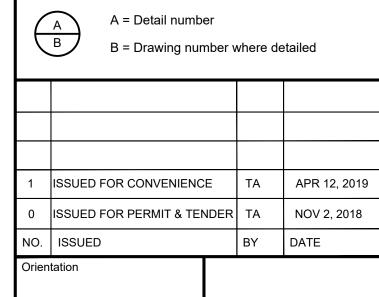


Contractors must check and verify all site conditions. Notify the Owner's Representative in writing before proceeding with the work if discrepancies are evident between the drawings and the site condition. No extras to the contract will be allowed if discrepancies were evident prior to start of work.

UNEXPECTED DISCOVERY OF ASBESTOS:

Where a friable material is discovered during construction, renovations and/or demolition, and it is suspected to contain asbestos, the Contractor must stop all work that may disturb the material. The Contractor shall advise the Owner of the discovery and await instructions from the owner.





Guelph, Ontario. N1G 2W1

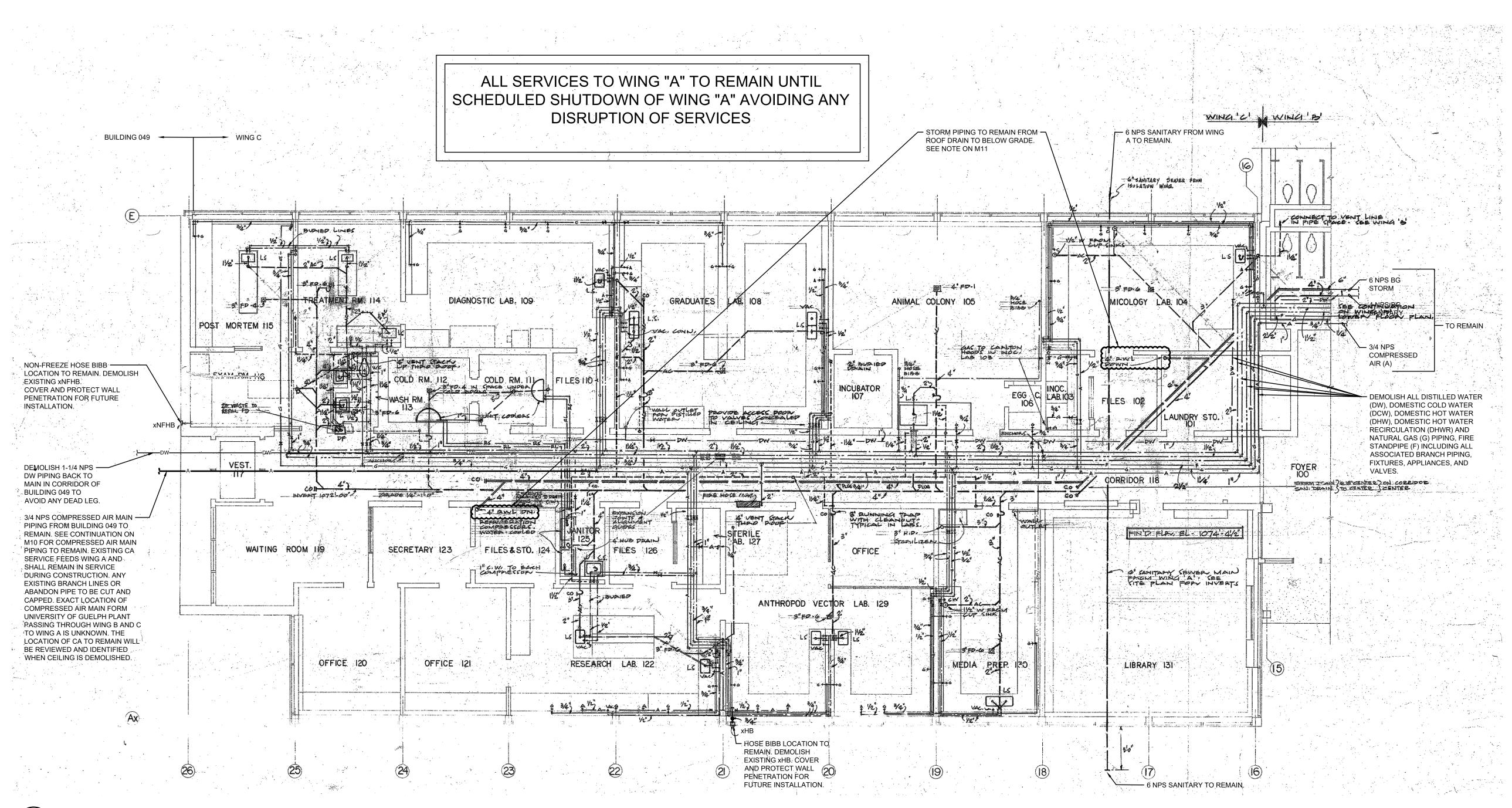


BUILDING #046 RENOVATIONS

Drawing Title MECHANICAL DEMOLITION PLUMBING WING B LEVEL 2

Project No. 504034

Scale NTS	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By	
NC	\mathbf{N}
Approved By	<i> </i>
KT	
JLR#]
27915	
Cad File No	





DEMOLITION PLUMBING WING C SCALE: 1:75

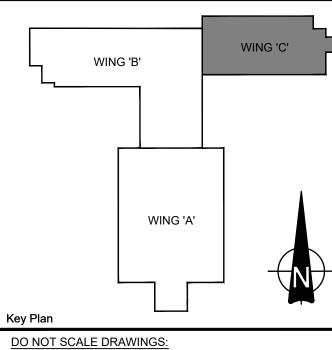
GENERAL NOTE:

- A. ALL EQUIPMENT, DUCTWORK, FIXTURES, PIPING, CONTROLS ETC. TO BE DEMOLISHED AS PER DRAWING BUT IS NOT LIMITED TO ITEMS NOT INDICATED ON THE DRAWING THAT WOULD BE MADE OBSOLETE BY THIS RENOVATION.
- B. DRAWINGS SHOWING EXTENT OF SELECTIVE DEMOLITION ARE INTENDED TO BE SCHEMATIC AND DO NOT INDICATE FULL EXTENT OF ALL SELECTIVE DEMOLITION WORK. EXAMINE SITE AND DOCUMENTS TO DETERMINE COMPLETE SCOPE OF SELECTIVE DEMOLITION, REMOVALS AND REINSTATEMENT, REPAIR AND MAKE GOOD REQUIRED TO COMPLETE THE WORK.

DRAWING NOTES:

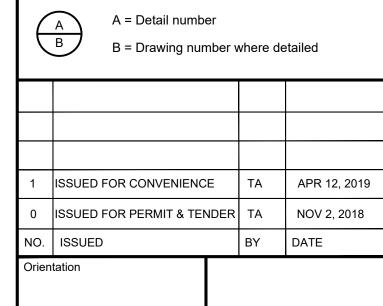
OTHERWISE.

- 1. ALL FIXTURES TO BE REMOVED UNLESS INDICATED
- 2. ALL SUPPLY PIPING TO FIXTURES TO BE DEMOLISHED. 3. BREAK CONCRETE FLOOR, CUT AND CAP ALL
- SANITARY PIPING BELOW FINISHED FLOOR. 4. DEMOLISH ALL VENTING PIPING THAT WILL BECOME
- OBSOLETE BY THE DEMOLITION OF THE DRAINAGE PIPING.
- 5. REPAIR FLOOR WITH LIKE MATERIALS AND CONSTRUCTION.
- 6. FINISH FLOOR AS PER ARCHITECTURAL ROOM SCHEDULES.



Contractors must check and verify all site conditions. Notify the Owner's Representative in writing before proceeding with the work if discrepancies are evident between the drawings and the site condition. No extras to the contract will be allowed if discrepancies were evident prior to start of work.

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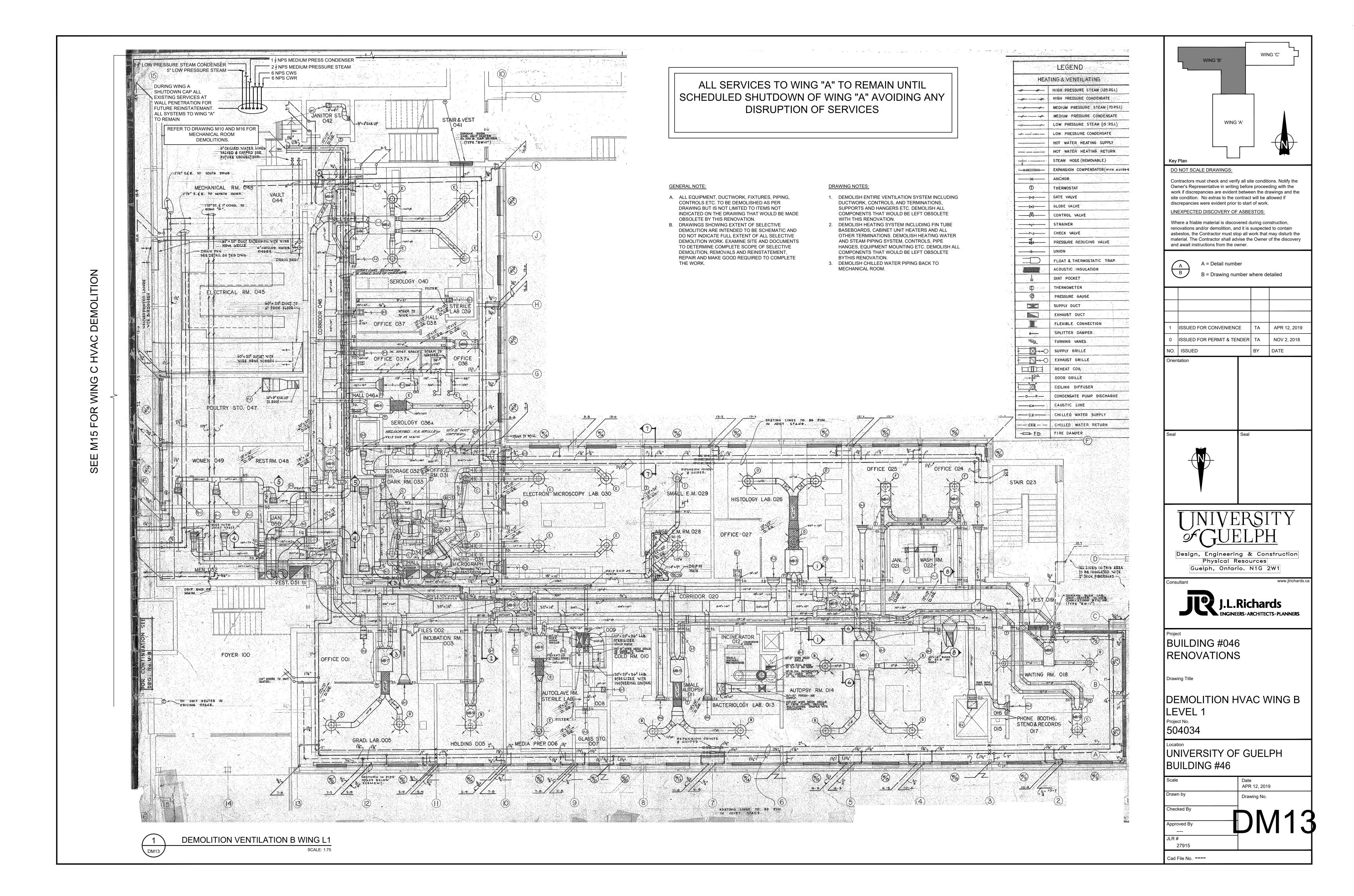
Physical Resources Guelph, Ontario. N1G 2W1

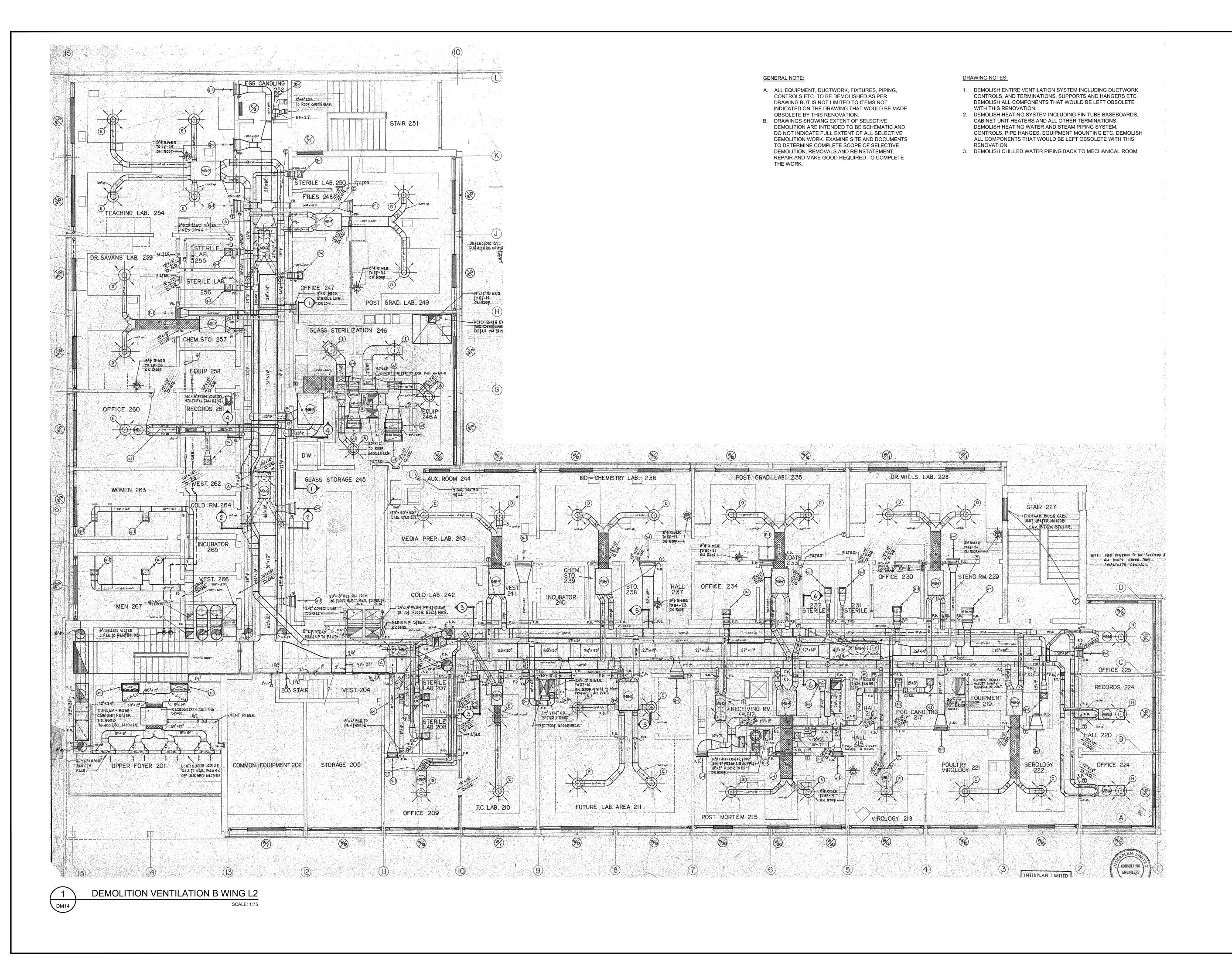
BUILDING #046 RENOVATIONS

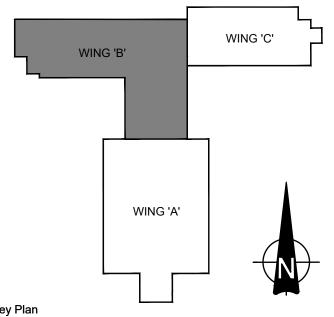
504034

Drawing Title MECHANICAL DEMOLITION PLUMBING WING C LEVEL 1 Project No.

Scale NTS	Date APR 12, 2019
Drawn by	Drawing No.
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Checked By	
NC	
Approved By	
KT	
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Key Pla

DO NOT SCALE DRAWINGS:

Contractors must check and verify all site conditions. Notify the Owner's Representative in writing before proceeding with the work if discrepancies are evident between the drawings and the site condition. No extras to the contract will be allowed if discrepancies were evident prior to start of work.

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A = Detail number

B = Drawing number where detailed

1 ISSUED FOR CONVENIENCE TA APR 12, 2019
0 ISSUED FOR PERMIT & TENDER TA NOV 2, 2018
NO. ISSUED BY DATE

Orientation



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Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1

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BUILDING #046 RENOVATIONS

Drawing Title

DEMOLITION HVAC WING B LEVEL 2 Project No. 504034

NERSITY OF

UNIVERSITY OF GUELPH BUILDING #46

Date APR 12, 2019

Drawn by

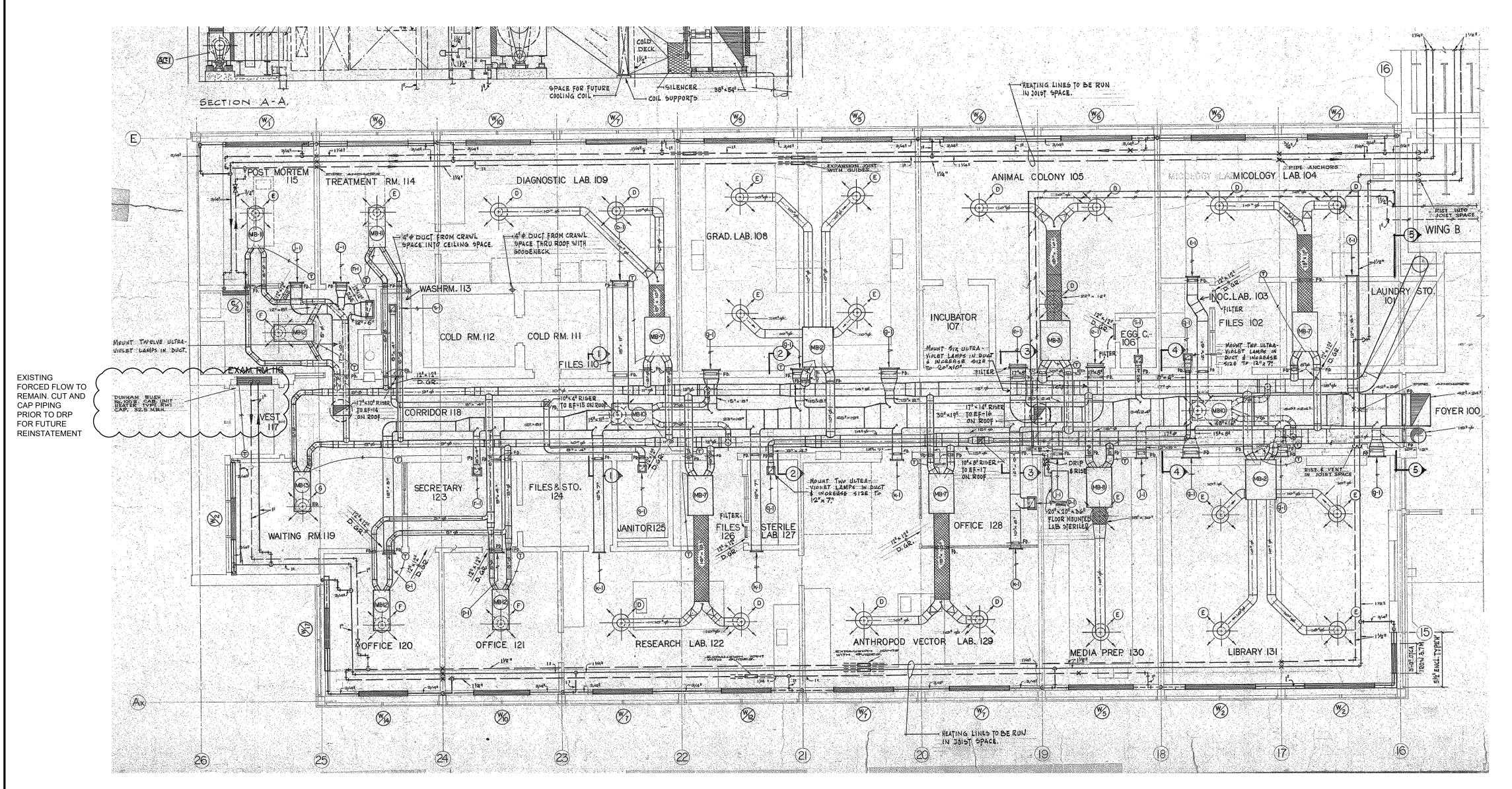
Drawing No.

Checked By

Approved By

Cad File No. ----

27915





DEMOLITION VENTILATION C WING

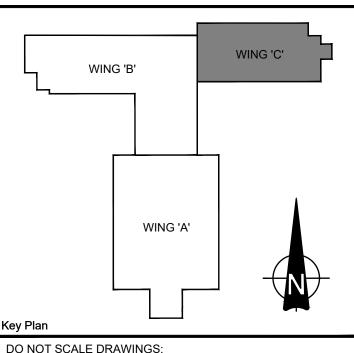
SCALE: 1:75

GENERAL NOTES:

- A. ALL EQUIPMENT, DUCTWORK, FIXTURES, PIPING, CONTROLS ETC. TO BE DEMOLISHED AS PER DRAWING BUT IS NOT LIMITED TO ITEMS NOT INDICATED ON THE DRAWING THAT WOULD BE MADE OBSOLETE BY THIS RENOVATION.
- B. DRAWINGS SHOWING EXTENT OF SELECTIVE DEMOLITION ARE INTENDED TO BE SCHEMATIC AND DO NOT INDICATE FULL EXTENT OF ALL SELECTIVE DEMOLITION WORK. EXAMINE SITE AND DOCUMENTS TO DETERMINE COMPLETE SCOPE OF SELECTIVE DEMOLITION, REMOVALS AND REINSTATEMENT, REPAIR AND MAKE GOOD REQUIRED TO COMPLETE THE WORK.

DRAWING NOTES:

- 1. DEMOLISH ENTIRE VENTILATION SYSTEM INCLUDING DUCTWORK, CONTROLS, AND TERMINATIONS, SUPPORTS AND HANGERS ETC. DEMOLISH ALL COMPONENTS THAT WOULD BE LEFT OBSOLETE WITH THIS RENOVATION.
- 2. DEMOLISH HEATING SYSTEM INCLUDING FIN TUBE BASEBOARDS, CABINET UNIT HEATERS AND ALL OTHER TERMINATIONS. DEMOLISH HEATING WATER AND STEAM PIPING SYSTEM, CONTROLS, PIPE HANGES, EQUIPMENT MOUNTING ETC. DEMOLISH ALL COMPONENTS THAT WOULD BE LEFT OBSOLETE WITH THIS RENOVATION.
- 3. DEMOLISH CHILLED WATER PIPING BACK TO MECHANICAL ROOM.

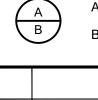


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NO.	ISSUED	BY	DATE
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BUILDING #046 RENOVATIONS

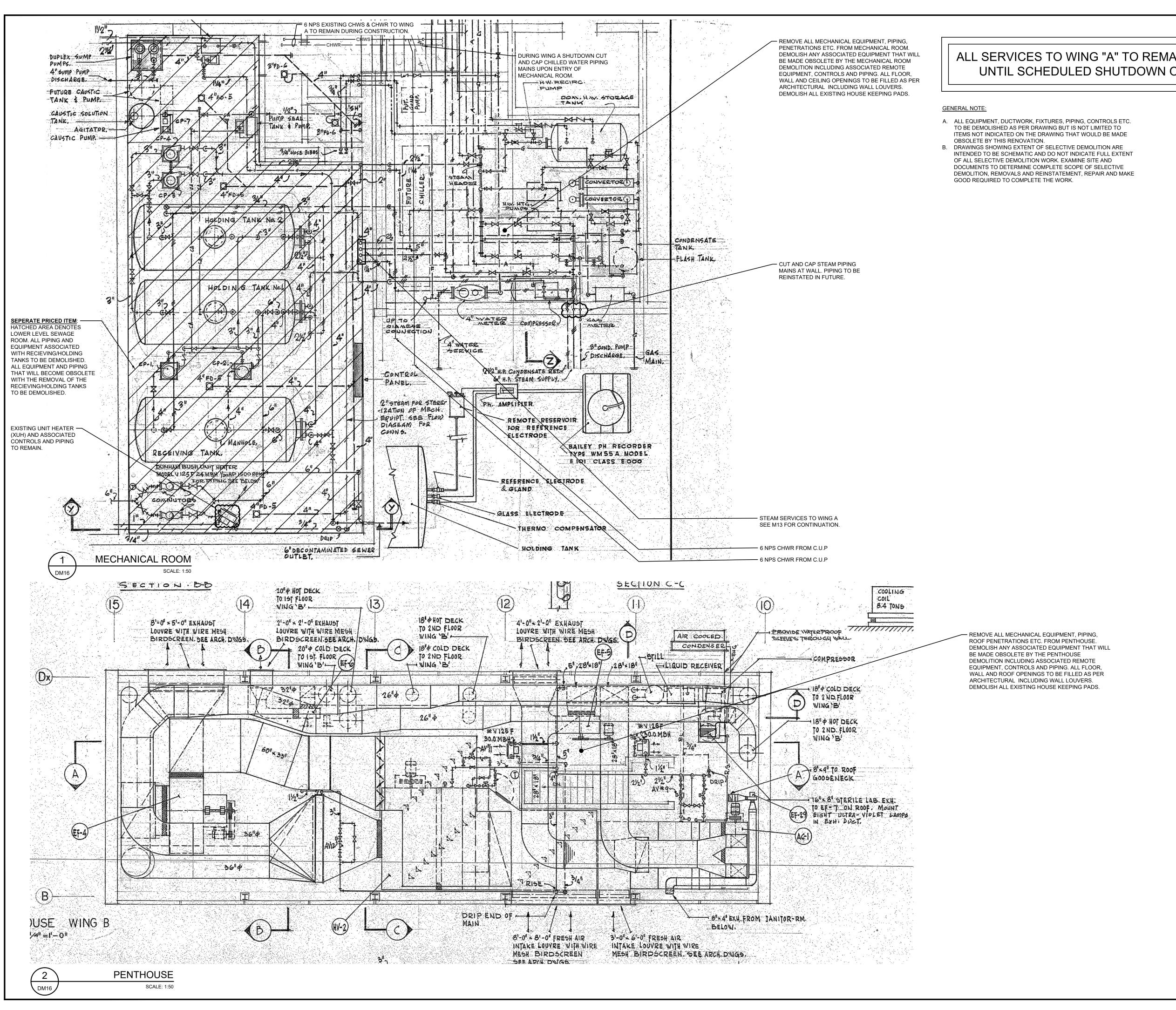
Drawing Title

Cad File No. ----

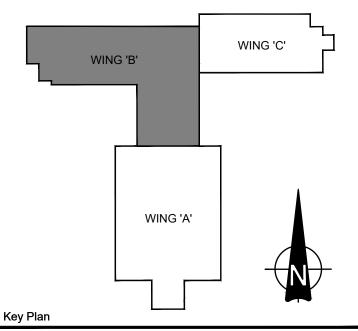
DEMOLITION HVAC WING C LEVEL 1 Project No. 504034

UNIVERSITY OF GUELPH BUILDING #46

APR 12, 2019 Drawing No. Checked By 27915





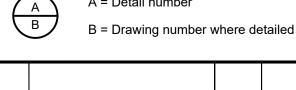


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ISSUED FOR CONVENIENCE APR 12, 2019 ISSUED FOR PERMIT & TENDER TA NOV 2, 2018 BY NO. ISSUED DATE

Orientation



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Physical Resources Guelph, Ontario. N1G 2W1



BUILDING #046 RENOVATIONS

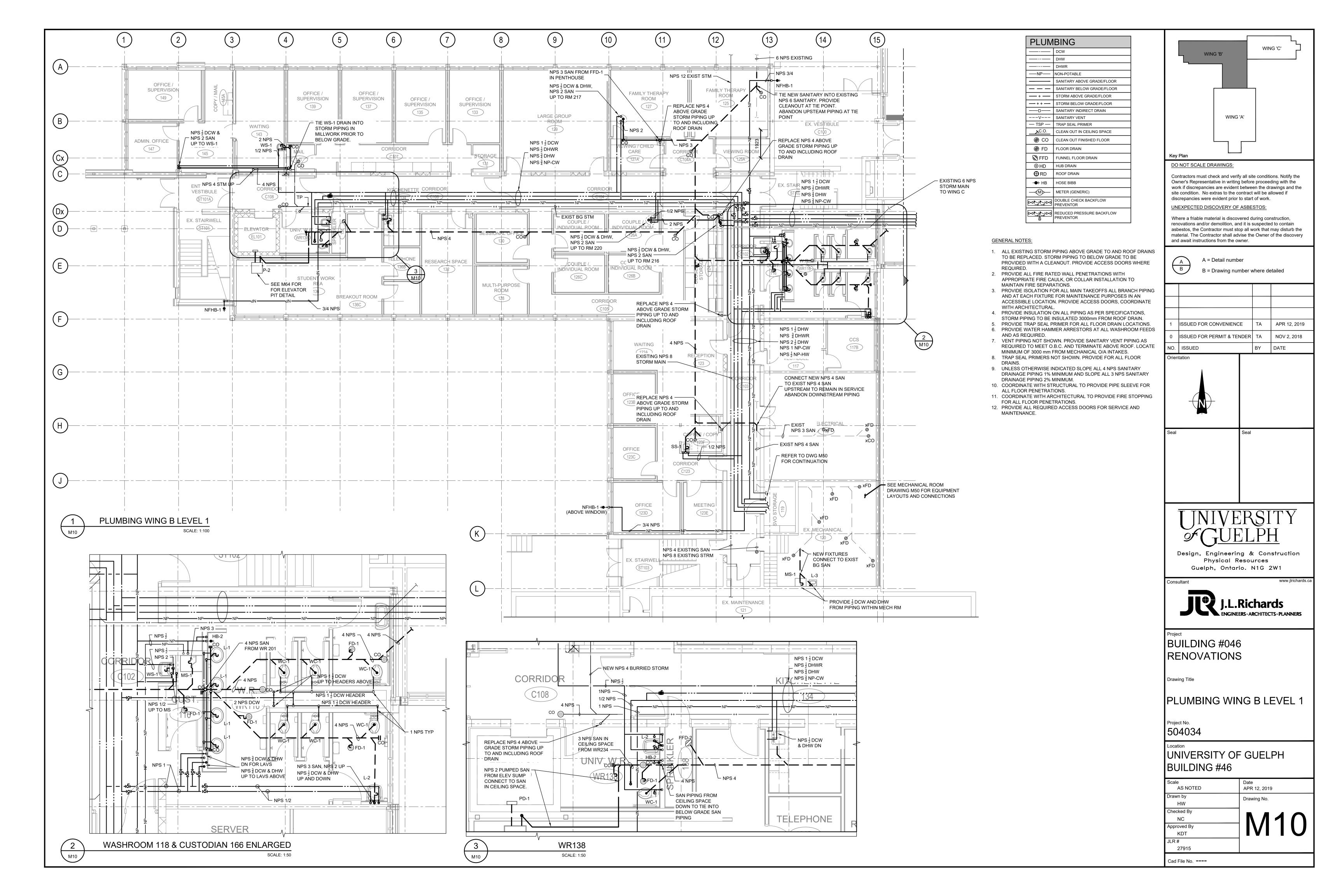
Drawing Title

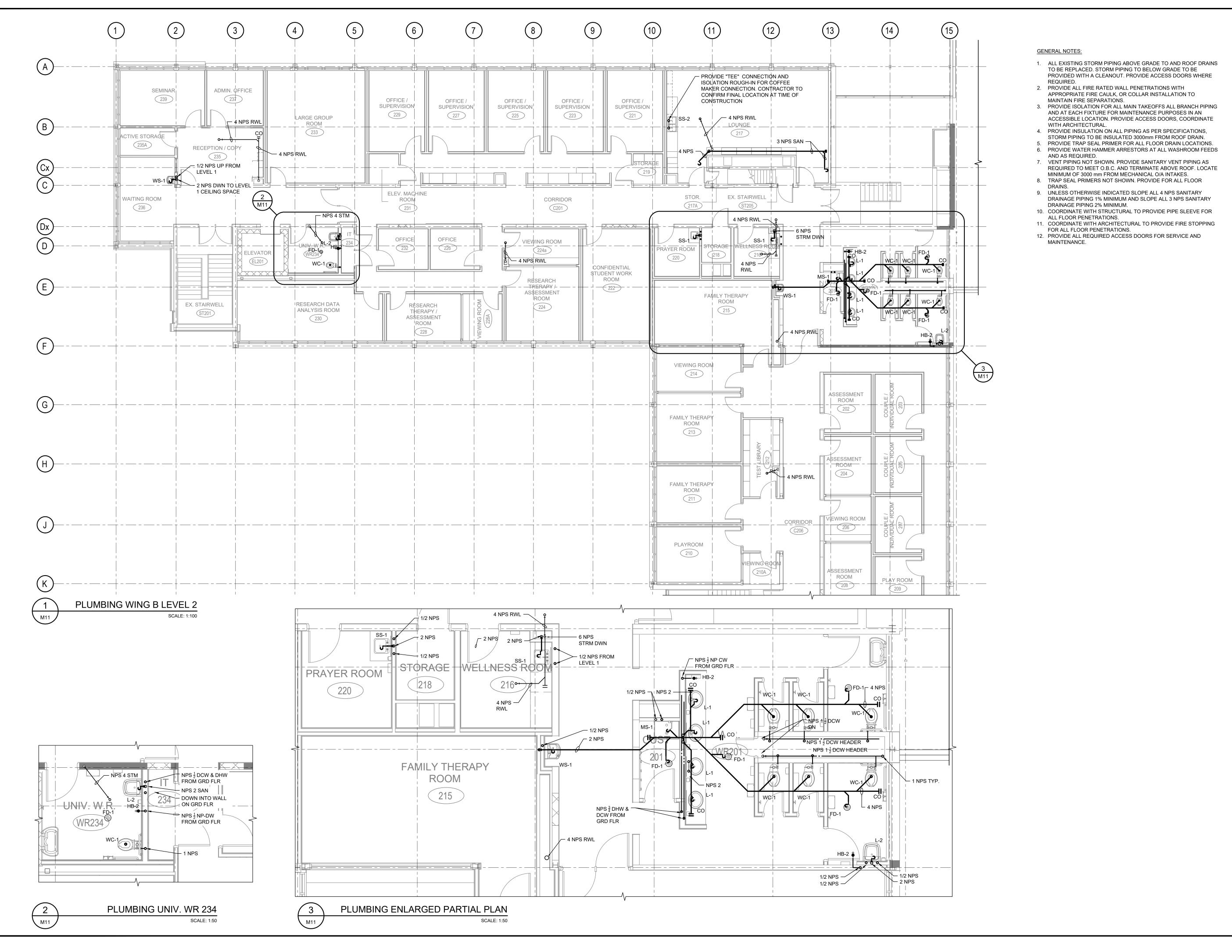
Cad File No. ----

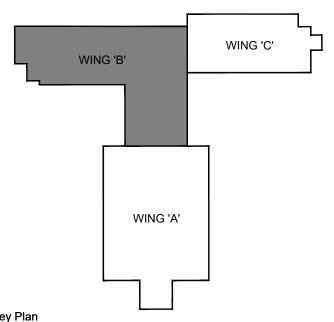
DEMOLITION MECHANICAL RM 120 AND PENTHOUSE 302[№] 504034

UNIVERSITY OF GUELPH BUILDING #46

APR 12, 2019 Drawing No. Checked By 27915







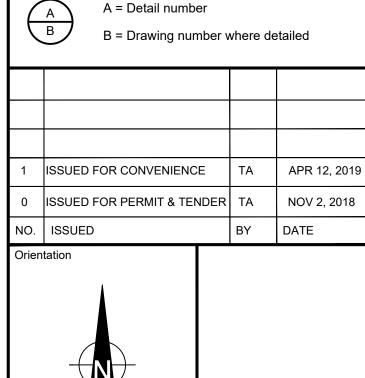
DO NOT COALE

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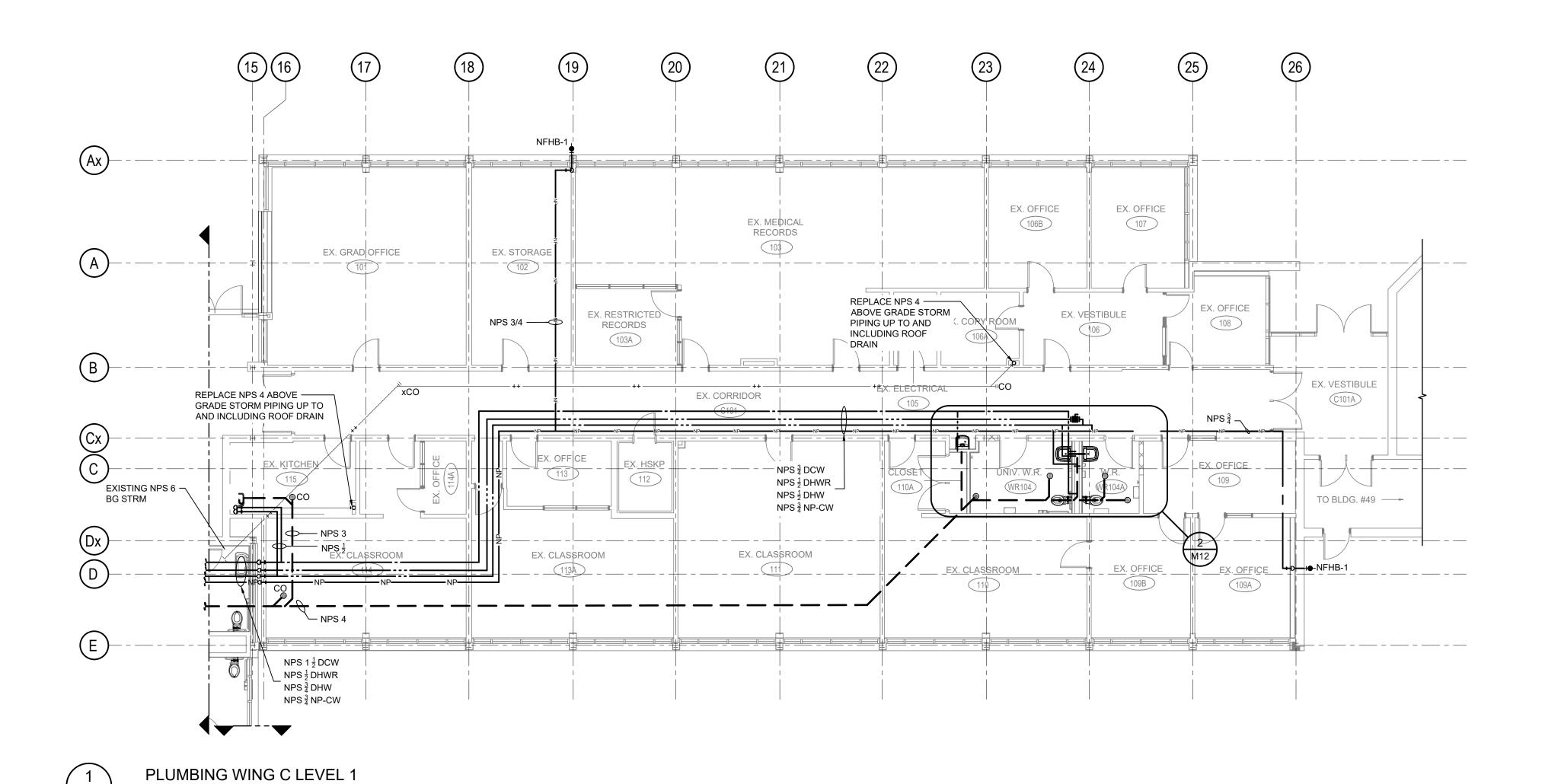
BUILDING #046 RENOVATIONS

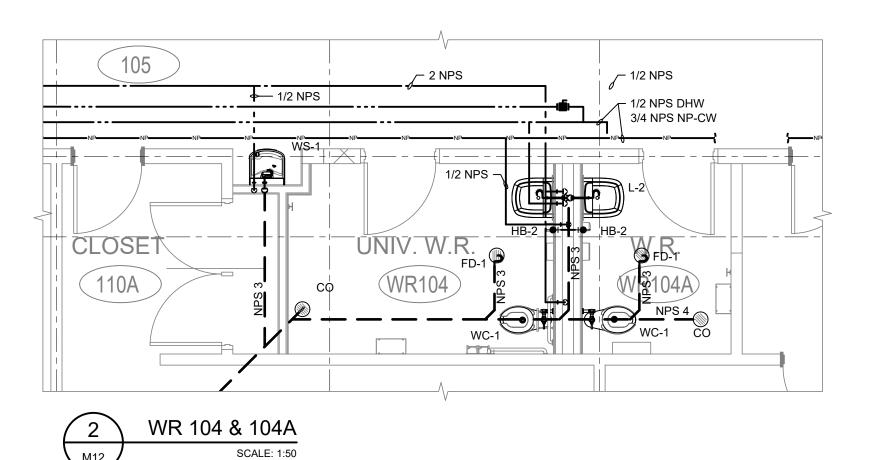
Drawing Title

PLUMBING WING B LEVEL2

Project No. 504034

Scale AS NOTED	Date APR 12, 2019
Drawn by	Drawing No.
HW Checked By	
NC	
Approved By	I\/I I I
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SCALE: 1:100

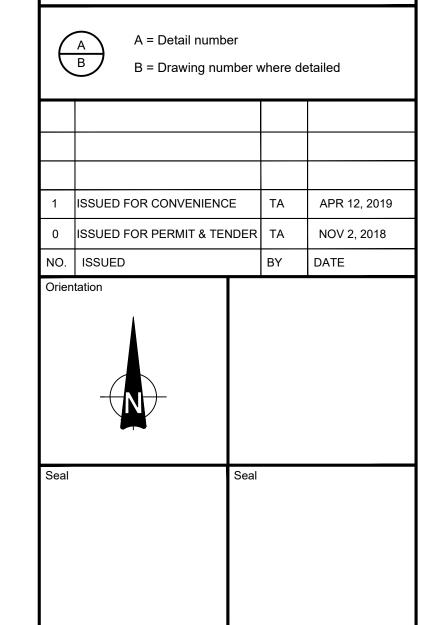
GENERAL NOTES:

- 1. ALL EXISTING STORM PIPING ABOVE GRADE TO AND ROOF DRAINS TO BE REPLACED. STORM PIPING TO BELOW GRADE TO BE PROVIDED WITH A CLEANOUT. PROVIDE ACCESS DOORS WHERE
- 2. PROVIDE ALL FIRE RATED WALL PENETRATIONS WITH APPROPRIATE FIRE CAULK, OR COLLAR INSTALLATION TO MAINTAIN FIRE SEPARATIONS.
- 3. PROVIDE ISOLATION FOR ALL MAIN TAKEOFFS ALL BRANCH PIPING AND AT EACH FIXTURE FOR MAINTENANCE PURPOSES IN AN ACCESSIBLE LOCATION.PROVIDE ACCESS DOORS, COORDINATE WITH ARCHITECTURAL.
- 4. PROVIDE INSULATION ON ALL PIPING AS PER SPECIFICATIONS, STORM PIPING TO BE INSULATED 3000mm FROM ROOF DRAIN.
- 5. PROVIDE TRAP SEAL PRIMER FOR ALL FLOOR DRAIN LOCATIONS. 6. PROVIDE WATER HAMMER ARRESTORS AT ALL WASHROOM FEEDS AND AS REQUIRED.
- 7. VENT PIPING NOT SHOWN. PROVIDE SANITARY VENT PIPING AS REQUIRED TO MEET O.B.C. AND TERMINATE ABOVE ROOF. LOCATE MINIMUM OF 3000 mm FROM MECHANICAL O/A INTAKES.
- 8. TRAP SEAL PRIMERS NOT SHOWN. PROVIDE FOR ALL FLOOR 9. UNLESS OTHERWISE INDICATED SLOPE ALL 4 NPS SANITARY
- DRAINAGE PIPING 1% MINIMUM AND SLOPE ALL 3 NPS SANITARY DRAINAGE PIPING 2% MINIMUM. 10. COORDINATE WITH STRUCTURAL TO PROVIDE PIPE SLEEVE FOR
- ALL FLOOR PENETRATIONS. 11. COORDINATE WITH ARCHITECTURAL TO PROVIDE FIRE STOPPING
- FOR ALL FLOOR PENETRATIONS. 12. PROVIDE ALL REQUIRED ACCESS DOORS FOR SERVICE AND MAINTENANCE.
- WING 'C' WING 'B' WING 'A' DO NOT SCALE DRAWINGS:

Contractors must check and verify all site conditions. Notify the Owner's Representative in writing before proceeding with the work if discrepancies are evident between the drawings and the site condition. No extras to the contract will be allowed if discrepancies were evident prior to start of work.

UNEXPECTED DISCOVERY OF ASBESTOS:

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Physical Resources Guelph, Ontario. N1G 2W1



BUILDING #046 RENOVATIONS

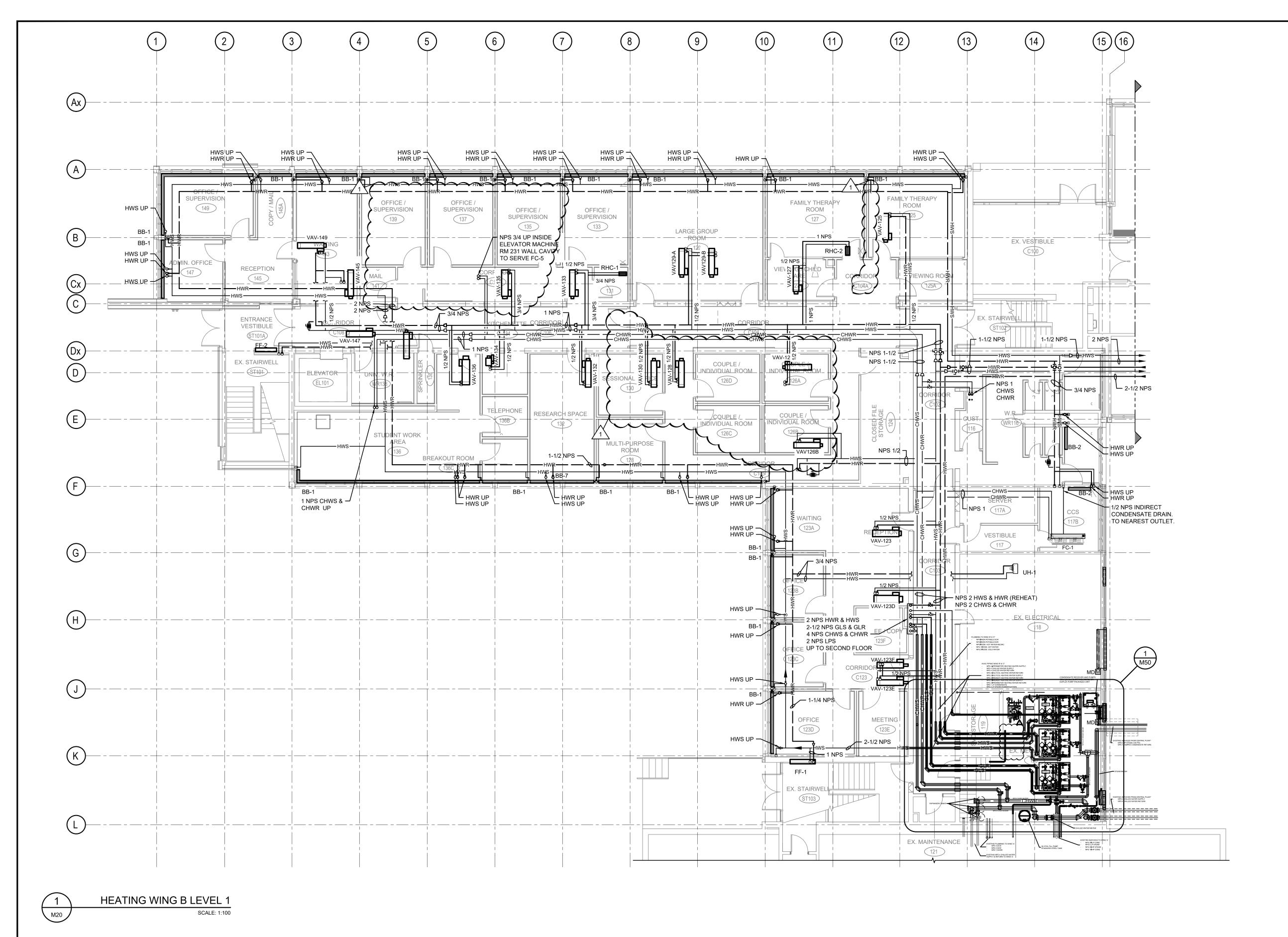
Drawing Title

PLUMBING WING C LEVEL 1

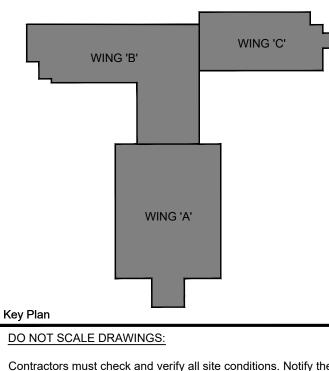
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Cad File No. ----

Scale AS NOTED	Date APR 12, 2019
Drawn by HW	Drawing No.
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Approved By	1 I\/I I /
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JLR#	1
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HEAT	ING/COOLING
—HWS—	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
— TW	TEMPERED WATER
—GLS—	GLYCOL SUPPLY
GLR	GLYCOL RETURN
-CHWS-	CHILLED WATER SUPPLY
CHWR	
-cws-	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
— RL—	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
-COND-	CONDENSATE
HGB	REFRIGERANT HOT GAS BYPASS
	HIGH PRESSURE STEAM
	LOW PRESSURE STEAM
/#	HIGH PRESSURE CONDENSATE
+	LOW PRESSURE CONDENSATE
$-\!\boxtimes$	STEAM TRAP
PIPIN	G & VALVES
\rightarrow	PIPE BREAK
•	FLOW ARROW
	PIPE TEE DOWN
—ю—	PIPE TEE UP
'	PIPE TEE
겁	PIPE ELBOW
	PIPE ANCHOR
\neg	PIPE CAP
	PIPE RISE
G+	PIPE DROP
─	PIPE REDUCER
—I⊢—	PIPE UNION
	FLEXIBLE PIPE CONNECTION
ιδι	BALL VALVE
들	BUTTERFLY VALVE
X	GATE VALVE
1841	GLOBE VALVE
ا⊽ا	PLUG VALVE
Z†	CHECK VALVE
Ž.	TRIPLE DUTY VALVE
×	PRESSURE REDUCING VALVE
\$₽	PRESSURE RELIEF VALVE
<u>×</u>	THREE WAY VALVE
ıĞı	CIRCUIT BALANCING VALVE
73	STRAINER
~	VACUUM BREAKER
ф	AUTOMATIC AIR VENT
ų į	THERMOMETER
<u> </u>	PRESSURE GAUGE
	PUMP



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UNEXPECTED DISCOVERY OF ASBESTOS:

discrepancies were evident prior to start of work.

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A = Detail number B = Drawing number where detailed

ISSUED FOR CONVENIENCE APR 12, 2019 POST-TENDER ADDENDUM NO.1 TA FEB 26, 2019 ISSUED FOR PERMIT & TENDER TA NOV 2, 2018 BY NO. ISSUED DATE

Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1



BUILDING #046 RENOVATIONS

Drawing Title

HEATING WING B LEVEL 1

504034

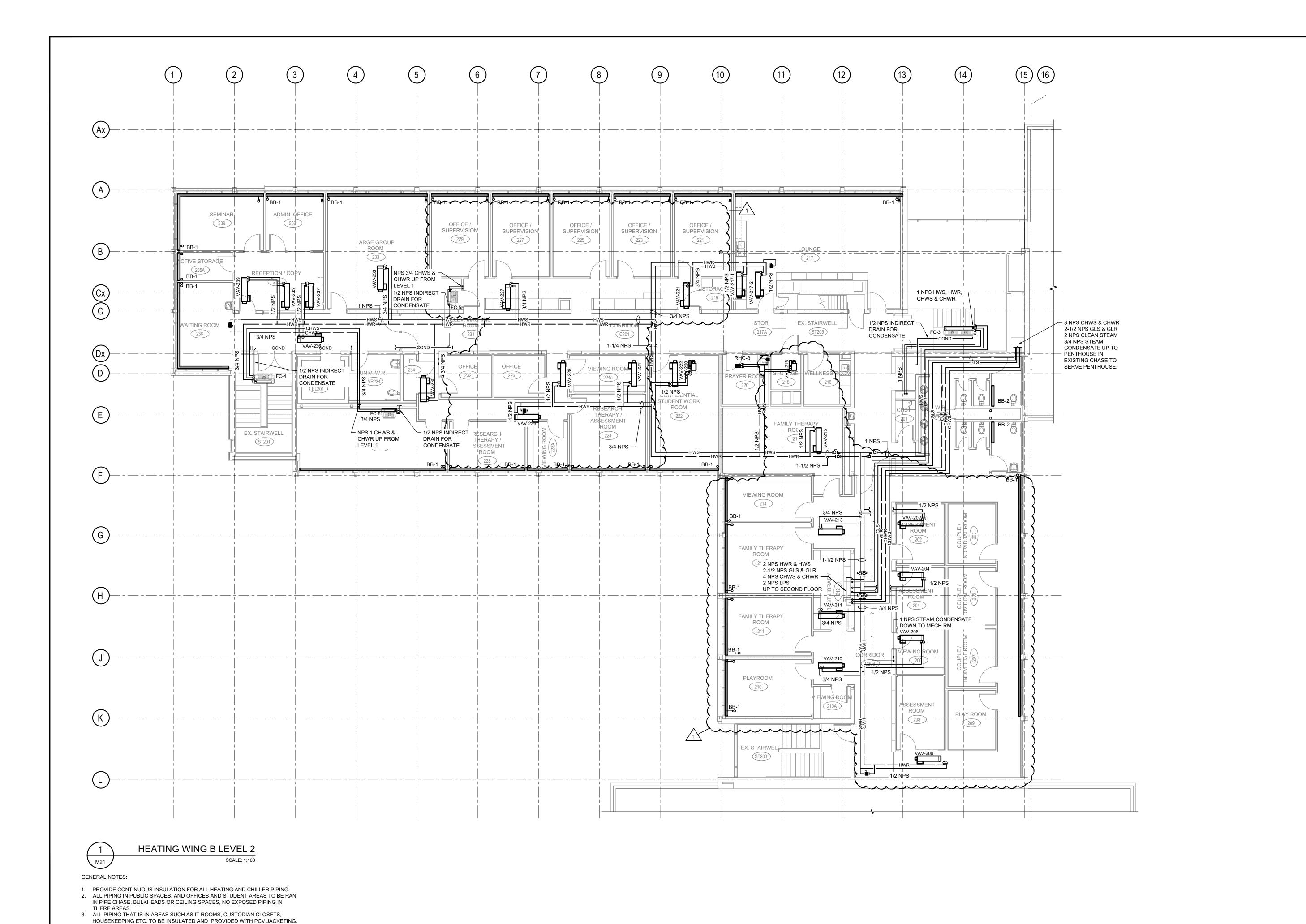
Cad File No. ----

UNIVERSITY OF GUELPH BUILDING #46

APR 12, 2019 AS NOTED Drawing No. HW Checked By 27915

GENERAL NOTES:

- 1. PROVIDE CONTINUOUS INSULATION FOR ALL HEATING AND CHILLER PIPING. 2. ALL PIPING IN PUBLIC SPACES, AND OFFICES AND STUDENT AREAS TO BE RAN IN PIPE CHASE, BULKHEADS OR CEILING SPACES, NO EXPOSED PIPING IN
- THERE AREAS. 3. ALL PIPING THAT IS IN AREAS SUCH AS IT ROOMS, CUSTODIAN CLOSETS,
- HOUSEKEEPING ETC. TO BE INSULATED AND PROVIDED WITH PCV JACKETING. 4. PROVIDE INSULATED CONDENSATE DRAIN PIPING FOR ALL DRAIN PANS.
- CONDENSATE TO HAVE 25mm AIR GAP FOR INDIRECT DRAIN TO NEAREST
- DRAINAGE PIPING. 5. PROVIDE DRAINS AT ALL LOW POINTS AND AIR VENTS AT ALL HIGH POINT IN THE SYSTEM.



4. PROVIDE INSULATED CONDENSATE DRAIN PIPING FOR ALL DRAIN PANS. CONDENSATE TO HAVE 25mm AIR GAP FOR INDIRECT DRAIN TO NEAREST

5. PROVIDE DRAINS AT ALL LOW POINTS AND AIR VENTS AT ALL HIGH POINT IN

WING 'C'

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2	ISSUED FOR CONVENIENCE		TA	APR 12, 2019
1	POST-TENDER ADDENDUM NO.1		TA	FEB 26, 2019
0	ISSUED FOR PERMIT & TENDER		TA	NOV 2, 2018
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Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1



BUILDING #046

RENOVATIONS

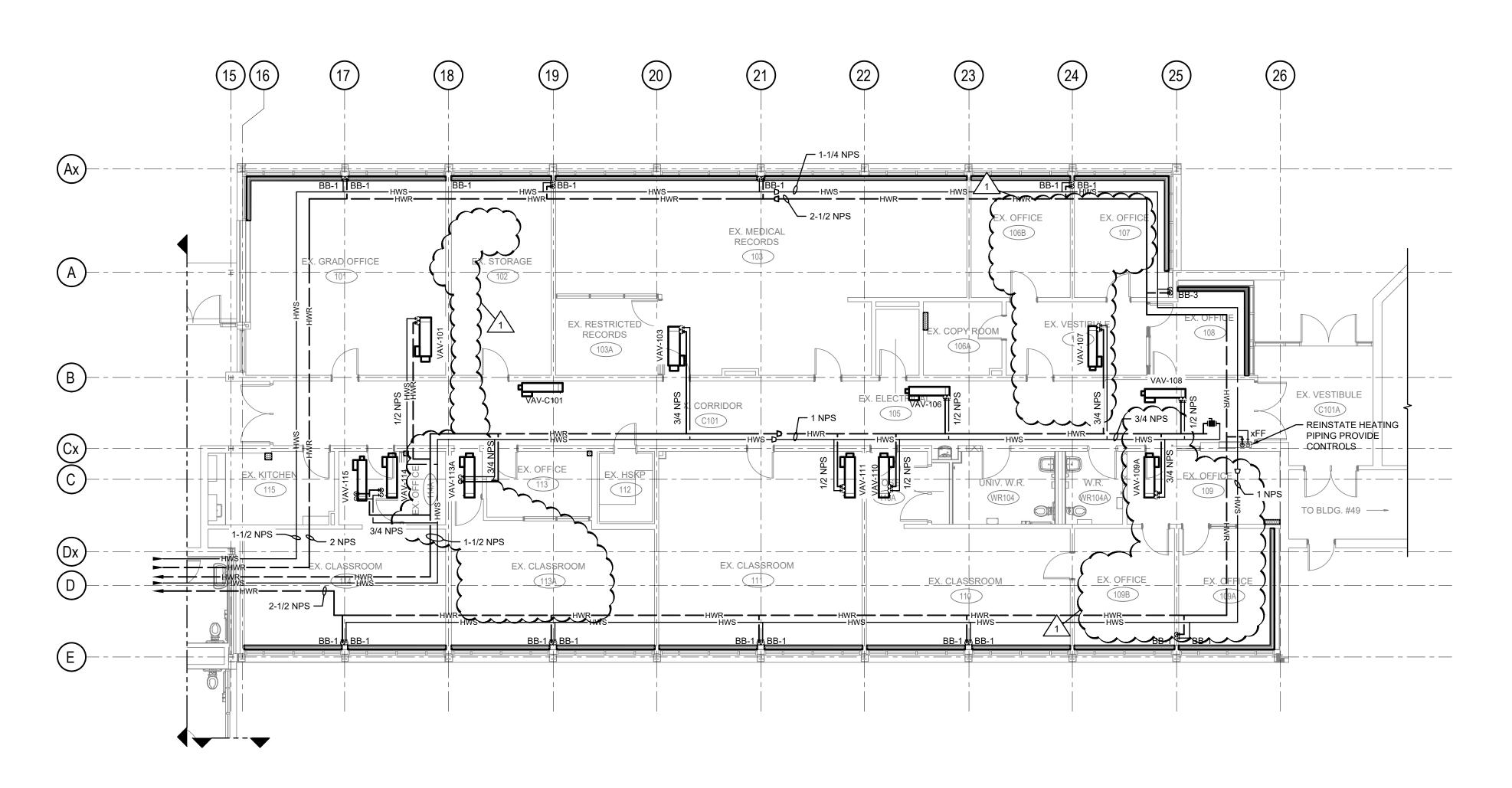
Drawing Title

HEATING WING B LEVEL 2

504034

Cad File No. ----

Scale AS NOTED	Date APR 12, 2019
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JLR#	
27915	

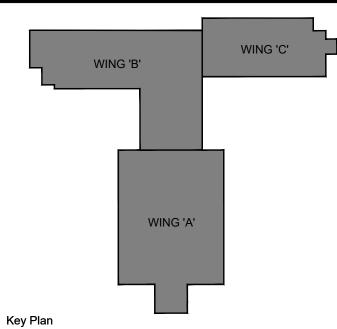




GENERAL NOTES:

- 1. PROVIDE CONTINUOUS INSULATION FOR ALL HEATING AND CHILLER PIPING. 2. ALL PIPING IN PUBLIC SPACES, AND OFFICES AND STUDENT AREAS TO BE RAN IN PIPE CHASE, BULKHEADS OR CEILING SPACES, NO EXPOSED PIPING IN
- THERE AREAS. 3. ALL PIPING THAT IS IN AREAS SUCH AS IT ROOMS, CUSTODIAN CLOSETS,
- HOUSEKEEPING ETC. TO BE INSULATED AND PROVIDED WITH PCV JACKETING.
- 4. PROVIDE INSULATED CONDENSATE DRAIN PIPING FOR ALL DRAIN PANS. CONDENSATE TO HAVE 25mm AIR GAP FOR INDIRECT DRAIN TO NEAREST

5. PROVIDE DRAINS AT ALL LOW POINTS AND AIR VENTS AT ALL HIGH POINT IN



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NO.	ISSUED		BY	DATE
Orientation				
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Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1



BUILDING #046 RENOVATIONS

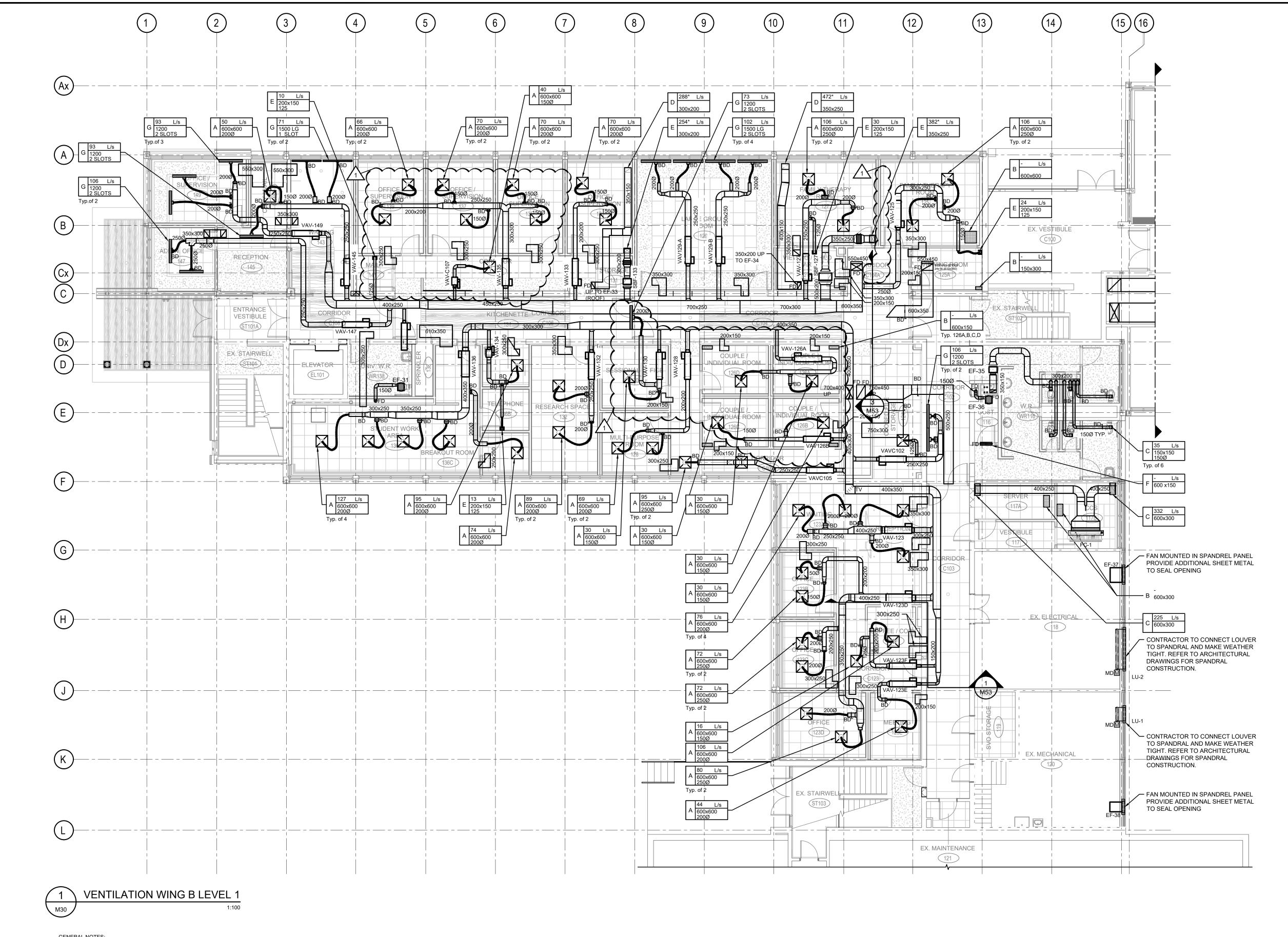
Drawing Title

HEATING WING C LEVEL 1

Project No. 504034

Cad File No. ----

Scale AS NOTED	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By	
NC	
Approved By	
KDT	
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27915	



WING 'C' WING 'B'

DO NOT SCALE DRAWINGS:

VENTILATION

SUPPLY/OUTSIDE AIR DUCT

RETURN/EXHAUST AIR DUCT THERMALLY INSULATED DUCT ACOUSTICALLY INSULATED DUCT

RIGID - FLEXIBLE DUCT SQUARE - ROUND TRANSITION FLEXIBLE DUCT CONNECTION

TURNING VANES BALANCING DAMPER BACKDRAFT DAMPER

FIRE DAMPER

ACCESS DOOR

MOTORIZED DAMPER

--- IDENTIFIER

GRILLE, REGISTER & DIFFUSER IDENTIFIER

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Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1

BUILDING #046 RENOVATIONS

Drawing Title

Cad File No. ----

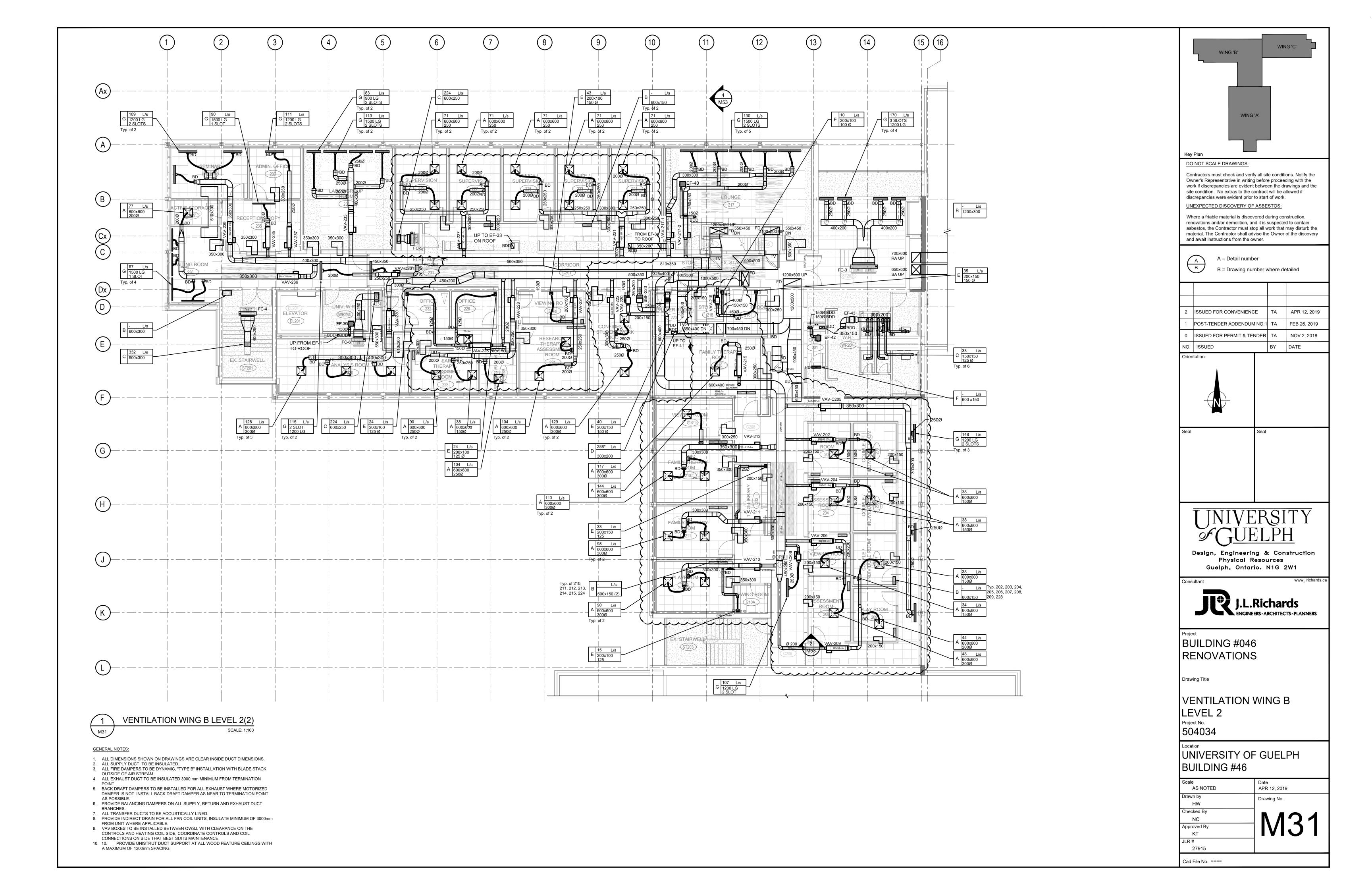
VENTILATION WING B LEVEL 1 Project No. 504034

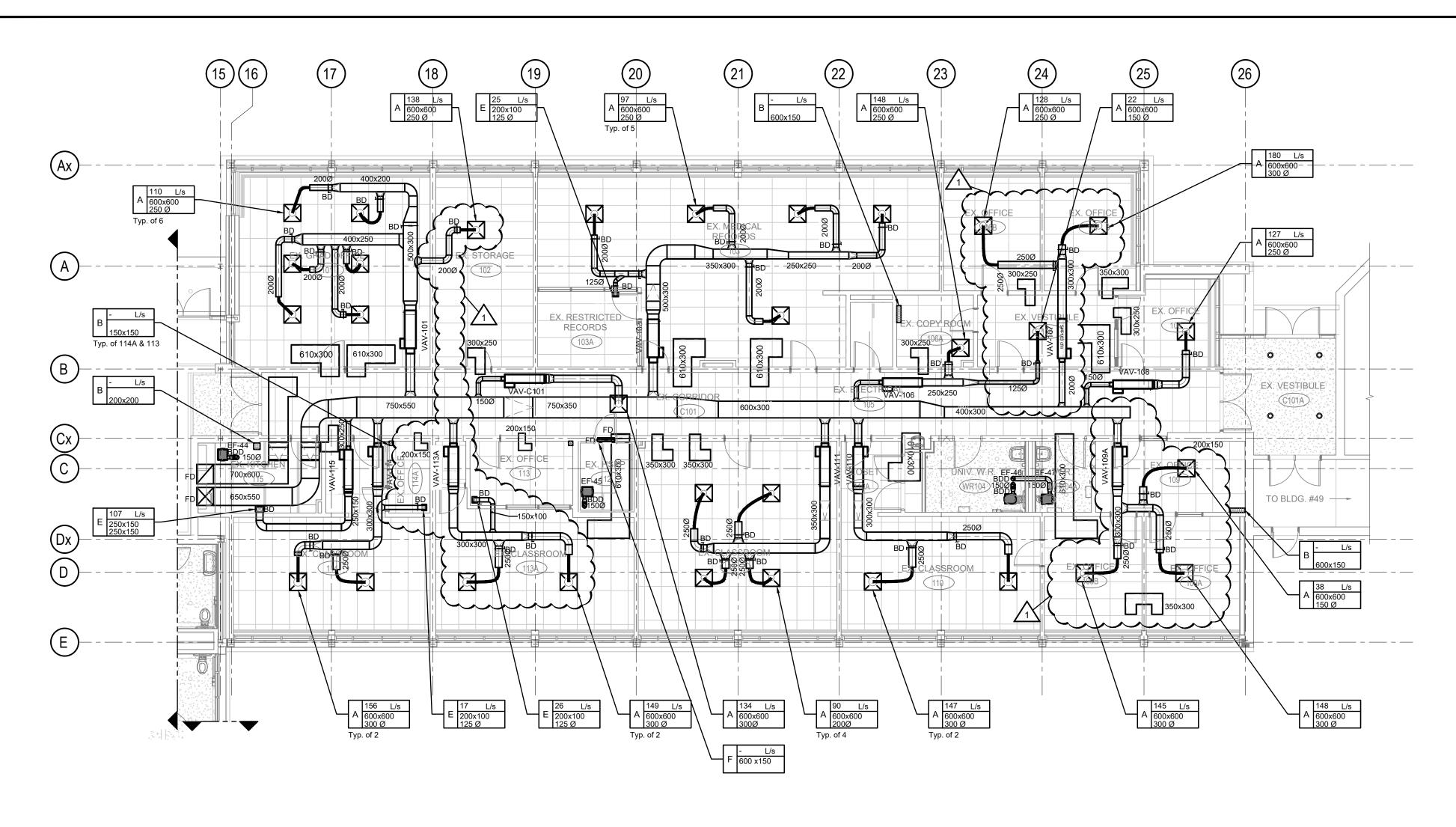
UNIVERSITY OF GUELPH BUILDING #46

Scale AS NOTED	Date APR 12, 2019
Drawn by HW	Drawing No.
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Approved By	─
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JLR#	
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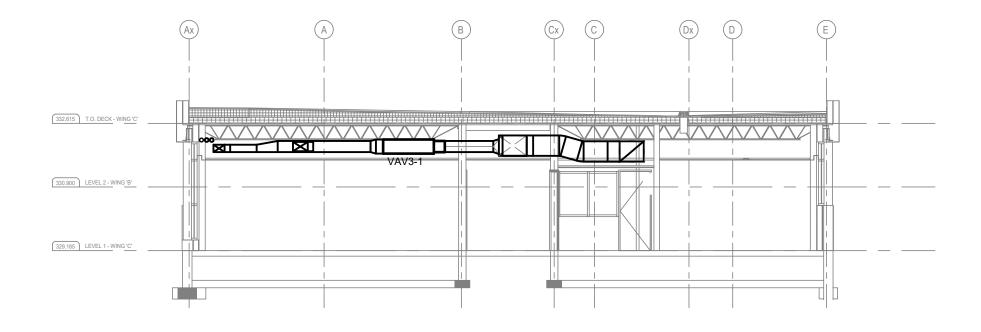
GENERAL NOTES:

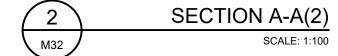
- 1. ALL DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DUCT DIMENSIONS.
- 2. ALL SUPPLY DUCT TO BE INSULATED. 3. ALL FIRE DAMPERS TO BE DYNAMIC, "TYPE B" INSTALLATION WITH BLADE STACK
- OUTSIDE OF AIR STREAM. 4. ALL EXHAUST DUCT TO BE INSULATED 3000 mm MINIMUM FROM TERMINATION
- 5. BACK DRAFT DAMPERS TO BE INSTALLED FOR ALL EXHAUST WHERE MOTORIZED DAMPER IS NOT. INSTALL BACK DRAFT DAMPER AS NEAR TO TERMINATION POINT
- AS POSSIBLE. 6. PROVIDE BALANCING DAMPERS ON ALL SUPPLY, RETURN AND EXHAUST DUCT
- BRANCHES. 7. ALL TRANSFER DUCTS TO BE ACOUSTICALLY LINED.
- 8. PROVIDE INDIRECT DRAIN FOR ALL FAN COIL UNITS, INSULATE MINIMUM OF 3000mm FROM UNIT WHERE APPLICABLE.
- 9. VAV BOXES TO BE INSTALLED BETWEEN OWSJ. WITH CLEARANCE ON THE CONTROLS AND HEATING COIL SIDE, COORDINATE CONTROLS AND COIL
- CONNECTIONS ON SIDE THAT BEST SUITS MAINTENANCE. 10. PROVIDE UNISTRUT DUCT SUPPORT AT ALL WOOD FEATURE CEILINGS WITH A MAXIMUM OF 1200mm SPACING.





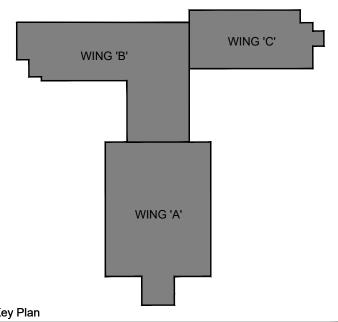
VENTILATION WING C LEVEL 1(2) SCALE: 1:100





GENERAL NOTES:

- ALL DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DUCT DIMENSIONS.
 ALL SUPPLY DUCT TO BE INSULATED.
 ALL FIRE DAMPERS TO BE DYNAMIC, "TYPE B" INSTALLATION WITH BLADE STACK
- OUTSIDE OF AIR STREAM.
 4. ALL EXHAUST DUCT TO BE INSULATED 3000 mm MINIMUM FROM TERMINATION
- POINT.
- 5. BACK DRAFT DAMPERS TO BE INSTALLED FOR ALL EXHAUST WHERE MOTORIZED DAMPER IS NOT. INSTALL BACK DRAFT DAMPER AS NEAR TO TERMINATION POINT AS POSSIBLE.
- PROVIDE BALANCING DAMPERS ON ALL SUPPLY, RETURN AND EXHAUST DUCT BRANCHES.
- BRANCHES.
 7. ALL TRANSFER DUCTS TO BE ACOUSTICALLY LINED.
- PROVIDE INDIRECT DRAIN FOR ALL FAN COIL UNITS, INSULATE MINIMUM OF 3000mm FROM UNIT WHERE APPLICABLE.
- VAV BOXES TO BE INSTALLED BETWEEN OWSJ. WITH CLEARANCE ON THE CONTROLS AND HEATING COIL SIDE, COORDINATE CONTROLS AND COIL CONNECTIONS ON SIDE THAT BEST SUITS MAINTENANCE.



Key P

DO NOT SCALE DRAWINGS:

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B = Drawing number where detailed

2 ISSUED FOR CONVENIENCE TA APR 12, 2019
1 POST-TENDER ADDENDUM NO.1 TA FEB 26, 2019
0 ISSUED FOR PERMIT & TENDER TA NOV 2, 2018
NO. ISSUED BY DATE
Orientation



S



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BUILDING #046 RENOVATIONS

Drawing Title

Cad File No. ----

VENTILATION WING C LEVEL 1 Project No. 504034

UNIVERSITY OF GUELPH BUILDING #46

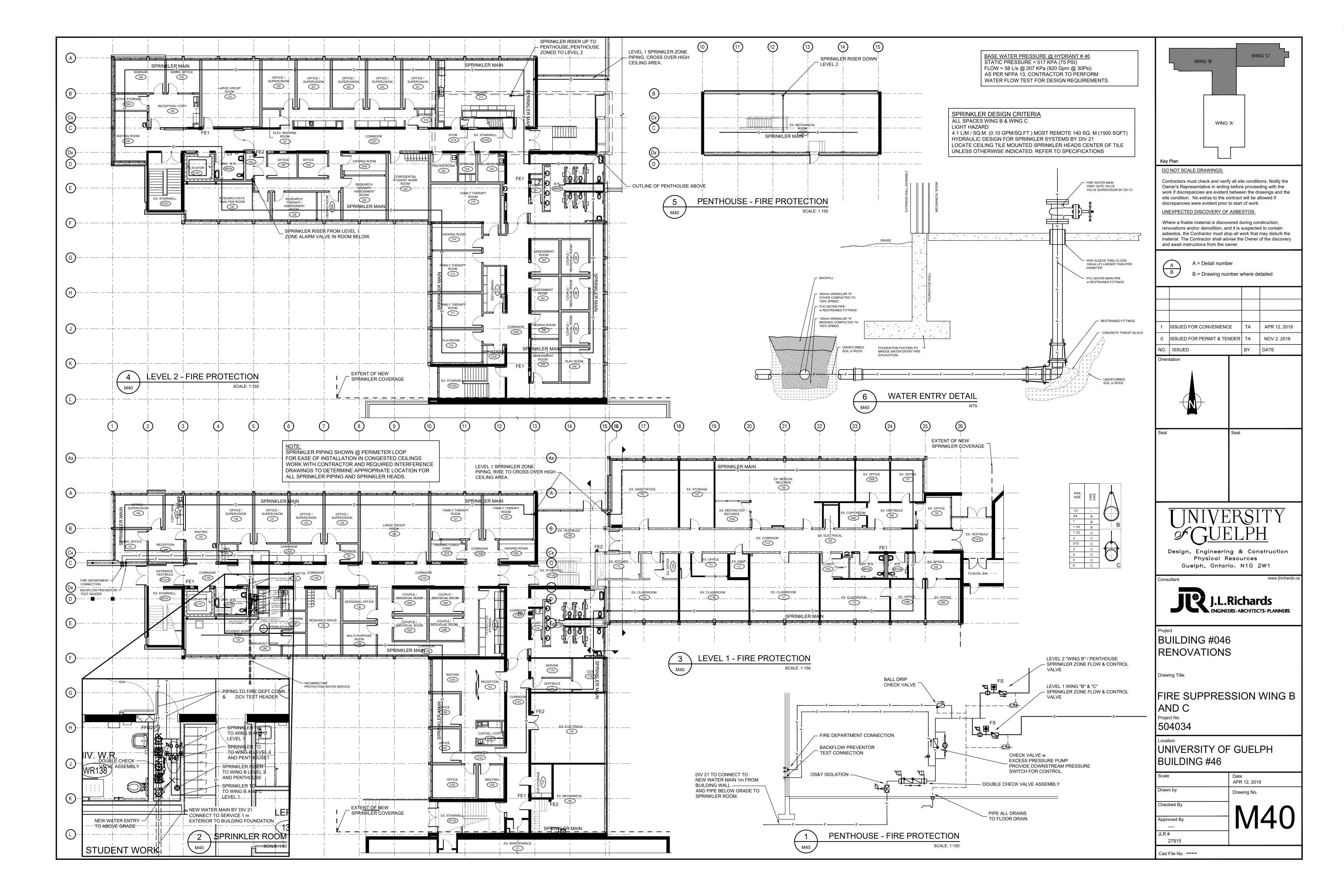
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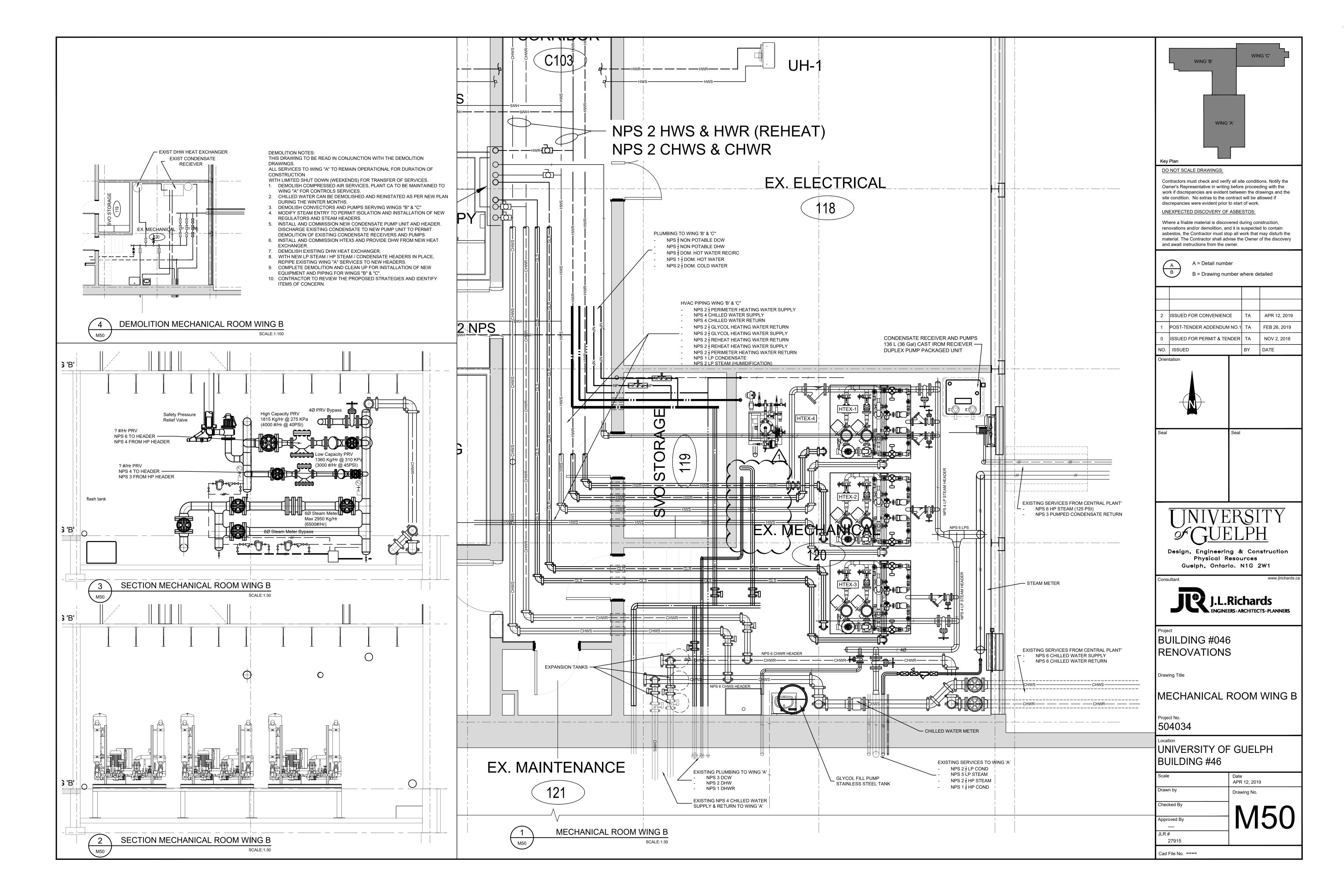
Drawn by
HW

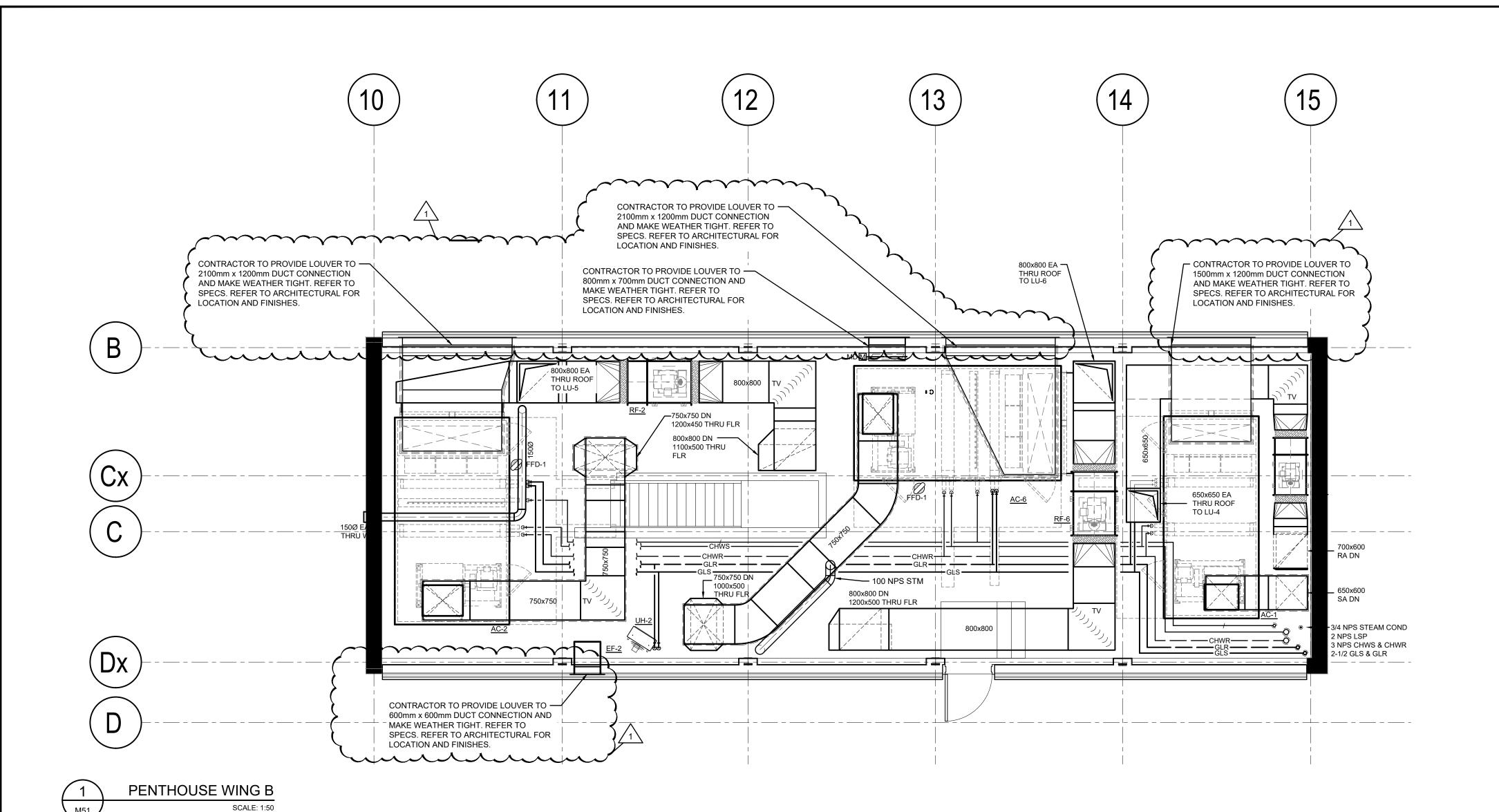
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NC

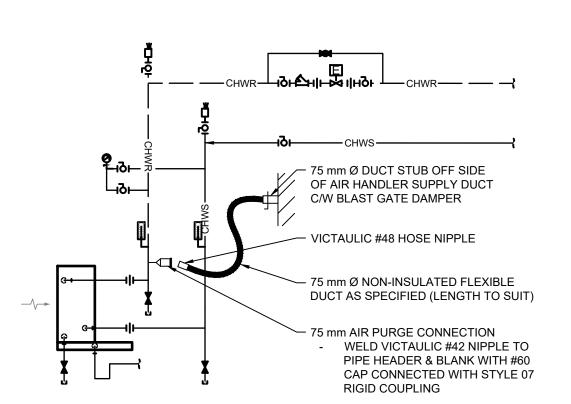
Approved By
KDT

JLR #
27915





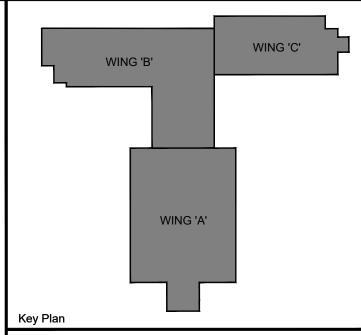




GENERAL NOTES:

1. INSTALLATION OF DUCT WORK TO BE TIGHT TO U/S OF OWSJ. INSTALLATION OF DUCTWORK TO BE AS TIGHT TO U/S OF DUCT WORK AS POSSIBLE.

3. PROVIDE FREE STANDING EQUIPMENT CONTROLS STANDS FOR ALL CABINETS REQUIRED.



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1	POST-TENDER ADDENDUM NO.1		TA	FEB 26, 2019
0	ISSUED FOR PERMIT & TENDER		TA	NOV 2, 2018
NO.	ISSUED		BY	DATE
Orien	tation			





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BUILDING #046 RENOVATIONS

Drawing Title

PENTHOUSE WING B

Project No. 504034

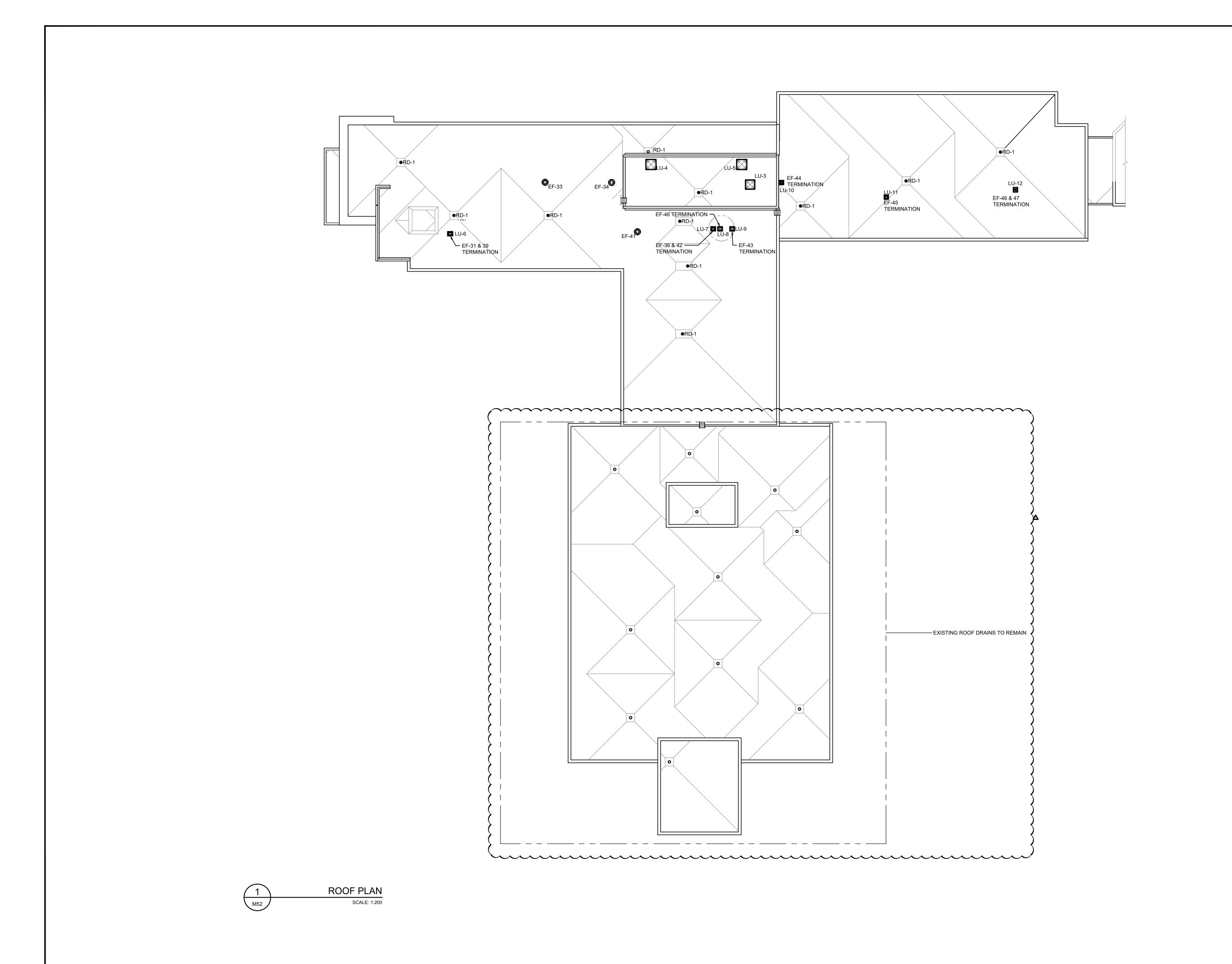
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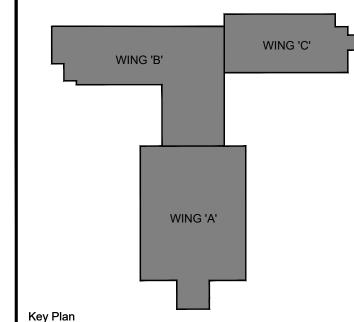
UNIVERSITY OF GUELPH BUILDING #46

Scale AS NOTED	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By	
NC	
Approved By	-M51
KDT	
JLR#	
27915	

2 M51

CHILLED WATER BLOW DOWN SCALE: NTS





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0	ISSUED FOR PERMIT & TENDER	TA	NOV 2, 2018
NO.	ISSUED	BY	DATE





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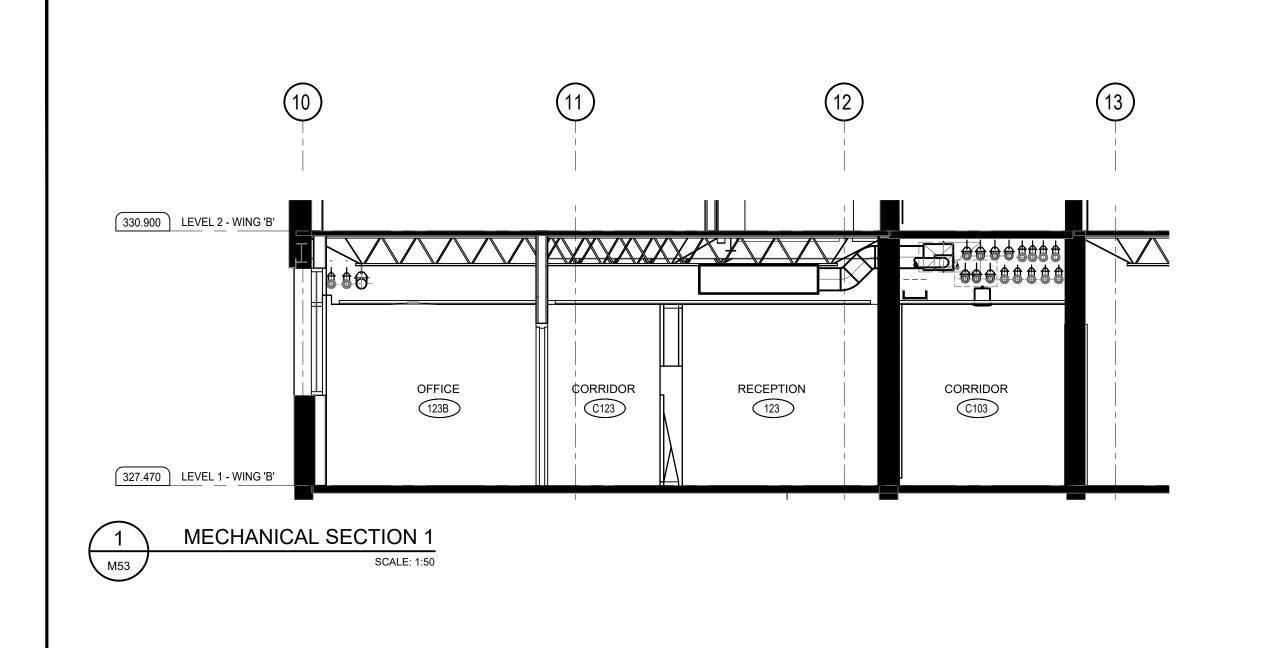
BUILDING #046 RENOVATIONS

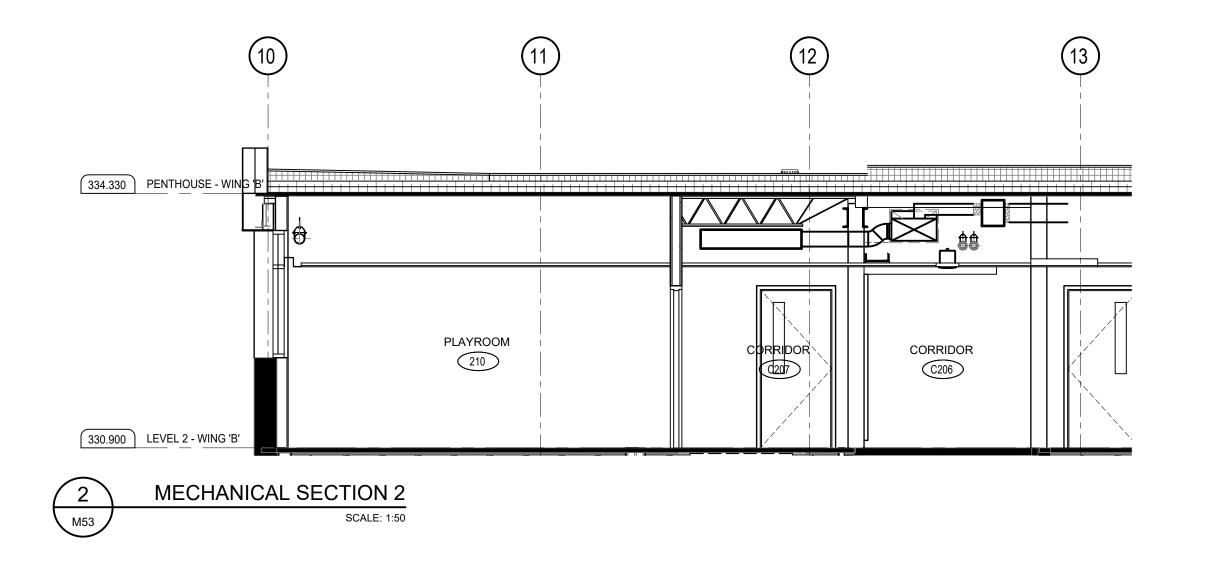
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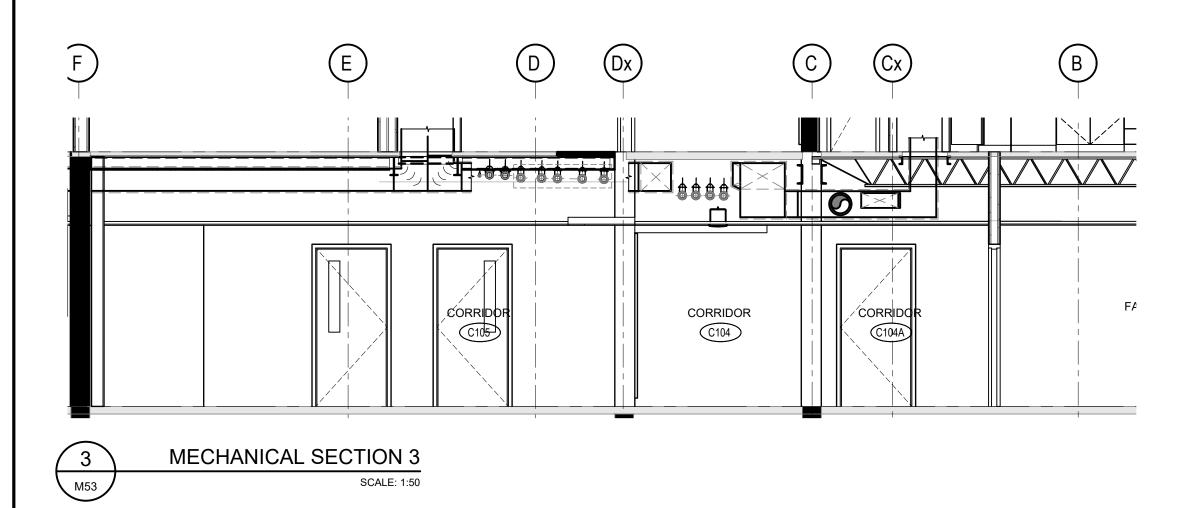
ROOF PLAN

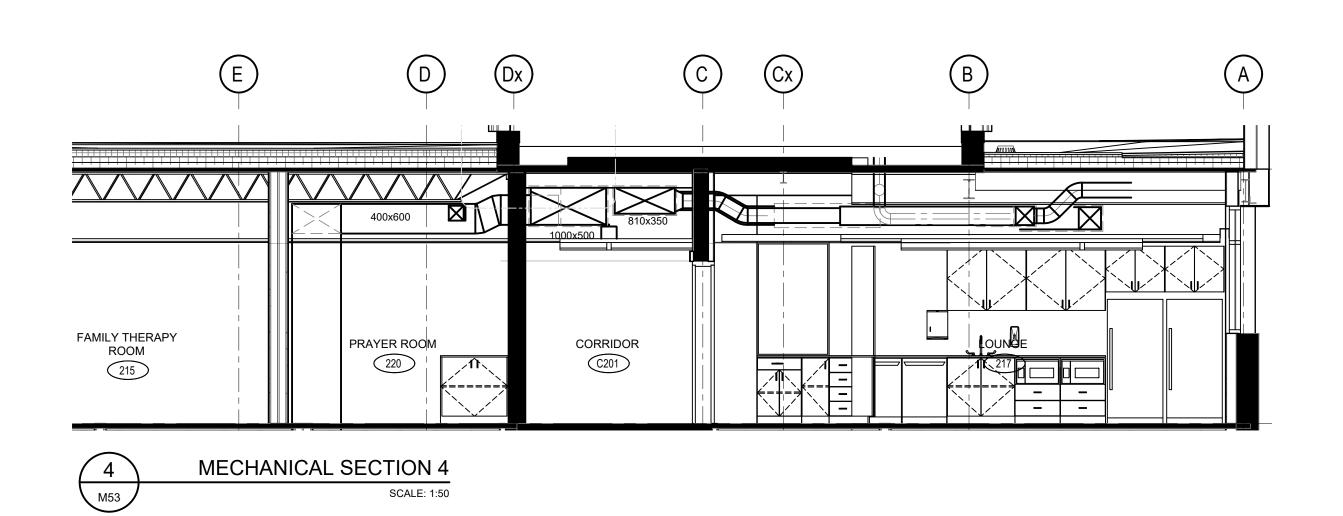
504034

Scale	Date APR 12, 2019
Drawn by	Drawing No.
Checked By	- $1/5$
Approved By	⊣M52
JLR # 27915	
Cad File No	<u> </u>





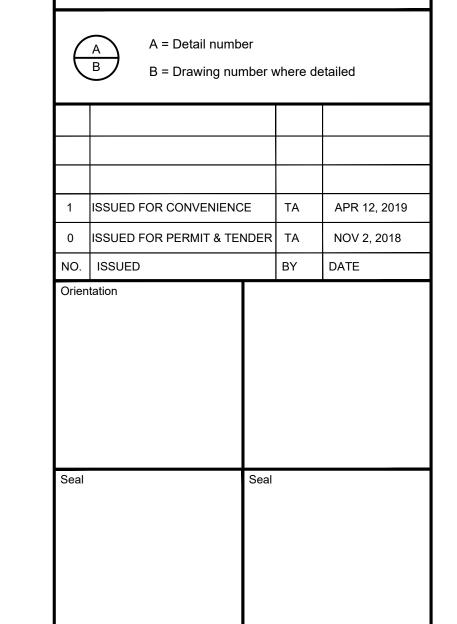




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BUILDING #046 RENOVATIONS

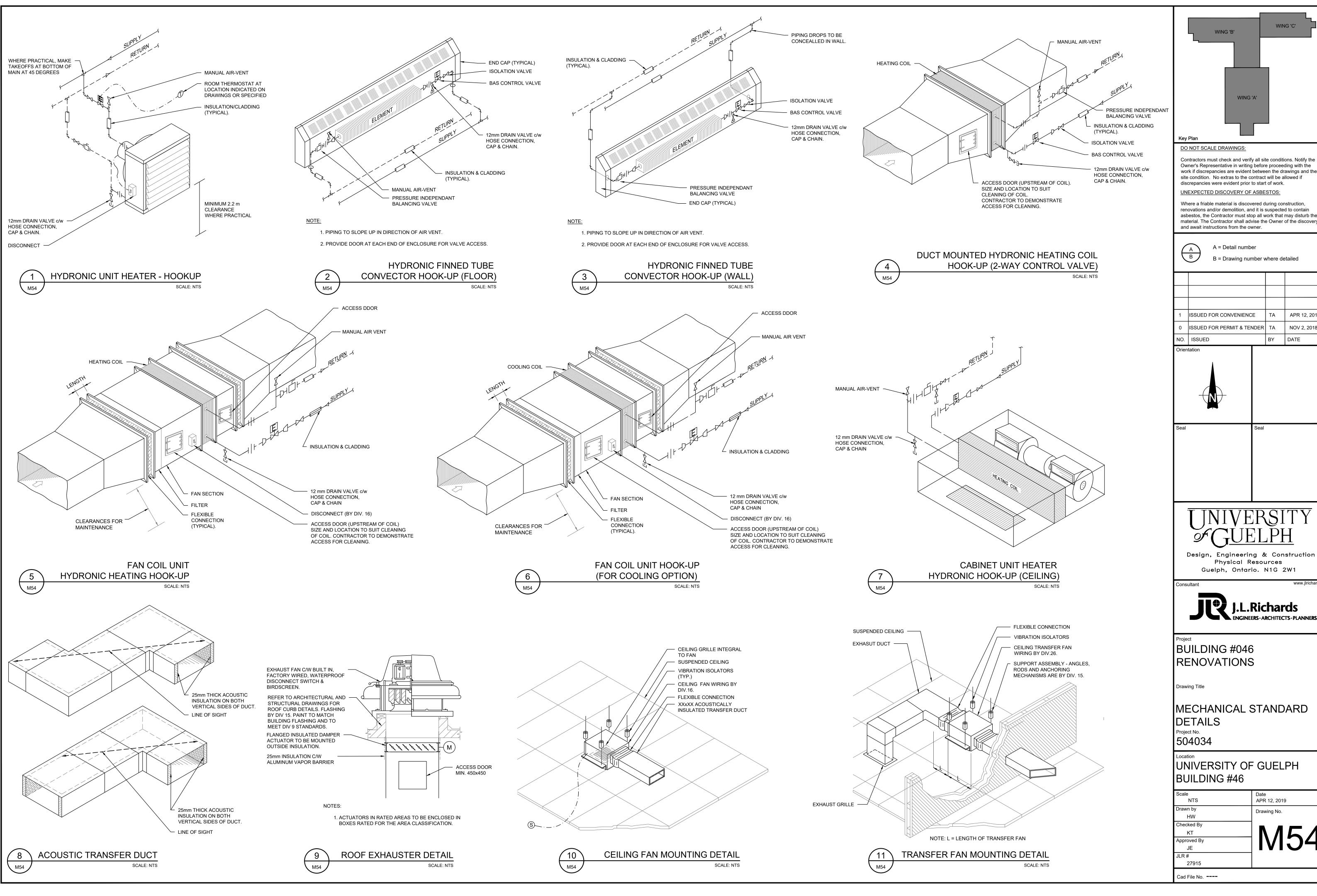
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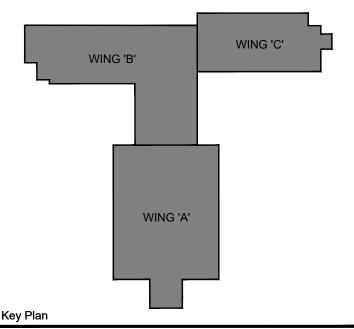
MECHANICAL SECTIONS

Project No. 504034

Cad File No. ----

Scale	Date APR 12, 2019
Drawn by	Drawing No.
Checked By	1/50
Approved By	M53
JLR # 27915	





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ISSUED FOR CONVENIENCE APR 12, 2019 ISSUED FOR PERMIT & TENDER TA NOV 2, 2018 BY DATE

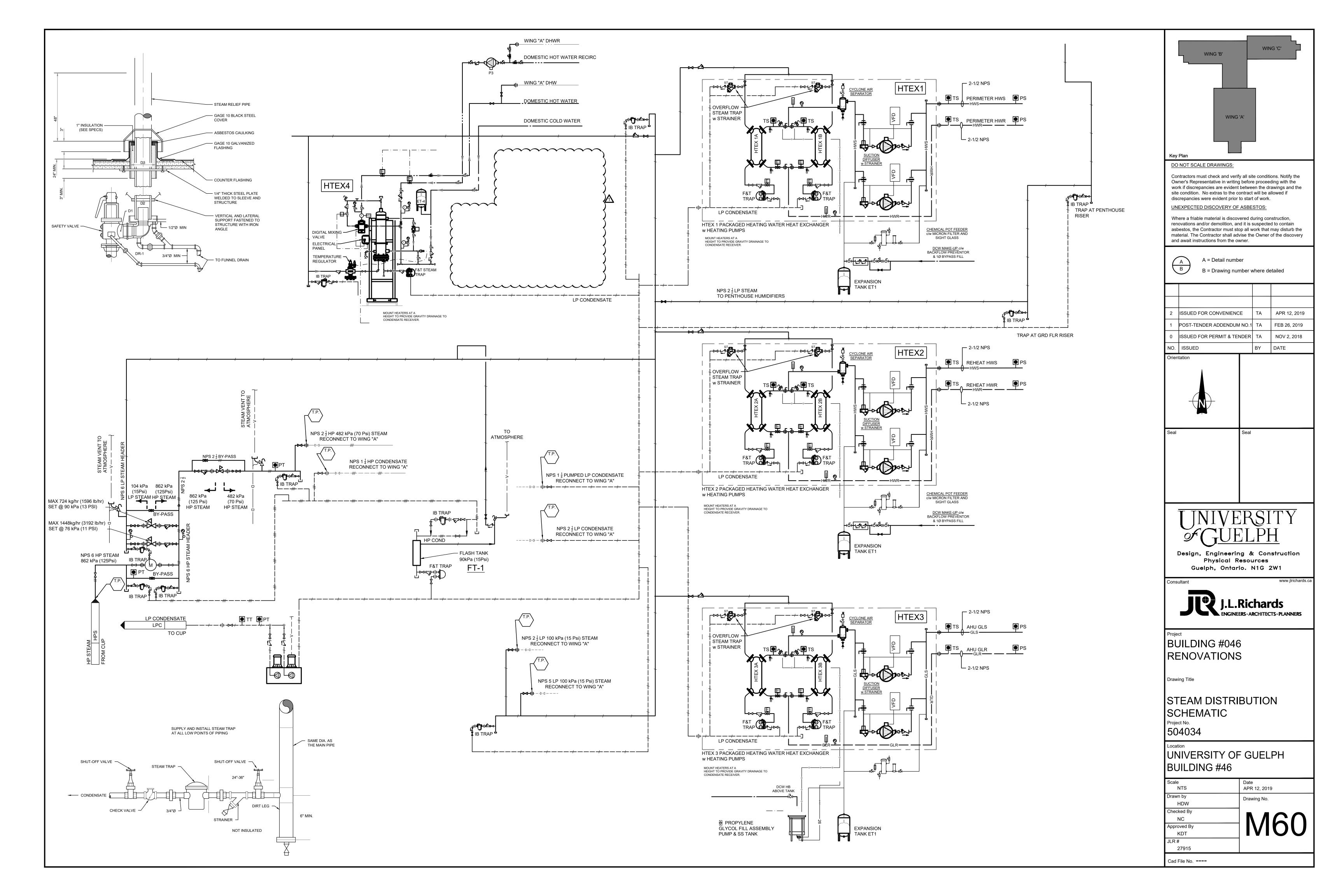
Physical Resources Guelph, Ontario. N1G 2W1

BUILDING #046

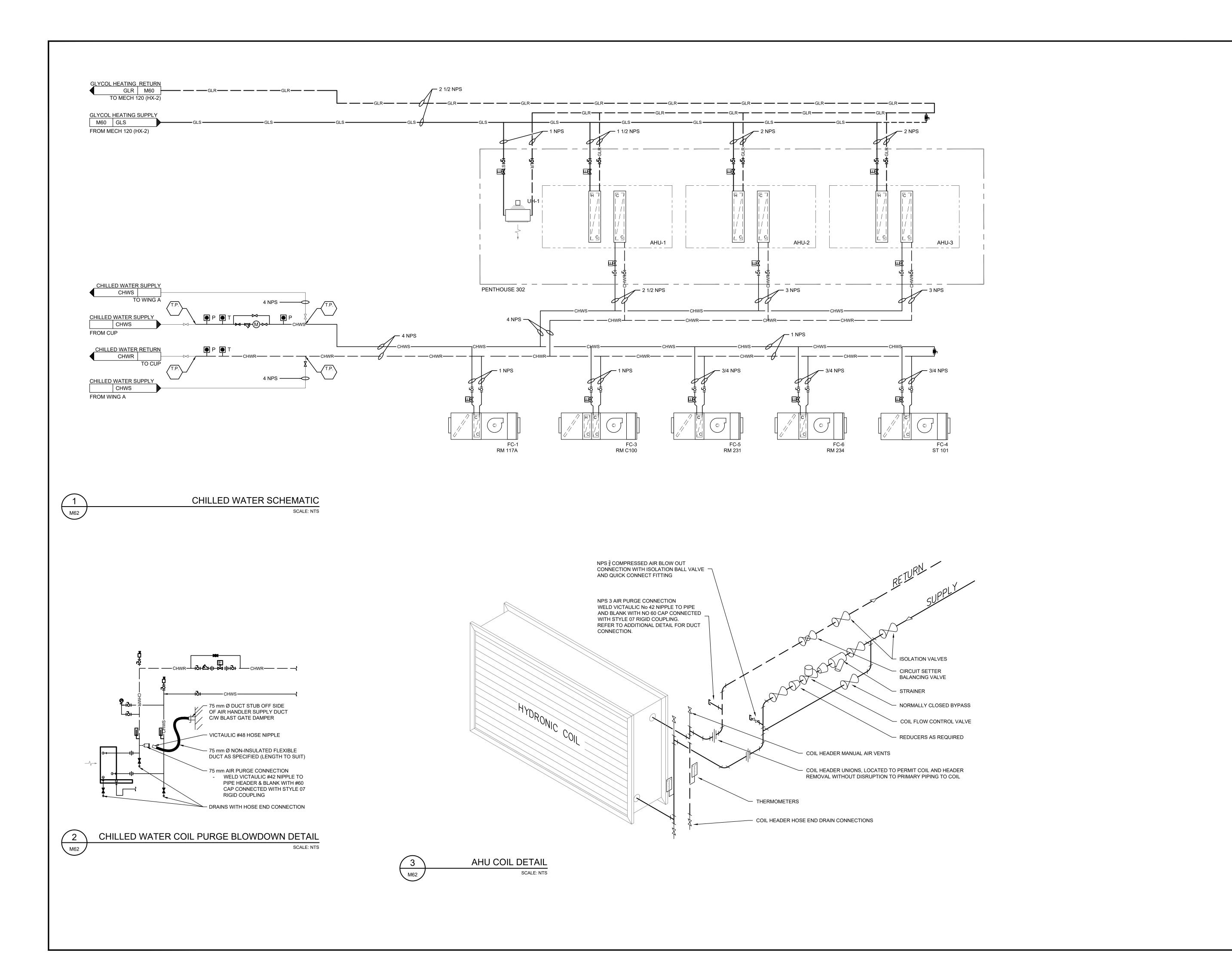
MECHANICAL STANDARD

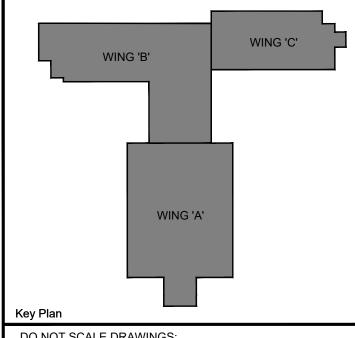
UNIVERSITY OF GUELPH

Scale NTS	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By KT	NAC
Approved By JE	
JLR # 27915	









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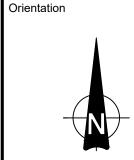
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NOV 2, 2018

ISSUED FOR PERMIT & TENDER TA BY DATE NO. ISSUED

ISSUED FOR CONVENIENCE





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BUILDING #046 RENOVATIONS

Drawing Title

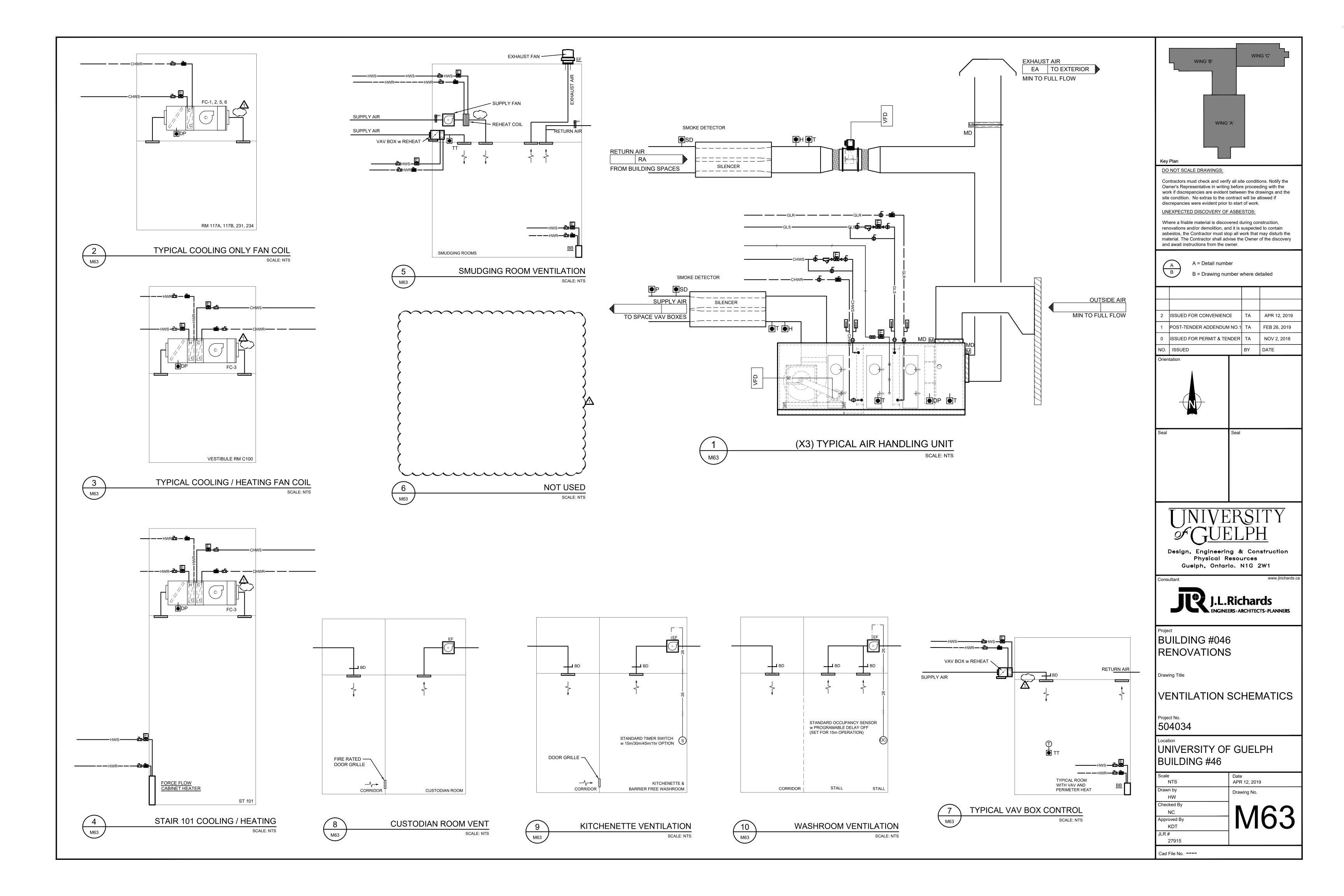
CHILLED WATER AND GLYCOL SCHEMATIC 504034

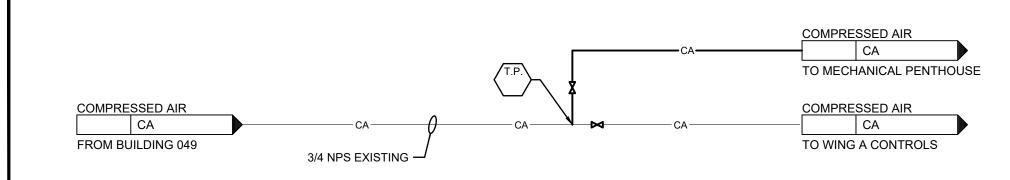
UNIVERSITY OF GUELPH

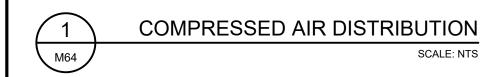
BUILDING #46 NTS APR 12, 2019 Drawing No. HW Checked By KDT

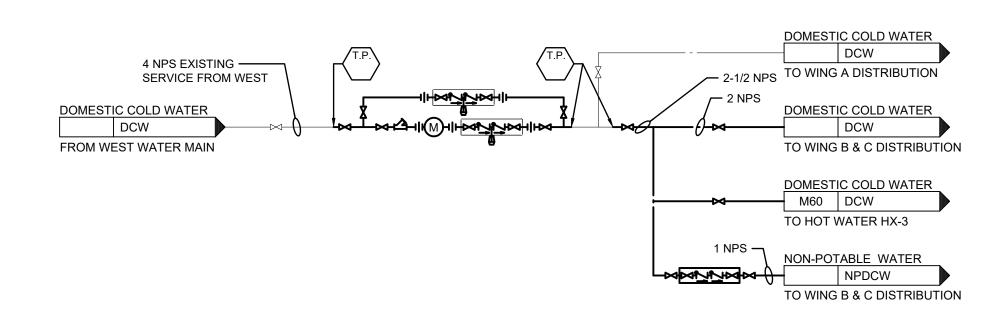
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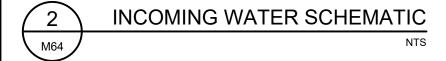
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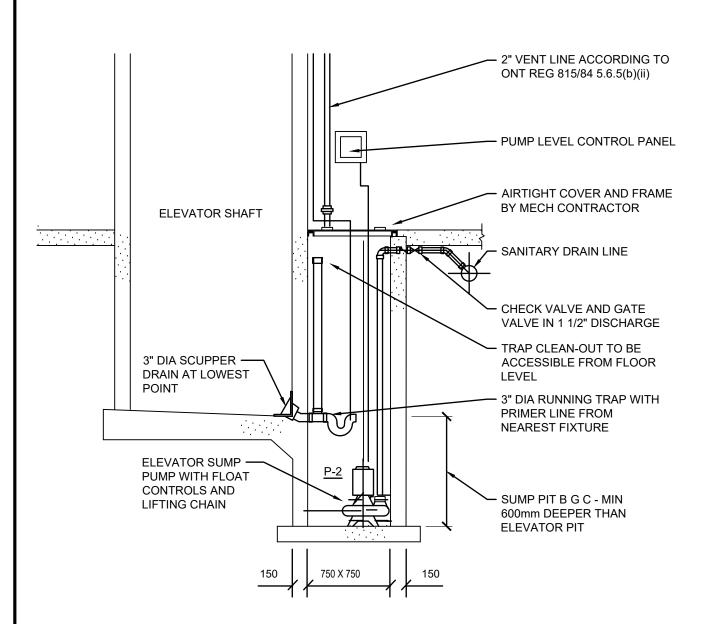






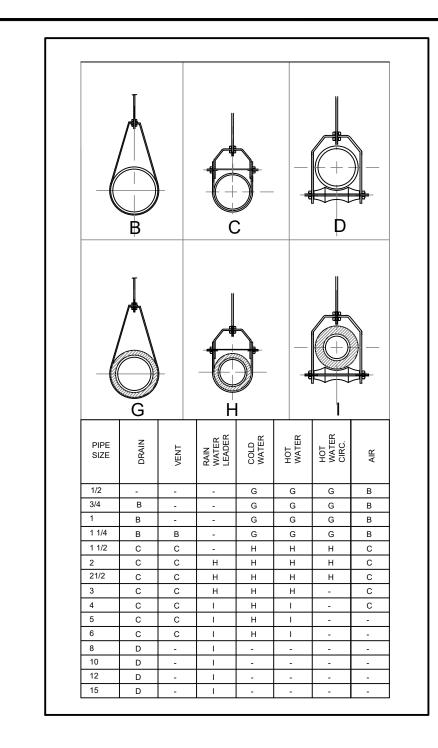








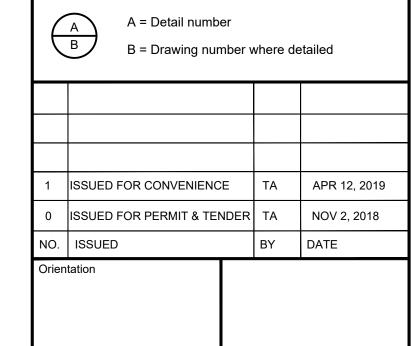
	PLUMBING FIXTURE SCHEDULE													
				CONN	IECTIO	N SIZE			ACCESSORIES					
I.D.	DESCRIPTION	MANUF./MODEL	SAN	VENT	DCW	DHW	TEMP. WATER	TRAP	TRIM	COMMENTS				
			NPS	NPS	NPS	NPS	°C							
WC-1	FLOOR MOUNT BOTTOM OUT, ELONGATED, 1-1/2 NPS TOP SPUD MANUAL FLUSH VALVE, B.F. 419mm	AMERICAN STANDARD MADERA FLOWISE 34 61001	3	2-1/2	1	-	-	INTEGRAL	DELTA/ 81T201 MANUAL FV, B.F. 4.8 Lpf	C/W HEAVY DUTY ELONGATED SEAT OPEN FRONT - LESS COVER				
L-1	UNDERMOUNT, B.F. SINGLE HOLE, GLAZED UNDERSIDE W/ SENSOR TRIM	AMERICAN STANDARD/ OVALYN 0495.300	1-1/4	2	1/2	1/2		P-TRAP	DELTA/DEMD-111LF-NS W/ 060967A REMOTE CONTROL AND 1.9 Lpm	C/W MOUNTING KIT, TMV: BRADLEY NAVIGATOR S59-4016 AND SENSOR HARD WIRE CONVERSION KIT				
L-2	WALL HUNG, BARRIER FREE, SINGLE HOLE ,KNEE SHROUD & SENSOR TRIM	AMERICAN STANDARD/ MURRO 0955 001EC & 0059 020EC	1-1/4	2	1/2	1/2		P-TRAP	DELTA / DECKMOUNT HI-RISE W/ SENSOR 590T0150 W/ 1.9 L/min LAMINAR OUTLET	C/W WALL CARRIER, KNEE SHROUD, TMV: BRADLEY NAVIGATOR S59-4016 & SENSOR HARDWIRE CONVERSION KIT				
L-3	WALL HUNG , 4"C/C, DECK MOUNT TRIM W/ VACUUM BREAKER	AMERICAN STANDARD/ LUCERNE 0355.027	1-1/4	2	1/2	1/2		P-TRAP	DELTA / W6720-9 WITH BLADE HANDLES	INSULATE AND COVER P-TRAP				
SS-1	SINGLE BOWL UNDERMOUNT, SS (460x508x200DP)	FRANKE / UCS6808P-1	1-1/2	2	1/2	1/2	-	P-TRAP	DELTA / 101LF-HDF					
SS-2	DOUBLE BOWL UNDERMOUNT, SS (460x794x200DP)	FRANKE / UCD6408P-1	1-1/2	2	1/2	1/2	-	P-TRAP	DELTA / 101LF-HDF					
WS-1	WATER STATION - REFRIGERATED WITH BOTTLE FILLER, SS FINISH, BF	ELKAY / EZS8WS(VR)SK	1-1/4	2	1/2	-	-	P-TRAP	-	BARRIER FREE INSTALLATION				
MS-1	SS MOP SINK WITH WALL GUARDS	FRANKE / FSS222210/316-1	2	2	1/2	1/2	-	P-TRAP	DELTA / 28C9LH WALL MOUNT FAUCET W/ PAIL HOOK AND VACUUM BREAKER	SS WALL GAURDS TO EXTEND 600mm BEYOND MOP SINK EDGE AND 600mm ABOVE TOP EDGE				
HB-1	INTERIOR HOSE BIBB W/ VACUUM BREAKER	WATTS / SC8-5	-	-	1/2	-	-	-	-	-				
HB-2	INTERIOR HOSE BIBB W/ VACUUM BREAKER AND LOCKABLE COVER	WATTS / HY-330	-	-	3/4	-	-	-	-	-				
NFHB-1	NON-FREEZE HOSE BIBB W/ VACUUM BREAKER AND LOCKABLE COVER	WATTS / HY-725	-	-	3/4	-	-	-	-	-				
FD-1	FLOOR DRAIN	WATTS/ FD-100-C	3	2	-	-	-	P-TRAP	-	C/W TRAP SEAL PRIMER CONNECTION				
FFD-1	FUNNEL FLOOR DRAIN	WATTS/ FD-100C-EG	3	2	-	-	-	P-TRAP	-	C/W TRAP SEAL PRIMER CONNECTION				
FFD-2	FUNNEL FLOOR DRAIN	WATTS/ FD-100C-EG	4		-		-	P-TRAP	-	C/W TRAP SEAL PRIMER CONNECTION				
PD-1	PIT DRAIN - ELEVATOR	WATTS/ BV-600	3	2		-	-	P-TRAP	-	C/W BACK WATER VALVE				
TSP-1	ELECTRONIC TRAP SEAL PRIMER	PPP / MP-500-115V	-	-	1/2	-	-	-	-	PROVIDE 1-4 DISTRIBUTION AS NEEDED, C/W CABINET				
RD-1	ROOF DRAIN	WATTS / RD -100	-	-	-	-	-	-	-	SIZE AS INDICATED ON DRAWING. COORDINATE INSTALLATION AND REQUIREMENTS IWTH THE ROOFING CONTRACTOR				
EW-1	SINK-MOUNT EYE / FACE WASH	HAWS/7610	-	-	1/2	1/2	-	-	-	C/W THERMOSTATIC MIXING VALVE AXION 9201EFE.				



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Physical Resources

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BUILDING #046 RENOVATIONS

Drawing Title

PLUMBING SCHEDULE AND SCHEMATICS
Project No. 504034

UNIVERSITY OF GUELPH

Scale
AS NOTED

Drawn by
HW

Checked By
NC
Approved By

Cad File No. ----

	PUMP SCHEDULE													
I.D.	DESCRIPTION	MANUF./MODEL	TYPE	OPE	RATING P	OINT 'A'	- FLUID	MOTOR I				MAX. WORKING	WEIGHT	COMMENTS
1.5.	DEGGINI HOIV	WIN WOOD IN WOODEL	111.2	FLOW	TDH	HYD EFF.	1 2015	Kw	VOLT	PH	RPM	PRESSURE		OSIVIIVIEIVIO
				L/s (gpm)	M (ft.)	%						kPa (PSI)	Kg (lbs)	
P-1	HOT WATER HEATING SUPPLY-PERIMETER HEAT	ARMSTRONG / TBD (OR APPROVED ALTERNATE)	VERTICAL IN-LINE	3.35 (53)	24.4 (80)	53.19%	WATER	2.3	575	3	3109	1207 (175)	117 (257)	VFD , C/W PACKAGED HEAT EXCHANGER SKID HX-1
P-1A	HOT WATER HEATING SUPPLY- PERIMETER HEAT	ARMSTRONG / TBD (OR APPROVED ALTERNATE)	VERTICAL IN-LINE	3.35 (53)	24.4 (80)	53.19%	WATER	2.3	575	3	3109	1207 (175)	117 (257)	VFD , C/W PACKAGED HEAT EXCHANGER SKID HX-1
P-2	HOT WATER HEATING SUPPLY - RE-HEAT COILS	ARMSTRONG / TBD (OR APPROVED ALTERNATE)	VERTICAL IN-LINE	4.04 (64)	27.9 (90)	55.51%	WATER	2.3	575	3	3182	1207 (175)	117 (257)	VFD , C/W PACKAGED HEAT EXCHANGER SKID HX-2
P-2A	HOT WATER HEATING SUPPLY - RE-HEAT COILS	ARMSTRONG / 4380 (OR APPROVED ALTERNATE)	VERTICAL IN-LINE	4.04 (64)	27.9 (90)	55.51%	WATER	2.3	575	3	3182	1207 (175)	117 (257)	VFD , C/W PACKAGED HEAT EXCHANGER SKID HX-2
P-3	DOMESTIC HOT WATER RECIRCULATION	ARMSTRONG / 250 SS (OR APPROVED ALTERNATE)	INLINE	0.33 (5.2)	4.25 (13.8)	-	POTABLE WATER	0.16	115	1	-	1035 (150)	4.54 (10)	C/W 3 SPEED MOTOR, ADJUSTABLE 24/7 TIMER & MANUAL OVERRIDE
P-4	ELEVATOR SUMP PUMP	MYERS / ME45MC-11 (OR APPROVED ALTERNATE)	SUBMERSIBLE	3.16 (50)	7.1 (23)	-	WATER/OIL	0.4	115	1	3450	1035 (150)	26.5 (58)	C/W PUMP CONTROL PACKAGE, PROBE/FLOAT HOUSING W/ PUMP OFF, PUMP START, HIGH LEVEL FLOATS AND HIGH-HIGH LEVEL PROBE, REMOTE ALARM & BACNET COMPATIBLE
P-5	GLYCOL HEATING SUPPLY	ARMSTRONG / 4380 (OR APPROVED ALTERNATE)	VERTICAL IN-LINE	3.67 (58.1)	25.9 (85)	53.89%	40% PPG	2.3	575	3	3235	1207 (175)	117 (257)	VFD, C/W PACKAGED HEAT EXCHANGER SKID HX-3
P-6	GLYCOL HEATING SUPPLY	ARMSTRONG / TBD (OR APPROVED ALTERNATE)	VERTICAL IN-LINE	3.67 (58.1)	25.9 (85)	53.89%	40% PPG	2.3	575	3	3235	1207 (175)	117 (257)	VFD, C/W PACKAGED HEAT EXCHANGER SKID HX-3
P-7	STEAM CONDENSATE PUMP	ARMSTRONG / AFH-42330-JDA	DUPLEX PUMP PACKAGE	2.84 (45)	21.4 (70)	-	STEAM CONDENSATE	5.6	575	3	-	1035 (150)	-	C/W 137L CAST IRON TANK AND DUPLEX PUMPS (1 DUTY, 1 STANDBY)

		UNIT HEATER & FORCED FLOW CABINET HEATER SCHEDULE																		
			MANUFACTURER/						AIR			FLUID					MO	ΓOR		
\dashv	I.D.	DESCRIPTION	MODEL	LOCATION	DEPTH	WIDTH	HEIGHT	CAPACITY	AIR FLOW	THROW	FLOW	Tent	Tlvg	P.D.	FLUID	KW	VOLT	PH	RPM	COMMENTS
4					mm	mm	mm	kW (MBH)	L/s (cfm)	М	gpm	°C		KPa						
X-1	UH-1	HYDRONIC UNIT HEATER W/ FAN	SIGMA / 030H (OR APPROVED ALTERNATE)	ELECTRICAL ROOM (118)	394	559	343	7.4 (25)	246 (520)	5.5	0.16 (2.5)	82.2	71.1	3.98	WATER	0.04	120	1	1050	MOUNTING METHOD AND HEIGHT SHALL BE AS PER MANUFACTURERS INSTALLATION INSTRUCTIONS. BAS CONTROLLED.
X-1	UH-2	HYDRONIC UNIT HEATER W/ FAN	SIGMA / 062H (OR APPROVED ALTERNATE)	MECHANICAL PENTHOUSE (302)	496	800	496	14.7 (50)	456 (970)	7.7	0.32 (5.0)	82.2	71.1	4.68	40% PPG	0.04	120	1	1050	MOUNTING METHOD AND HEIGHT SHALL BE AS PER MANUFACTURERS INSTALLATION INSTRUCTIONS. BAS CONTROLLED.
	FF-1	FORCED FLOW CABINET HEATER (WALL)	SIGMA (OR APPROVED ALTERNATE)	STRAIRWELL (ST103)	242	1030	660	17.6 (60)	284 (600)	-	0.32 (5.0)	82.2	71.1	8.53	WATER	0.08	120	1	-	FULLY RECESSED IN WALL C/W COLLAR TRIM ALL SIDES, COLOUR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLOUR CHART. BAS CONTROLLED.
& =L =	FF-2	FORCED FLOW CABINET HEATER (WALL)	SIGMA (OR APPROVED ALTERNATE)	STAIRWELL (ST101A)	242	1030	660	17.6 (60)	284 (600)	-	0.32 (5.0)	82.2	71.1	8.53	WATER	0.08	120	1	-	FULLY RECESSED IN WALL C/W COLLAR TRIM ALL SIDES, COLOUR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLOUR CHART. BAS CONTROLLED.

				PACK	AGED H	IEAT E	EXCH	ANGE	R						
I.D.	DESCRIPTION	LOCATION	MANUFACTURER/	COMPONENT	CAPACITY		CE FLUID HOT SIDE		PROC	ESS FLU	JID SIDE	(COLD	SIDE)	PUMPS	
			MODEL			FLOW	Pent	FLUID	FLOW	Tent	Tlvg	P.D.	FLUID		NOTES
					Kw (MBH)	Kg/h (lb/hr)	KPa (PSI)		L/s (gpm)	°C	°C	KPa			
												HX ONLY			
				HEAT EXCHANGER	156 (530)	264 (581)	103.4 (15)	STEAM	3.35 (53)	71.1	82.2	30	WATER	-	REFER TO NOTE
HX-1	STEAM TO HEATING HOT	MECH RM 120	PRESTON PHIPPS/ COMPACKHEAT (OR	HEAT EXCHANGER	156 (530)	264 (581)	103.4 (15)	STEAM	3.35 (53)	71.1	82.2	30	WATER	-	1,3,4,5,6,7,8
ΠΛ - 1	WATER (PERIMETER HEAT)	IVIECH RIVI 120	APPROVED ALTERNATE)	HEATING PUMP	-	-	-	-	3.35 (53)	ı	1	-	WATER	REFER TO P3	REFER TO NOTE
				HEATING PUMP	-	-	-	-	3.35	-	-	-	WATER	REFER TO P4	2,8
				HEAT EXCHANGER	94 (320)	160 (351)	103.4 (15)	STEAM	4.04 (64)	71.1	82.2	30	WATER	-	REFER TO NOTE
	STEAM TO HEATING HOT	M2011 211 400	PRESTON PHIPPS/ COMPACKHEAT (OR	HEAT EXCHANGER	94 (320)	160 (351)	103.4 (15)	STEAM	4.04 (64)	71.1	82.2	30	WATER	-	1,3,4,5,6,7,8
HX-2	WATER (RE-HEAT COILS)	MECH RM 120	APPROVED ALTERNATE)	HEATING PUMP	-	-	-	-	3.29 (52)	-	-	-	WATER	REFER TO P5	REFER TO NOTE
				HEATING PUMP	-	-	-	-	3.29 (52)	-	-	-	WATER	REFER TO P6	2,8
				HEAT EXCHANGER	159 (540)	290 (638)	103.4 (15)	STEAM	3,67 (58.1)	71.1	82.2	30	40% PPG	-	REFER TO NOTE
LIV 2	STEAM TO SUVOSI	MEGUERMANN	PRESTON PHIPPS/ COMPACKHEAT (OR	HEAT EXCHANGER	159 (540)	290 (638)	103.4 (15)	STEAM	3,67 (58.1)	71.1	82.2	30	40% PPG	-	1,3,4,5,6,7,8
HX-3	STEAM TO GLYCOL	MECH RM 120	APPROVED ALTERNATE)	HEATING PUMP	-	-	-	-	3,67 (58.1)	-	-	-	40% PPG	REFER TO P7	REFER TO NOTE
				HEATING PUMP	-	-	-	-	3.67 (58.1)	-	-	-	40% PPG	REFER TO P8	2,8
шу л	STEAM TO	MECH DNA 400	PRESTON PHIPPS/ DFS35DW40 (OR	SEMI- INSTANTANEOUS STEAM TO DHW	440 (1500)	702 (1547)	103.4 (15)	STEAM	1.90 (30)	4.4	60	6.9	DOMESTIC HOT WATER	-	REFER TO NOTE
HX-4	DOMESTIC HOT WATER	MECH RM 120	APPROVEĎ ALTERNATE)	SEMI- INSTANTANEOUS STEAM TO DHW	-	702 (1547)	103.4 (15)	STEAM	1.90 (30)	4.4	60	6.9	DOMESTIC HOT WATER	-	8,9,10,11,12

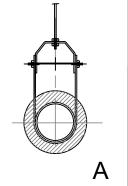
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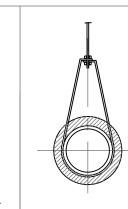
- 1. PRE-PIPED SKID PACKAGES C/W DUPLEX STAINLESS STEEL SHELL & COIL HEAT EXCHANGER(S), ELECTRIC ACTUATED CONDENSATE CONTROL VALVES, STEAM CONTROL VALVES, STEAM TRAPS, CONDENSATE STRAINERS & CHECK VALVES, ANCILLARY ISOLATION VALVES, FITTINGS AND PIPING FOR CONDENSATE, INLET AND OUTLET HYDRONIC
- PIPE ASSEMBLIES WITH ISOLATION VALVES. 2. PRE-PIPED SKID PACKAGES C/W DUPLEX HEATING WATER VERTICAL IN-LINE CIRCULATING PUMPS WITH MOUNTED VFDs, VORTEX AIR SEPARATOR, SUCTION GUIDES, TRIPLE
- DUTY VALVES, ANCILLARY ISOLATION WALVES, FITTINGS AND PIPING FOR HEATING WATER AND PUMP PRESSURE GAUGE ASSEMBLIES. 3. DUPLEX HEAT EXCHANGERS SKID PACKAGE SECTIONS COMPLETE WITH INLET AND OUTLET HYDRONIC PIPE ASSEMBLIES WITH ISOLATION VALVES.
- 4. CONTROL BY BAS.
- 5. RTD, THERMOMETER & PRESSURE GAUGE SUPPLIED MOUNTED ON HYDRONIC OUTLET MANIFOLD ASSEMBLY
- 6. FLOW SWITCH, THERMOMETER & PRESSURE GAUGE SUPPLIED MOUNTED ON HYDRONIC INLET MANIFOLD ASSEMBLY.
- 7. OVERFLOW DRIP TRAP SHIPPED LOOSE.
- 8. SERVICE: 1 DUTY/ 1 STANDBY
- 9. EACH PACKAGE COMPLETE WITH VERTICAL DOUBLE WALLED HEAT EXCHANGER WITH CARBON STEEL SHELL & COPPER-NICKEL TUBES, DIGITAL MIXING VALVE, SAFETY
- SHUT-OFF VALVE, INTERCONNECTING DOMESTIC WATER AND CONDENSATE PIPING, CHECK VALVES, STRAINERS AND FITTINGS.
- 10. SPCO RELAY OUTPUTS. 11. RS485 SERIAL PORT.
- 12. COMPLETE WITH MODULATING STEAM SUPPLY OPTION USING OB2000 TEMPERATURE REGULATOR.

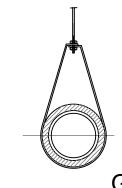
						HE	ATING	CO	IL S	CHEC	ULE			
	HEATING COIL DATA													
I.D.	DESCRIPTION	LOCATION	TOTAL		AIR				FLUID					
			HEATING	EATdb	LATdb	P.D. MAX	FLOW	Tent	Tlvg	MAX. HEAD	FLUID	DUCT SIZE	COMMENTS	
			MBH	°C	°C	Pa	gpm	°C	°C	Кра		mm x mm	1	
RHC-1	HYDRONIC DUCT REHEAT	OFFICE 133	3.7 (12.6)	13.7	23.9	25	0.16 (2.52)	60	55	15	WATER	TBD		
RHC-2	HYDRONIC DUCT REHEAT	FAMILY THERAPY 127	5.5 (18.9)	13.7	23.9	25	0.24 (3.78)	60	55	15	WATER	TBD	8-10 FINS PER INCH PROVIDE DUCT MOUNTED TEMPERATURE SENSOR AS INDICATED. PROVIDE DUCT ACCESS DOORS BEFORE AND AFTER RHC.	
RHC-3	HYDRONIC DUCT REHEAT	PRAYER RM 220	1.8 (6.3)	13.7	23.9	25	0.08 (1.26)	60	55	15	WATER	TBD		

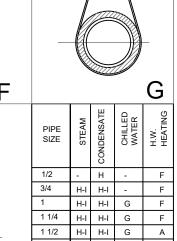
				BA	SEBOA	ARD SCH	EDU	JLE		
I.D.	MANUFACTURER/	DESCRIPTION	ROWS	LENGTH	HEIGHT	OPERAT	ING DA	ATA	SECTION	COMMENTS
1.D.	MODEL	DESCRIPTION	ROWS	LENGTH	ПЕІВНІ	CAPACITY	Tavg	FLUID	SECTION	CONNIVIENTS
			#	mm	mm	KW/m (BTUh/ft)	°C (°F)			
BB-1	SIGMA / J59578 (SBBN-S)	WALL FIN SLOPED TOP WITH VALVE ACCESS DOOR AND BLANK SECTION(S) FOR WALL TO WALL INSTALLATION	1	AS REQ'D	200 (8)	0.586 (616)	76.6 (170)	WATER	95 40 RETURN CHASE OPTION FINISHED FLOOR	ENCLOSURE TO BE WALL TO WALL WITH MAXIMUM LENGTH FIN. ENCLOSURE TO INCLUDED ACCESS DOOR. COLOUR TO BI SELECTED FROM MANUFACTURER'S STANDARD COLOUR CHART DURING SHOP DRAWING REVIEW PERIOD
BB-2	SIGMA / J59578 (SBBN-S)	WALL FIN SLOPED TOP WITH VALVE ACCESS DOOR AND BLANK SECTION(S) FOR WALL TO WALL INSTALLATION	1	1200	200 (8)	0.586 (616)	76.6 (170)	WATER	95 40 40 RETURN CHASE OPTION FINISHED FLOOR	ENCLOSURE TO BE PROVIDED WITH END CAPS AND ACCESS DOOR. COLOUR TO BE SELECTE FROM MANUFACTURER'S STANDARD COLOUR CHART DURING SHOP DRAWING REVIEV PERIOD
BB-3	SIGMA / J61012 (FST)	PEDESTAL TOP OUTLET FREE STANDING ENCLOSURE WITH ACCESS DOOR	1	AS REQ'D	250 (10)	0.586 (616)	76.6 (170)	WATER	ELEMENT 150 HWR BASE 100 FINISHED FLOOR	ENCLOSURE TO BE WALL TO WALL WITH MAXIMUM LENGTH FIN. ENCLOSURE TO INCLUDED ACCESS DOOR. COLOUR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLOUR CHART DURING SHOF DRAWING REVIEW PERIOD

	EXPANSION TANK SCHEDULE											
I.D.	DESCRIPTION	MANUFACTURER / MODEL	TANK	ACCEPT	HORIZONTAL /	DIME	NSIONS	OPERATING	COMMENTS			
I.D.	DESCRIPTION	MANUFACTURER / MODEL	VOLUME	VOLUME	VERTICAL	DIA.	LENGTH	PRESSURE	COMMENTS			
			L	L		mm	mm	kPa				
ET-1	HOT WATER - PERIMETER HEAT SYSTEM	AMTROL / AX-120V (OR APPROVED ALTERNATE)	258	129	VERTICAL	610	1194	1207				
ET-2	HOT WATER - RE-HEAT SYSTEM	AMTROL / AX-60V (OR APPROVED ALTERNATE)	128	43	VERTICAL	407	1143	1207				
ET-3	GLYCOL HEATING SYSTEM	AMTROL / AX-120V (OR APPROVED ALTERNATE)	258	129	VERTICAL	610	1194	1207				
ET-4	DOMESTIC HOT WATER SYSTEM	AMTROL / ST-30V (OR APPROVED ALTERNATE)	53	35	VERTICAL	407	483	1035				











DO NOT SCALE DRAWINGS:

Contractors must check and verify all site conditions. Notify the Owner's Representative in writing before proceeding with the work if discrepancies are evident between the drawings and the site condition. No extras to the contract will be allowed if

Where a friable material is discovered during construction, renovations and/or demolition, and it is suspected to contain asbestos, the Contractor must stop all work that may disturb the material. The Contractor shall advise the Owner of the discovery

B = Drawing number where detailed

APR 12, 2019

NOV 2, 2018

DATE

BY

discrepancies were evident prior to start of work. UNEXPECTED DISCOVERY OF ASBESTOS:

A = Detail number

and await instructions from the owner.

ISSUED FOR CONVENIENCE

NO. ISSUED

Orientation

0 ISSUED FOR PERMIT & TENDER TA

Guelph, Ontario. N1G 2W1



BUILDING #046 RENOVATIONS

Drawing Title

HEATING SCHEDULES

504034

Cad File No. ----

Scale AS NOTED	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By	
NC	
Approved By	
KDT	
JLR#	
27915	

																	AIR	HANE	LING UN	T SC	HEDL	JLE															
			MANUF.					FAN DA	ТА						COOLING	COIL D	ATA					HEAT	ING COIL	DATA				so	UND PO	NER @	LINIT O	UTI FT	UNIT PI	HYSICAL		SIONS &	
I.D.	DESCRIPTI	ON LOCATION	/MODEL	MIN O/A	PPL × × N N	AIR FLOW EXT. S	.P. RPI	PM	MOTOR		FAN TYPE	TOTAL COOLING	SENSIBLE COOLING	ENTI	ERING AIR	FLOW	Tent. Tlvg.	P.D.	FLUID TOTAL HEATING		AIR				FLUID		FILTERS		ONDIO	(db)	01411 0	OTELT		WEI	GHT 		COMMENTS
					ls R							COOLING	COOLING	DB D	WB P.D.				HEATING	' EATdb	LATdb	P.D.	FLOW	Tent T	lvg P.D.	FLUID							WEIGHT	LENGTH	HEIGHT	WIDTH	
				L/s (cfm)		L/s (cfm) Pa (in w	/g)	KW	VOLT PI	H RPM		KW	KW	°C	°C Pa	L/s	°C °C	KPa	KW	°C	°C	Pa	L/s	°C °	°C KPa		MERV	125	250 50) 1K	2K 4	4K LwA	KG	mm	mm	mm	
AC-1	WING C	MECHANICAL PENTHOUSE	HAAKON INDUSTRIES	305 (647)	-	3682 (7800) 250 (1.	0) 195	57 5.6	575 3	3 1750	CENTRIFUGAL	65.3	53.3	24.5	17.5 115	2.72	7.3 12.8	19.61	VATER 48.7	17.7	28.7	7.5	1.02	82.2 7	1.1 15.75	40% PROPYLEN	MERV 8 PREFILTER E MERV 14 FINAL FILTER	96	93 89	84	81	77 TBD	1805	3944	1443	1855	BAS CONTROLLED
RF-1	REMOTE R/A	FAN MECHANICAL PENTHOUSE	COOK / VAHB 21	-	•	3540 (7500) 187 (0.7	75) 311	18 2.5	575 3	3 2104 F	IXED PITCH VANE AXIAL	-	-	-		-		-		-	-	-	-	-		-	MERV 8	-		93	97	89 90	136	788	61	18Ø	BELT GUARD, MOTOR GUARD, MOUNTING FEET / BRACKET, VIBRATION ISOLATION, INSPECTION DOOR AND DISCONNECT SWITCH
AC-2	WING B NOR	TH MECHANICAL PENTHOUSE	HAAKON INDUSTRIES	777 (1647)	•	6419 (13600) 375 (1.	5) 178	87 11.2	575 3	3 1750	CENTRIFUGAL	115.1	92.9	24.7	17.6 117	4.85	7.3 12.8	40.92	VATER 77.5	16.1	26.1	10	1.70	82.2 7	1.1 2.75	40% PROPYLEN	MERV 8 PREFILTER E MERV 14 FINAL FILTER	97	96 9 ⁻	87	82	77 TBD	2491	4039	1799	2236	BAS CONTROLLED
RF-2	REMOTE R/A	FAN MECHANICAL PENTHOUSE	COOK / VAHB 29	-	•	4743 (10050) 187 (0.7	75) 219	91 2.1	575 3	3 1129 F	IXED PITCH VANE AXIAL	-	-	-		-		-		-	-	-	-	-		-	MERV 8	-		88	85	87 89	313	914	85	60 Ø	BELT GUARD, MOTOR GUARD, MOUNTING FEET / BRACKET, VIBRATION ISOLATION, INSPECTION DOOR AND DISCONNECT SWITCH
AC-6	WING B SOU	TH MECHANICAL PENTHOUSE	HAAKON INDUSRIES	881 (1867)	•	6325 (13400) 375 (1.	5) 178	87 11.2	575 3	3 1750	CENTRIFUGAL	114.3	94.3	24.7	17.7 157	4.23	7.3 12.8	14.77	VATER 75.1	15.5	25.4	10	1.70	82.2 7	1.2 2.66	40% PROPYLEN	MERV 8 PREFILTER E MERV 14 FINAL FILTER	97	96 9 ⁻	87	82	77 TBD	2491	4039	1799	2236	BAS CONTROLLED
RF-6	REMOTE R/A	FAN MECHANICAL PENTHOUSE	COOK / VAHB 29	-	•	4743 (10050) 187 (0.7	75) 219	91 2.1	575 3	3 1129 F	IXED PITCH VANE AXIAL	-	-	-		-		-		-	-	-	-	-		-	MERV 8	-		88	85	87 89	313	914	85	60 Ø	BELT GUARD, MOTOR GUARD, MOUNTING FEET / BRACKET, VIBRATION ISOLATION, INSPECTION DOOR AND DISCONNECT SWITCH

																			FAN	N COIL	UNIT	ΓS																	
													CC	OOLING	COIL DA	ATA						HEA	TING C	COIL DATA															
I.D.	DESCRIPTION	LOCATION	MANUF./MODEL										NTERING	AIR								AIR		Fl	LUID		FILT	-De	SOLIND	DOWE	R @ UN	JIT OLITI	FT	WEIGHT	LENGTH	HEIGI	ᆸᅮᆝ	WIDTH	COMMENTS
I.D.	DESCRIPTION	LOCATION	WANOF./WODEL	AIR FLOW E	EXT. S.P.	МС	TOR	MCA	MOCP	TOTAL COOLING	SENSI COOL		ОВ	WB	FLOW	Tent	Tlvg.	P.D	FLUID	TOTAL HEATING	EAT	db LATdi	FLO\	W Tent TI	lvg P.[D. FLU		INS	000110	71 000	(@ 01	WIT OOTE	'	WEIGHT	LENGIH	HEIGI	"	WIDTH	COMMENTS
				L/s	Pa	KW V	OLT P	Н А	А	KW	KW	,	°C	°C	L/s	°C	°C	KPa		KW	°C	°C	L/s	°C °	°C KP	'a	ME	RV 12	25 250	500	1K 2	K 4K	LwA	KG	mm	mm	1	mm	
FC-1	COOLING UNIT	CCS (117 B)	DAIKIN FCHH212	567	125	0.79 1	15 1	8.5	15	6	8.2	2 2	3.9	17.3	0.5	7.3	12.8	50.81	WATER	-	-	-	-			-	8	5	9 61	62	61 5	57 50	-	43	514	252	2	1194	BAS CONTROLLED, & DISCONNECT SWITCH
FC-2		•					,	•	•										•		REMOVED)	•			•			•	,	•	•					•	•	
FC-3	COOLING/ HEATING UNIT	ENTRANCE (C100/ST102)	DAIKIN FCHH212	567	125	0.79 1	15 1	l 8.5	15	6	8.2	2	3.9	17.3	0.5	7.3	12.8	50.81	WATER	24	2	32	0.5	82.3 71	1.8 18	3 WAT	ER 8	6	8 67	67	66 6	3 57	-	71	514	252	2	1842	BAS CONTROLLED, & DISCONNECT SWITCH
FC-4	COOLING UNIT	MAIN ENTRANCE (ST201)	DAIKIN FCHH206	285	125	0.44 1	15 1	1 4.7	15	5.3	4.5	5 2	3.9	17.3	0.26	7.3	12.8	20.50	WATER	5	2	32	0.2	82.3 71	1.8 23	3 WAT	ER 8	5	9 61	62	61 5	57 50	-	43	514	252	2	1194	BAS CONTROLLED, & DISCONNECT SWITCH
FC-5	COOLING UNIT	ELEVATOR CONTROL ROOM (231)	DAIKIN FCHH204	189	125	0.28 1	15 1	1 2.9	15	3.6	3.0) 2	3.9	17.3	0.13	7.3	12.8	8.69	WATER	-	-	-	-		-	-	8	5	7 58	55	53 4	8 39	-	35	514	252	2	915	BAS CONTROLLED, & DISCONNECT SWITCH
FC-6	COOLING UNIT	SERVER ROOM (234)	DAIKIN FCHH204	189	63	0.28 1	15 1	1 2.9	15	3.6	3.0) 2	3.9	17.3	0.13	7.3	12.8	8.69	WATER		-	_	-			-	8	5	7 58	55	53 4	8 39	-	35	514	252	2	915	BAS CONTROLLED, & DISCONNECT SWITCH

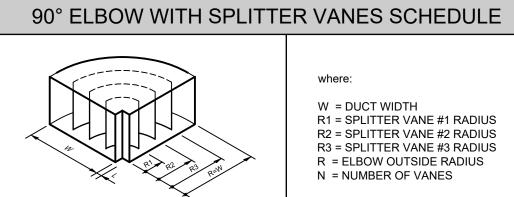
		LOCATION			OPERAT	ING POINT	SOUND				_			
I.D.	DESCRIPTION	SERVED	MANUF./MODEL	TYPE	AIR FLOW	S.P.		DRIVE		MOTO	DR		CONTROLS	COMMENTS
					L/s (cfm)	Pa (in. w.c.)	SONES		Нр	VOLT	PH	RPM		
EF-31	WASHROOM EXHAUST	UNIV. WR 138	COOK/ GC-146 (OR APPROVED ALTERNATE)	CABINET	43 (90)	63 (0.25)	1.3	DIRECT	1/20	115	1	900		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH - PENTHOUSE LOUVER TERMINATION
EF-32	GENERAL EXHAUST	MECHANICAL PENTHOUSE	COOK/14XWH32D132 (OR APPROVED ALTERNATE)	WALL PROP	567 (1200)	63 (0.25)	8.9	DIRECT	1/4	115	1	1300		C/W SPEED CONTROLLER, WALL MOUNTING COLLAR, GUARD, MOTORIZED DAMPER, BIRD SCREEN, WEATHERPROOF LOUVER AND DISCONNECT SWITCH.
EF-33	PURGE EXHAUST	OFFICE 133	COOK/100ROR80 (OR APPROVED ALTERNATE)	ROOF MOUNTED UPBLAST	288 (610)	126 (0.5)	11.1	BELT	1 / ₄	115	1	1725		C/W BACKDRAFT DAMPER, BIRD SCREEN, 24" ROOF CURB, AND DISCONNECT SWITCH
SBF-133	SUPPLY BOOST	01110L 133	COOK/ GN-642 (OR APPROVED ALTERNATE)	INLINE	260 (548)	63 (0.25)	4.5	DIRECT	1/4	115	1	1500		C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-34	PURGE EXHAUST	FAMILY 127	COOK/ 120R3B (OR APPROVED ALTERNATE)	ROOF MOUNTED UPBLAST	472 (1000)	126 (0.5)	10.2	BELT	1/4	115	1	1725		C/W BACKDRAFT DAMPER, BIRD SCREEN, 24" ROOF CURB, AND DISCONNECT SWITCH
SBF-127	SUPPLY BOOST	.,	COOK/ GN-822 (OR APPROVED ALTERNATE)	INLINE	427 (904)	63 (0.25)	4.0	DIRECT	1/3	115	1	910		C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-35	WASHROOM EXHAUST	WR116	COOK/ GN-622 (OR APPROVED ALTERNATE)	INLINE	218 (461)	63 (0.25)	3.0	DIRECT	1/5	115	1	1400		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH - PENTHOUSE LOUVER TERMINATION
EF-36	CUSTODIAN EXHAUST	CUST. 116	COOK/ GC-128 (OR APPROVED ALTERNATE)	CABINET	30 (63)	63 (0.25)	1.1	DIRECT	1/20	115	1	750		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH- PENTHOUSE LOUVER TERMINATION
EF-37	GENERAL EXHAUST	ELECT. 118	COOK/24XWH28D102 (OR APPROVED ALTERNATE)	WALL PROP	1888 (4000)	63 (0.25)	15.4	DIRECT	3/4	115	1	1080		C/W SPEED CONTROLLER, WALL MOUNTING COLLAR, GUARD, MOTORIZED DAMPER, BIRD SCREEN, WEATHERPROOF LOUVER AND DISCONNECT SWITCH.
EF-38	GENERAL EXHAUST	MECH. 120	COOK/14XWH32D132 (OR APPROVED ALTERNATE)	WALL PROP	567 (1200)	63 (0.25)	8.9	DIRECT	1/4	115	1	1300		C/W SPEED CONTROLLER, WALL MOUNTING COLLAR, GUARD, MOTORIZED DAMPER, BIRD SCREEN, WEATHERPROOF LOUVER AND DISCONNECT SWITCH.
EF-39	WASHROOM EXHAUST	UNIV. WR 234	COOK/ GC-146 (OR APPROVED ALTERNATE)	CABINET	43 (90)	63 (0.25)	1.3	DIRECT	1/20	115	1	900		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH - PENTHOUSE LOUVER TERMINATION
EF-40	GENERAL EXHAUST	LOUNGE 217	COOK/ GC-148 (OR APPROVED ALTERNATE)	CABINET	63 (132)	63 (0.25)	2.5	DIRECT	1/16	115	1	1075		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH - PENTHOUSE LOUVER TERMINATION
EF-41	PURGE EXHAUST	PRAYER 220	COOK/100ROR70 (OR APPROVED ALTERNATE)	ROOF MOUNTED UPBLAST	152 (320)	126 (0.5)	12.9	BELT	1/4	115	1	1725		C/W BACKDRAFT DAMPER, BIRD SCREEN, 24" ROOF CURB, AND DISCONNECT SWITCH
SF-220	SUPPLY BOOST		COOK/ GN-422 (OR APPROVED ALTERNATE)	INLINE	133 (282)	63 (0.25)	4.0	DIRECT	1/6	115	1	1500		C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-42	CUSTODIAN EXHAUST	CUST. 201	COOK/ GC-128 (OR APPROVED ALTERNATE)	CABINET	30 (63)	63 (0.25)	1.1	DIRECT	1/20	115	1	750		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, GOOSE NECK W BIRD SCREEN, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-43	WASHROOM EXHAUST	WR 201	COOK/ GN-622 (OR APPROVED ALTERNATE)	INLINE	218 (461)	63 (0.25)	3.0	DIRECT	1/5	115	1	1400		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, GOOSE NECK W BIRD SCREEN, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-44	GENERAL EXHAUST	KITCHENETTE 115	COOK/ GC-148 (OR APPROVED ALTERNATE)	CABINET	63 (132)	63 (0.25)	2.5	DIRECT	1 / ₆	115	1	1075		C/W SPEED CONTROLLER, BACKDRAFT DAMPER, GOOSE NECK W BIRD SCREEN, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-45	GENERAL EXHAUST	HSKP 112	COOK/ GC-128 (OR APPROVD ALTERNATE)	CABINET	30 (63)	63 (0.25)	1.1	DIRECT	1/20	115	1	750	DEFEN TO MOS	C/W SPEED CONTROLLER, BACKDRAFT DAMPER, GOOSE NECK W BIRD SCREEN, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-46	WASHROOM EXHAUST	UNIV. WR 104	COOK/ GC-146 (OR APPROVED ALTERNATE)	CABINET	43 (90)	63 (0.25)	1.3	DIRECT	1/20	115	1	900	REFER TO M80 MOTORS STARTER AND CONTROLS DRAWING	C/W SPEED CONTROLLER, BACKDRAFT DAMPER, GOOSE NECK W BIRD SCREEN, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
EF-47	WASHROOM EXHAUST	W/C 104A	COOK/ GC-146 (OR APPROVED ALTERNATE)	CABINET	43 (90)	63 (0.25)	1.3	DIRECT	1/20	115	1	900	5	C/W SPEED CONTROLLER, BACKDRAFT DAMPER, GOOSE NECK W BIRD SCREEN, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-125	NOT USED	•		•		•			•				\	C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-126D	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-126A	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-126C	NOT USED												/	C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-126B	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-228	NOT USED												K	C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-224	NOT USED												K	C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-216	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-215	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-213	NOT USED											,	K	C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-211	NOT USED)	C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-210	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-202	NOT USED											•		C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-203	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-204	NOT USED													C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-205	NOT USED										<u> </u>			C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-207	SUPPLY BOOST	CP/IND 207	COOK/ GN-622 (OR APPROVED ALTERNATE)	INLINE	218 (461)	63 (0.25)	3.0	DIRECT	1/5	115	1	1400		C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-208	NOT USED			· · · · · · · · · · · · · · · · · · ·		V								C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH
SBF-209	NOT USED	<u> </u>												C/W SPEED CONTROLLER, HANGING ISOLATOR KIT AND DISCONNECT SWITCH

FAN SCHEDULE

		NOIS	SE CO	NTRO	L (SIL	ENCER)	SCI	HED	ULE					
I.D.	DESCRIPTION	DIN	MENSIONS	3	AIR	VELOCITY		,	ATTEN	IUATIC	ON (Hz	<u>:</u>)		PRESSURE
1.0.	DESCRIPTION	LENGTH	HEIGHT	WIDTH	FLOW	VELOCITY	63	125	250	500	1K	2K	4K	LOSS
		mm (in)	mm (in)	mm (in)	L/s (cfm)	m/s								Pa (in wc)
SIL-1	AC-1 S/A SILENCER	2440 (96)	650 (26)	600 (24)	3682 (7800)	9.1 (1800)	1	13	17	17	21	19	15	63 (0.25)
SIL-2	AC-1 R/A SILENCER	2440 (96)	700 (28)	600 (24)	3540 (7500)	8.4 (1650)	10	19	8	4	5	-	-	63 (0.25)
SIL-3	AC-2 S/A SILENCER	2440 (96)	750 (30)	750 (30)	6419 (13600)	12 (2400)	4	14	15	18	29	16	11	63 (0.25)
SIL-4	AC-2 R/A SILENCER	2440 (96)	800 (35)	800 (35)	4743 (10050)	8.6 (1700)	5	7	12	13	10	2	-	63 (0.25)
SIL-5	AC-3 S/A SILENCER	2440 (96)	750 (30)	750 (30)	6325 (13400)	12 (2400)	-	13	17	17	23	20	15	63 (0.25)
SIL-6	AC-3 R/A SILENCER	2440 (96)	800 (35)	800 (35)	4743 (10050)	8.6 (1700)	10	19	8	4	5	-	-	63 (0.25)

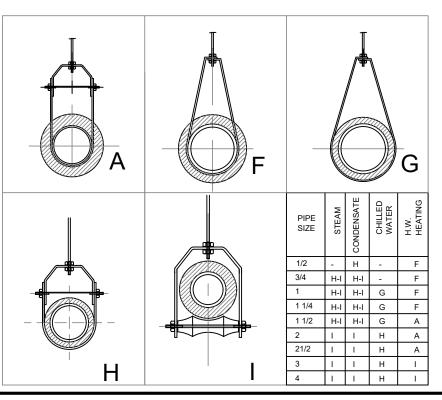
			L	OUVER S	CHEDU	LE					
I.D.	DESCRIPTION	MANUF./	LOCATION	AIR FLOW	MAXIMUM		SIZE		FREE	MAX.	COMMENTS
1.0.	DECORM FICH	MATERIAL	200/11014	7 MICT EOW	P.D.	WIDTH	DEPTH	LENGTH	AREA	VELOCITY	OOMINERTO
				L/s (cfm)	Pa (in wc)	mm (in)	mm (in)	mm (in)	M² (ft²)	Mps (fpm)	
LU-1	INTAKE		MECHANICAL ROOM	567 (1200)	25 (0.1)	700(28)	100 (4)	800(32)	0.25(2.71)	2.54 (500)	
LU-2	INTAKE		ELECTRICAL ROOM	1888 (4000)	25 (0.1)	900(36)	100 (4)	1000(40)	0.74(8)	2.54 (500)	
LU-3	AC-1 RELIEF EXHAUST		PENTHOUSE ROOF	3682 (7800)	50 (0.2)	700(28)	100 (4)	700(28)	0.22(2.4)	5.08 (1000)	
LU-4	AC-2 RELIEF EXHAUST		PENTHOUSE ROOF	6419 (13600)	50 (0.2)	900(36)	100 (4)	800(32)	0.32(3.4)	5.08 (1000)	COMPLETE WITH 450mm
LU-5	AC-3 RELIEF EXHAUST		PENTHOUSE ROOF	6325 (13400)	50 (0.2)	900(36)	100 (4)	800(32)	0.32(3.4)	5.08 (1000)	ROOF CURB AND INSECT SCREEN. COLOUR TO BE
LU-6	EF-31&39 EA TERMINATION		WING "B" ROOF	86 (180)	50 (0.2)	300(12)	100 (4)	450(20)	0.02(0.18)	5.08 (1000)	SELECTED FROM
LU-7	EF-36&42 EA TERMINATION	VENTEX/ PH2425	WING "B" ROOF	60 (126)	50 (0.2)	300(12)	100 (4)	450(20)	0.011(0.12)	5.08 (1000)	MANUFACTURERS STANDARD COLOUR
LU-8	EF-35 EA TERMINATION	OR APPROVED ALTERNATE	WING "B" ROOF	218 (416)	50 (0.2)	300(12)	100 (4)	450(20)	0.04(0.4)	5.08 (1000)	CHART DURING SHOP DRAWING REVIEW BY
LU-9	EF-43 EA TERMINATION		WING "B" ROOF	218 (416)	50 (0.2)	300(12)	100 (4)	300(12)	0.04(0.4)	5.08 (1000)	ARCITECTURAL
LU-10	EF-44 EA TERMINATION		WING "C" ROOF	63(132)	50 (0.2)	300(12)	100 (4)	300(12)	0.13(0.14)	5.08 (1000)	
LU-11	EF-45 EA TERMINATION		WING "C" ROOF	30 (63)	50 (0.2)	300(12)	100 (4)	300(12)	0.006(0.06)	5.08 (1000)	
LU-12	EF-46&47 EA TERMINATION		WING "C" ROOF	86(90)	50 (0.2)	300(12)	100 (4)	300(12)	0.01(0.1)	5.08 (1000)	

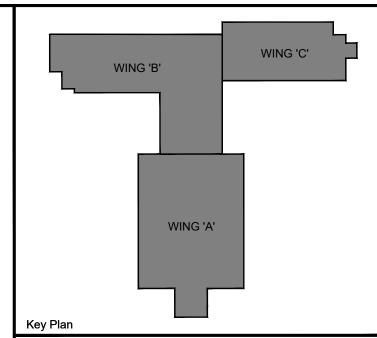
		(GRI	LLE AND DIFFUSER	SCHEDULE
	s	ERVI	Œ	DECODIDATION	FINIOLI AND ACCESCODIES
I.D.	S.A.	R.A.	E.A.	DESCRIPTION	FINISH AND ACCESSORIES
А	•			SQUARE CONE DIFFUSER, STEEL, FIXED AIR PATTERN, 3 CONE, T-BAR FRAME	WHITE POWDER COAT
В		•		EGGCRATE FACE RETURN, ALUMINUM, 13x13x13 GRID CORE, LAY-IN T-BAR FRAME	WHITE POWDER COAT
С		•	•	EGGCRATE FACE RETURN, ALUMINUM, 13x13x13 GRID CORE, DUCTED EXHAUST/RETURN	WHITE POWDER COAT, OPPOSED BLADE DAMPER
D		•		LOUVERED FACE RETURN, ALUMINUM, FIXED LOUVER, 19mm LOUVER SPACING, DUCT MOUNTED	WHITE POWDER COAT, OPPOSED BLADE DAMPER
E	•			LOUVERED FACE SUPPLY, ALUMINUM, FIXED LOUVER, DOUBLE DEFLECTION, 19mm LOUVER SPACING, DUCT MOUNTED	WHITE POWDER COAT, OPPOSED BLADE DAMPER
F		•		FIRE RATED DOOR GRILLE, HEAVY DUTY	PAINT TO MATCH DOOR COLOUR
G	•			SLOT DIFFUSER, INSULATED PLENUM, 25mm SLOT(S) GYPSUM MOUNT	WHITE POWDER COAT, MITERED END FLANGES WITH INTEGRAL BALANCING AND DEFLECTION DAMPERS



W = DUCT WIDTH
R1 = SPLITTER VANE #1 RADIUS
R2 = SPLITTER VANE #2 RADIUS
R3 = SPLITTER VANE #3 RADIUS
R = ELBOW OUTSIDE RADIUS
N = NUMBER OF VANES

W	L	N	R1	R2	R3	REMARKS
300mm - 900mm (12" - 36")	75mm (3")	1	W x 1/2	1	ı	
925mm - 1350mm (37" - 54")	100mm (4")	2	W x 1/3	W x 2/3	1	
1375mm - 1800mm (55" - 72")	150mm (6")	3	W x 1/4	W x 1/2	W x 3/4	





DO NOT SCALE DRAWINGS:

Contractors must check and verify all site conditions. Notify the

Owner's Representative in writing before proceeding with the work if discrepancies are evident between the drawings and the site condition. No extras to the contract will be allowed if discrepancies were evident prior to start of work.

UNEXPECTED DISCOVERY OF ASBESTOS:

Where a friable material is discovered during construction, renovations and/or demolition, and it is suspected to contain asbestos, the Contractor must stop all work that may disturb the material. The Contractor shall advise the Owner of the discovery and await instructions from the owner.



A = Detail number

B = Drawing number where detailed

	B = Drawing nur	nber v	vnere de	etalled
2	ISSUED FOR CONVENIENC	E	TA	APR 12, 2019
1	POST-TENDER ADDENDUM	I NO.1	TA	FEB 26, 2019
0	ISSUED FOR PERMIT & TEN	NDER	TA	NOV 2, 2018
NO.	ISSUED		BY	DATE
Orien	ntation			
Seal		Seal		



Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1



BUILDING #046 RENOVATIONS

Drawing Title

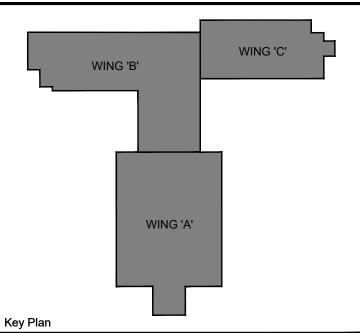
VENTILATION SCHEDULES 1 Project No. 504034

Scale AS NOTED	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By	
NC	
Approved By	\neg M67
KDT	
JLR#	
27915	

		SIN	GLE DUCT V						SCHE	EDULE		
	I.D.	MANUF./MODEL	DESCRIPTION	SERVING ROOM(S)	MAXIMUM AIR FLOW	MIMIMUM AIR FLOW	INLET DUCT SIZE mm (inches) Ø	MAX S.P.	NC	CONTROL	HEATING COIL KW (MBH)	COMMENTS
-	VAV-101	METALAIRE / TH512 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	101& 102	798 (1690)	198 (419)	300 (12)	63	<17	BAS	4.6 (15.7)	\
,	VAV-102	NOT USED										么
	VAV-103	METALAIRE / TH512 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	103 & 103A	510 (1080)	153 (324)	300 (12)	63	<17	BAS	3.0 (10.1)	
	VAV-106	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	106, 106A	170 (360)	51 (108)	150 (6)	63	<20	BAS	1.0 (3.4)	
1	VAV106B	NOT USED										\
•	VAV-107	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	107 & 106B	308 (652)	93 (197)	200 (8)	63	<20	BAS	1.7 (5.9)	
	VAV-108	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	108	127 (267)	38 (80)	150 (6)	63	<17	BAS	0.7 (2.5)	
4	VAV-109A	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	109, 109A & 109B	331 (701)	100 (212)	250 (10)	63	15	BAS	1.9 (6.5)	\
1	VAV-109	NOT USED										
	VAV-110	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	110	294 (622)	89 (187)	250 (10)	63	15	BAS	1.7 (5.8)	
	VAV-111	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	111	361 (764)	109 (229)	250 (10)	63	15	BAS	2.1 (7.1)	
į	VAV-113	NOT USED								***		\
(VAV-113A	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	113 & 113A	331 (701)	102 (216)	250 (10)	63	15	BAS	1.9 (6.7)	
(VAV-114	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	114 & 114A	334 (6708)	100 (212)	250 (10)	63	15	BAS	1.9 (6.7)	1
	VAV-115	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	115	107 (225)	32 (68)	150 (6)	63	<17	BAS	0.6 (2.1)	
	VAV-C101	METALAIRE/ TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	C101	134 (282)	40 (85)	150 (6)	63	17	BAS	0.8 (2.6)	
	VAV-147	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	147	212 (448)	64 (134)	200 (8)	63	<15	BAS	1.2 (4.2)	
	VAV-149	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	149	279 (590)	84 (177)	200 (8)	63	<15	BAS	1.6 (5.5)	
	VAV-145	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	143,145,145A	376 (795)	113 (239)	200 (8)	63	19	BAS	2.2 (7.4)	
į	VAV-139	NOT USED								***		
(VAV-137	NOT USED										
,	VAV-135	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	135	391 (828)	120 (249)	250 (10)	63	15	BAS	2.4 (9.6)	}
	VAV-133	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	133	132 (278)	40 (83)	150 (6)	63	<17	BAS	0.8 (2.6)	
	VAV-129A	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT		204 (432)	62 (130)	200 (8)	63	<15	BAS	1.2 (4.0)	
	VAV-129B	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	129	204 (432)	62 (130)	200 (8)	63	<15	BAS	1.2 (4.0)	
	VAV-127	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	127 &127A	238 (503)	72 (151)	200 (8)	63	<15	BAS	1.4 (4.7)	
	VAV-125	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	125 &125A	232 (490)	70 (147)	200 (8)	63	<15	BAS	1.3 (4.6)	
	VAV-C106	NOT USED										Δ
	VAV-C107	METALAIRE / TH505 (OR APPROVED ALTERNATE) METALAIRE / TH510 (OR APPROVED	SINGLE DUCT TERMINAL UNIT	C107	40 (85)	40 (85)	125 (5)	63	<15	BAS	NONE	
	VAV-236	ALTERNATE) METALAIRE / TH510 (OR APPROVED	SINGLE DUCT TERMINAL UNIT	236 &235A	344 (728)	104 (218)	250 (10)	63	15	BAS	2.0 (6.8)	
	VAV-239	ALTERNATE)	SINGLE DUCT TERMINAL UNIT	239	327 (692)	98 (208)	250 (10)	63	15	BAS	1.9 (6.5)	
	VAV-237	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	237	130 (275)	39 (83)	150 (6)	63	17	BAS	0.8 (2.6)	
	VAV-235	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	235	227 (480)	68 (144)	200 (8)	63	<15	BAS	1.3 (4.5)	
	VAV-233	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	233	392 (830)	118 (249)	250 (10)	63	16	BAS	2.3 (7.7)	
(VAV-229	NOT USED										\
(VAV-227	METALAIRE / TH508 OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	227 & 229	280(592)	84 (178)	200 (8)	63	17	BAS	1.6 (5.6)	
(VAV-225	NOT USED)
(VAV-223	NOT USED										<u> </u>
(VAV-221	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	221, 223 & 225	520 (1100)	126 (267)	250 (10)	63	17	BAS	2.4 (8.4)	1
	VAV-217-1	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	217	390 (825)	117 (248)	250 (10)	63	16	BAS	2.3 (7.7)	
	VAV-217-2	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	217	260 (550)	78 (165)	200 (8)	63	<15	BAS	1.5 (5.1)	

I.D.	MANUF./MODEL	DESCRIPTION	SERVING ROOM(S)	MAXIMUM AIR ELOW		INLET DUCT	MAX S.P.	NC	CONTROL	HEATING	COMMENTS
			VOOINI(2)	AIR FLOW L/s (cfm)	AIR FLOW L/s (cfm)	SIZE mm (inches) Ø	S.P. Pa			COIL KW (MBH)	
VAV-136	METALAIRE / TH512 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	136 &136C	581 (1230)	175 (369)	300 (12)	63	17	BAS	3.4 (11.5)	
VAV-134	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	134 &136B	107 (225)	32 (68)	150 (6)	63	17	BAS	0.6 (2.1)	
VAV-132	METALAIRE/ TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	132	178 (377)	54 (113)	200 (8)	63	<15	BAS	1.0 (3.5)	
VAV-130	METALAIRE / TH506 OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	130	103 (218)	30 (63)	150 (6)	63	<15	BAS	0.3 (0.9)	\triangle
VAV-128	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	128	138 (292)	42 (88)	200 (8)	63	<15	BAS	0.8 (2.7)	
VAV-126D	NOT USED									1	\
VAV-126A	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	126A & 126D	60 (124)	18 (38)	150 (6)	63	<15	BAS	0.4 (1.2)	
VAV-126C	NOT USED										}
VAV-126B	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	126B & 126C	60 (124)	18 (38)	150 (6)	63	<15	BAS	0.4 (1.2)	
VAV-123	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	123 & 123A	192 (405)	58 (122)	250 (10)	63	<15	BAS	1.1 (3.7)	
VAV-123D	METALAIRE / TH512 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	123C, 123D, 123B	448 (949)	135 (285)	300 (12)	63	17	BAS	2.6 (8.9)	
VAV-123F	METALAIRE / TH505 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	C123 & 123F	121 (256)	37 (77)	125 (5)	63	<15	BAS	0.7 (2.4)	
VAV-123E	METALAIRE / TH505 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	123E	44 (93)	14 (28)	125 (5)	63	<15	BAS	0.3 (0.9)	
VAV-C102	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	C102	235 (500)	235 (500)	200 (8)	63	<15	BAS	NONE	
VAV-C201	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	C201	230 (490)	230 (490)	200 (8)	63	<15	BAS	NONE	
VAV-230	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	230	384 (813)	116 (244)	250 (10)	63	16	BAS	2.2 (7.6)	
VAV-226	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	226 &232	86 (180)	27 (54)	150 (6)	63	<15	BAS	0.4 (1.2)	Δ
VAV-228	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	228 &228A	284 (600)	85 (180)	200 (8)	63	<15	BAS	1.6 (5.6)	r
VAV-224A	NOT USED		\	\)
VAV-224	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	224 & 224A	252 (531)	77 (160)	200 (8)	63	<15	BAS	1.5 (5.0)	<u>\</u>
VAV-222	METALAIRE / TH508 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	222	258 (545)	78 (164)	200 (8)	63	<15	BAS	1.5 (5.1)	y—
VAV-220	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	220	46 (97)	14 (29)	150 (6)	63	<15	BAS	0.3 (0.9)	
VAV-216	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	216 & 218	45 (94)	14 (28)	150 (6)	63	<15	BAS	0.3 (0.9)	
VAV-215	METALAIRE / TH506 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	215	117 (246)	35 (74)	150 (6)	63	<15	BAS	0.7 (2.3)	
VAV-214	NOT USED	I LINWIIIVAL UIVI I									
VAV-213	METALAIRE / TH510 (OR APPROVED	SINGLE DUCT	213 & 214	370 (781)	112 (234)	250 (10)	63	<15	BAS	2.1 (7.3)	7
VAV-212	ALTERNATE) NOT USED	TERMINAL UNIT		, ,	<u> </u>	, ,				, ,	K
VAV-211	METALAIRE / TH508 (OR APPROVED	SINGLE DUCT	211 & 212	229 (484)	69 (146)	200 (8)	63	<15	BAS	1.3 (4.5)	y
VAV-211	ALTERNATE) METALAIRE / TH508 (OR APPROVED	TERMINAL UNIT SINGLE DUCT	211 & 212 210 & 210A	194 (411)	59 (123)	200 (8)	63	<15	BAS	1.3 (4.3)	
VAV-210 VAV-202	ALTERNATE) METALAIRE / TH506 (OR APPROVED	TERMINAL UNIT SINGLE DUCT	210 & 210A 202 & 203	76 (160)	24 (48)	150 (6)	63	<15	BAS	0.4 (1.2)	
VAV-202 VAV-203	ALTERNATE) NOT USED	TERMINAL UNIT	202 α 203	, 0 (100)	27 (1 0)	155 (0)	03	10	SA0	V.7 (1.2)	
	METALAIRE / TH506 (OR APPROVED	SINGLE DUCT	204 9 225	76 (460)	24 (40)	450 (6)	60	245	DAG.	0.4 (4.0)	}
VAV-204	ALTERNATE)	TERMINAL UNIT SINGLE DUCT	204 & 205	76 (160)	24 (48)	150 (6)	63	<15	BAS	0.4 (1.2)	<u> </u>
VAV-205	NOT USED METALAIRE / TH506 (OR APPROVED	TERMINAL UNIT		20 (175)	0.750	450 (5)			<u> </u>	00/05	<u>γ</u>
VAV-206	ALTERNATE)	TERMINAL UNIT	206 & 208	82 (172)	24 (52)	150 (6)	63	<15	BAS	0.2 (0.6)	
VAV-207	NOT USED METALAIRE / TH506 (OR APPROVED	SINCLE DUCT									
VAV-209	ALTERNATE)		207 & 209	52 (173)	26 (52)	150 (6)	63	<15	BAS	0.5 (1.5)	
VAV-C205	METALAIRE / TH510 (OR APPROVED ALTERNATE)	SINGLE DUCT TERMINAL UNIT	C205	444 (940)	134 (282)	250 (10)	63	16	BAS	NONE	
1	METALAIRE / TH506 (OR APPROVED	SINGLE DUCT	C206 &C204	107 (225)	32 (68)	150 (6)	64	<15	BAS	NONE	l

CONTRACTOR TO COORDINATE VAV BOX CONTROLS AND COIL ACCESS PRIOR TO ORDERING FOR EASE OF CONNECTION AND MAINTENANCE PUPROSES.



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A = Detail number

B = Drawing number where detailed

	B = Drawing nun	nber v	vhere de	etailed
2	ISSUED FOR CONVENIENC	E	TA	APR 12, 2019
1	POST-TENDER ADDENDUM	NO.1	ТА	FEB 26, 2019
0	ISSUED FOR PERMIT & TEN	NDER	TA	NOV 2, 2018
NO.	ISSUED		BY	DATE
Seal		Seal		



Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1



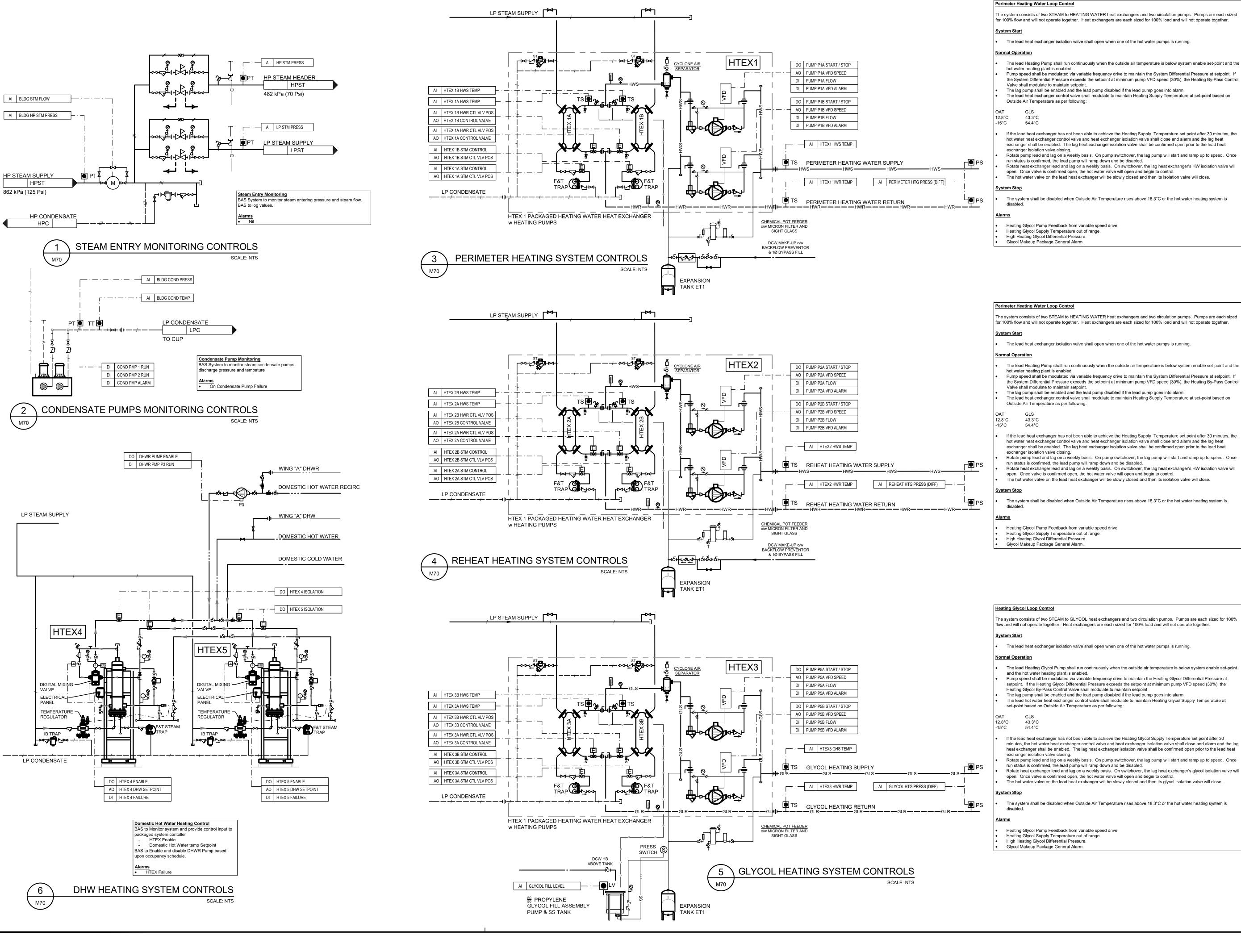
BUILDING #046 RENOVATIONS

Drawing Title

Cad File No. ----

VENTILATION SCHEDULES 2 OF 2 Project No. 504034

Scale AS NOTED	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By NC	1/60
Approved By KDT	M68
JLR # 27915	



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ISSUED FOR CONVENIENCE APR 12, 2019 ISSUED FOR PERMIT & TENDER | TA NOV 2, 2018 NO. ISSUED BY DATE Orientation

If the lead heat exchanger has not been able to achieve the Heating Supply Temperature set point after 30 minutes, the hot water heat exchanger control valve and heat exchanger isolation valve shall close and alarm and the lag heat exchanger shall be enabled. The lag heat exchanger isolation valve shall be confirmed open prior to the lead heat

Rotate pump lead and lag on a weekly basis. On pump switchover, the lag pump will start and ramp up to speed. Once Rotate heat exchanger lead and lag on a weekly basis. On switchover, the lag heat exchanger's HW isolation valve will

The system shall be disabled when Outside Air Temperature rises above 18.3°C or the hot water heating system is

Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1



BUILDING #046 RENOVATIONS

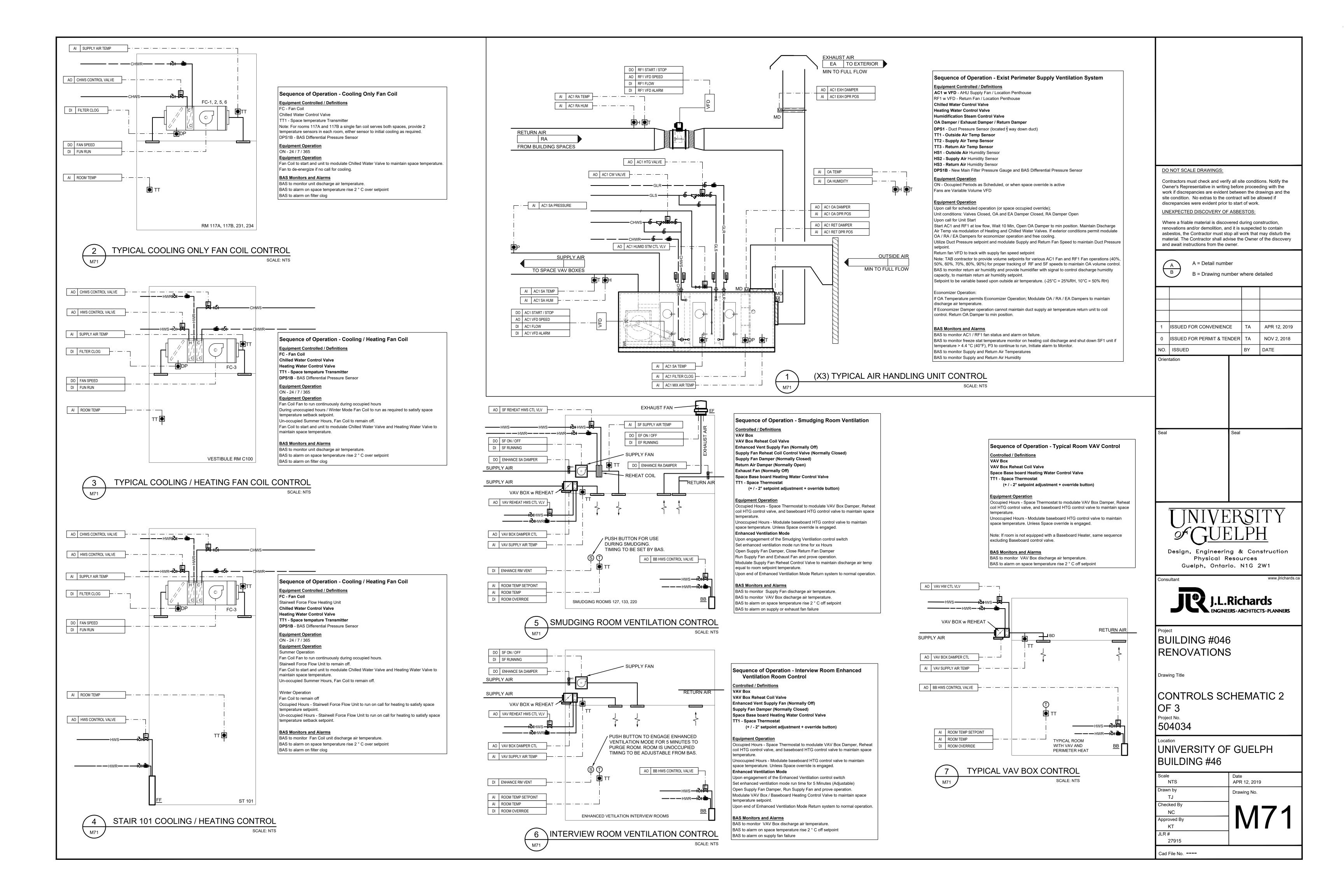
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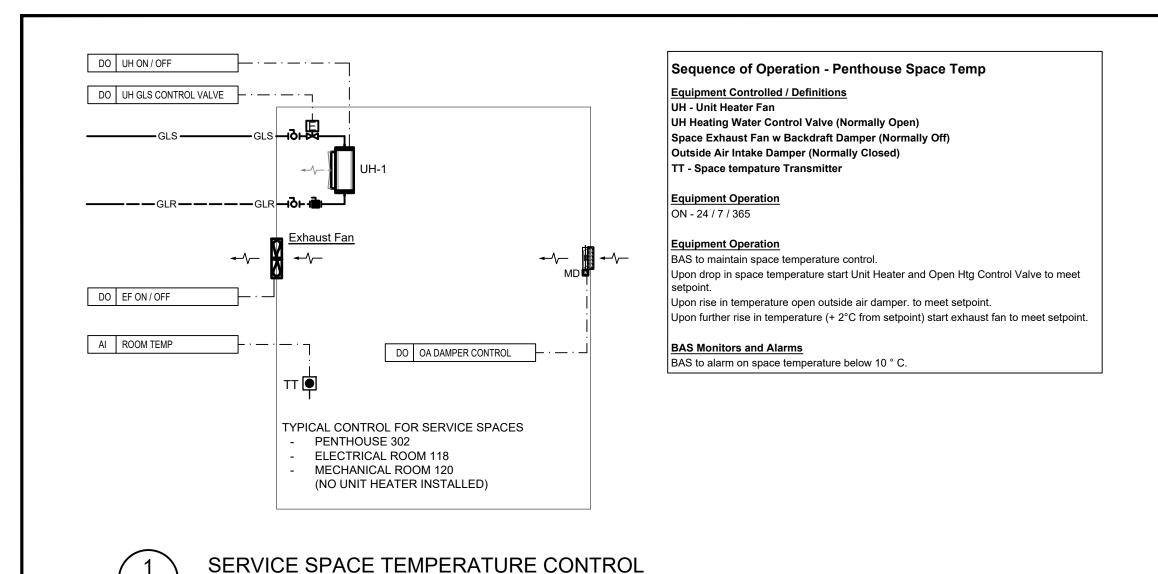
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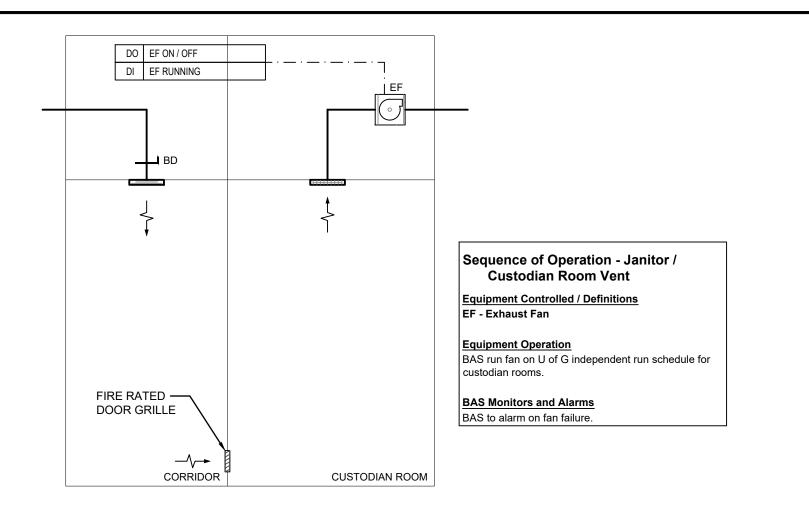
CONTROLS SCHEMATIC 1 Project No. 504034

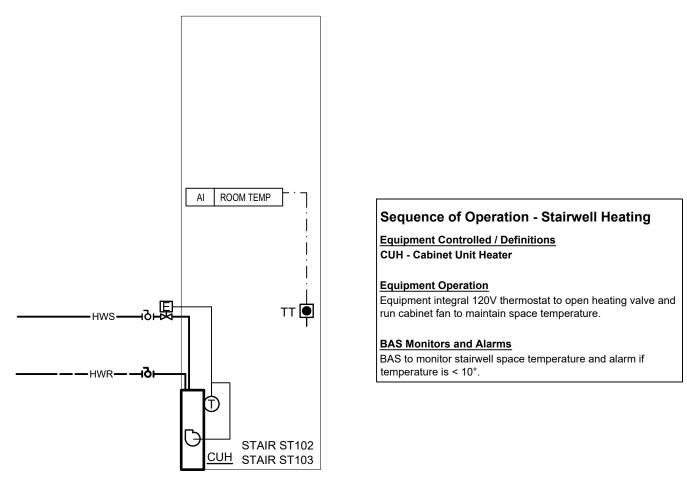
UNIVERSITY OF GUELPH BUILDING #46

NTS APR 12, 2019 Drawing No. Checked By 27915



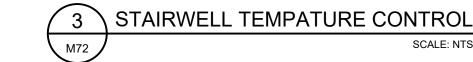


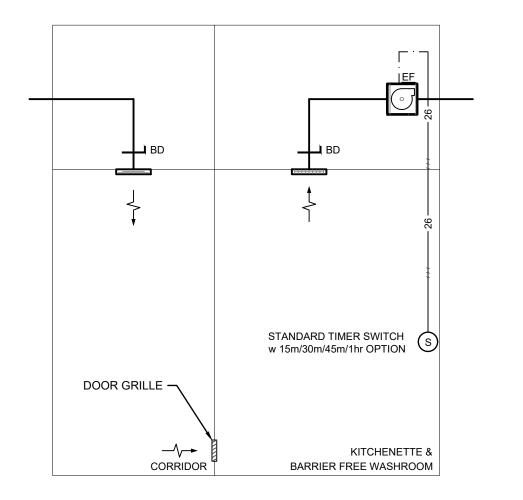


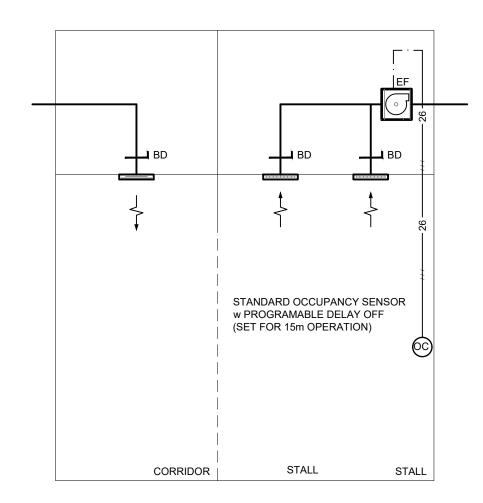


2 CUSTODIAN ROOM VENT CONTROL

SCALE: NTS







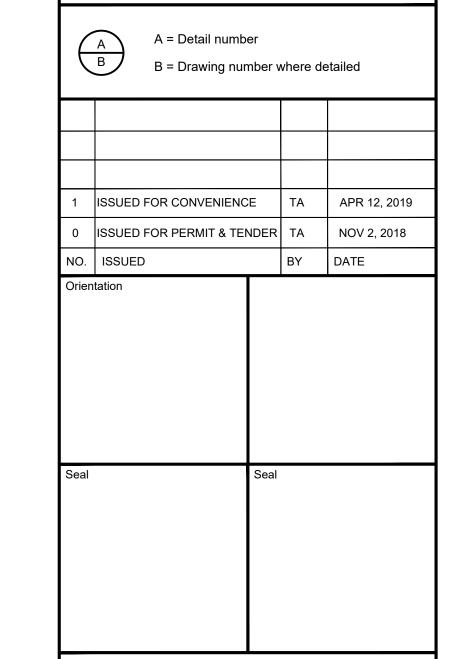


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Design, Engineering & Construction Physical Resources Guelph, Ontario. N1G 2W1

nsultant

J.L.Richards

FINGINFERS-ARCHITECTS-PLANNERS

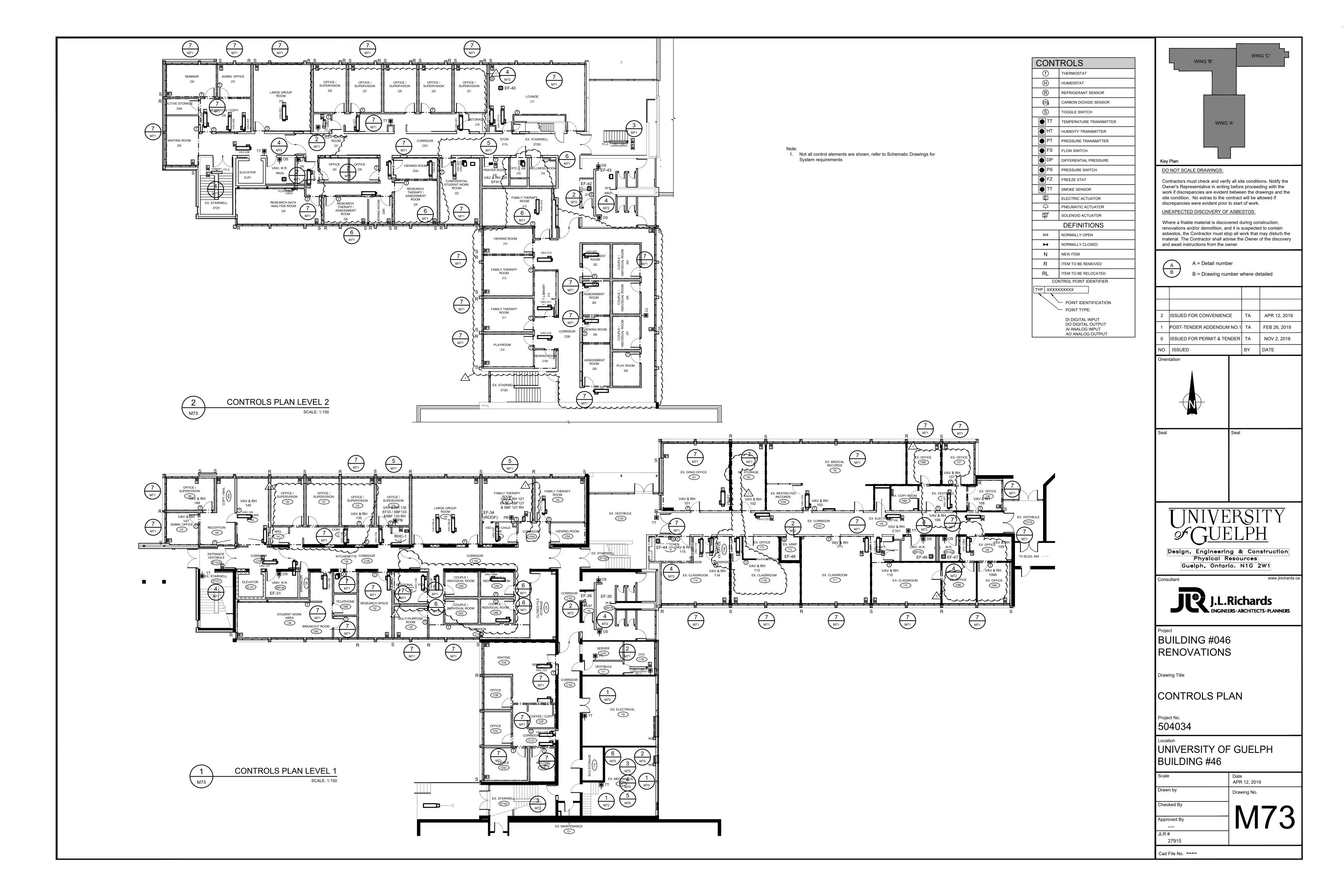
BUILDING #046 RENOVATIONS

Drawing Title

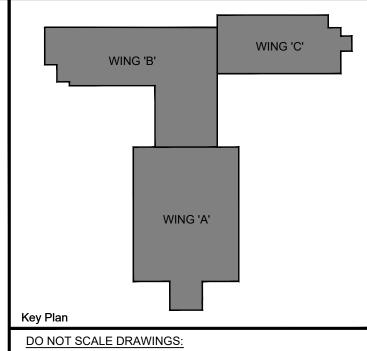
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CONTROLS SCHEMATICS 3
OF 3
Project No.
504034

Scale NTS	Date APR 12, 2019
Drawn by	·
JT	Drawing No.
Checked By	
NC	」 N <i>N</i> フィン
Approved By	□ \/ / /
NC	
JLR#	
27915	



MOTOR STARTER and CONTROL LIST Equipment Information Starter Information Control																																								
			E	quipment i	ntormatio		er Requi	rements				Location	Starter	Туре	Manual Sta	tarter			arter Into Nagnetic Si			Soft Start	Starter		VFD Starte	er	Auxiliar	es			Local Dis	Sonnect	ing Means	+		Conf	irol		1	
&C Equ Ide		Equipment Description	Equipment Location	Power Panel	Power Feeder	HP MC. (Amp	A MOCF ps) (Amps	Volts Ph	e e septidents	Installed BY Power Wiling BY Start Up BY	Commisioned BY Intergral with Equipment	MCC (Motor Control Center) Remote At Equipment	Manual Staner Automatic Starter	VFD Starter ON / OFF Switch	loggle Switch . Key Operated Push Button	Pilot Light Rheostaf	FVNR (Full Voltage Non-Reversing)	Combination ON / OFF Switch	HOA Selector Switch Push Button	Pilot Light Control Transformer	ON / DEF Switch	ON / OFF Switch HOA Selector Switch Push Button	Pilot Light Bypass	(Human Machine Interface) Bypass Selector Switch	Pilot Lights Line Reactor Harmonic Mitigation	SPD (Surge Protection Device) Output Reactor	DV:DT input Filter LEGEND NOTE LEGEND NOTE LEGEND NOTE	Supplied BY	Installed BY Wired BY	Start Up BY Commissioned BY Informat to Engineent	Motor Rated Toggle NEMA 1 Rated NEMA 3R Rated	Junction Box Recepticale for Equipment Plu	Supplied BY	Wired BY Manual Control	Automatic Control BAS Control	BAS Monitoring LEGEND NOTE LEGEND NOTE	LEGEND NOTE Supplied BY	Installed BY Wined BY Start Up By BY		Notes
і1 ШН	н-1 Н	YDRONIC UNIT HEATER W/ FAN	ELECTRICAL ROOM (118)	B1-1		0.4kW	15A 1	P 120	1 М	M E M	ı M																				•		E E	E	•	C1	E	E E M	1	
UH	H-2 H	YDRONIC UNIT HEATER W/ FAN	MECHANICAL PENTHOUSE	8P -9		0.4kW	15A, 11	P 120	1 M	M E M	ı M				•							•									•		E E	Е	•	C1	E	E E M	1	
FF-		ORGE FLOW HEATER	STAIRWELL (ST103)	B1-1		0 08kVV	15A 11	P 120	1 M	M E M	ı M																			•				E	•	C2	М	M E M I	1	
P.		OMESTIC HOT WATER ECIRCULATION	MECH 120	B1-1		0.16kW	15A. 11	P 120	1 M	M E M	ı M		•				•		•								A1	E	EE	E E				$\perp \perp$			M	M M M	i	
Р.		LEVATOR SUMP PUMP OT WATER HEATING SUPPLY -	WORK AREA 136			0.4Kw		P 120											+													•	EE	E	\square	C7		M M M I	_	
P-1	'-1 P	ERIMETER HEAT OT WATER HEATING SUPPLY -		DP-1E		5		P 575	_					 • 					++						• • •				M E			+	+++	++	•		-	M M M I		
3 P-2	Р -2	ERIMETER HEAT OT WATER HEATING SUPPLY -		DP-1E		5		P 575	-			-		╫	-	-						-			• • •			\rightarrow	M E			+	++-	++	•			M M M		
9 P-2	.24 K	E-HEAT COILS OT WATER HEATING SUPPLY - E-HEAT COILS		. DP-1E		5	+	P 575	ŀ			•			•							.		1 1				1 1	M E				1 1					M M M I		
) P-		LYCOL HEATING SUPPLY	MECH 120	DP-1E		5	15A, 3I	P 575	3 м	M E M	1 M			•											• • •			M	M E	мм					•		М	м м м	1	
ı P.	.6 G	LYCOL HEATING SUPPLY		DP-1E		5	15A, 3	P 575	3 M	M E N	ı M													•				N	M E	м м					•	•	М	M M M	1	
2 AC	C-1 W	VING C	MECHANICAL	DP-1E		7.5		P 575	_																• • •				M E		•		E E	E	•	•		м м м		
3 RF-	-+	EMOTE R/A FAN	MECHANICAL	OP-1E		5		P 575	_								+		+		+				• • •			-+	M E			+	EE	E	•			M M M		
		VING B NORTH EMOTE R/A FAN	PENTHOUSE	DP-1E		7.5		P 575	-		_					-			+		++				• • •			\rightarrow	M E			+-	E E	E	•			M M M	_	
		EMOTE R/A FAN	PENTHOUSE MECHANICAL	DP-1E		7.5		P 575 :	_										++		+				• • •			-+-	M E			++-	FF	E	•			M M M I		
	-	EMOTE R/A FAN	MECHANICAL	DP-1E		7.5	_	P 575	-						-	-			++	+++	++	-			• • •			$\overline{}$	ME			++-	EF	E	-	- + +		M M M		
8 FC-	C-1 C	OOLING UNIT		DP-2E		0 19kW	15A, 11	P 120	1 M	M E M	1 М		•		-	<u> </u>	•		•					11			A1	E	EE	E E	•		EE	E	1 1	● C13	M	M M M		
9																																								
) FC-	C-3 C	OOLING UNIT/HEATING UNIT	ENTRANCE (C100/ST102)	B2-7		0 38kW		P 120					•				•		•								A1	E	EE	EE	•		EE	E	•	● C13		ммм		
_		OOLING UNIT	STAIRWELL ST-201			0 19kW	-	P 120	_				•	1 							\bot						A1	E	EE	EE	•		EE	E	1 1	● C13		ммм		
		OOLING UNIT	CONTROL ROOM	I		DkW		P 120					•	+ + +		1	•		•		+			+			A1	E	EE	E E	•	+-	EE	E		● C13		M M M	_	
		OOLING UNIT /ASHROOM EXHAUST	RESEARCH 230 UNIV. WR 138	• •		0.1kW 0.25	-	P 120	-+				•	+ + +		-	-		-	+++	++			+			A1	E	EE	EE		+-	EE	E	•	C13		M M M I	_	
		ORCE FLOW HEATER	STAIRWELL STI01			0.25		P 120	_																						. -	++-		E	-	C2	-	M E M		
		URGE EXHAUST (ROOF)		BP-9		0 25		P 120	_				•				•		1.								A1	E	EE	E E		,	E F	E		C5 C14	-	M M M		
7 SBF-	-133 S	UPPLY BOOST	OFFICE 133	B1-4		0 25	15A, 11	P 120	1 M	M E M	і м		•				•		•								A1	E	E E	E E	•		E E	E	•	C5 C14	M	M M M	1	
8 EF-	-34 P	URGE EXHAUST (ROOF)	FAMILY 127	BP-9		0.25	15A. 18	P 120	1 M	M E M	ı M		•				•										A1	E	EE	EE	•	,	EE	E		C5 C14	м	M M M	1	
		UPPLY BOOST		B1-3		0 25		P 120	_				•				•		•								A1	E	EE	E E	•		EE	E		C5 C14	-	ммм	1	
		VASHROOM EXHAUST	-	B2-6		0.25	-	P 120	_					+												+++		-			•	+	EE	E	•	C16		EEE	.—	
		USTODIAN EXHAUST	+	B1-2 B1-1		0.25		P 120																								++-	E E	+=+-	•	C6 C1 C4		E E E		
		ENERAL EXHAUST		B1-1		0.25		P 120																									EE		•	C1 C4		EEE	<u> </u>	
34 EF-	:-39 W	VASHROOM EXHAUST	UNIV. WR 234	B2-2X		0.25	15A, 11	P 120	1 M	M E M	1 M				-																•		E F	E	•	C16	-	E E E I		
5 EF-	-40 G	ENERAL EXHAUST	LOUNGE 217	B2-7		0 25	15A 11	P 120	1 м	M E N	1 М																				•		E E	E .		C15	E	E E E		
EF-	-41 P	URGE EXHAUST (ROOF)		BP-9		0.25		P 120					•				•		•								A1	E	E E	E E	•	,	E E	E	•			M M M		
		UPPLY BOOST		B2-7		0.25		P 120	-				•				•	\bot	•		+	-		+			A1	E	EE	EE	•	+	EE	 		- + +	\rightarrow	M M M		
	-	USTODIAN EXHAUST VASHROOM EXHAUST		82-7 82-6		0 25		P 120	_					+ + +				+	++		+			+						+		+-	EE		•	C6 C16		E E E I		
		ENERAL EXHAUST	KITCHENETTE 115	E2-6 C1-2		0 25		P 120	-					+ + +	-	+ -			++		++	-		++						+		++-	FF	E •		C16		EEEE		
		ENERAL EXHAUST	HSKP 112	•		0.25	-	P 120						+ + +	-	 			+	+++	++	-		++						+	-	++-	EE	++-		C6		EEE		
EF-	-46 W	VASHROOM EXHAUST	UNIV. WR 104	C1-1X		0 25	15A, 11	P 120	1 м	M E M	1 М						1		++					$\dashv \dagger$							•		E E		•	C 16	E	E E E		
3 EF-	:-47 W	VASHROOM EXHAUST		C1-1X		0.25	15A, 11	P 120	1 M	M E M	ı M																				•		E E	 	•	C16	-	E E E I		
		ENERAL EXHAUST	PENTHOUSE	8P -9		0 25		P 120								1			\bot					$\perp \downarrow \uparrow$		\prod			\prod		•	$\perp \perp \perp$	EE	E	•	C1 C4	E	E E E I		
i4 P-1	·′ P	TEAM CONDENSATE DUPLEX UMP	-	DP-1E		2 X 3HP		P 575								_	1_		++		+											+	EE	E	•	C9		M E M	4	
5	S	PRINKLER JOCKEY PUMP	SPRINKLER 138	ც1-4		0 25	15A, 11	P 120				<u> </u>	•			1.	•											E	E E	Ŀ E [•		E E		•	C12	M	M E M I		
								120	1 G G M C E O 1 11 22 23 26 26	Not Applicable = General Trac = Mechanical = BAS Trade = Electrical Trac = General Trac = Ovinsion 1 = Division 11 = Division 21 = Division 22 = Division 23 = Division 25 = Division 26 = Division 27	e Trade ade																A1 Current Sens A2 Fire Alarm H A3 Door Switch A4 Hard Wired F A5 Thermistors A6 22 A7 22 A8 27 A9 27 A10 27 A11 22 A12 27 A13 22 A14 27	ardwired Contact						C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13	Integral 2 St Interlocked of Interlocked of Interlocked of Remote 120 Integral ON Remote Cor Duplex Pum Triplex Pum 1 Remote Hig 2 Remote Pre		iostat ized Exhaust ized Outside ment. Refer to ich led by Equipm ided by the M Provided by the at and Flow S	Air Damper > Notes nent Supplier Manufacturer the Manufacturer		



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0	ISSUED FOR PERMIT & TENDER	TA	NOV 2, 2018
NO.	ISSUED	BY	DATE

Orientation





Guelph, Ontario. N1G 2W1

BUILDING #046 RENOVATIONS

Drawing Title

MSCL

Project No. 504034

Scale NTS	Date APR 12, 2019
Drawn by HW	Drawing No.
Checked By	
NC	M80
Approved By	
KT	
JLR#]
27915	
Cad File No	

