

EngA ENGINEERED AIR		UNIT SCHEDULE	
PROJECT NAME LIBURDI FILER ENGINEERING LTD.			
EQUIPMENT TAG UNIT MODEL	AMU-1 FWX104DJD00/MV	AMU-2 FWX163DJD00/MV	
COOLING R-454B - 4 COMPRESSORS R-454B - 4 COMPRESSORS			
Capacity (Tons / Sensible MBH)	127 / 77	185 / 115	
LGB / EWB (°F)	90.0 / 73.0	80.0 / 72.0	
LDB / LWB (°F off coil)	54 / 53.8	54.8 / 54.6	
Water Removal (lb / hr)	44.4	65.1	
Published Eff. AHR 340360-2007 (EER/EER)	12.5 / 15.0	11.7 / 14.5	
Min Efficiency per CSA C446-17 (EER/EER)	11.0 / 12.4	11.0 / 12.4	
HEATING 91% EFF. INDIRECT FIRED - 18:1 TURNDOWN 91% EFF. INDIRECT FIRED - 18:1 TURNDOWN			
Gas Furnace (MBH or t out)	900 / 162	500 / 275	
Temperature Rise (°F)	84	84	
SUPPLY FAN UNIT MOUNTED VFD (80% MIN.) UNIT MOUNTED VFD (80% MIN.)			
Volume (CFM)	2000	3000	
ESPTSP (°W)	0.375 / 3.575	0.375 / 3.455	
RPM	1800	1800	
BeltType	3 / 1.94	5 / 2.72	
SizeType	1212 FC DOW	1212 FC DOW	
PRE-FILTER MERV 8 MERV 8			
Type	2" PLATED	2" PLATED	
FINAL FILTER MERV 13 MERV 13			
Type	4" PLATED	4" PLATED	
POWER REQUIREMENTS MAIN POWER MAIN POWER			
Voltage/Hertz	575/3460	575/3460	
NACA [A]	30.00	35.00	
MOCF [A]	30.00	40.00	
MISCELLANEOUS 4200 5000			
Approx. weight [kg]	INCL. 18" CURB	INCL. 18" CURB	
REMARKS			
All data to be confirmed at time of shop drawings			
Weights based on 18ga. Casing, 2" x 1.59 insulation, 22ga. Internal liner, 18" non-seismic curb			
Custom packaged cooling units must conform to regulations set out in the Canadian Energy Efficiency Act for large air conditioners as set out in the Energy Efficiency Regulations of the Ontario Electricity Act. Packaged units shall be third party energy verified and tested to CSA Standard CT46-17 and must bear an EEV (energy efficiency verification) label provided by CSA. Field approval will not be accepted as equal, or alternate			

HAMILTON SALES
DRAWING SUBJECT TO CHANGE

DOOR SIZES AND INTERNAL COMPONENTS ARE APPROX. VALUES. DIMENSIONS SHOWN IN INCHES ONLY UNLESS OTHERWISE NOTED.

LIBURDI TAG: AMU-1 FWX104DJD00/MV
Preliminary Drawing Only - Not for Construction.
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EngA | ENGINEERED AIR

HAMILTON SALES
DRAWING SUBJECT TO CHANGE

DOOR SIZES AND INTERNAL COMPONENTS ARE APPROX. VALUES. DIMENSIONS SHOWN IN INCHES ONLY UNLESS OTHERWISE NOTED.

LIBURDI TAG: AMU-2 FWX163DJD00/MV
Preliminary Drawing Only - Not for Construction.
Generated by: DATE: JUL 28 2026 DRAWN BY: QSB CHECK BY: QSB DRWG NO.:
EngA | ENGINEERED AIR

1 MO.02

AMU-1 & AMU-2 UNITS

SCALE: N.T.S.



PIPING MATERIALS						
EXT-EXTERIOR		BUR-BURIED PIPING				
		A.G.-ABOVE GRADE				
	EXT	INT	BUR	A.G.	MATERIAL	CODE
SANITARY SEWERS- ALL SIZES	✓	✓	✓	✓	CAST IRON IPEX PSM	CSA B70 ASTM B182-1
	✓	✓	✓	✓	COPPER DWV ABS	ASTM B42 CSA B181.1
	✓	✓	✓	✓	PVC	CSA B181.2
	✓	✓	✓	✓	CAST IRON	CSA B70
	✓	✓	✓	✓	REINF. CONCRETE	CSA A257
STORM SEWERS	✓	✓	✓	✓	IPEX PSM	CSA B182-1
	✓	✓	✓	✓	CAST IRON ABS	CSA B70 ASTM B181
	✓	✓	✓	✓	IPEX PSM	CSA B182-1
VENTING	✓	✓	✓	✓	CAST IRON	CSA B70
	✓	✓	✓	✓	TYPE L COPPER	ASTM B88
	✓	✓	✓	✓	CAST IRON ABS	CSA B70 ASTM B181
COLD WATER	✓	✓	✓	✓	COPPER DWV	ASTM B206
	✓	✓	✓	✓	CAST IRON	CSA B70
	✓	✓	✓	✓	SOFT K COPPER	ASTM B88
DOMESTIC HOT WATER	✓	✓	✓	✓	DUCTILE IRON CLASS 52	ANSI/ AWWA C151/A21.51
	✓	✓	✓	✓	IPEX PVC	CSA B182-1
	✓	✓	✓	✓	TYPE L COPPER	ASTM B88
FIRE PROTECTION STANDPIPE TO 50 DIA	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
65 TO 150 DIA	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
NATURAL GAS TO 50 DIA	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
65 TO 150 DIA	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
COMPRESSED AIR	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
	✓	✓	✓	✓	STEEL	ASTM A53
ARGON	✓	✓	✓	✓	TYPE L COPPER	ASTM B88
	✓	✓	✓	✓	TYPE L COPPER	ASTM B88
	✓	✓	✓	✓	TYPE L COPPER	ASTM B88

PLUMBING FIXTURE SCHEDULE											
FIXT. TYPE	TAG	MODEL No.	BASE BID DESCRIPTION / ACCESSORIES	EQUAL	MOUNTING HEIGHT	HW (mm)	CW (mm)	WASTE (mm)	VENT (mm)	WORK BY DIV. 16000	
WATER CLOSET (TANK TYPE)	WC-1	AMERICAN STANDARD CADET MODEL No: 215CA.104	- FLOOR MOUNTED, FLUSH TANK, VITREOUS CHINA - 4.8 LPF, ELONGATED BOWL, TOUCHLESS TANK WITH SENSOR #4000709 (BATTERY POWER) - 380mm TO TOP OF BOWL - SYPHON ACTION BOWL, ANTIMICROBIAL SURFACE - FLOOR FLANGE & GASKET, BOLT CAPS, STAINLESS BRADED SUPPLY. - SEAT: AMERICAN STANDARD #525TA85MT, COLOUR WHITE.	KOHLER	---	---	13	80	40	---	
WATER CLOSET	WCH-1	AMERICAN STANDARD CADET MODEL No: 2467.100	- FLOOR MOUNTED, BARRIER FREE, FLUSH TANK, VITREOUS CHINA - 4.8 LPF, ELONGATED BOWL, TOUCHLESS TANK WITH SENSOR #4000709 (BATTERY POWER) - PRESSURE-ASSISTED SYPHON JET FLUSH - 420mm TO TOP OF BOWL - FLOOR FLANGE & GASKET, BOLT CAPS - SEAT - OPEN FRONT, SOLID PLASTIC WITH COVER WITH STAINLESS STEEL CHECK HINGE & STAINLESS STEEL POST & HARDWARE (COLOUR BY ARCHITECT) - OLSONITE No. 96SSTL, WITH COVER	KOHLER	---	---	13	80	40	---	
URINALS	UR-1	AMERICAN STANDARD WASHBROOM FLOWISE 6590.001	- INTEGRAL FLUSHING RIM, EXTENDED SHIELDS, VITREOUS CHINA - 0.125 GPF ULTRA HIGH EFFICIENCY UNIVERSAL URINAL - WASHOUT ACTION - 0.125GPF (1.0 LPF) SLOAN ROYAL 186-0.25 HEU URINAL FLUSH VALVE - STRAINER - #GH-6339 - TOP SPUD - WALL CARRIER - SMITH #637 OR ZURN TO SUIT	KOHLER BARDON K-4904	STANDARD 22" (560mm) JUTITE 10" (400mm)	---	20	50	40	---	
LAVATORIES	LAV-1	AMERICAN STANDARD DECOLYN #9321	- BARRIER FREE WALL HUNG BASIN, VITREOUS CHINA (470mm x 452mm x 150mm DEEP) - MOEN MPOWER 8553 SENSOR OPERATED SINGLE HOLE FAUCET, SELF ADAPTIVE SENSOR DISTANCE ADJUSTMENT, 120 VOLT POWERED W/INTEGRAL ABOVE DECK COMPONENTS, AC TRANSFORMER #104630 FOR MOUNTING ON STD. JUNCTION BOX, 18" POWER EXTENSION, AC CONNECTION CABLE, 0.5 GPM (1.9 LPM) VANDER, RESISTANT AERATOR, FLEXIBLE ST.ST. SUPPLY TUBE W/ INLINE STRAINER INTEGRAL CHECK VALVE, #96557 ADAPTER PLATE FOR SINGLE HOLE MOUNTING. 120V POWER BY DIV. 16000 - LEAD FREE FAUCET, <0.25% LEAD BY WEIGHT, MAX. FLOW 1.9 LITRE/MIN. - OFFSET CHROME PLATED BRASS "P" TRAP - DRAIN FITTINGS, OFFSET GRID DRAIN - MIXING VALVE - WATTS #LFMMV-M1 - CONCEALED FLOOR MOUNTED ARM CARRIER, ZURN MODEL TO MATCH - STAINLESS STEEL, BRADED FLEX SUPPLIES, OFFSET, CHROME PLATED, BRASS STOPS	KOHLER	AS PER ARCH. 865mm (34")	13	13	40	32	120V/10 IN J.B. BELOW SINK G.F.I.C.	
LAVATORIES	LAVH-1	AMERICAN STANDARD MURRO UNIVERSAL DESIGN 0954.004	- BARRIER FREE WALL HUNG BASIN - VITREOUS CHINA - MOEN MPOWER 8553 SENSOR OPERATED SINGLE HOLE FAUCET, SELF ADAPTIVE SENSOR DISTANCE ADJUSTMENT, 120 VOLT POWERED W/INTEGRAL ABOVE DECK COMPONENTS, AC TRANSFORMER #104630 FOR MOUNTING ON STD. JUNCTION BOX, 18" POWER EXTENSION, AC CONNECTION CABLE, 0.5 GPM (1.9 LPM) VANDER, RESISTANT AERATOR, FLEXIBLE ST.ST. SUPPLY TUBE W/ INLINE STRAINER INTEGRAL CHECK VALVE, #96557 ADAPTER PLATE FOR SINGLE HOLE MOUNTING. 120V POWER BY DIV. 16000. - LEAD FREE FAUCET, <0.25% LEAD BY WEIGHT, MAX. FLOW 1.9 LITRE/MIN. - OFFSET CHROME PLATED BRASS "P" TRAP - DRAIN FITTINGS, OFFSET GRID DRAIN - MIXING VALVE - WATTS #LFMMV-M1 - CONCEALED FLOOR MOUNTED ARM CARRIER, ZURN MODEL TO MATCH - STAINLESS STEEL, BRADED FLEX SUPPLIES, OFFSET, CHROME PLATED, BRASS STOPS	KOHLER	AS PER ARCH. 865mm (34")	13	13	40	32	120V/10 IN J.B. BELOW SINK G.F.I.C.	
WASH FOUNTAIN	WF-1	BRADLEY MODEL No: WF2703	- BRADLEY 36" SEMICIRCULAR, 1.25 GPM STAINLESS STEEL CLASSIC 3 USER WASHFOUNTAIN - 14 GAUGE STAINLESS STEEL WITH #4 POLISHED FINISH - LEAD FREE FIXTURE, <0.25% LEAD BY WEIGHT - LEAD FREE THERMOSTATIC MIXING VALVE - SPRAY HEAD WITH STAINLESS STEEL SUPPORT TUBE - VOLUME CONTROL, 2 STOP STRAINER AND CHECK VALVES - LIQUID SOAP DISPENSER - INFRARED CONTROL - PRESSURE REDUCING VALVE, WATTS #LFUSB-23-HP	---	STANDARD 28" (711mm) JUVENILE 24" (610mm)	13	13	50	40	●	
COUNTER SINK (LEDGE BACK)	CS-1	FRANKE LBS4607-1	- SINGLE BOWL STAINLESS STEEL (480mm x 460mm x 180mm-OVERALL) - 40mm CAST BRASS "P" TRAP - BALL VALVE STOPS, FLEX SUPPLIES - TRIM FAUCET - DELTA TECK #28C3-153, 8" SWING SPOUT (LEAD FREE FAUCET, <0.25% LEAD BY WEIGHT) - MAX. FLOW 1.9 LITRE/MIN. - MIXING VALVE - WATTS #LFMMV-M1	AMI	AS PER ARCH	13	13	40	32	---	
COUNTER SINK (LEDGE BACK)	CS-2	KNORDE LB06407-1	- DOUBLE BOWL STAINLESS STEEL (790mm x 520mm x 180mm) - 40mm CAST BRASS "P" TRAP - BALL VALVE STOPS, FLEX SUPPLIES - TRIM FAUCET - DELTA TECK #28C3-153, 8" SWING SPOUT (LEAD FREE FAUCET, <0.25% LEAD BY WEIGHT) - MAX. FLOW 1.9 LITRE/MIN. - MIXING VALVE - WATTS #LFMMV-M1	AMI WATTS VALVE	AS PER ARCH	13	13	40	32	---	
EMERGENCY SHOWER	EWS-1	BRADLEY MODEL No: S19-314-0A1-ABBA-00	- COMBINATION EMERGENCY DRENCH SHOWER / EYE/FACE WASH UNIT - PLASTIC BOWL, PLASTIC DUST COVER - STAINLESS STEEL HANDLE	HAWS	---	20	25	100	40	---	
EMERGENCY MIXING VALVE (FOR DRENCH SHOWER)	EMV-2	BRADLEY NAVIGATOR MODEL No: S19-2100	- EMERGENCY THERMOSTATIC MIXING VALVE, C.S.A. CERTIFIED - 3/4" INLET AND 1" OUTLET	---	---	20	25	---	---	---	
SHOWER	SH-1	BRADLEY MODEL No: S59-1005HD	- EQUA-FLO HD PRESSURE BALANCING VALVE - STAINLESS STEEL, & BRASS CONSTRUCTION, STAINLESS STEEL BALANCING PISTON, TAMPER RESISTANT BRASS LIMIT STOP, LEVER HANDLE, 1/2" CHROME PLATED BRASS STEM - MAX. FLOW 5.7 LITRE/MIN. - SHOWER HEAD - 140-DY DELUXE SHOWER HEAD (CHROME PLATED BRASS BODY)	AMERICAN STANDARD SYMMONS	CENTRE OF OUTLET: MENS 6'-10" (2080) WOMENS 6'-8" (1980)	13	13	75	40	---	
TRENCH DRAINS	TD-	AS PER DRAWING M1.04	- REFER TO SPECIFICATIONS ON DRAINAGE DRAWING, M1.04	---	---	---	10	---	---	---	
TRAP SEAL PRIMER VALVE	TSP	PRECISION PLUMBING PRODUCTS PT-1320	- ELECTRONIC FLUSH MOUNT TRAP PRIMING ASSEMBLY - ATMOSPHERIC VACUUM BREAKER, PRE-SET 24 HR. CLOCK, MANUAL OVER RIDE SWITCH, 120V SOLENOID VALVE, CALIBRATED MANIFOLD FOR EQUAL WATER DISTRIBUTION	---	---	---	13	---	---	●	
HOSE BBB	HB	WATTS #SC-3	- 3/4" BRASS BALL VALVE C/W HOSE END AND VACUUM BREAKER	ZURN	---	---	20	---	---	---	
NON FREEZE HOSE BBB	NFHB	WATTS HY-725-K	- ENCASED RECESSED NON-FREEZE WALL HYDRANT - WITH NPS 3/4" HOSE OUTLET - REMOVABLE OPERATING KEY - POLISHED BRONZE FINISH WITH VACUUM BREAKER	ZURN	---	---	20	---	---	---	

[illegible]

DIVISION 15900 CONTROL/B.A.S. WIRING NOTES

C1	DIVISION 15900 TO PROVIDE ALL CONTROL WIRING AND CONTROL DEVICES FOR CHILLER UNIT AND EVAPORATOR OPERATIONS.	C12	LOCATE ALL 6-HOUR OVERRIDE TIMERS CENTRALLY AT CUSTODIAN RECEIVING AREA.
C2	FLOW SWITCH SUPPLIED WITH UNIT. WIRING BY 15900. CONTROL WIRING BETWEEN CHILLER AND EVAPORATOR UNIT BY DIV. 15900.	C13	REFRIGERANT MONITORING PANELS SUPPLIED BY DIVISION 15900 SHALL WIRE FREON ALARM DEVICES IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
C3	DAMPER SUPPLIED WITH UNIT. 15900 TO SUPPLY ACTUATORS, WIRE AND PROVIDE END SWITCH(S).	C14	DIVISION 15900 TO PROVIDE UNIT B.A.S. CONTROLLER IN HVAC EQUIPMENT. WIRE TO TERMINAL STRIP IN HVAC UNIT.
C4	CONTROL AND SAFETY DEVICES SUPPLIED WITH HUMIDIFIER. 15900 SHALL WIRE CONTROL AND SAFETY DEVICES IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.	C15	DIVISION 15900 TO WIRE FLOW SWITCHES, SENSORS AND LOOSE CONTROL DEVICES FOR BOILERS.
C5	15900 TO PROVIDE DAMPER, DAMPER ACTUATORS AND CONTROL WIRING WITH END SWITCH INTERLOCKS.	C16	DIVISION 15900 TO WIRE ALL DOMESTIC HOT WATER CONNECTING WIRING, DEVICES, CONTROL PANEL AND FLOW SWITCHES.
C6	LOW LIMIT THERMOSTAT SUPPLIED AND INSTALLED BY DIV. 15900.	C17	MOTORIZED DAMPERS SHALL BE EQUIPPED WITH END SWITCHES. DIVISION 15900 SHALL WIRE THE END SWITCHES AS INTERLOCK FOR STARTING SUPPLY AND EXHAUST FANS.
C7	HIGH LIMIT THERMOSTAT SUPPLIED WITH UNIT. CONTROL WIRING BY DIV. 15900.	C18	DIVISION 15900 SHALL WIRE ALL MAKEUP AIR UNIT CONTROL PANELS, SENSORS AND LOOSE CONTROL DEVICES WITH REMOTE TEMPERATURE CONTROL.
C8	THERMOSTAT AND SPEED CONTROL SUPPLIED WITH UNIT. CONTROL WIRING BY DIV. 16.	C19	DIVISION 15900 SHALL WIRE THE DIVISION 15900 PROVIDE DIFFERENTIAL SENSOR DIRECTLY TO B.A.S. CONTROL PANEL. PRESSURE REMOTE B.A.S. STATUS OUTPUT FROM PANEL.
C9	REMOTE CONTROL PANEL SUPPLIED WITH UNIT. CONTROL WIRING BY 15900.	C20	DIVISION 15900 TO WIRE CONTROLS AND INTERCONNECTING WIRING BETWEEN INDOOR AND OUTDOOR UNITS.
C10	CLASSROOM AND ADMINISTRATION SPACE TEMPERATURE(S) SENSOR SHALL BE COMELETE WITH SLEDS AND PROGRAMMABLE LIMITS.		
C11	PHOTO CELL AND CONTACTOR SUPPLIED AND INSTALLED BY DIV. 16. STATUS WIRING BY 15900.		

GRILLE AND DIFFUSER SCHEDULE						
- BASED ON E.H. PRICE PRODUCTS						
TYPE	TAG	MODEL	MOUNT	SIZE	FINISH OPTIONS	
SUPPLY	S1	24x24 SCDA	T-BAR	NECK:	B-12 FINISH	
SUPPLY	S2	12x12 SCDA	T-BAR	UP TO 100 CFM - 6"Ø		
				101 TO 150 CFM - 7"Ø		
				151 TO 250 CFM - 8"Ø		
				251 TO 300 CFM - 10"Ø		
				301 TO 400 CFM - 12"Ø		
SUPPLY	S3	NT22	FRAME	AS SHOWN	B-12 FINISH, OBD	
SUPPLY	S4	HCD1	DUCT MOUNT	18x10		
SUPPLY	S5	HCD1	DUCT MOUNT	24x10		
RETURN	R1	TB80	T-BAR	50 TO 400 CFM - 12"x12"	B-12 FINISH, OBD	
RETURN	R2	NT80	DRYWALL	401 TO 700 CFM - 12"x24"		
				701 TO 1400 CFM - 24"x24"		
EXHAUST	E1	TB80	T-BAR	50 TO 100 CFM - 6"x6"	B-12 FINISH, OBD	
EXHAUST	E2	NT80	DRYWALL	101 TO 200 CFM - 6"x8"		
EXHAUST	E3	ED-80	DUCT MOUNT	201 TO 300 CFM - 10"x10"		
				301 TO 400 CFM - 12"x12"		

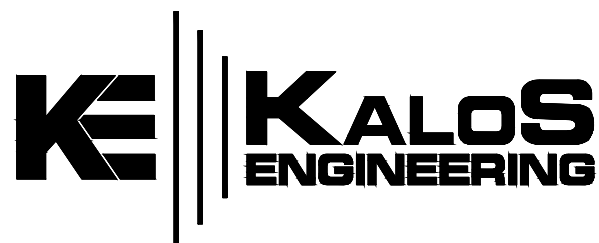


Filer Engineering Ltd.

1046 Botanical Drive
Burlington, Ontario
L7T 1V1
Phone: (905) 526-7411
Project #: F1500

2	AUG. 20, 2026	ISSUED FOR PERMIT/TENDER
1	7/23/26	ISSUED FOR COMMENT
No.	DATE	REVISION

REVISIONS



300 YORK BLVD HAMILTON, ONTARIO L8R 3K6 905-333-9115

LIBURDI AUTOMATION INC.
PROPOSED
MANUFACTURING ADDITION

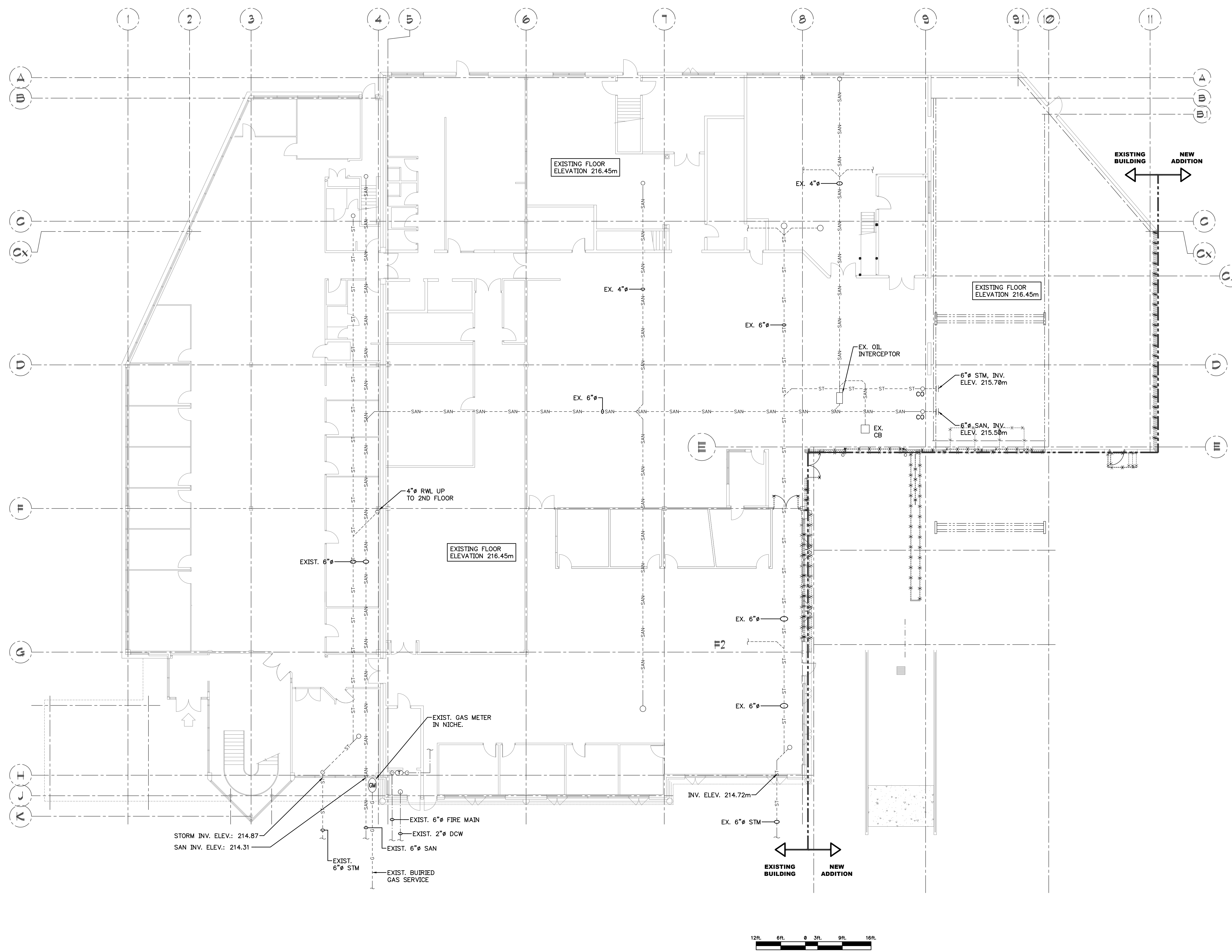
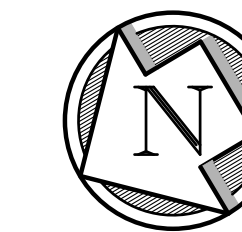
45 INNOVATION DRIVE

DUNDAS

ONTARIO

SCHEDULES

DATE <i>JUNE 2025</i>	DRAWN BY <i>ARC</i>	DRAWING No. <i>MO.03</i>
PROJECT No. <i>23185</i>	CHECKED BY <i>BP/DSF</i>	



Filer Engineering Ltd.
1046 Botanical Drive
Burlington, Ontario
L7T 1V1
Phone: (905) 526-1411
Project #: F502

No.	DATE	REVISION
2	AUG. 20, 2026	ISSUED FOR PERMIT/TENDER
1	7/23/26	ISSUED FOR COMMENT

REVISIONS

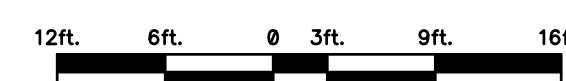
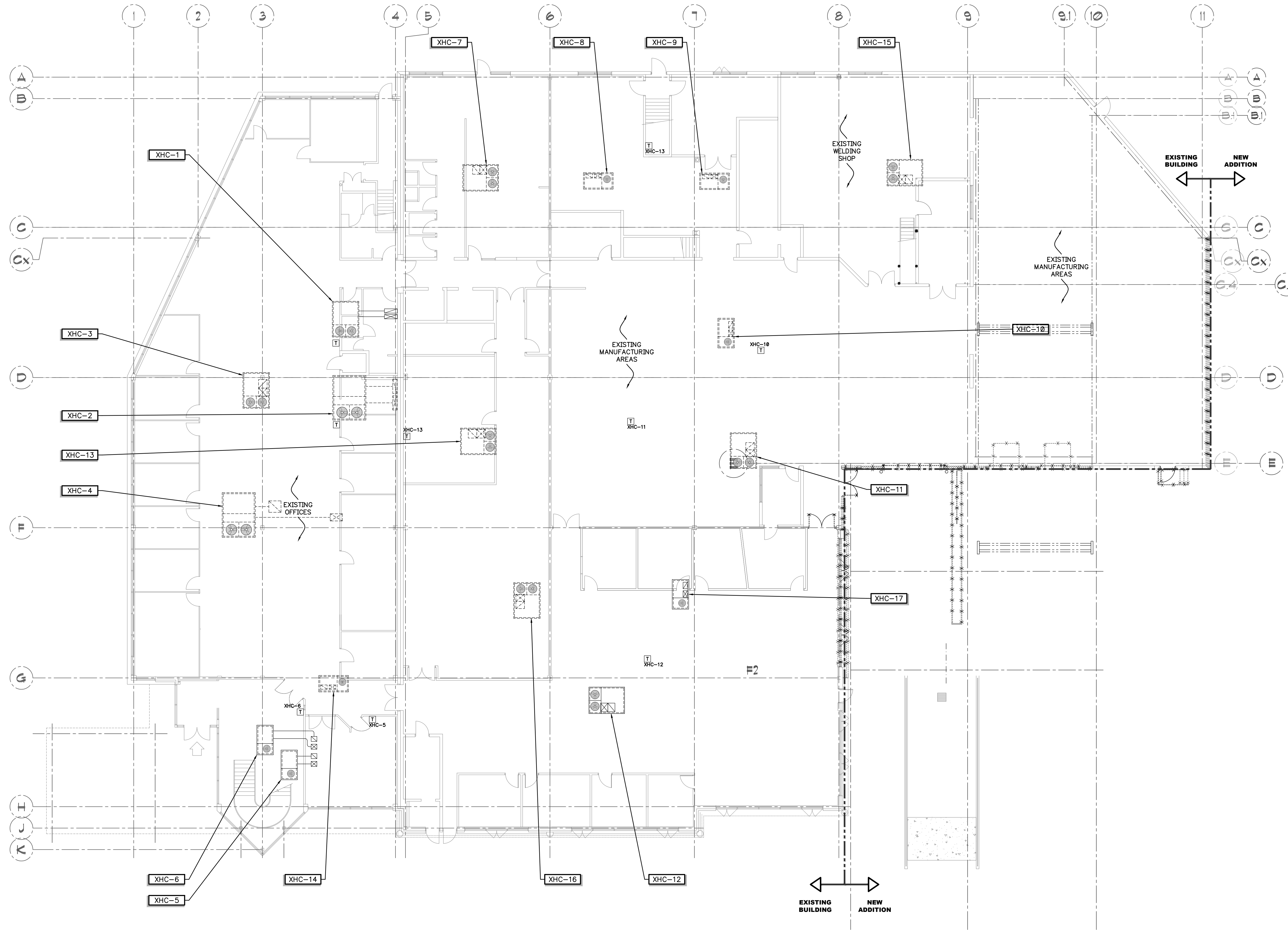
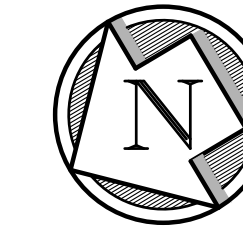
KALOS ENGINEERING

300 YORK BLVD. HAMILTON, ONTARIO L8R 3K6 905-333-9119

LIBURDI AUTOMATION INC.
PROPOSED
MANUFACTURING ADDITION

45 INNOVATION DRIVE
DUNDAS ONTARIO

EXISTING BUILDING DRAINAGE		
DATE JUNE 2025	DRAWN BY ARC	DRAWING No. M1.01
PROJECT No. 23185	CHECKED BY BP/DSF	

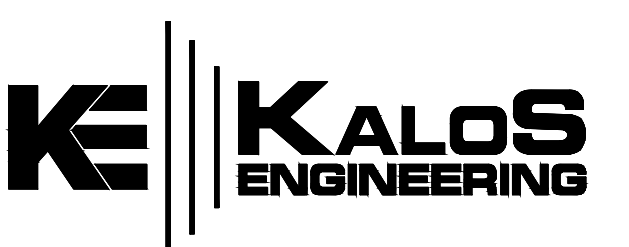


Filer Engineering Ltd.

1046 Botanical Drive
Burlington, Ontario
L7T 1V1
Phone: (905) 526-1411
Project #: FB20

No.	DATE	REVISION
2	AUG. 20, 2026	ISSUED FOR PERMIT/TENDER
1	7/23/26	ISSUED FOR COMMENT

REVISIONS



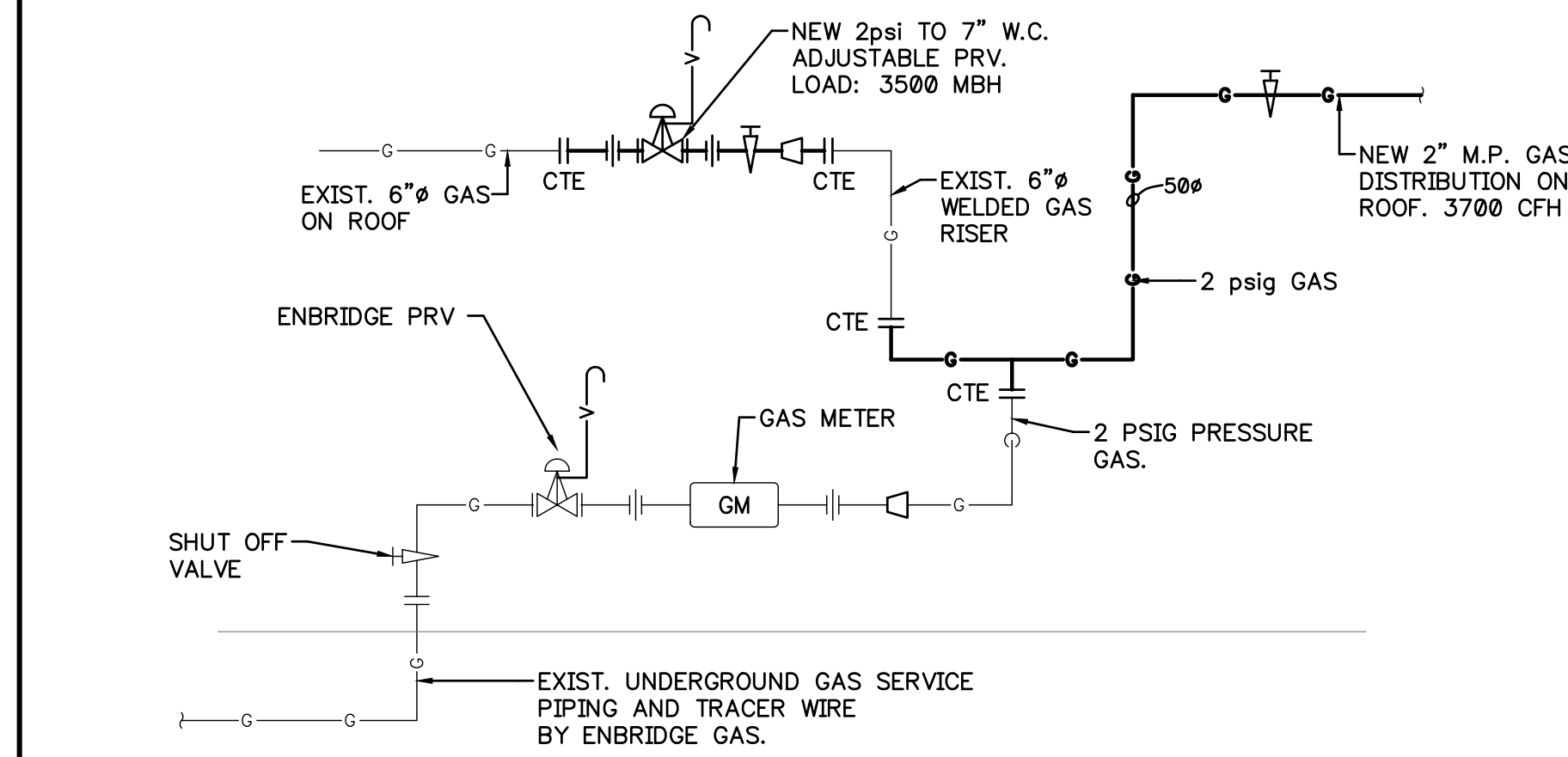
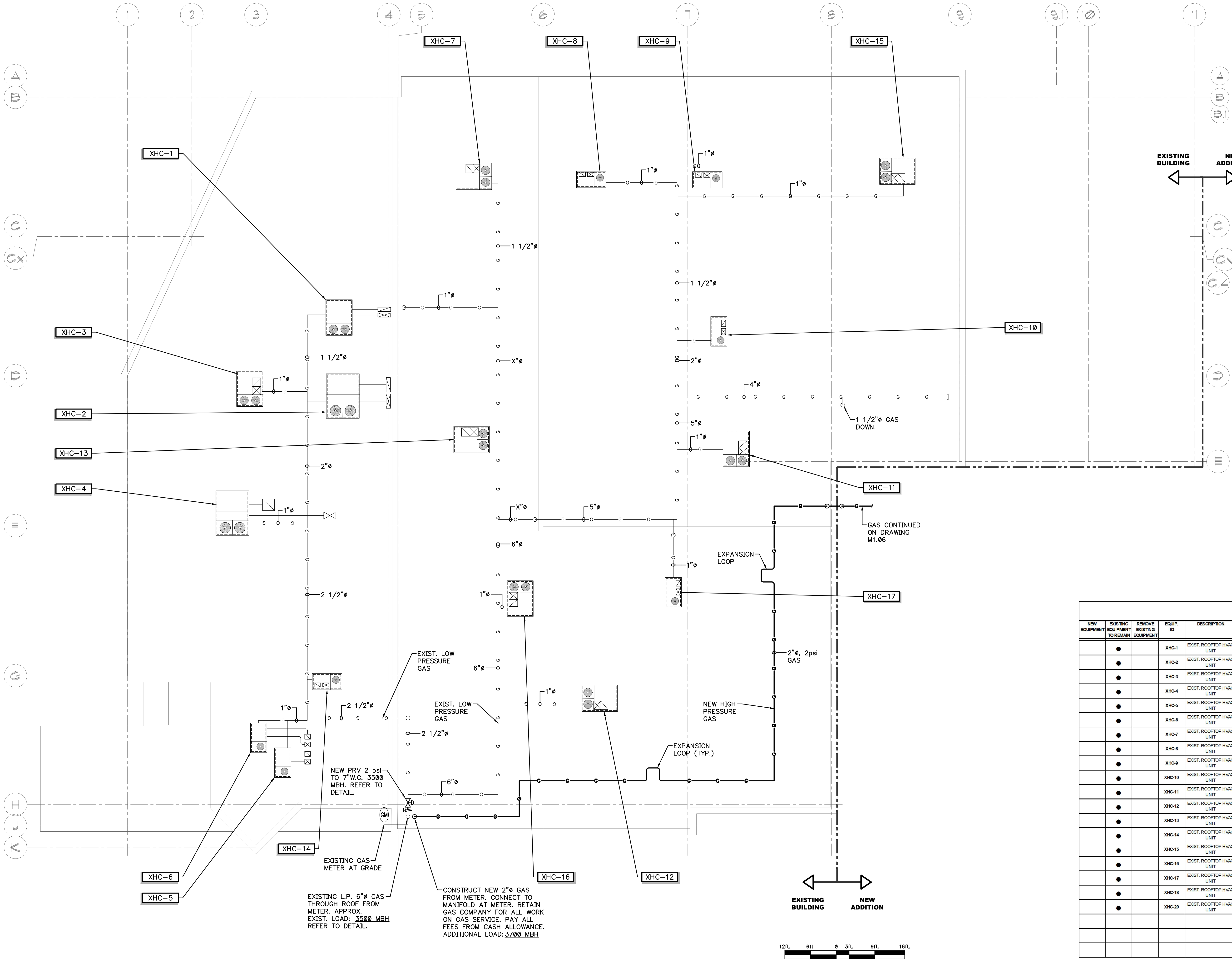
300 YORK BLVD. HAMILTON, ONTARIO L8R 3K6 905-333-9119

LIBURDI AUTOMATION INC.
PROPOSED
MANUFACTURING ADDITION

45 INNOVATION DRIVE
DUNDAS ONTARIO

EXISTING BUILDING
GROUND FLOOR HVAC

DATE JUNE 2025	DRAWN BY ARC	DRAWING No. M1.02
PROJECT No. 23185	CHECKED BY BP/DSF	



2 GAS METER DETAIL
M1.03 SCALE: N.T.S.

EXISTING ROOFTOP HVAC EQUIPMENT SCHEDULE													
NEW EQUIPMENT	EXISTING EQUIPMENT TO REMAIN	REMOVE EXISTING EQUIPMENT	EQUIP. ID	DESCRIPTION	MODEL NUMBER	MANUFACTURER	FLOW (CFM)	PRESS. (IN)	COOLING CAP (MBH) (TOTAL)	HEATING CAP (MBH)	SPEED (RPM)	VOLT.	LOAD (LBS)
	●		XHC-1	EXIST. ROOFTOP HVAC UNIT	D3C0208N165	YORK	3000	1.0	90	204 IN 163 OUT	800V/3Ø		1700
	●		XHC-2	EXIST. ROOFTOP HVAC UNIT	D3C0189N320	YORK	6000	1.2	180	400 IN 320 OUT	800V/3Ø		2800
	●		XHC-3	EXIST. ROOFTOP HVAC UNIT	D3C0208N165	YORK	6000	1.0	90	204 IN 163 OUT	800V/3Ø		1700
	●		XHC-4	EXIST. ROOFTOP HVAC UNIT	D3C0189N320	YORK	6000	1.2	180	400 IN 320 OUT	800V/3Ø		2800
	●		XHC-5	EXIST. ROOFTOP HVAC UNIT	D3C0208N082	YORK	1200	0.6	40	100 IN 82 OUT	800V/3Ø		900
	●		XHC-6	EXIST. ROOFTOP HVAC UNIT	D3C0208N082	YORK	1200	0.6	40	100 IN 82 OUT	800V/3Ø		900
	●		XHC-7	EXIST. ROOFTOP HVAC UNIT	D3C0208N165	YORK	3000	1.0	90	204 IN 163 OUT	800V/3Ø		1700
	●		XHC-8	EXIST. ROOFTOP HVAC UNIT	D3C0208N082	YORK	1200	0.6	40	100 IN 82 OUT	800V/3Ø		900
	●		XHC-9	EXIST. ROOFTOP HVAC UNIT	D3C0208N103	YORK	2000	0.8	68	125 IN 103 OUT	800V/3Ø		1000
	●		XHC-10	EXIST. ROOFTOP HVAC UNIT	D3C0208N082	YORK	1200	0.6	40	100 IN 82 OUT	800V/3Ø		900
	●		XHC-11	EXIST. ROOFTOP HVAC UNIT	D3C0208N165	YORK	3000	1.0	90	204 IN 163 OUT	800V/3Ø		1700
	●		XHC-12	EXIST. ROOFTOP HVAC UNIT	D3C0208N165	YORK	3000	1.0	90	204 IN 163 OUT	800V/3Ø		1700
	●		XHC-13	EXIST. ROOFTOP HVAC UNIT	D3C0120N200	YORK	4000	1.2	118	245 IN 198 OUT	800V/3Ø		1700
	●		XHC-14	EXIST. ROOFTOP HVAC UNIT	030N06408	YORK	1000	0.5	28	80 IN 62 OUT	208V/1Ø		900
	●		XHC-15	EXIST. ROOFTOP HVAC UNIT	D3C0N159N200	YORK	6000	1.1		245 IN 198 OUT	800V/3Ø		1700
	●		XHC-16	EXIST. ROOFTOP HVAC UNIT	D3C0N120N200	YORK	4000	1.2	118	245 IN 198 OUT	800V/3Ø		1700
	●		XHC-17	EXIST. ROOFTOP HVAC UNIT	D3C0208N082	YORK	1200	0.6	40	100 IN 82 OUT	800V/3Ø		900
	●		XHC-18	EXIST. ROOFTOP HVAC UNIT	MMB18E	LEBERT	865	---	18	---	208V/1Ø		
	●		XHC-20	EXIST. ROOFTOP HVAC UNIT	MMB18E	LEBERT	865	---	18	---	208V/1Ø		

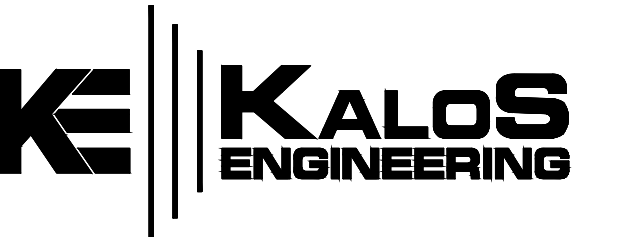


Filer Engineering Ltd.

1046 Botanical Drive
Burlington, Ontario
L7T 1V1
Phone: (905) 526-1411
Project #: F502

No.	DATE	REVISION
2	AUG. 20, 2026	ISSUED FOR PERMIT/TENDER
1	7/23/26	ISSUED FOR COMMENT

REVISIONS



300 YORK BLVD. HAMILTON, ONTARIO L8R 3K6 905-333-9119

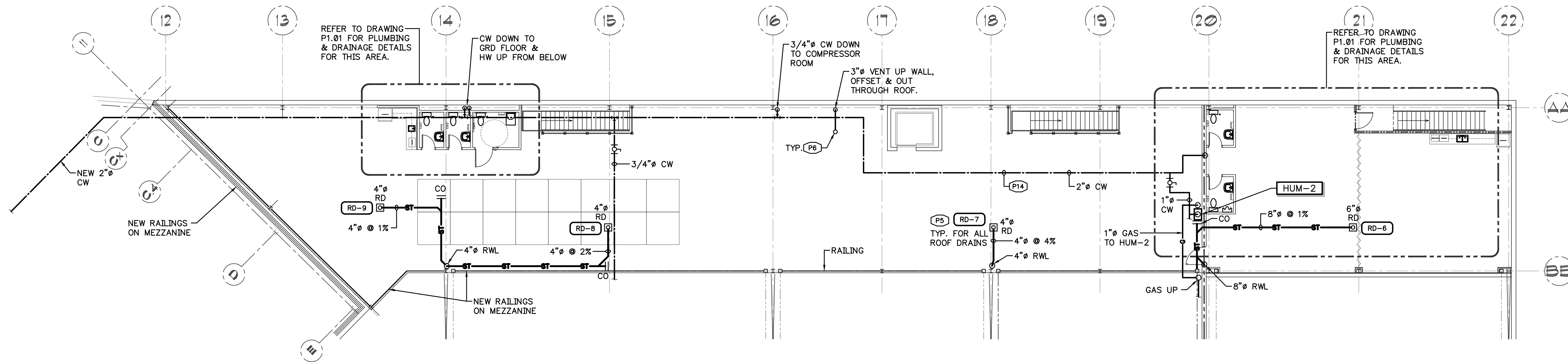
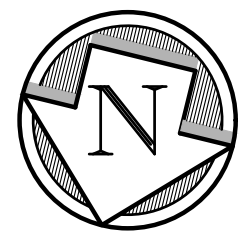
LIBURDI AUTOMATION INC.
PROPOSED
MANUFACTURING ADDITION

45 INNOVATION DRIVE

DUNDAS ONTARIO

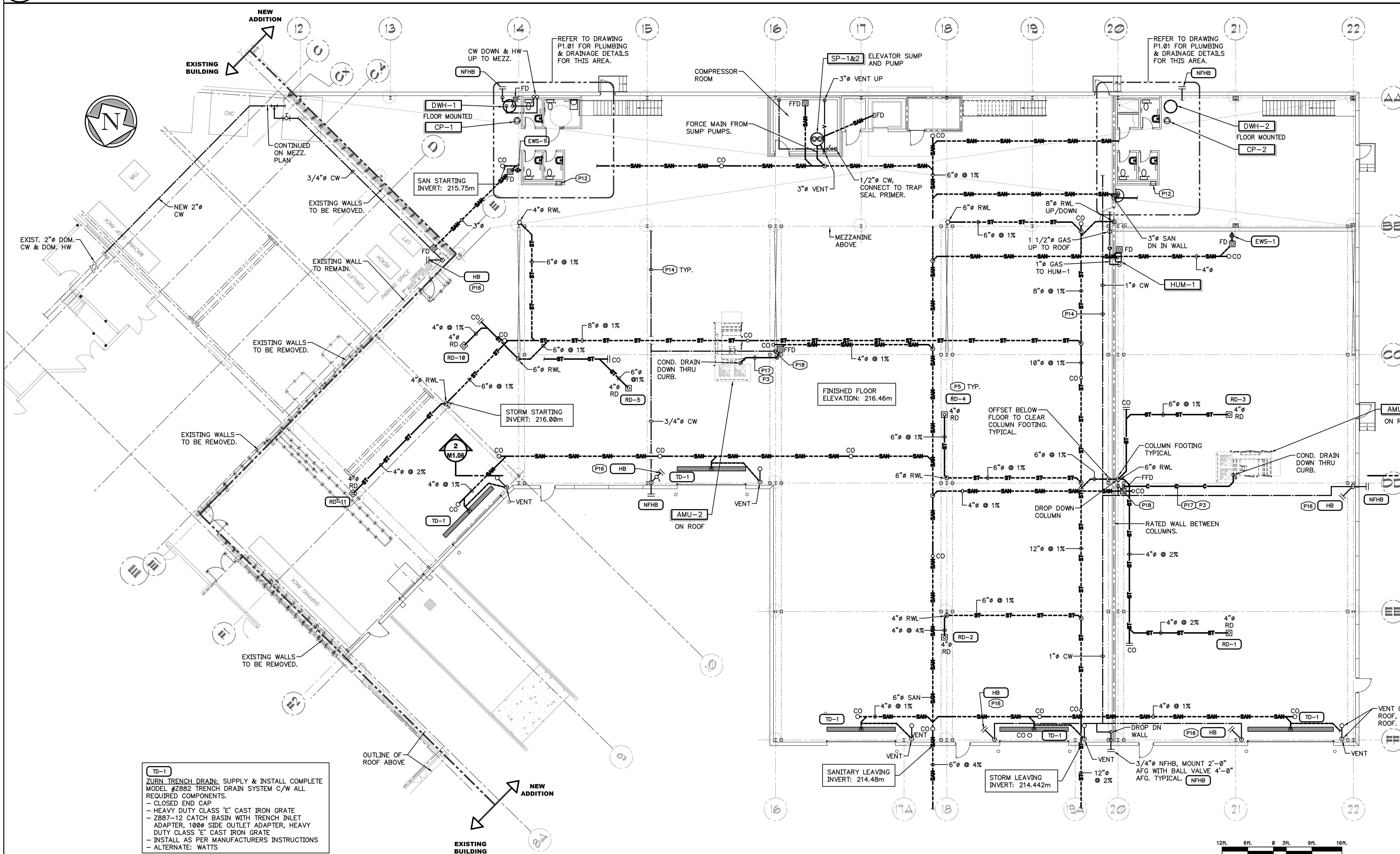
EXISTING BUILDING
ROOF PLAN

DATE JUNE 2025	DRAWN BY ARC	DRAWING No. M1.03
PROJECT No. 23185	CHECKED BY BP/DSF	



2 MEZZANINE PLAN

SCALE: 3/32"=1'-0"



1 ADDITION PLUMBING AND DRAINAGE

SCALE: 3/32"=1'-0"

GENERAL MECHANICAL NOTES

- G1 DRAWINGS DO NOT INDICATE SANITARY SEWER VENTING SYSTEMS. INSTALL COMPLETE VENTING SYSTEMS IN CONFORMANCE WITH THE O.B.C. PART 7.
- G2 FURRINGS BY GENERAL TRADES.
- G3 GENERAL TRADES SHALL DETERMINE FINAL LOCATIONS FOR ALL ROOF DRAINS. DIV. 15000 SHALL EXTEND AND OFFSET PIPING AS REQUIRED TO CONNECT TO ROOF DRAIN LOCATIONS.
- G4 MINIMUM UNDER GROUND DRAIN SIZE SHALL BE 800.
- G5 SUPPLY AND INSTALL CLEAN OUTS AT THE BASE OF ALL SANITARY RISERS.
- G6 FIRE EXTINGUISHERS BY OTHERS.
- G7 MAINTAIN MIN. 12'-0" CLEARANCE SANITARY VENT TO AN AIR INTAKE.

PLUMBING NOTES

ALL NOTES APPLY SPECIFICALLY WHERE INDICATED AND IN GENERAL WHERE APPLICABLE.

- P1 RISE/DROP IN WALL.
- P2 RISE/DROP IN CHASE OR FURRING.
- P3 RUN AT MAXIMUM ELEVATION.
- P4 PIPING UP TO FIXTURE ABOVE.
- P5 ALL ROOF DRAIN BODIES SUPPLIED AND INSTALLED BY DIVISION 15. THALER RD-4(COPPER) C/W SPECIAL 400 LONG TAILPIECE WITH CAST AL-DOME. STAINLESS STEEL SCREWS. BRONZE STABILIZER RING. ALUMINUM CLAMPING RING.
- P6 PLUMBING VENT STACKS BY DIVISION 15, THALER SJ-31.
- P7 TALLCONE FLASHINGS BY DIVISION 15, THALER MEF-4A.
- P8 SLEEVE THROUGH STRUCTURAL BEAM BY GENERAL TRADES AT MAXIMUM ELEVATION.
- P9 PIPING UP FROM GROUND FLOOR.
- P10 REFER TO DETAIL.
- P11 CONSTRUCT 130 HOSE END DRAINS WITH BALL VALVES AND CAPS.
- P12 SUPPLY AND INSTALL TRAP SEAL PRIMER UNIT (SMS LTD. P.P.P. MODEL # PT-1320) AND PIPE TO EACH TRAP TO BE PRIMED. PIPE TO 200 CW COMPLETE WITH BACKFLOW PREVENTER. TRAP SEAL PRIMER UNIT; MOUNT ON WALL 1.5m A.F.F. PIPE DOWN WALL IN COPPER, TRANSITION TO C.S.A. POLYETHYLENE TUBING FOR UNDER GROUND LINES WITH ROOM # OF TRAP LOCATION. REFER TO DETAIL.
- P13 SLEEVE AND FIRESEAL ALL PIPING PENETRATIONS.
- P14 RUN PIPING TIGHT TO UNDERSIDE OF ROOF/STRUCTURE.
- P15 CONSTRUCT 800 FUNNEL FLOOR DRAIN OR FLOOR DRAIN COMPLETE WITH TRAP SEAL PRIMER AND VENTING.
- P16 CONSTRUCT COLD WATER HOSE BIB, 200 INSULATED DROP (WITH ALUM. JACKET) TO BE 1200 A.F.F., C/W BALL VALVE AND HOSE FITTING.
- P17 CONSTRUCT 3/4" CONDENSATE DRAIN FROM AMU BURNER CONDENSATE TO FFD. SUPPLY & INSTALL AXIOM NC-2 NEUTRALIZER, MOUNT NEUTRALIZER ON WALL OR COLUMN.
- P18 SUPPLY & INSTALL TRAP SEAL PRIMER, PIPE 3/4" DROP COMPLETE WITH BALL VALVE DOWN COLUMN AND CONNECT.

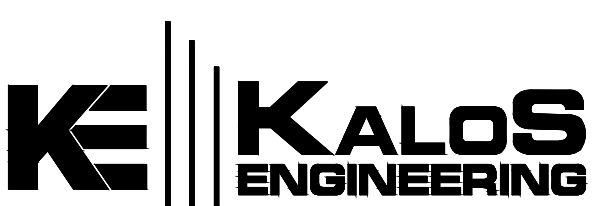


Filer Engineering Ltd.

1046 Botanical Drive
Burlington, Ontario
L7T 1V1
Phone: (905) 526-1411
Project # FB20

No.	DATE	REVISION
2	AUG. 20, 2026	ISSUED FOR PERMIT/TENDER
1	7/23/26	ISSUED FOR COMMENT

REVISIONS



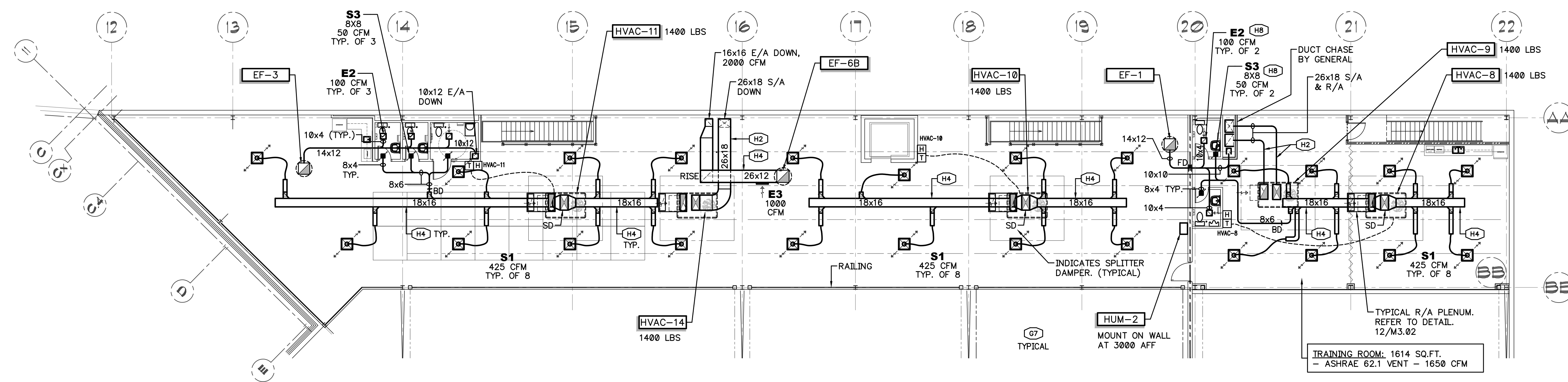
300 YORK BLVD. HAMILTON, ONTARIO L8R 3K6 905-333-9119

LIBURDI AUTOMATION INC.
PROPOSED
MANUFACTURING ADDITION

45 INNOVATION DRIVE
DUNDAS ONTARIO

NEW ADDITION PLUMBING & DRAINAGE

DATE JUNE 2025	DRAWN BY ARC	DRAWING No. M1.04
PROJECT No. 23185	CHECKED BY BP/DSF	



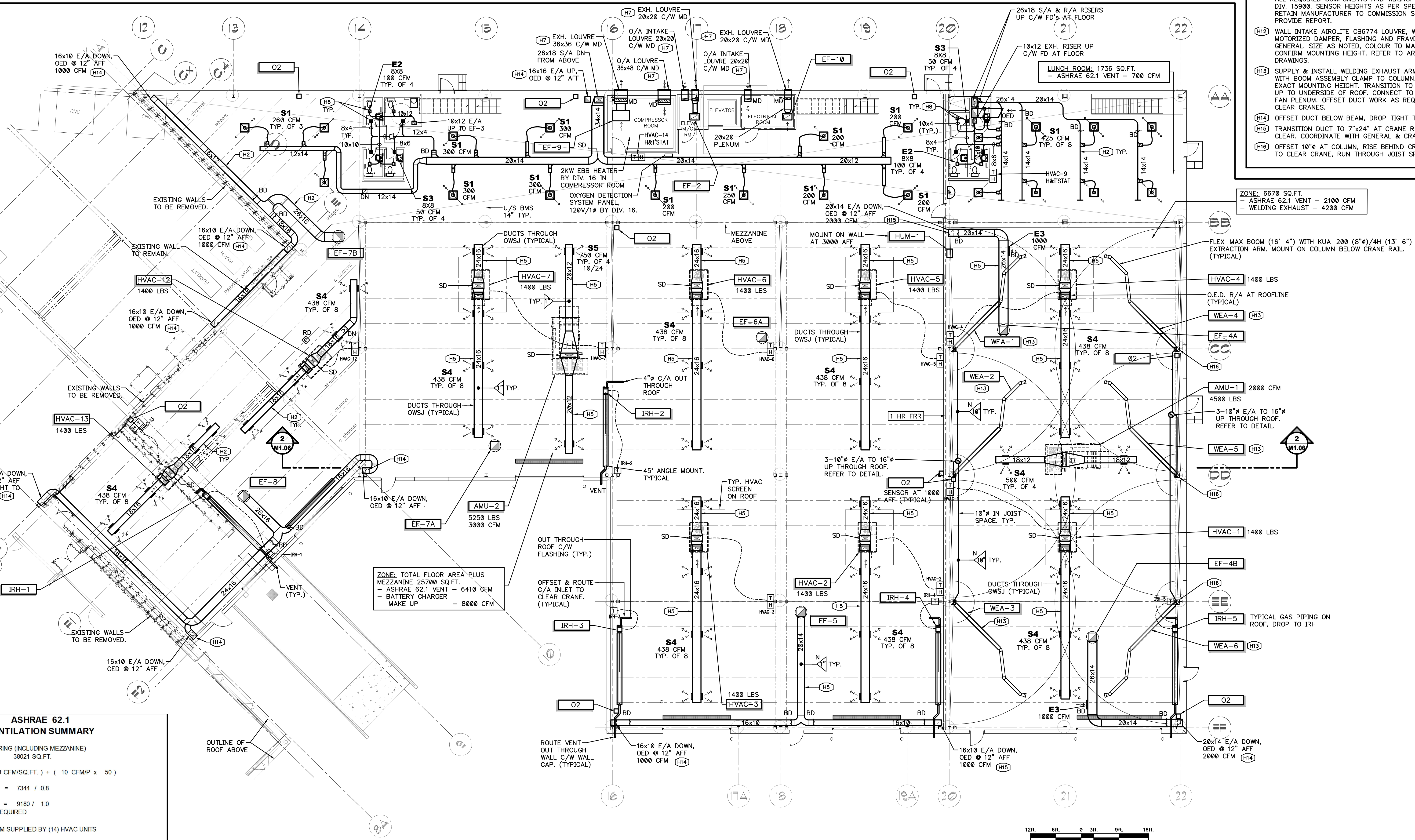
- (G1) DRAWINGS DO NOT INDICATE SANITARY SEWER VENTING SYSTEMS. INSTALL COMPLETE VENTING SYSTEMS IN CONFORMANCE WITH THE O.B.C. PART 7.
- (G2) FURRINGS BY GENERAL TRADES.
- (G3) GENERAL TRADES SHALL DETERMINE FINAL LOCATIONS FOR ALL ROOF DRAINS. DIV. 15000 SHALL EXTEND AND OFFSET PIPING AS REQUIRED TO CONNECT TO ROOF DRAIN LOCATIONS.
- (G4) MINIMUM UNDER DRAIN SIZE SHALL BE 80#.
- (G5) SUPPLY AND INSTALL CLEAN OUTS AT THE BASE OF ALL SANITARY RISERS.
- (G6) FIRE EXTINGUISHERS BY OTHERS.
- (G7) MAINTAIN MIN. 12"-0" CLEARANCE SANITARY VENT TO AN AIR INTAKE.

HVAC NOTES

ALL NOTES APPLY SPECIFICALLY WHERE INDICATED AND IN GENERAL WHERE APPLICABLE.

- (H1) RISE/DROP WITH FIRE DAMPER OR C.F.S.D.
- (H2) RUN AT MAXIMUM ELEVATION
- (H3) ROOF CURB SUPPLIED BY DIVISION 15000, SET BY ROOFER.
- (H4) RUN BETWEEN O.W.S.'S
- (H5) RUN THROUGH O.W.S.'S
- (H6) RISE/DROP IN FURRING.
- (H7) SUPPLY AND INSTALL WALL LOUVRES COMPLETE WITH WALL SLEEVE, PLENUM AND MOTORIZED BACK DRAFT DAMPERS. WALK W/ WALL SLEEVE AND PLENUM BOTTOM WATER TIGHT. CONFIRM EXACT MOUNTING LOCATION AND ELEVATION WITH ARCHITECT.
- (H8) CONSTRUCT SUPPLY OR RETURN AIR GRILLE ASSEMBLY COMPLETE WITH GRILLE SLEEVE AND PLENUM BOTTOM GRILLE AND CONNECT DUCT.
- (H9) MOUNT AT MAXIMUM ELEVATION, HANG FROM STRUCTURE, PROVIDE SUPPLEMENTARY STEEL AS REQUIRED.
- (H10) INSTALL EXHAUST FANS AND INTAKES AS PER DETAILS. REFER TO ARCHITECTURAL FOR EXACT LOCATION AND MOUNTING HEIGHT.
- (H11) SUPPLY & INSTALL O2 (OXYGEN SENSOR) SYSTEM C/W ALL REQUIRED COMPONENTS AND WIRING. WIRING BY DIV. 15000. SENSOR HEIGHTS AS PER SPECIFICATIONS. REFER MANUFACTURER TO COMMISSION SYSTEM AND PROVIDE REPORT.
- (H12) WALL INTAKE AIRLOITLE CB8774 LOUVRE, WALL SLEEVE, MOTORIZED DAMPER, FLASHING AND FRAMING BY DIV. 15000. AS REQUIRED, COLOUR TO MATCH BUILDING. CONFIRM MOUNTING HEIGHT. REFER TO ARCHITECTURAL DRAWINGS.
- (H13) SUPPLY & INSTALL WELDING EXHAUST ARM COMPLETE WITH BOOM ASSEMBLY CLAMP TO COLUMN. CONFIRM EXACT MOUNTING HEIGHT. TRANSITION TO 10" Ø DUCT UP TO UNDERSIDE OF ROOF. CONNECT TO EXHAUST FAN PLENUM. OFFSET DUCT WORK AS REQUIRED TO CRANES.
- (H14) OFFSET DUCT BELOW BEAM, DROP TIGHT TO WALL.
- (H15) TRANSITION DUCT TO 7"-x4" AT CRANE RAIL TO CLEAR. COORDINATE WITH GENERAL & CRANE SUPPLIER.
- (H16) OFFSET 10" Ø AT COLUMN, RISE BEHIND CRANE RAIL TO CLEAR CRANE, RUN THROUGH JOIST SPACE.

M5 SCALE: 3/32"=1'-0"



1. GENERAL MANUFACTURING (INCLUDING MEZZANINE)
50 PEOPLE 38021 SQ.FT.

Vbz= (38021 x 0.18 CFM/SQ.FT.) + (10 CFMP x 50)
 = 7344 CFM

Voz= Vbz / Ez = 7344 / 0.8
 = 9180 CFM

Vol= Voz / Ev = 9180 / 1.0
 = 9180 CFM REQUIRED

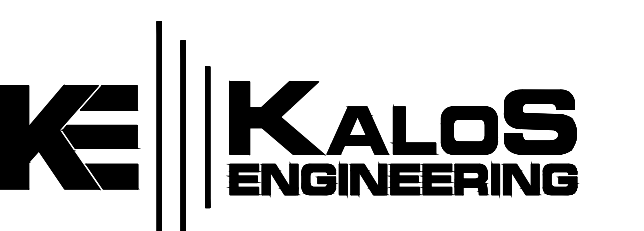
NOTE: TOTAL 10,000 CFM SUPPLIED BY (14) HVAC UNITS
 (714 CFM EACH)

M1.05 SCALE: 3/32"=1'-0"



1046 Botanical Drive
Burlington, Ontario
L7T 1V1
Phone: (905) 526-7411
Project #: F1500

2	AUG. 20, 2026	ISSUED FOR PERMIT/TENDER
1	7/23/26	ISSUED FOR COMMENT
No.	DATE	REVISION
R E V I S I O N S		



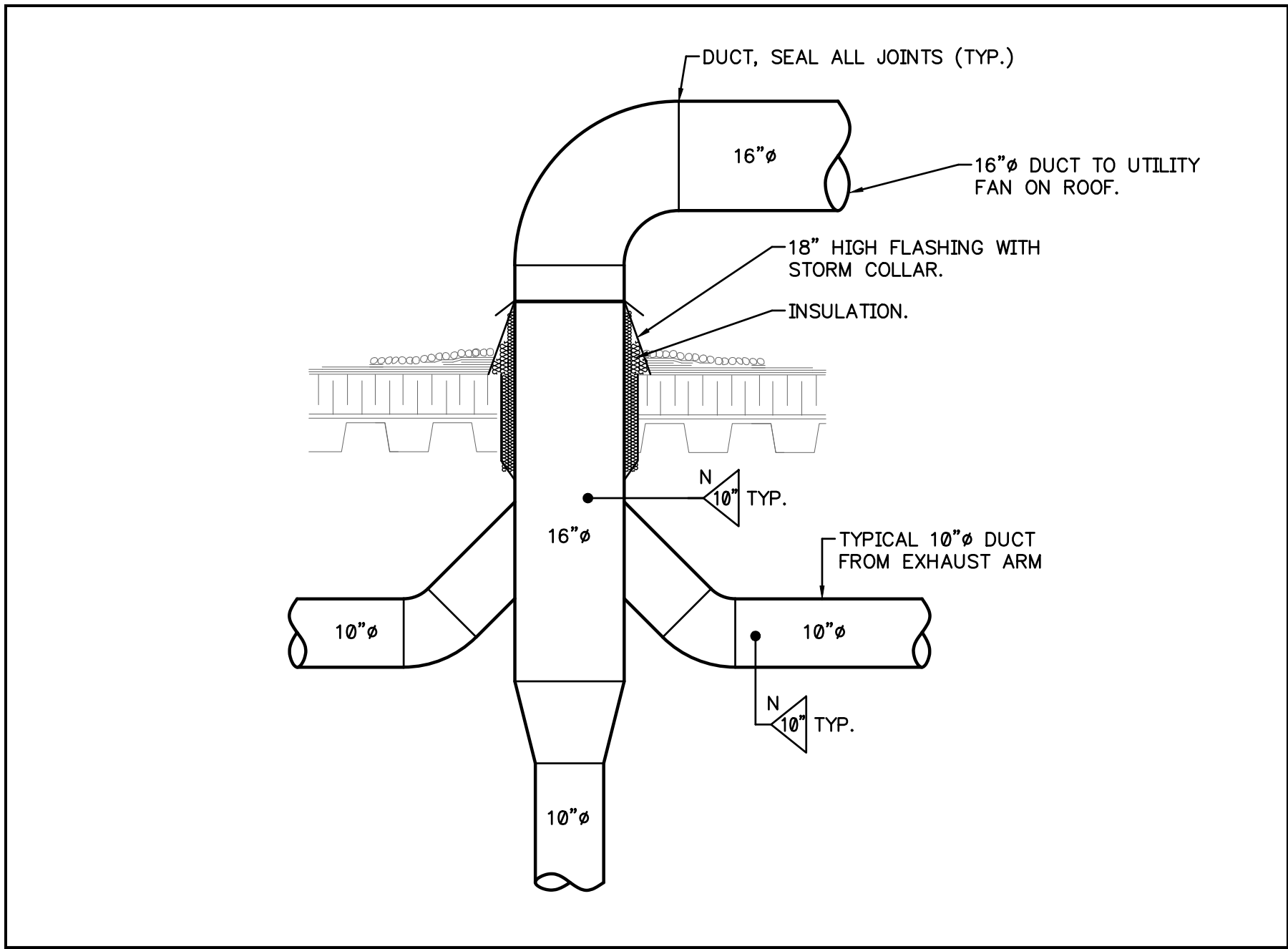
300 YORK BLVD HAMILTON, ONTARIO L8R 3K6 905-333-9119

LIBURDI AUTOMATION INC.
PROPOSED
MANUFACTURING ADDITION

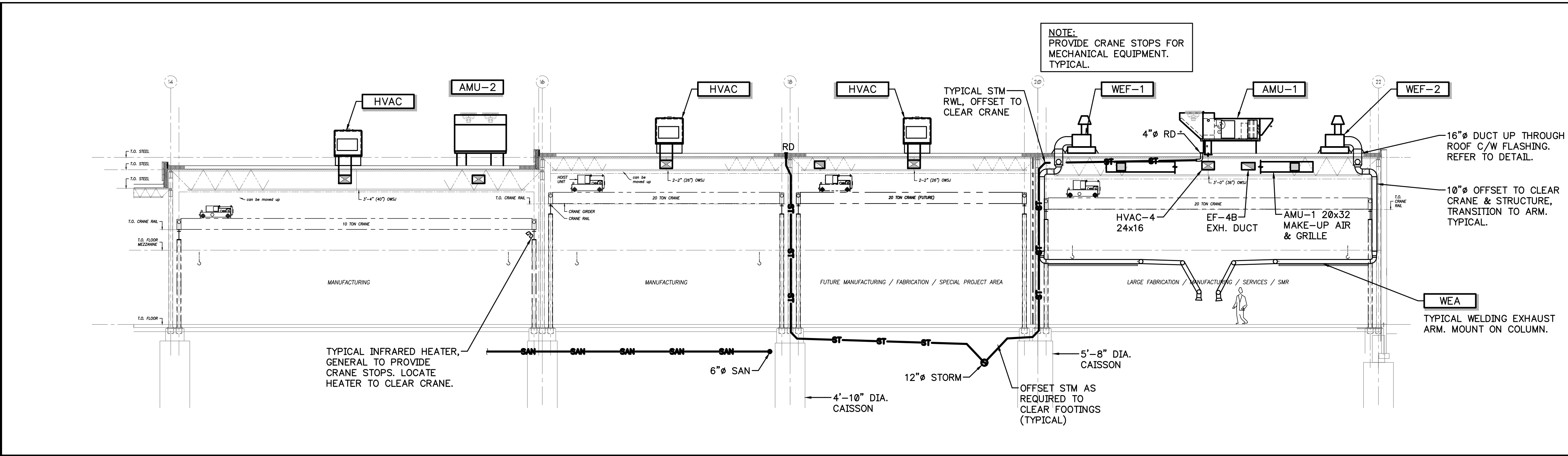
45 INNOVATION DRIVE
DUNDAS ONTARIO

NEW ADDITION
HYAC

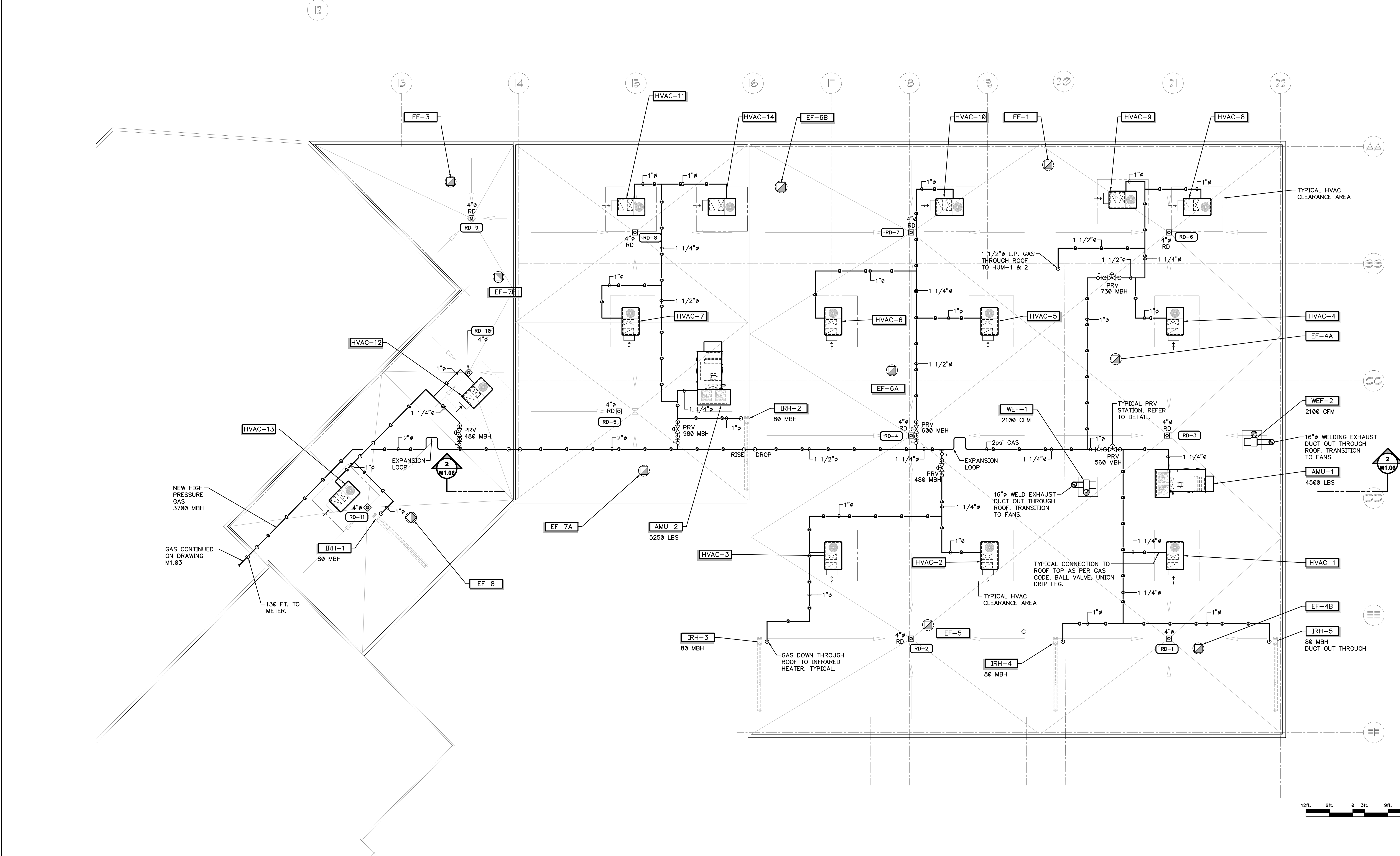
DATE JUNE 2025	DRAWN BY ARC	DRAWING No. M1.05
PROJECT No. 23185	CHECKED BY BP/DSF	

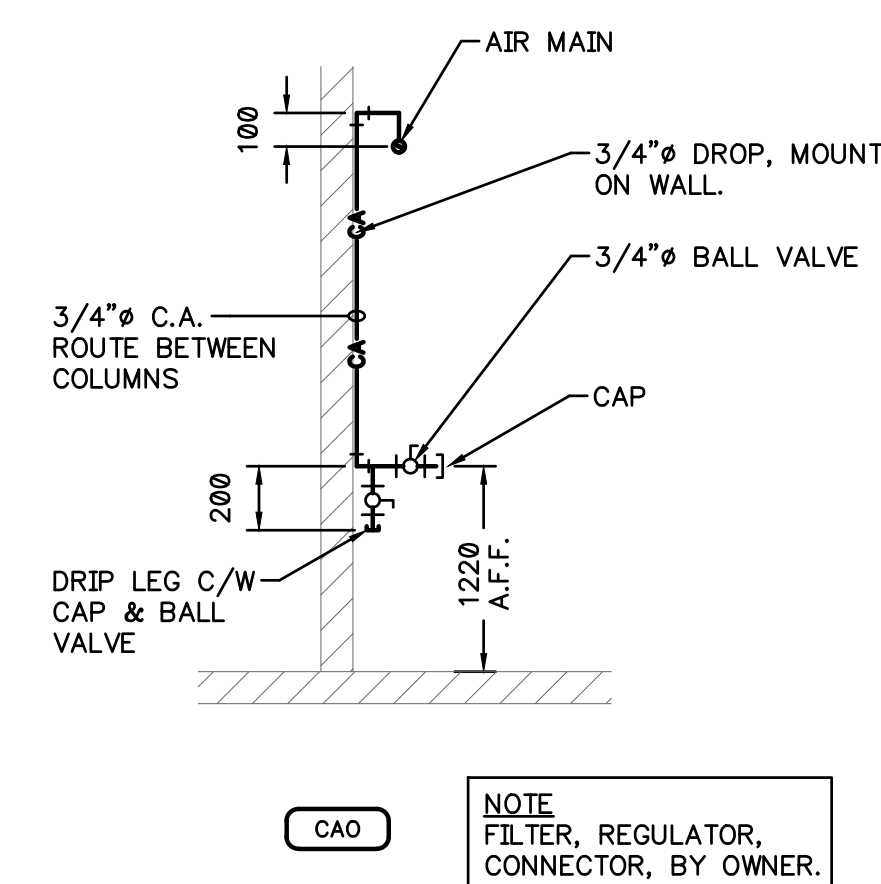
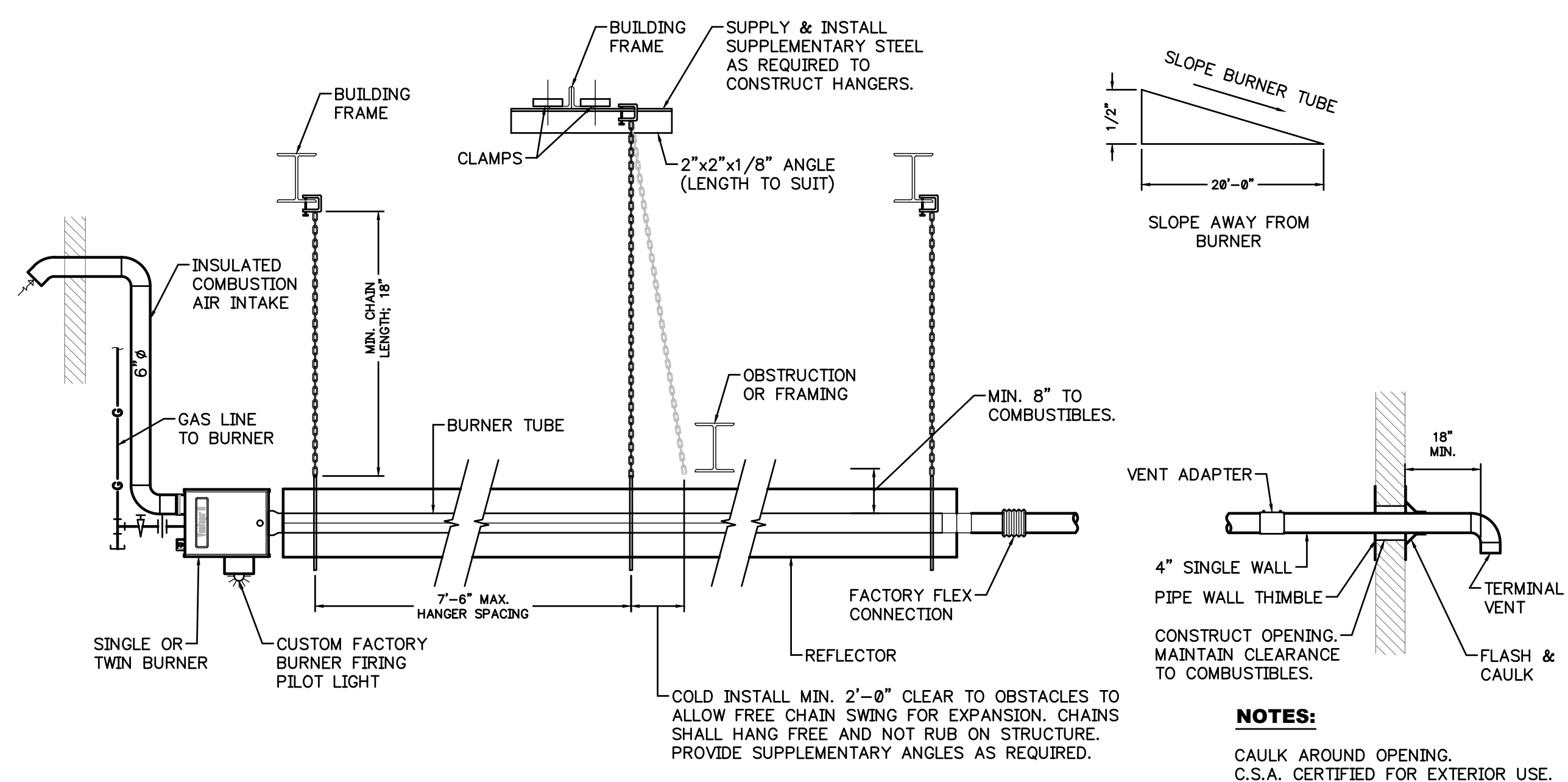
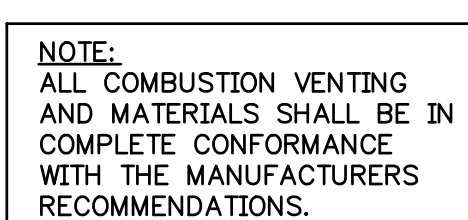


3 WELDING EXHAUST DUCT ARRANGEMENT
M1.06 SCALE: N.T.S.

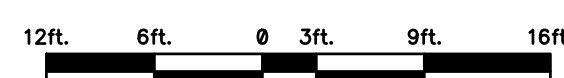


2 SECTION
M1.06 SCALE: 3/32"=1'-0"





4 TYPICAL INFRARED HEATER
M1.07 SCALE: N.T.S.



- ## **GENERAL MECHANICAL NOTES**
- | | |
|----|---|
| 01 | DRAWINGS DO NOT INDICATE SANITARY SEWER VENTING SYSTEMS. INSTALL COMPLETE VENTING SYSTEMS IN CONFORMANCE WITH THE O.B.C. PART 7. |
| 02 | FURRRINGS BY GENERAL TRADES. |
| 03 | GENERAL TRADES SHALL DETERMINE FINAL LOCATIONS FOR ALL ROOF DRAINS. DIV. 15000 SHALL EXTEND AND OFFSET PIPING AS REQUIRED TO CONNECT TO ROOF DRAIN LOCATIONS. |
| 04 | MINIMUM UNDER GROUND DRAIN SIZE SHALL BE 800. |
| 05 | SUPPLY AND INSTALL CLEAN OUTS AT THE BASE OF ALL SANITARY RISERS. |
| 06 | FIRE EXTINGUISHERS BY OTHERS. |
| 07 | MAINTAIN MIN. 12"-0" CLEARANCE SANITARY VENT TO AN AIR INTAKE. |

MECHANICAL NOTES

ALL NOTES APPLY SPECIFICALLY WHERE
INDICATED AND IN GENERAL WHERE APPLICABLE

- (M1) AIR COMPRESSOR BY OWNER, PIPE TO NEW COMPRESSED AIR LINES, PIPE DRAINS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TSSA INSPECTIONS, SUBMITTALS AND APPROVALS.
- (M2) CONSTRUCT COMPLETE COMPRESSED AIR SYSTEM. CONNECT TO AIR COMPRESSOR, ROP PIPING MAINS AS SHOWN. SUPPLY TANK, COORDINATE WITH ARGON SUPPLIER. ROP PIPING MAINS AS SHOWN, COMPLETE WITH DROPS WHERE INDICATED, REFER TO A.O. DETAIL FOR DROPS, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TSSA INSPECTIONS, SUBMITTALS AND APPROVALS.
- (M3) CONSTRUCT COMPLETE ARGON GAS SYSTEM, CONNECT TO ARGON SUPPLY TANK, COORDINATE WITH ARGON SUPPLIER. ROP PIPING MAINS AS SHOWN, COMPLETE WITH DROPS WHERE INDICATED, REFER TO A.O. DETAIL FOR DROPS, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TSSA INSPECTIONS, SUBMITTALS AND APPROVALS.
- (M4) ROP PIPING AT MAXIMUM ELEVATION ABOVE BOTTOM CORD OF JOIST.
- (M5) SLEEVE AND FIFE SEAL ALL PIPING PENETRATIONS IN F.R.R. WALLS OR FLOORS.
- (M6) ARGON AND COMPRESSED AIR MAINS SHALL HAVE TIE FITTINGS WITH PLUG, UP TURNED EVERY 20 FEET MIN.
- (M7) ROP COMP. AIR & ARGON RISERS ON SIDES OF COLUMN, OFFSET AT ROP TO COLUMNS.
- (M8) LOCATE ALL PIPING TO CLEAR CRANES, COORDINATE

ARGON PIPING DESIGN NOTES

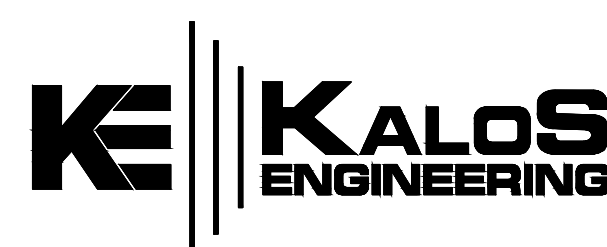
1. TO ANSI-B31.9 BUILDING SERVICES PIPING.
2. FOR ARGON GAS 99.999% PURITY CAS NO.7440-37-1.
3. NON-HAZARDOUS GAS TO 150 PSIG WORKING PRESSURE TO ASTM B819 AND ASTM B280.
4. COPPER TUBING TYPE 1 DEGRADED AND CLEANED FOR OXYGEN SERVICE, CLEANED AND CAPPED ALL LENGTHS.
5. 150 PSIG WORKING PRESSURE AT 150 DEGF.
6. TYPE L, 1 1/2" TUBING
7. BRAZED JOINTS UNDER NITROGEN BLANKET.
8. COPPER-PHOSPHORUS BRAZING FILLER MATERIAL.
9. UNDER ANSI B31.9, COPPER TUBING TYPE L, 1 5/8" OD MINIMUM 0.068" WALL.
10. ANNEALED RATING IN ANSI-B31.9 TO 5100 PSIG ALLOWABLE STRESS.
11. PIPELINE TEST PRESSURE UNDER NITROGEN GAS TO 225 PSIG FOR 2 HOURS.
12. FITTINGS WROUGHT COPPER, SOCKET JOINTS TO CGA-C4-61 AND NPGA-99C FOR MEDICAL GAS, DEGRADED AND CLEANED FOR OXYGEN SERVICE TO MEET ASTM A516.22.
13. MAXIMUM PIPE SUPPORT SPACING TO 10'-0" (3048MM).
14. BALL VALVES: EQUAL TO INBCO CS-595-YX-66 THREE PIECE BRONZE BALL VALVE, STAINLESS TRIM, RATING 200 PSIG FOR MEDICAL GAS, BLOW-OUT PROOF, STAINLESS TRIM, RESISTANT, CLEANED AND BAGGED FOR MEDICAL GAS SERVICE, CONFORM TO MSS-SP-110 OXYGEN CLEANING, BRAZED END CONNECTIONS. EXTENDED STEM FOR INSULATED SERVICE.
15. METAFLEX EXPANSION LOOPS; BRONZE HOSE, DOUBLE BRONZE BRAD, MALE TUBE ENDS, TYPE K COPPER. PART # 21D56-00120321175
2" MOVEMENT + - 2.0"
DESIGN PRESSURE 250 psig.
CLEANED, BAGGED AND DEGRADED FOR OXYGEN GAS SERVICE.



Filer Engineering Ltd.

1046 Botanical Drive
Burlington, Ontario
L7T 1V1
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Fax: (905) 526-7411

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R E V I S I O N S		



300 YORK BLVD HAMILTON, ONTARIO L8R 3K6 905-333-9119

LIBURDI AUTOMATION INC.
PROPOSED
MANUFACTURING ADDITION

45 INNOVATION DRIVE

COMPRESSED AIR,
ARGON GAS PLAN

DATE <i>JUNE 2025</i>	DRAWN BY <i>ARC</i>	DRAWING No. <i>M1.07</i>
PROJECT No. <i>23185</i>	CHECKED BY <i>BP/DSF</i>	