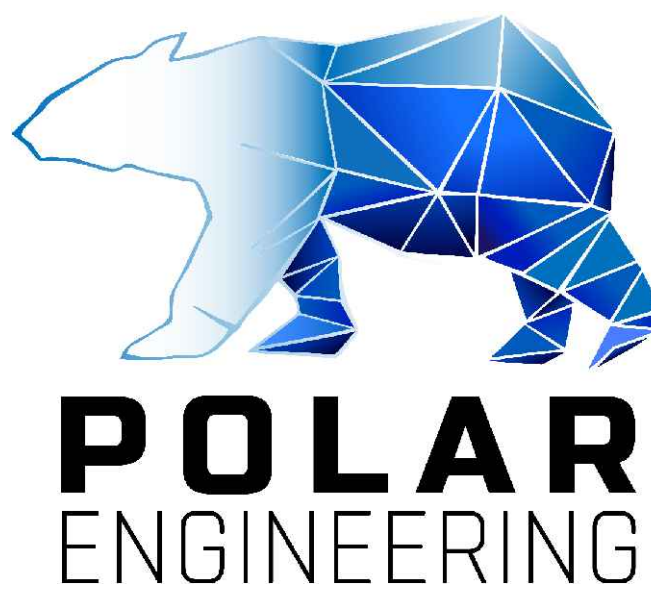




# Alberni Valley Multiplex

## Energy Recovery and Dehumidification



### MECHANICAL DRAWING LIST

SHEET NO.	DESCRIPTION
M0	COVER SHEET
M1	P&ID - OVERALL SYSTEM KEY PLAN
M2	SITE PLAN - SCOPE AREAS AND SHOWERS
M3	MECHANICAL - DEMO
M4	MECHANICAL - NEW
M5	P&ID - AMMONIA PLANT - DEMO
M6	P&ID - AMMONIA PLANT - NEW
M7	P&ID - HEAT PUMP AND HYDRONIC INTEGRATION
M8	P&ID - DHW INTEGRATION
M9	MECHANICAL SCHEDULES AND CONTROLS
M10	CONTROLS

### NOTES TO CONTRACTOR:

THE CITY OF PORT ALBERNI IS INCLUDING A CASH ALLOWANCE FOR THE STRUCTURAL UPGRADES INVOLVED IN THIS PROJECT. SEE STRUCTURAL DRAWINGS AND CITY OF PORT ALBERNI DOCUMENTS FOR FURTHER INFORMATION.

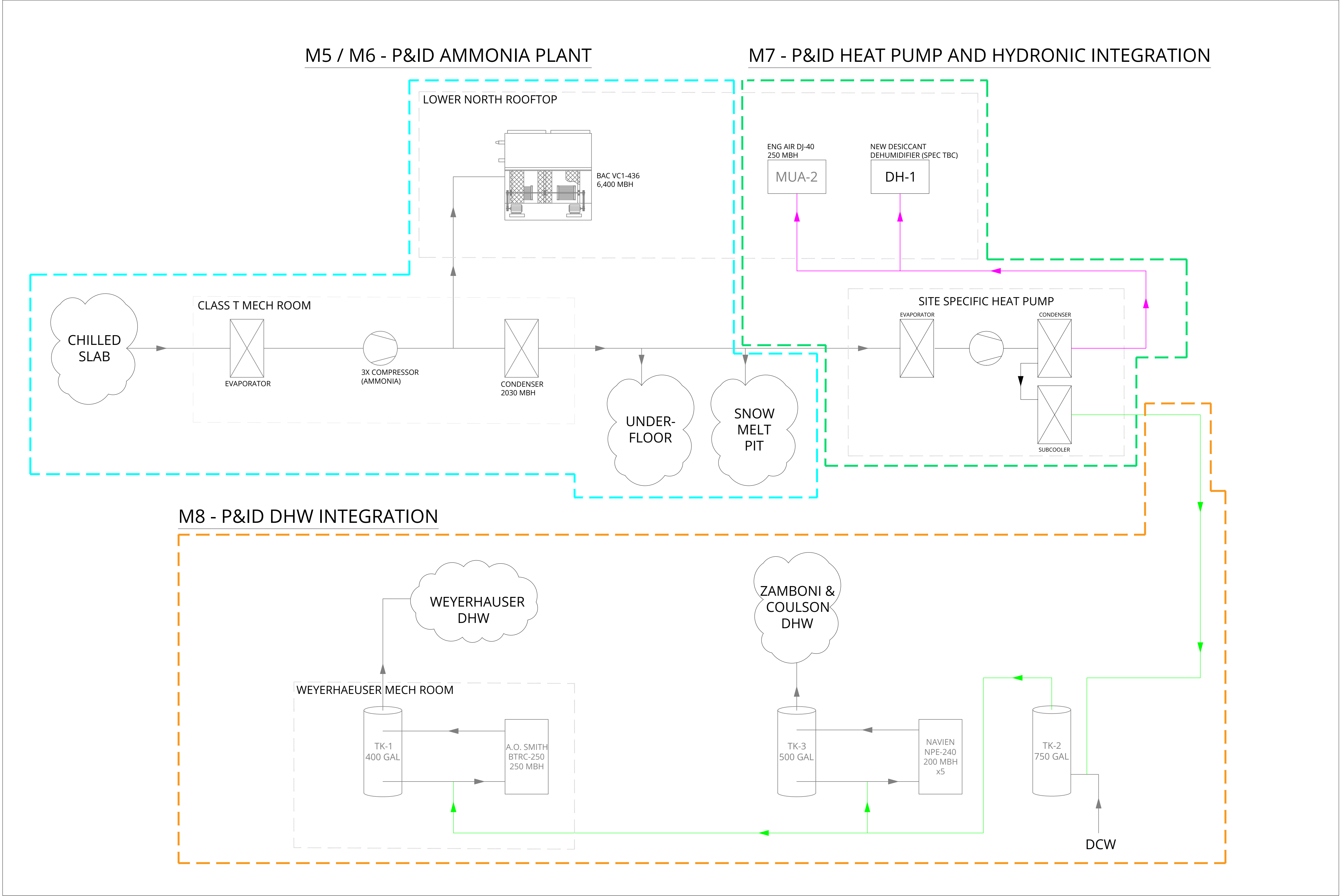
- PROVIDE BREAKOUT PRICING FOR EACH OF THE FOLLOWING SEPARATE PRICE ITEMS.
- SEPARATE PRICE **SP-1**: PROVIDE NEW DUCTSOX IN WEYERHAUSER ARENA FOR DH-1 SUPPLY AIR. PROVIDE PRICE DIFFERENCE BETWEEN SUPPLY SYSTEM AS DRAWN AND DUCTSOX RUN.
  - SEPARATE PRICE **SP-2**: PROVIDE NEW 1.5" STEEL PIPING AND ASSOCIATED EQUIPMENT FOR MUA-2 HEATING COIL INTEGRATION WITH HEAT PUMP CONDENSER LOOP.



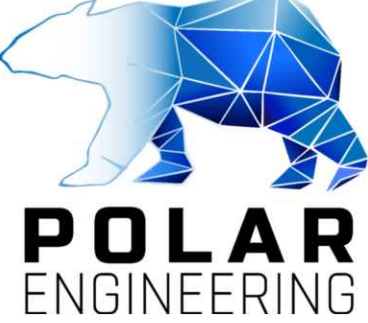
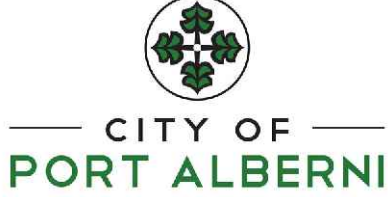

City of Port Alberni - Alberni Valley Multiplex  
3737 Roger St, Port Alberni, BC

<div>PRIME CONSULTANT</div> <div></div> <div>PHONE 778-700-1086</div> <div>WEBSITE www.polareng.ca</div>	<div>CONSULTANT</div> <div></div> <div>PHONE</div> <div>WEBSITE</div>	<div>CLIENT</div> <div></div> <div>PHONE 250-723-2146</div> <div>WEBSITE www.portalberni.ca</div>	<div>ENGINEER OF RECORD</div> <div></div> <div>IAN WELLE P.ENG.</div> <div>EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	<div>PROJECT TITLE</div> <div>ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION</div> <div>DRAWING TITLE</div> <div>COVER SHEET</div>	REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ #
					1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	2453
					2	2025-01-10	EVN	BC	ISSUED FOR REVIEW	SHEET SIZE D
					3	2025-02-03	EVN	BC	ISSUED FOR TENDER	
					4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER	SHEET NAME M0
					5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER	
					6	-	-	-	-	



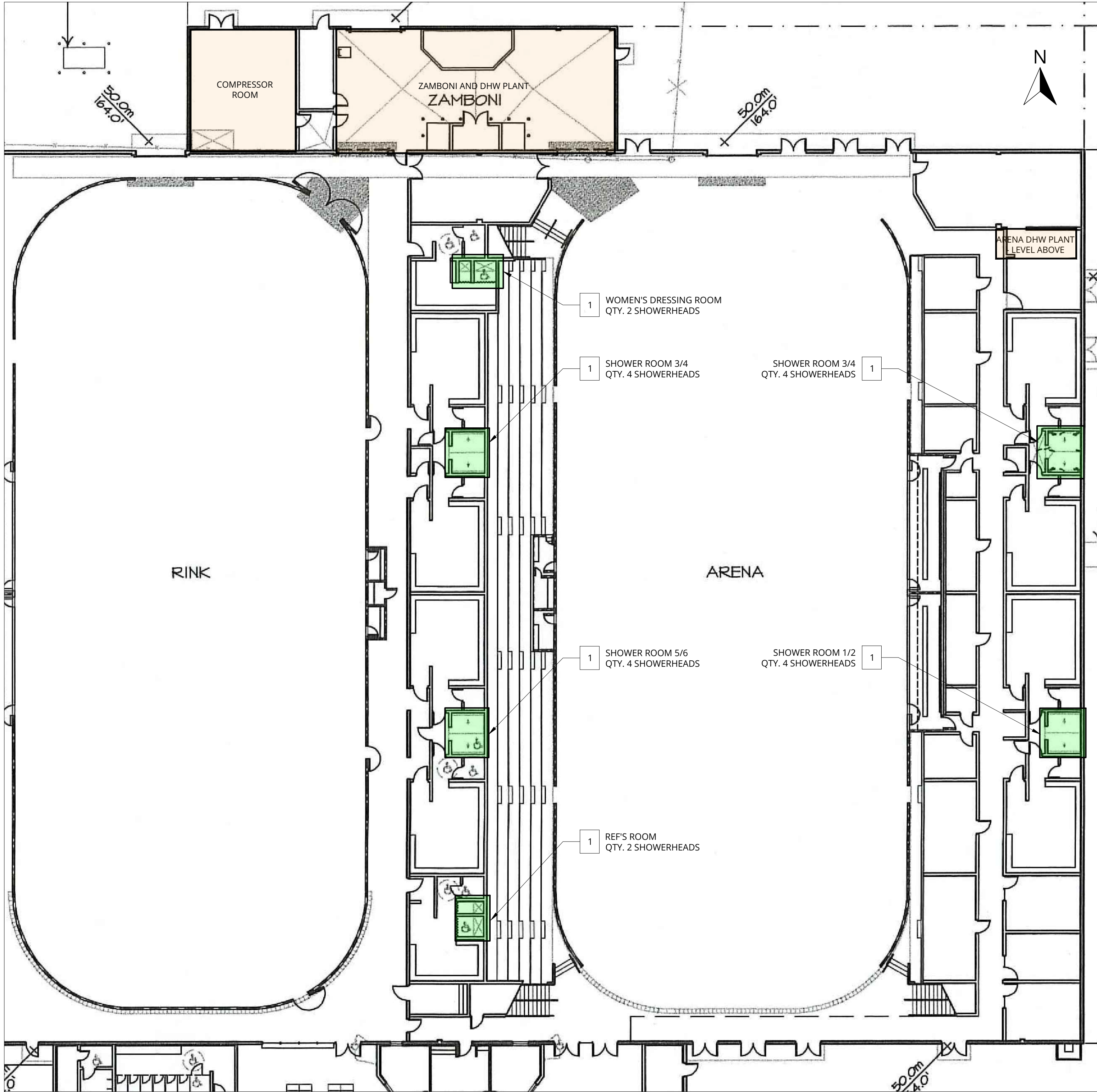


1 P&ID - OVERALL SYSTEM KEY PLAN  
M1 SCALE: NTS

<div>PRIME CONSULTANT</div> <div><b>POLAR</b> ENGINEERING</div> <div>PHONE 778-700-1086 WEBSITE www.polareng.ca</div>	<div>CONSULTANT</div> <div></div> <div>PHONE WEBSITE</div>	<div>CLIENT</div> <div><b>CITY OF</b> <b>PORT ALBERNI</b></div> <div>PHONE 250-723-2146 WEBSITE www.portalberni.ca</div>	<div>ENGINEER OF RECORD</div> <div><b>IAN WELLE P.ENG.</b> EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	<div>PROJECT TITLE</div> <div>ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION</div> <div>DRAWING TITLE</div> <div>OVERALL SYSTEM KEY PLAN</div>	REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ #
					1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	2453
					2	2025-01-10	EVN	BC	ISSUED FOR REVIEW	D
					3	2025-02-03	EVN	BC	ISSUED FOR TENDER	
					4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER	M1
					5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER	
					6	-	-	-	-	

FILE NAME: 2453-PORT ALBERNI-EX-AND-DEHUMIDIFIER-MECHANICAL-DRAWINGS-P&ID.DWG | PLOT DATE: 2025-10-30 | SAVED BY: BPHIC





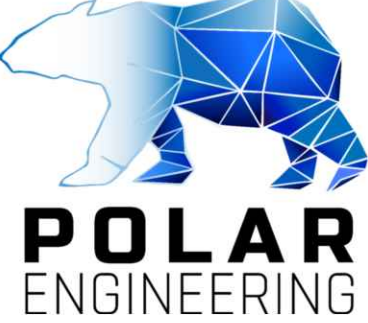

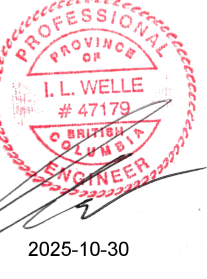
1 SITE PLAN - GROUND LEVEL - SCOPE AREAS AND SHOWERS  
M2 SCALE: 1:200

KEYED NOTES:

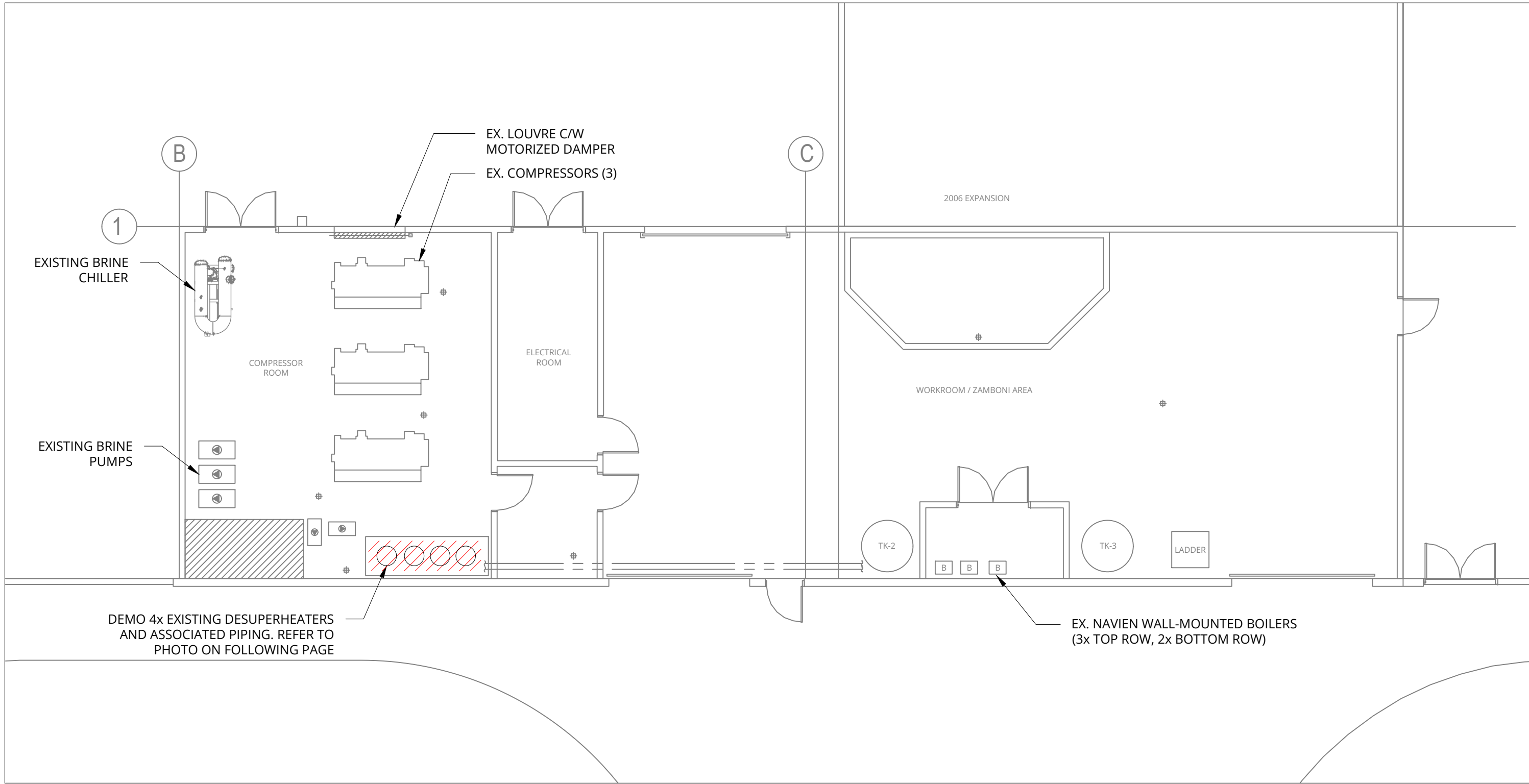
1. REMOVE EXISTING SHOWERHEADS AND REPLACE WITH 1.5GPM SHOWER HEAD; BRADLEY MODEL #S15.



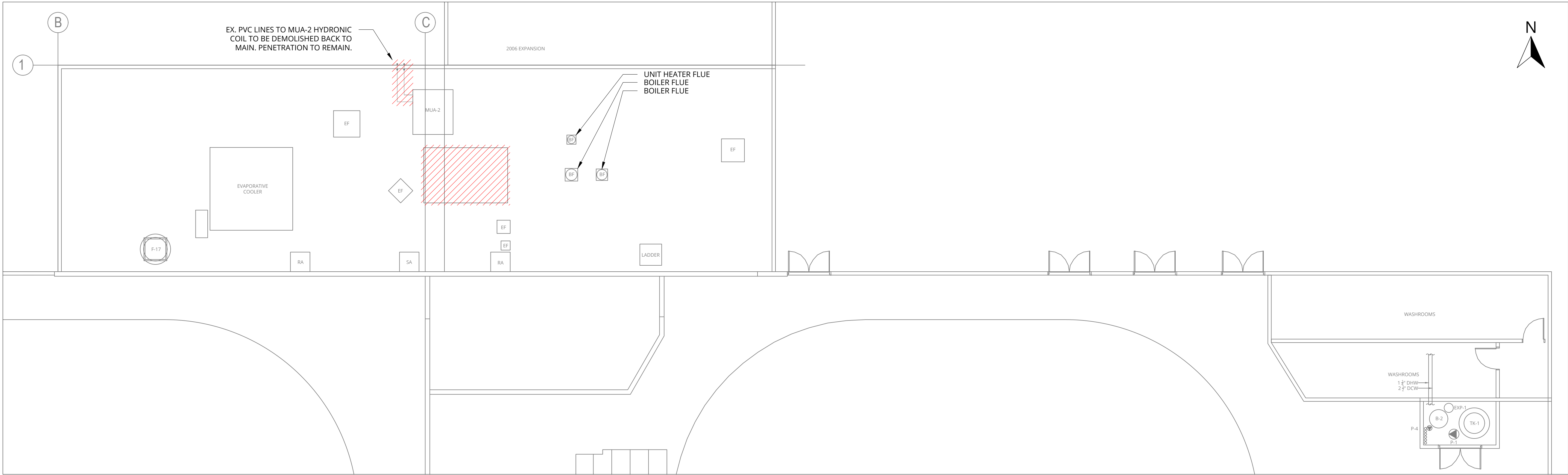
2 TYPICAL SHOWER HEADS  
M2 SCALE: NTS

<div>PRIME CONSULTANT</div> <div><b>POLAR</b> ENGINEERING</div> <div>PHONE 778-700-1086 WEBSITE www.polareng.ca</div>	<div>CONSULTANT</div> <div></div> <div>PHONE WEBSITE</div>	<div>CLIENT</div> <div> CITY OF PORT ALBERNI</div> <div>PHONE 250-723-2146 WEBSITE www.portalberni.ca</div>	<div>ENGINEER OF RECORD</div> <div> IAN WELLE P.ENG. EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	<div>PROJECT TITLE</div> <div>ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION</div> <div>DRAWING TITLE</div> <div>SITE PLAN - SCOPE AREAS AND SHOWERS</div>	REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ #
					1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	2453
					2	2025-01-10	EVN	BC	ISSUED FOR REVIEW	D
					3	2025-02-03	EVN	BC	ISSUED FOR TENDER	
					4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER	M2
					5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER	
					6	-	-	-	-	





1 GROUND LEVEL - NORTH - DEMO  
M3 SCALE: 1:100



2 ROOF LEVEL - NORTH - DEMO  
M3 SCALE: 1:100

GENERAL NOTES:

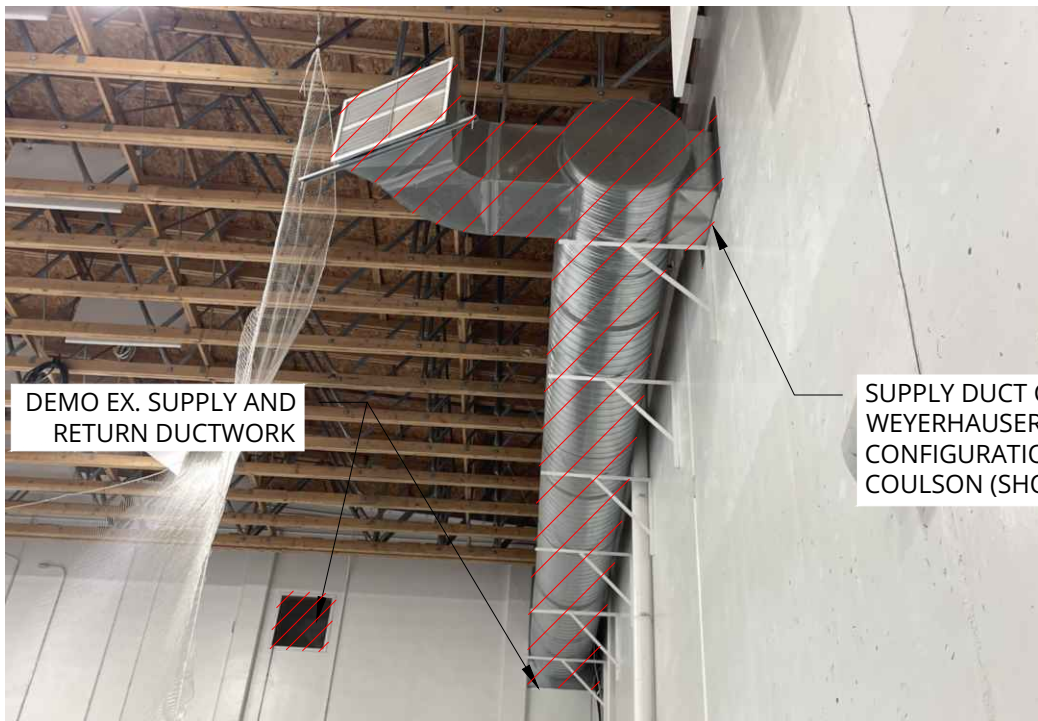
1. ALL DIMENSIONS ARE APPROXIMATE AND MUST BE CONFIRMED ON SITE BY THE CONTRACTOR.
2. CONTRACTOR TO COORDINATE ANY DEMOLITION OR SHUT-OFF OF EXISTING WATER LINES WITH BASE BUILDING.
3. PATCH AND MAKE GOOD (TO BASE BUILDING STANDARDS) MECHANICAL COMPONENTS AND FINISHES DAMAGED DURING CONSTRUCTION.



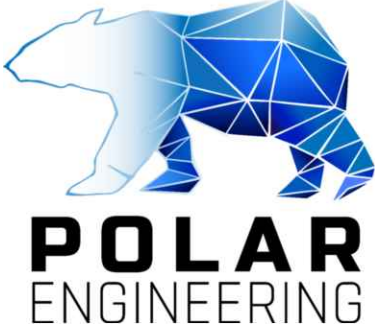

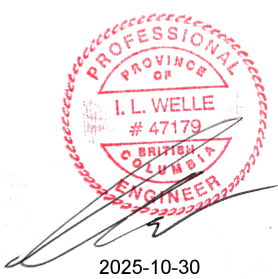
3 MUA-2 AND DEHUMIDIFIER  
SCALE: -



4 DEHUMIDIFIER AND DUCT  
M3 SCALE: -



5 INTERIOR DUCT  
M3 SCALE: -

<div>PRIME CONSULTANT</div> <div></div> <div>PHONE 778-700-1086</div> <div>WEBSITE www.polareng.ca</div>	<div>CONSULTANT</div> <div></div> <div>PHONE</div> <div>WEBSITE</div>	<div>CLIENT</div> <div></div> <div>CITY OF PORT ALBERNI</div> <div>PHONE 250-723-2146</div> <div>WEBSITE www.portalberni.ca</div>	<div>ENGINEER OF RECORD</div> <div></div> <div>IAN WELLE P.ENG.</div> <div>EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	<div>PROJECT TITLE</div> <div>ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION</div> <div>DRAWING TITLE</div> <div>MECHANICAL - DEMO</div>	REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ #
					1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	2453
					2	2025-01-10	EVN	BC	ISSUED FOR REVIEW	SHEET SIZE D
					3	2025-02-03	EVN	BC	ISSUED FOR TENDER	
					4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER	SHEET NAME M3
					5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER	
					6	-	-	-	-	







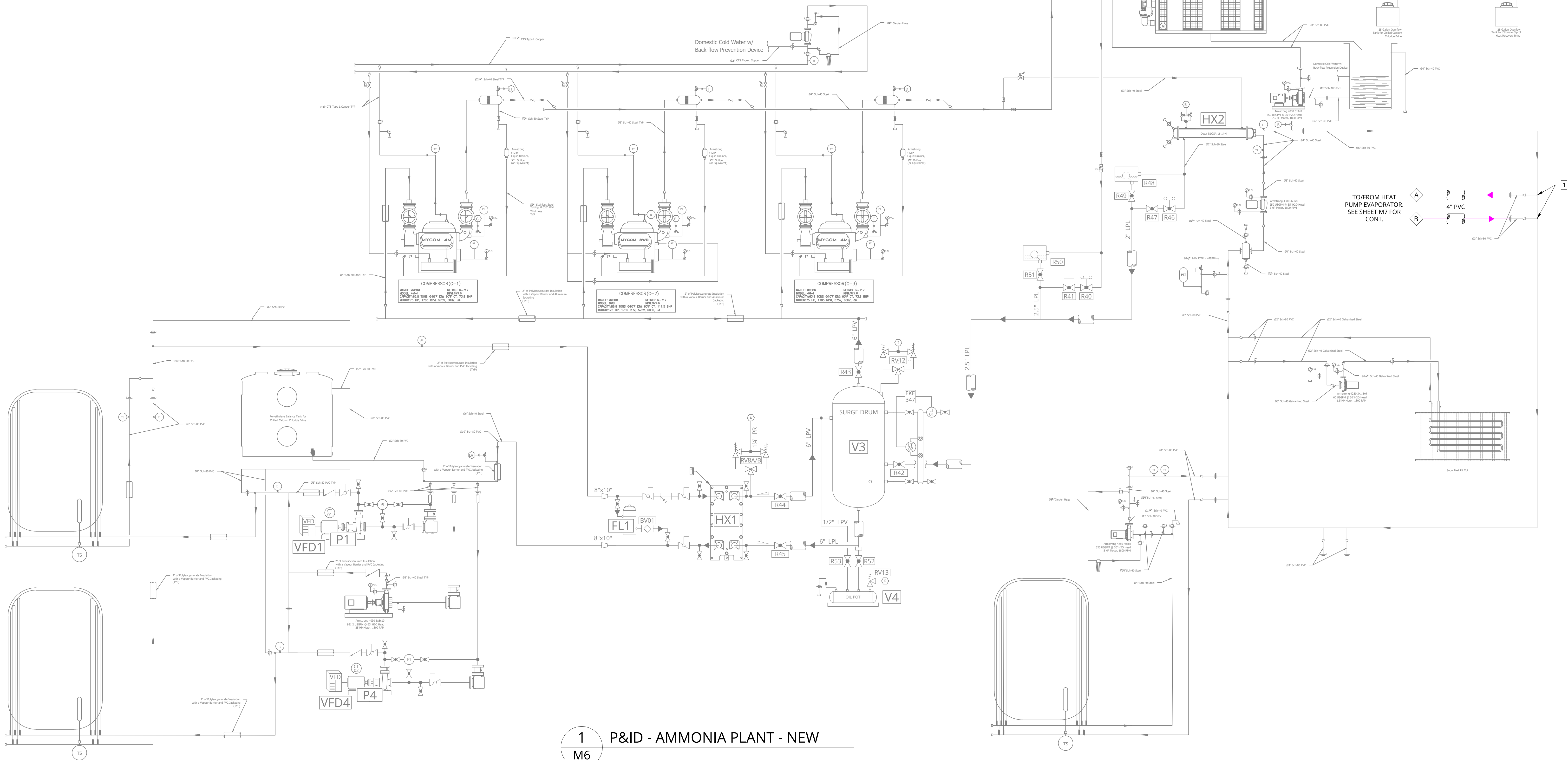
- UPGRADES TO THE AMMONIA PLANT ARE BEING COMPLETED CONCURRENTLY WITH THIS PROJECT UNDER A SEPARATE CONTRACT, BUT ARE SHOWN AS EXISTING ON THIS DRAWING PACKAGE FOR REFERENCE.
- CONTRACTOR TO COORDINATE WITH REFRIGERATION PLANT UPGRADES AS REQUIRED FOR THE SCOPE OF WORK IN THIS DRAWING PACKAGE.



FILE NAME: 2453.PC01 ALBERTS FR AND DEHUMIDIFIER MECHANICAL DRAWINGS.RVT | PLOT DATE: 2025.10.30 | SAVED BY: RBYM

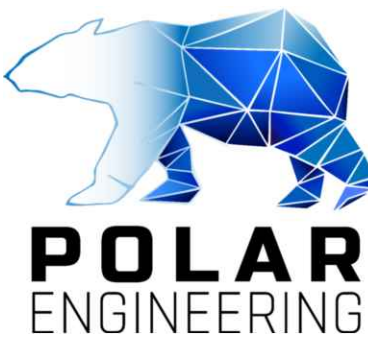
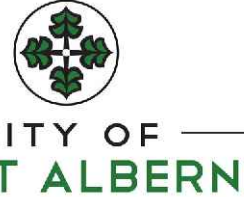

KEYED NOTES:

1. RE-USE EXISTING PVC TAKEOFFS - CONFIRM SUITABLE SIZE.

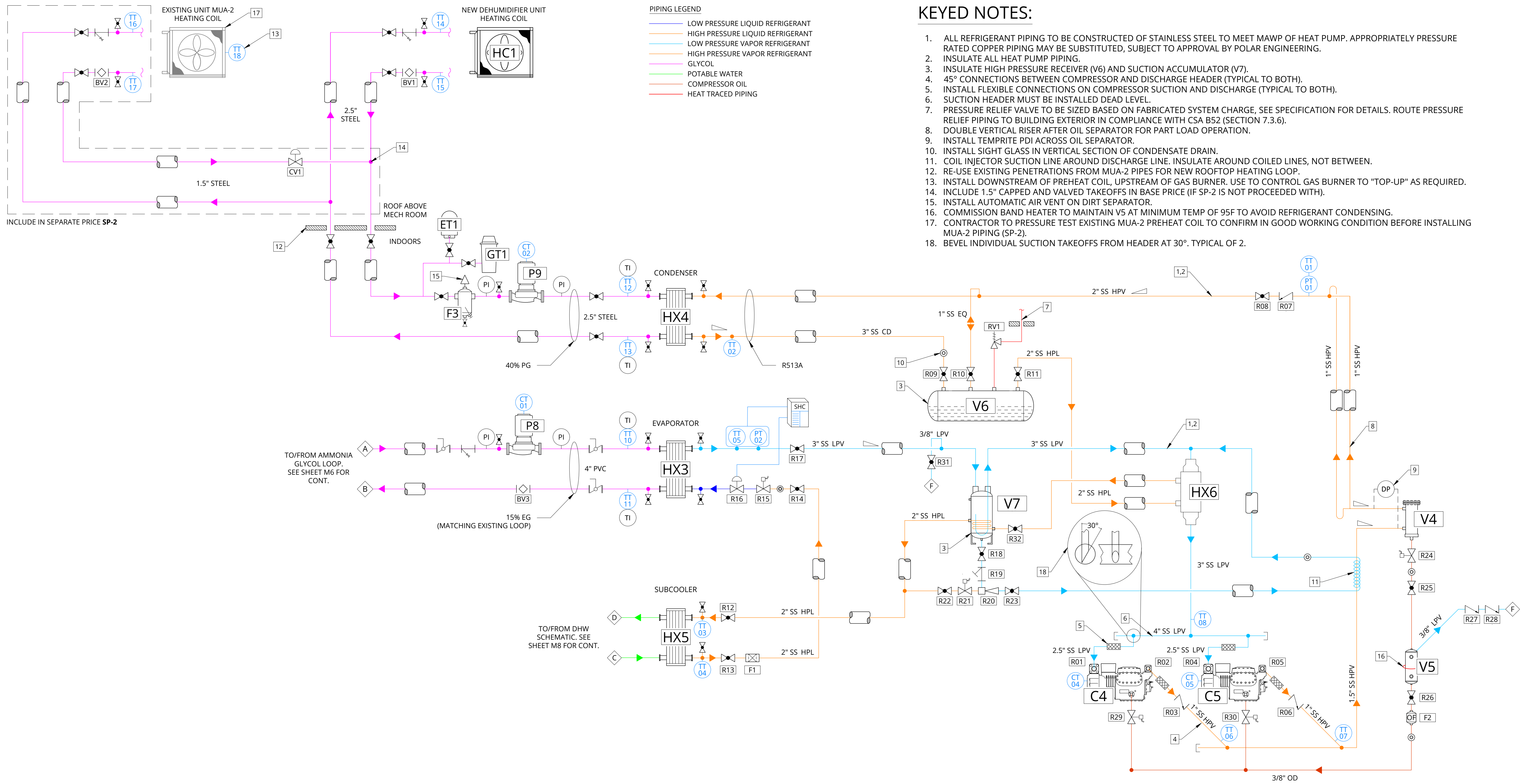


1  
M6

P&ID - AMMONIA PLANT - NEW

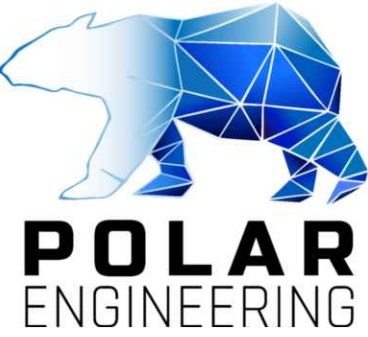


<div>PRIME CONSULTANT</div> <div><div><b>POLAR</b> ENGINEERING</div></div> <div>PHONE 778-700-1086</div> <div>WEBSITE www.polareng.ca</div>	CONSULTANT	CLIENT <div><div>CITY OF PORT ALBERNI</div></div>	ENGINEER OF RECORD <div><div>PROFESSIONAL ENGINEER IAN WELLE # 47179 2025-10-30</div></div> <div>IAN WELLE P.ENG.</div> <div>EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	PROJECT TITLE ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION	DRAWING TITLE AMMONIA PLANT - NEW	REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ # 2453
				1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	SHEET SIZE D		
				2	2025-01-10	EVN	BC	ISSUED FOR REVIEW			
				3	2025-02-03	EVN	BC	ISSUED FOR TENDER	SHEET NAME M6		
				4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER			
				5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER			
				6	-	-	-	-			



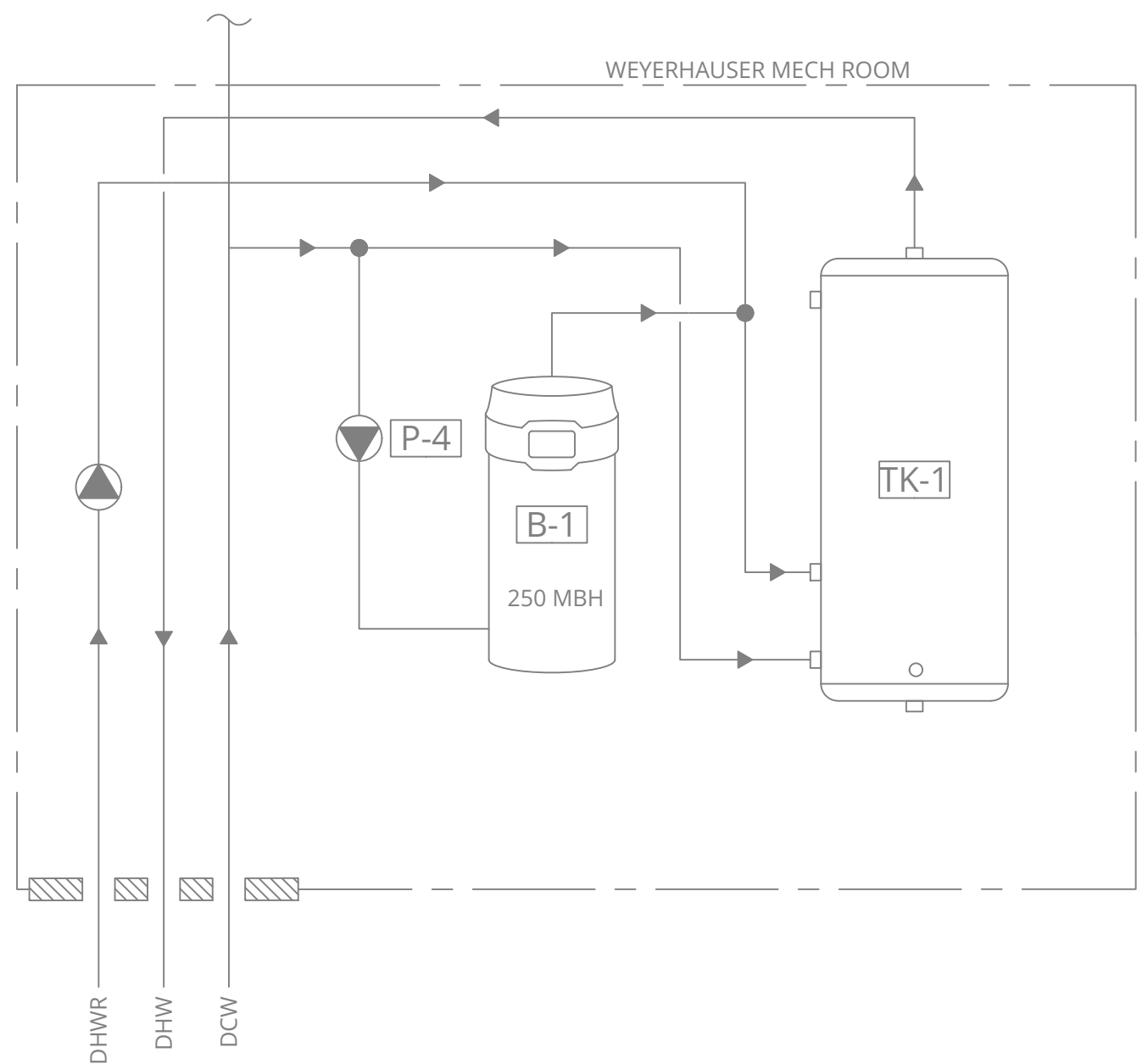


1  
M7

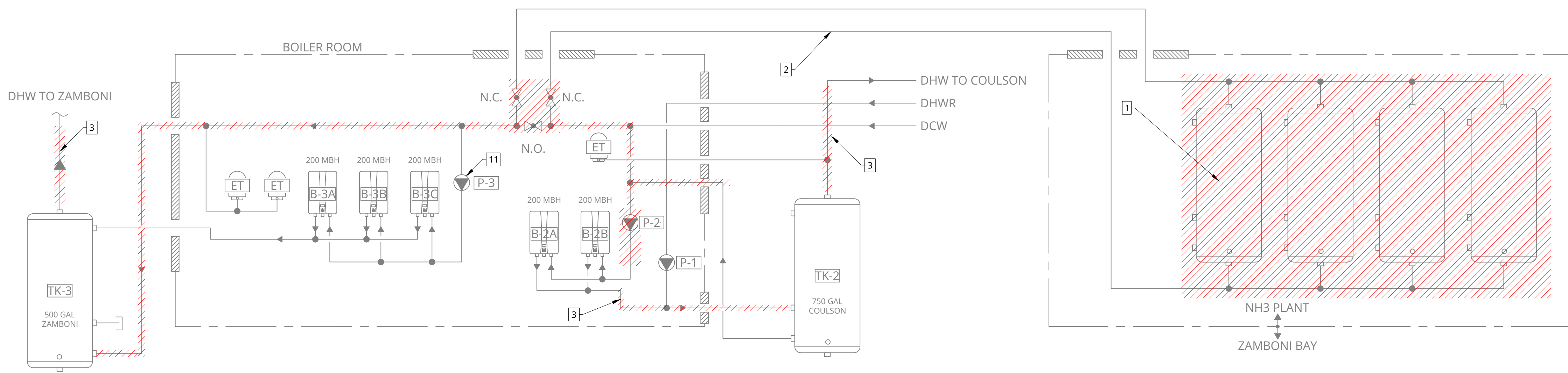
**P&ID - HEAT PUMP AND HYDRONIC INTEGRATION**

<div>PRIME CONSULTANT</div> <div><b>POLAR</b> ENGINEERING</div> <div>PHONE 778-700-1086 WEBSITE www.polareng.ca</div>	<div>CONSULTANT</div> <div></div> <div>PHONE WEBSITE</div>	<div>CLIENT</div> <div><b>CITY OF</b> <b>PORT ALBERNI</b></div> <div>PHONE 250-723-2146 WEBSITE www.portalberni.ca</div>	<div>ENGINEER OF RECORD</div> <div><b>IAN WELLE P.ENG.</b></div> <div>EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	<div>PROJECT TITLE</div> <div>ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION</div>	REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ #
					1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	2453
					2	2025-01-10	EVN	BC	ISSUED FOR REVIEW	D
					3	2025-02-03	EVN	BC	ISSUED FOR TENDER	
					4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER	M7
					5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER	
					6	-	-	-	-	





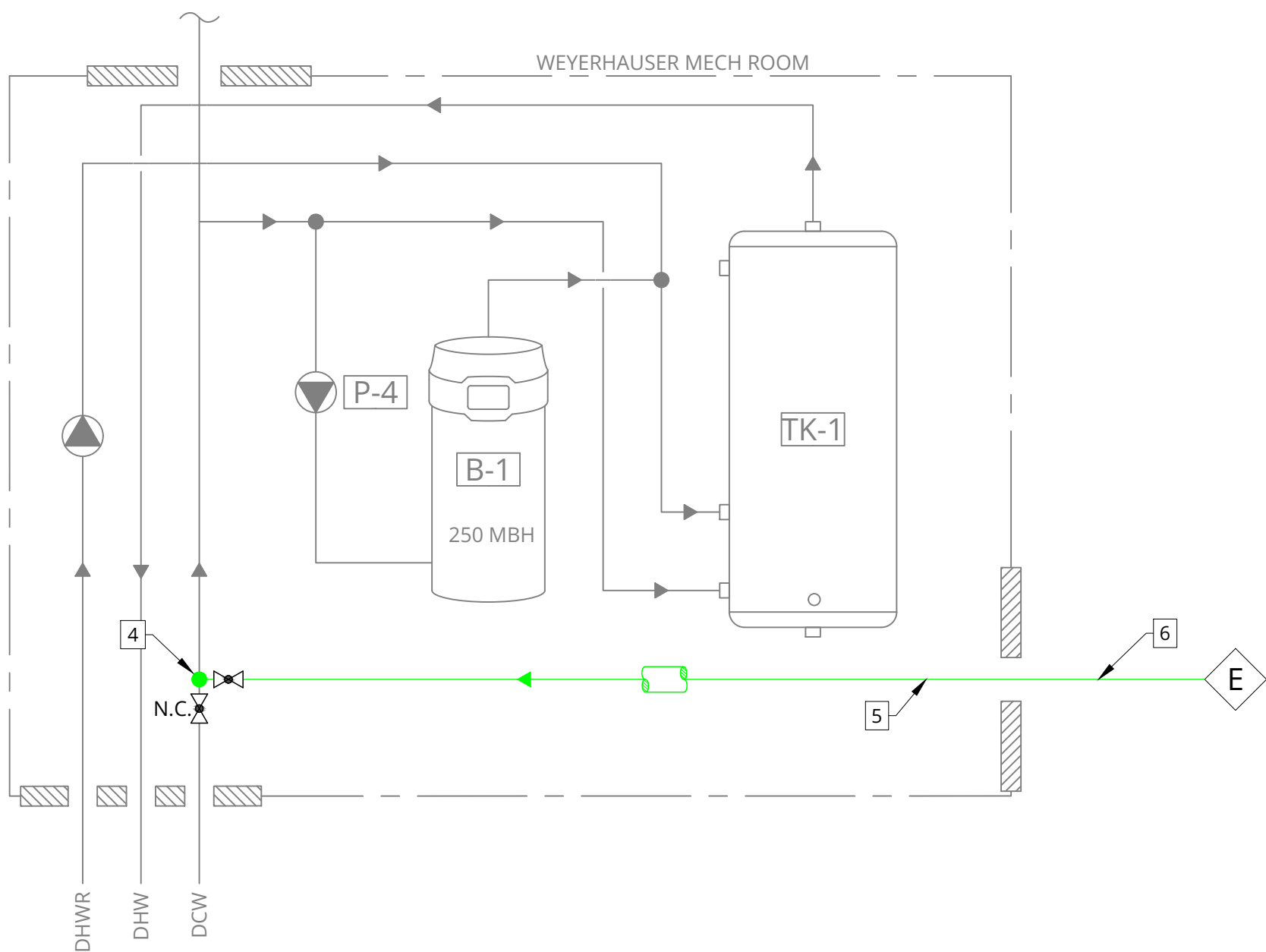
1 Weyerhaeuser DHW Plant - Existing  
M8



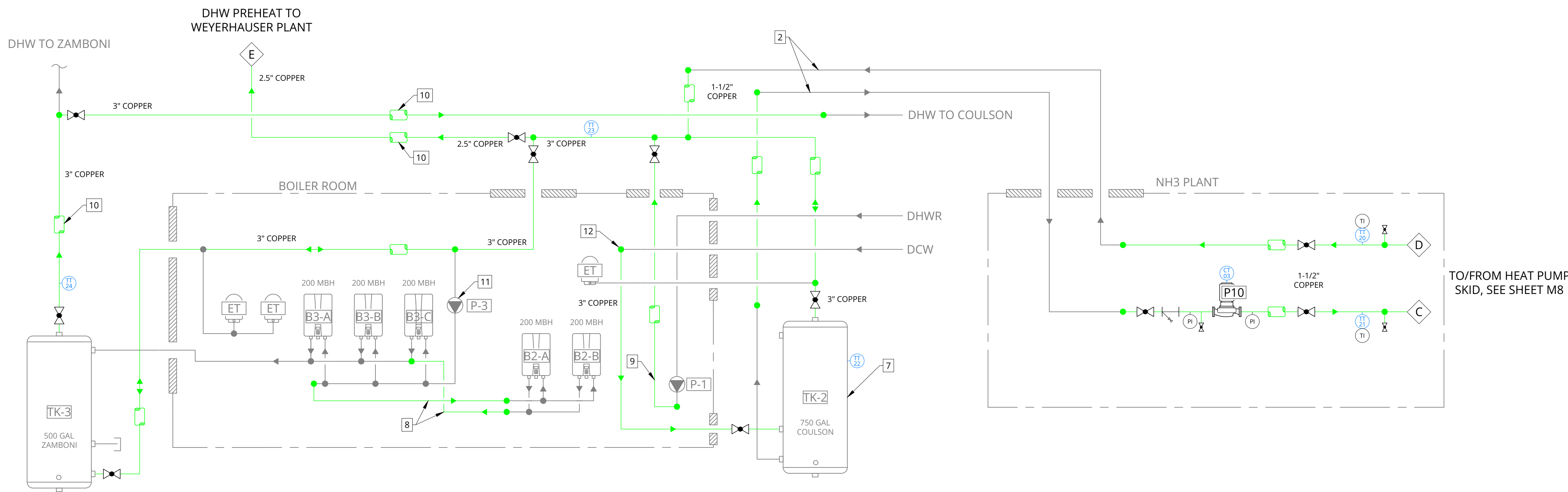
2 Coulson DHW Plant - Existing/Demo  
M8

KEYED NOTES:




1. DEMOLISH 4X THERMASTOR DESUPERHEATERS AND ASSOCIATED PIPING. STAND TO REMAIN.
2. REUSE SUPPLY AND RETURN PIPING FOR NEW SUBCOOLER CONNECTION TO DHW SYSTEM.
3. PIPING TO BE REWORKED. SEE 2/M8.
4. INTERRUPT DCW FEED UPSTREAM OF P4 CONNECTION.
5. MATCH EXISTING DCW LINE SIZE.
6. SEE SHEET M4 FOR PIPE ROUTING.
7. TK-2 WILL FUNCTION AS THE PRE-HEAT TANK, TO FEED INTO THE FINAL TANKS TK-3 AND TK-1.
8. MATCH EXISTING LINE SIZE OF BOILER CIRCULATION PIPING TO/FROM TK-3.
9. MATCH EXISTING DHWR LINE SIZE.
10. INSULATE ALL NEW DHW PIPING.
11. EXISTING GRUNDFOS UPS26-150F THREE-SPEED CIRCULATION PUMP.
12. INTEGRATE WITH EXISTING 3" DCW FEED.



3 Weyerhaeuser DHW Plant - Integration  
M8



4 Coulson DHW Plant - Integration  
M8

<div>PRIME CONSULTANT</div> <div><b>POLAR</b> ENGINEERING</div> <div>PHONE 778-700-1086 WEBSITE www.polareng.ca</div>	<div>CONSULTANT</div> <div></div> <div>PHONE WEBSITE</div>	<div>CLIENT</div> <div><b>CITY OF</b> <b>PORT ALBERNI</b></div> <div>PHONE 250-723-2146 WEBSITE www.portalberni.ca</div>	<div>ENGINEER OF RECORD</div> <div><b>IAN WELLE P.ENG.</b> EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	<div>PROJECT TITLE</div> <div>ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION</div>	REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ #
					1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	2453
					2	2025-01-10	EVN	BC	ISSUED FOR REVIEW	D
					3	2025-02-03	EVN	BC	ISSUED FOR TENDER	
					4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER	M8
					5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER	
				6	-	-	-	-		
<div>DRAWING TITLE</div> <div>DOMESTIC HOT WATER INTEGRATION</div>										



HEAT EXCHANGER SCHEDULE													
TAG	DESCRIPTION	MAKE	MODEL	CAPACITY	HOT SIDE				COLD SIDE				NOTES
					FLUID	PRESSURE DROP (PSI)	INLET TEMP. (F)	OUTLET TEMP. (F)	FLUID	PRESSURE DROP (PSI)	INLET TEMP. (F)	OUTLET TEMP. (F)	
HX3	HEAT PUMP EVAPORATOR	ALFA LAVAL	ACH502DQ	860 MBH	15%EG	2.01	81	71	R513A	16.2	60	79	
HX4	HEAT PUMP CONDENSER	ALFA LAVAL	CBH112	920 MBH	R513A	2.99	204	165	40%PG	7.76	140	160	
HX5	HEAT PUMP SUBCOOLER	DOUCETTE	BPDW415	240 MBH	R513A	4.7	165	130	WATER	2.6	120	140	1
HX6	HEAT PUMP LIQUID-SUCTION HX	DOUCETTE	SLHE		R513A	-	165	-	R513A	-	80	90	2,3

NOTES:  
1. DOUBLE-WALL VENTED FOR POTABLE WATER SERVICE.  
2. INSTALL IN VERTICAL ORIENTATION PER MANUFACTURER RECOMMENDATIONS.  
3. EXACT PERFORMANCE TO BE CONFIRMED IN ADDENDUM.

DEHUMIDIFIER SCHEDULE										
TAG	DESCRIPTION	MAKE	MODEL	SUPPLY AIR (CFM)	SUPPLY AIR ESP (IN-WC)	H <sub>2</sub> O REMOVAL RATE (LB/HR)	REACT AIR (CFM)	POWER (V/PH/HZ)	HEATER (MBH)	NOTES
DH-1	DEHUMIDIFIER	ENGINEERED AIR	HE/DWD500/C/O/MV	16,000	1.0	297	6,000	575/3/60	1590	1,2,3

NOTES:  
1. REFER TO ELECTRICAL DRAWINGS FOR POWER DETAILS.  
2. REFER TO STRUCTURAL FOR LOCATION & CURB DETAILS.  
3. INCLUDES HYDRONIC REACTIVATION PRE-HEAT COIL.

PUMP SCHEDULE									
TAG	DESCRIPTION	MAKE	MODEL	FLUID	HEAD (PSI)	FLOW (GPM)	MOTOR HP	ELECTRICAL (V/PH/HZ)	NOTES
P-8	HEAT PUMP EVAPORATOR LOOP	TO SPEC	-	15% EG	10	180	1.5	575/3/60	
P-9	HEAT PUMP CONDENSER LOOP	TO SPEC	-	40% PG	24	82	3	575/3/60	
P-10	HEAT PUMP SUBCOOLER LOOP	TO SPEC	-	POTABLE WATER	8	23	0.5	120/1/60	1,2

NOTES:  
1. INLINE CIRCULATOR-TYPE PUMP SUITABLE FOR POTABLE WATER SERVICE  
2. VARIABLE SPEED PUMP.

COMPRESSOR SCHEDULE								
TAG	MAKE	MODEL	OPERATION (F)		CAPACITY (TR)	MOTOR (kW)	ELECTRICAL (V/PH/Hz)	NOTES
			SST	SDT				
C4	BITZER	6FE-50Y	50	165	56	61.6	208/3/60	1,2
C5	BITZER	6FE-50Y	50	165	56	61.6	208/3/60	1,2

NOTES:  
1. TO BE SUPPLIED WITH MOTOR VERSION 1, BITZER CM-RC-01 IQ MODULE, BITZER SE-I1 COMPRESSOR PROTECTION MODULE, PRESSURE TRANSDUCER ADD-ON, VARISTEP CAPACITY CONTROL, BITZER OLM-IQ OIL LEVEL CONTROLLER MODULE, BITZER HEAD COOLING FAN.  
2. COMPRESSORS TO BE PROVIDED WITH BITZER RECOMMENDED OIL (BSE 55). SUBSTITUTE OILS WILL NOT BE ACCEPTED.

CONTROL DAMPER SCHEDULE							
TAG	DESCRIPTION	MAKE	MODEL	SUPPLY AIR (CFM)	WIDTH (IN)	HEIGHT (IN)	NOTES
CD1	CONTROL DAMPER	TAMCO	SERIES 1000	16,000	40	40	1
CD2	CONTROL DAMPER	TAMCO	SERIES 1000	5,000	30	30	1
CD3	CONTROL DAMPER	TAMCO	SERIES 1000	16,000	40	40	2,3
CD4	CONTROL DAMPER	TAMCO	SERIES 1000	5,000	24	24	2,3

NOTES:  
1. INSTALL WITH MODULATING ACTUATOR  
2. INSTALL WITH 2 POSITION ACTUATOR  
3. NEMA 3 OR EQUIVALENT RATING FOR OUTDOOR INSTALLATION.

GRILLE & DIFFUSER SCHEDULE						
TAG	DESCRIPTION	MAKE	MODEL	AIRFLOW (CFM)	SIZE	NOTES
RG1	RETURN GRILLE	PRICE INDUSTRIES	80 SERIES EGG CRATE	16,000	48" x 40"	
RG2	RETURN LOUVER	PRICE INDUSTRIES	80 SERIES EGG CRATE	5,000	36" x 24"	
SG1	HIGH CAPACITY DRUM LOUVER	PRICE INDUSTRIES	HCD	5,333	54" x 15"	1
SG2	AIRFOIL GRILLE	PRICE INDUSTRIES	20/30 - MODEL 22	5,000	30" x 30"	
SG3	FABRIC DIFFUSER	DUCTSOX	VERONA NP	16,000	44"	2,3

NOTES:  
1. TYPICAL OF THREE.  
2. 160' RUN, DIFFUSER HOLES AT 9 O'CLOCK AND 10:30.  
3. PART OF SEPARATE PRICE SP-1.

PRESSURE VESSEL SCHEDULE										
TAG	DESCRIPTION	DUTY	DIAMETER	LENGTH	OP TEMP (F)	OP PRESS (PSIA)	DWP (PSI)	MAKE	MODEL	NOTES
V4	OIL SEPARATOR	R513A	8-5/8"	39"	204	344	650	TEMPRITE	928	2
V5	OIL RESERVOIR	R513A	6"	13-1/2"	204	344	650	TEMPRITE	47058	
V6	HIGH PRESSURE RECEIVER	R513A	-	-	165	344	MIN. 450	TO SPEC	TO SPEC	1
V7	SUCTION ACCUMULATOR W BOIL OFF COIL	R513A	14"	42"	50	66	MIN. 450	HENRY	AF-14042+	3

NOTES:  
1. TO BE SELECTED BY CONTRACTOR. RECEIVER MUST ACCOMMODATE 100% REFRIGERANT CHARGE AT 80% FILL LEVEL.  
2. 3/8" SAE OIL RETURN CONNECTION.  
3. VESSEL TO BE RE-RATED BY MANUFACTURER TO ACHIEVE MINIMUM DWP OF 450PSI @ -20F MDMT.

CONTROL VALVE SCHEDULE											
TAG	LOCATION	TYPE	MAKE	MODEL	LINE SIZE (IN)	DESIGN FLOW RATE (GPM)	MINIMUM SHUT OFF PRESSURE (PSI)	CV	FAIL-SAFE	ELECTRICAL (V/PH/HZ)	NOTES
CV1	RTU-1 GLYCOL RETURN	2-WAY, MOD	BELIMO	-	1.5	17	75	19	CLOSED	24/1/60	1,2

NOTES:  
1. SELECT VALVE AND ACTUATOR SUITABLE FOR OUTDOOR INSTALLATION.  
2. INCLUDED IN SEPARATE PRICE SP-2.

FILTER SCHEDULE						
TAG	DESCRIPTION	MAKE	MODEL	CAPACITY (GAL)	FLUID	NOTES
FL3	AIR & DIRT SEPARATOR	CALEFFI	NA546060AM	3.6	40% PG	1

NOTES:  
1. ENSURE BLOWDOWN VALVE & MAGNETIC WELL HAVE ADEQUATE SERVICE CLEARANCE.

GLYCOL FEED TANK SCHEDULE							
TAG	MAKE	MODEL	MAKE-UP CAPACITY (GAL)	PUMP (GPM)	FILL PRESSURE (PSIG)	ELECTRICAL (V/PH/HZ)	NOTES
GT1	CALEFACTIO	GMP6	6	1.6	20	120/1/60	1,2,3,4

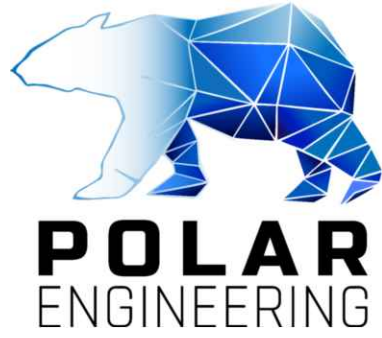


NOTES:  
1. C/W REMOTE ALARM KIT (#GMPDC).  
2. DIMENSIONS 12X12X39" WITH 12" CLEARANCE.  
3. C/W LIQUID LEVEL GAUGE, PUMP SUCTION HOSE W/STRAINER, PRESSURE PUMP W/ CHECK VALVE, CUTOUT PIGGYBACK LEVEL FLOAT SWITCH, ADJUSTABLE PRV.  
4. 0.5" HYDRONIC CONNECTION MAY BE OF FLEXIBLE TYPE. MINIMUM 50PSI RATING.

BALANCING VALVES						
TAG	MAKE	MODEL	DESCRIPTION	FAILSAFE	FLOW [GPM]	NOTES
BV1	TO SPEC	-	BALANCE DH1 FLOW	OPEN	82	1,2
BV2	TO SPEC	-	BALANCE MUA2 FLOW	OPEN	17	1,3
BV3	TO SPEC	-	BALANCE P8/HX3 FLOW	OPEN	140	1

NOTES:  
1. C/W TEST PORTS AND MEMORY.  
2. BALANCE TO DESIRED FLOW WITH CV1 CLOSED.  
3. BALANCE TO DESIRED FLOW WITH CV2 OPEN.  
4. PART OF SEPARATE PRICE SP-2.

REFRIGERATION VALVES					
TAG	SERVICE	VALVE DESCRIPTION	MANUFACTURER	MODEL	NOTES
R01	C4	ISOLATION VALVE	BITZER	N/A	1
R02	C4	ISOLATION VALVE	BITZER	N/A	1
R03	C4	CHECK VALVE	DANFOSS	CHV 25 STRAIGHT	
R04	C5	ISOLATION VALVE	BITZER	N/A	1
R05	C5	ISOLATION VALVE	BITZER	N/A	1
R06	C5	CHECK VALVE	DANFOSS	CHV 25 STRAIGHT	
R07	DISCHARGE HEADER	CHECK VALVE	DANFOSS	CHV 50 STRAIGHT	
R08	DISCHARGE HEADER	ISOLATION VALVE	DANFOSS	SVA 50 STRAIGHT	
R09	V6	ISOLATION VALVE	DANFOSS	SVA 75 STRAIGHT	
R10	V6	ISOLATION VALVE	DANFOSS	SVA 25 STRAIGHT	
R11	V6	ISOLATION VALVE	DANFOSS	SVA 50 STRAIGHT	
R12	HX5	ISOLATION VALVE	DANFOSS	SVA 50 STRAIGHT	
R13	HX5	ISOLATION VALVE	DANFOSS	SVA 50 STRAIGHT	
R14	HX3	ISOLATION VALVE	DANFOSS	SVA 50 STRAIGHT	
R15	HX3	SOLENOID VALVE	DANFOSS	EVR 40 V2 NS 54	
R16	HX3	ELECTRONIC EXPANSION VALVE	EMERSON	EX8	
R17	HX3	ISOLATION VALVE	DANFOSS	SVA 75 STRAIGHT	
R18	V7	ISOLATION VALVE	DANFOSS	GBC V2	
R19	V7	STRAINER	TO SPEC	TO SPEC	
R20	V7	INJECTOR	PHILLIPS	TBD	
R21	V7	SOLENOID VALVE	DANFOSS	EVR V2	
R22	V7	ISOLATION VALVE	DANFOSS	GBC V2	
R23	V7	ISOLATION VALVE	DANFOSS	GBC V2	
R24	V4	SOLENOID VALVE	SPORLAN	B6F1 + MKC-1	2
R25	V4	ISOLATION VALVE	DANFOSS	GBC 12S V2	
R26	V5	ISOLATION VALVE	DANFOSS	GBC 12S V2	
R27	V5	DIFFERENTIAL CHECK VALVE	SPORLAN	OCV-20	
R28	V5	DIFFERENTIAL CHECK VALVE	SPORLAN	OCV-20	
R29	C4	OIL LEVEL REGULATOR	BITZER	OLM-IQ	3
R30	C5	OIL LEVEL REGULATOR	BITZER	OLM-IQ	3
R31	SUCTION HEADER	ISOLATION VALVE	TO SPEC	TO SPEC	
R32	HX6	ISOLATION VALVE	DANFOSS	GBC V2	
F1	LIQUID LINE	FILTER DRIER	DANFOSS	DCR-09617-DM	
F2	OIL DRAIN LINE	COMPRESSOR OIL FILTER	TO SPEC	TO SPEC	4
RV1	V6	PRESSURE RELIEF VALVE	TO SPEC	TO SPEC	5

NOTES:  
1. TO BE SUPPLIED WITH BITZER COMPRESSOR.  
2. SOLENOID TO REMAIN CLOSED WHILE COMPRESSOR IS OFF. TIME DELAY SOLENOID OPEN AFTER COMP. START TO ALLOW OIL WARMUP.  
3. PROVIDES OIL LEVEL CONTROL AND MONITORING. INTEGRATE WITH BITZER IQ MODULE.  
4. CONTRACTOR TO SELECT OIL FILTER BASED ON COMPRESSOR MANUFACTURER RECOMMENDATION.  
5. PRESSURE RELIEF VALVE TO BE SIZED BASED ON FABRICATED SYSTEM CHARGE. SEE SPECIFICATIONS FOR DETAILS. ROUTE PRESSURE RELIEF PIPING TO EXTERIOR OF THE BUILDING IN COMPLIANCE WITH CSA B52 (SECTION 7.3.6).

<div>PRIME CONSULTANT</div> <div></div> <div>PHONE 778-700-1086</div> <div>WEBSITE www.polareng.ca</div>	<div>CONSULTANT</div> <div></div> <div>PHONE</div> <div>WEBSITE</div>	<div>CLIENT</div> <div></div> <div>PHONE 250-723-2146</div> <div>WEBSITE www.portalberni.ca</div>	<div>ENGINEER OF RECORD</div> <div></div> <div>EGBC PERMIT TO PRACTICE NUMBER 1003657</div>	PROJECT TITLE		REV #	DATE	DRAWN BY	CHECKED BY	DESCRIPTION	PROJ #
				ALBERNI VALLEY MULTIPLEX - ENERGY RECOVERY AND DEHUMIDIFICATION		1	2024-11-13	EVN	BC	ISSUED FOR COORDINATION	2453
						2	2025-01-10	EVN	BC	ISSUED FOR REVIEW	SHEET SIZE D
				DRAWING TITLE		3	2025-02-03	EVN	BC	ISSUED FOR TENDER	SHEET NAME M9
						4	2025-02-07	EVN	BC	RE-ISSUED FOR TENDER	
						5	2025-10-30	AH	BC	RE-ISSUED FOR TENDER	
						6	-	-	-	-	



