



LACOMBE RESEARCH FACILITY ABATTOIR RENOVATION

LACOMBE, ALBERTA

STANTEC PROJECT NO.: 115302873

ISSUED FOR TENDER
2017.01.04

CLIENT

**AAFC LACOMBE MEAT RESEARCH FACILITY
AND ABATTOIR**
600 C AND E TRAIL
LACOMBE, ALBERTA

MECHANICAL

STANTEC CONSULTANT LTD.
1100-4900 50TH STREET
RED DEER, ALBERTA T4N 1X7

T. 403.341.3320
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NUMBER	NAME
H100	MECHANICAL LEGENDS & SCHEDULES
H101	ENLARGED MECHANICAL ROOM PLANS - DEMOLITION
H102	ENLARGED MECHANICAL ROOM PLANS - RENOVATION
H103	ENLARGED MECHANICAL PENTHOUSE PLAN - RENOVATION
H104	MECHANICAL SCHEMATIC AND DETAIL

ELECTRICAL

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NUMBER	NAME
E001	SYMBOL LEGEND, GENERAL NOTES AND DRAWING LIST
E100	ELECTRICAL DEMOLITION & RENOVATION

PIPING IDENTIFICATION AND SYMBOLS

-----	DOMESTIC COLD WATER		SANITARY PIPING UP
—DHW PROCESS—	PROCESS DOMESTIC HOT WATER		SANITARY/STORM TEE UP
---SCDCW---	SOFT COLD WATER		STANDARD CLEAN-OUT IN LINE END OF RUN
—SAN—	SANITARY DRAIN (ABOVE GRADE OR FLOOR)		GATE VALVE
—NG—	NATURAL GAS		PRESSURE REDUCING VALVE
---HWR---	PROCESS HOT WATER RETURN		SWING GATE CHECK VALVE
—HWS—	PROCESS HOT WATER SUPPLY		REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	PIPE CAP		BALL VALVE
	PIPE BREAK FLOW ARROW		PLUG VALVE
	PIPING ELBOW DOWN		FUNNEL FLOOR DRAIN
	PIPING ELBOW UP		FLOOR DRAIN
	PIPING TEE UP		HOSE BIBB
	PIPING TEE DOWN		UNION CONNECTION
	PIPING TEE		FLANGED CONNECTION
	SANITARY PIPING DOWN		FLEXIBLE CONNECTOR

HVAC SYMBOLS

	RECTANGULAR DUCT
	ROUND DUCT
	ACOUSTIC DUCT INSULATION
	SQUARE ELBOW TURN (SUPPLY UP/DOWN)
	SQUARE ELBOW TURN (RETURN UP/DOWN)
	SQUARE ELBOW TURN (EXHAUST UP/DOWN)
	SQUARE ELBOW TURN (INTAKE UP/DOWN)
	ELBOW, ROUND, SMOOTH RADIUS (UP/DOWN)

	MOTORIZED DAMPER		ELBOW, RECTANGULAR, SMOOTH RADIUS WITHOUT VANES (1.5 R/W DEFAULT)
	UNIT HEATER		THERMOSTAT
	AIR OUTLET TAG (REFER TO SCHEDULE)		SWITCH
	QUANTITY TYPE SIZE (mm) VOLUME (L/s)		THICKNESS OF DUCT INSULATION
	FIRE DAMPER		AIR FLOW ARROWS
	BALANCING DAMPER		CONTROL LINE
			FIXTURE TAG
			EQUIPMENT TAG
			EQUIPMENT TAG

MAKE-UP AIR UNIT SCHEDULE

UNIT No.	SERVICE	MANUFACTURER	MODEL No.	FAN SIZE	CAPACITY (L/s)	EXIT STATIC PRESS. (Pa)	AIR OUTLET VELOCITY (m/s)	MOTOR		HEATING INPUT CAPACITY (kW)	REMARKS
								kW	V/Ph/Hz		
MUA-1	WORKSHOP/MECHANICAL ROOM	GREENHECK	MSCF-15L-FC-4	—	209	125	1.25	0.19	208/3/60	3.46	MODULAR SMALL CABINET FAN C/W FILTER, MOTORIZED DAMPER, AND HOT WATER HEATING COIL HC-1, CONTROL CENTRE WITH DISCONNECT, 24V TRANSFORMER & TERMINAL STRIP.

COIL SCHEDULE

TAG No.	SERVICE	MANUFACTURER	COIL SIZE (mm x mm)	CAPACITY (kW)	AIR FLOW (L/s)	PRESS. DROP (PaG)	FACE VEL. (m/s)	ENT. AIR DB (°C)	LVG. AIR DB (°C)	ENT. FLUID (°C)	LVG. FLUID (°C)	TOTAL FLOW (L/s)	VEL. (L/s)	PRESSURE DROP (kPaG)	TRANSFER MEDIUM	REMARKS
HC-1	MUA-1	GREENHECK	187.5 x 775	3.46	209	—	1.31	—40	24.40	82.20	71.10	0.08	—	5.38	50% ETHYLENE GLYCOL	

FAN SCHEDULE

FAN No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	AIR FLOW (L/s)	TOTAL STATIC PRESS. (Pa)	MOTOR (kW)	RPM	ELECTRICAL (V/Ph/Hz)	TYPE	REMARKS
EF-1	EXHAUST	WORKSHOP	GREENHECK	BSQ-90-4	190	125	0.19	1725	120/1/60	INLINE	INTERLOCKED WITH MUA-1, C/W SPRING ISOLATION KIT.

MOTORIZED DAMPER SCHEDULE

TAG No.	LOCATION	MANUFACTURER	SERVICE	MODEL No.	NOMINAL SIZE (mm x mm)	BLADE ARR'GT	REMARKS
MD-1	WORKSHOP	TAMCO	OUTSIDE AIR LOUVRE	SERIES 9000	AS NOTED ON DRAWING	PARALLEL	INSULATED LOW LEAKAGE AND THERMALLY BROKEN, AUTOMATIC CONTROL DAMPER WITH EXTRUDED SILICONE SEALS, INTERLOCKED AS NOTED, FAST ACTING, BELIMO ACTUATOR MODEL LF-120, 120V.
MD-2	WORKSHOP	TAMCO	EXHAUST FAN EE-1 EXHAUST HOOD	SERIES 9000	AS NOTED ON DRAWING	PARALLEL	INSULATED LOW LEAKAGE AND THERMALLY BROKEN, AUTOMATIC CONTROL DAMPER WITH EXTRUDED SILICONE SEALS, INTERLOCKED AS NOTED, BELIMO ACTUATOR MODEL LF-120, 120V.

LOUVRE SCHEDULE

TAG No.	MANUFACTURER	MODEL No.	FREE AREA (%) (#1200x1200)	CONSTRUCTION	FINISH	REMARKS
L-1	E.H. PRICE	DE635	51	ALUMINUM	OPTIONAL	STORM RESISTANT DRAINABLE BLADE CONSTRUCTION, COLOUR AS SELECTED BY DEPARTMENT REPRESENTATIVE, CONFIRM BEFORE ORDERING. SUBMIT APPROVAL SAMPLE. SIZE AS PER DRAWINGS, C/W BIRD SCREEN

ELECTRIC BASEBOARD HEATER SCHEDULE

TAG No.	LOCATION	MANUFACTURER	MODEL No.	OUTPUT (W)	VOLTS	PHASE	ACCESSORIES & REMARKS
EBB-1	NEW MECHANICAL ROOM	OUELLET	OFM2508	2500	208	1	ELECTRIC BASEBOARD HEATER C/W BUILT IN LINE VOLTAGE THERMOSTAT, OPTION OFM-TB6.

WATER SOFTENER SCHEDULE

WATER SOFTENER SCHEDULE																
TAG No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	FLUID	DESIGN FLOW (L/s)	MAX FLOW RATE (L/s)	MAX OPERATING PRESS. (PSIG)	MAX OPERATING TEMP. (°C)	SALT STORAGE CAPACITY (KG)	DIMENSIONS		DIMENSIONS		ELECTRICAL (V/Ph/Hz)	REMARKS
											MEDIA TANK		SALT STORAGE			
											DIAMETER (mm)	HEIGHT (mm)	DIAMETER (mm)	HEIGHT (mm)		
WS-1	SOFT COLD WATER SUPPLY	MECHANICAL ROOM	FLECK	140-29-120-DX-7	BRINE	0.9	2.5	150	48.9	2041	1250	1500	900	1800	120/1/60	DUPLEX ALTERNATING METERED SOFTENER C/W FULL 2.0" VALVE FOR HIGH FLOW RATES, 8% CROSS-LINKED HIGH-CAPACITY ION-EXCHANGE RESIN, 3200 NXT PROGRAMMABLE CONTROLLER, FLECK 2900S CONTROL VALVE, SAFETY BRINE VALVE WITH AIR CHECK, 100% COMPOSITE FIBERGLASS CONSTRUCTION, NSF CERTIFIED.

HEAT EXCHANGER SCHEDULE

TAG No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	TRANSFER MEDIUMS		HEATING				HEATED				CONSTRUCTION			REMARKS
					HEATING	HEATED	ENT. FLUID (°C)	LVG. FLUID (°C)	FLUID FLOW (L/s)	PRESS. DROP (kPa)	ENT. FLUID (°C)	LVG. FLUID (°C)	FLUID FLOW (L/s)	PRESS. DROP (kPa)	STYLE	PLATES	GASKETS	
HE-1	PROCESS HOT WATER	MECHANICAL ROOM	BELL & GOSSET	P37DW	WATER	WATER	95	88.1	9.5	23.4	5	90	0.8	0.7	PLATE & FRAME	1588mm x 521mm, 316 STAINLESS STEEL	NITRILE HT	DOUBLE WALL CONSTRUCTION FOR POTABLE WATER

PROCESS HOT WATER TANK SCHEDULE

TAG No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	FLUID	WORKING PRESS. (kPaG)	MAX PRESS. (kPaG)	CAPACITY (L)	DIMENSIONS		REMARKS
									DIAMETER (mm)	HEIGHT (mm)	
TK-1	PROCESS HOT WATER	NEW MECH. ROOM	AO SMITH	T200A	WATER	938	1103.2	757.1	776	1854	SUPPLIED BY OWNER, FOR INFORMATION ONLY.
TK-2	PROCESS HOT WATER	NEW MECH. ROOM	AO SMITH	T200A	WATER	938	1103.2	757.1	776	1854	EXISTING TANK IN MECHANICAL PENTHOUSE TO BE RELOCATED TO NEW MECHANICAL ROOM. FOR INFORMATION ONLY.

PUMP SCHEDULE

TAG No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	TYPE	FLUID	FLOW (L/s)	HEAD (kPaG)	MOTOR (kW)	RPM	ELECTRICAL (V/Ph/Hz)	REMARKS
P-3	POTABLE PROCESS HOT WATER	MECH. ROOM 136A	ARMSTRONG	4360	CIRCULATOR	WATER	0.64	7.3	3.73	1740	120/1/60	POTABLE WATER

EXPANSION TANK SCHEDULE

TAG No.	SERVICE	LOCATION	MANUFACTURER	MODEL No.	FLUID	WORKING PRESS. (kPaG)	MAX PRESS. (kPaG)	CAPACITY (L)	DIMENSIONS		REMARKS
									DIAMETER (mm)	HEIGHT (mm)	
ET-1	PROCESS HOT WATER	NEW MECH. ROOM	FLEXCON	PH12	WATER	938	1103.2	8.1	280	370	POTABLE WATER EXPANSION TANK

EYEWASH STATION SCHEDULE

FIXTURE TAG	TYPE	FIXTURE CONNECTIONS (mm)				DESCRIPTION
		DCW	DHW	DTHW	DRAIN	
EW-1	EYEWASH STATION	—	—	—	—	BRADLEY EMERGENCY FIXTURE S19-921, SELF-CONTAINED EYEWASH UNIT, FLUSHES EYES FOR 15 MINUTES AT A MINIMUM OF 0.4 GALLONS/MINUTE, 7 GALLON TANK CAPACITY, TRANSPARENT TANK ASSEMBLY, MADE OF IMPACT RESSISTANT PLASTIC, COLORED BRIGHT YELLOW FOR HIGH VISIBILITY, STURDY PEDESTAL WITH HINGED EYEWASH TRAY, PULLS DOWN IN ONE QUICK MOTION, REMOVABLE TANK IS INVERTED ONTO PEDESTAL, PIERCING A LINER. STAINLESS STEEL CLAMPS HOLD TANK TO PEDESTAL. WHEN ARM IS PULLED DOWN, WATER FLOW IS ACTIVATED. STAINLESS STEEL BRACKET, WASTE NIPPLE FOR ½" I.D. TUBE.

GRILLE & DIFFUSER SCHEDULE

GRILLE TYPE	DESCRIPTION
S-1	E.H. PRICE MODEL 620 DOUBLE DEFLECTION LOUVRED FACE SUPPLY; TO BE SUITABLE FOR SURFACE OR EXPOSED DUCT MOUNTING; REFER TO DRAWINGS FOR GRILLE SIZES AND CAPACITIES.
E-1	E.H. PRICE MODEL 80 ALUMINUM EGG CRATE EXHAUST GRILLE, 1/2" CORE; TO BE SUITABLE FOR SURFACE OR EXPOSED DUCT MOUNTING; REFER TO DRAWINGS FOR GRILLE SIZES AND CAPACITIES.

NOTES:

NOTE 1: COLOURS SHALL BE STANDARD, CONFIRM COLOUR SELECTIONS PRIOR TO ORDERING.

GENERAL NOTE:

- INSTALL EQUIPMENT AS PER MANUFACTURER'S RECOMMENDATIONS.
- SUBMIT ALL SHOP DRAWINGS IN METRIC UNITS.

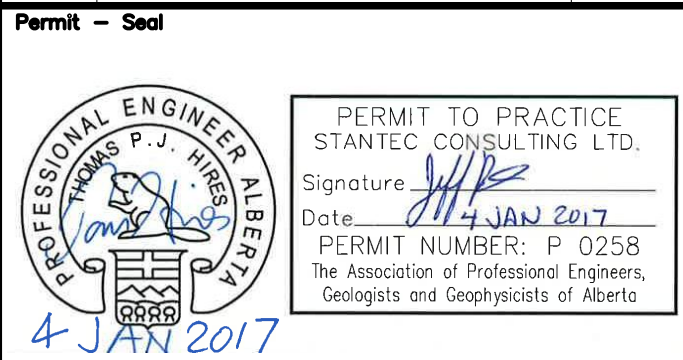


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Revision	Description	Date
5	Issued for Tender	2017.01.04
4	Issued for Client Review	2016.09.14
3	Issued for 100% review	2016.08.11
2	Issued for Client review	2016.05.31
1	Issued for Client review	2016.03.28
0	Design Completion	



Client client

LACOMBE RESEARCH FACILITY

600 C And E Trail, Lacombe, AB

Project title Projet

Lacombe, AB
600 C And E Trail
ABATTOIR

ABATTOIR MECHANICAL
EQUIPMENT ROOM PLANS

Designed by Conçu par IG

Drawn by Dessiné par FH

Approved by Approuvé par TH

PWSSC Project Manager Administrateur de Projets TPSSC

Drawing title Titre du dessin

MECHANICAL
LEGENDS & SCHEDULES

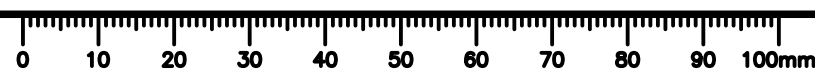
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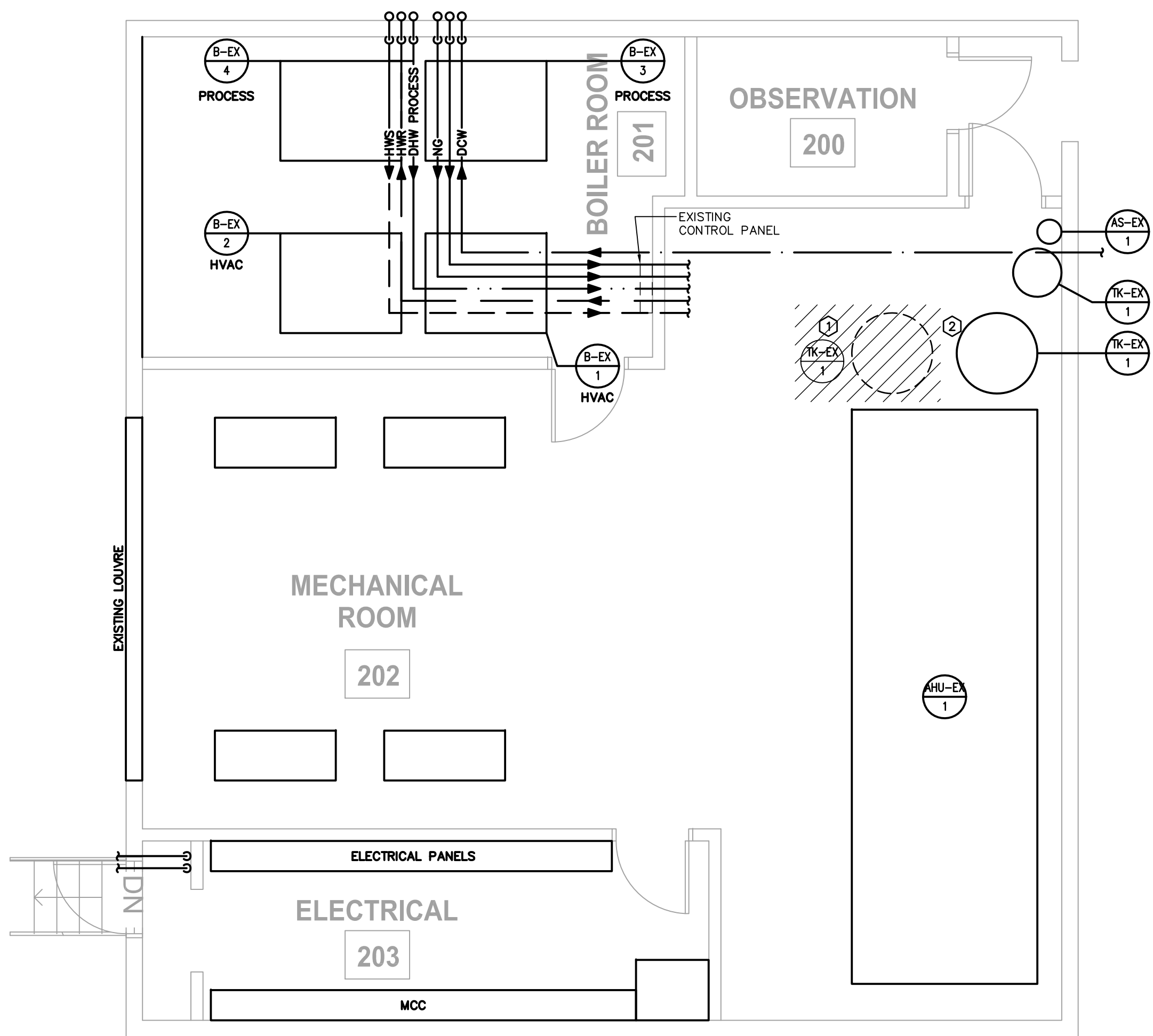
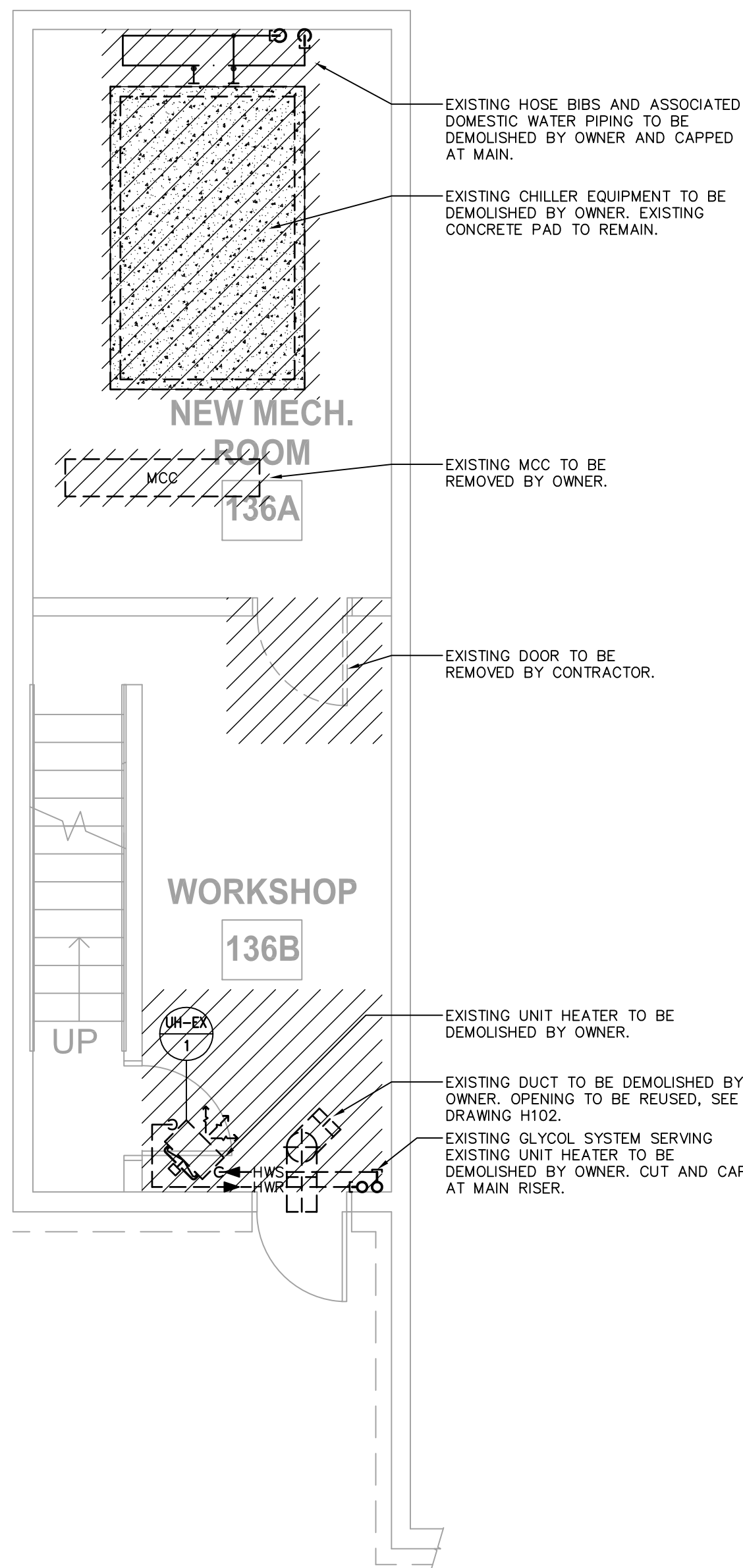
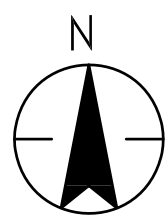
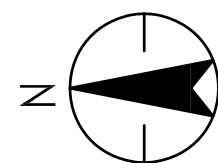
H100

2 OF 08

Revision no.

0



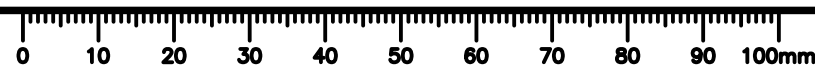


- DEMOLITION GENERAL NOTES**
1. ALL DEMOLITION WORK AND RELOCATION OF MECHANICAL EQUIPMENT BY OWNER. CONTRACTOR TO COORDINATE NEW EQUIPMENT LOCATIONS AND SYSTEM TIE INS WITH OWNER.
 2. ANY EXISTING MECHANICAL WORK ON THESE DRAWINGS SHALL NOT BE CONSIDERED 'AS BUILT'. CONTRACTOR TO NOTIFY DEPARTMENT REPRESENTATIVE OF DISCREPANCIES. EXTRAS WILL NOT BE CONSIDERED BASED ON THE GROUNDS OF DIFFERENCES ON SITE.
 3. ALL EQUIPMENT REMOVED DURING DEMOLITION TO BE TURNED OVER TO OWNER.
 4. EQUIPMENT SHOWN DARK & HATCHED IS TO BE REMOVED AS NOTED.

- KEY NOTES**
- 1 EXISTING PROCESS HOT WATER TANK TO BE RELOCATED TO NEW MECHANICAL ROOM BY OWNER. SEE DRAWING H102 FOR CONTINUATION.
 - 2 EXISTING PROCESS HOT WATER TANK TO REMAIN. OWNER TO CUT AND CAP ALL ASSOCIATED PIPING.

A
H101
ENLARGED MECHANICAL ROOM PLAN – MAIN FLOOR DEMOLITION
1:50

B
H101
ENLARGED MECHANICAL PENTHOUSE PLAN – DEMOLITION
1:50



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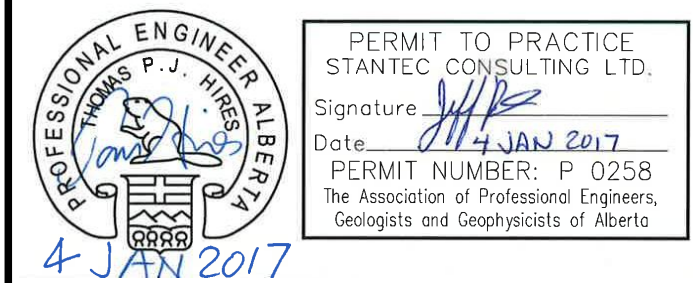
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Revision	Description	Date
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Client client

LACOMBE RESEARCH FACILITY

600 C And E Trail, Lacombe, AB

Project title
Lacombe, AB
600 C And E Trail
ABATTOIR
ABATTOIR MECHANICAL
EQUIPMENT ROOM PLANS

Designed by
IG
Conçu par

Drawn by
FH
Dessiné par

Approved by
TH
Approuvé par

PWGSC Project Manager
Administrateur de Projets TPSGC

Drawing title
ENLARGED
MECHANICAL ROOM PLANS
DEMOLITION
Titre du dessin

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	H101 3 OF 8	0



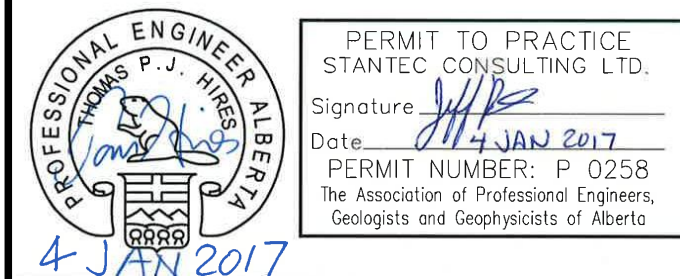
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600 C And E Trail, Lacombe, AB

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EQUIPMENT ROOM PLANS

Designed by Conçu par

IG

Drawn by Dessiné par

FH

Approved by Approuvé par

TH

PWGSC Project Manager Administrateur de Projets TP50C

Drawing title Titre du dessin

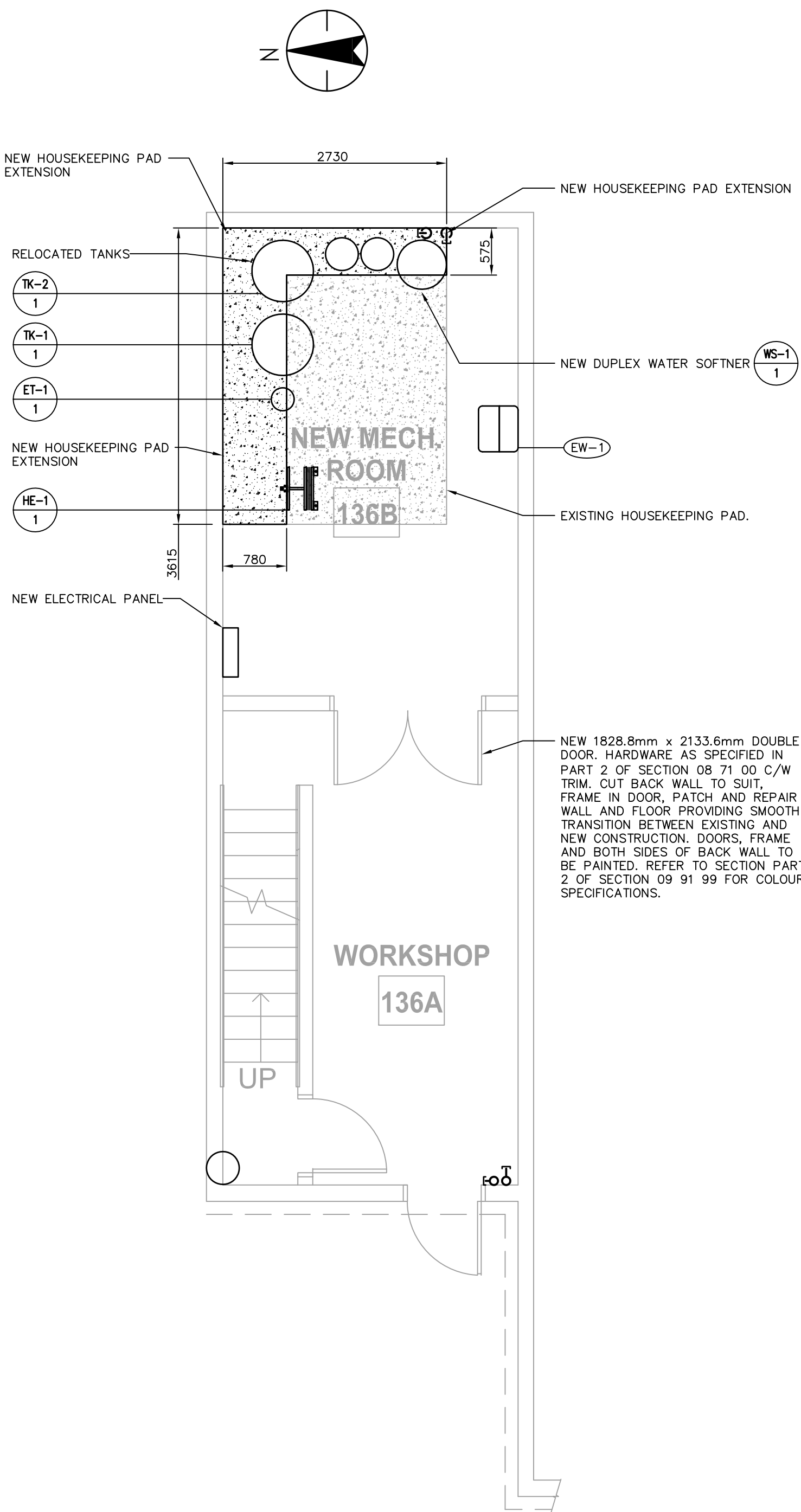
ENLARGED
MECHANICAL ROOM PLANS
RENOVATION

Project no./No. du projet Drawing no./No. du dessin Revision no.

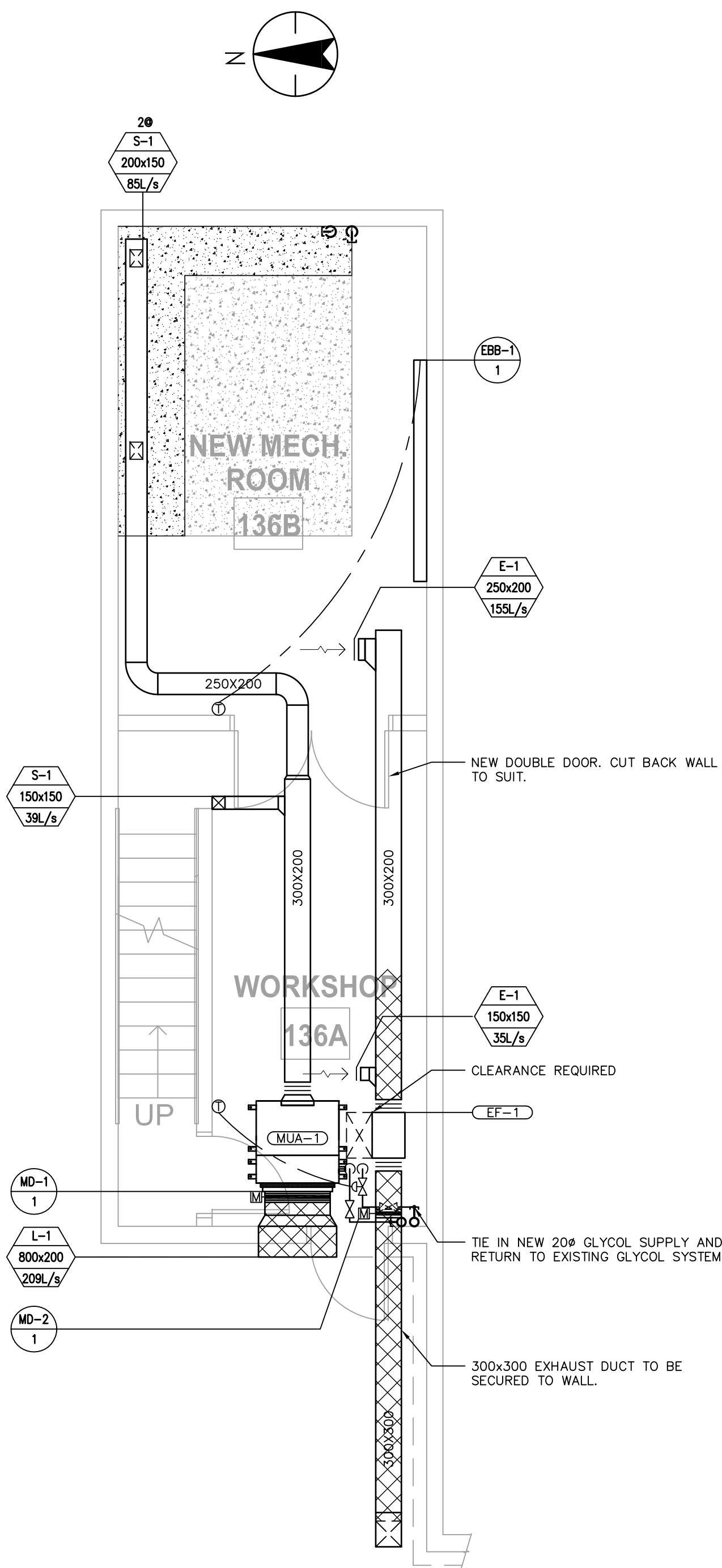
H102

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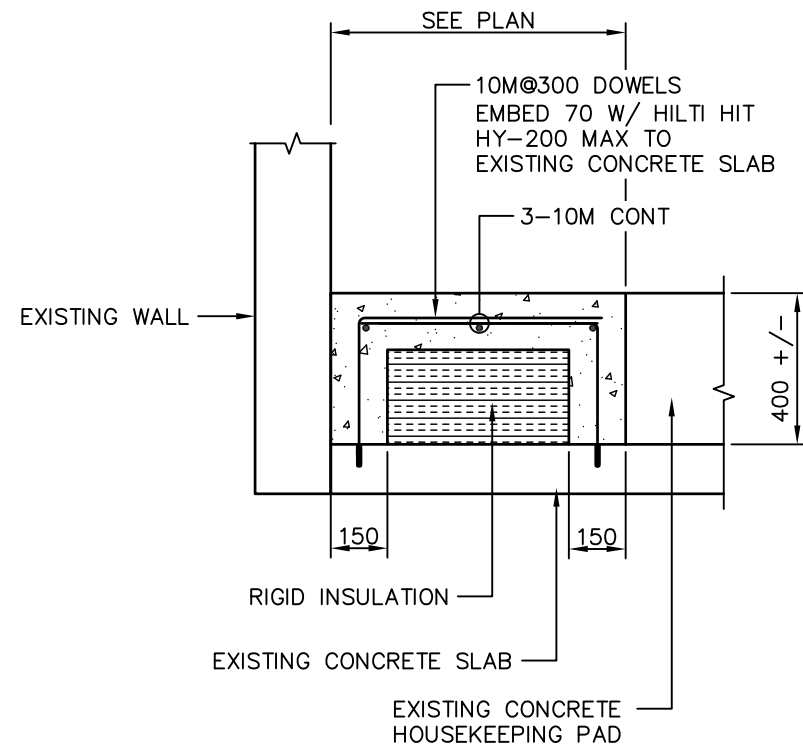
4 OF 08



A
H102 1:50
ENLARGED MAIN FLOOR MECHANICAL ROOM PLAN –
EQUIPMENT LAYOUT RENOVATION PLAN



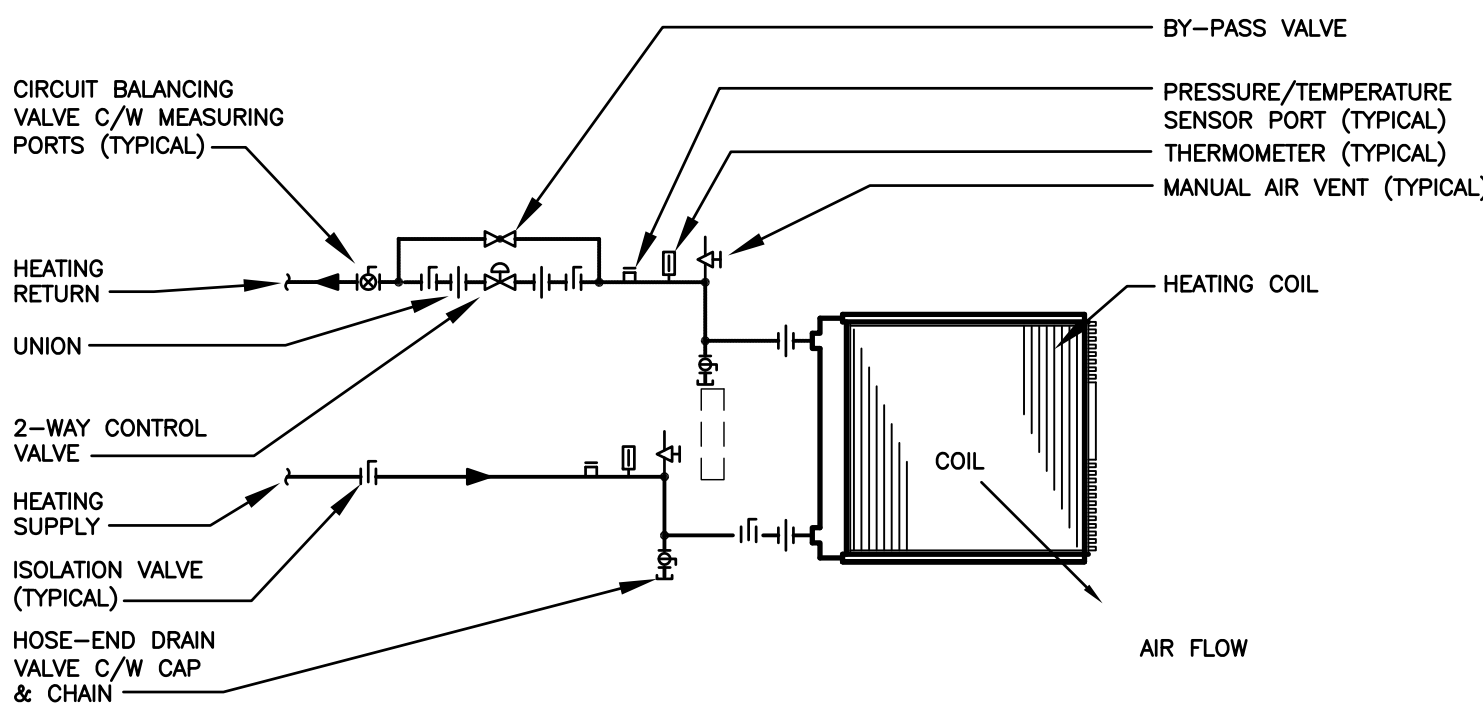
B
H102 1:50
ENLARGED MAIN FLOOR MECHANICAL ROOM PLAN –
HVAC RENOVATION PLAN



GENERAL NOTES

REFER TO SPECIFICATION SECTIONS:
03 10 00 – CONCRETE FORMING AND ACCESSORIES
03 20 00 – CONCRETE REINFORCING
03 30 00 – CAST-IN-LACE CONCRETE


C
H102 1:20
ENLARGED CONCRETE PAD DETAIL



NOTE:

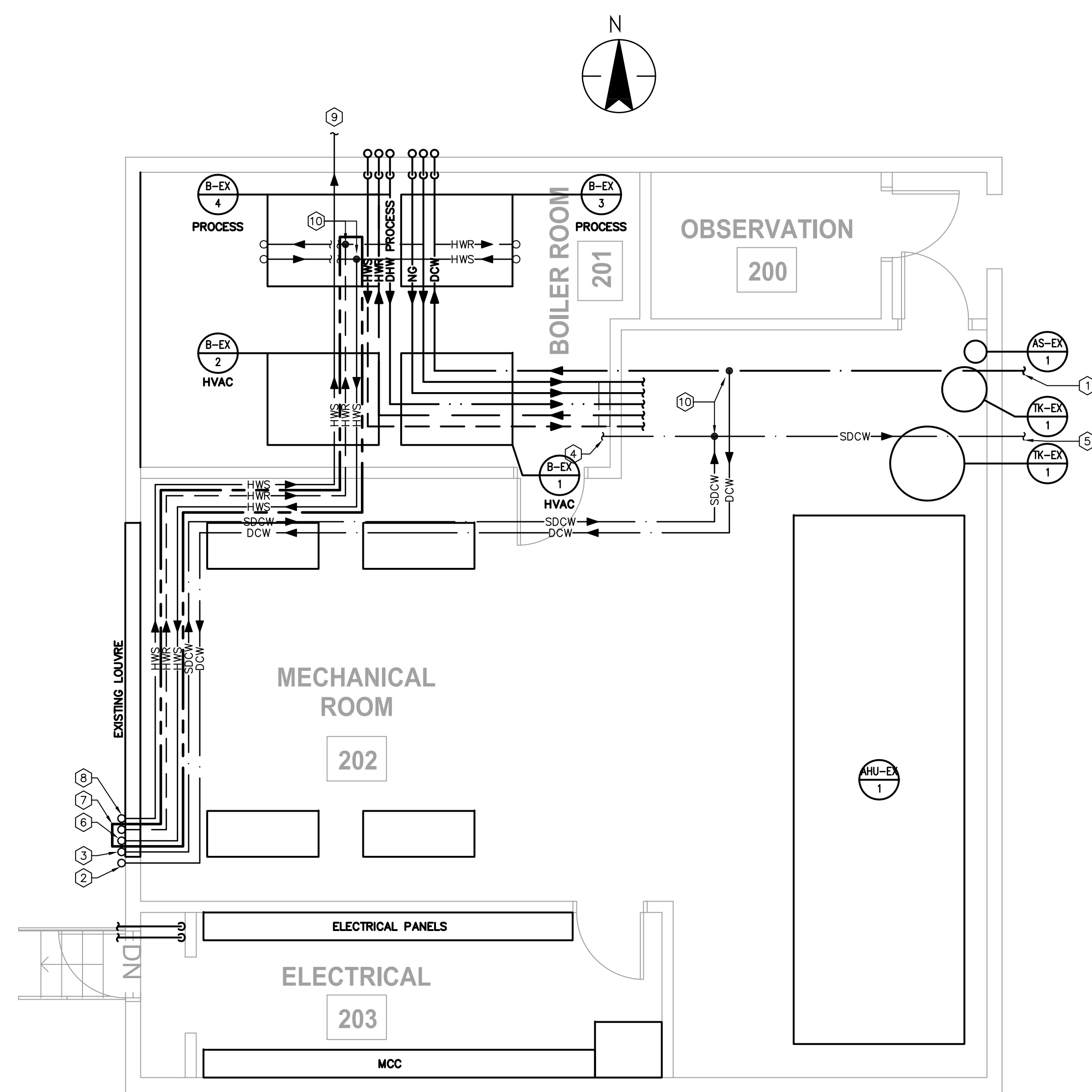
FOR COIL ARRANGEMENT AND SIZING REFER TO PLAN B ON THIS DRAWING.
SINGLE COIL: PIPED SIMILARLY

D
H102 N.T.S
HEATING COIL WITH
2-WAY CONTROL VALVE DETAIL



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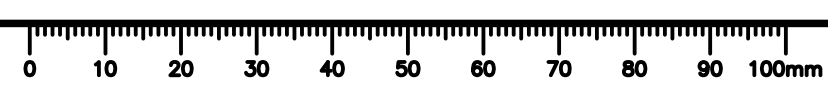


RENOVATION GENERAL NOTES

1. ANY EXISTING MECHANICAL WORK ON THESE DRAWINGS SHALL NOT BE CONSIDERED 'AS BUILT'. CONTRACTOR TO NOTIFY DEPARTMENT REPRESENTATIVE OF DISCREPANCIES. EXTRAS WILL NOT BE CONSIDERED BASED ON THE GROUNDS OF DIFFERENCES ON SITE.

- KEY NOTES**
- 1 EXISTING DOMESTIC COLD WATER SUPPLY.
 - 2 DOMESTIC COLD WATER SUPPLY DOWN TO NEW MECHANICAL ROOM TO SUPPLY WATER SOFTNER TREATMENT PLANT.
 - 3 SOFT COLD WATER UP TO SUPPLY PROCESS BOILERS AND STEAM BOILERS.
 - 4 SOFT COLD WATER TO BOILER ROOM.
 - 5 SOFT COLD WATER TO STEAM BOILER ROOM ON MAIN FLOOR.
 - 6 PRIMARY PROCESS HOT WATER DOWN TO HEAT EXCHANGER IN NEW MECHANICAL ROOM.
 - 7 PRIMARY PROCESS HOT WATER RETURN LOOP.
 - 8 PROCESS HOT WATER SUPPLY UP TO SUPPLY KILLING AREA.
 - 9 PROCESS HOT WATER SUPPLY TO KILLING AREA.
 - 10 OWNER TO SPECIFY TIE IN LOCATION.

A
H103
ENLARGED MECHANICAL PENTHOUSE PLAN — RENOVATION
1:50



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0	Design Completion	

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PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature: *[Signature]*
Date: 4 JAN 2017
PERMIT NUMBER: P 0258
The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

Client client
LACOMBE RESEARCH FACILITY

600 C And E Trail, Lacombe, AB

Project title Projet
**Lacombe, AB
600 C And E Trail
ABATTOIR**

**ABATTOIR MECHANICAL
EQUIPMENT ROOM PLANS**

Designed by IG	Conçu par
Drawn by FH	Dessiné par
Approved by TH	Approuvé par
PWGSC Project Manager	Administrateur de Projets TPSCG

Drawing title Titre du dessin
**ENLARGED
MECHANICAL PENTHOUSE PLAN
RENOVATION**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	H103 5 OF 08	0



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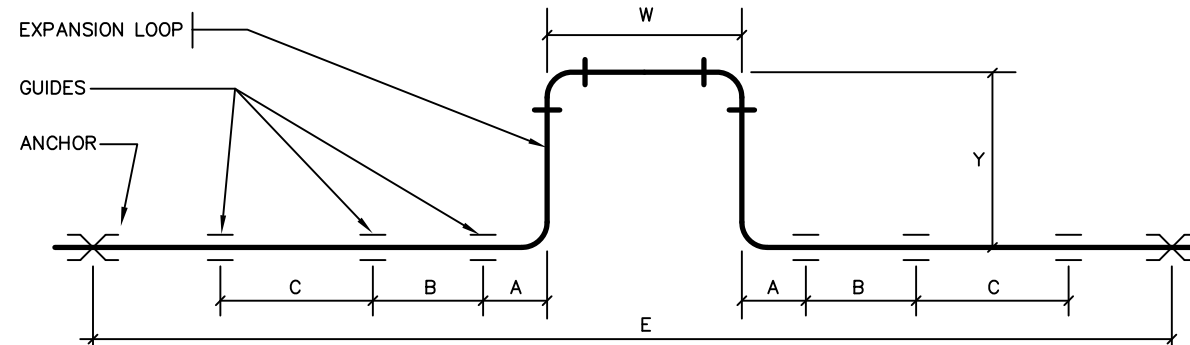
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LOOP SIZING DATA:

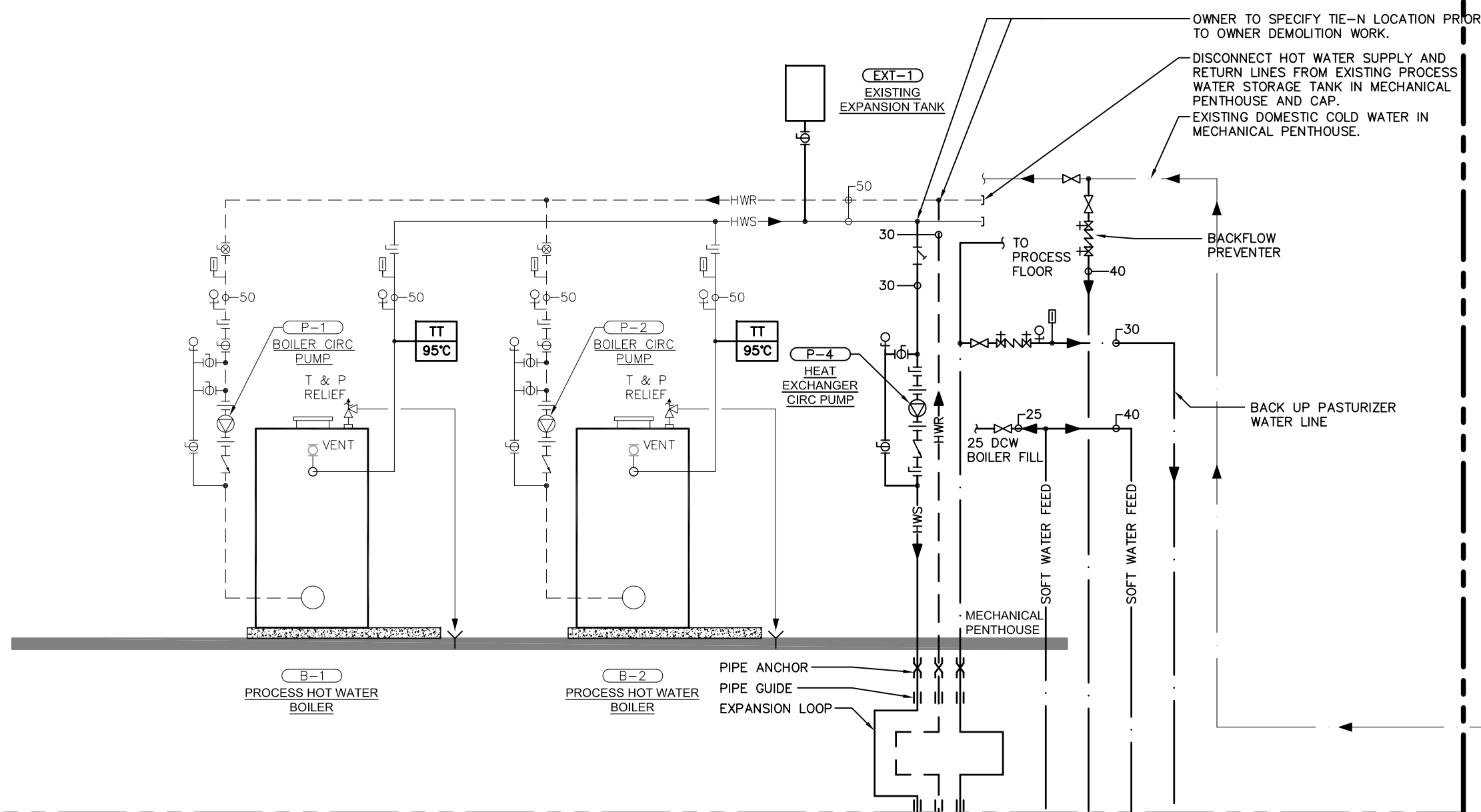
1. USE THESE FORMULAS FOR TEMPERATURE DIFFERENCES NOT EXCEEDING 110°C. FOR OTHER CONDITIONS USE THE ASHRAE GUIDE DATA BOOK.
2. LENGTH OF PIPE IN LOOP "L" = 2Y + W
3. FOR LENGTH "L" USE THE FOLLOWING FORMULAS:
 - a. STEEL PIPE $L = 2.67 \sqrt{D \times E}$
 - b. COPPER PIPE $L = 3.17 \sqrt{D \times E}$
4. D = DIAMETER IN IN.
5. E = DISTANCE BETWEEN ANCHORS IN IN.



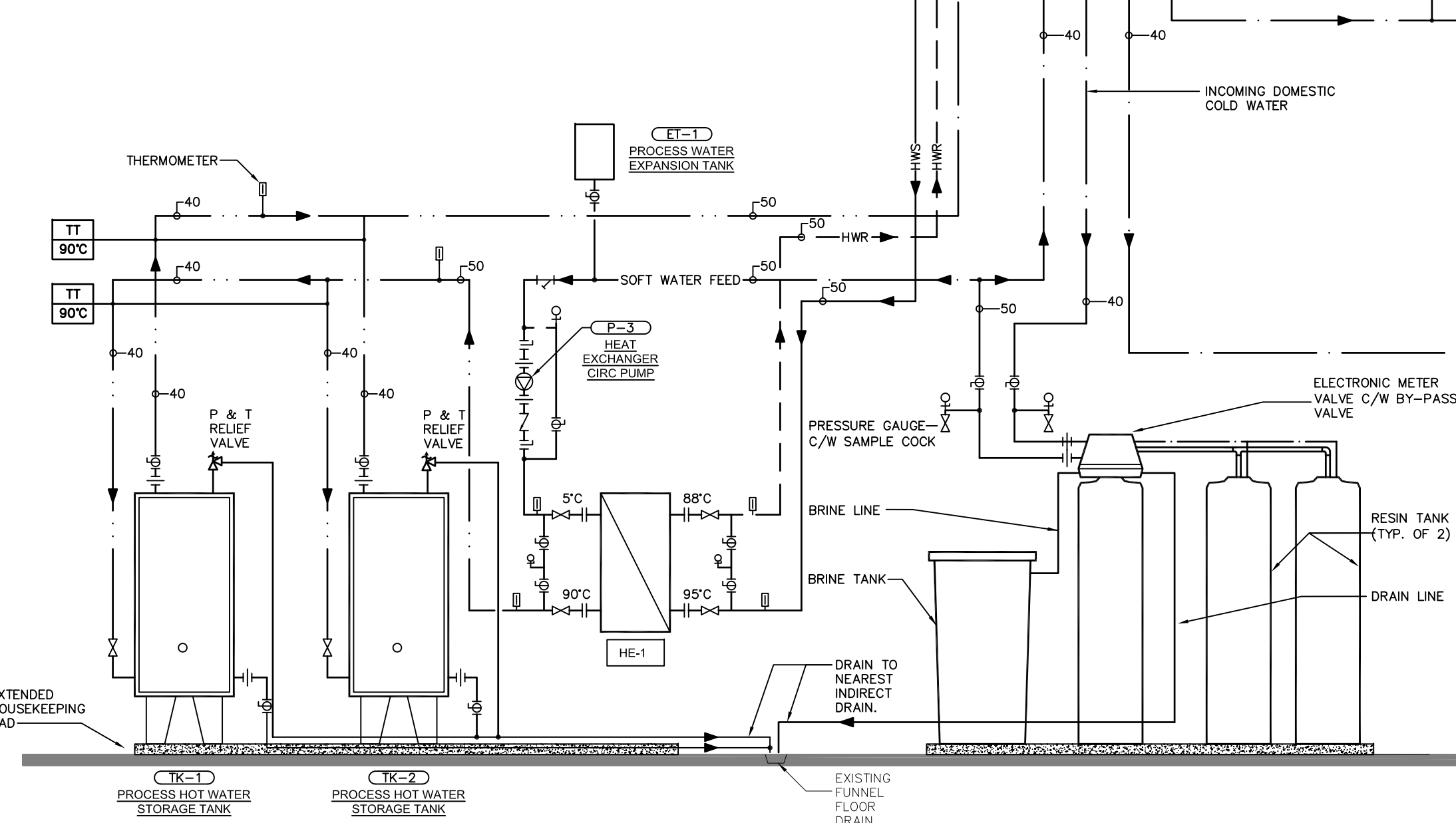
PIPE SIZE mm NOMINAL	MAXIMUM DISTANCE		MAXIMUM SPACING BETWEEN GUIDES
	A	B	
25	200	600	120
30	200	600	120
40	200	900	180
50	200	900	180
65	250	1200	240
75	300	1200	240
100	400	1500	360
150	500	3000	420

B EXPANSION LOOP GUIDE DETAIL
H104 N.T.S.

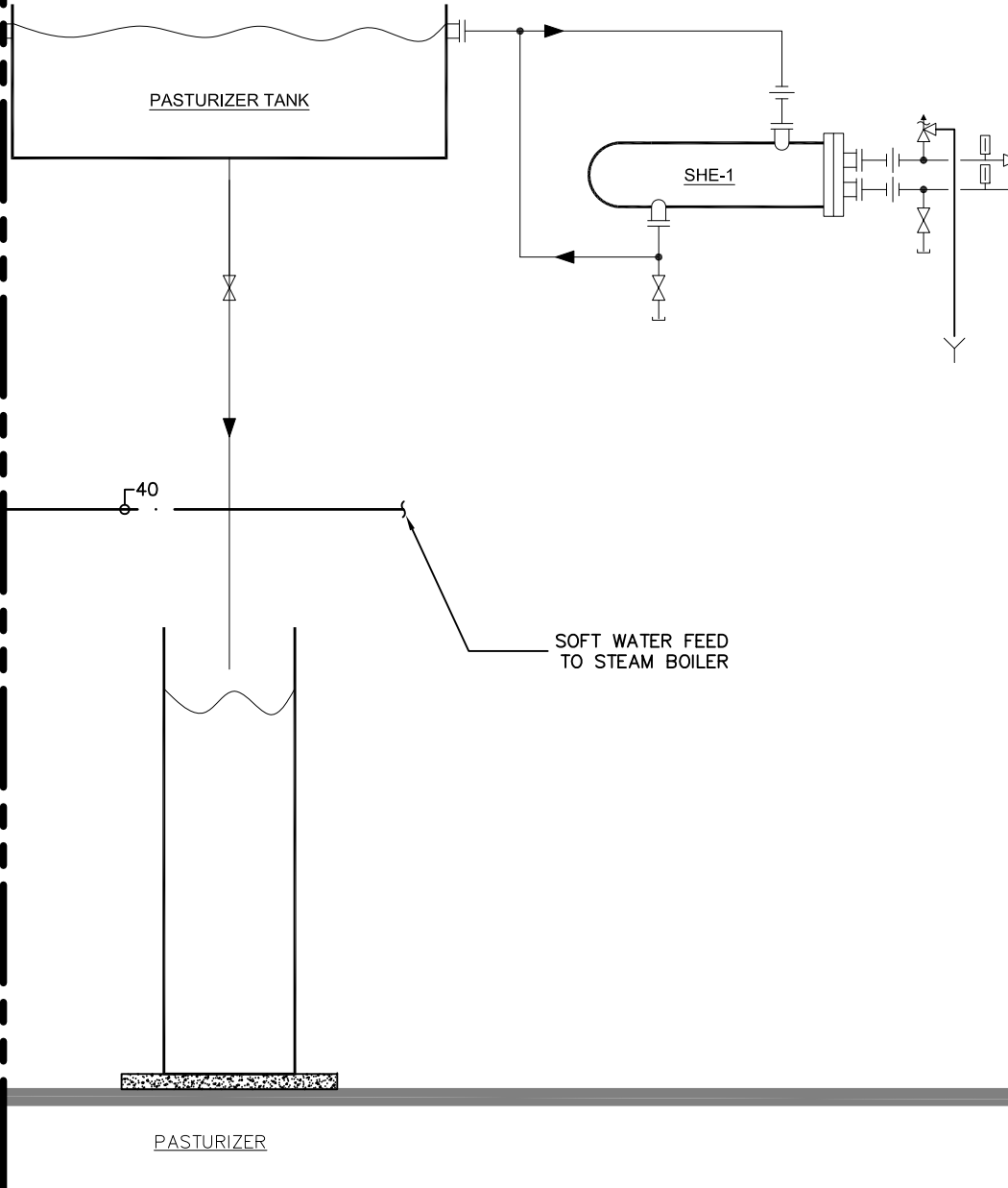
EXISTING PENTHOUSE BOILER ROOM



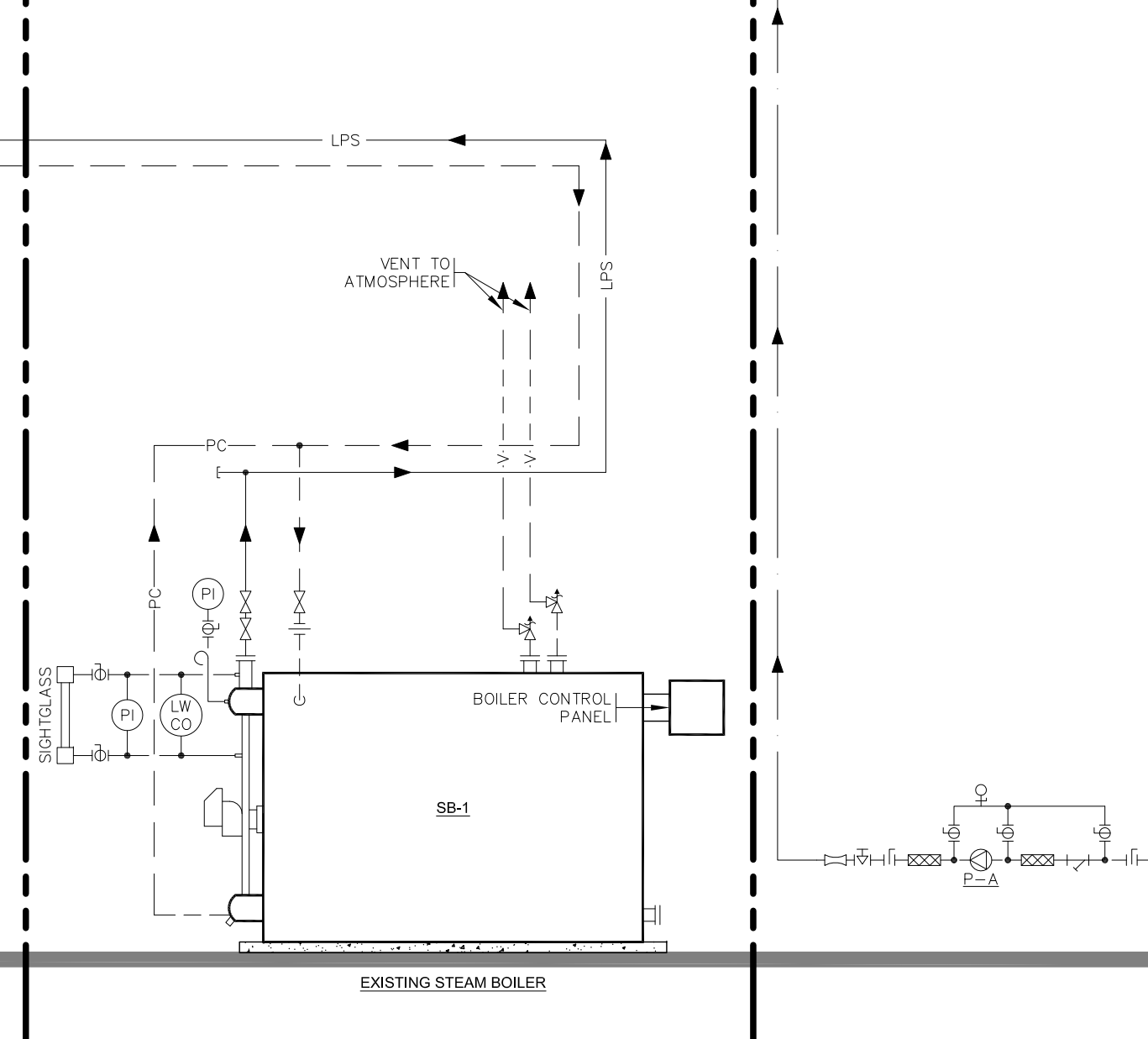
NEW MAIN FLOOR MECHANICAL ROOM



EXISTING PASTEURIZER ON PROCESS FLOOR



EXISTING MAIN FLOOR STEAM BOILER ROOM



A BOILER SCHEMATIC
H104 N.T.S.

Revision	Description	Date
5	Issued for Tender	2017.01.04
4	Issued for Client Review	2016.09.14
3	Issued for 100% review	2016.08.11
2	Issued for Client review	2016.05.31
1	Issued for Client review	2016.03.24
0	Design Completion	

Permit - Seal

PROFESSIONAL ENGINEER
ALBERTA
P. J. HERR
4 JAN 2017

PERMIT TO PRACTICE
STANTEC CONSULTING LTD.
Signature: [Signature]
Date: 4 JAN 2017
PERMIT NUMBER: P-0258
The Association of Professional Engineers,
Geologists and Geophysicists of Alberta

Client client
LACOMBE RESEARCH FACILITY

600 C And E Trail, Lacombe, AB

Project title Projet
Lacombe, AB
600 C And E Trail
ABATTOIR
ABATTOIR MECHANICAL
EQUIPMENT ROOM PLANS

Designed by Conçu par
IG
Drawn by Dessiné par
FH
Approved by Approuvé par
TH
PWGSC Project Manager Administrateur de Projets TPWGC

Drawing title Titre du dessin
MECHANICAL HOT PROCESS WATER
SCHEMATIC AND DETAIL
RENOVATION

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
	H104	0
	6 OF 8	

LIGHTING PLAN SYMBOLS	
	SURFACE MOUNTED OR SUSPENDED FLUORESCENT LUMINAIRE, 305x1220mm
	SURFACE MOUNTED OR SUSPENDED FLUORESCENT LUMINAIRE, 610x1220mm
	SURFACE MOUNTED OR SUSPENDED FLUORESCENT LUMINAIRE, 610x610mm
	RECESSED FLUORESCENT LUMINAIRE, 305x1220mm
	RECESSED FLUORESCENT LUMINAIRE, 610x1220mm
	RECESSED FLUORESCENT LUMINAIRE, 610x610mm
	FLUORESCENT STRIP LUMINAIRE, 1220mm
	FLUORESCENT STRIP LUMINAIRE, 915mm
	FLUORESCENT STRIP LUMINAIRE, 610mm
	WALL MOUNTED LINEAR FLUORESCENT LUMINAIRE, 1220mm
	WALL MOUNTED LINEAR FLUORESCENT LUMINAIRE, 915mm
	WALL MOUNTED LINEAR FLUORESCENT LUMINAIRE, 610mm
	RECESSED LUMINAIRE / POT LIGHT
	SURFACE MOUNTED OR SUSPENDED LUMINAIRE
	STEP OR WALL MOUNTED LUMINAIRE
	BOLLARD OR IN-GROUND LUMINAIRE
	POLE MOUNTED LUMINAIRE (SINGLE HEAD)
	POLE MOUNTED LUMINAIRE (DOUBLE HEAD)
	LUMINAIRE ON EMERGENCY CIRCUIT (INDICATED BY HALF SHADING)
	DIRECTIONAL / AIMED LUMINAIRE (ARROW INDICATES DIRECTION)
	CEILING MOUNTED EXIT SIGN (TEXT ON SHADED SIDES, ARROWS AS INDICATED)
	WALL MOUNTED EXIT SIGN (TEXT ON SHADED SIDES, ARROWS AS INDICATED)
	TRACK LIGHT (# OF HEADS AS SHOWN, LENGTH AS INDICATED)
	LINE VOLTAGE SWITCH (120V TO 347V)
	2-GANG LINE VOLTAGE SWITCH
	3-GANG LINE VOLTAGE SWITCH
	4-GANG LINE VOLTAGE SWITCH
	LOW VOLTAGE SWITCH (30V OR LESS)
	MULTIPLE LOW VOLTAGE SWITCHES (QUANTITY AS INDICATED)
	LOW VOLTAGE DIMMER SWITCH
	LINE VOLTAGE DIMMER SWITCH
	LOW VOLTAGE SWITCH c/w OCCUPANCY SENSOR
	LINE VOLTAGE SWITCH c/w OCCUPANCY SENSOR
	LINE VOLTAGE SWITCH c/w PILOT LIGHT
	LINE VOLTAGE TWO POLE SWITCH
	LINE VOLTAGE THREE WAY SWITCH
	LINE VOLTAGE FOUR WAY SWITCH
	TIMER SWITCH
	KEY OPERATED SWITCH
	3-POSITION LIGHT SWITCH
	CEILING MOUNTED LIGHTING OCCUPANCY SENSOR (TYPE AS INDICATED)
	WALL MOUNTED LIGHTING OCCUPANCY SENSOR (TYPE AS INDICATED)
	PHOTOCELL (EXTERIOR, TYPE AS INDICATED)
	DAYLIGHT SENSOR (INTERIOR PHOTOCELL, TYPE AS INDICATED)
	EMERG. LTG. BATTERY PACK (WATTAGE AS SHOWN/# OF LAMPS AS SHOWN)
	CEILING MOUNTED EMERG. LTG. REMOTE HEAD (# OF LAMPS AS SHOWN)
	WALL MOUNTED EMERG. LTG. REMOTE HEAD (# OF LAMPS AS SHOWN)

GENERAL SYMBOLS	
	NOTE REFERENCE
	EQUIPMENT REFERENCE
	REVISION NUMBER
	WIRING HOME RUN

ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BMS	BUILDING MANAGEMENT SYSTEM
DW	DISHWASHER
FAX	FAX MACHINE
GF	GROUND FAULT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
OC	ON CENTER
JB	JUNCTION BOX
MCC	MOTOR CONTROL CENTER
MW	MICROWAVE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
IG	ISOLATED GROUND
PTR	PRINTER
RB	RELAY BASE
REF	REFRIGERATOR
SB	SOUNDER BASE
SPD	SURGE PROTECTIVE DEVICE
TR	TAMPER RESISTANT
TV	TELEVISION
TYP	TYPICAL
WP	WEATHERPROOF
EX	EXISTING DEVICE TO REMAIN
RE	REMOVE EXISTING DEVICE
RP	REPLACE EXISTING DEVICE WITH NEW
RL	RELOCATE EXISTING DEVICE
ER	EXISTING DEVICE IN RELOCATED POSITION

POWER PLAN SYMBOLS	
	DUPLEX 5-15R RECEPTACLE
	DUPLEX 5-15R RECEPTACLE C/W INTEGRAL GFCI PROTECTION
	DUPLEX 5-20R RECEPTACLE, T-SLOT
	SINGLE 5-15R RECEPTACLE
	SPLIT CIRCUIT DUPLEX 5-15R RECEPTACLE
	TWO DUPLEX 5-15R RECEPTACLES
	SPECIAL RECEPTACLE (TYPE AS INDICATED)
	REEL CORD RECEPTACLE (TYPE AS INDICATED)
	FLOOR MOUNTED DUPLEX 5-15R RECEPTACLE
	TWO FLOOR MOUNTED DUPLEX 5-15R RECEPTACLES
	CEILING MOUNTED DUPLEX 5-15R RECEPTACLE
	TWO CEILING MOUNTED DUPLEX 5-15R RECEPTACLES
	SERVICE COLUMN / PACK POLE (OUTLETS AS INDICATED)
	UTILITY POLE (TYPE AS INDICATED)
	CEILING MOUNTED JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	FLOOR MOUNTED JUNCTION BOX
	POWER PANELBOARD
	PANEL (TYPE AS INDICATED - SECURITY, LIGHTING RELAY, ETC.)
	SURFACE RACEWAY (TYPE AS INDICATED)
	PUSHBUTTON (TYPE AND WIRING AS INDICATED)
	GROUND BUS BAR
	ROOM REFERENCE GROUND BUS
	MOTOR
	MOTOR c/w DISCONNECT SWITCH
	COMBINATION DISCONNECT AND MAGNETIC MOTOR STARTER
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	MAGNETIC MOTOR STARTER
	THERMOSTAT
	MANUAL MOTOR STARTER c/w PILOT LIGHT
	CONDUIT STUB
	CONDUIT UP
	CONDUIT DOWN
	DEVICE MOUNTED ABOVE MILLWORK COUNTERTOP

FIRE ALARM SYMBOLS	
	FIRE ALARM MANUAL STATION
	FIRE ALARM BELL
	FIRE ALARM BELL c/w STROBE
	CEILING MOUNTED FIRE ALARM HORN SPEAKER
	WALL MOUNTED FIRE ALARM HORN SPEAKER
	CEILING MOUNTED FIRE ALARM HORN SPEAKER c/w STROBE
	WALL MOUNTED FIRE ALARM HORN SPEAKER c/w STROBE
	CEILING REMOTE EVACUATION STROBE
	WALL MOUNTED DUPLEX FIRE ALARM SPEAKER c/w STROBE
	CEILING MOUNTED FIRE ALARM SPEAKER
	WALL MOUNTED FIRE ALARM SPEAKER
	CEILING MOUNTED FIRE ALARM SPEAKER c/w STROBE
	WALL MOUNTED FIRE ALARM SPEAKER c/w STROBE
	FIRE ALARM PIEZO SOUNDER
	FIRE ALARM PIEZO SOUNDER c/w STROBE
	FIRE ALARM ELECTRONIC HORN/SOUNDER
	FIRE ALARM ELECTRONIC HORN/SOUNDER c/w STROBE
	CARBON MONOXIDE ALARM
	FIRE ALARM HEAT DETECTOR (RATE OF RISE UNLESS OTHERWISE INDICATED)
	FIRE ALARM SMOKE DETECTOR
	FIRE ALARM SMOKE DETECTOR, DUCT MOUNTED
	SMOKE ALARM
	FIRE ALARM ANNUNCIATOR PANEL
	FIRE ALARM CONTROL PANEL
	CENTRAL ALARM & CONTROL FACILITY
	EMERGENCY TELEPHONE
	FIRE ALARM MAGNETIC DOOR HOLD OPEN DEVICE
	FIRE ALARM CONNECTION TO PRESSURE SWITCH
	FIRE ALARM CONNECTION TO FLOW SWITCH
	FIRE ALARM CONNECTION TO TAMPER SWITCH
	FIRE ALARM CONNECTION TO LEVEL SWITCH
	END OF LINE RESISTOR
	FIRE ALARM CONTROL MODULE
	FIRE ALARM MONITOR MODULE
	FIRE ALARM FAULT ISOLATION MODULE
	FIRE ALARM RELAY

TELECOMMUNICATIONS SYMBOLS	
	WALL MOUNTED TELECOM OUTLET (# DENOTES NUMBER OF CABLES)
	FLOOR MOUNTED TELECOM OUTLET (# DENOTES NUMBER OF CABLES)
	CEILING MOUNTED TELECOM OUTLET (# DENOTES NUMBER OF CABLES)
	INTERCOM STATION
	WIRELESS ACCESS POINT
	WALL MOUNTED TELEVISION OUTLET
	CEILING MOUNTED TELEVISION OUTLET
	FLOOR MOUNTED TELEVISION OUTLET
	FIBRE OPTIC OUTLET
	CABLE TRAY, AS INDICATED

SECURITY SYMBOLS	
	WALL MOUNTED SECURITY CAMERA
	WALL MOUNTED SECURITY CAMERA, FIXED
	WALL MOUNTED SECURITY CAMERA, PAN/TILT/ZOOM
	CEILING MOUNTED SECURITY CAMERA
	CEILING MOUNTED SECURITY CAMERA, FIXED
	CEILING MOUNTED SECURITY CAMERA, PAN/TILT/ZOOM
	CARD READER
	CARD READER / KEY PAD COMBINATION
	SECURITY KEY PAD
	KEYSWITCH OVERRIDE
	REQUEST-TO-EXIT PUSHBUTTON
	PANIC/DURESS PUSHBUTTON
	BUZZER AND KEYSWITCH FOR LOCAL ALARM
	ELECTROMAGNETIC LOCK
	ELECTRIFIED DOOR HARDWARE
	DOOR POSITION SWITCH
	REQUEST-TO-EXIT MOTION SENSOR
	PUSHBUTTON
	PUSHBUTTON C/W KEYED RESET
	CEILING MOUNTED SECURITY MOTION DETECTOR
	CEILING MOUNTED SECURITY MOTION DETECTOR (360 DEGREES)
	WALL MOUNTED SECURITY MOTION DETECTOR
	GLASS BREAK DETECTOR

ELECTRICAL MOTOR LIST

Project: Lacombe Abbatoir

Project No.: 115302873

Issued to: Stantec Electrical

Issued from: Stantec Mechanical

Issued by: FH

Date Created: 1-Feb-16

Date Updated: 7-Nov-16

Date Printed: 7-Nov-16

Revision No: 1

Main Service Voltage: 600 Volts

ABBREVIATIONS:

M = Mechanical

E = Electrical

BMS = Building Management System

CCF = Firefighters Central Control Facility

STARTERS:

MA = Manual c/w Pilot Light

MG = Magnetic Starter

MG2 = Magnetic Starter (2-Speed)

VFD=Variable Frequency Drive

STARTER CONTROLS:

HOA = HAND/OFF AUTO

OA = OFF/AUTO

OO = ON/OFF

SS = START/STOP

CONTROL DEVICES:

C = Time Clock

DDC = Direct Digital Control

ET = Electronic Thermostat

F = Float Switch

FA = Fire Alarm

GS = Gas Sensor

H = Humidistat

I = Interlock

O = Other (Identify)

P = Pressure Switch

S = Manual Switch

T = Thermostat

SPECIAL INSTRUCTIONS

1.All starters to be magnetic H.O.A. unless otherwise specified

2.A terminal section shall be provided with all MCC's

& wired in accordance with standard detail drawing

SHADING LEGEND:

Shop drawings approved, no more revisions

Revised in this update

Design (Estimated) Load

UNIT No.	UNIT DESCRIPTION	LOCATION	LOAD		ELECTRICAL		STARTER						CONTROL						REMARKS		
			Quantity	Unit	(V)	(PH)	TYPE	CONTROL	PILOT LIGHT	SUPPLIED BY	INSTALLED BY	WIRED BY	TYPE	INTERLOCK WITH	SUPPLIED BY	INSTALLED BY	WIRED BY	CCF (Y/N)		BMS	EMERGENCY POWER
MUA-1	MAKE UP AIR UNIT	MECHANICAL ROOM	0.25	HP	208	3	MG			M	E	E	DDC		M	M	E				
EF-1	EXHAUST FAN	MECHANICAL ROOM	0.25	HP	115	1	MG			M	E	E	I		M	M	E				
MD-1	MOTORIZED DAMPER	MUA-1	fraction	HP	24	1				M	E	E	I		M	M	E				
MD-2	MOTORIZED DAMPER	EXHAUST DUCT	fraction	HP	24	1				M	E	E	I		M	M	E				
WS-1	WATER SOFTNER	MECHANICAL ROOM			24	1				M	E	E	DDC		M	M	E				
EBB-1	BASEBOARD HEATER	MECHANICAL ROOM	2500	W	208	1				M	E	E								BUILT IN THERMOSTAT	

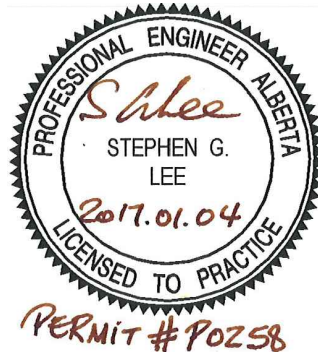
DRAWING LIST		
DRAWING No.	DRAWING NAME	SCALE
E001	SYMBOL LEGEND, GENERAL NOTES AND DRAWING LIST	NTS
E100	ELECTRICAL DEMOLITION & RENOVATION	AS NOTED



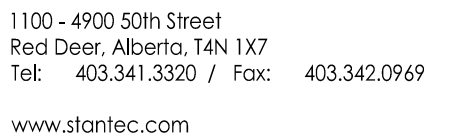
1100 - 4900 50th Street
Red Deer, Alberta, T4N 1X7
Tel: 403.341.3320 / Fax: 403.342.0969

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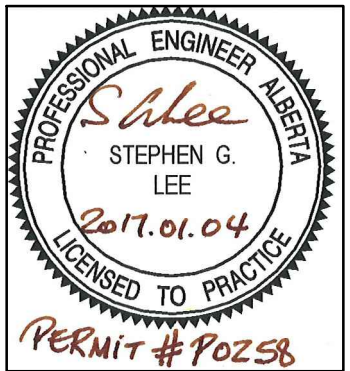


5	Issued For Tender	2017.01.04
4	Issued for Client Review	2016.09.14
3	Issued For 100% review	2016.08.11
2	Issued for Client review	2016.05.31
1	Issued for Client review	2016.03.28
0	Design Completion	
Revision	Description	Date
Client		client
LACOMBE RESEARCH FACILITY		
600 C And E Trail, Lacombe, AB		
Project title	Project	
Lacombe, AB 600 C And E Trail ABATTOIR		
ABATTOIR MECHANICAL EQUIPMENT ROOM PLANS		
Designed by SL	Conçu par	
Drawn by RGM	Dessiné par	
Approved by SL	Approuvé par	
PWSC Project Manager	Administrateur de Projets TPSCG	
Drawing title	Titre du dessin	
SYMBOL LEGEND GENERAL NOTES & DRAWING LIST		
Project no./No. du projet	Drawing no./No. du dessin	Revision no.
115302873	E001 7 OF 08	0



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LACOMBE RESEARCH FACILITY

600 C And E Trail, Lacombe, AB

Project title

Lacombe, AB
600 C And E Trail
ABATTOIR

**ABATTOIR MECHANICAL
EQUIPMENT ROOM PLANS**

Designed by	Conçu par
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Drawn by	Dessiné par
----------	-------------

Approved by	Approuvé par
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PWGSC Project Manager	Administrateur de Projets TPSGC
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Drawing title	Titre du dessin
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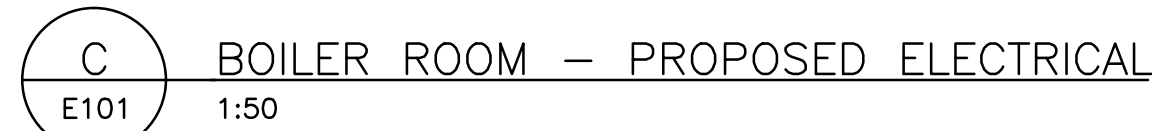
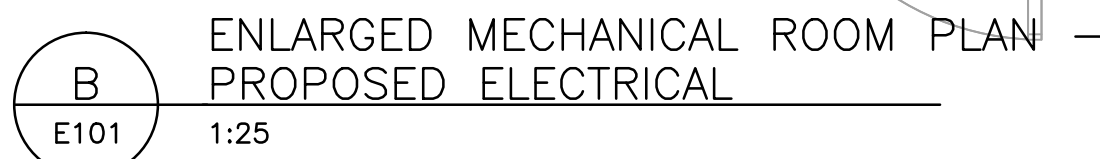
**ELECTRICAL
DEMOLITION
AND
RENOVATION**

Project no./No. du projet	Drawing no./No. du dessin	Revision no.
---------------------------	---------------------------	--------------

115302873

E100

0



PNL 'H' 120/208V 225 AMP. FEEDER: 4 #1 Cu IN 41mm C. FROM NEW 125A BKR IN EXISTING CDP				LOCATION: MCC ROOM						
LOAD	DESCRIPTION	BKR. SIZE	CCT. NO.	A	B	CCT. BKR. NO. SIZE	DESCRIPTION	LOAD		
690		20	1	↑	↑	2	20	690		
690	PROCESS PUMP #1	AMP	1			4	AMP	PROCESS PUMP #2	690	
690		3P	5			6	3P		690	
190	MOTORIZED DAMPERS, MD-1, MD-2	15A	7			8	15A	EXHAUST FAN EF-1	190	
200		15	9			10	15A	WATER SOFTENER	100	
200	MAKEUP AIR UNIT MUA-1	AMP	11			12	20A	BASEBOARD HEATER EBB-1	1250	
200		3P	13			14	2P		1250	
-			15					16		-
-			17					18		-
-			19					20		-
-			21			22		-		
-			23			24		-		
NOTES								PHASE A = 1960 W PHASE B = 2930 W PHASE C = 2830 W TOTAL = 5520 W		

LUMINAIRE SCHEDULE				
TAG	DESCRIPTION	LAMPS	VOLTAGE	COMMENTS
(1)	300mm x 1200mm SURFACE FLUORESCENT WITH PRISMATIC DIFFUSER	2x32W T8 LAMPS		EXISTING
(E1)	SURFACE MOUNTED EMERGENCY BATTERY PACK	2x4W PAR18 LED LAMPS	120	STANPRO SLA-12036 OR EQUAL

DEMOLITION GENERAL NOTES

1. CIRCUIT DETAILS ARE PROVIDED FOR INFORMATION; VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND NOTIFY DEPARTMENTAL REPRESENTATIVE OF ANY DISCREPANCIES.
2. ALL EQUIPMENT REMOVED DURING DEMOLITION TO BE TURNED OVER TO OWNER.
3. EQUIPMENT SHOWN DARK & HATCHED IS TO BE REMOVED AS NOTED.

RENOVATION GENERAL NOTES

1. ANY EXISTING ELECTRICAL WORK ON THESE DRAWINGS SHALL NOT BE CONSIDERED 'AS BUILT'. CONTRACTOR TO NOTIFY CONSULTANT OF DISCREPANCIES. EXTRAS WILL NOT BE CONSIDERED BASED ON THE GROUNDS OF DIFFERENCES ON SITE.
2. ALL INSTALLATION WORK TO MEET REQUIREMENTS OF THE CANADIAN ELECTRICAL CODE.

KEY NOTES

- ① ISOLATE AND DISCONNECT EXISTING FEEDERS TO PUMPS #1 AND #2.
- ② OWNER TO ISOLATE, DISCONNECT AND REMOVE EXISTING MCC (REFRIGERATION CONTROL PANEL). OWNER TO REMOVE ALL REDUNDANT CONDUIT & WIRING DOWNSTREAM OF MCC. OWNER TO REMOVE REDUNDANT FEEDER BACK TO SOURCE.
- ③ PROVIDE A NEW 24 CIRCUIT 3PH 4W 120/208V 225A PANEL, REFER TO PANEL SCHEDULE FOR DETAILS.
- ④ RELOCATE EXISTING LIGHT SWITCH TO SUIT NEW DOUBLE DOOR ARRANGEMENT.
- ⑤ SITE COORDINATE LOCATION OF MOTOR STARTERS & DISCONNECTS. CONNECT MOTOR STARTERS TO EXISTING BATTERY CONTROLS.
- ⑥ PROVIDE NEW EMERGENCY LIGHTING TWIN LAMP BATTERY PACK WITH MINIMUM 30 MINUTES DURATION, TIE INTO EXISTING LIGHTING CIRCUIT.