND DEMOLITION OF DUCTWORK AND SERVICES.
- CONTRACTOR TO VACUUM AND CLEAN WHOLE EXISTING NOT REPLACED DUCTWORK AND DAMPERS IN THE AUDITORIUM AND MECHANICAL SHAFT AND RESOURCE CENTER AND INCLUDING ADJACENT ROOM. CONTRACTOR SHALL PERFORM THE DUCTWORK. CLEANING REPORT TO ENGINEER FOR REVIEW AND APPROVAL.
- CONTRACTOR ALLOW FOR REMOVING AND RE-INSTALLATION OTHER SERVICES INCLUDING BUT NOT LIMITED TO ELECTRICAL CONDUIT, HOT WATER AND DOMESTIC COLD WATER PIPES, FIRE FIGHTING PIPES, ELECTRICAL CABLE TRAY, CONTROL WIRES.
- EXISTING DUCT MOUNTED COIL TO REMAIN. CONTRACTOR TO CLEAN THE COIL AND REPORT TO CONSULTANT IF THE COIL, PIPING, ACCESSORIES AND CONTROL VALVE ARE DEFECTIVE OR CORRODED.
- CONTRACTOR TO INCLUDE FOR CUTTING / PATCHING / PAINTING WALLS IF REQUIRED FOR INSTALLATION OF NEW SERVICES.
- CONTRACTOR TO SEAL ALL REDUNDANT & NEW OPENINGS WITH FIRE RATED MATERIAL. PATCH / FIX / PAINT WALLS TO MATCH EXISTING.
- THE EXACT LOCATION FOR PENETRATING THE WALL SHALL BE VERIFIED ON SITE.
- CONTRACTOR TO REVIEW CONDITION OF THE EXISTING SPACE AND INCLUDE FOR RELOCATION OF EXISTING PIPES, CONDUITS, ETC IF REQUIRED TO ALLOW INSTALLATION OF NEW EQUIPMENT AND DUCTS.
- REFER TO DWG M-500, M-700 AND M-701 FOR CONTROLS AND STANDARD DETAILS.
- ALL DUCTWORK MUST BE SUPPORTED FROM ROOF/CEILING STRUCTURE. THE INSTALLATION DETAILS MUST BE SUBMITTED TO THE CONSULTANT FOR REVIEW.
- CONTRACTOR SHALL ALLOW FOR RELOCATION/REMOVAL AND RE-INSTALLATION OF WIRING, CONDUITS, LIGHTING WHERE THE NEW DUCTWORK WILL BE INSTALLED.
- EXISTING MIXING BOX TO REMAIN. CONTRACTOR TO RECONNECT NEW S/A DUCT TO THE MIXING BOX ALLOW FOR FLEXIBLE CONNECTION AND ALL REQUIRED. CONTRACTOR TO INCLUDE FOR DISCONNECTING AND RECONNECTING ALL ELECTRICAL AND CONTROL CONNECTION AS REQUIRED.
- CONTRACTOR TO PROVIDE NEW FIRE DAMPER AS SHOWN IN THE DRAWING. PROVIDE ACCESS DOOR ON THE DUCT. ACCESS DOOR TO BE ON THE CORRIDOR. CONTRACTOR TO PROVIDE PROPER LABEL ON THE T-BAR CEILING TO INDICATE THE LOCATION OF THE FIRE DAMPER.
- CONTRACTOR TO PROVIDE LABEL ON THE T-BAR CEILING FOR LOCATION OF MIXING BOX.
- SUPPLY AND RETURN DIFFUSER IN THE RESOURCE CENTER AND ADJACENT ROOM TO REMAIN.
- EXISTING DUCTWORK ABOVE DRYWALL CEILING TO REMAIN. CONTRACTOR TO VACUUM CLEAN THE DUCT WORK.
- PROVIDE NEW SMOKE DETECTOR CONNECT TO RELATED UNIT AND FIRE ALARM PANEL AND BAS. INCLUDE FOR ALL WIRING AND CONTROL WORK

GENERAL NOTES:

- ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/SITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
- ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
- ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
- THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING. MAKE WITHOUT ADDITIONAL CHARGE. ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
- COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
- ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
- WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR GUARANTEE, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
- CONNECTIONS BETWEEN DUCTS AND FANS/AHUS SHALL BE MADE WITH 6" LONG FLEXIBLE NEOPRENE.
- SUPPORT ALL NEW DUCTS AND PIPES FROM THE CEILING/ROOF STRUCTURE.
- ALL NEW AIR HANDLING UNITS SHALL BE INSTALLED ON NEW VIBRATION ISOLATOR PROPERLY SIZED FOR THE WIDTH OF THE UNIT.
- ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY KPRDSB APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
- NEW CONTROL SYSTEM TO BE DDC.

REV.	DATE	DESCRIPTION
1	15/05/2021	ISSUED FOR PERMIT AND TENDER
0	10/02/2021	ISSUED FOR REVIEW



Project Name & Address
BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title
MECHANICAL SERVICES
NEW WORK SECOND FLOOR
AREA "C"

DATE: 2021-JAN-14 DESIGNED BY: B.E. DRAWN BY: B.E. APPROVED BY: M.A. PROJECT NO.: 1021027	Engineer / Architect Stamp
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Drawing No.	Phase	Revision
M-305	T	1

1 SECOND FLOOR DUCT-AREA "C" - DEMOLISH WORK

Scale: 1:100

**MEASUREMENTS ARE APPROXIMATE
AT THE SITE.**



- 1 PROVIDE AND INSTALL NEW HOT WATER PUMPS HWSP#P182 WITH ALL ASSOCIATED INSULATED SUCTION AND DISCHARGE PIPES, HEADER AND VALVES. CHECK FOR LEAKS, STRAINER FLEXIBLE, DRAIN, AIR VENT PIPES, PRESSURE GAGES, DRAIN AND BALANCING VALVES, RE-CONNECT POWER AND CONTROL POINTS. PROVIDE MAGNETIC STARTER, INSTALL BY ELECTRICAL CONTRACTOR, AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 2 PROVIDE AND INSTALL NEW HOT WATER PUMPS HWSP#P182 WITH ALL ASSOCIATED INSULATED SUCTION AND DISCHARGE PIPES, HEADER AND VALVES. CHECK VALVES, STRAINER FLEXIBLE, DRAIN, AIR VENT PIPES, PRESSURE GAGES, DRAIN AND BALANCING VALVES, RE-CONNECT POWER AND CONTROL POINTS. PROVIDE MAGNETIC STARTER, INSTALL BY ELECTRICAL CONTRACTOR, AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 3 PROVIDE AND INSTALL NEW HOT WATER PUMPS HWSP#P344 WITH ALL ASSOCIATED INSULATED SUCTION AND DISCHARGE PIPES, HEADER AND VALVES. CHECK FOR LEAKS, STRAINER FLEXIBLE, DRAIN, AIR VENT PIPES, PRESSURE GAGES, DRAIN AND BALANCING VALVES, RE-CONNECT POWER AND CONTROL POINTS. PROVIDE MAGNETIC STARTER, INSTALL BY ELECTRICAL CONTRACTOR, AS PER SCHEDULE AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 4 PROVIDE NEW INSULATION WITH P.V.C COVER, COMPLETE WITH LABEL ARROW DIRECTION FOR ALL NEW HOT WATER PIPES VALVES AND PUMPS.
- 5 PROVIDE AND INSTALL NEW CHEMICAL PUMP FEEDER AND FILTER C/W ALL ASSOCIATED VALVES AND SUPPORTS.

IMPORTANT NOTE:

CONTRACTOR TO PROVIDE LUMP SUMP PRICE FOR ENTIRE PROJECT INCLUDING(SECOND FLOOR WORK S/A, R/A, E/A DUCT , DIFFUSERS, GRILLES, FIRE DAMPERS REPLACEMENT C/W STRUCTURAL AND ELECTRICAL PART ACCORDING TO THE DRAWING) EXCEPT THE AREA MENTIONED IN THE SEPARATE PRICE.

SEPARATE PRICE:

A LUMP SUM PRICE FOR REPLACEMENT OF HEATING PUMP, ALL REQUIRED VALVES AND TEMPERATURE AND PRESSURE GAUGES ACCORDING TO THE DRAWING.

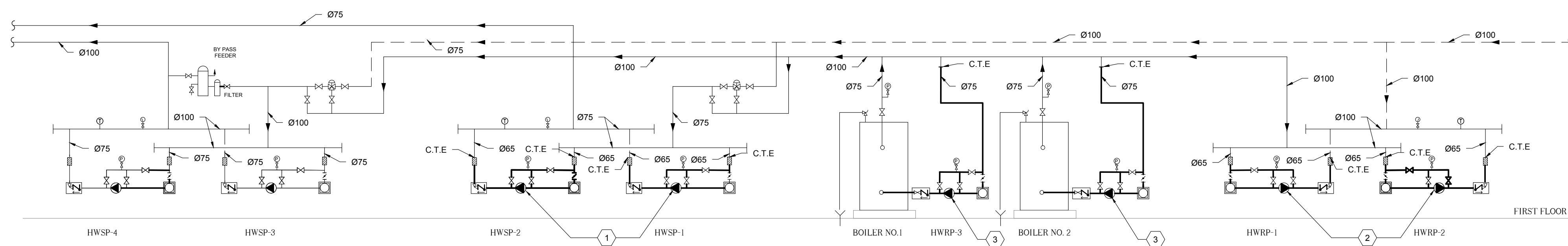
PRICE SHALL INCLUDE ALL THE MECHANICAL, ELECTRICAL, CONTROL, STRUCTURAL AND ARCHITECTURAL SCOPE OF WORK. REFER TO ELECTRICAL AND STRUCTURAL DRAWING FOR DETAIL.

NOTE: ALL PIPING LAYOUTS AND VALVE LOCATIONS ARE APPROXIMATE.
MECHANICAL CONTRACTOR SHALL VERIFY AT THE SITE .

GENERAL NOTES:

1. ALL EXISTING SERVICES SHOWN HAS BEEN EXTRACTED FROM AVAILABLE BASE BUILDING DRAWINGS AND RANDOM SITE SURVEYS. NOT ALL EXISTING SERVICES/SITE INFORMATION HAS BEEN SHOWN NOR CAN THE INFORMATION SHOWN BE GUARANTEED FOR PRECISE ACCURACY. CONTRACTOR SHALL THEREFORE VISIT THE SITE PRIOR TO SUBMITTING A BID TO SATISFY THEMSELVES THAT ALL WORK SHOWN AND/OR SPECIFIED CAN BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT DOCUMENT.
2. ALL EXISTING EQUIPMENT TAG NOS. USED ON THIS DRAWING ARE BASED ON EXISTING BASE BUILDING STANDARDS.
3. ALL CUTTING/PATCHING/CORING OF WALLS AND FLOORS REQUIRED TO ACCOMMODATE NEW MECHANICAL WORK IS TO BE ARRANGED AND PAID FOR BY MECHANICAL CONTRACTOR. X-RAY FLOORS/CONCRETE WALLS PRIOR TO CORING/CUTTING.
4. THE MECHANICAL DRAWINGS DO NOT SHOW ALL THE ARCHITECTURAL AND STRUCTURAL DETAILS. ANY SPECIFIC INFORMATION INVOLVING ACCURATE MEASURING OF THE BUILDING SHALL BE TAKEN FROM THE BUILDING DRAWINGS OR AT THE BUILDING, MAKE WITHOUT ADDITIONAL CHARGE, ANY NECESSARY CHANGES OR ADDITIONS TO THE RUNS OF DUCTS AND PIPES TO ACCOMMODATE THE ABOVE CONDITIONS.
5. COORDINATE WITH ALL OTHER TRADES AND SITE SUPERINTENDENT ON ALL WORK.
6. ALL ABANDONED PIPING WHICH ARE NO LONGER BEING USED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL ENSURE PRIOR TO REMOVAL OF ANY PIPING THAT THE SYSTEM IS COMPLETELY ISOLATED AND IS NOT ALIVE.
7. WORK SHALL INCLUDE STARTUP OF ALL SYSTEMS, FURNISHING OF OPERATING AND MAINTENANCE INSTRUCTIONS, AND ONE (1) YEAR WARRANTY, COMMENCING ON THE DATE OF ACCEPTANCE BY THE TENANT.
8. CONNECTIONS BETWEEN DUCTS AND FANS/AHUS SHALL BE MADE WITH 6" LONG FLEXIBLE NEOPRENE.
9. SUPPORT ALL NEW DUCTS AND PIPES FROM THE CEILING/ROOF STRUCTURE.
10. ALL NEW AIR HANDLING UNITS SHALL BE INSTALLED ON NEW VIBRATION ISOLATOR PROPERLY SIZED FOR THE WIDTH OF THE UNIT.
11. ALL ROOFING AND PENETRATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH STANDARD DETAILS AND ONLY BY KPRDSS APPROVED ROOFING TRADES. IF THE ROOF IS UNDER WARRANTY, ONLY THE WARRANTY HOLDER SHALL BE RETAINED TO PERFORM THE WORK.
12. NEW CONTROL SYSTEM TO BE DDC.

Scale: 1:50

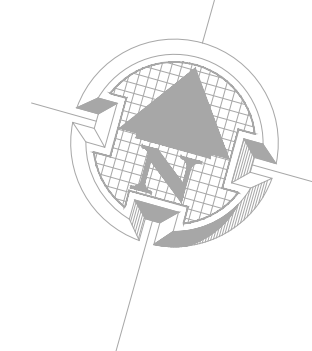


Scale: N.T.S

1	15/05/2021	ISSUED FOR PERMIT AND TENDER
0	10/02/2021	ISSUED FOR REVIEW
REV.	DATE	DESCRIPTION

Key Plan

True North



Engineer Logo



**Spectra
Engineering
Ltd.**

250 SHEPPARD AVE. EAST, SUITE #306, TORONTO, ONTARIO, M2N 6M9
TEL. (647) 478-5156
FAX (647) 478-5017

Client

Kawartha Pine Ridge
District School Board

Drawing Overall Scale

AS SHOWN

Project Name & Address

BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE

49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title

MECHANICAL SERVICES
NEW WORK
FIRST FLOOR - BOILER ROOM

DATE:	2021-MARCH-19
DESIGNED BY:	B.E.
DRAWN BY:	B.E.
APPROVED BY:	M.A.
PROJECT NO.:	1021027

Engineer / Architect Stamp



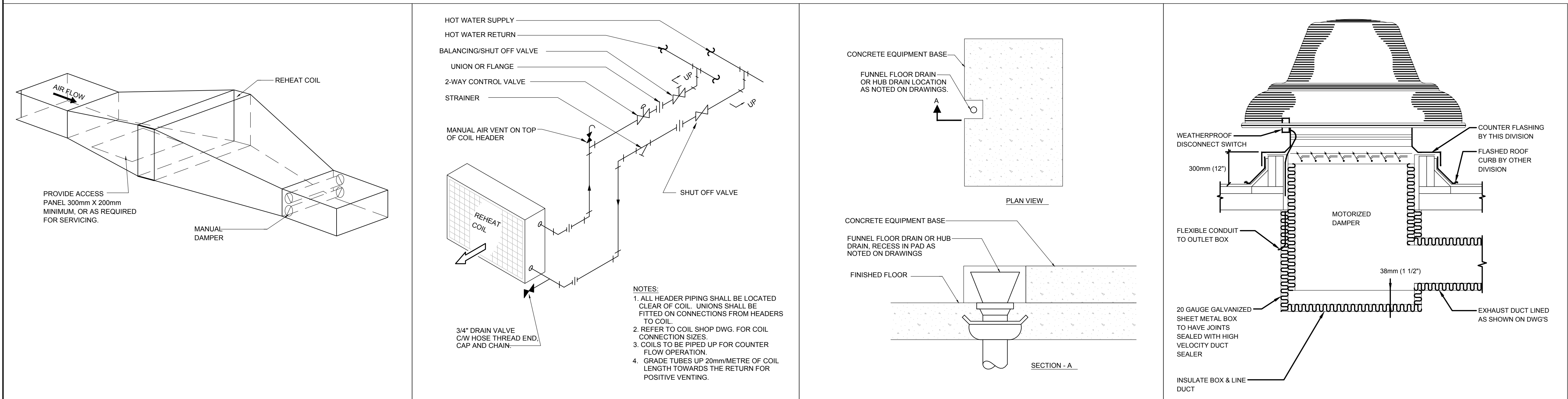
Drawing No.	Phase	Revision
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M-307	T	
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BOWMANVILLE HS PROJECT

PUMPS SCHEDULE											
NO	SERVICES	LOCATION	FLUID	CAP (GPM)	HEAD (FT)	MAKE/MODEL	SIZE	MTR (HP)	SPD RPM	V/PH/Hz	
HWSP-1.2	HEATING SUPPLY PUMPS	BOLIER ROOM	WATER	66.16	26	ARMSTRONG S-S69	3X3X6	1	1750	115/1/60	COMPLETE WITH MAGNETIC START
HWRP-1.2	HEATING RETURN PUMPS	BOLIER ROOM	WATER	280	26	ARMSTRONG 4380 4P	4X4X6	3	1765	575/3/60	COMPLETE WITH MAGNETIC START
HWRP-3.4	HEATING RETURN PUMPS	BOLIER ROOM	WATER	166	10	ARMSTRONG 1060-3D	3X3X6	1	1750	575/3/60	COMPLETE WITH MAGNETIC START
NOTE : CONTRACTOR TO PROVIDE LUMP SUMP PRICE FOR PUMP REPLACEMENT ACCORDING TO DRAWING M306 & M307											

GRILLE, REGISTER & DIFFUSER SCHEDULE								
TYPE	MANUFACTURER	MODEL	BORDER	FRAME	FASTING	FINISH	OPTION	REMARK
A	E.H. PRICE	SCD		31-T BAR	-	B12		
B	E.H. PRICE	RCD				B12	SC	
C	E.H. PRICE	80	F	T-BAR		B12		
D	E.H. PRICE	530D			A	B12		SURFACE MOUNTED
E	E.H. PRICE	90L		F	A	B12		
F	E.H. PRICE	535			A	B12		SURFACE MOUNTED
G	E.H. PRICE	SCD				B12		SURFACE MOUNTED
H	E.H. PRICE	530			A	B12		SURFACE MOUNTED
J	E.H. PRICE	520			A	B12		SURFACE MOUNTED
I	E.H. PRICE	DE635						SURFACE MOUNTED

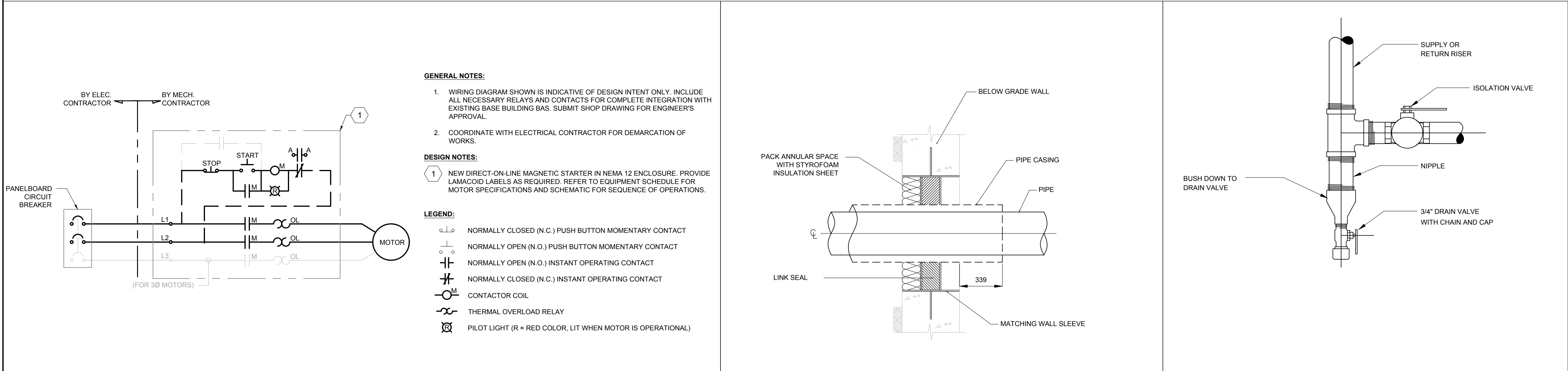


1 REHEAT COIL ACCESS DOOR
N.T.S

2 HOT WATER REHEAT COIL 2-WAY CONTROL
N.T.S

3 CONCRETE EQPT.BASE FUNNEL FLOOR HUB DRAIN
N.T.S

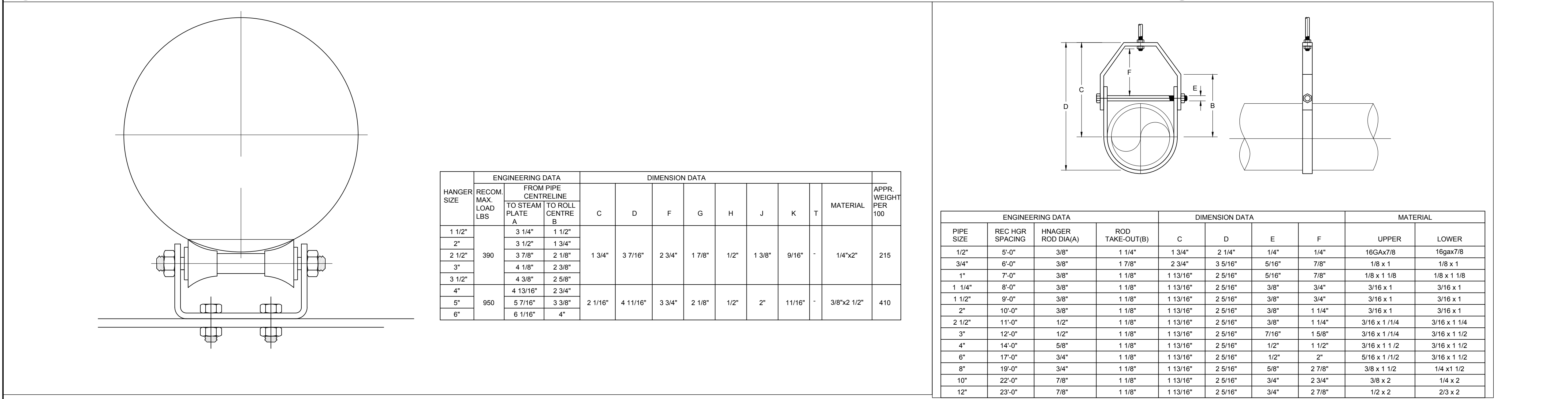
4 ROOF EXHAUST FAN DETAIL
N.T.S



5 MAGNETIC STARTER DETAILS
N.T.S

6 BELOW-GRADE WALL PENETRATION
N.T.S

7 WATER RISER DRAIN
N.T.S



8 GRINNEL PIPE ROLLER CHAIR
N.T.S

9 STANDARD CLEVIS HANGER
N.T.S

1	15/05/2021	ISSUED FOR PERMIT AND TENDER
0	25/03/2021	ISSUED FOR REVIEW
REV.	DATE	DESCRIPTION

Key Plan

True North

Engineer Logo

Spectra Engineering Ltd.
250 SHEPPARD AVE. EAST, SUITE #306, TORONTO, ONTARIO, M2N 6M9
TEL: (416) 478-5156
FAX: (416) 478-5817

Client

Kawartha Pine Ridge District School Board

Drawing Overall Scale

AS SHOWN

Project Name & Address

BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title

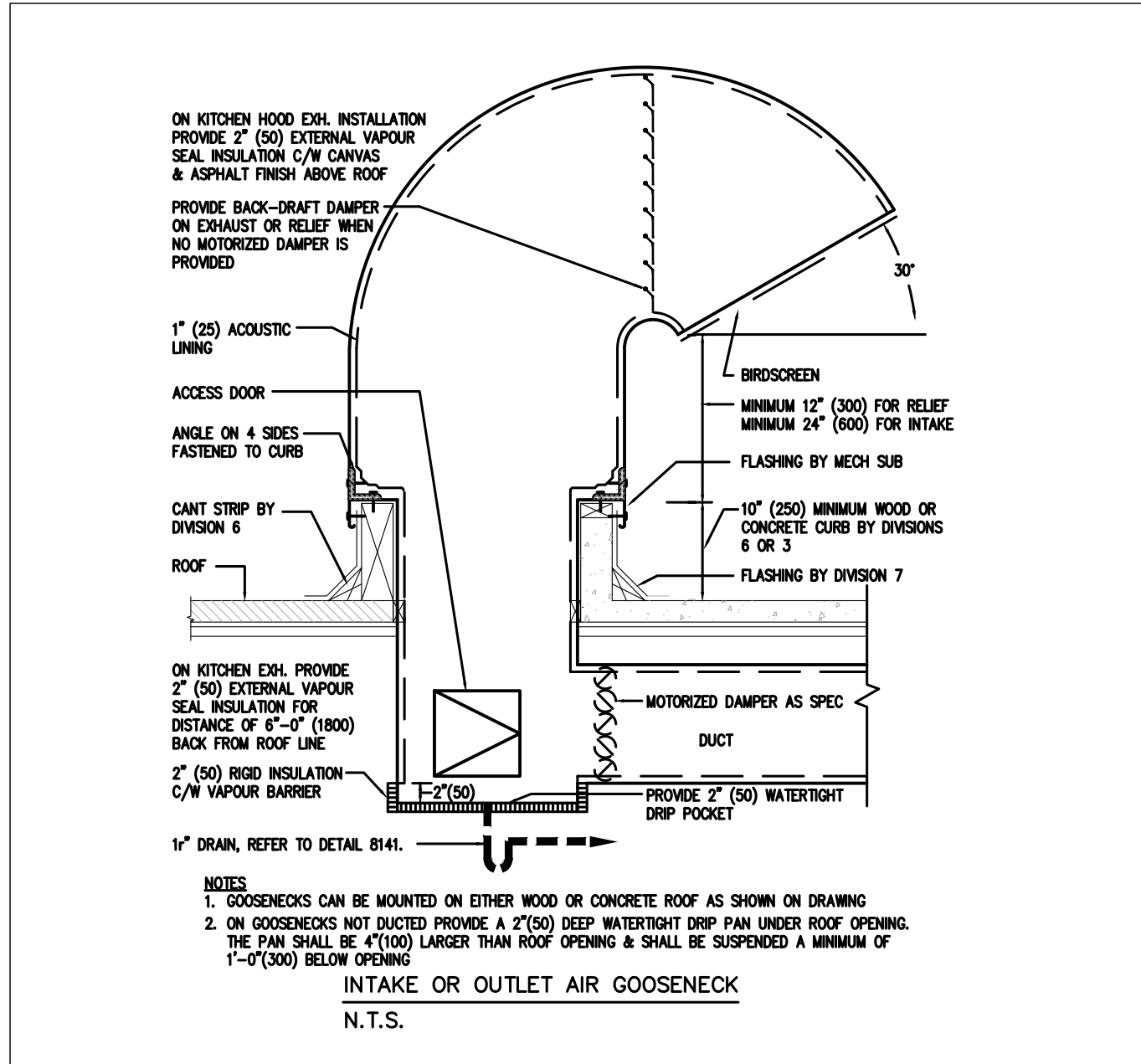
MECHANICAL SERVICES
STANDARD DETAILS

DATE: 25/03/2021
DESIGNED BY: B.E
DRAWN BY: B.E
APPROVED BY: M.A
PROJECT NO.: 1021027

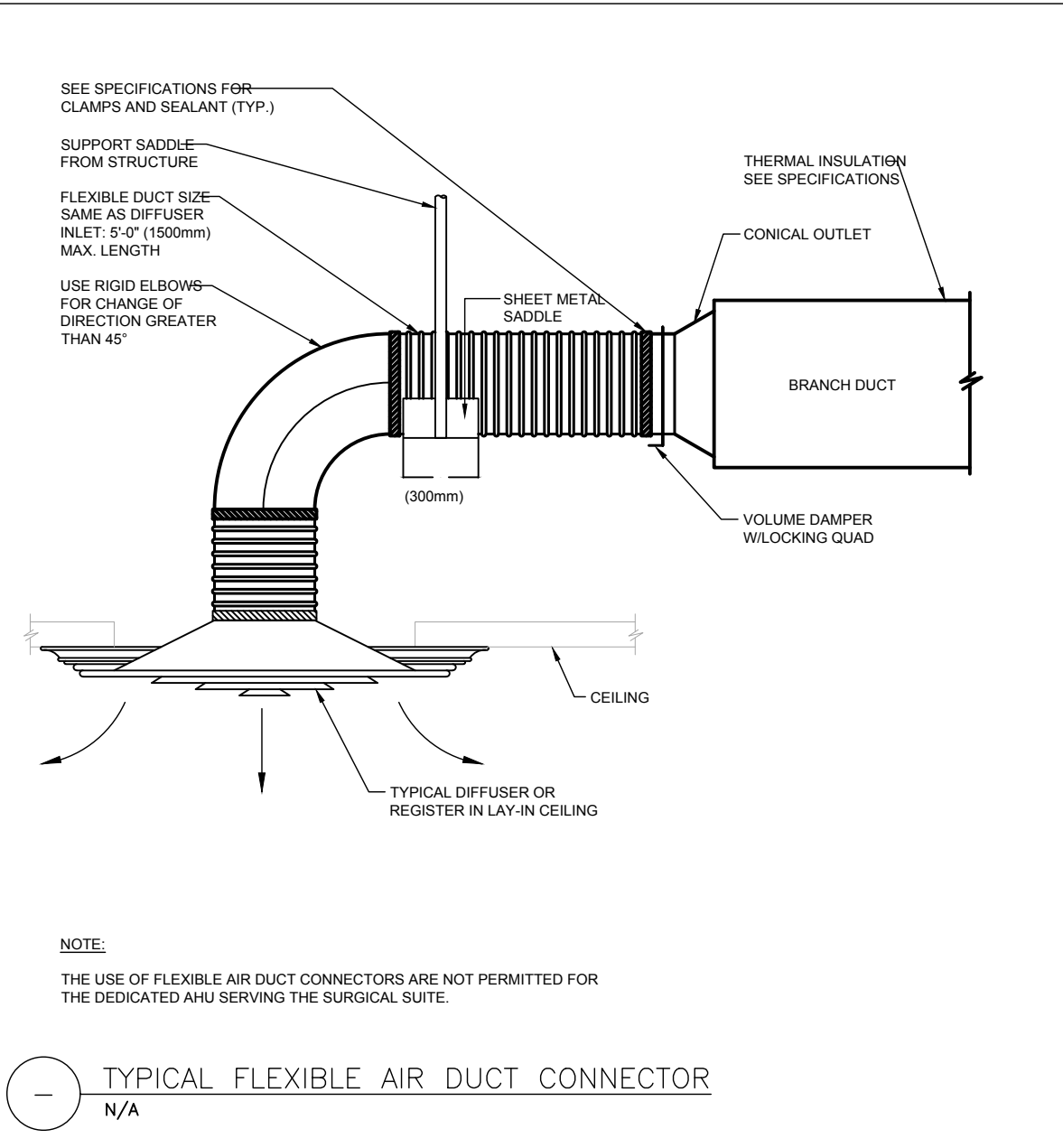
Engineer / Architect Stamp

Drawing No. Phase Revision

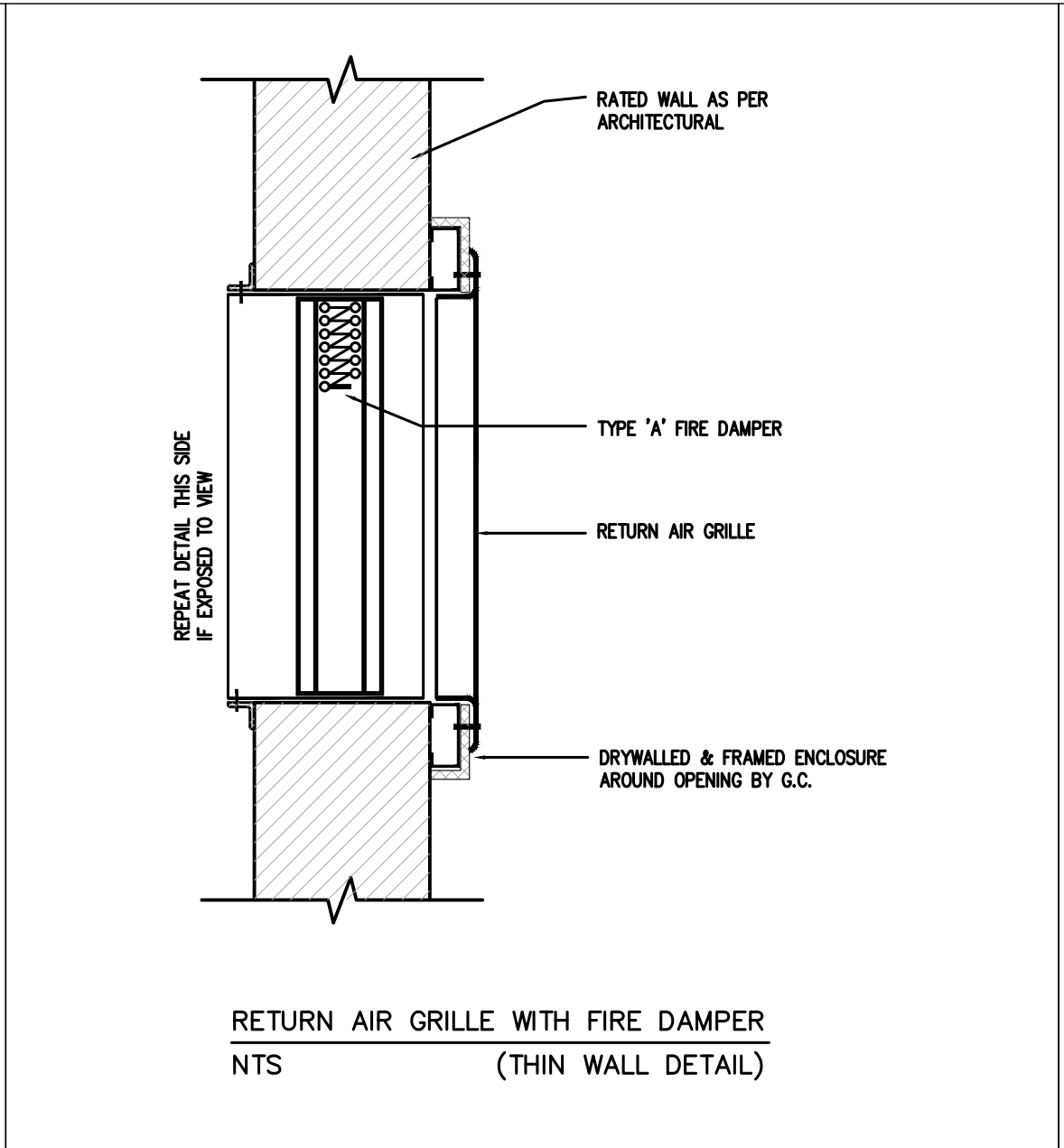
M-701 T 1



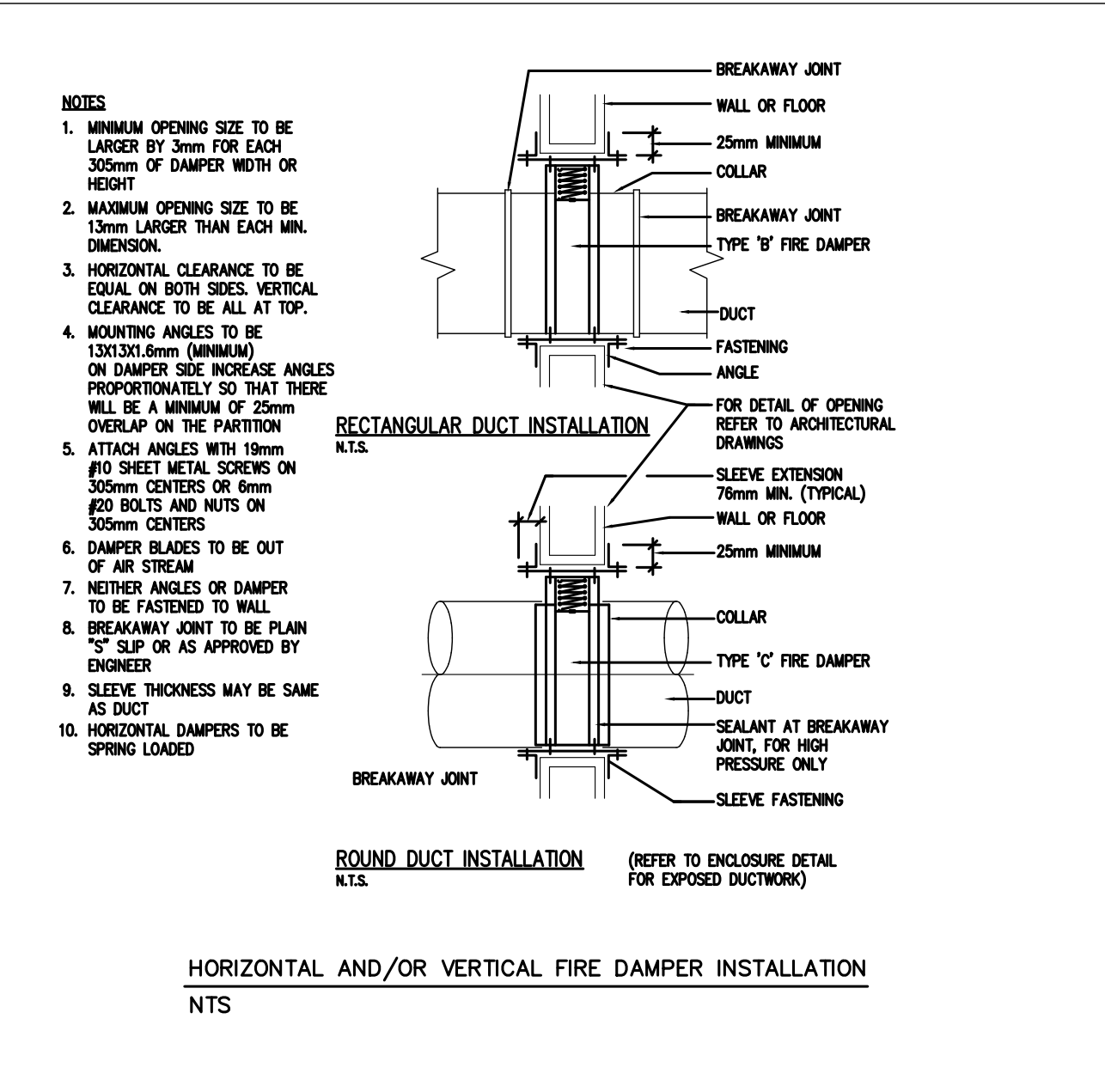
1 INTAKE ORT OUTLET AIR GOOSENECK
N.T.S.



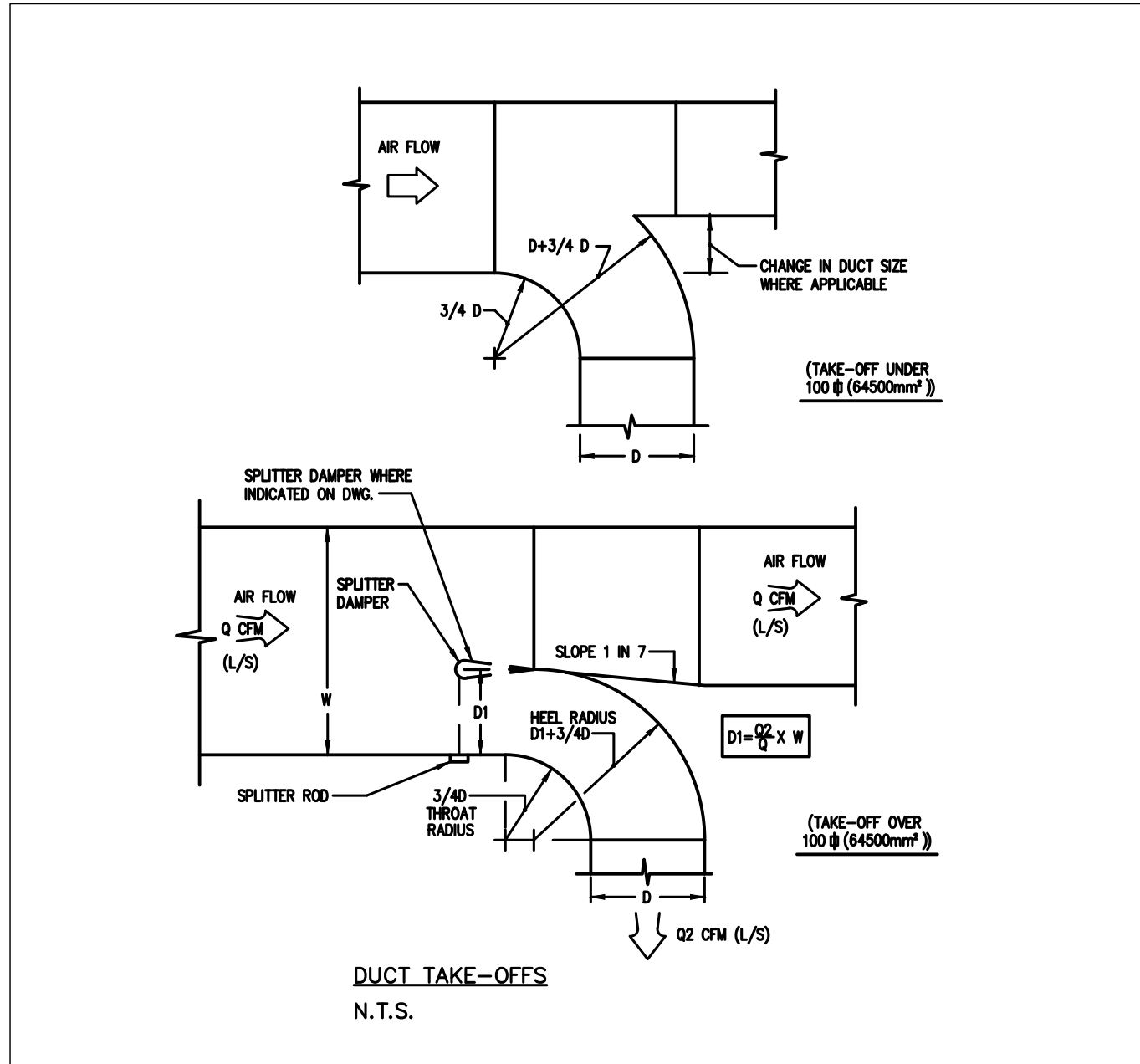
2 TYPICAL FLEXIBLE AIR CONNECTOR
N.T.S.



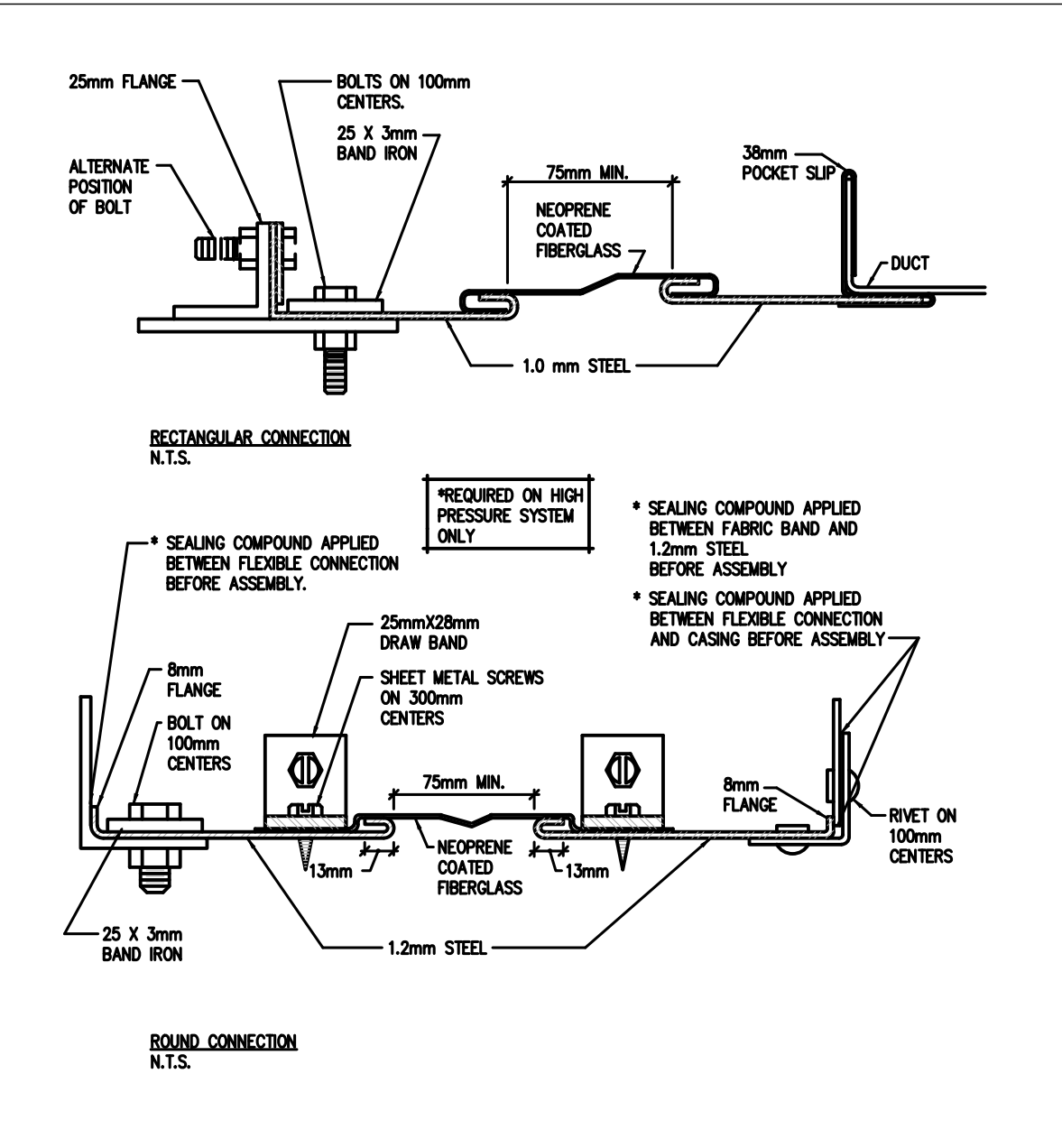
3 RETURN AIR GRILLE WITH FIRE DAMPER
N.T.S.



4 HORIZONTAL AND/OR VERTICAL FIRE DAMPER INSTALLATION
N.T.S.



5 DUCT TAKE-OFFS
N.T.S.



6 FLEXIBLE CONNECTION
N.T.S.

REV.	DATE	DESCRIPTION
1	15/05/2021	ISSUED FOR PERMIT AND TENDER
0	25/03/2021	ISSUED FOR REVIEW

Key Plan

True North

Engineer Logo

Spectra Engineering Ltd.
 250 SHEPPARD AVE. EAST, SUITE #306, TORONTO, ONTARIO, M2N 6M9
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Client

Kawartha Pine Ridge District School Board

Drawing Overall Scale

AS SHOWN

Project Name & Address

BOWMANVILLE HIGH SCHOOL
 HVAC UPGRADE
 49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title

MECHANICAL SERVICES
 STANDARD DETAILS

DATE: 25/03/2021
 DESIGNED BY: B.E.
 DRAWN BY: B.E.
 APPROVED BY: M. A.
 PROJECT NO.: 1021027

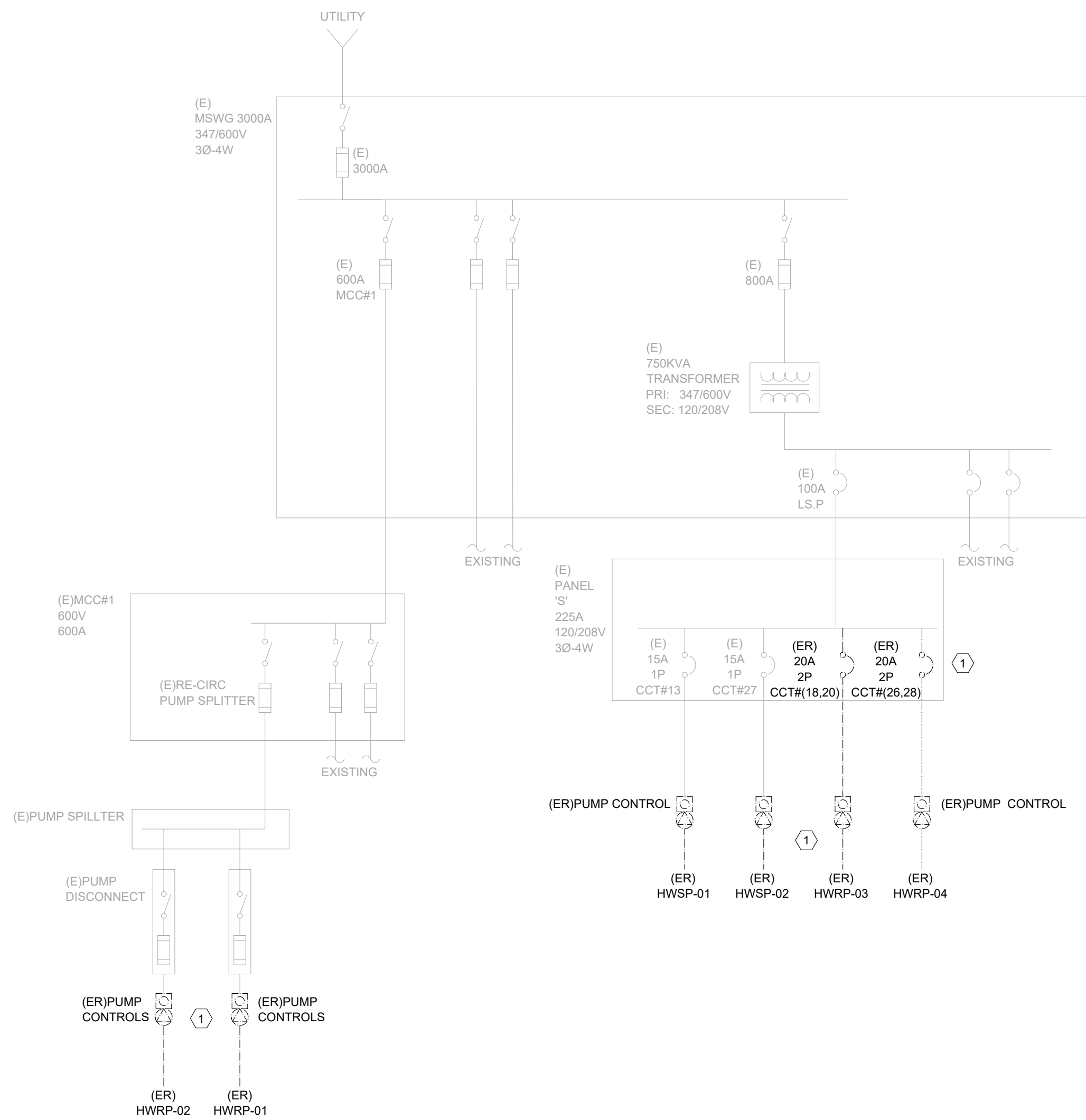
Engineer / Architect Stamp

Drawing No. Phase Revision

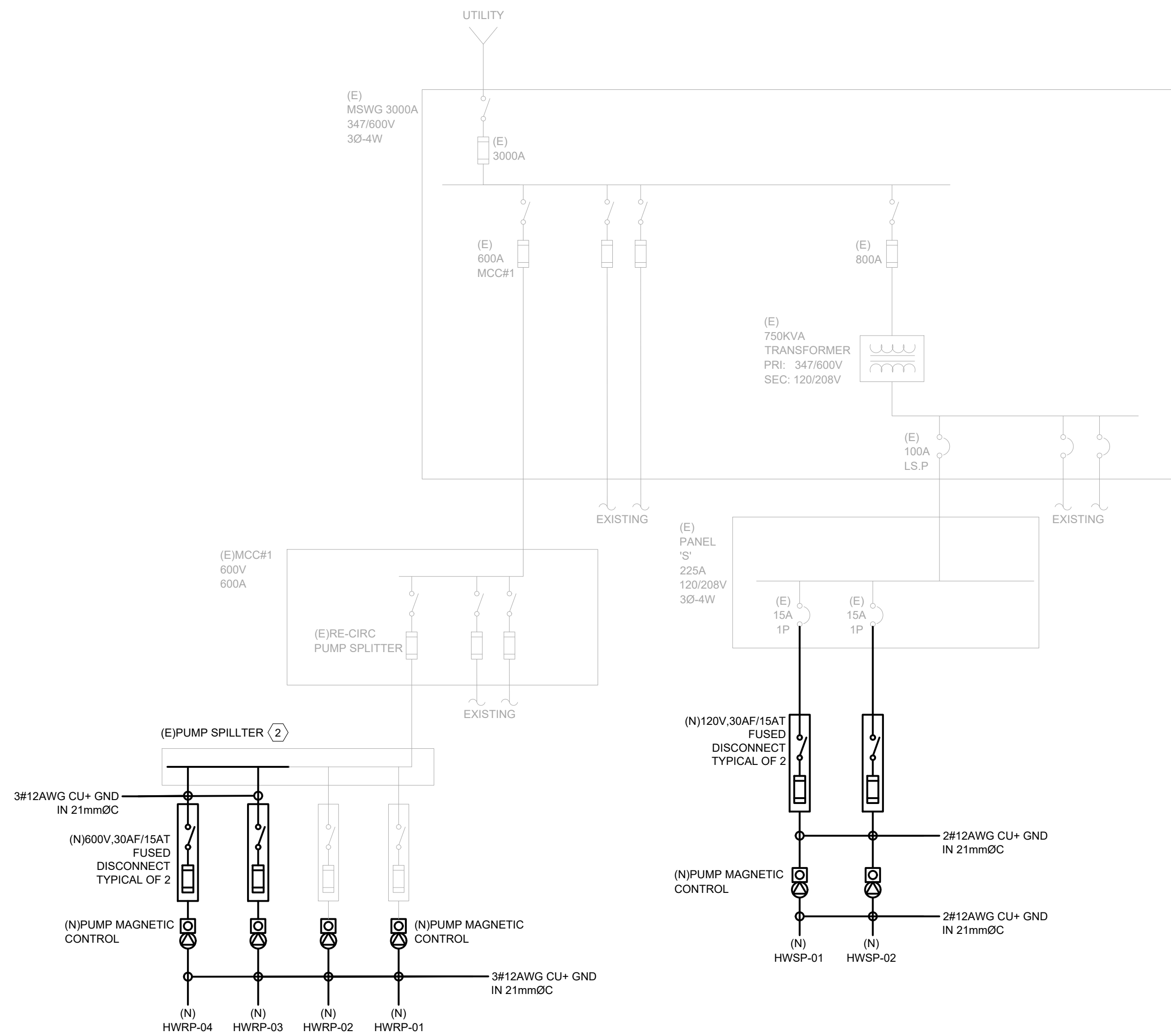
M-702 T 1

[illegible]

- DEMOLITION & DESIGN NOTES:**
- 1 REMOVE EXISTING PUMPS AND ASSOCIATED WIRING, CONDUITS, CONTROLS AND DISCONNECT MEANS AS INDICATED. PULL WIRE BACK TO SOURCE/ SAFETY. CONTRACTOR SHALL USE EXISTING WIRING AND CONDUITS IN GOOD CONDITION FOR NEW WORK WHERE POSSIBLE. EXTEND, REPLACE AND MATCH IN KIND IF NEEDED.
 - 2 CONTRACTOR SHALL MODIFY EXISTING PUMP SPLITTER IN BOILER ROOM TO ACCOMMODATE NEW HWRP-03 & HWRP-04 WIRING, DISCONNECT AND CONTROLS.

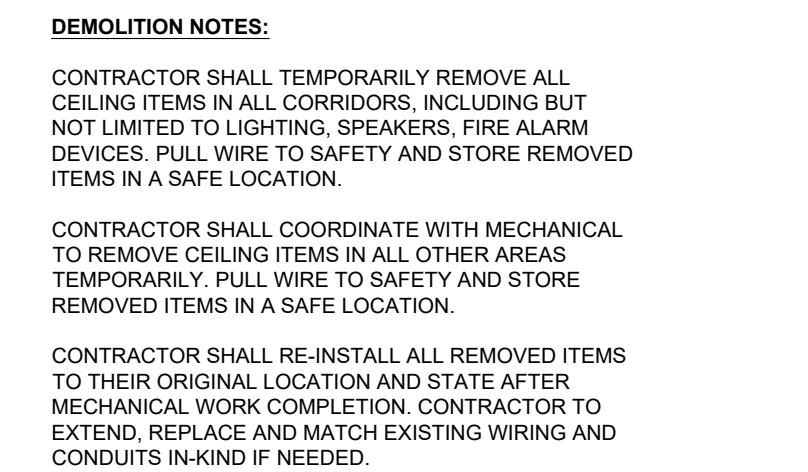


1 SINGLINE LINE DIAGRAM - DEMOLITION PLAN
Scale: NTS



2 SINGLINE LINE DIAGRAM - NEW WORK PLAN
Scale: NTS

14/05/2021			ISSUED FOR PERMIT AND TENDER		
20/04/2021			ISSUED FOR 95% REVIEW		
REV.	DATE	DESCRIPTION			
Key Plan			True North		
Engineer Logo			Spectra Engineering Ltd. 250 SHEPPARD AVE. EAST, SUITE #306, TORONTO, ONTARIO, M2N 6M9 TEL: (416) 478-5156 FAX: (416) 478-5917		
Client			Kawartha Pine Ridge District School Board		
Drawing Overall Scale AS SHOWN					
Project Name & Address BOWMANVILLE HIGH SCHOOL HVAC UPGRADE 49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8					
Drawing Title ELECTRICAL SERVICE SINGLINE LINE DIAGRAM					
DATE: 04/05/2021 DESIGNED BY: E.S. DRAWN BY: E.S. APPROVED BY: J.E. PROJECT NO.: 1021027			Engineer / Architect Stamp 		
Drawing No. Phase Revision E-100 T 1					




Client

 **Kawartha Pine Ridge
District School Board**

Project Name & Address

BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

DATE:	04/05/2021	Engineer / Architect Stamp
DESIGNED BY:	E.S.	
DRAWN BY:	E.S.	
APPROVED BY:	J.E.	
PROJECT NO.:	1021027	

Drawing No.	Phase	Revision
E-212	T	1

1 SECOND FLOOR CEILING - DEMOLITION PLAN - AREA 'A' Scale: 1:150



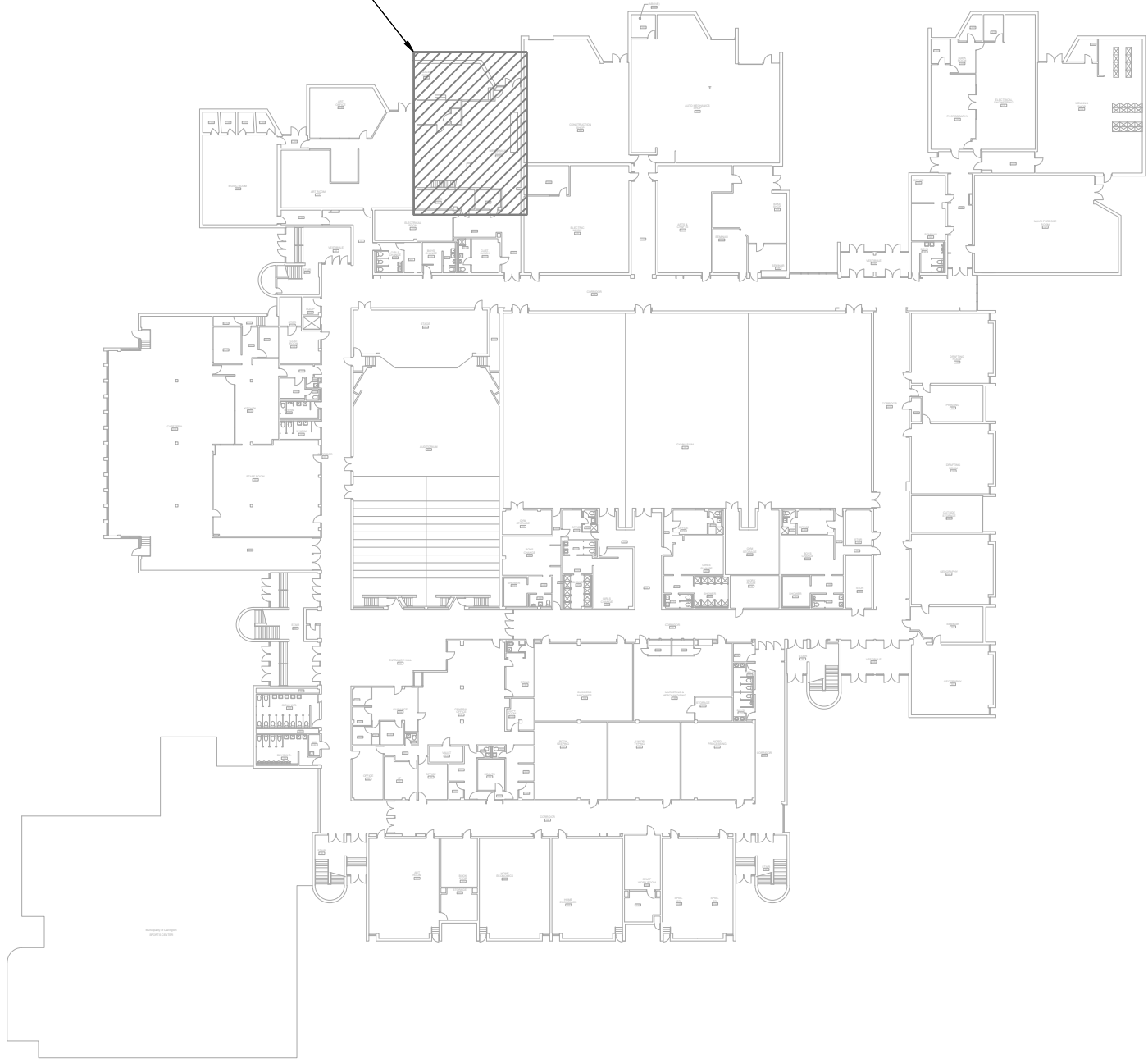
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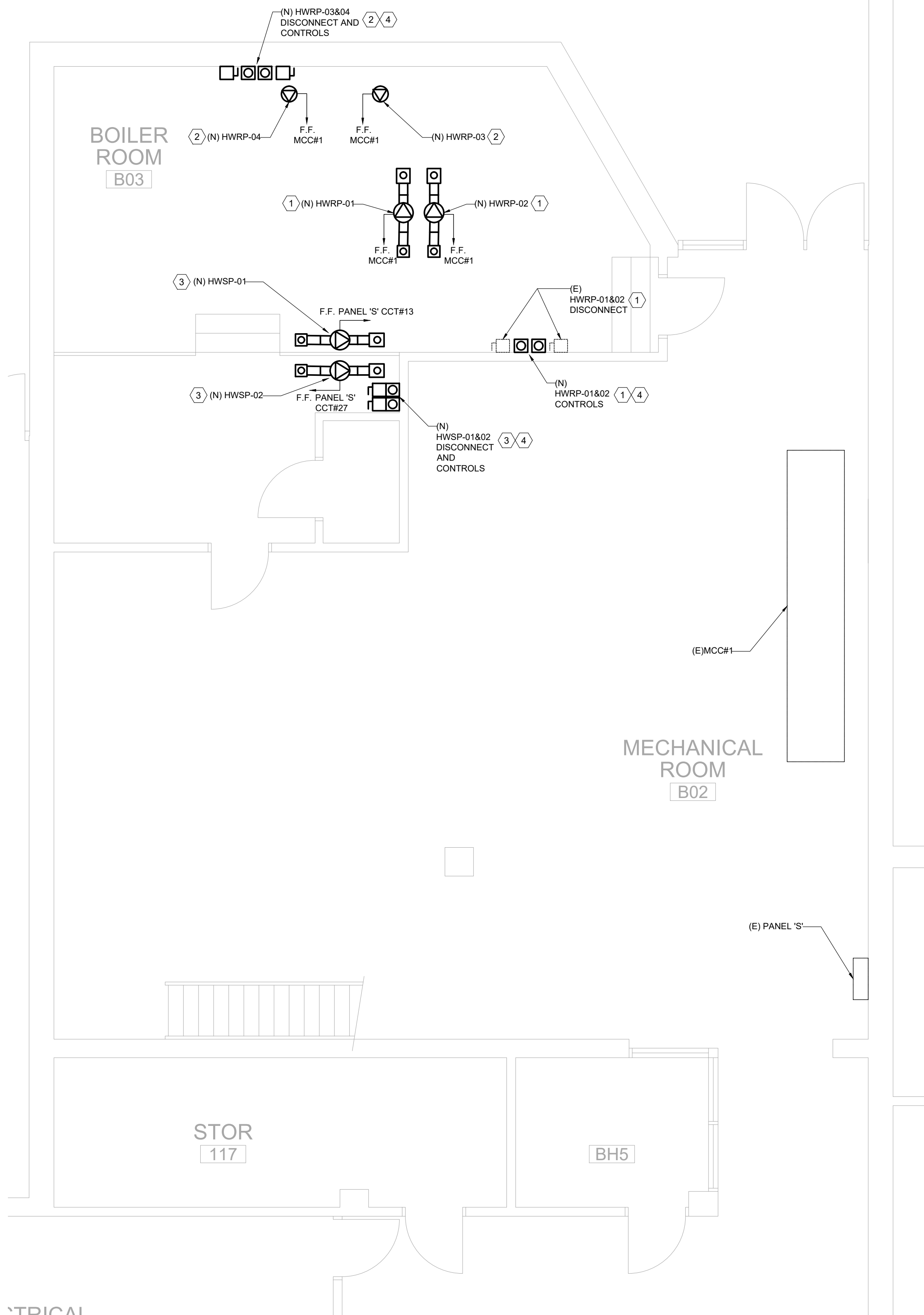
CONTRACTOR SHALL RE-INSTALL ALL REMOVED ITEMS TO THEIR ORIGINAL LOCATION AND STATE AFTER MECHANICAL WORK COMPLETION. CONTRACTOR TO EXTEND, REPLACE AND MATCH EXISTING WIRING AND CONDUITS IN-KIND IF NEEDED.

Drawing No.	Phase	Revision
E-214	T	1

REFER TO LAYOUT #2 ON THIS SHEET



1 FIRST FLOOR - GENERAL LAYOUT
Scale: NTS



2 BOILER ROOM - ELECTRICAL NEW WORK PLAN
Scale: 1:50

NEW WORK NOTES:

- 1 PROVIDE NEW DIRECT CONNECTION FOR HWRP-01 & 02 C/W WIRING. CONDUIT TO BE FED FROM EXISTING MCC#1 LOCATED AT MECHANICAL ROOM. CONTRACTOR SHALL UTILIZE EXISTING PUMP DISCONNECT. REFER TO SINGLE LINE DIAGRAM FOR WIRING DETAIL.
- 2 PROVIDE NEW DIRECT CONNECTION FOR HWRP-03 & 04 C/W WIRING. CONDUIT AND 30AF/15AT-3P FUSED DISCONNECT SWITCH TO BE FED FROM EXISTING MCC#1 LOCATED AT MECHANICAL ROOM. REFER TO SINGLE LINE DIAGRAM FOR WIRING DETAIL.
- 3 PROVIDE NEW DIRECT CONNECTION FOR HWSP-01 & 02 C/W WIRING. CONDUIT TO BE FED FROM EXISTING PANEL 'S' LOCATED AT MECHANICAL ROOM. REFER TO SINGLE LINE DIAGRAM FOR WIRING DETAIL.
- 4 CONTRACTOR TO COORDINATE WITH MECHANICAL TO PROVIDE STARTERS, CONTROLS ETC. C/W WIRING AND CONDUIT FOR ALL NEW PUMPS.

IMPORTANT NOTE:

CONTRACTOR TO PROVIDE A SEPARATE LUMP SUM PRICE FOR REPLACEMENT OF HEATING PUMP. ALL REQUIRED WIRING, CONDUITS, CIRCUIT BREAKERS AND DISCONNECTS ACCORDING TO THE DRAWING. PRICE SHALL INCLUDE ALL THE MECHANICAL, ELECTRICAL, CONTROL, STRUCTURAL AND ARCHITECTURAL SCOPE OF WORK. REFER TO MECHANICAL AND STRUCTURAL DRAWING FOR DETAIL.

1	14/05/2021	ISSUED FOR PERMIT AND TENDER
0	20/04/2021	ISSUED FOR 95% REVIEW
REV.	DATE	DESCRIPTION

Key Plan	True North

Engineer Logo	Spectra Engineering Ltd. 250 SHEPPARD AVE. EAST, SUITE #306, TORONTO, ONTARIO, M2N 6M9 TEL: (416) 478-5156 FAX: (416) 478-5917
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Client	Kawartha Pine Ridge District School Board
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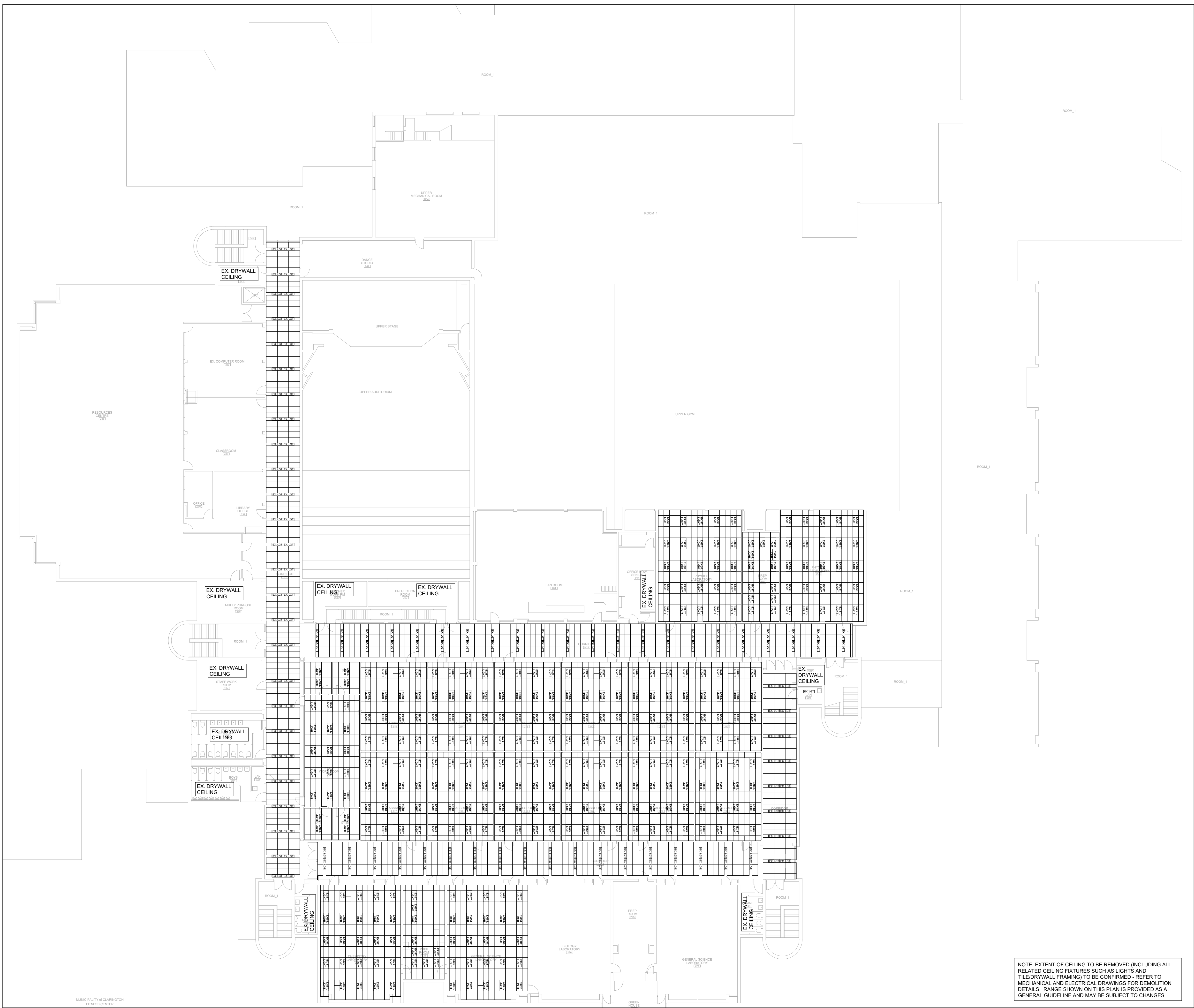
Drawing Overall Scale	AS SHOWN
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Project Name & Address	BOWMANVILLE HIGH SCHOOL HVAC UPGRADE 49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8
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Drawing Title	ELECTRICAL SERVICE BOILER ROOM FIRST FLOOR NEW WORK PLAN
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DATE: 04/05/2021 DESIGNED BY: E.S. DRAWN BY: E.S. APPROVED BY: J.E. PROJECT NO.: 1021027	Engineer / Architect Stamp
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Drawing No.	Phase	Revision
E-301	T	1



- GENERAL NOTES
1. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING POSSIBLE INTERFERENCES. SHOULD ANY DISCREPANCIES APPEAR BETWEEN THE DRAWINGS AND SPECIFICATIONS WHICH LEAVE THE CONTRACTOR IN DOUBT AS TO THE TRUE INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS, THE CONTRACTOR SHALL OBTAIN A RULING FROM THE CONSULTANT IN WRITING BEFORE SUBMITTING A TENDER. IF THIS IS NOT DONE IT WILL BE ASSUMED THAT THE MOST EXPENSIVE ALTERNATIVE HAS BEEN INCLUDED IN THE TENDER PRICE. FOR ANY RULING TO BECOME BINDING, THE CONSULTANT MUST ISSUE THE NEW DIRECTION IN A PUBLISHED FORM.
 2. CONTRACTOR TO REMOVE CEILING TILES, TILE SUPPORT FRAMING, DRYWALL CEILING, DRYWALL SUPPORT FRAMING, LIGHTING FIXTURES AND ALL OTHER MATERIALS AS REQUIRED TO FACILITATE MECHANICAL AND ELECTRICAL WORK. NEW CEILING TILES SHALL BE PROVIDED TO REPLACE DEMOLISHED TILES. DRYWALL, LIGHTING FIXTURES AND ALL OTHER MATERIALS REMOVED SHALL BE RESTORED TO ORIGINAL CONDITION UPON COMPLETION OF WORK.
 3. CONFIRM FOR PRESENCE OF ASBESTOS.
 4. WHERE APPLICABLE, NEW CEILING TILES TO BE INSTALLED SHALL MATCH EXISTING TILES INCLUDING SIZE, COLOUR AND TYPE. TILES AND ALL OTHER RE-INSTALLED MATERIALS TO CONFORM TO ALL KPRDSB SPECIFICATIONS AND GUIDELINES (IF APPLICABLE).

1	2021-MAY-14	ISSUED FOR PERMIT AND TENDER
0	2021-APR-20	ISSUED FOR 95% REVIEW
REV.	DATE	DESCRIPTION

Key Plan

True North

Engineer Logo

Spectra Engineering Ltd.
250 SHEPPARD AVE. EAST, SUITE #306, TORONTO, ONTARIO, M2N 6M9
TEL: (416) 478-5156
FAX: (416) 478-5917

Client

Kawartha Pine Ridge District School Board

Drawing Overall Scale

AS SHOWN

Project Name & Address

BOWMANVILLE HIGH SCHOOL
HVAC UPGRADE
49 LIBERTY STREET NORTH BOWMANVILLE, ON L1C 2L8

Drawing Title

STRUCTURAL SERVICES
KEY PLAN
SECOND FLOOR - DEMOLITION WORKS

DATE: 2021-APR-01
DESIGNED BY: M.CHAN
DRAWN BY: M.CHAN
APPROVED BY: D.HUM
PROJECT NO.: 1021027

Engineer / Architect Stamp

Drawing No.	Phase	Revision
S-02	T	1