

NATIONAL RESEARCH COUNCIL CENTRE FOR ADVANCED MATERIALS MANUFACTURING

SHERIDAN PARK
MISSISSAUGA, ONTARIO

MECHANICAL DRAWINGS

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



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THE ARCHITECT.

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FIRE DAMPER		SMOKE DAMPER
	MOTOR OPERATED DAMPER		POSITIVE SEAL DAMPER
	MANUAL DAMPER		GRAVITY OR BACKDRAFT DAMPER
	BALANCING DAMPER		SPLITTER DAMPER
	COMBINATION SMOKE AND FIRE DAMPER		
	VOLUME EXTRACTOR		
<p>V.A.V. AND F.E.V.A.V. TAG</p> <p>V.A.V. BOX TYPE MIN. FLOW (L/A) MAX. FLOW (L/A) IMPERIAL CFM [NS] METRIC L/A[mm]</p> <p>FAN POWERED BOX C/W RETURN AIR MIN. PRIMARY FLOW (L/A) MAX. PRIMARY FLOW (L/A) IMPERIAL CFM [NS] METRIC L/A[mm]</p> <p>FAN POWERED BOX C/W RETURN AIR SILENCER OR ACOUSTICALLY LINED RETURN AIR INDUCTION V.A.V. BOX PNEUMATIC AIR VALVE (LAB)</p> <p>HEATING ELEMENT TAG HEATING CAPACITY ACTIVE ELEMENT LENGTH ENCLOSURE TYPE</p> <p>RADIANT COIL IN DUCT (RHC) WATER RADIANT COIL IN DUCT (RHC) ELECTRIC</p> <p>HORIZONTAL UNIT HEATER DOWN BLAST UNIT HEATER RADIANT HEATING PANEL</p>			

NOTE: NOT ALL SYMBOLS APPLY, REFER TO FLOOR PLANS AND DRAWINGS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FIRE LINE		PENDANT SPRINKLER HEAD
	FLOW SWITCH		DRY PENDANT SPRINKLER HEAD
	SUPERVISED VALVE		UPRIGHT SPRINKLER HEAD
	FIRE STANDPIPE		CONCEALED SPRINKLER HEAD
	DELUGE SYSTEM VALVE		NON-FREEZE SPRINKLER HEAD
	WET PIPE VALVE		HIGH TEMPERATURE SPRINKLER HEAD
	DRY SYSTEM VALVE		CHEMICAL SPRINKLER HEAD
	PRACTION SYSTEM VALVE		SIDEWALL SPRINKLER HEAD
	FIRE HYDRANT		WINDOW SPRINKLER HEAD
	FIRE GONG		SEM-RECESSED SPRINKLER HEAD
	SIAMESE CONNECTION		
	WET SPRINKLER		
	DRY SPRINKLER		
<p>FIG. 3 - FIRE HOSE CABINET AND TYPE S.V.C. - SPRINKLER SHUT-OFF VALVE CABINET AND TYPE F.E. - FIRE EXTINGUISHER AND TYPE F.E.C. - FIRE EXTINGUISHER CABINET AND TYPE F.R. - FIRE REEL AND TYPE</p>			

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DISTILLED WATER (D.W.)		COMPRESSED AIR
	DEMINEALIZED WATER (D.E.W.)		VACUUM
	REVERSE OSMOSIS VALVE		NON-POTABLE COLD WATER
	REVERSE OSMOSIS LINE		NON-POTABLE HOT WATER
	MEDICAL GAS SHUT-OFF VALVE		NON-FREEZE HOT WATER RECIRCULATION
	RECESSED WALL OUTLET		CHILLED DRINKING WATER
	MEDICAL OXYGEN		ACID RESISTANT VENT
	MEDICAL AIR		ACID RESISTANT DRAINAGE ABOVE GRADE
	MEDICAL NITROGEN		ACID RESISTANT DRAINAGE BELOW GRADE
	MEDICAL CARBON DIOXIDE		ACID RESISTANT CLEANOUT
	MEDICAL NITROGEN		ACID RESISTANT FLOOR DRAIN
	MEDICAL HELIUM		ACID RESISTANT MANHOLE
	MEDICAL VACUUM		ANAESTHETIC GAS SCAVENGING SYSTEM
	HOSPITAL (MEDICAL) GRADE AIR		LABORATORY VACUUM
	CHLORINE LINE		LABORATORY AIR
	CHLORINE VENT		LABORATORY GAS
	MEDICAL GAS ZONE VALVE AND AREA ALARM PANEL (UP TO 7 GASES AS APPLICABLE)		DENTAL AIR
	GAS OUTLET COUNTS ON HEADWALL/ MEDICAL SERVICE UNIT (UP TO 7 GASES AS APPLICABLE, FROM LEFT TO RIGHT WHEN FACING OUTLETS)		DENTAL VACUUM
			MURIATIC ACID LINE
			MURIATIC ACID VENT

NOTE: NOT ALL SYMBOLS APPLY, REFER TO FLOOR PLANS AND DRAWINGS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CONTROL FLOW ROOF DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		CONTROL FLOW ROOF DRAIN FROM ABOVE
	ROOF DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		ROOF DRAIN FROM ABOVE
<p>DRAIN: (REFER TO SPECIFICATION SECTION 1542) FOR DETAILS AND ADDITIONAL TYPES NOT LISTED BELOW)</p>			
	FLOOR DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		FLOOR DRAIN FROM ABOVE WITH TRAP
	FUNNEL FLOOR DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		FUNNEL FLOOR DRAIN FROM ABOVE WITH TRAP
	HUB DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		HUB DRAIN FROM ABOVE WITH TRAP
	PROMENADE DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		PLANTER DRAIN FROM ABOVE WITH TRAP
	PLENUM DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		PLENUM FLOOR DRAIN FROM ABOVE WITH TRAP
	CORNER SCUPPER DRAIN SIZE AS NOTED. REFER TO SPECIFICATION FOR TYPES		WALL SCUPPER DRAIN SIZE AS NOTED
	VENT		GREASE INTERCEPTOR ABOVE GRADE
	SANITARY ABOVE GRADE OR FLOOR		GREASE INTERCEPTOR BELOW GRADE
	SANITARY BELOW GRADE OR FLOOR		INDIRECT DRAIN (CONDENSATE, ETC.)
	STORM ABOVE GRADE OR FLOOR		STACK VENT
	STORM BELOW GRADE OR FLOOR		RAIN WATER LEADER
	SUMP PUMP DISCHARGE		SANITARY STACK
	RUNNING TRAP ABOVE GRADE OR FLOOR		VENT STACK
	RUNNING TRAP BELOW GRADE OR FLOOR		WASTE STACK
	UPFITTED CLEANOUT		STAINLESS STEEL
	HORIZONTAL CLEANOUT		CLEANOUT IN RISER
	HORIZONTAL CLEANOUT ABOVE GRADE		
	HORIZONTAL CLEANOUT BELOW GRADE		

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MECHANICAL DRAWING LIST		
Drawing Number	Drawing Title	Scale
GENERAL		
M000	MECHANICAL LEGEND AND DRAWING LIST	N.T.S.
M001	MECHANICAL LEGEND AND STANDARD DETAILS	N.T.S.
PLUMBING AND DRAINAGE		
M301A	LEVEL 1 - PLUMBING AND DRAINAGE LAB	1:100
M302	LEVEL 2 - PLUMBING AND DRAINAGE	1:100
H.V.A.C.		
M401C	LEVEL 1 - H.V.A.C. SOUTH LAB	1:50
M401E	LEVEL 1 - H.V.A.C. NORTH LAB	1:50
M401F	LEVEL 1 - H.V.A.C. PART A SOUTH LAB DEMO	1:50
M401P	LEVEL 1 - H.V.A.C. PART NORTH LAB	1:50
M402	LEVEL 2 - H.V.A.C. LAB	1:100
M402A	LEVEL 2 - H.V.A.C. DEMO	1:100
FIRE PROTECTION		
M501	LEVEL 1 - FIRE PROTECTION	1:100
PART PLANS AND DETAILS		
M601	LEVEL 1 - MECHANICAL PIPING PART PLAN LAB	1:50
M603	LEVEL 1 - MECHANICAL PENTHOUSE PART PLANS	1:50

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY DUCT UP OR FROM ABOVE		ACOUSTICALLY LINED TRANSFER AIR DUCT
	SUPPLY DUCT DOWN OR FROM BELOW		SILENCER
	RETURN OR EXHAUST DUCT UP OR FROM ABOVE		CROSSTALK SILENCER
	RETURN OR EXHAUST DUCT DOWN OR FROM BELOW		DUCT WITH MINIMUM CLEARANCE FIRE RATED ENCLOSURE
	ROUND DUCT UP OR FROM ABOVE		DUCT WITH SLEEVE, INSULATION AND DAMPER
	ROUND DUCT DOWN OR FROM BELOW		CAPPED CONNECTION
	ACOUSTIC LINED DUCT		RISE IN DUCT
	FLEXIBLE CONNECTION		DROP IN DUCT
	SQUARE ELBOW DUCT WITH TURNING VANE		SOUND BAFFLE
	RADIUS ELBOW WITH TURNING VANES		PROPELLER FAN
	AXIAL FAN/INLINE FAN		
	CENTRIFUGAL FAN		
	DIFFUSER GRILLE OR REGISTER TYPE		LINEAR SLOT DIFFUSER
	ROUND SUPPLY DIFFUSER		SUPPLY AIR DIFFUSER C/W FLEXIBLE DUCT
	DUCTED RETURN OR EXHAUST REGISTER OR GRILLE		LIGHT TROFFER DIFFUSER TOP INLET C/W FLEXIBLE DUCT
	SQUARE OR RECTANGULAR DIFFUSER		LIGHT TROFFER DIFFUSER SIDE INLET C/W FLEXIBLE DUCT
	NON DUCTED RETURN OR EXHAUST GRILLE		DUCT MOUNTED SUPPLY OR RETURN GRILLE
	NON DUCTED ROUND RETURN OR EXHAUST GRILLE		LINEAR SUPPLY OR RETURN GRILLE
	SQUARE PLAQUE DIFFUSER		SPIN-IN CONNECTION C/W BALANCING DAMPER AND FLEX DUCT
	DIFFUSERS WITH BLANK-OFF PORTION (QTY SHOWN)		SPIN-IN CONNECTION C/W BALANCING DAMPER AND RIGID DUCT

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	HEATING WATER SUPPLY		FUEL OIL SUPPLY
	HEATING WATER RETURN		FUEL OIL RETURN
	CHILLED WATER SUPPLY		FUEL OIL VENT
	CHILLED WATER RETURN		FUEL OIL FILL
	GLYCOL SUPPLY		PUMPED CONDENSATE
	GLYCOL RETURN		REFRIGERATION SUCTION
	GLYCOL HEATING SUPPLY		REFRIGERATION LIQUID
	GLYCOL HEATING RETURN		REFRIGERATION HOT GAS
	GLYCOL COOLING SUPPLY		DUAL TEMPERATURE SUPPLY
	GLYCOL COOLING RETURN		DUAL TEMPERATURE RETURN
	CONDENSER WATER SUPPLY		BUCKET TYPE STEAM TRAP
	CONDENSER WATER RETURN		FLOAT AND THERMOSTAT TYPE STEAM TRAP
	LOW PRESSURE STEAM		STEAM VACUUM BREAKER
	MEDIUM PRESSURE STEAM		REFRIGERATION THERMAL EXPANSION VALVE
	HIGH PRESSURE STEAM		REFRIGERATION SOLENOID LIQUID VALVE
	LOW PRESSURE CONDENSATE		REFRIGERATION FILTER DRYER
	MEDIUM PRESSURE CONDENSATE		6 WAY CONTROL VALVE
	HIGH PRESSURE CONDENSATE		RAIN WATER RECLAIM
	2 WAY CONTROL VALVE		
	3 WAY CONTROL VALVE		

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	GATE OR ISOLATION VALVE (REFER TO SPECIFICATION)		PIPE GUIDE
	GLOBE VALVE		PIPE SLEEVE
	BALL VALVE		ANCHOR
	LOCKSHIELD VALVE		STRAINER
	PRESSURE INDEPENDENT FLOW BALANCING VALVE		UNION
	PLUG VALVE		FLANGE FITTING
	PRESSURE REDUCING VALVE		ECCENTRIC FITTING
	SOLENOID VALVE		CONCENTRIC FITTING
	SAFETY RELIEF VALVE		PRESSURE GAUGE COCK ASSEMBLY
	FLOW METERING STATION		THERMOMETER WELL
	BACKFLOW PREVENTER		EXPANSION JOINT
	ANGLE VALVE		MANUAL AIR VENT
	BUTTERFLY VALVE		AUTOMATIC AIR VENT
	2-WAY BUTTERFLY VALVE		AIR SEPARATOR
	TEMPERED MIXING VALVE		SIGHT GLASS
			PUMP
			P.R.V. C/W SHUT-OFF VALVE
	VACUUM BREAKER		P.R.V. STATION
	BACK WATER VALVE		WATER HAMMER ARRESTOR

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
<p>FIGURES: (REFER TO SPECIFICATION SECTION 1540 FOR DETAILS AND ADDITIONAL TYPES NOT LISTED BELOW)</p>			
	FLOOR MOUNTED WATER CLOSET C/W FLUSH VALVE		SHOWER
	WALL HUNG WATER CLOSET C/W FLUSH VALVE		DRINKING FOUNTAIN
	FLOOR MOUNTED WATER CLOSET C/W FLUSH TANK		EMERGENCY EYEWASH
	URINAL		EMERGENCY EYEWASH/SHOWER
	COUNTERTOP LAVATORY		EMERGENCY SHOWER
	WALL HUNG LAVATORY		FLUSH TANK
	SINGLE COMPARTMENT SINK		
	WOP SINK		
	DOUBLE COMPARTMENT SINK		
	BATHROOM		
	TEMPERED MIXING VALVE ASSEMBLY		HOT AND COLD HOSE BIBB
	TEMPERED MIXING VALVE CABINET		HOSE BIBB
	WATER METER		WALL HYDRANT (OR NON FREEZE WALL HYDRANT)
	DOMESTIC COLD WATER (DOM. COLD WATER)		GROUND HYDRANT (OR NON FREEZE GROUND HYDRANT)
	DOMESTIC HOT WATER (DOM. HOT WATER)		NATURAL GAS
	DOMESTIC HOT WATER RECIRCULATION (DOM. HOT WATER RECIRC.)		NATURAL GAS VENT
	NON-POTABLE WATER		

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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DETAIL NUMBER		SECTION NUMBER
	DRAWING NUMBER		DRAWING NUMBER
	REVISION NUMBER		REVISION BUBBLE
	ROUGH IN ONLY		NORMALLY OPEN
	ROUGH IN AND CONNECT		NORMALLY CLOSED
	ACCESS DOOR		STAINLESS STEEL
	PIPING SERVICE CONTINUES		ELBOWS
	EQUIPMENT/TRIM/DUCTWORK SHOWN DASHED BELOW		TEE
	PIPING INTERSECTS PIPING BELOW		BRANCH OFF BOTTOM OF MAN
	PIPE DROP OR FROM BELOW		BRANCH OFF TOP OF MAN
	PIPE UP OR FROM ABOVE		DIRECTION OF FLOW
	CAP CONNECTION		
	SQUARE EXTERIOR AREA DRAIN		MAINTENANCE HOLE
	THRUST BLOCK		MAINTENANCE HOLE CATCH BASIN
	GAS METER		CATCH BASIN
			CIRCULAR EXTERIOR AREA DRAIN

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MECHANICAL LEGEND AND DRAWING LIST

Drawn by: R.D.
Designed by: E.G./C.L.
Approved by: D.C.
Bid Offer:
Project date: 05/31/17
Date of project:
Project number: 16158.000.M.011
no. du projet

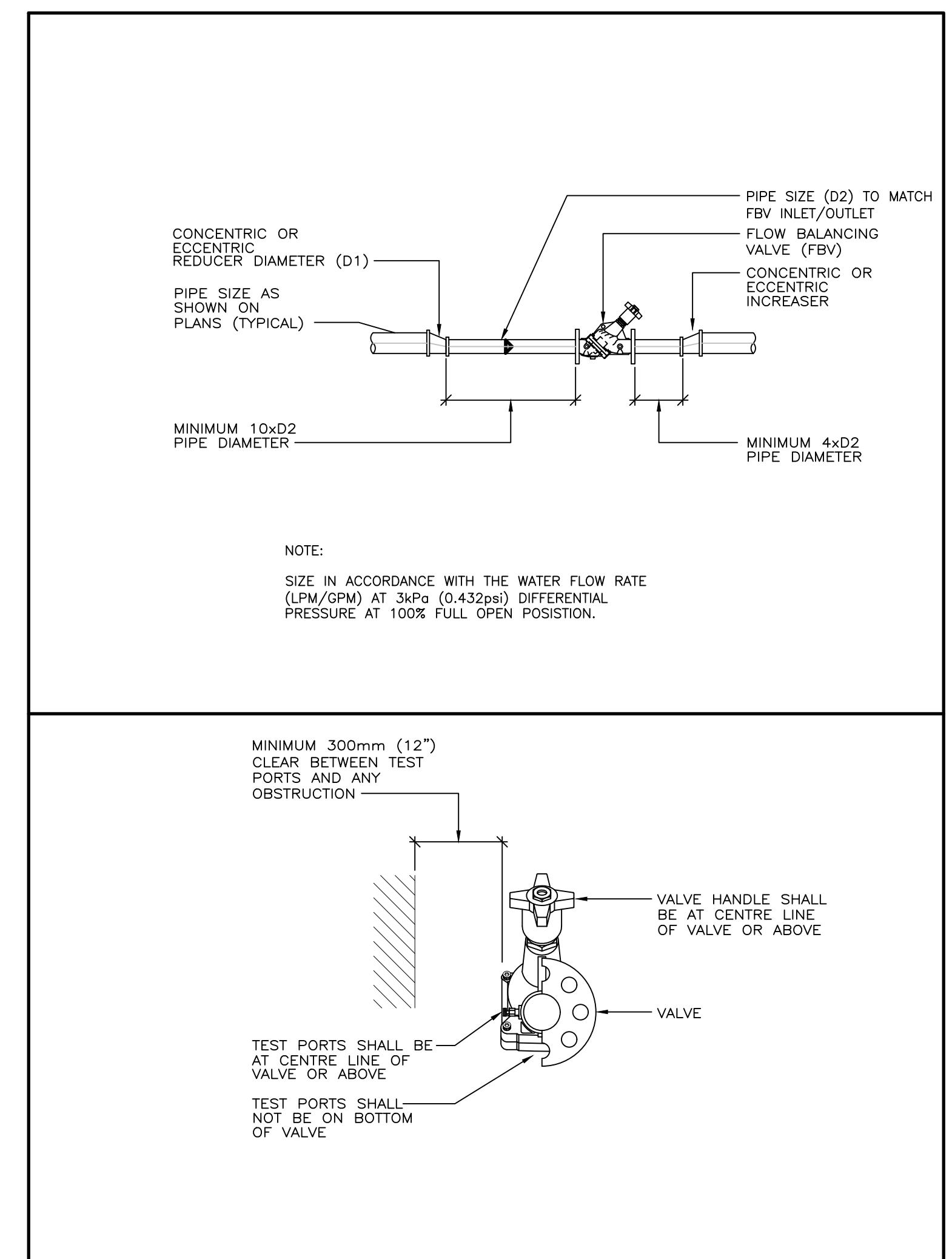
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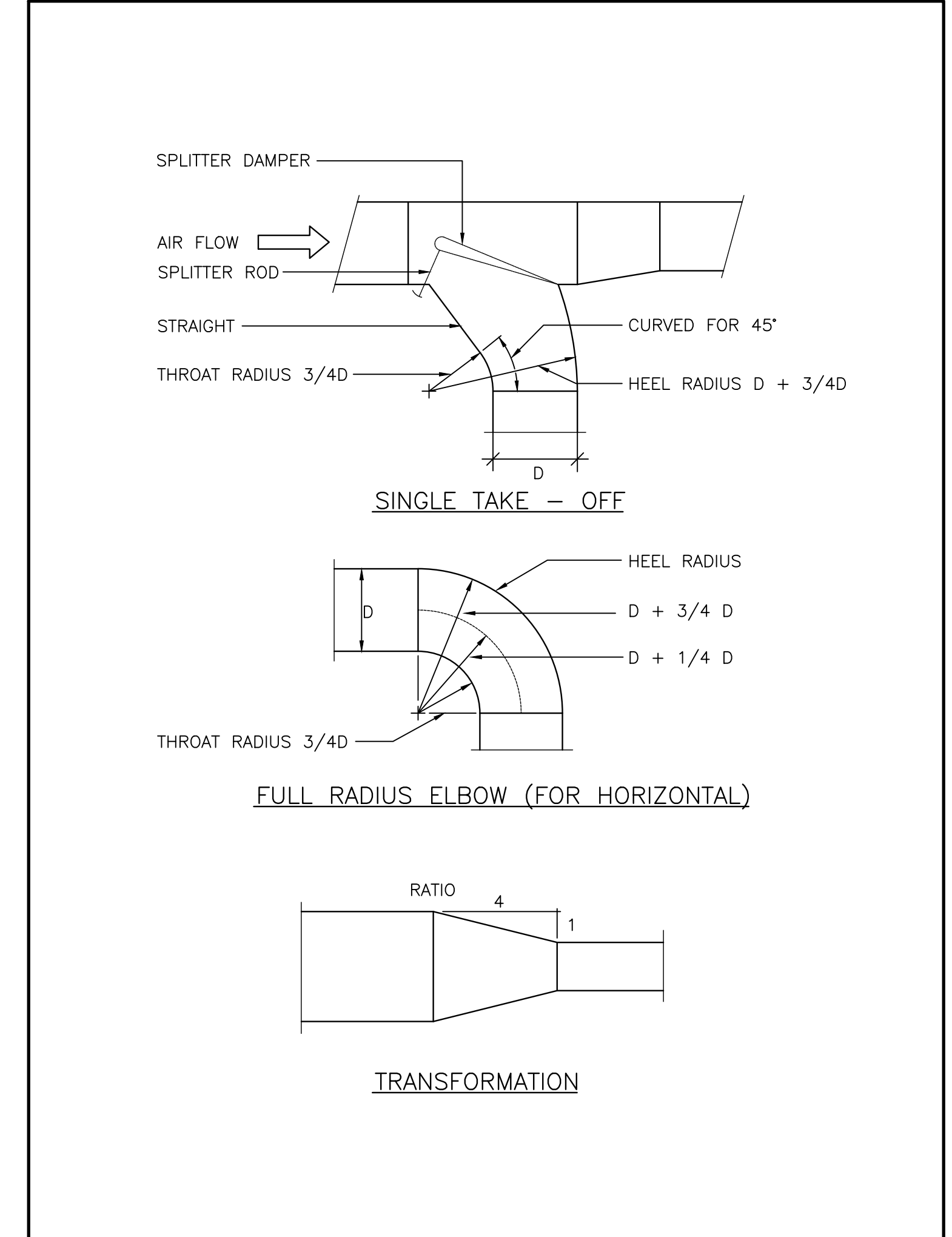
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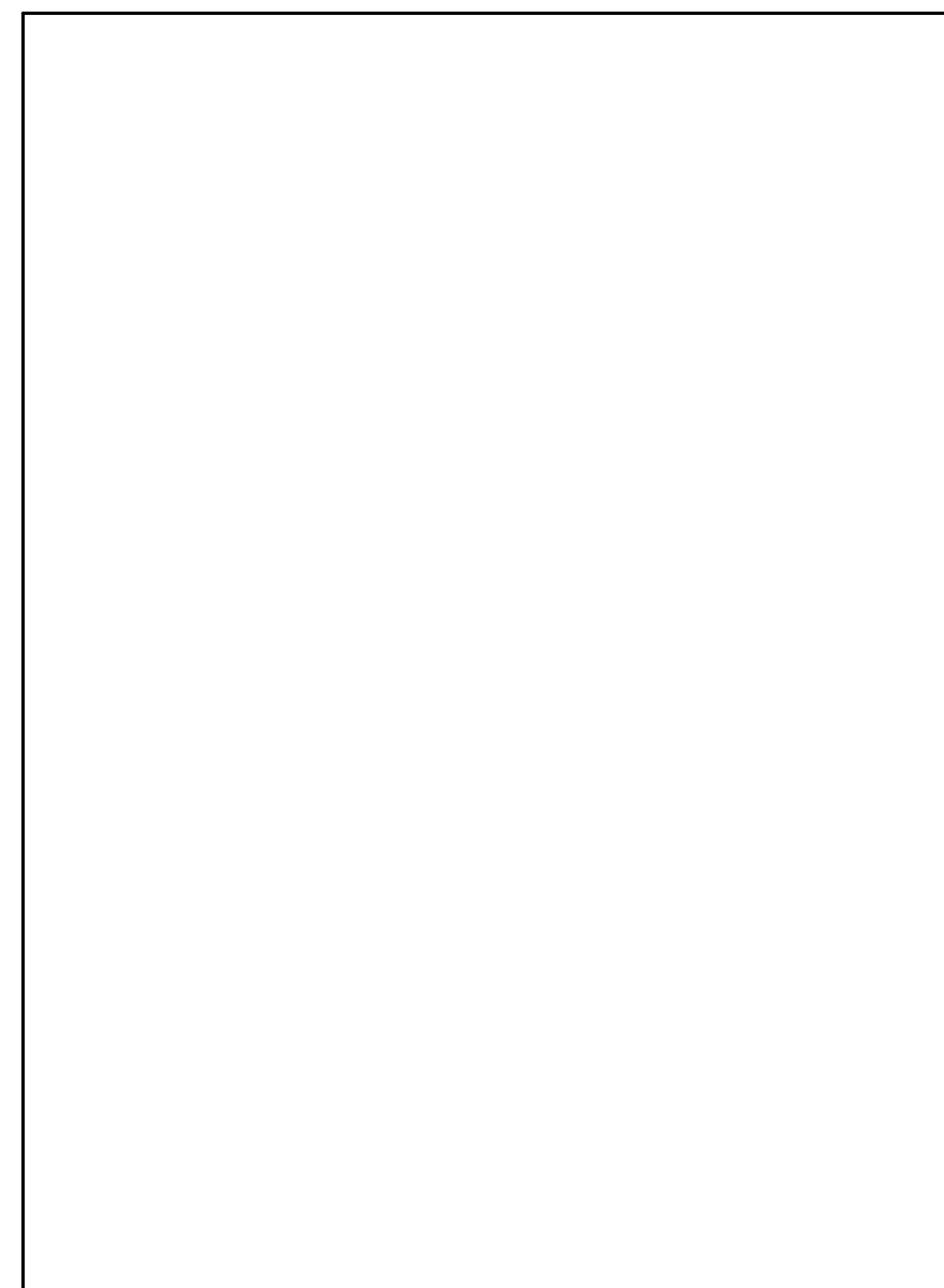
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13 (W01) TYPICAL FLOW-BALANCING VALVE INSTALLATION (MSD-705.08)



14 (W01) DUCT DETAILS (MSD-840.05)



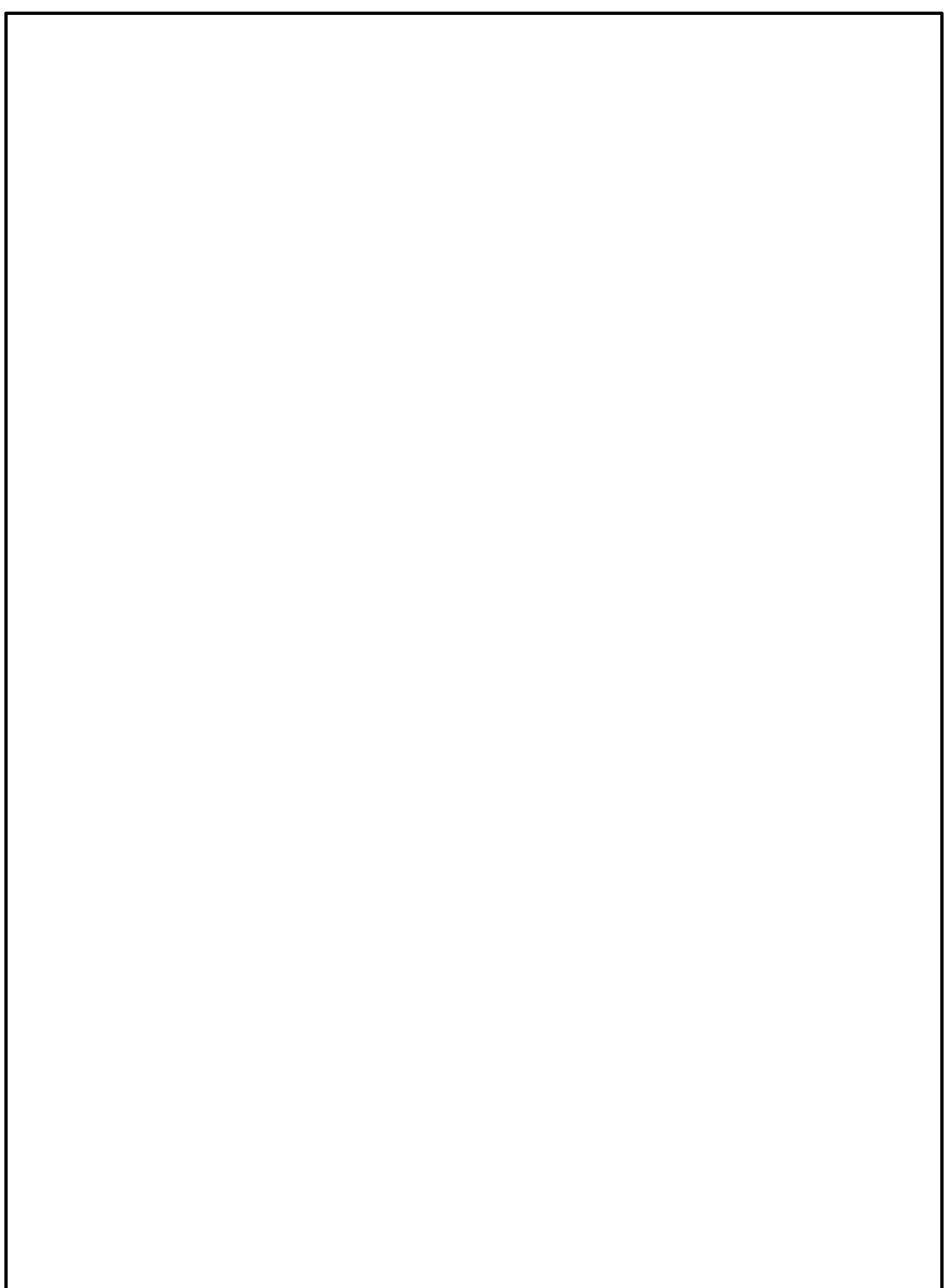
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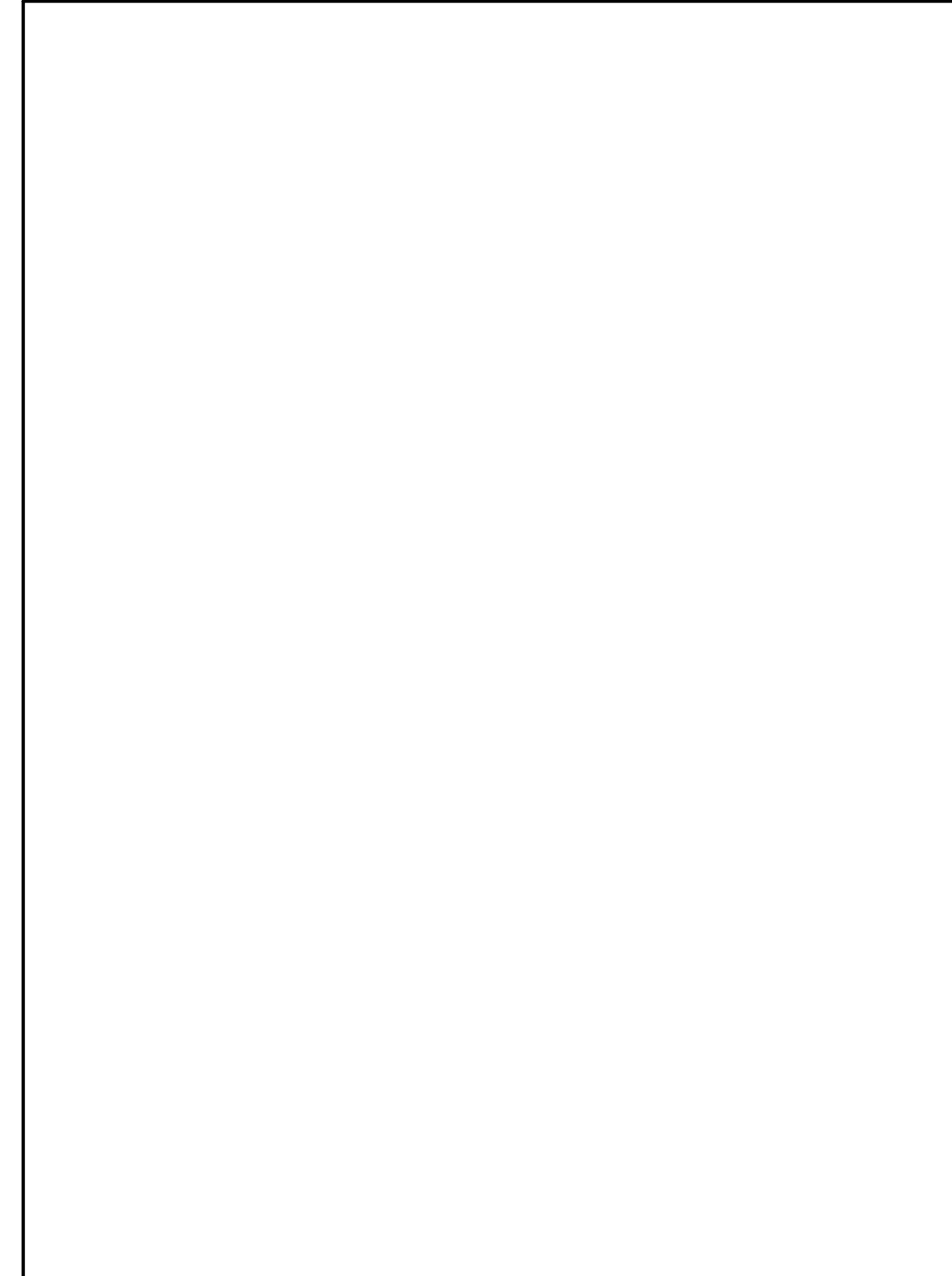
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7 (W01) NOT USED



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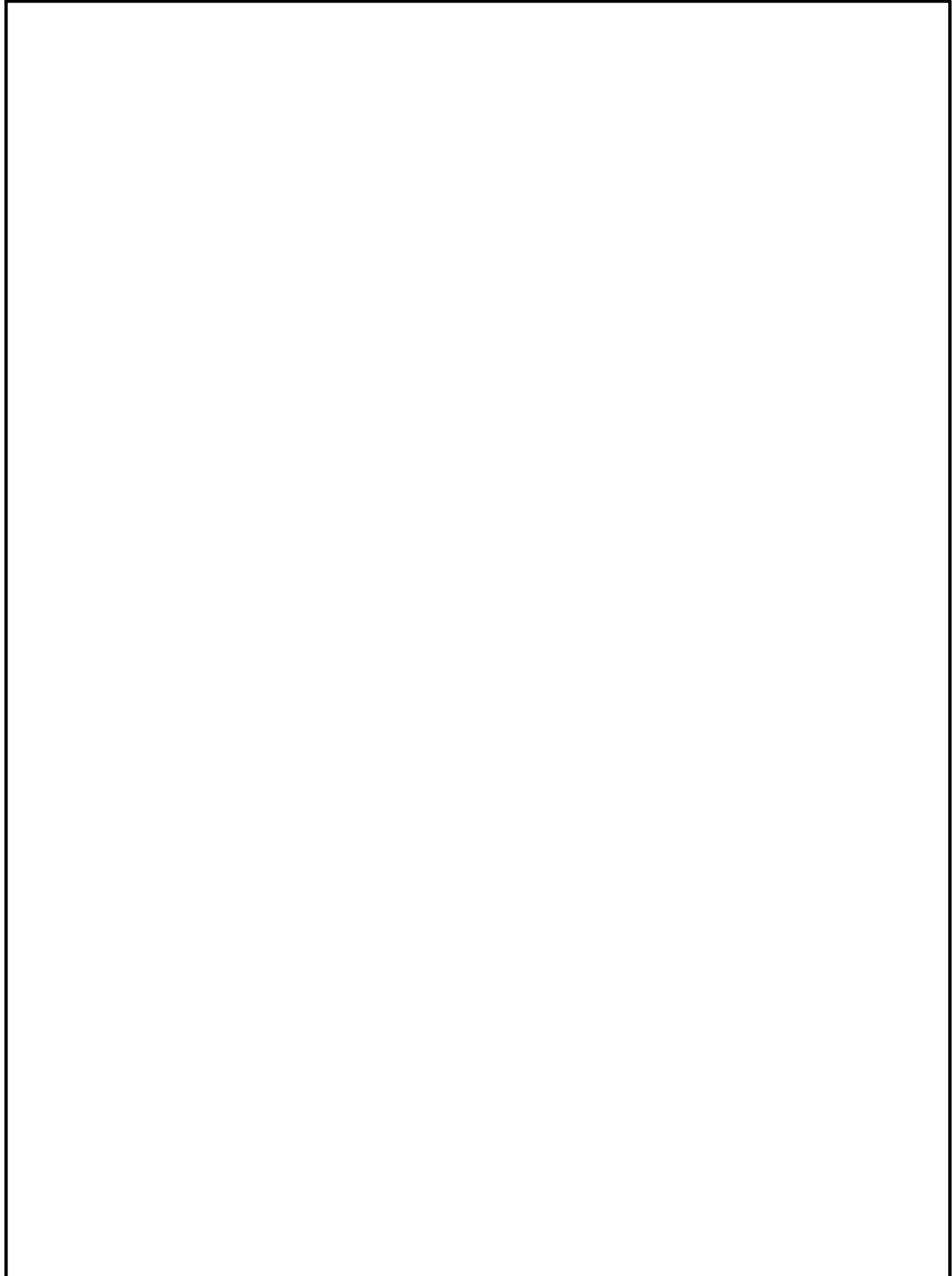
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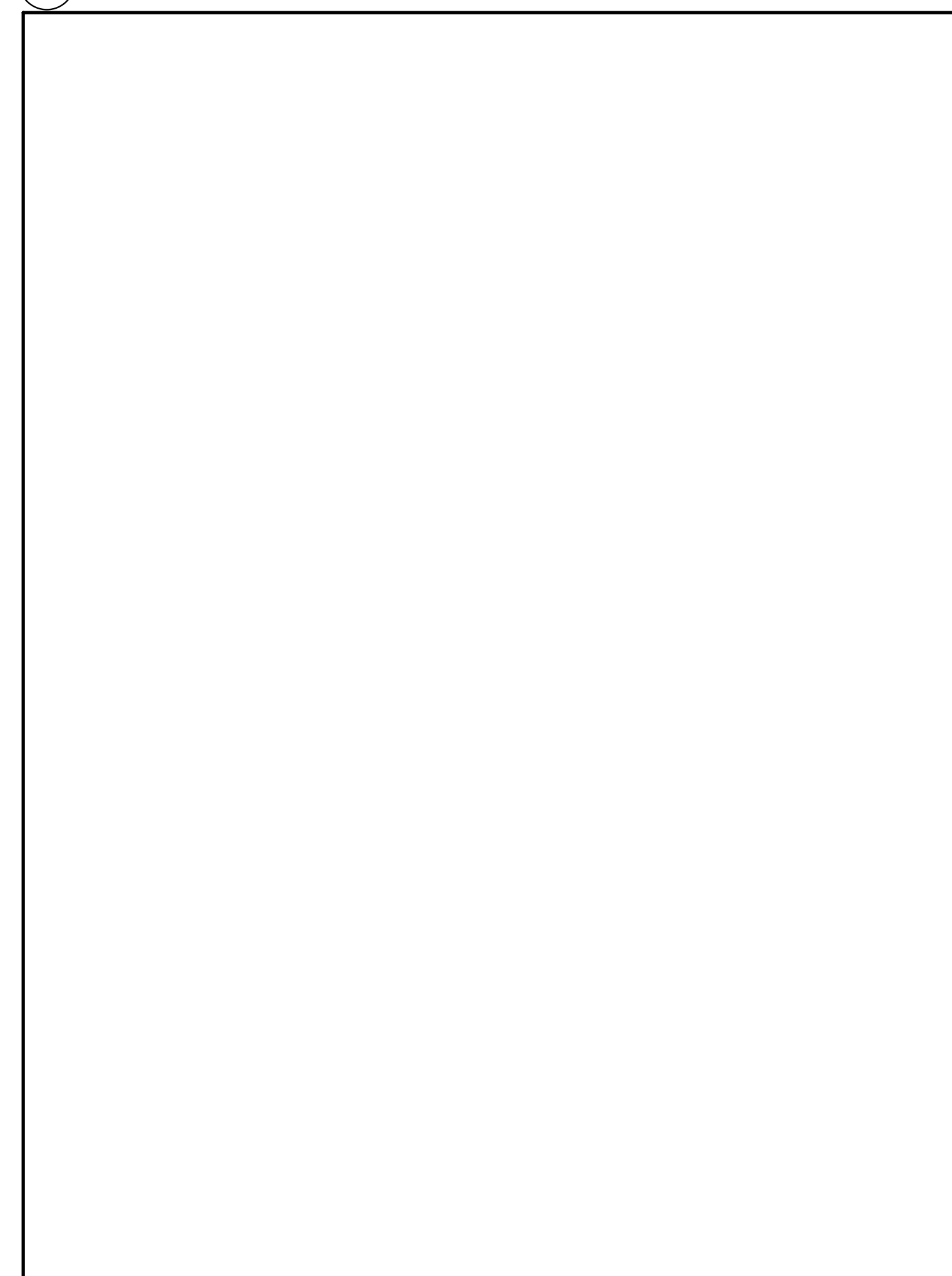
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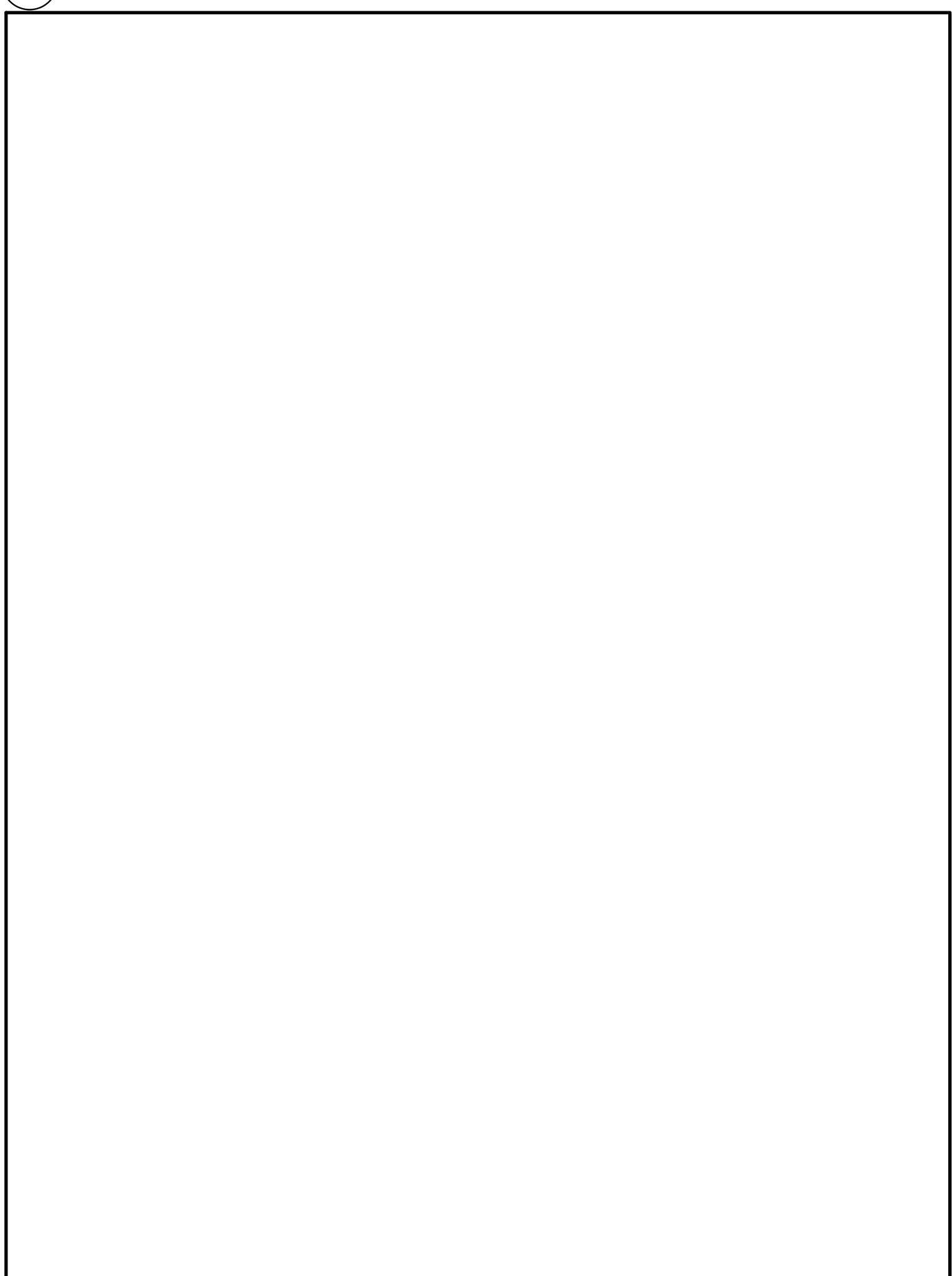
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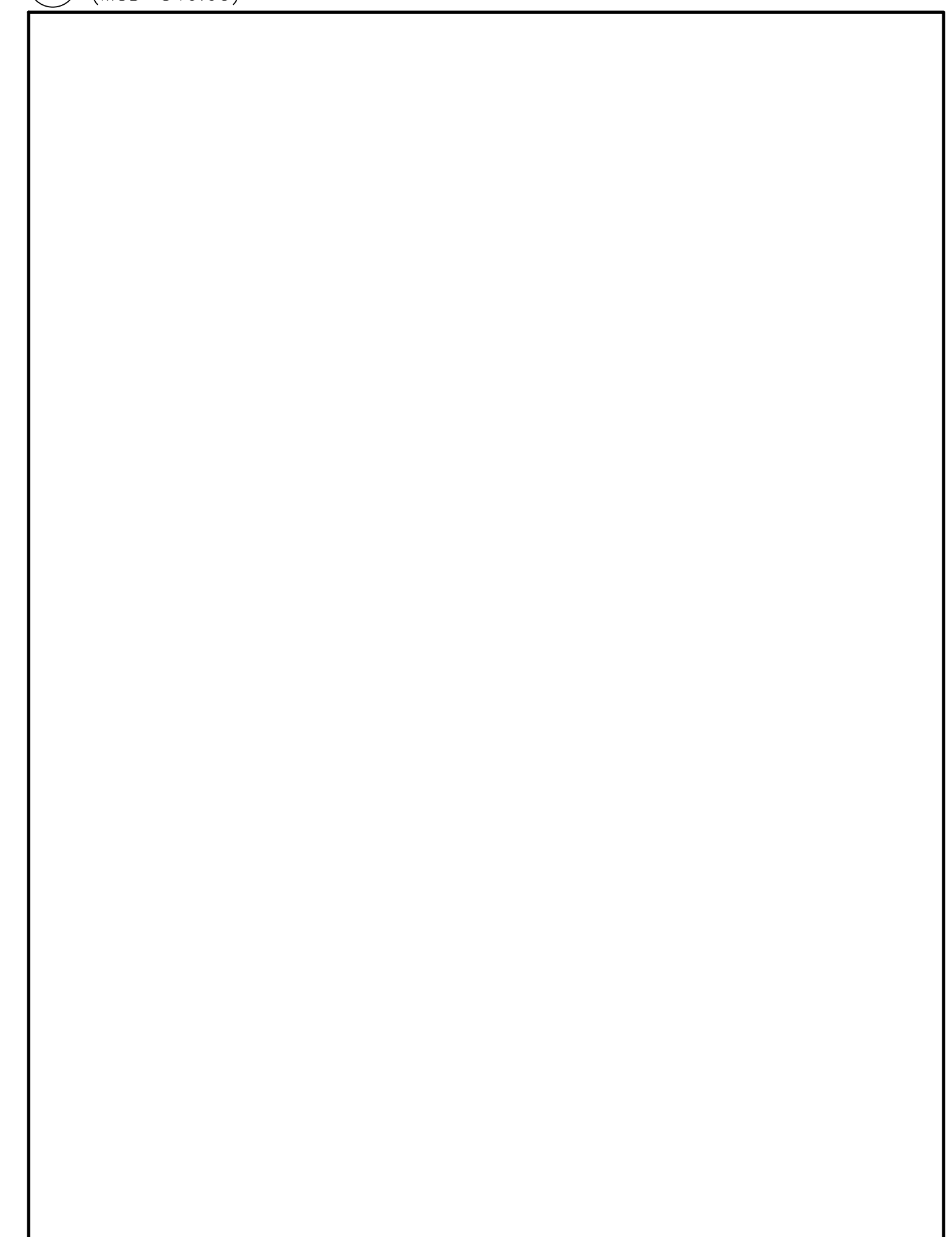
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Diamond Schmitt Architect
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Toronto, Ontario, Canada M5H 1P7
Tel: 416-593-8100 • Fax: 416-593-8101 • www.dschmitt.com

No.	Description	Date
1	ISSUED FOR TENDER (Laboratory)	03/07/2010

The attached drawings, specifications and conditions on site and immediately notify the Department of Infrastructure Services.

Project Site:
2620 SPEARMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1

NRC - MISSISSAUGA
RESEARCH AND DEVELOPMENT PILOT PLANT FACILITY

SP - 17 - 37 - W2

Drawn by: R.D.
Designed by: E.G./C.L.
Approved by: D.C.

MECHANICAL LEGEND AND STANDARD DETAILS

Project date: 05/31/17
Date du projet: 05/31/17
Project number: 16158.000.M.011
no. du projet: 16158.000.M.011

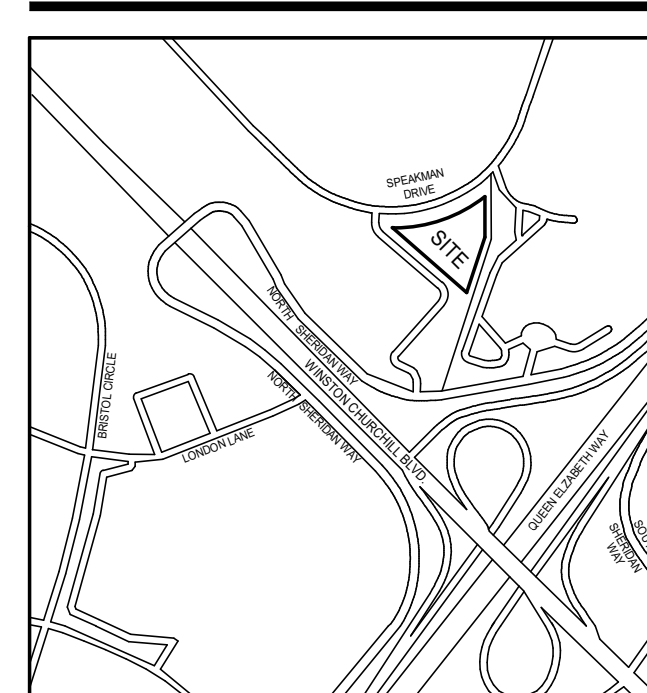
- GENERAL NOTES**
- DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT.
 - FLOOR PLANS SHALL BE READ IN CONJUNCTION WITH SPECIFICATIONS AND INFORMATION SHOWN ON FLOOR PLANS SHALL BE ASSUMED TO BE APPLICABLE TO THE RELATED SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
 - VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY SHALL BE INCLUDED UNDER THIS CONTRACT.
 - ALL DOMESTIC WATER PIPING TO BE 1/2" UNLESS OTHERWISE NOTED.
 - CONNECT NEW FIXTURES TO THE EXISTING VENT PIPING AS PER CODE.

- PLUMBING AND DRAINAGE NOTES**
- ALL SANITARY DRAINAGE BELOW GRADE SHALL BE MINIMUM 150MM (6 IN.) UNLESS INDICATED OTHERWISE.
 - ALL FLOOR DRAINAGE SHALL BE COMPLETE WITH TRAPS AND TRAP PRIMERS.
 - ALL STORM DRAINAGE BELOW GRADE SHALL BE MINIMUM 150MM (6 IN.) UNLESS INDICATED OTHERWISE.
 - ALL DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES SHALL BE MINIMUM 150MM (6 IN.) UNLESS INDICATED OTHERWISE.
 - ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUPPORT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. RUN PIPING WITHIN STRUCTURAL STEEL STRATA WHERE PRACTICAL AND UNEXPOSED OFFICE AREAS.
 - PROVIDE PIPE HEAT TRACING TO COVER THE QUANTITY OF PIPE INDICATED ON THE DRAWINGS AND PIPING ALTERATIONS DUE TO INTERFERENCES OR INSTALLATION SHALL BE ACCOMMODATED BY THE MECHANICAL CONTRACTOR. CONNECT TRACING CIRCUIT TO ELECTRICAL POWER LOCATIONS INDICATED ON THE DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE BY ELECTRICAL.

- LABORATORY NOTES**
- 380 A/C SANITARY FROM FUME HOOD. CONNECT TO FUME HOOD DRAIN POINT. CONNECT VENT TO NEAREST ACID RESISTANT VENT LINE.
 - 150 MP D/W DOWN TO TO CUP SINK FUME HOOD MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION AT TOP OF FUME HOOD.
 - CONNECT TO EXISTING NON POTABLE DOMESTIC COLD WATER.
 - CONNECT TO EXISTING NON POTABLE DOMESTIC COLD WATER.



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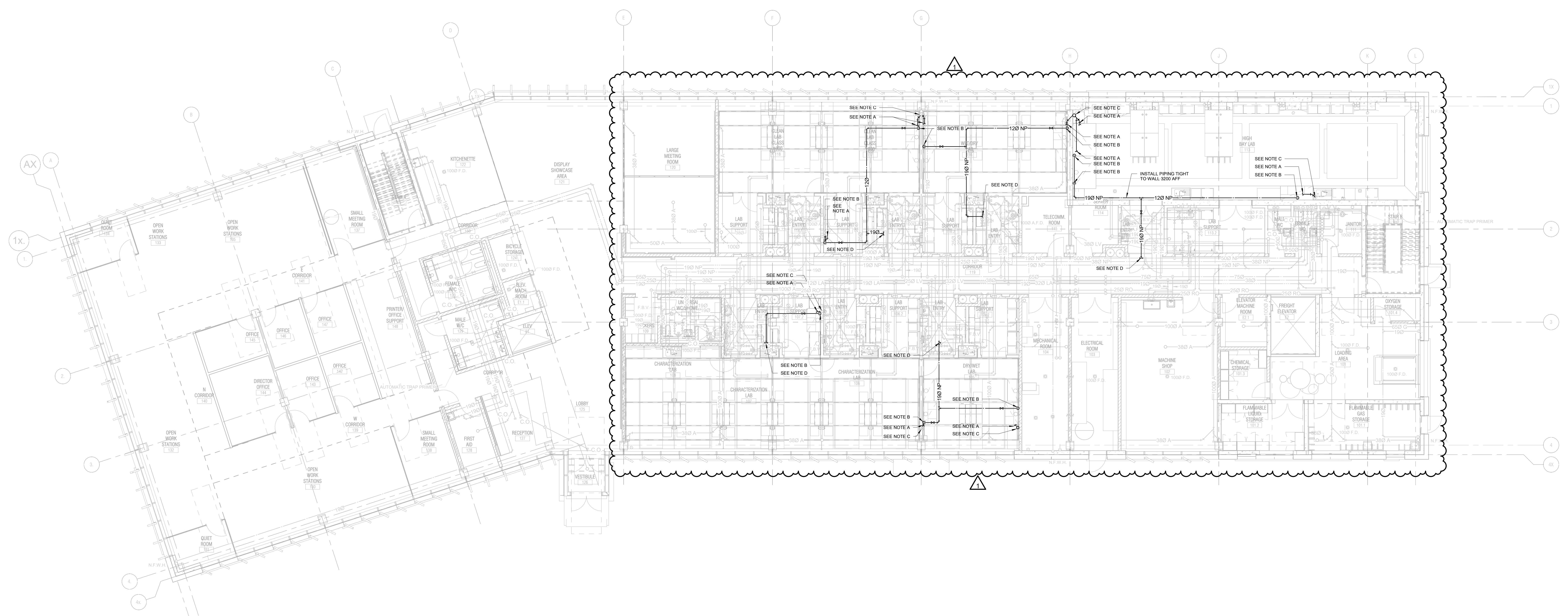


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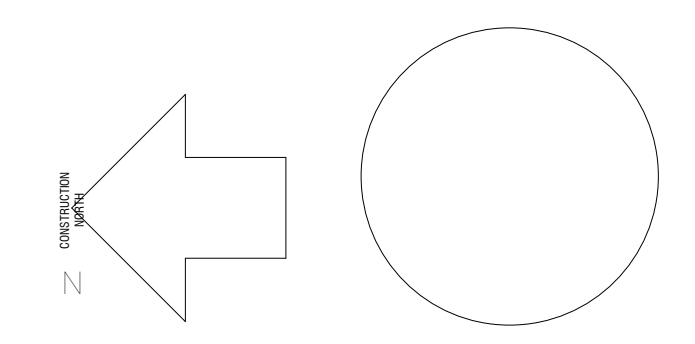
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Diamond Schmitt Architect



No.	Description	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

Do not scale drawings. Verify all dimensions and conditions on site and immediately notify the Architectural Representative if any discrepancy is noted.

Project file:
Site du projet:
2620 SPEAKMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1

NRC - MISSISSAUGA
RESEARCH AND
DEVELOPMENT PILOT PLNT
FACILITY

SP- 17-37 W2

LEVEL 1 - PLUMBING AND DRAINAGE Lab

Drawn by: A.G.

Designed by: E.G./L

Approved by: D.C.

Bid Offer:

Project date: 03/06/19
Date du projet:

Project number: 16158.000.M.011
no. du projet:

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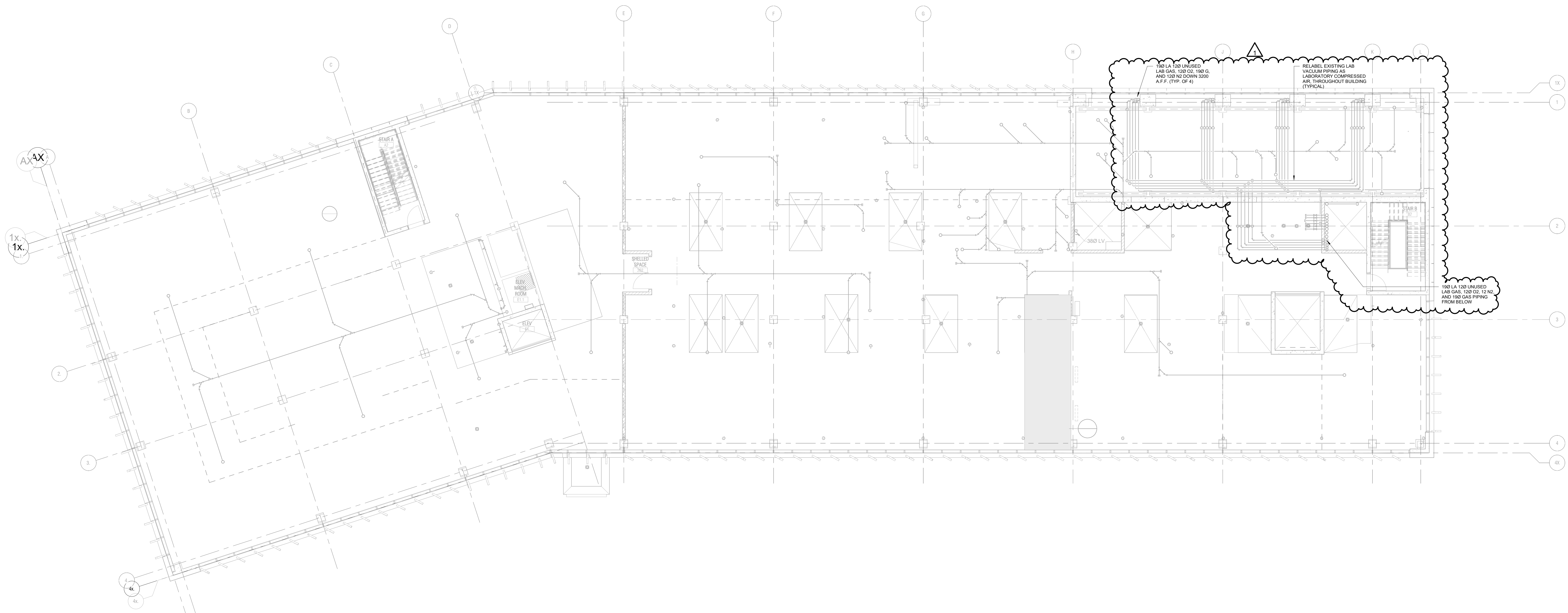
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 - ALL STORM DRAINAGE BELOW GRADE SHALL BE MINIMUM 150MM (6 IN) UNLESS INDICATED OTHERWISE.
 - ALL DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES SHALL BE MINIMUM 150MM (6 IN) UNLESS INDICATED OTHERWISE.
 - ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUPPORT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. RUN PIPING WITHIN STRUCTURAL STEEL STRATA WHERE PRACTICAL AND UNEXPOSED OFFICE AREAS.
 - PROVIDE PIPE HEAT TRACING TO COVER THE QUANTITY OF PIPE INDICATED ON THE DRAWINGS AND PIPING ALTERATIONS DUE TO INTERFERENCES OR RETENTION SHALL BE ACCOMMODATED BY THE MECHANICAL CONTRACTOR. CONNECT TRACING CIRCUIT TO ELECTRICAL POWER LOCATIONS INDICATED ON THE DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE BY ELECTRICAL.



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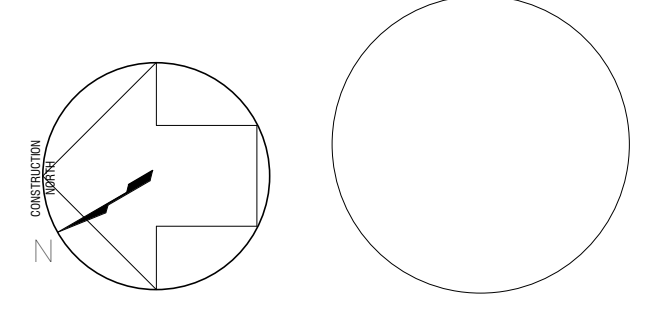
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Diamond Schmitt Architect
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No.	Description	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

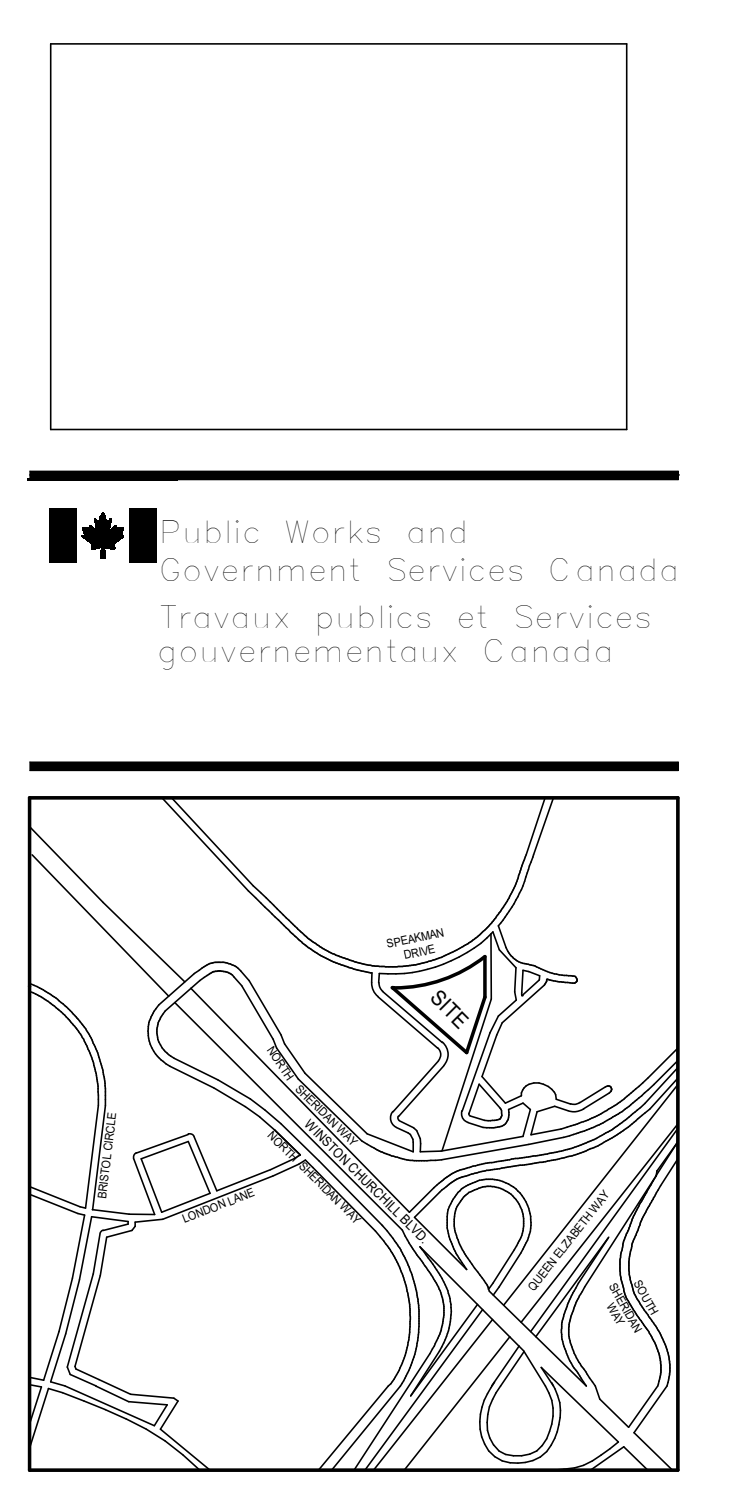
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Project file
Site du projet
2620 SPEAKMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1
NRC - MISSISSAUGA
RESEARCH AND DEVELOPMENT PILOT PLNT
FACILITY

SP- 17-37 W2
LEVEL 2 - PLUMBING AND DRAINAGE

Drawn by: A.G.
Designed by: E.G./L.
Approved by: D.C.
Bid Offer:
Project date: 03/06/19
Date du projet:
Project number: 16158.000.M.011
no. du projet:

- GENERAL NOTES**
1. ALL H.V.A.C. AND H.V.A.C. BRANCH PIPES SHALL BE MINIMUM 150MM (6 IN.) UNLESS INDICATED OTHERWISE.
 2. ALL CONTROL VALVES FOR PERMITTER TERMINAL, LAMPS AND RADIATION ARE TYPE: UNLESS INDICATED OTHERWISE.
 3. ALL TRANSFER AIR DUCTS SHALL BE 300X300 (1200X1200) UNLESS INDICATED OTHERWISE. TRANSFER AIR DUCTS SHALL NOT BE USED IN LIEU OF BELIEVERS.
 4. ALL POWER FOR ON-FLOOR CONTROL DEVICES SHALL BE OBTAINED FROM THE DESIGNATED EMERGENCY POWER CIRCUIT IN ROOMS 3000.
 5. ALL DUCTWORK DOWNSTREAM OF VAN BOXES AND FAN POWERED BOXES SHALL BE EQUAL TO THE NEAREST EVEN SIZE UNLESS LARGER IS INDICATED. WHERE OUTLET SIZES ARE ODD SIZES, THE DUCT SIZE SHALL BE ROUNDED UP TO THE NEAREST EVEN SIZE (E.G. 318MM (12.5 IN) FOR 325MM (12.8 IN) SHALL BE 350MM (14 IN)). PROVIDE TRANSITION DUCTS AS REQUIRED.
 6. ALL FLEXIBLE DUCTWORK LENGTHS SHALL BE NO LONGER THAN 1.0M (3 FT.) UNLESS FULLY STRETCHED.
 7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS.
 8. TEMPERATURE SENSORS ARE LOCATED TO ADD IN PIPING ONLY AND ALL REQUIRED SENSORS HAVE NOT BEEN SHOWN. REFER TO SPECIFICATIONS TO COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 100MM (4 IN.) OF LOCATION SHOWN. ALL LOCATIONS OUTSIDE OF THIS RANGE SHALL BE REVIEWED WITH THE CONSULTANT.
 9. TEMPERATURE SENSORS SHALL BE MINIMALLY 1200MM (48 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
 10. DIFFUSER DUCT RUNOUTS SHALL BE THE SAME SIZE AS THE DIFFUSER UNLESS OTHERWISE INDICATED.
 11. AIR FLOW RATES SHALL BE BALANCED EQUALLY BETWEEN ALL INTERIOR DIFFUSERS. AIR FLOW RATES SHALL BE THE SAME SIZE AS THE DIFFUSER UNLESS OTHERWISE INDICATED.
 12. MAINTAIN A CLEARANCE OF 200MM (8 IN.) TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC. THROUGHOUT THE ENTIRE PROJECT.
 13. ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE.
 14. CONTRACTOR TO VERIFY STRUCTURAL INTEGRITY OF TEMPORARY AND PERMANENT OPENINGS. ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY SHALL BE INCLUDED UNDER THIS CONTRACT.
 15. PROVIDE ALUMINUM DUCTWORK IN ALL POOL AREAS AND SHOWER AREAS.
 16. LOW LEVEL SUPPLY EXHAUST DUCT SEE DETAIL B.8000.
 17. EXPLOSION PROOF ENCLOSURES ARE REQUIRED ON ALL ACTUATORS WITHIN CLASS 1 ZONE 2 SPACES.
 18. VENTURI VALVE IN CHV THE RATED ENCLOSURE. PROVIDE ACCESS TO VALVE.
- LABORATORY NOTES**
- A. 150 CHILLED WATER SUPPLY RETURN DOWN TO FUMEHOOD. CONTRACTOR TO MAKE CONNECTION TO FUMEHOOD PIPING.
 - B. 3000 EXHAUST AIR FROM FUME HOOD BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - C. CONNECT 150 CHILLED WATER SUPPLY RETURN PIPING TO EXISTING CAPPED CONNECTIONS.
 - D. CONNECT 3000 DUCTWORK TO EXISTING CAPPED CONNECTION.
 - E. CONNECT 2000 DUCTWORK TO EXISTING CAPPED CONNECTION.
 - F. 1500 EXHAUST FROM BELOW. CONNECT 1500 EXHAUST AIR DUCT TO EXISTING AIRWAY.
 - G. CONNECT 2000 DUCTWORK TO EXISTING CAPPED CONNECTION.
 - H. 3000 EXHAUST AIR FROM FUME HOOD BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - I. 2500 EXHAUST AIR FROM PERMANENT ENCLOSURE BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - J. 500 EXHAUST AIR FROM VACUUM PUMP CABINET BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION. EXHAUST VOLUME TO BE CONTROLLED VIA ADESS CONSTANT AIRFLOW REGULATOR (BY OTHERS).
 - K. FUME HOOD VALVE PERMANENT ENCLOSURE VALVE AND CABINET AIRFLOW REGULATOR BY OTHERS. SET AIRFLOWS AS INDICATED.
 - L. 500 EXHAUST AIR FROM ADESS CABINET BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION. EXHAUST VOLUME TO BE CONTROLLED VIA ADESS CONSTANT AIRFLOW REGULATOR (BY OTHERS).

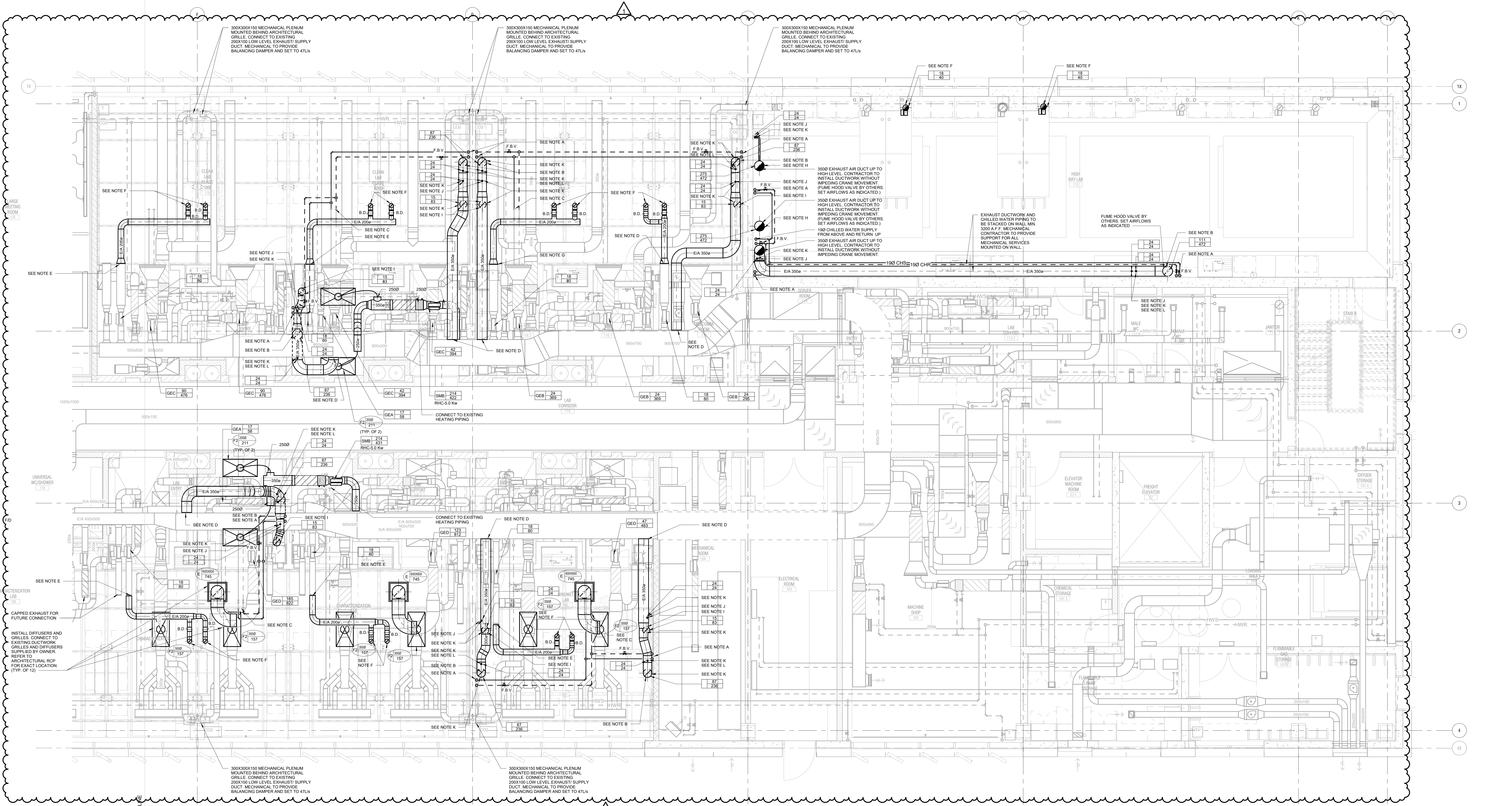


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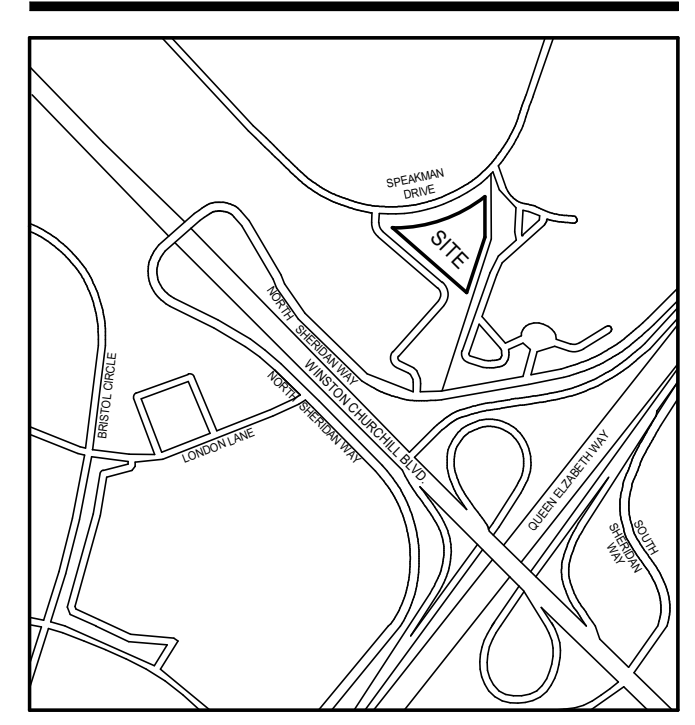
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 1000 - 100 Sheppard Ave. East, Toronto Ontario M2N 6N5
 416 467 8151 www.diamondschmitt.com

No.	Description	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

Project title:
 17-37 W2
 2620 SPEAKMAN DRIVE
 MISSISSAUGA, ONTARIO
 L5K 2L1
 NRC - MISSISSAUGA
 RESEARCH AND
 DEVELOPMENT PILOT PLANT
 FACILITY

Level 1 - H.V.A.C. SOUTH LAB

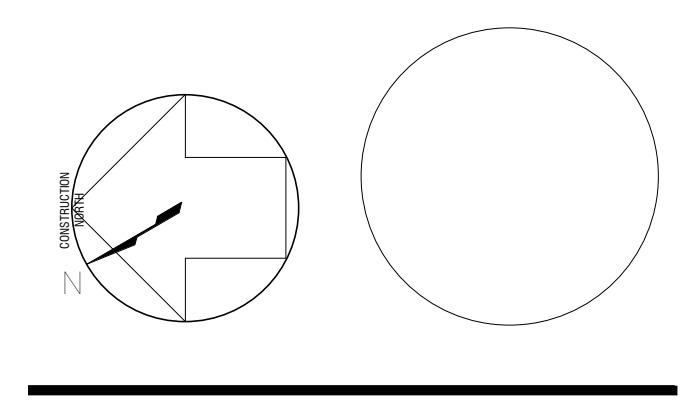
Drawn by: A.G.
 Designed by: E.G./L.
 Approved by: D.C.
 Bid Offer:
 Project date: 03/06/19
 Date of project:
 Project number: 16158.000.M.011
 no. di project



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No.	Description	Date
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Project: 16158.000
Site: 001 project
2620 SPEAKMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1
NRC - MISSISSAUGA
RESEARCH AND
DEVELOPMENT PILOT PLANT

SP-17-37-W2
LEVEL 1 - H.V.A.C. NORTH LAB

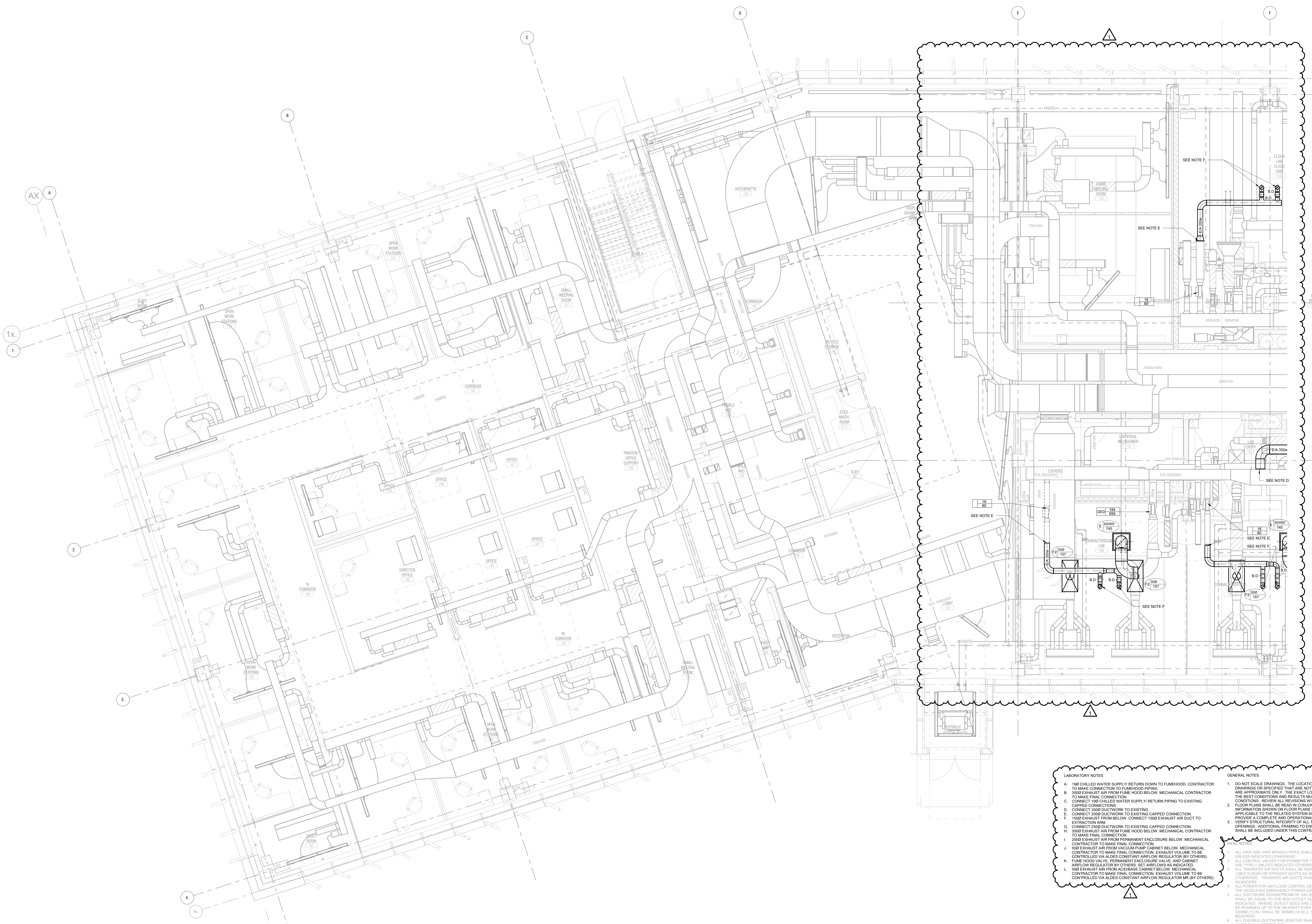
Drawn by: A.G.

Designed by: E.G./L.

Approved by: D.C.

Project date: 03/06/19
Date of project:

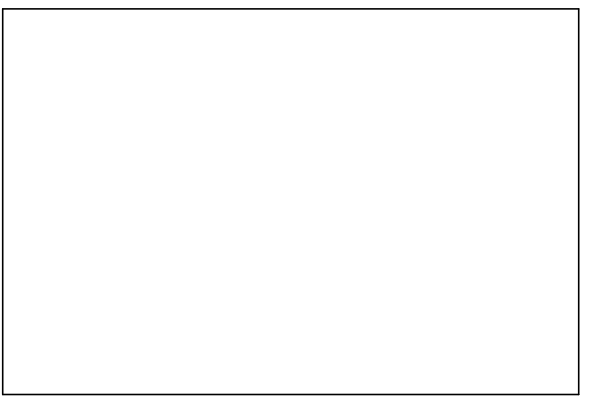
Project number: 16158.000.M.011
no. du projet:



- LABORATORY NOTES**
- A. 150 CHILLED WATER SUPPLY/RETURN DOWN TO FUMEHOOD. CONTRACTOR TO MAKE CONNECTION TO FUMEHOOD PIPING.
 - B. 3000 EXHAUST AIR FROM FUME HOOD BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - C. CONNECT 150 CHILLED WATER SUPPLY/RETURN PIPING TO EXISTING CARPET CONNECTIONS.
 - D. CONNECT 150 CHILLED WATER SUPPLY/RETURN PIPING TO EXISTING CARPET CONNECTIONS.
 - E. CONNECT 2000 DUCTWORK TO EXISTING CARPET CONNECTION.
 - F. 1500 EXHAUST AIR FROM BELOW. CONNECT 1500 EXHAUST AIR DUCT TO EXISTING CARPET CONNECTION.
 - G. CONNECT 2000 DUCTWORK TO EXISTING CARPET CONNECTION.
 - H. 3000 EXHAUST AIR FROM FUME HOOD BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - I. 2500 EXHAUST AIR FROM PERMANENT ENCLOSURE BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - J. 2500 EXHAUST AIR FROM PERMANENT ENCLOSURE BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION. EXHAUST VOLUME TO BE CONTROLLED VIA ALUMINUM CONSTANT AIRFLOW REGULATOR (BY OTHERS).
 - K. FUME HOOD VALVE. PERMANENT ENCLOSURE BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION. EXHAUST VOLUME TO BE CONTROLLED VIA ALUMINUM CONSTANT AIRFLOW REGULATOR (BY OTHERS).
 - L. 500 EXHAUST AIR FROM MECHANICAL CABINET BELOW. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION. EXHAUST VOLUME TO BE CONTROLLED VIA ALUMINUM CONSTANT AIRFLOW REGULATOR (BY OTHERS).

- GENERAL NOTES**
1. DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY PAVED BY DIMENSIONS ARE TO BE DETERMINED BY THE ARCHITECT. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONNECTIONS AND RESULTS MUST BE DETERMINED BY THE ARCHITECT. VERIFY ALL DIMENSIONS WITH THE CONSULTANT.
 2. FLOOR PLANS SHALL BE READ IN CONJUNCTION WITH SCHEMATICS. INFORMATION SHOWN ON THE SCHEMATICS SHALL BE ASSIGNED TO BE APPLICABLE TO THE RELATED SYSTEM SCHEMATIC AND VICE-VERSA TO SCHEMATICS.
 3. VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY SHALL BE INCLUDED UNDER THIS CONTRACT.

1. ALL HWR AND HWV BRANCH PIPES SHALL BE MINIMUM 15MM (3/4") UNLESS INDICATED OTHERWISE.
2. ALL CONTROL VALVES FOR PERIMETER TERMINAL UNITS AND RADIATION ARE TYPE-1 UNLESS INDICATED OTHERWISE.
3. ALL TRANSFER AIR DUCTS SHALL BE 800X(80X100) (600X) ACROSS. UNLESS INDICATED OTHERWISE. TRANSFER AIR DUCTS SHALL NOT BE USED IN LIEU OF DIFFUSERS.
4. ALL POWER FOR ON-FLOOR CONTROL DEVICES SHALL BE OBTAINED FROM THE ELECTRICAL EMERGENCY POWER CIRCUIT IN ROOMS 100.
5. ALL DUCTWORK DOWNSTREAM OF VAV BOXES AND FAN POWERED BOXES SHALL BE EQUAL TO THE BEST OUTLET SIZE (MINIMUM) OR LARGER AS INDICATED. WHERE OUTLET SIZES ARE ODD SIZES, THE DUCT SIZE SHALL BE ROUNDED UP TO THE NEAREST EVEN SIZE (E.G. 318MM (12 1/2") IN FOR 320MM (12 5/8") SHALL BE 356MM (14") IN). PROVIDE TRANSITION DUCTS AS REQUIRED.
6. ALL FLEXIBLE DUCTWORK LENGTHS SHALL BE NO LONGER THAN 1.5M (5 FT.) UNLESS INDICATED OTHERWISE.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS.
8. TEMPERATURE SENSORS ARE LOCATED TO ADD IN PIPING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN. REFER TO SPECIFICATIONS FOR COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 100MM (4") OF LOCATION SHOWN. ALL RELOCATIONS OUTSIDE OF THIS RANGE SHALL BE REVIEWED WITH THE CONSULTANT.
9. TEMPERATURE SENSORS SHALL BE MINIMUM 1200MM (48") ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
10. THE FLEXIBLE DUCTWORK SHALL BE THE SAME SIZE AS THE DIFFUSER.
11. AIR FLOW RATES SHALL BE BALANCED EQUALLY BETWEEN ALL INTERIOR DIFFUSERS UNLESS INDICATED OTHERWISE.
12. MAINTAIN A MINIMUM OF 200MM (8") CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC. THROUGHOUT THE ENTIRE PROJECT.
13. ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE.
14. CONTRACTOR TO VERIFY STRUCTURAL INTEGRITY OF TEMPORARY AND PERMANENT OPENINGS. ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY SHALL BE INCLUDED UNDER THIS CONTRACT.
15. PROVIDE ALUMINUM DUCTWORK IN ALL POOL AREAS AND SHOWER EXHAUST SYSTEMS.



GENERAL NOTES

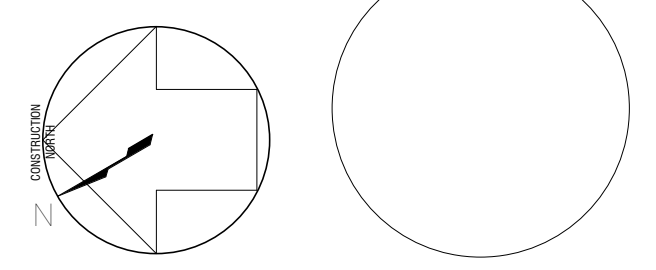
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No.	Issued for Tender (Laboratory)	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

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Project title
Site du projet
2620 SPEAKMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1

NRC - MISSISSAUGA
RESEARCH AND
DEVELOPMENT PILOT PLANT
FACILITY

SP- 17-37 W2

LEVEL 1 - H.V.A.C. PART A SOUTH LAB
DEMO

Drawn by: A.G.

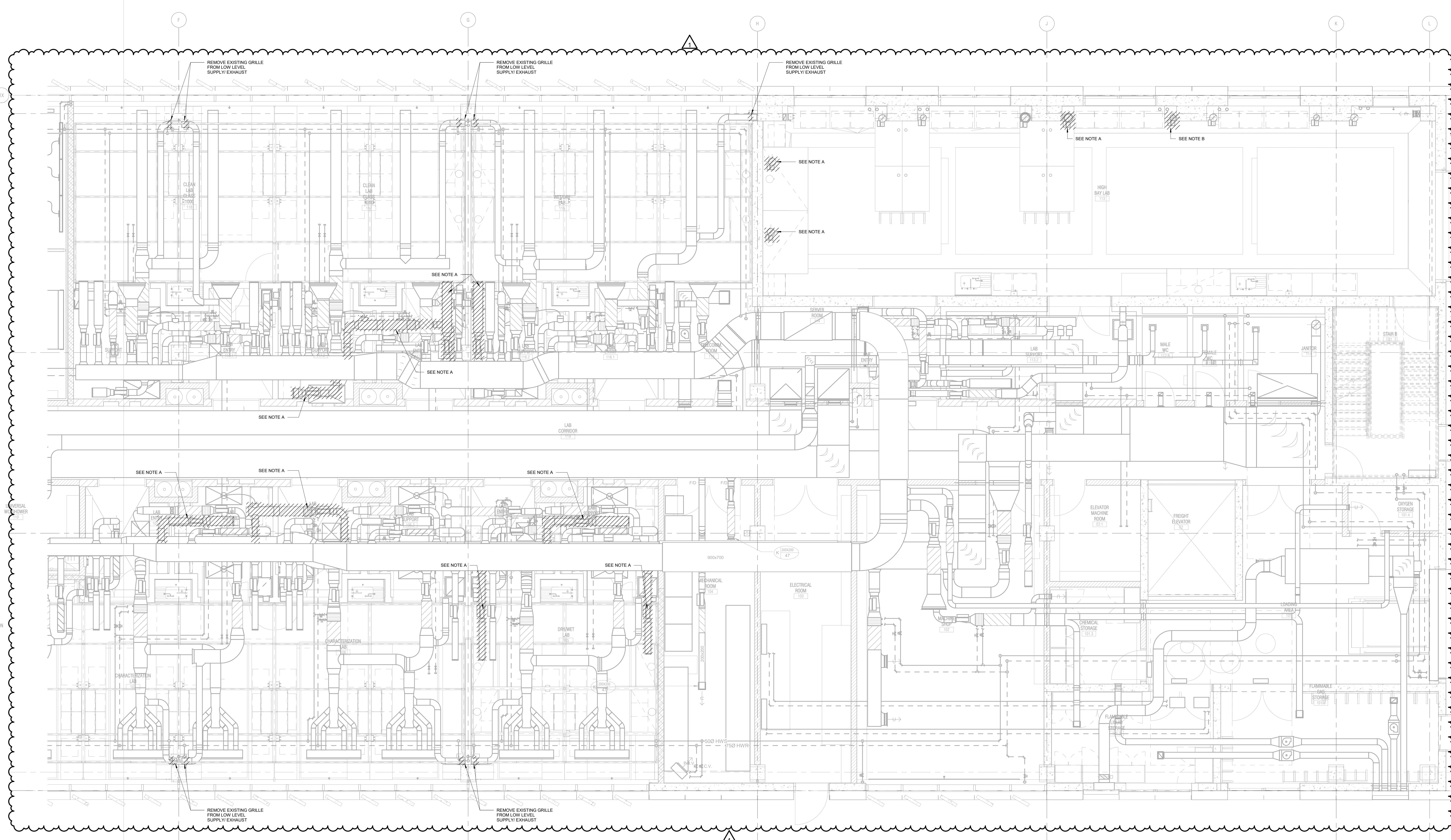
Designed by: E.G./L.

Approved by: D.C.

Bid Offer:

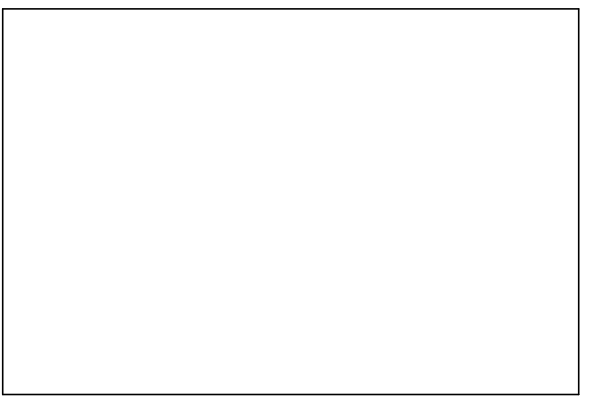
Project date: 03/01/19
Date du projet:

Project number: 16158.000.M.011
no. du projet:



LABORATORY NOTES
A. REMOVE EXISTING VENTURI VALVE AND DUCTWORK WITH CARE. TURN VENTURI VALVE OVER TO OWNER FOR FUTURE USE.
B. REMOVE EXISTING VENTURI VALVE FOR RELOCATION TO REVISED LOCATION. REFER TO M&SIC FOR NEW LOCATION.

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200



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GENERAL NOTES

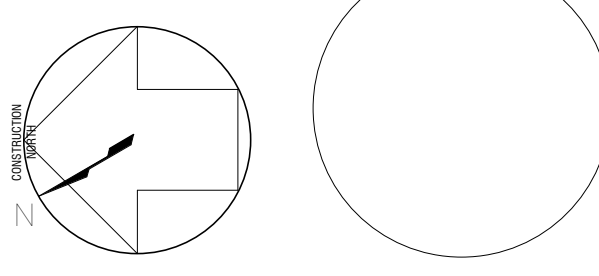
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No.	Description	Date
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Project title
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MISSISSAUGA, ONTARIO
L5K 2L1

NRC - MISSISSAUGA
RESEARCH AND
DEVELOPMENT PILOT PLNT
FACILITY

SP- 17-37 W2

LEVEL 1 - H.V.A.C. PART B NORTH LAB
DEMO

Drawn by: A.G.

Designed by: E.G./C.L.

Approved by: D.C.

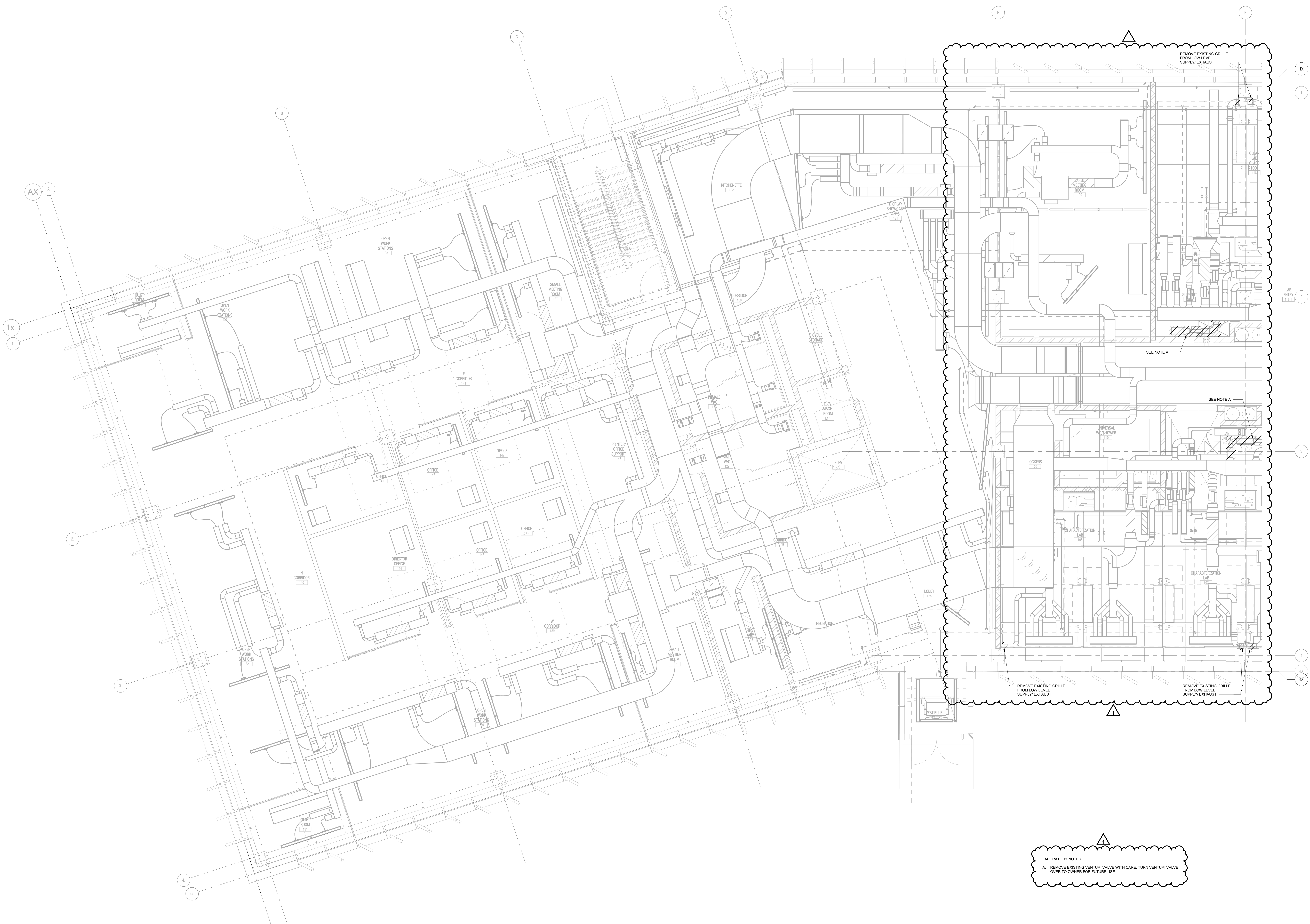
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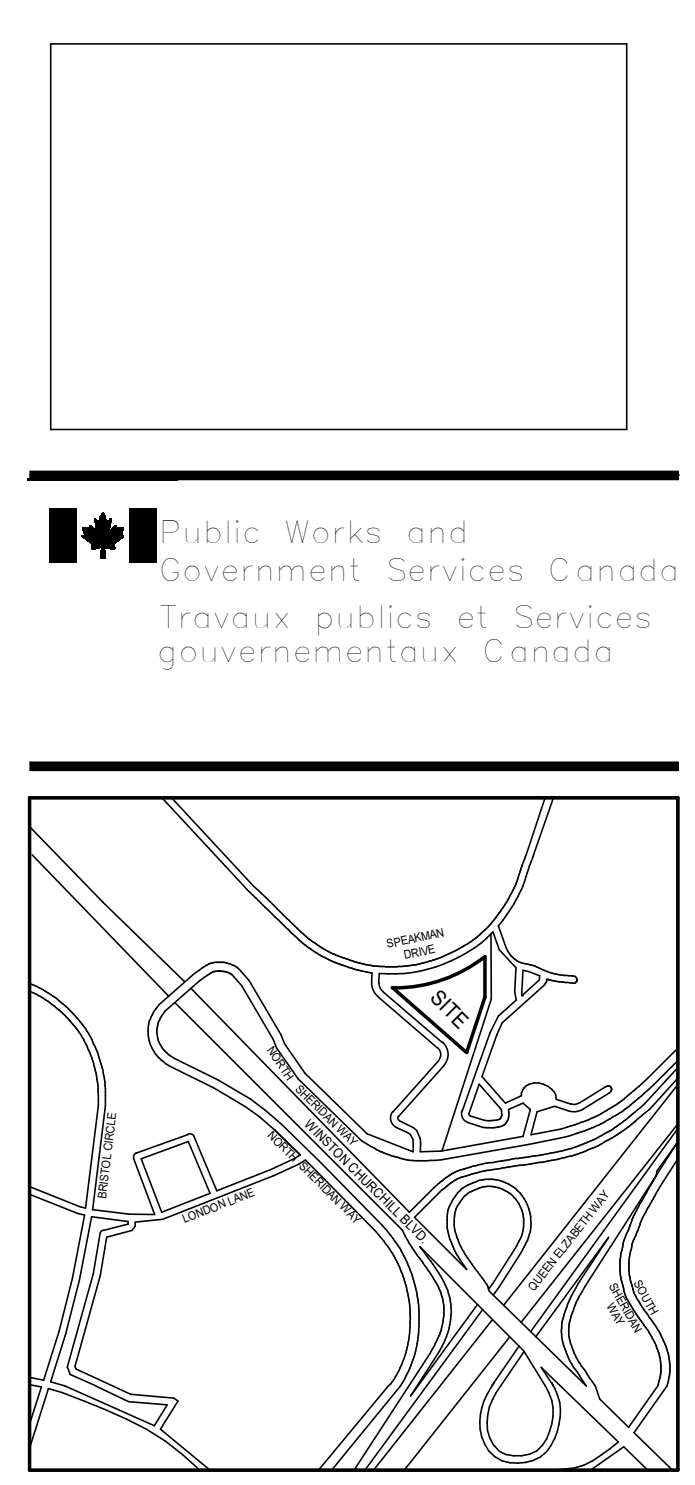
no. du projet:



LABORATORY NOTES
A REMOVE EXISTING VENTURI VALVE WITH CARE. TURN VENTURI VALVE
OVER TO OWNER FOR FUTURE USE.

- GENERAL NOTES**
- DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT EXPLICITLY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT.
 - FLOOR PLANS SHALL BE READ IN CONJUNCTION WITH SCHEMATICS. INFORMATION SHOWN ON FLOOR PLANS SHALL BE ASSIGNED TO BE APPLICABLE TO THE RELATED SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
 - VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY SHALL BE INCLUDED UNDER THIS CONTRACT.

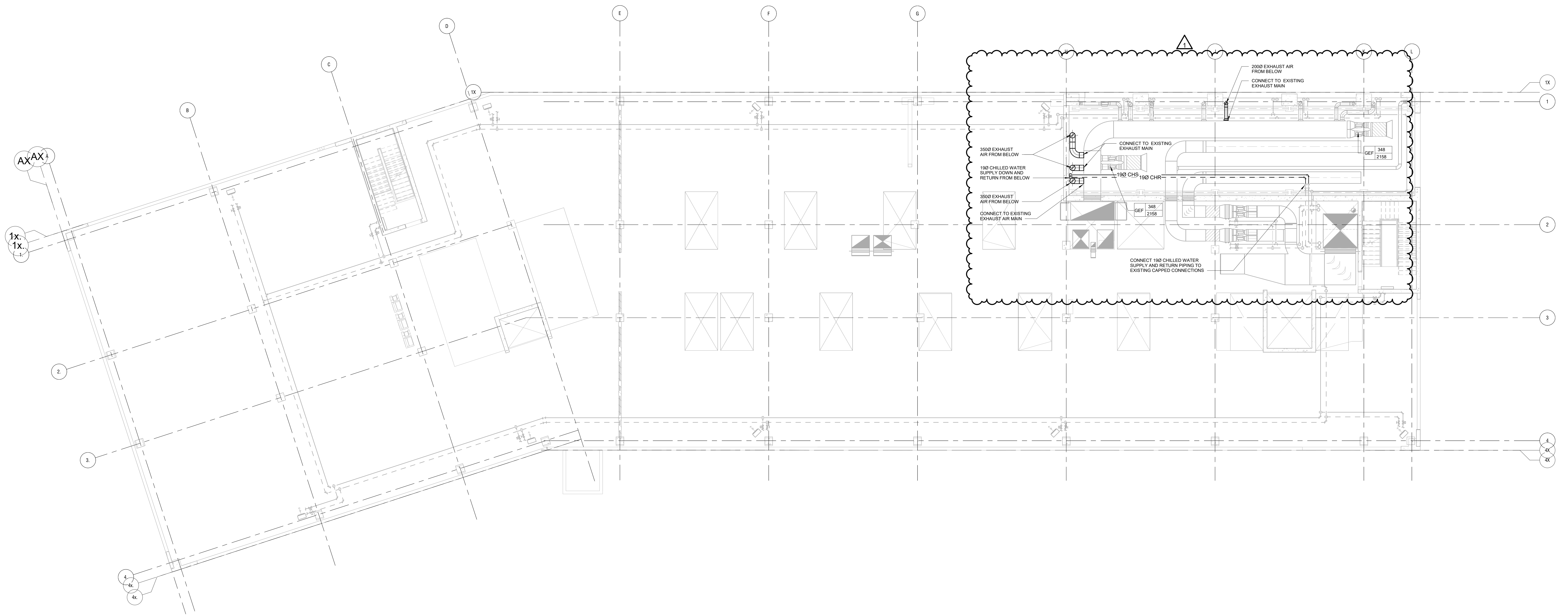
- H.V.A.C. NOTES**
- ALL H.V.A.C. AND H.V.B. BRANCH PIPES SHALL BE MINIMUM 19MM (3/4 IN.) UNLESS INDICATED OTHERWISE.
 - ALL CONTROL VALVES FOR PERIMETER TERMINAL UNITS AND RADIATION ARE TYPE-1 UNLESS INDICATED OTHERWISE.
 - ALL TRANSFER AIR DUCTS SHALL BE 600MM X 300 (24" X 12") UNLESS OTHERWISE INDICATED. TRANSFER AIR DUCTS SHALL NOT BE USED IN LIEU OF BLENDERS.
 - ALL POWER FOR ON-FLOOR CONTROL DEVICES SHALL BE OBTAINED FROM THE DEDICATED EMERGENCY POWER CIRCUIT IN ROOMS 700C.
 - ALL DUCTWORK DOWNSTREAM OF VAN BOBES AND VAN POWERS BOBES SHALL BE EQUAL TO THE BOX OUTLET SIZE (MINIMUM OR LARGER AS INDICATED). WHERE OUTLET SIZES ARE COEDED, THE DUCT SIZE SHALL BE ROUNDED UP TO THE NEAREST EVEN SIZE (E.G. 318MM (12 5/8 IN.) OR 304.8MM (12 IN.) SHALL BE 304.8MM (12 IN.). PROVIDE TRANSITION DUCTS AS NECESSARY.
 - ALL FLEXIBLE DUCTWORK LENGTHS SHALL BE NO LONGER THAN 1.5M (5 FT.) WHEN FULLY STRETCHED.
 - REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF GRILLES AND DIFFUSERS.
 - TEMPERATURE SENSORS ARE LOCATED TO AID IN PRICING ONLY AND ALL REQUIRED SENSORS MAY NOT BE SHOWN (REFER TO SPECIFICATIONS). COORDINATE FINAL LOCATION WITH THE ARCHITECT WITHIN 100MM (4 IN.) OF LOCATION SHOWN. ALL RELAY LOCATIONS OUTSIDE OF THIS RANGE SHALL BE REVIEWED WITH THE CONSULTANT.
 - TEMPERATURE SENSORS SHALL BE NOMINALLY 100MM (4 IN.) ABOVE THE FINISHED FLOOR UNLESS INDICATED OTHERWISE.
 - DIFFUSER DUCT RUNOUTS SHALL BE THE SAME SIZE AS THE DIFFUSER INLETS UNLESS INDICATED OTHERWISE.
 - AIR FLOW RATES SHALL BE BALANCED EQUALLY BETWEEN ALL INTERIOR DIFFUSERS BASED ON THE MAXIMUM AIR FLOW RATE SHOWN FOR THE ASSOCIATED VAN BOX.
 - MAINTAIN A MINIMUM OF 200MM (8 IN.) CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC. THROUGHOUT ACCESSIBLE ROOFS IN MECHANICAL ROOMS.
 - ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSIDE OF THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE.
 - CONTRACTOR TO VERIFY STRUCTURAL INTEGRITY OF TEMPORARY AND PERMANENT OPENINGS. ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY SHALL BE INCLUDED UNDER THIS CONTRACT.
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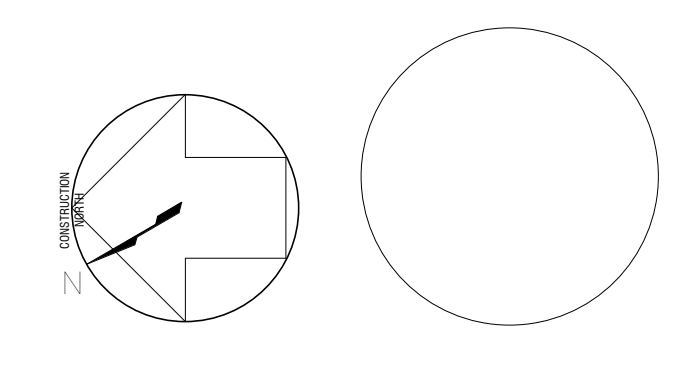
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Project file:
 Site: 2620 Speakman Drive
 Mississauga, Ontario
 L5K 2L1

NRC - MISSISSAUGA
 RESEARCH AND
 DEVELOPMENT PILOT PLANT
 FACILITY

SP- 17-37 W2

LEVEL 2 - H.V.A.C. LAB

Drawn by: A.G.
 Designed by: E.G.C.L.
 Approved by: D.C.

Bid Offer:

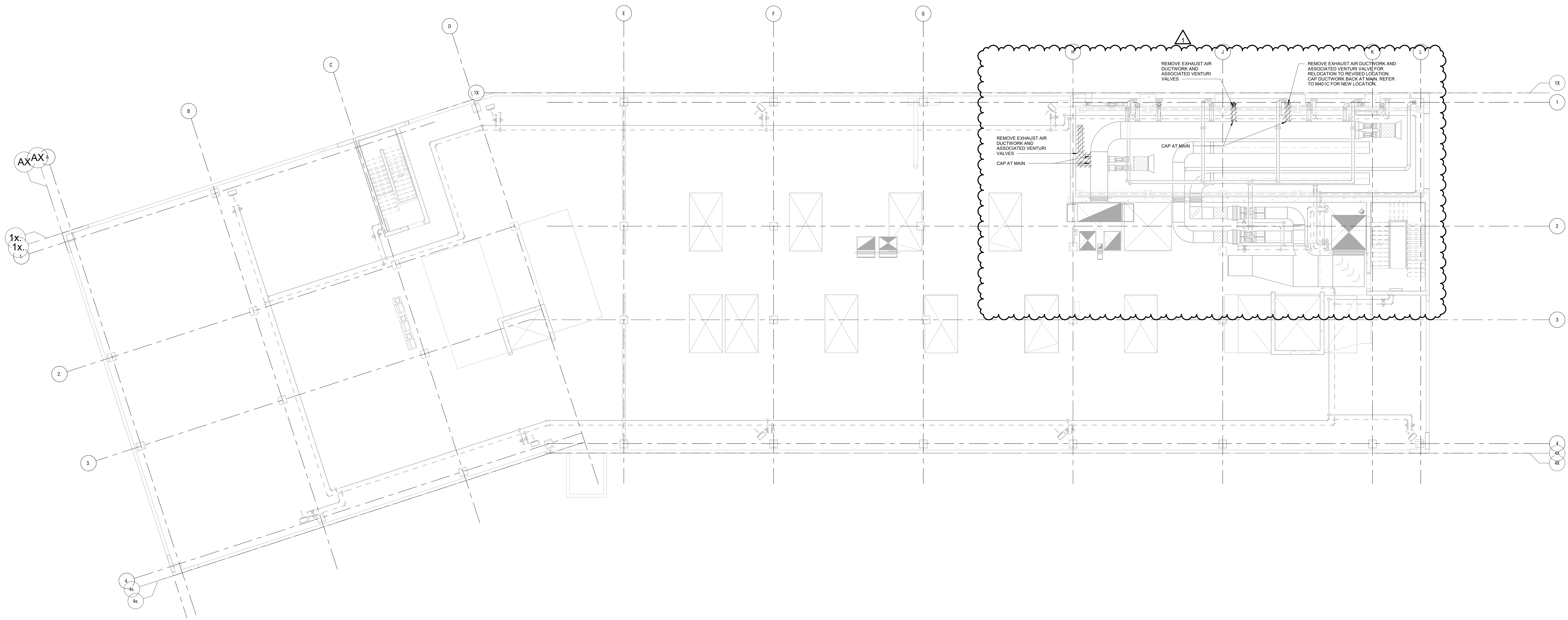
Project date: 03/06/19
 Date du projet:

Project number: 16158.000.M.011
 no. du projet:



GENERAL NOTES

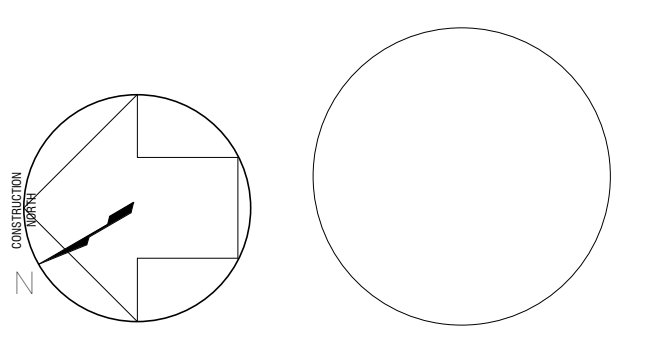
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Toronto, Ontario, Canada M5G 1R7
Tel: 416.593.4444 Fax: 416.593.4444
info@dsai.ca www.dsai.ca



No.	Description	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

Do not scale drawings.
Verify all dimensions and conditions on site
and immediately notify the Department
upon receipt of any discrepancies.

Project file
Site du projet
2620 SPEAKMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1
NRC - MISSISSAUGA
RESEARCH AND
DEVELOPMENT PILOT PLNT
FACILITY

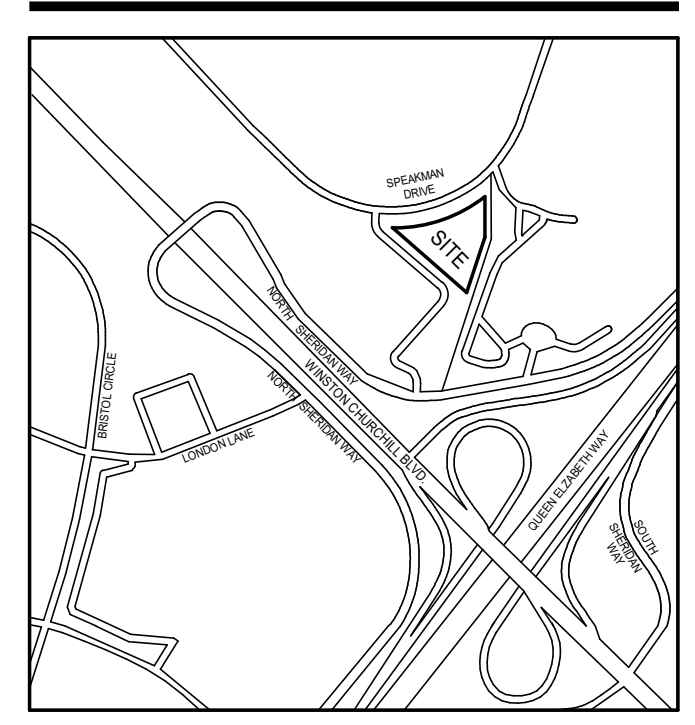
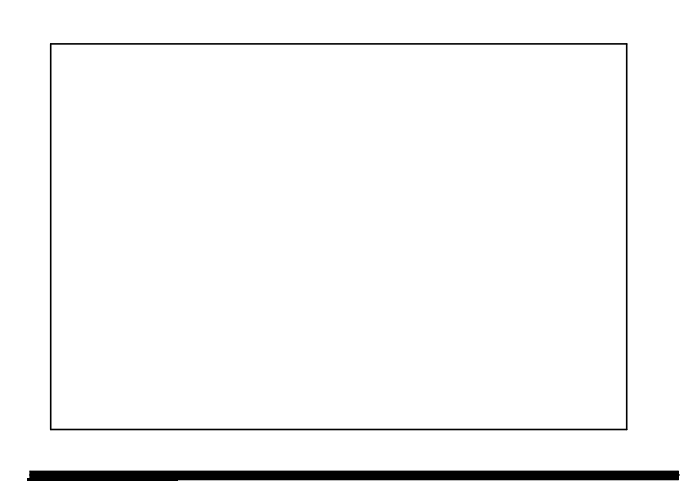
SP- 17-37 W2
LEVEL 2 - H.V.A.C. DEMO

Drawn by: A.G.
Designed by: E.G./C.L.
Approved by: D.C.
Bid Offer:
Project date: 03/06/19
Date du projet:
Project number: 16158.000.M.011
no. du projet:

GENERAL NOTES

- DO NOT SCALE DRAWINGS. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR SPECIFIED THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE SITE CONDITIONS. REVIEW ALL REVISIONS WITH THE CONSULTANT.
- FLOOR PLANS SHALL BE READ IN CONJUNCTION WITH SCHEMATICS INFORMATION SHOWN ON FLOOR PLANS SHALL BE ASSIGNED TO BE APPLICABLE TO THE RELATED SYSTEM SCHEMATIC AND VICE-VERSA TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
- VERIFY STRUCTURAL INTEGRITY OF ALL TEMPORARY AND PERMANENT OPENINGS. ADDITIONAL FRAMING TO ENSURE STRUCTURAL INTEGRITY SHALL BE INCLUDED UNDER THIS CONTRACT.

- QUANTITY AND LOCATION OF SPRINKLER HEADS SHOWN TO AD IN PRICING ONLY. PROVIDE EXACT NUMBER OF HEADS TO SUIT DENSITY REQUIREMENTS AS SPECIFIED. LOCATIONS SHALL CONFORM TO ARCHITECTURAL REFLECTED CEILING PLANS AND SHALL MEET THE MINIMUM REQUIREMENTS OF NFPA 13 LATEST STANDARD.
- IN AREAS WHERE ONLY ZONING AND DENSITY IS SHOWN, THE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SPRINKLER LAYOUT, INCLUDING MAINS AND HEADS TO SUIT ARCHITECTURAL CEILING PLANS. PROPOSED LAYOUTS SHALL BE PROVIDED AS SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION.
- PROVIDE HIGH TEMPERATURE HEADS IN ALL ELECTRICAL AND COMMUNICATIONS ROOMS.
- PROVIDE ADEQUATE SPRINKLER COVERAGE IN MECHANICAL ROOMS IN ACCORDANCE WITH NFPA 13. PROVIDE SPRINKLER HEADS ABOVE AND BELOW DUCTS AND EQUIPMENT AS REQUIRED.
- FLOOR INDICATION AND PRESSURE SWITCHES ARE SHOWN FOR CLARITY ONLY AND ARE CONSIDERED PART OF A COMPLETE LISTED ALARM CHECK VALVE ASSEMBLY.
- SPRINKLER CONTRACTOR TO PROVIDE ENGINEER STAMPED SPRINKLER DRAWINGS AND HYDRAULIC CALCULATIONS.
- AT THE COMPLETION OF THE PROJECT, THE SPRINKLER CONTRACTOR TO PROVIDE AN ENGINEER SIGNED AND SEALED LETTER OF CONFIRMING THE INSTALLATION COMPLES WITH NFPA 13.
- PROVIDE GUARDS ON SPRINKLER HEADS IN CHANGE ROOMS, DYNAMISMS AND ANY OTHER AREAS SUSCEPTIBLE TO DAMAGING HEADS.
- FIRE PROTECTION SERVICES SHALL BE PROPERLY COORDINATED WITH OTHER TRADES PRIOR TO INSTALLATION. ANY INSTALLATION PRIOR TO THE REGULATION OF CONCRETE THROUGH THE INTERFERENCE PROCESS SHALL BE RECTIFIED AT THE EXPENSE OF THE SPRINKLER CONTRACTOR.



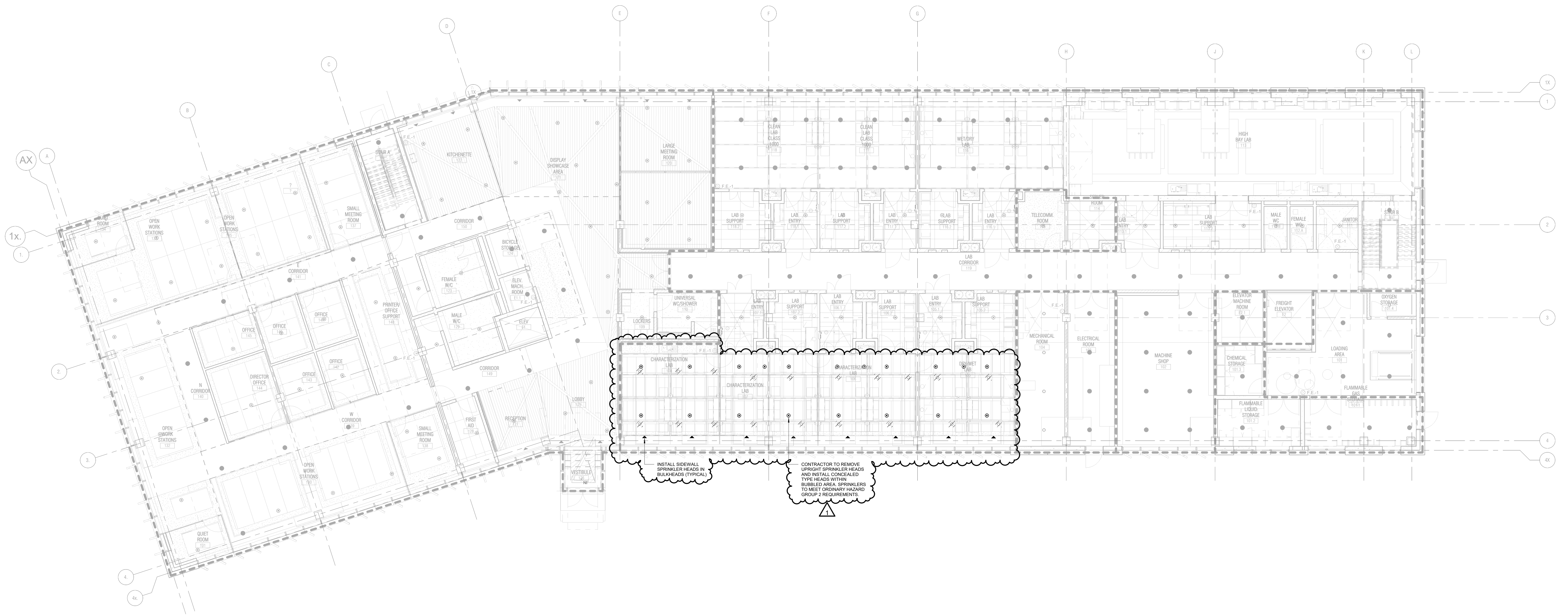
GENERAL NOTES

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DO NOT SCALE DRAWINGS.

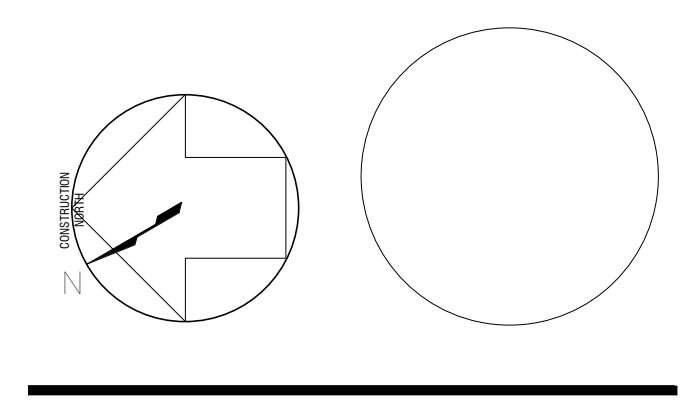
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No.	Issued for Tender (Laboratory)	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

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Project file:
 16158.000.M.011

Site du projet:
 2620 SPEAKMAN DRIVE
 MISSISSAUGA, ONTARIO
 L5K 2L1

NRC - MISSISSAUGA
 RESEARCH AND
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 FACILITY

SP- 17-37 W2

LEVEL 1 - FIRE PROTECTION

Drawn by: A.G.

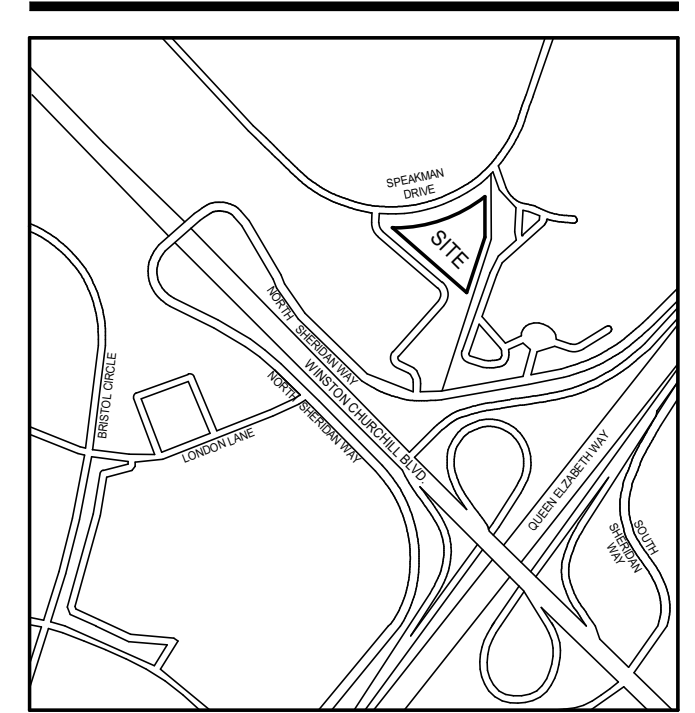
Designed by: E.G./L.

Approved by: D.C.

Bit Off:

Project date: 10/27/17
 Date du projet:

Project number: 16158.000.M.011
 no. du projet:

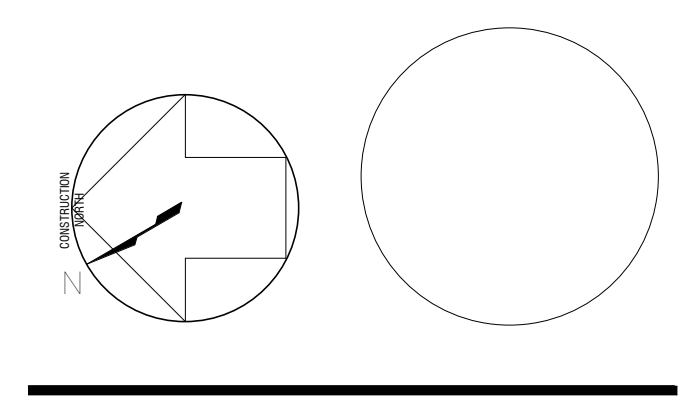


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No.	Issued For Tender (Laboratory)	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

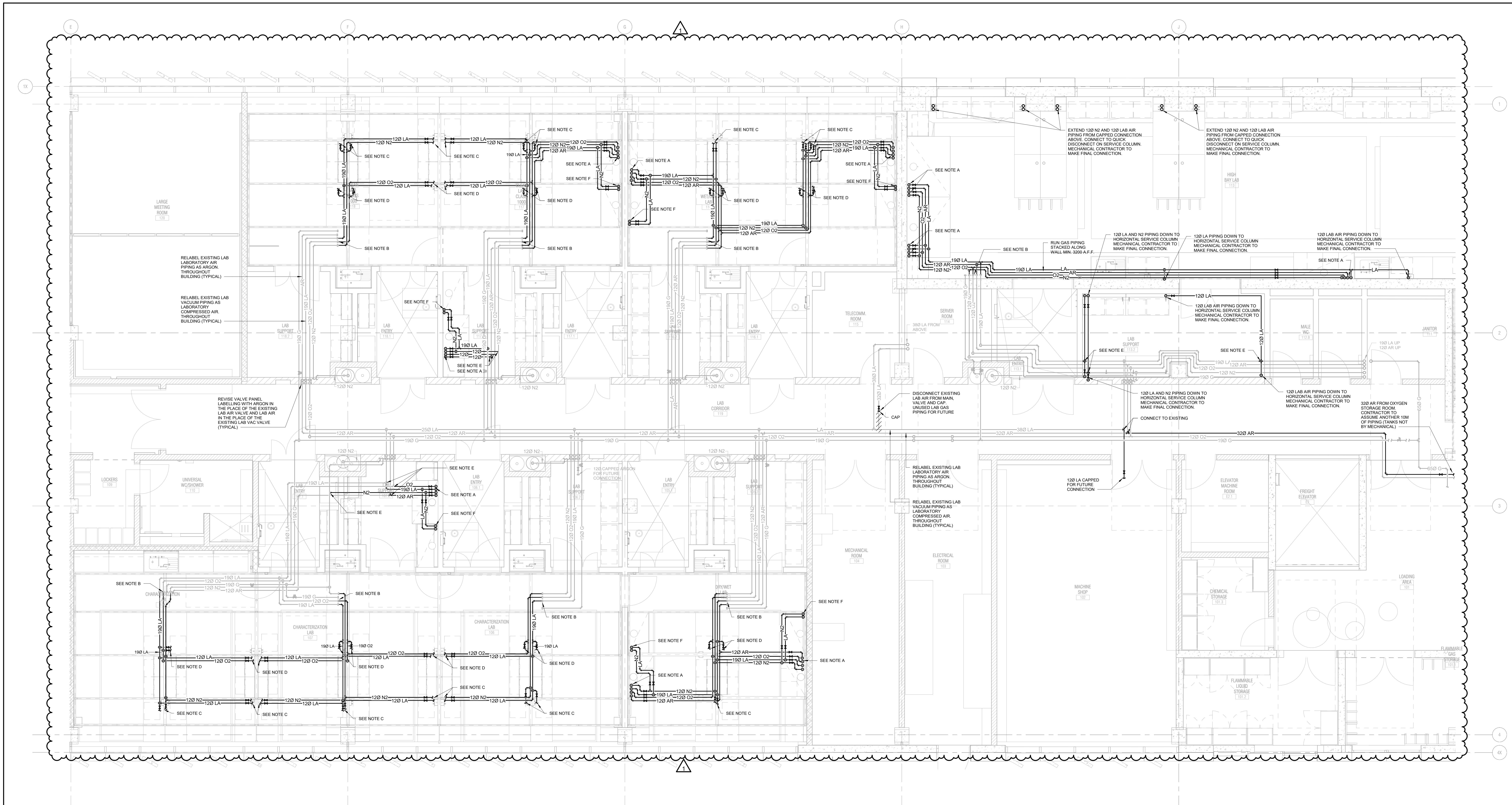
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Project Info
Site: du projet
2620 SPEAKMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1

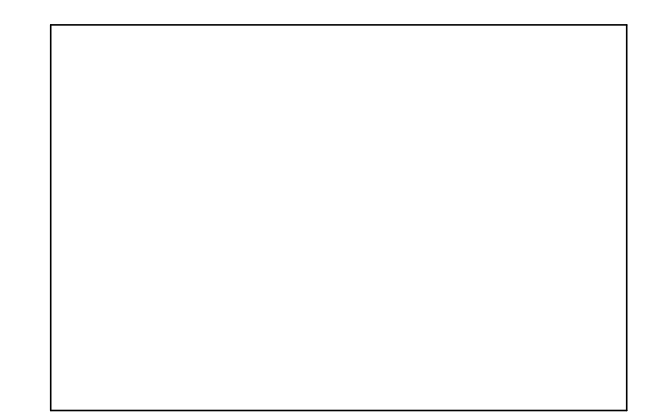
NRC - MISSISSAUGA
RESEARCH AND
DEVELOPMENT PILOT PLANT
FACILITY

SP- 17-37 W2
LEVEL 1 - MECHANICAL PIPING PART PLAN
LAB

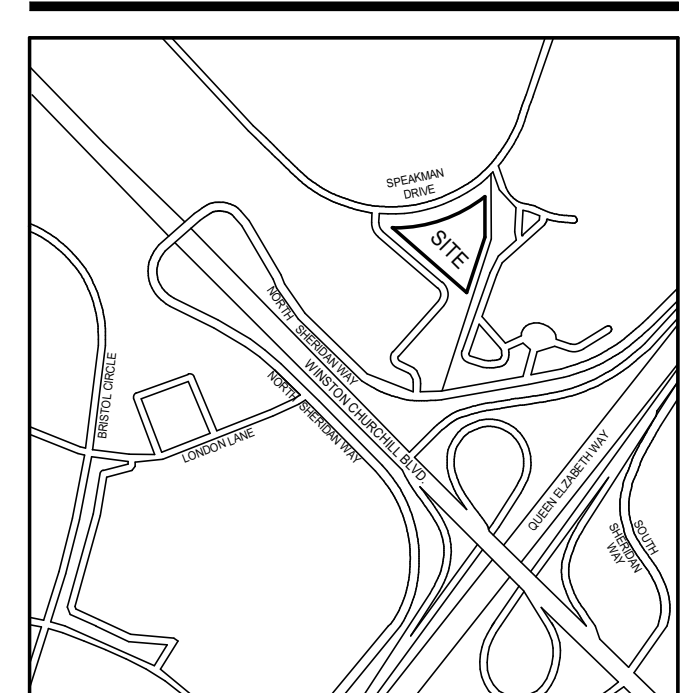
Drawn by: A.G.
Designed by: E.G./L.
Approved by: D.C.
Bid Offer:
Project date: 03/06/19
Date du projet:
Project number: 16158.000.M.011
no. du projet:



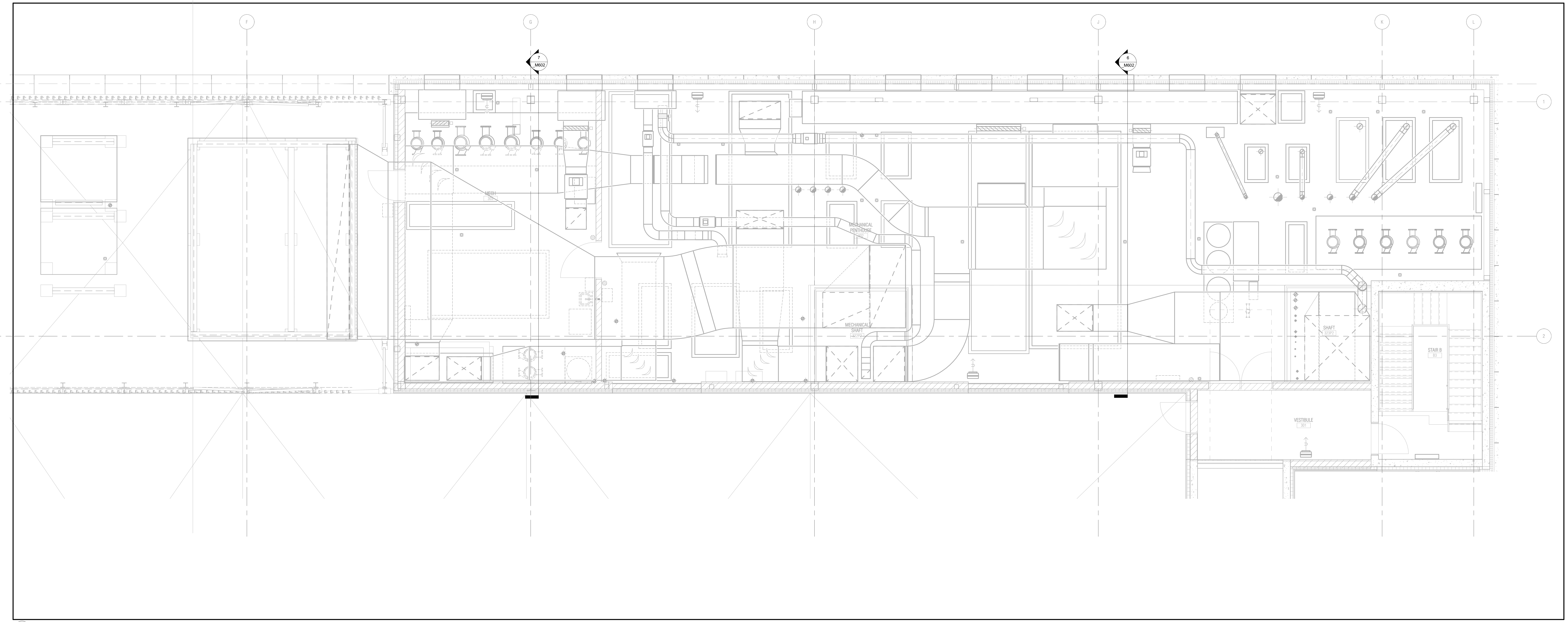
- LABORATORY PIPING NOTES**
- A. CONNECT 120 OXYGEN AND 120 LAB AIR, 120 NITROGEN AND 120 ARSON TO FUME HOOD CONNECTIONS. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - B. CONNECT 120 SPECIALTY GAS PIPING TO EXISTING CAPPED CONNECTIONS. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - C. CONNECT 120 NITROGEN AND LAB AIR TO QUICK DISCONNECT ON SERVICE COLUMN. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - D. CONNECT 120 OXYGEN AND LAB AIR TO QUICK DISCONNECT ON SERVICE COLUMN. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - E. CONNECT SPECIALTY GAS PIPING TO EXISTING CAPPED CONNECTIONS. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
 - F. CONNECT 120 NITROGEN AND 120 LAB AIR TO PERMANENT ENCLOSURE CONNECTIONS. MECHANICAL CONTRACTOR TO MAKE FINAL CONNECTION.
- PLUMBING AND DRAINAGE NOTES**
- 1. ALL LAB GAS PIPES SHALL BE MINIMUM 19mm (3/4") UNLESS INDICATED OTHERWISE.
 - 2. ALL SANITARY DRAINAGE BELOW GRADE SHALL BE MINIMUM 75mm (3") UNLESS INDICATED OTHERWISE.
 - 3. ALL FLOOR DRAINS SHALL BE COMPLETE WITH TRAPS AND TRAP PRIMERS UNLESS INDICATED OTHERWISE.
 - 4. ALL DOMESTIC COLD WATER AND DOMESTIC HOT WATER PIPES SHALL BE MINIMUM 19mm (3/4") UNLESS INDICATED OTHERWISE.
 - 5. ALL PIPING SHALL BE OVERHEAD, TIGHT TO UNDERSESS OR THE STRUCTURE WITH SUFFICIENT ROOM FOR INSULATION UNLESS INDICATED OTHERWISE. RUN PIPING WITHIN STRUCTURAL STEEL STRATA WHERE PRACTICAL AND IN EXPOSED OFFICE AREAS.
 - 6. PROVIDE PIPE HANG TRACING TO COVER THE QUANTITY OF PIPE INDICATED ON THE DRAWINGS. ANY PIPING ALTERATIONS DUE TO INTERFERENCES OR INSTALLATION SHALL BE ACCOMMODATED BY THE MECHANICAL CONTRACTOR. CONNECT TRACING CIRCUIT TO ELECTRICAL POWER LOCATIONS INDICATED ON THE DRAWINGS OR THE NEAREST CIRCUIT AVAILABLE BY ELECTRICAL.



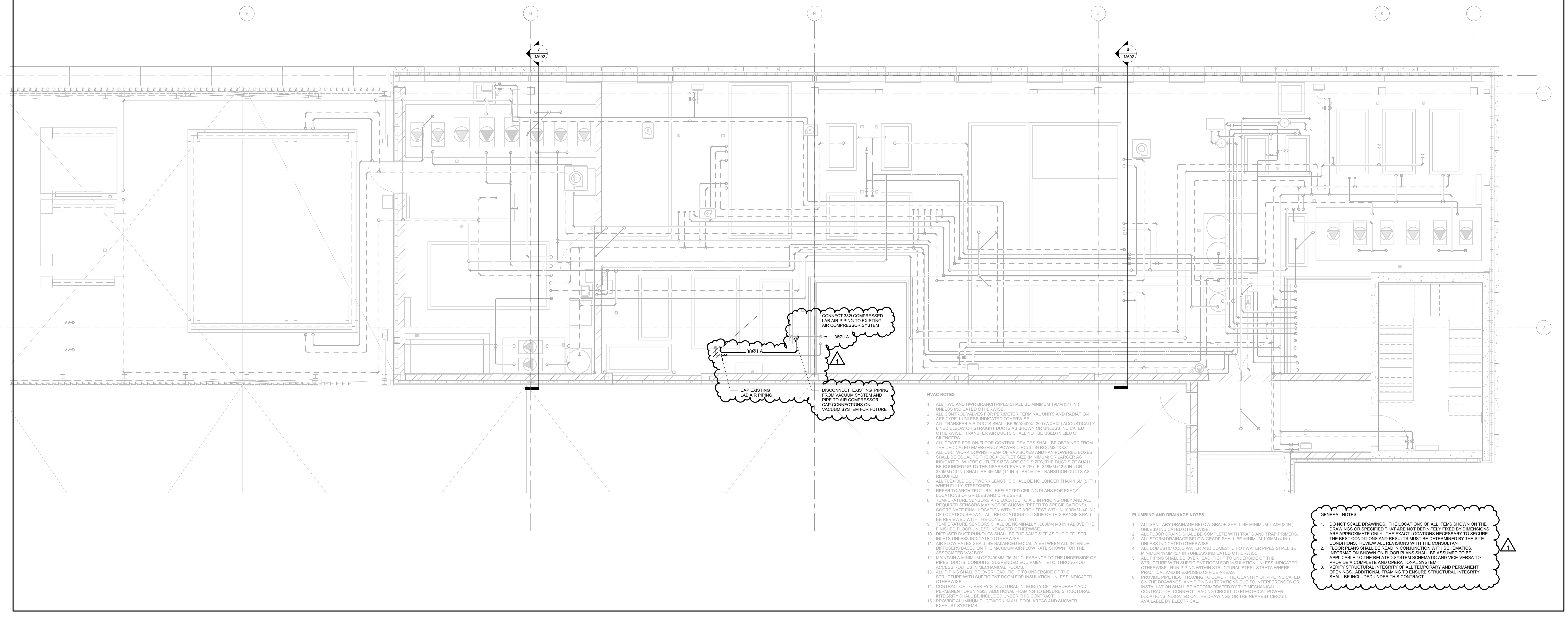
Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada



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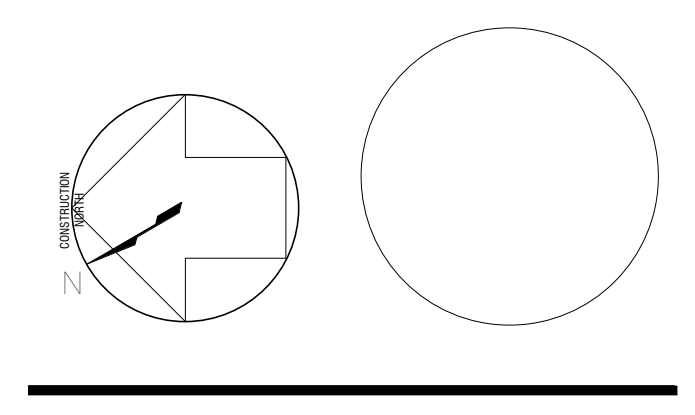
1 MECHANICAL PENTHOUSE PLAN (M002) 1:50



2 MECHANICAL PENTHOUSE PLAN PIPING (M003) 1:50

Smith + Andersen
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No.	Issued For Tender (Laboratory)	Date
1	ISSUED FOR TENDER (Laboratory)	02/07/2020

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Project File:
Site: M003
2620 SPEAKMAN DRIVE
MISSISSAUGA, ONTARIO
L5K 2L1
NRC - MISSISSAUGA
RESEARCH AND
DEVELOPMENT PILOT PLANT
FACILITY

SP- 17-37 W2

MECHANICAL PENTHOUSE PART PLANS

Drawn by: A.G.

Designed by: E.G./L.

Approved by: D.C.

Bid Offer:

Project date: 10/27/17

Date of project:

Project number: 16158.000.M.011

No. du projet:

Project number: 16158.000.M.011

No. du projet:

M603