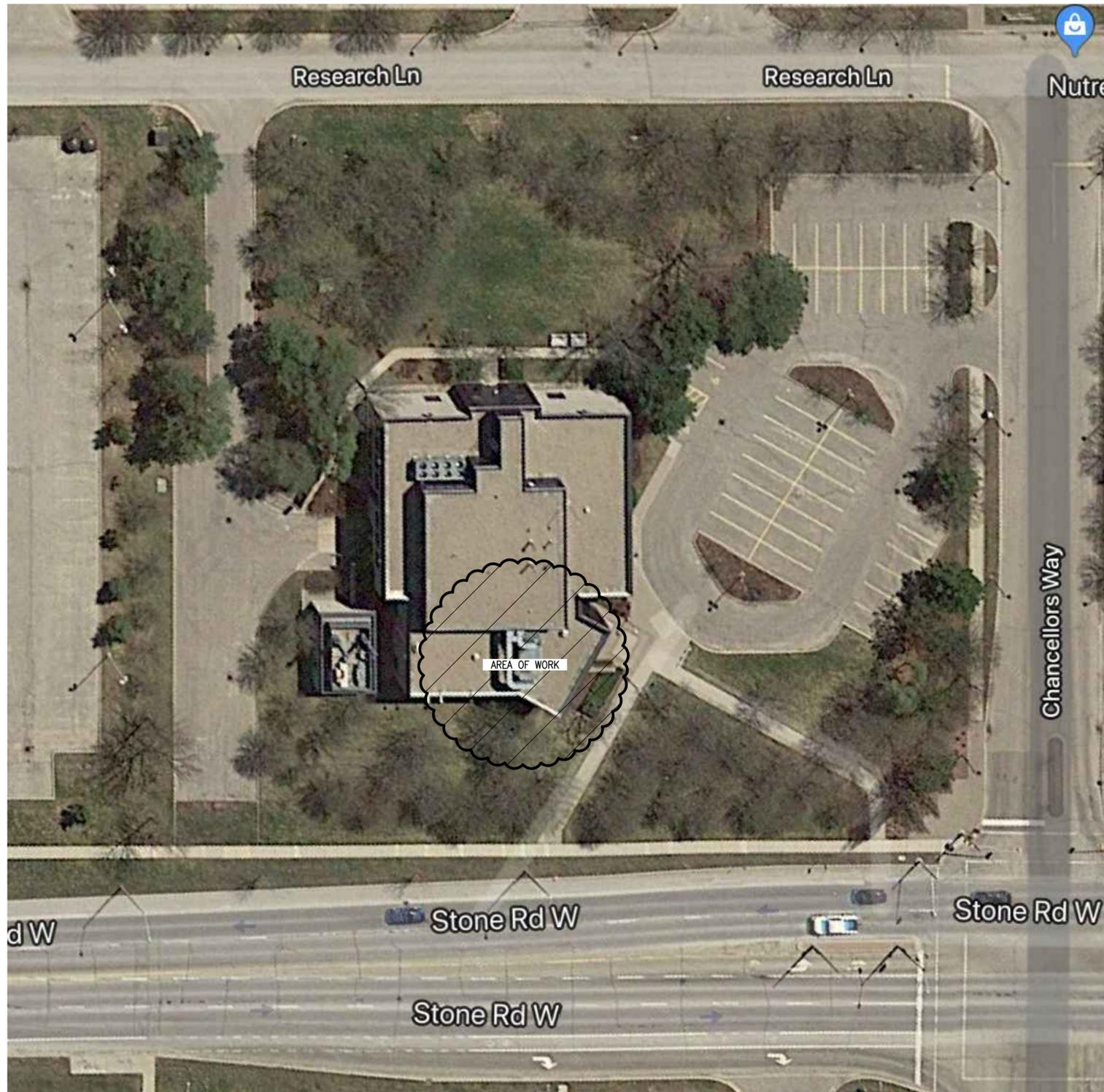


LABORATORY BUILDING ROOFTOP UNIT REPLACEMENT

110 STONE RD., GUELPH, ONTARIO
MECHANICAL/ELECTRICAL



Public Works and
Government Services Canada
Travaux publics et
Services gouvernementaux Canada



04		
03		
02	RE-ISSUED FOR PERMIT/TENDER	2018-04-27
01	ISSUED FOR PERMIT/TENDER	2018-02-28
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project title
titre du projet
GUELPH Ontario
PUBLIC HEALTH AGENCY OF CANADA
110 STONE RD. WEST
GUELPH, ONTARIO
ROOFTOP UNIT REPLACEMENT

drawing title
titre du dessin
MECHANICAL & ELECTRICAL
SITE PLAN

drawn by
dessiné par L.CHARRON / C.SMITH

designed by
conçu par L.CHARRON / C.SMITH

approved by
approuvé par S.HAMILTON / J.MOFFAT

bid
offre R.MORRIS project manager
administrateur de projets

project date
date du projet 2018-05-01

project no.
no. du projet R.090980.001

drawing no.
dessiné no. MEO

DEMOLITION NOTES:

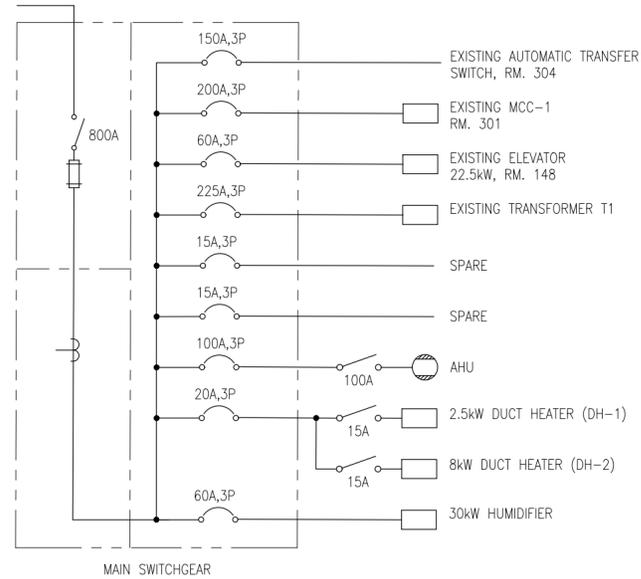
- UNLESS OTHERWISE NOTED, MATERIALS FOR REMOVAL BECOME THE CONTRACTOR'S PROPERTY AND SHALL BE TAKEN FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS AND REGULATIONS. DISCONNECT AND MAKE SAFE ALL SYSTEMS TO BE DEMOLISHED INCLUDING FEEDERS, BRANCH CIRCUITS AND EQUIPMENT BY OTHER DIVISIONS. COORDINATE WITH OTHER DIVISIONS.
- MAINTAIN EXISTING REMAINING CIRCUITS, SYSTEMS, ETC., WHICH PASS THROUGH AREA OF CONSTRUCTION AND IN CLOSE PROXIMITY. PROVIDE NECESSARY COMPONENTS TO MAINTAIN SYSTEMS. ENSURE COMPONENTS WILL BE CONCEALED WHEN CONSTRUCTION IS COMPLETE.
- REINSTATE IMMEDIATELY ANY REMAINING EXISTING SYSTEMS IN-ADVERTENTLY INTERRUPTED DURING CONSTRUCTION.
- THE DRAWINGS INDICATE KNOWN CONDITIONS AND MAY NOT INDICATE ALL DEMOLITION REQUIREMENTS, ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO TENDER SUBMISSION AND VERIFY REQUIREMENTS AND INCLUDE ALL COSTS IN TENDER.
- REMOVE REDUNDANT CONDUIT AND WIRING BACK TO SOURCE UNLESS OTHERWISE NOTED, AND MAKE SAFE.
- DEVICES FROM DEMOLITION ARE NOT TO BE REUSED UNLESS NOTED OTHERWISE. NEW DEVICES SHALL BE SUPPLIED WHERE NECESSARY.
- ALL FIRE ALARM DEVICES TO REMAIN IN OPERATION. PROTECT SMOKE DETECTORS FROM DUST EXPOSURE DURING CONSTRUCTION.
- ENSURE FIRE ALARM SYSTEM IS OPERATIONAL AT THE END OF EACH SHIFT.
- AFTER DEMOLITION WORK IS COMPLETE AND MINIMUM THREE (3) WORKING DAYS PRIOR TO PROCEEDING WITH NEW WORK, NOTIFY ENGINEER FOR INSPECTION.

GENERAL NOTES:

- ELECTRICAL WORK TO BE DONE IN ACCORDANCE WITH THE ELECTRICAL SAFETY CODE OF ONTARIO. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS, PAY ALL APPLICABLE FEES AND INSPECTION COSTS.
- COORDINATE WORK WITH ALL OTHER TRADES TO AVOID INTERFERENCE.
- ENSURE ELECTRICAL COMPONENTS (IE. WIRING, CONDUIT, ETC.) RELATING TO THE AREA OF WORK ARE INDEPENDENTLY SECURED TO COMPLY WITH CODE REQUIREMENTS. IT IS NOT ACCEPTABLE TO SECURE THE COMPONENTS TO DUCTWORK, DUCT WORK TO CONDUIT, OR ANY OTHER SYSTEMS.
- ENSURE ALL EXISTING CEILING MOUNTED BOXES ARE CLOSED PRIOR TO COMPLETION OF PROJECT. PROVIDE LABELLED AND COLOUR CODED COVER PLATES (IE. PANEL NAME AND CIRCUIT NUMBER) AS REQUIRED.

FIRE ALARM NOTES:

- PROVIDE NEW CIRCUITS AS REQUIRED FOR ALARM CIRCUITS.
- TEST FINAL INSTALLATION AND PROVIDE VERIFICATION OF FIRE ALARM SYSTEMS IN ACCORDANCE WITH CAN/ULC 5537 LATEST EDITION. TEST DUCT SMOKE AND FAN SHUT DOWN USING SMOKE BOMB METHOD.



1 PARTIAL SINGLELINE DIAGRAM
ME1 N.T.S.

DRAWING LIST

SYMBOL	DESCRIPTION
ME1	MECHANICAL AND ELECTRICAL TITLE SHEET
ME2	MECHANICAL AND ELECTRICAL DEMOLITION WORK
ME3	MECHANICAL AND ELECTRICAL NEW WORK

ABBREVIATION LEGEND

ABBREVIATION	DESCRIPTION
UF	UNFUSED
GFI	GROUND FAULT INTERRUPTING, 5 mA
WP	WEATHERPROOF

POWER LEGEND

SYMBOL	DESCRIPTION
	5-20R GROUND FAULT INTERRUPT RECEPTACLE
	120V JUNCTION BOX, 250x250x150mm UNLESS NOTED OTHERWISE
	DISCONNECT SWITCH
	VARIABLE FREQUENCY DRIVE
	CONDUIT DOWN

LINETYPE LEGEND

LINETYPE	DESCRIPTION
	NEW WORK
	DEMOLITION WORK
	EXISTING
	LIGHTING ZONE

ROOFTOP UNIT SCHEDULE

TAG	LOCATION	AREA SERVED	SUPPLY FAN DATA (VSD)				EXHAUST/RETURN FAN DATA (VSD)				GAS HEATING SECTION						
			FAN TYPE	AIR FLOW (L/s)	EXTERNAL STATIC PRESSURE (Pa)	TOTAL STATIC PRESSURE (Pa)	MOTOR SIZE (HP)	FAN TYPE	AIR FLOW (L/s)	EXTERNAL STATIC PRESSURE (Pa)	TOTAL STATIC PRESSURE (Pa)	MOTOR SIZE (HP)	INPUT (kW)	OUTPUT (kW)	E.A.T. (°C)	L.A.T. (°C)	STAGES
RTU	ROOF	-	CENTRIFUGAL	4,300	438	1025	10	CENTRIFUGAL	3,400	125	370	3	175	165	6.4	36.7	-
			DX COOLING COIL DATA				ELECTRICAL DATA			OCTAVE BAND (Hz) SOUND POWER LEVEL (dB/dB(A))							
TOTAL CAPACITY (kW)	SENSIBLE CAPACITY (kW)	E.A.T. (DB/WB) (°C)	L.A.T. (DB/WB) (°C)	STAGES	FLA/MCA/MOC	V/PH/Hz	63	125	250	500	1000	2000					
100	71	26/19	13/12	2	62/-/90	575/3/60	84/58	82/66	85/76	82/79	81/81	77/78					

NOTES: 1. FOR DETAILS REFER TO SPECIFICATIONS.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada



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110 STONE RD. WEST
GUELPH, ONTARIO
ROOFTOP UNIT REPLACEMENT

drawing title
titre du dessin
MECHANICAL & ELECTRICAL
LEGENDS, SCHEDULES,
& GENERAL NOTES

drawn by
dessiné par L.CHARRON / C.SMITH

designed by
conc par L.CHARRON / C.SMITH

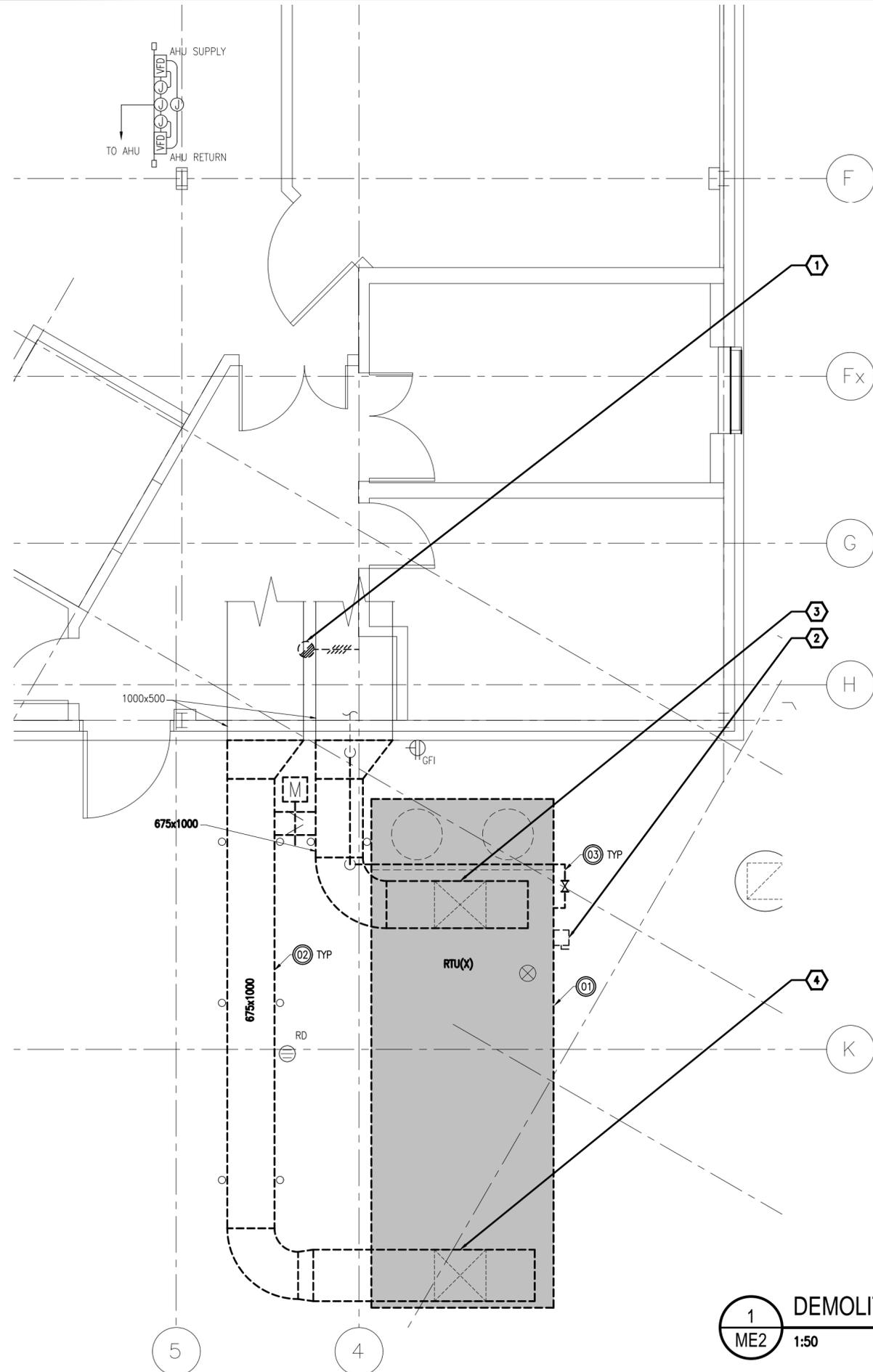
approved by
approuvé par S.HAMILTON / J.MOFFAT

bid offre R.MORRIS project manager administrateur de projets

project date
date du projet 2018-05-01

project no.
no. du projet R.090980.001

drawing no.
dessiné no. ME1



MECHANICAL DRAWING NOTES:

- ① EXISTING RTU SHALL BE DEMOLISHED. CURB SHALL BE RETAINED AND PREPPED FOR THE INSTALLATION OF A NEW CURB ADAPTER.
- ② EXISTING DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CUT BACK AS INDICATED, AND REMOVED. DUCT SUPPORTS SHALL BE RETAINED FOR NEW DUCTWORK.
- ③ DISCONNECT NATURAL GAS PIPING AND CUT BACK TO RISER, AS INDICATED.
- ④ UNIT REPLACEMENT SHALL OCCUR AFTER HOURS. DEMOLITION WORK SHALL BE COORDINATED WITH NEW WORK SUCH THAT THE EXISTING UNIT REMAINS OPERATIONAL UNTIL CLOSE OF BUSINESS ON FRIDAY AFTERNOON. THE NEW UNIT SHALL BE OPERATIONAL BEFORE START OF BUSINESS ON MONDAY MORNING.

ELECTRICAL DRAWING NOTES:

- ① TEMPORARILY DISCONNECT EXISTING DUCT TYPE SMOKE DETECTOR FROM EXISTING AHU UNIT. RETAIN SMOKE DETECTOR FOR FUTURE USE. REFER TO DRAWING ME3 FOR ADDITIONAL INFORMATION
- ② EXISTING ROOFTOP UNIT REMOVED BY GENERAL CONTRACTOR. DISCONNECT ROOFTOP UNIT AND REMOVE DISCONNECT SWITCH. RETAIN EXISTING TECK FEEDER CABLE FOR FUTURE USE. REFER TO DRAWING ME3 FOR ADDITIONAL INFORMATION.
- ③ DISCONNECT EXISTING SUPPLY FAN FROM VFD. RETAIN EXISTING TECK FEEDER CABLE FOR FUTURE USE. REFER TO DRAWING ME3 FOR ADDITIONAL INFORMATION.
- ④ DISCONNECT EXISTING RETURN FAN FROM VFD. RETAIN EXISTING TECK FEEDER CABLE FOR FUTURE USE. REFER TO DRAWING ME3 FOR ADDITIONAL INFORMATION.

1 DEMOLITION WORK
ME2 1:50



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PUBLIC HEALTH AGENCY OF CANADA
110 STONE RD. WEST
GUELPH, ONTARIO
ROOFTOP UNIT REPLACEMENT

drawing title / titre du dessin
MECHANICAL & ELECTRICAL
DEMOLITION

drawn by / dessiné par L.CHARRON / C.SMITH

designed by / conçu par L.CHARRON / C.SMITH

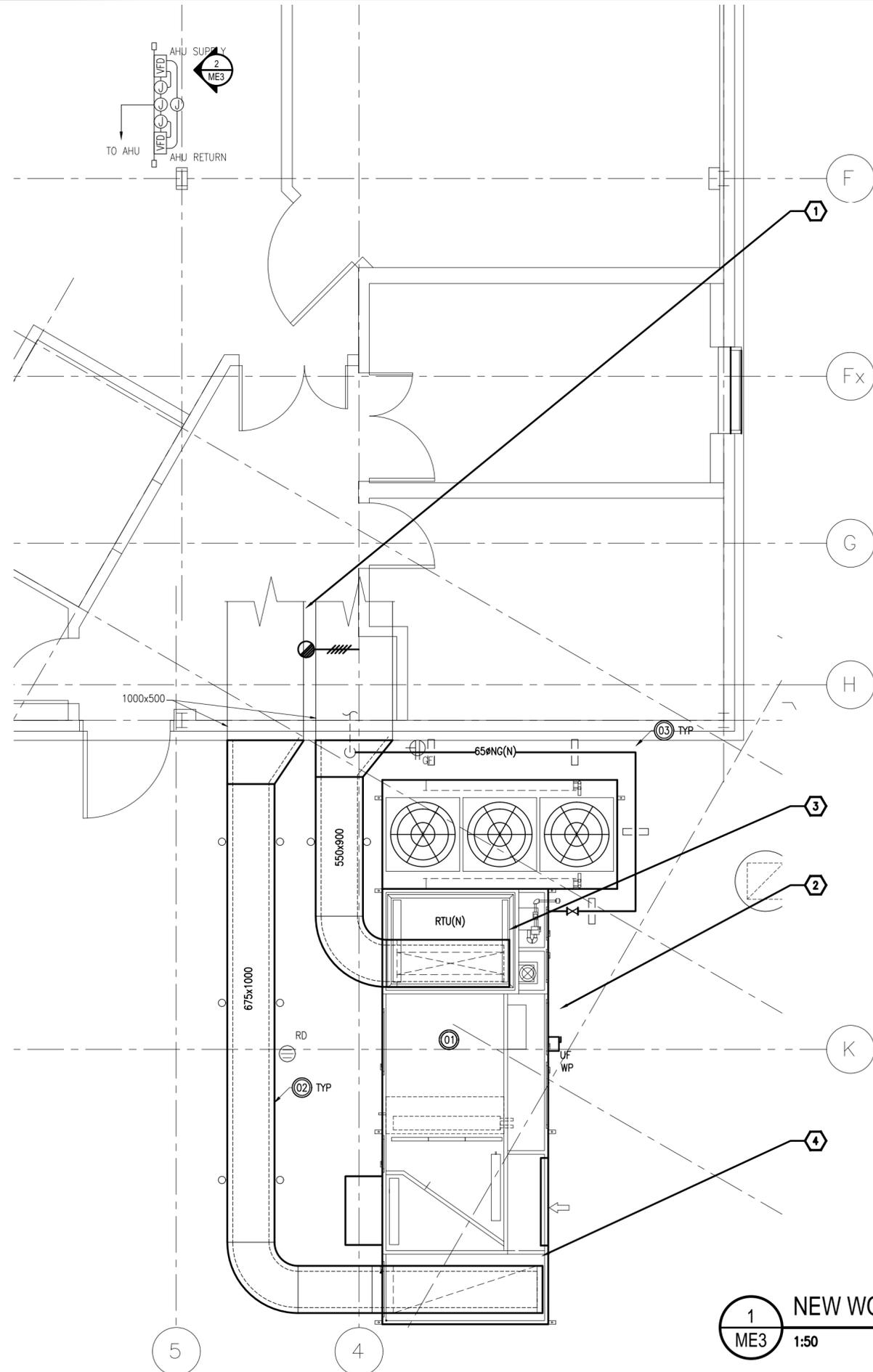
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project no. / no. du projet R.090980.001

drawing no. / dessiné no. ME2



MECHANICAL DRAWING NOTES:

① PROVIDE NEW PACKAGED RTU c/w CURB ADAPTER FOR INSTALLATION ON THE EXISTING CURB. CONNECT TO EXISTING BAS. PROVIDE NEW CO2 SENSOR TO MEASURE THE DIFFERENTIAL BETWEEN R/A & O/A. CONTROL OUTSIDE AIR DAMPER TO MAINTAIN CO2 CONCENTRATION SETPOINT OF 500 PPM (ADJUSTABLE). PROVIDE WIRING TO TERMINAL STRIP AT THE RTU FOR THE FOLLOWING I/O CONNECTIONS:

INPUTS

- * RTU ENABLE: 24VAC DRY CONTACT
- * HEATING ENABLE: 24VAC DRY CONTACT
- * HEATING MODULATION: 0-10VDC DEMAND SIGNAL
- * COOLING ENABLE: 24VAC DRY CONTACT
- * COOLING MODULATION: 0-10VDC DEMAND SIGNAL
- * O/A DAMPER POSITION: 0-10VDC DEMAND SIGNAL
- * M/A DAMPER POSITION: 0-10VDC DEMAND SIGNAL
- * E/A DAMPER POSITION: 0-10VDC DEMAND SIGNAL

OUTPUTS

- * GENERAL ALARM: 24VAC DRY CONTACT
- * BURNER ALARM: 24VAC DRY CONTACT
- * COOLING ALARM: 24VAC DRY CONTACT
- * FREEZE STAT ALARM: 24VAC DRY CONTACT
- * DIRTY FILTER ALARM: 24VAC DRY CONTACT

THE EXISTING CONTROL SEQUENCE SHALL BE REUSED WITH THE EXCEPTION OF THE NEW DEMAND CONTROL VENTILATION SEQUENCE. UPDATE GRAPHICS AND PROGRAMMING AS REQUIRED.

② PROVIDE NEW DUCTWORK AND ASSOCIATED ACCESSORIES, AS INDICATED. INSTALL NEW DUCTWORK c/w 50mm ACOUSTIC INSULATION ON EXISTING DUCT SUPPORTS. RECONNECT WITH EXISTING DUCTWORK.

③ EXTEND EXISTING NATURAL GAS PIPING TO NEW UNIT, AS INDICATED. PROVIDE NEW PIPE SLEEPERS.

④ UNIT REPLACEMENT SHALL OCCUR AFTER HOURS. THE EXISTING UNIT SHALL REMAIN OPERATIONAL UNTIL CLOSE OF BUSINESS ON FRIDAY AFTERNOON. THE NEW UNIT SHALL BE OPERATIONAL BY START OF BUSINESS ON MONDAY MORNING.

ELECTRICAL DRAWING NOTES:

① EXISTING DUCT TYPE SMOKE DETECTOR. RECONNECT TO NEW ROOFTOP UNIT SO THAT UPON ACTIVATION OF FIRE ALARM SYSTEM ROOFTOP UNIT SHUTS DOWN.

② NEW ROOFTOP UNIT SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR. PROVIDE NEW UNFUSED, WEATHERPROOF DISCONNECT SWITCH AND CONNECT TO EXISTING TECK CABLING RETAINED FROM DEMOLITION. MODIFY/EXTEND FEEDER TO SUIT NEW ROOFTOP UNIT.

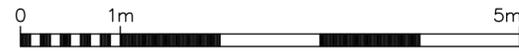
③ NEW SUPPLY FAN SUPPLIED BY GENERAL CONTRACTOR AS PART OF NEW AIR HANDLING UNIT. PROVIDE CONNECTION OF NEW SUPPLY FAN TO EXISTING VFD. MODIFY/EXTEND EXISTING TECK CABLING RETAINED FROM DEMOLITION TO SUIT.

④ NEW RETURN FAN SUPPLIED BY GENERAL CONTRACTOR AS PART OF NEW AIR HANDLING UNIT. PROVIDE CONNECTION OF NEW SUPPLY FAN TO EXISTING VFD. MODIFY/EXTEND EXISTING TECK CABLING RETAINED FROM DEMOLITION TO SUIT.



② AHU VFD - PICTURE
ME3 N.T.S.

① NEW WORK
ME3 1:50



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drawing title
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MECHANICAL & ELECTRICAL
NEW WORK

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dessiné no. ME3