

EQUIPMENT LIST	
TAG	DESCRIPTION
B-1, B-2, B-3	HEATING BOILERS
DHWP-1, DHWP-2	DOMESTIC HOT WATER HEATERS
P-3, P-4	BUILDING HEATING PUMPS
P-1, P-2	AHU HEATING COILS HEATING PUMPS
DHWP-1, DHWP-2	DOMESTIC HOT WATER HEATING PUMPS
DHWT-1, DHWT-2	DOMESTIC HOT WATER STORAGE TANKS
DHRP-1	DOMESTIC HOT WATER RECIRC. PUMP
CD-1	ZONE ISOLATION DAMPER
EF-18	EXHAUST FAN#18
RFD-1, RFE-1	RETURN FANS FOR UNOCCUPIED HOURS
VAV-D1, VAV-E1	VAV BOXES FOR UNOCCUPIED HOURS
HC-1, HC-2	VAV REHEAT COILS BLOCK C
HC-3, HC-4	VAV REHEAT COILS BLOCK D
HC-5, HC-6	VAV REHEAT COILS BLOCK E
ET-2	EXPANSION TANK DHW SYSTEM
HVLS-C1, HVLS-C2	CEILING FANS BLOCK C
HVLS-D1, HVLS-D2	CEILING FANS BLOCK D
HVLS-E1, HVLS-E2	CEILING FANS BLOCK E
EH-C1	ELECTRIC HOT WATER TANK--PROCESS HEATING
AN-1, AN-2	ACID NEUTRALIZER TANKS FOR BOILERS AND WATER HEATERS.

- DRAWING NOTES**
- HEATING BOILER PLANT AND DOMESTIC WATER HEATER UPGRADES IN BLOCK B MECHANICAL ROOM PENTHOUSE. REFER TO PLANS M-3, M-4, M-8 AND M-9.
 - ZONE DAMPER ISOLATION FOR AFTER HOURS VENTILATION IN BLOCK B, REFER TO PLAN M-2.
 - PHASE CHANGE THERMAL STORAGE IN BLOCK B ROOMS M-103 AND B-105, REFER TO PLAN M-2.
 - DESTRATIFICATION FAN UPGRADE FOR BLOCK C, D AND E, REFER TO PLANS M-5, M-6 AND M-7.
 - CONTROLS UPGRADES FOR TEMPERATURE SETBACK AND OPTIMUM START FOR BLOCKS C, D AND E, REFER TO SPECIFICATIONS.
 - ADMINISTRATION AREA RETURN AND ISOLATION LOCATED IN BLOCK D AND E.
 - DEMAND BASED CONTROL OF LAB BENCH IN BLOCK E LABS E105/E106, REFER TO PLAN M-7.
 - PROPOSED LOCATION FOR HOIST FOR BOILER INSTALLATION.
 - LOCATION AVAILABLE FOR CONTAINER STORAGE.
 - BLOCK C PENTHOUSE LOCATION FOR TEMPORARY PROCESS HEAT.

CONTROLS LEGEND

SYMBOL	DESCRIPTION
	TEMPERATURE SENSOR
	LOW WATER CUT OFF
	TEMPERATURE SENSOR
	TEMPERATURE SENSOR--STRAP ON
	PRESSURE SENSOR
	FLOW SWITCH
	FLOW METER
	SENSOR WELL
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	GAS METER
	DIFFERENTIAL PRESSURE SENSOR

PIPING LEGEND

SYMBOL	DESCRIPTION
	DOMESTIC COLD WATER - NEW
	DOMESTIC HOT WATER - NEW
	HOT WATER RECIRC - NEW
	DOMESTIC COLD WATER - EXIST.
	DOMESTIC HOT WATER - EXIST.
	HOT WATER RECIRC - EXIST.
	GAS PIPING - NEW
	GAS PIPING - EXIST.
	HEATING WATER SUPPLY - NEW
	HEATING WATER RETURN - NEW
	HEATING WATER SUPPLY - EXIST.
	HEATING WATER RETURN - EXIST.

PIPING LEGEND

SYMBOL	DESCRIPTION
	PRESSURE REDUCING VALVE
	ISOLATION/SHUT OFF VALVE
	GLOBE VALVE
	CIRCUIT BALANCE VALVE
	STRAINER
	REDUCED PRESSURE BACKFLOW
	CHECK VALVE
	CAP OFF
	BUTTERFLY VALVE
	BALANCING VALVE
	UNION
	FLANGE
	PIPE BREAK
	P-TRAP
	PIPE DOWN
	PIPE UP
	PIPE SECTION
	TIE INTO EXISTING PIPING
	FUNNEL FLOOR DRAIN
	SIDE STREAM FILTER C/W FLOW INDICATOR
	CHEMICAL POT FEEDER
	AUTOMATIC AIR VENT
	DRAWING NOTE
	RISER TAG
	PRESSURE GAUGE
	THERMOMETER GAUGE
	PRESSURE RELIEF VALVE
	PRESSURE&TEMPERATURE RELIEF VALVE
	MUSHROOM STYLE DISCONNECT SWITCH
	CLEANOUT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	VENT TO ROOF
	EXISTING
	CONNECT INTO EXISTING

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	NEW DUCTWORK
	ACOUSTICALLY INSULATED DUCT
	EXISTING DUCTWORK TO REMAIN
	REMOVE DUCT WORK
	SUPPLY AIR DUCT RISER - UP
	RETURN AIR DUCT RISER - UP
	RETURN AIR DUCT RISER - DOWN
	EXHAUST FAN - INLINE
	PUMP
	FIRE DAMPER - NEW
	MOTORIZED DAMPER
	BALANCING DAMPER
	BACK DRAFT DAMPER
	THERMOSTAT - NEW
	THERMOSTAT - EXISTING
	THERMOSTAT - TO BE REMOVED
	TEMPERATURE SENSOR
	AIR FLOW
	EQUIPMENT TAG
	DRAWING NOTE
	DIFFUSER TAG
	DUCT SIZE
	AIR FLOW
	EXISTING
	RELOCATE EXISTING
	SUPPLY AIR
	RETURN AIR
	EXHAUST AIR
	OUTSIDE AIR

DRAWING LIST

DWG. NO.	DESCRIPTION	SCALE
M-1	LEGENDS, DRAWING LIST AND SITE PLAN	NTS
M-2	BLOCK B MECHANICAL PLANS	1:100
M-3	BLOCK B PENTHOUSE MECHANICAL ROOM DEMO PLAN	1:50
M-4	BLOCK B PENTHOUSE MECHANICAL ROOM NEW PLAN	1:50
M-5	BLOCK C MECHANICAL PLANS	1:50
M-6	BLOCK D MECHANICAL PLANS	1:50
M-7	BLOCK E MECHANICAL PLANS	1:50
M-8	HEATING AND DOMESTIC WATER SCHEMATICS--DEMO	NTS
M-9	HEATING AND DOMESTIC WATER SCHEMATICS--NEW	NTS
M-10	MECHANICAL DETAILS	NTS
E-1	LEGENDS, SITE PLAN AND EQUIPMENT SCHEDULE	NTS
E-2	BLOCK B MECHANICAL ROOM POWER PLANS	1:50
E-3	BLOCK C POWER PLANS	1:50
E-4	BLOCK D POWER PLANS	1:50
E-5	BLOCK E POWER PLANS	1:50

PROJECT INFORMATION

CIVIC ADDRESS:
2645 DOLLARTON HWY., NORTON VANCOUVER, BC

LEGAL DESCRIPTION:
A PORTION OF LOT 5, BLOCK D, DL 469 & 611, PI 8885 AND A PORTION OF BURRARD INLET FRONTING SAID LOTS 4 -12 LYING SOUTH OF THE HIGHWAY IN REF. PLAN 2383, BLOCK 4, DL 469, PI 1532 AND A PORTION OF BURRARD INLET FRONTING SAID LOTS.

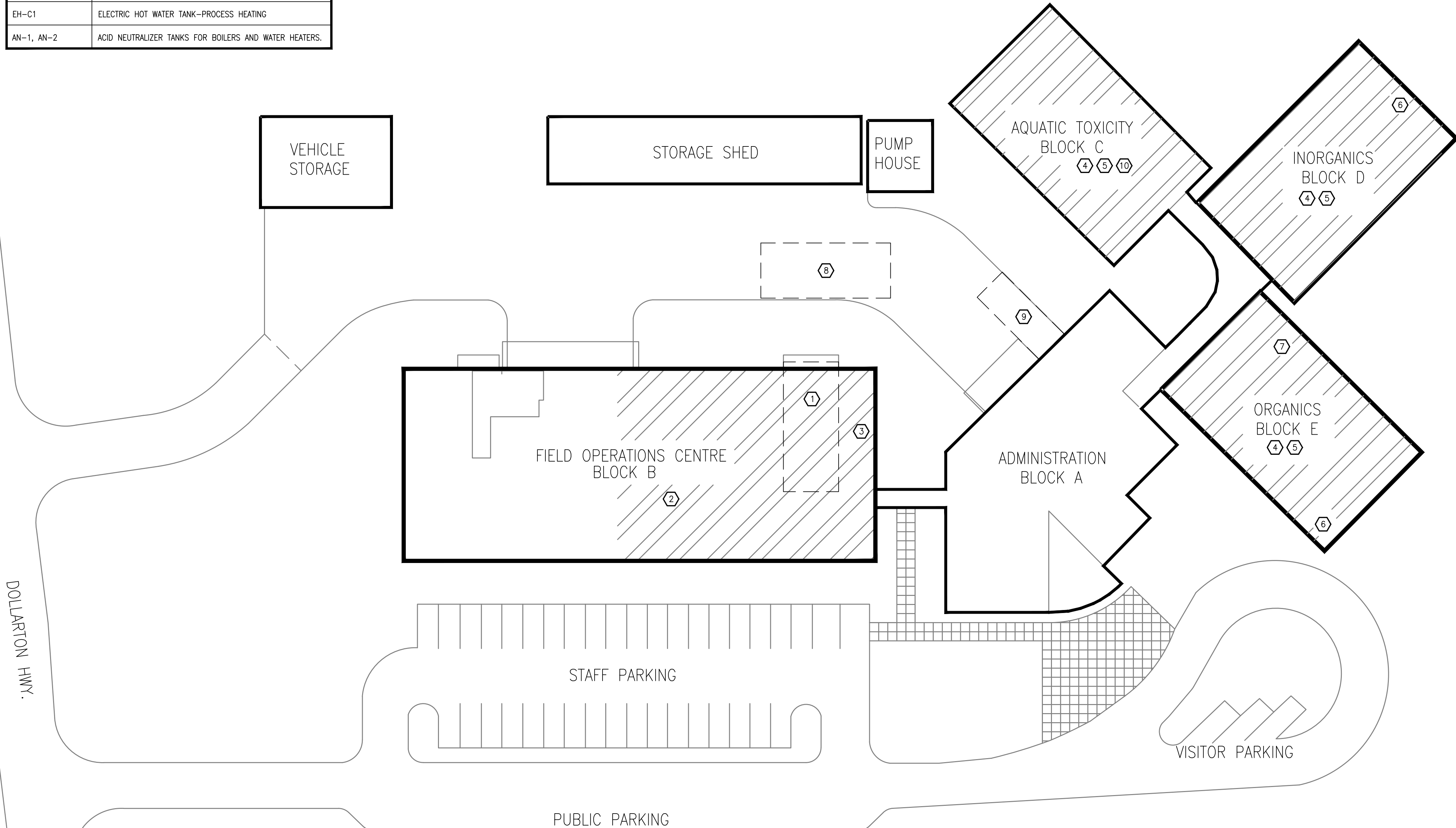
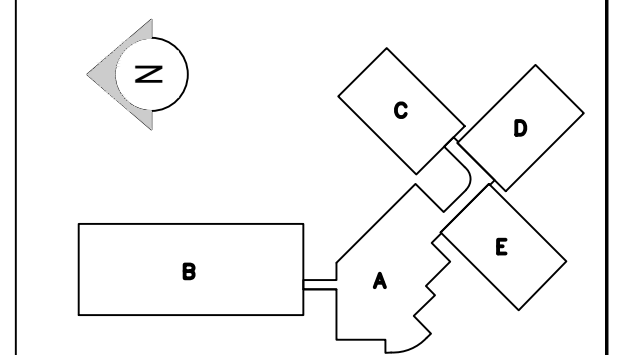
Environment and Climate Change Canada
Real Property Management Division
Division Gestion des biens immobiliers Services Techniques

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2 ISSUED FOR TENDER 2017/04/20
1 ISSUED FOR 90% REVIEW 2017/03/03
0 ISSUED FOR SCHEMATIC DESIGN REVIEW 2017/01/08

Revision YYYMMDD



1 SITE PLAN
SCALE: NTS

CONSULTANT: Project No: 2014099
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PROJECT:
PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE

2645 DOLLARTON HWY.
NORTH VANCOUVER, BC

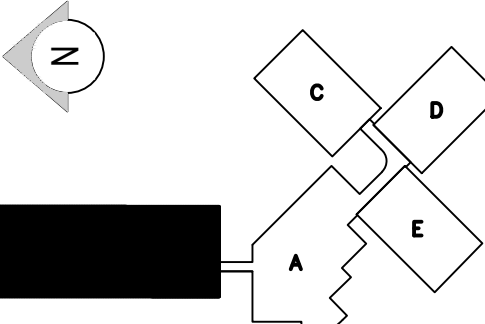
DRAWING TITLE:
LEGEND, DRAWING LIST AND SITE PLAN

DATE: JANUARY 2017	REV. NO. -
DRAWN BY: PAN	CHECKED BY: SKO
SCALE: AS SHOWN	
DRAWING NO. M-1	

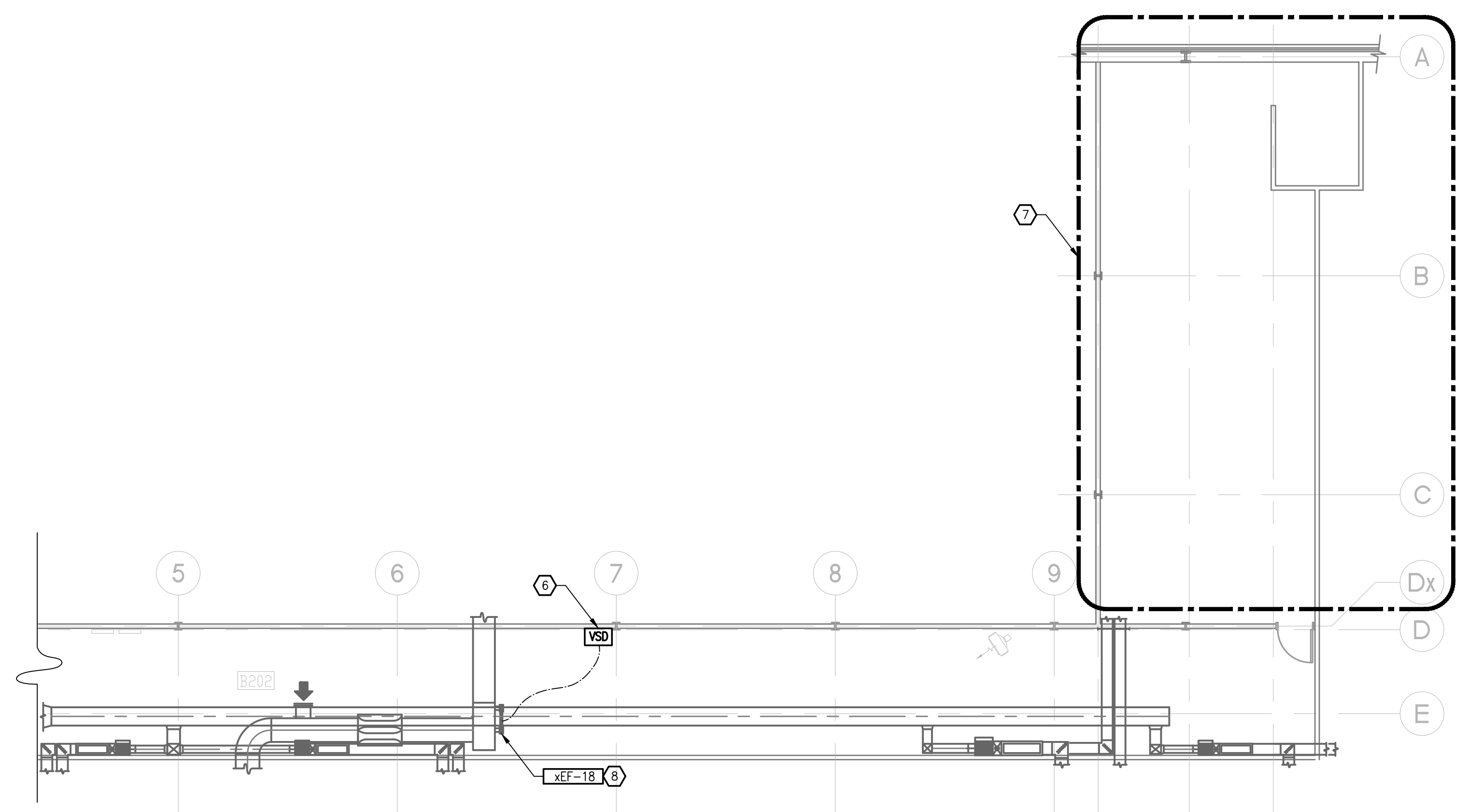
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1	ISSUED FOR 90% REVIEW	2017/03/03
0	ISSUED FOR SCHEMATIC DESIGN REVIEW	2017/01/08

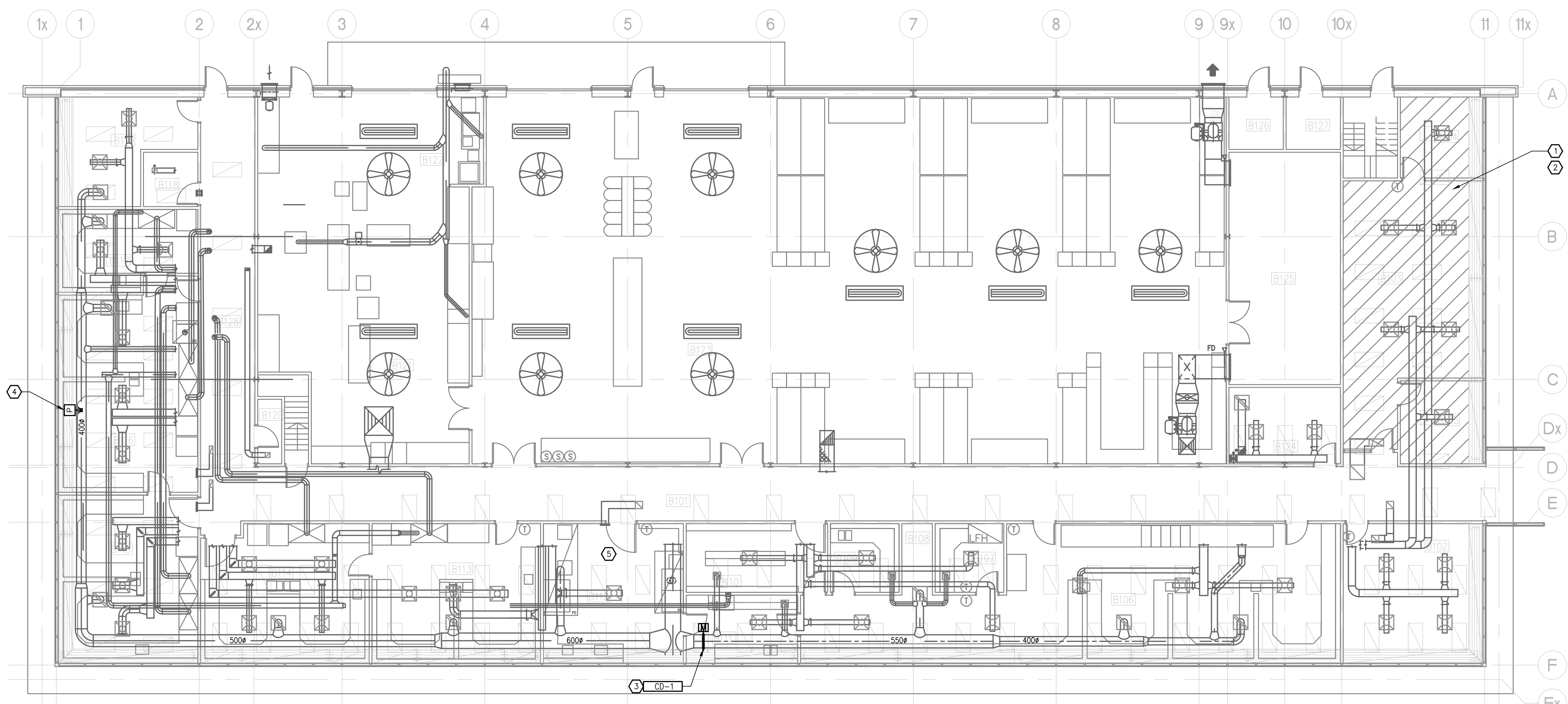
Revision: YYYMMDD



- DRAWING NOTES**
- INSTALL NEW PHASE CHANGE MATERIAL OVER OFFICE AREA B103 AND B105. AVOID INSTALLING OVER LIGHTS, DIFFUSERS AND WITHIN 100 mm FROM RADIANT PANELS.
 - INSTALL ADDITIONAL T-BAR SUPPORTS AND SEISMIC RESTRAINT CABLES AS REQUIRED FOR THE ADDITIONAL WEIGHT OF THE THERMAL MASS.
 - INSTALL NEW 550A ZONE DAMPER CD-1 ON GENERAL LAB EXHAUST FOR AFTER HOURS ZONE ISOLATION.
 - INSTALL NEW PRESSURE SENSOR 3/8" DOWN DUCT FOR STATOR PRESSURE RESET.
 - CONFIRM PRESSURE RELATIONSHIP IS MAINTAINED IN EACH LAB DURING OCCUPIED AND UNOCCUPIED OPERATION OF HVAC SYSTEM.
 - INSTALL NEW VSD ON WALL FOR xEF-18. SEISMICALLY SECURE, BY DIVISION 26.
 - REFER TO MECHANICAL ROOM LAYOUT M-3.
 - REPLACE EXISTING BEARINGS, BELTS AND MOTOR. SUPPLY INVERTER DUTY RATED MOTOR, CONNECT TO NEW VSD.



1 BLOCK B MECHANICAL PENTHOUSE FLOOR PLAN
 SCALE: 1:100



2 BLOCK B MECHANICAL GROUND FLOOR PLAN
 SCALE: 1:100



CONSULTANT: Project No: 2014099



PROJECT: PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE

2645 DOLLARTON HWY. NORTH VANCOUVER, BC

DRAWING TITLE: BLOCK B MECHANICAL PLANS

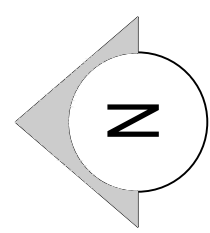
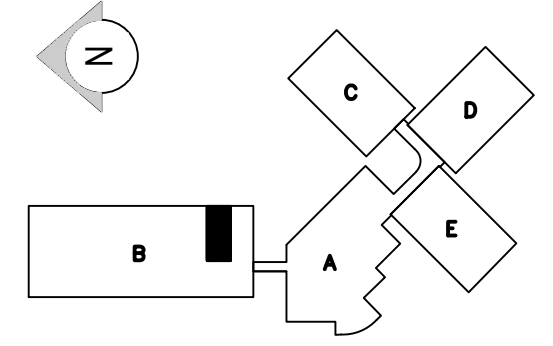
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DRAWN BY:	PAN	CHECKED BY:	SKO
SCALE:	AS SHOWN		

DRAWING NO. M-2

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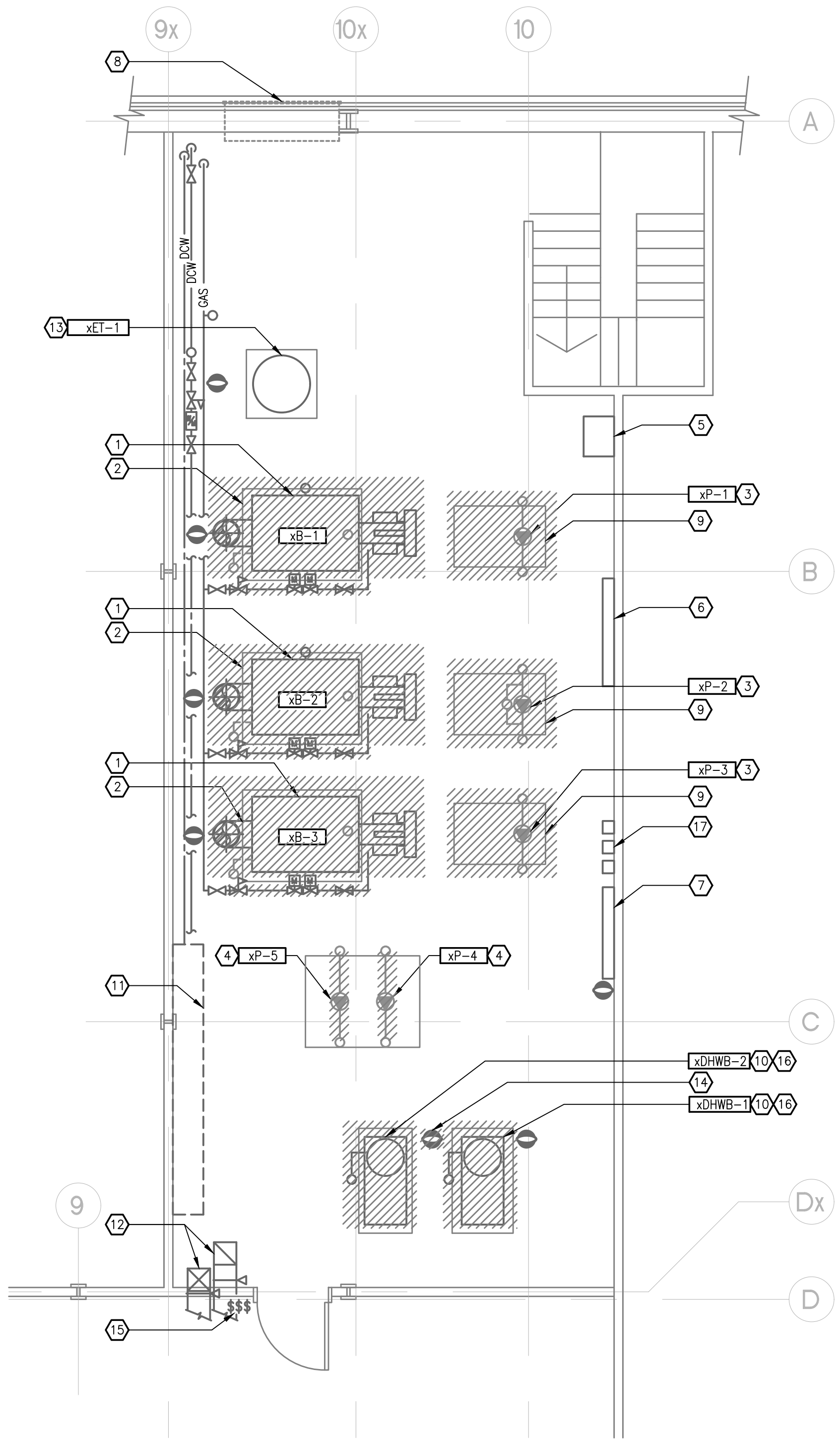
2	ISSUED FOR TENDER	2017/04/20
1	ISSUED FOR 90% REVIEW	2017/03/08
0	ISSUED FOR SCHEMATIC DESIGN REVIEW	2017/01/08

Revision YYYYYMMDD

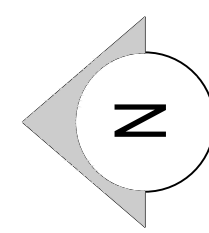


DRAWING NOTES

- REMOVE EXISTING BOILER xB-1, xB-2, xB-3, ASSOCIATED CONTROLS, PIPING, BURNER, ALL CONNECTORS AND GAS TRAIN.
- RETAIN EXISTING HOUSEKEEPING PAD.
- REMOVE EXISTING PRIMARY PUMPS xP-1, xP-2, xP-3 AND ASSOCIATED PIPING. CAP AT HEADER.
- REMOVE EXISTING SECONDARY PUMPS xP-4, xP-5.
- EXISTING DATA CABINET TR.
- EXISTING ELECTRICAL PANEL TR.
- EXISTING DDC CONTROL PANEL TR.
- REMOVE EXISTING 1500X2000 LOUVER FOR BOILER ACCESS TO MECHANICAL PENTHOUSE. INCREASE SIZE OF OPENING AS REQUIRED FOR INSTALLATION OF THE BOILER. ALLOW FOR A MINIMUM OF 250mm ADDITIONAL CLEARANCE.
- REMOVE EXISTING HOUSEKEEPING PAD. SMOOTH SURFACE AND PAINT TO MATCH EXISTING FLOOR.
- REMOVE EXISTING DOMESTIC WATER HEATER IN PHASED APPROACH. REFER TO SPECIFICATIONS.
- EXISTING PRV ASSEMBLY TR.
- EXISTING S/A TO B124 BELOW TR.
- EXISTING HEATING SYSTEM EXPANSION TANK TR.
- REMOVE EXISTING FUNNEL AND REPLACE WITH NEW FLOOR DRAIN GRID.
- EXISTING HOT WATER BOILER SHUT DOWN SWITCHES TO BE REMOVED AND REPLACED.
- REMOVE PORTION OF HOUSEKEEPING PAD AND PROVIDE NEW ONE AS REQUIRED FOR THE NEW WATER HEATERS.
- REMOVE EXISTING PUMP DISCONNECTS, REFER TO ELECTRICAL DRAWINGS.

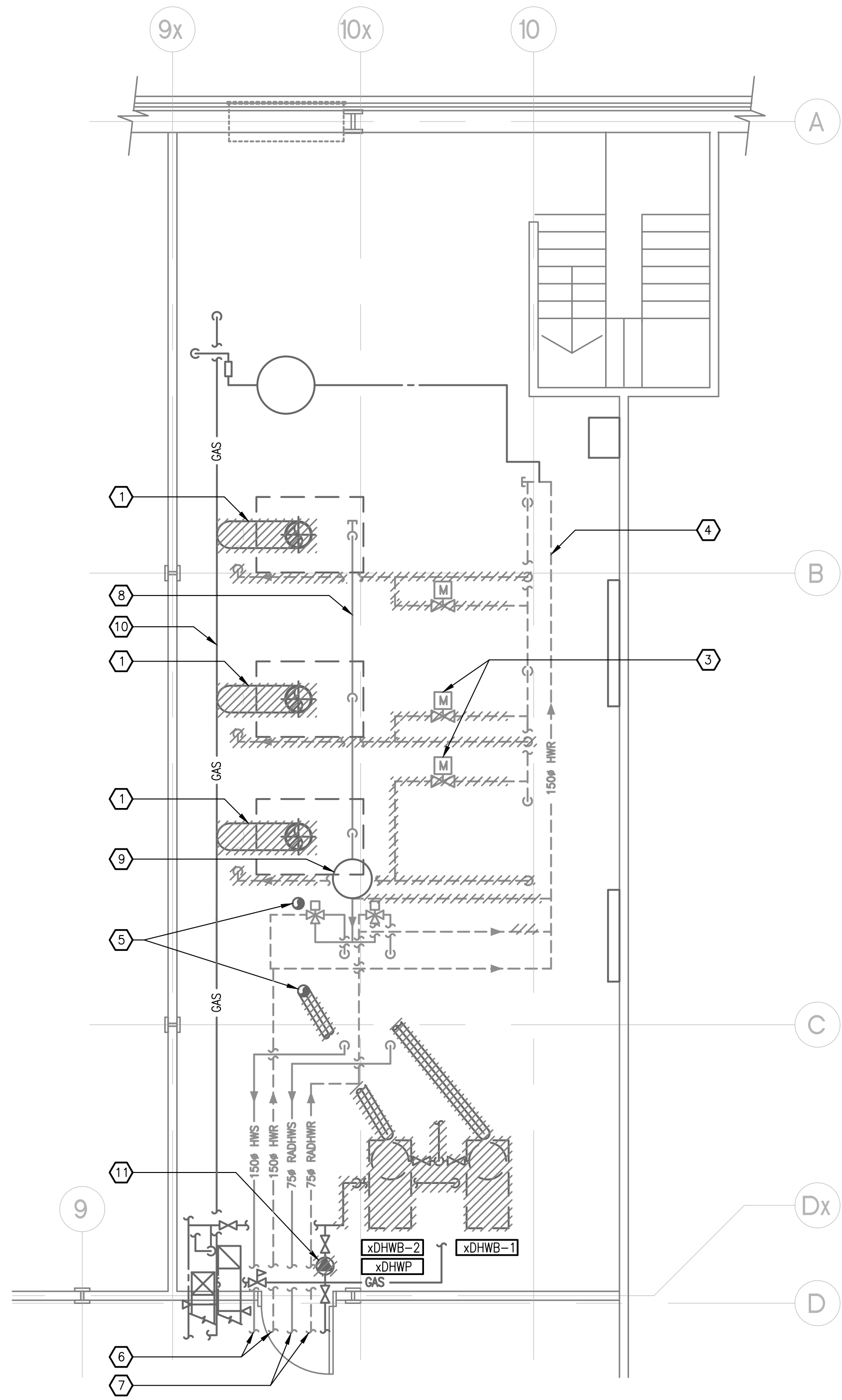


1 BLOCK B PENTHOUSE MECHANICAL ROOM - LOWER LEVEL PLAN - DEMO
 SCALE: 1:50



DRAWING NOTES

- REMOVE EXISTING 350# BOILER FLUE VENT.
- REMOVE EXISTING 150# DIA DOMESTIC HEATER FLUE VENT. RE-USE PENETRATION FOR NEW DOMESTIC HEATERS.
- REMOVE EXISTING BYPASS VALVE AND PIPING. CAP AT HEADER.
- RETAIN EXISTING HWR HEADER.
- EXISTING 150# DOMESTIC HOT WATER HEATER FLUES TO BE RE-USED FOR NEW CONDENSING WATER HEATERS.
- EXISTING 150# HWS&HWR TO/FROM AHU&REHEAT COIL.
- EXISTING 75# HWS&HWR TO/FROM RADIANT PANEL.
- RETAIN EXISTING 150# HWS HEADER AT HIGH LEVEL.
- RETAIN EXISTING AIR SEPARATOR AT HIGH LEVEL.
- EXISTING 65# GAS LINE AT HIGH LEVEL SERVING xDHW-1 AND xDHW-2 TO REMAIN.
- REMOVE EXISTING DOMESTIC WATER RE CIRCULATION PUMP.



2 BLOCK B PENTHOUSE MECHANICAL ROOM - UPPER LEVEL PLAN - DEMO
 SCALE: 1:50



CONSULTANT: Project No: 2014099



PROJECT: PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE

2645 DOLLARTON HWY. NORTH VANCOUVER, BC

DRAWING TITLE: BLOCK B PENTHOUSE MECHANICAL ROOM DEMO PLAN

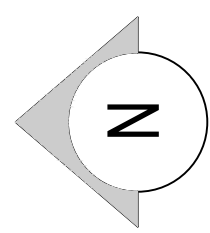
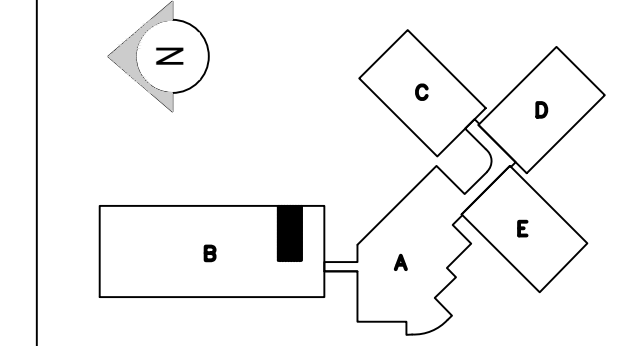
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DRAWING NO. M-3

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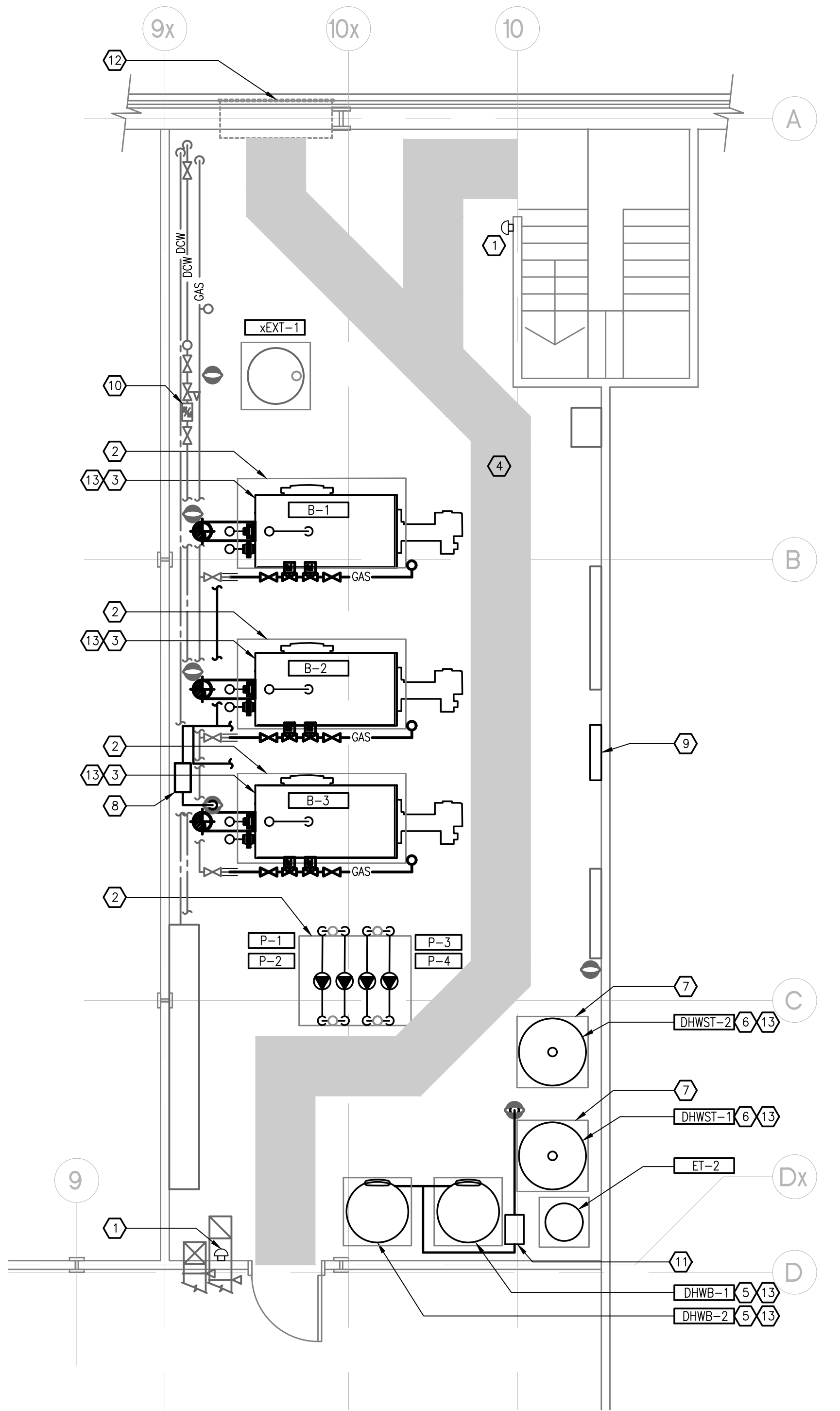
2	ISSUED FOR TENDER	2017/04/20
1	ISSUED FOR 90% REVIEW	2017/03/03
0	ISSUED FOR SCHEMATIC DESIGN REVIEW	2017/01/06

Revision: YYYMMDD

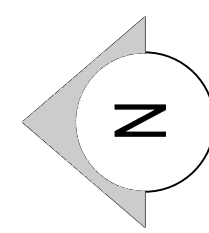


DRAWING NOTES

1. INSTALL NEW BOILER PLANT SHUT DOWN MUSHROOM SWITCH AT 1500 mm AFF. INTERLOCK ALL NEW HEATING AND DOMESTIC BOILERS. (TYP 2) LABEL "BOILER PLANT EMERGENCY SHUT DOWN SWITCH".
2. EXTEND HOUSEKEEPING PADS TO ACCOMMODATE NEW EQUIPMENT. KEY INTO SLAB AND SIGN OFF BY SEISMIC ENGINEER REQUIRED, REFER TO HOUSEKEEPING PAD DETAIL.
3. INSTALL NEW HEATING HOT WATER BOILERS. SEISMICALLY RESTRAIN. PIPE PRV TO DRAIN. CONNECT TO PIPING PER SCHEMATIC. INSTALL NEW GAS TRAIN, VENT AND CONTROLS.
4. MAINTAIN 900mm WALKING PATH THROUGH BOILER ROOM OUTLINE WITH 100mm PAINTED STRIPE.
5. INSTALL NEW DOMESTIC HOT WATER HEATERS IN PHASED APPROACH. RETAIN HOT WATER TO FACILITY AT ALL TIMES. SEISMICALLY RESTRAIN.
6. INSTALL NEW DOMESTIC HOT WATER STORAGE TANKS. SEISMICALLY RESTRAIN.
7. INSTALL NEW 1100mmx1100mm, 100mm HIGH HOUSEKEEPING PADS FOR NEW STORAGE TANKS.
8. INSTALL NEW NEUTRALIZING TANK FOR CONDENSATE FROM 3 BOILERS.
9. INSTALL NEW MASTER BOILER CONTROL PANEL.
10. RE COMMISSIONING EXISTING WATER METER.
11. INSTALL ACID NEUTRALIZER TANK FOR 2 DHW HEATERS.
12. REINSTALL LOUVER POST BOILER INSTALLATION. PROVIDE NEW FLASHING AND SEAL TIGHT.
13. MAINTAIN CLEARANCE REQUIRED FOR SERVING AND REMOVAL.

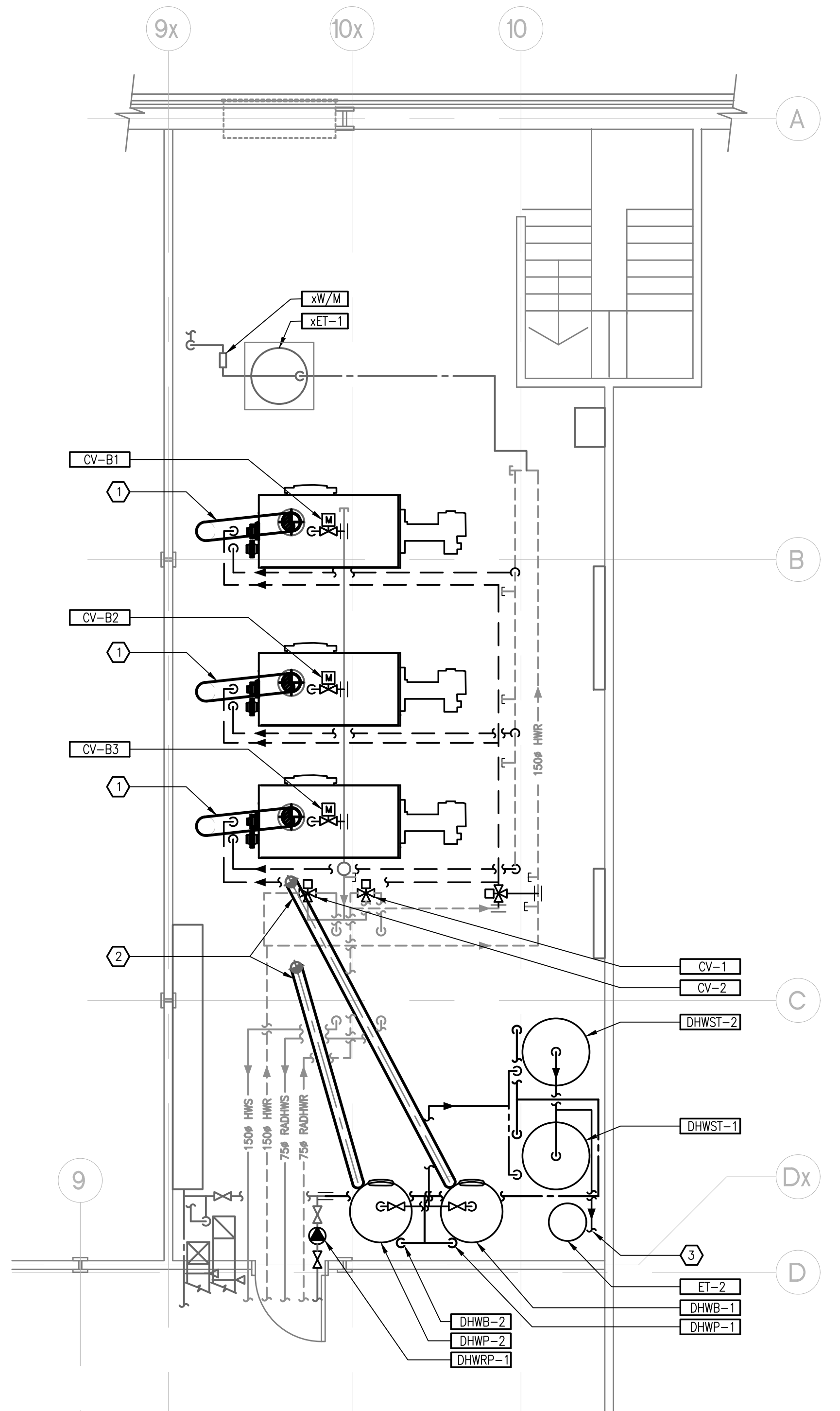


1 BLOCK B PENTHOUSE MECHANICAL ROOM - LOWER LEVEL PLAN - NEW
 SCALE: 1:50

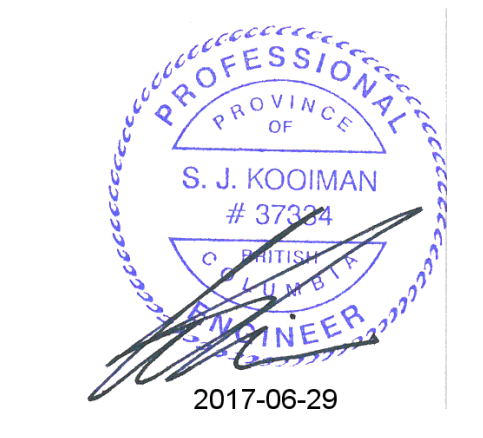


DRAWING NOTES

1. INSTALL NEW 10" SS DOUBLE WALL CATEGORY IV VENT UP TO 7FT ABOVE FLOOR THEN SINGLE WALL UP THROUGH EXISTING VENT PENETRATION, REFER TO DETAIL.
2. INSTALL NEW 150# SS CATEGORY IV VENT FOR NEW DHW HEATERS. RUN UP THROUGH EXISTING PENETRATION AND SEAL REFER TO VENTING DETAIL.
3. CONNECT INTO EXISTING DHW SUPPLY TO BUILDING.



2 BLOCK B PENTHOUSE MECHANICAL ROOM - UPPER LEVEL PLAN - NEW
 SCALE: 1:50



CONSULTANT: Project No: 2014099



PROJECT: PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE

2645 DOLLARTON HWY. NORTH VANCOUVER, BC

DRAWING TITLE: BLOCK B PENTHOUSE MECHANICAL ROOM NEW PLAN

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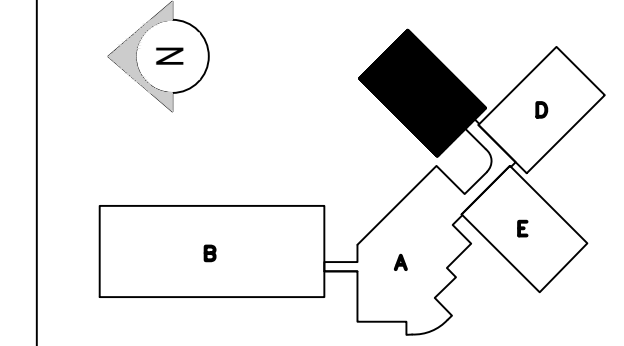
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- DRAWING NOTES**
1. REPLACE EXISTING HW REHEAT COIL WITH NEW. REMOVE PIPING AND RECONFIGURE TO ACCOMMODATE.
 2. INSTALL NEW HVLS FANS. SEISMICALLY RESTRAIN. REFER TO DETAILS AND INSTALLATIONS MANUAL.
 3. REMOVE EXISTING SWITCH FOR FANS REFER TO ELECTRICAL DRAWINGS.
 4. PROVIDE NEW TEMPORARY ELECTRIC WATER HEATER TANK FOR PROCESS WATER HEATING. SEE DETAIL 8 ON DWG M-10.
 5. TO HEAT EXCHANGERS.
 6. CONNECT PIPING FROM NEW ELECTRIC HW TANK TO EXISTING HEATING PIPING TO HEAT EXCHANGERS.
 7. EXTEND EXISTING HOUSEKEEPING PAD TO ACCOMMODATE NEW EH-C1 TANK. PAINT PAD TO MATCH EXISTING AND PROVIDE EDGING TO MATCH.

2	ISSUED FOR TENDER	2017/04/20
1	ISSUED FOR 90% REVIEW	2017/03/03
0	ISSUED FOR SCHEMATIC DESIGN REVIEW	2017/01/08

Revision: YYYMMDD



CONSULTANT: Project No: 2014099

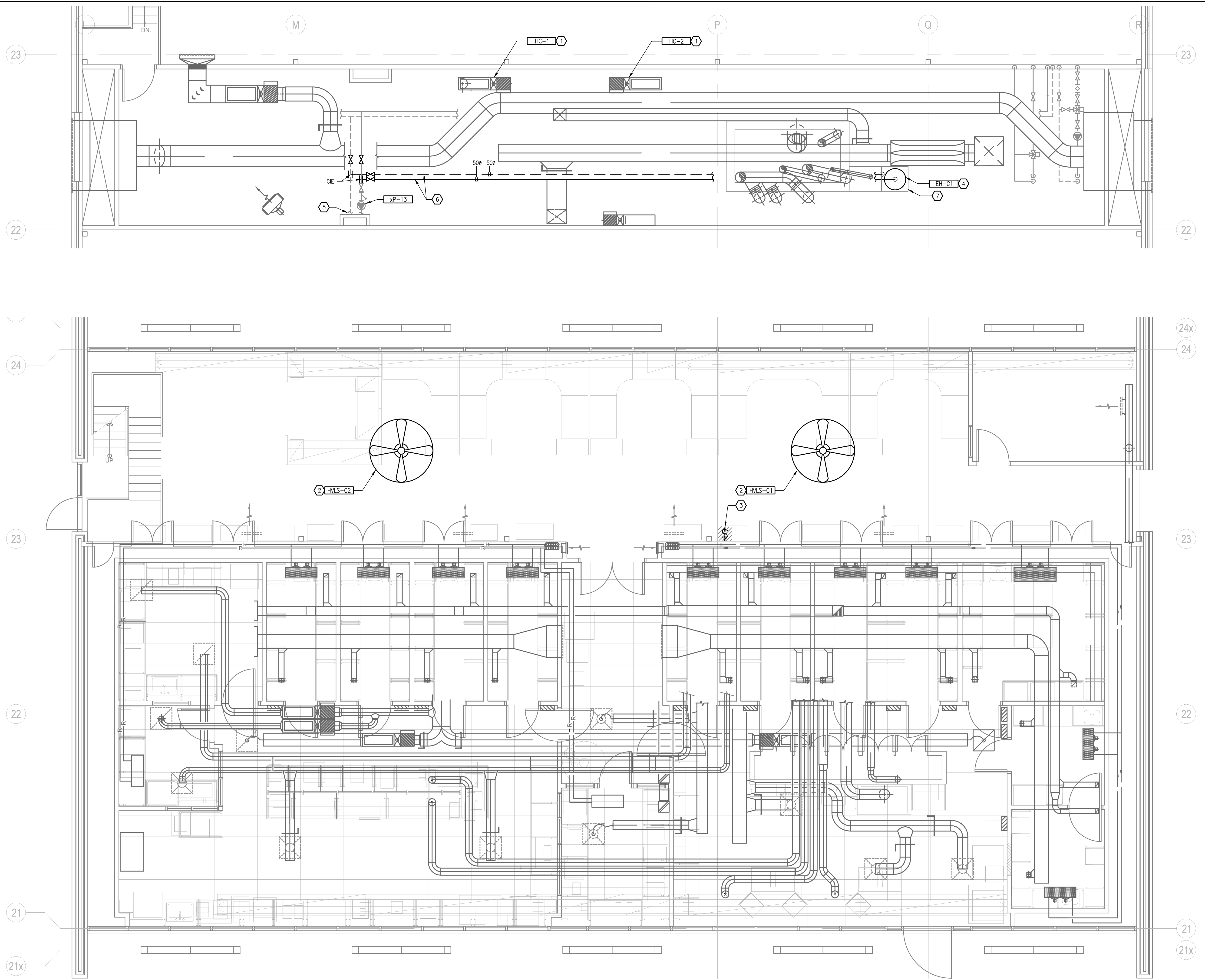


PROJECT: PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE
 2645 DOLLARTON HWY. NORTH VANCOUVER, BC

DRAWING TITLE: **BLOCK C MECHANICAL PLANS**

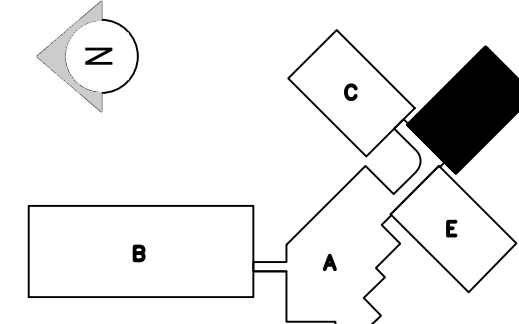
DATE:	JANUARY 2017	REV. NO.	
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SCALE:	AS SHOWN		
DRAWING NO.	M-5		

1 HVAC PLAN- BLOCK "C"
 SCALE: 1:50



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1	ISSUED FOR 90% REVIEW	2017/03/03
0	ISSUED FOR SCHEMATIC DESIGN REVIEW	2017/01/08
Revision		YYYYMMDD



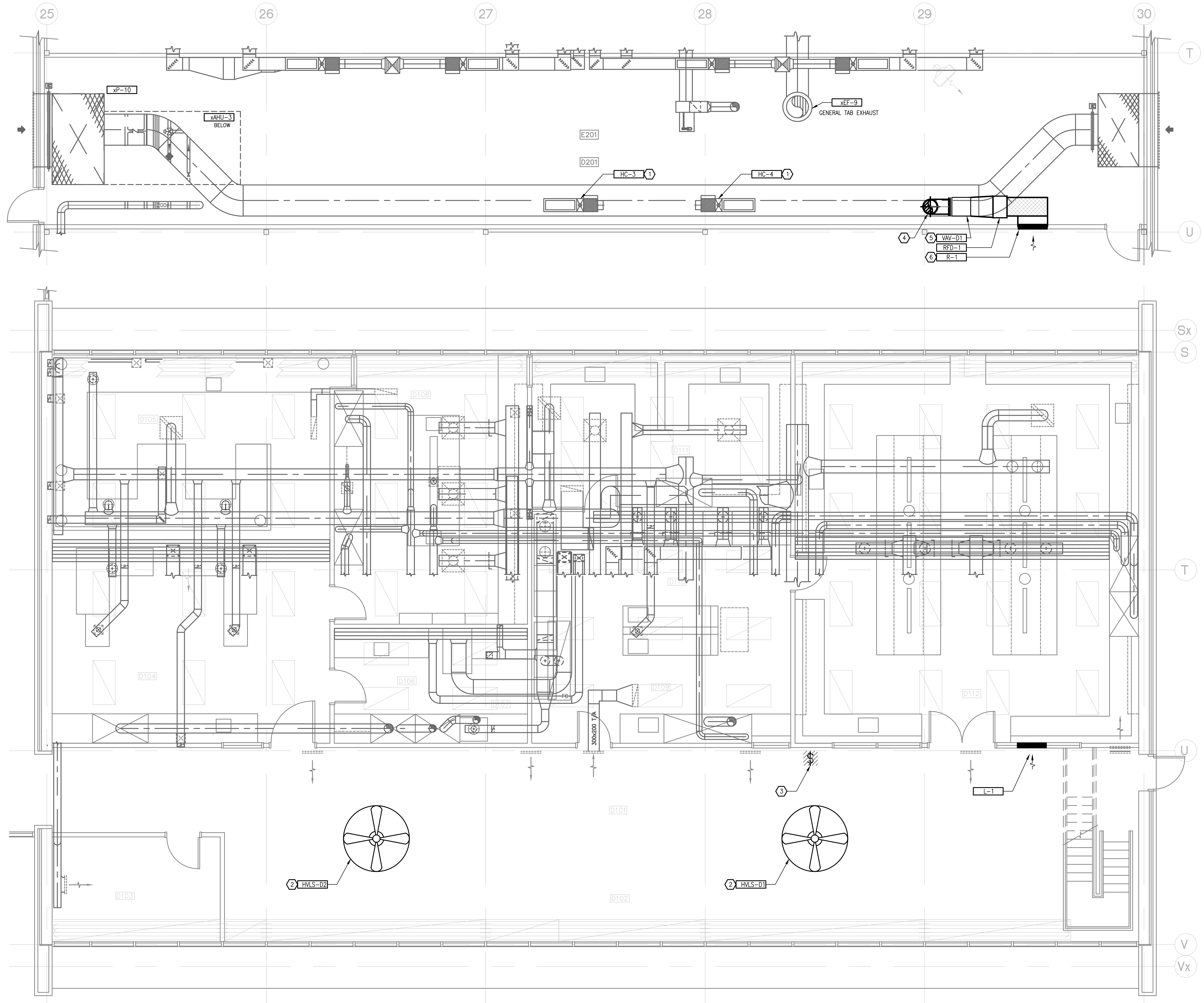
CONSULTANT: Project No: 2014099



PROJECT:
**PACIFIC ENVIRONMENTAL
 SCIENCE CENTRE MECHANICAL
 SYSTEMS ENERGY UPGRADE**
 2645 DOLLARTON HWY.
 NORTH VANCOUVER, BC

DRAWING TITLE:
**BLOCK D
 MECHANICAL PLANS**

DATE:	JANUARY 2017	REV. NO.	
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DRAWING NO.	M-6		

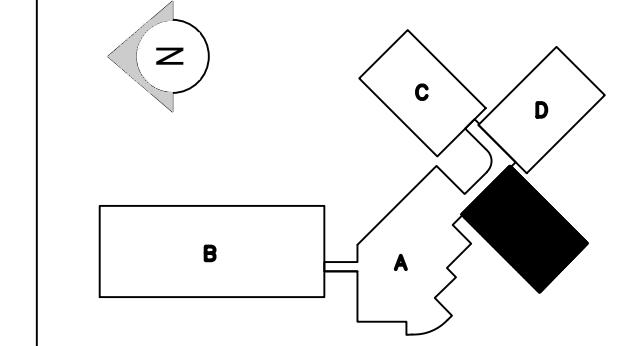


- DRAWING NOTES**
1. REPLACE EXISTING HW REHEAT COIL WITH NEW. REMOVE PIPING AND RECONFIGURE TO ACCOMMODATE.
 2. INSTALL NEW HVLS FANS. SEISMICALLY RESTRAIN. REFER TO DETAILS AND INSTALLATIONS MANUAL.
 3. REMOVE EXISTING SWITCH FOR FANS REFER TO ELECTRICAL DRAWINGS.
 4. CONNECT NEW FAN POWERED VAV INTO R/A DUCT.
 5. INSTALL NEW FAN POWERED VAV BOX, SEISMICALLY RESTRAIN.
 6. INSTALL NEW LOUVER AT HIGH LEVEL.

1 BLOCK D HVAC PLAN
 SCALE: 1:50

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1	ISSUED FOR 90% REVIEW	2017/03/03
0	ISSUED FOR SCHEMATIC DESIGN REVIEW	2017/01/08
Revision		YYYYMMDD

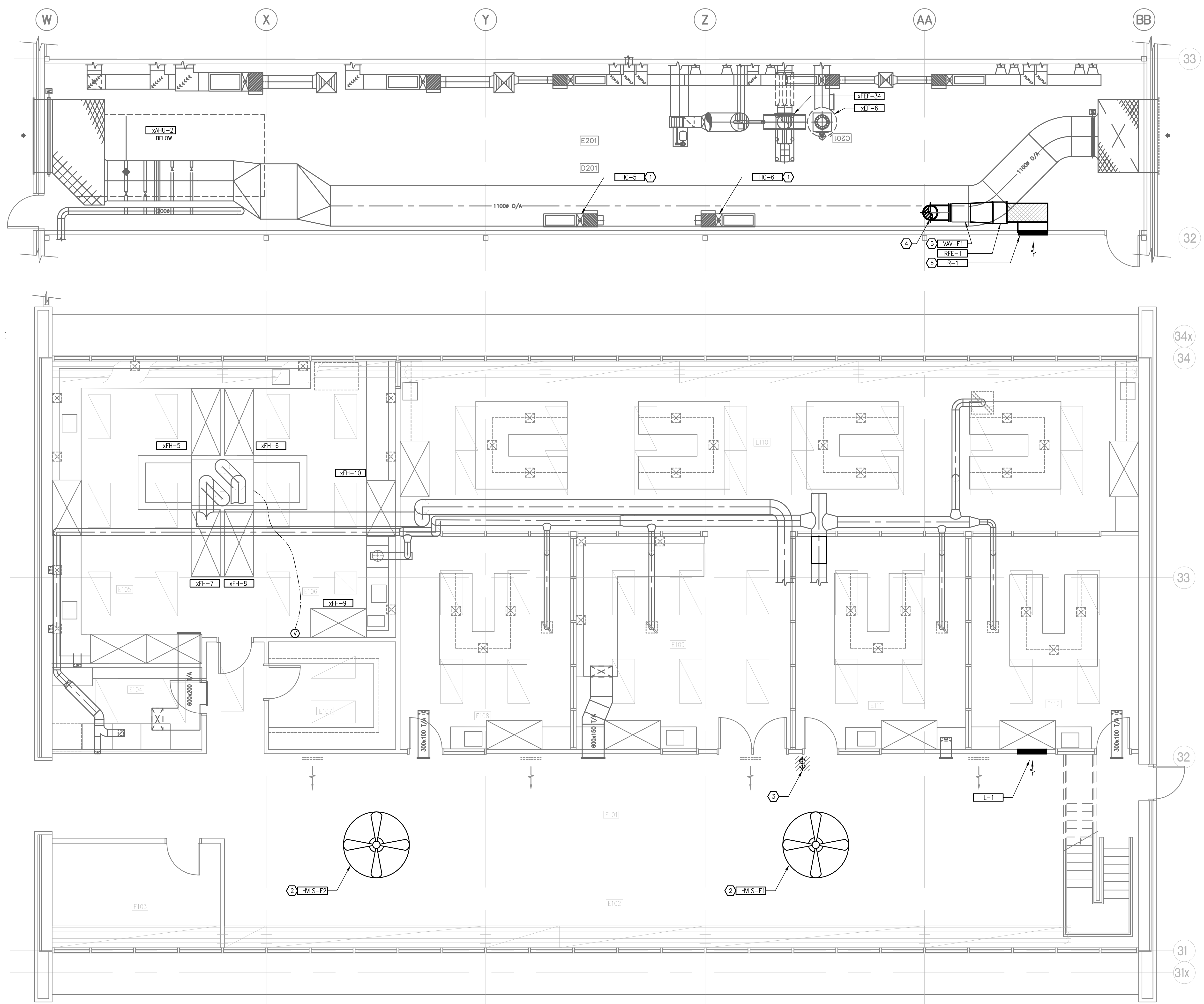


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PROJECT:
 PACIFIC ENVIRONMENTAL
 SCIENCE CENTRE MECHANICAL
 SYSTEMS ENERGY UPGRADE
 2645 DOLLARTON HWY.
 NORTH VANCOUVER, BC

DRAWING TITLE:
**BLOCK E
 MECHANICAL PLANS**

DATE:	JANUARY 2017	REV. NO.	-
DRAWN BY:	PAN	CHECKED BY:	SKO
SCALE:	AS SHOWN		
DRAWING NO.	M-7		



- DRAWING NOTES**
1. REPLACE EXISTING HW REHEAT COIL WITH NEW. REMOVE PIPING AND RECONFIGURE TO ACCOMMODATE.
 2. INSTALL NEW HVL S FANS. SEISMICALLY RESTRAIN. REFER TO DETAILS AND INSTALLATIONS MANUAL.
 3. REMOVE EXISTING SWITCH FOR FANS REFER TO ELECTRICAL DRAWINGS.
 4. CONNECT NEW FAN POWERED VAV INTO R/A DUCT.
 5. INSTALL NEW FAN POWERED VAV BOX, SEISMICALLY RESTRAIN.
 6. INSTALL NEW LOUVER AT HIGH LEVEL.

1 BLOCK E HVAC PLAN
 SCALE: 1:50

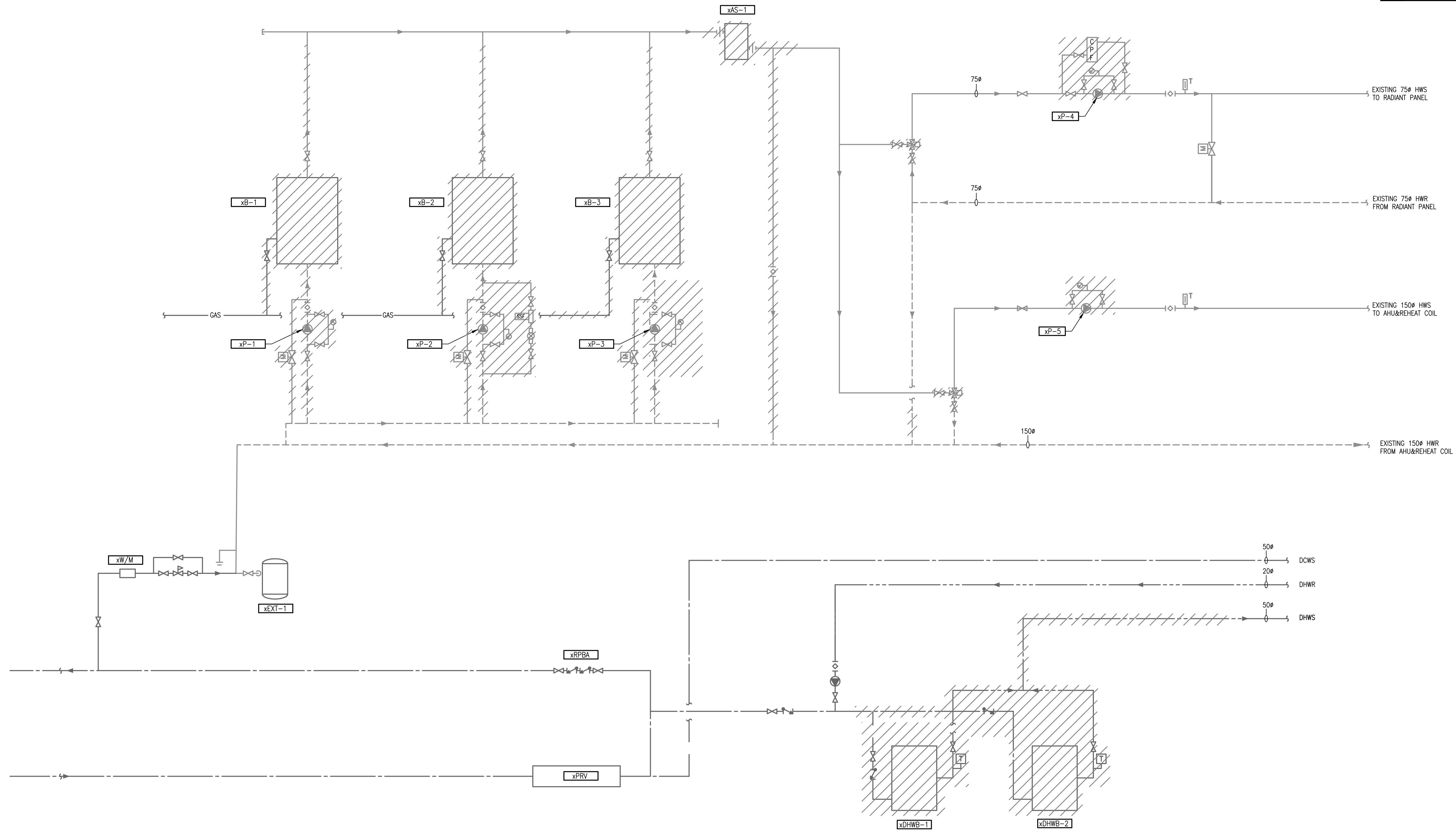
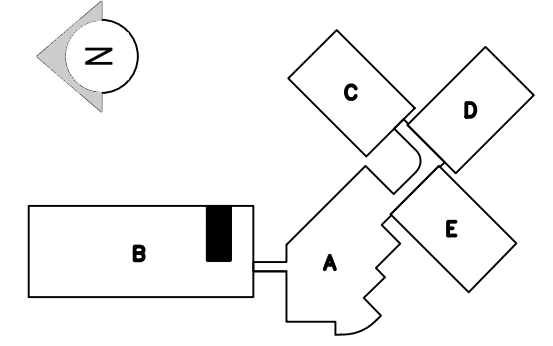
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DRAWING NOTES

1. TBD

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1 HEATING AND DOMESTIC PIPING SCHEMATIC - DEMO
 SCALE: NTS



CONSULTANT: Project No: 2014099



PROJECT:
PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE
 2645 DOLLARTON HWY.
 NORTH VANCOUVER, BC

DRAWING TITLE:
HEATING AND DOMESTIC WATER SCHEMATICS - DEMO

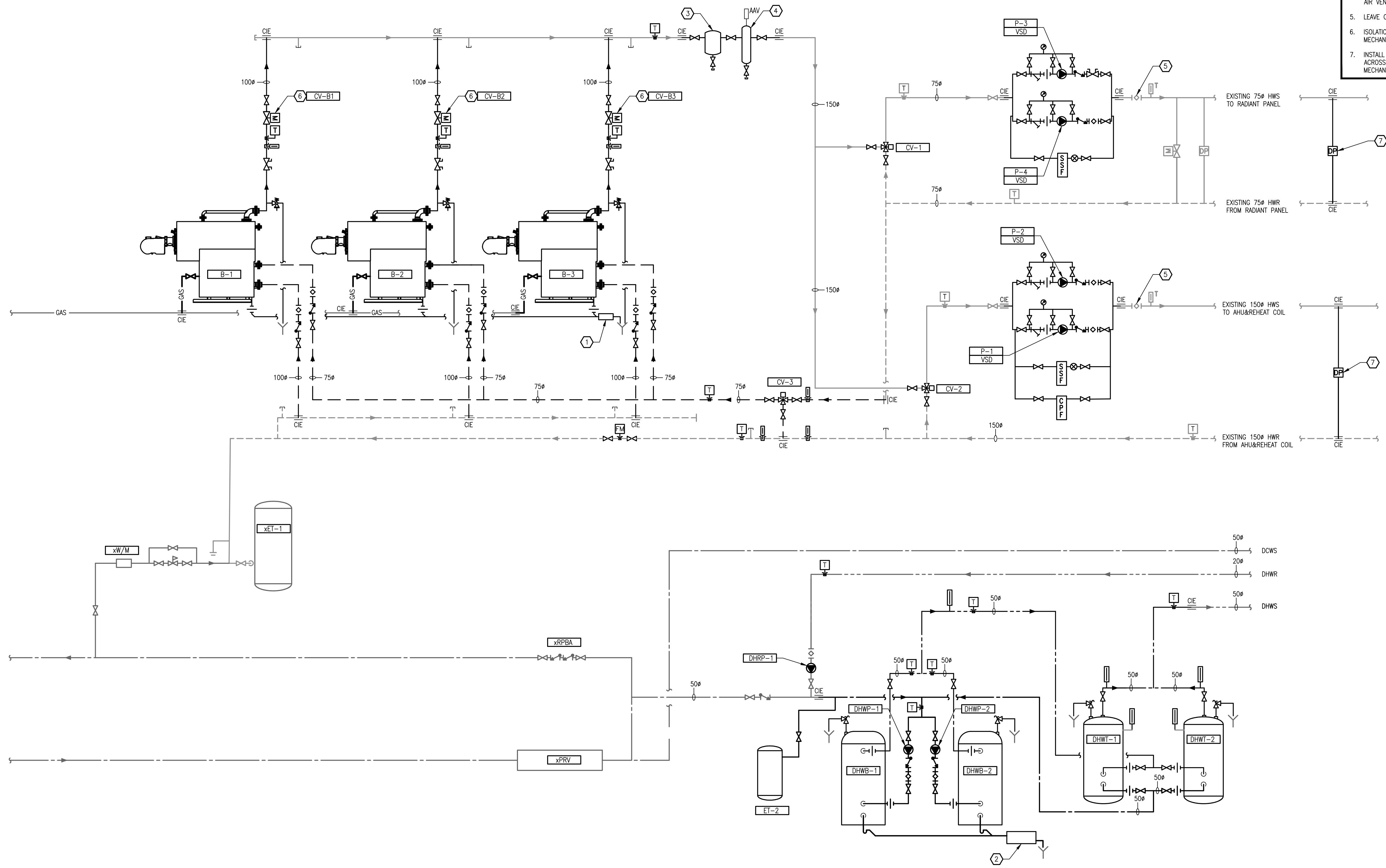
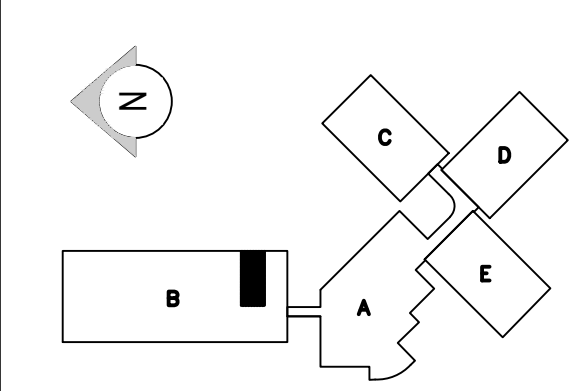
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DRAWING NO. **M-8**

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- DRAWING NOTES**
- ACID NEUTRALIZER FOR BOILERS.
 - ACID NEUTRALIZER FOR WATER HEATERS.
 - DIRT SEPARATOR.
 - COALESCING AIR AND SEDIMENT SEPARATOR WITH AIR VENT AND DRAIN.
 - LEAVE OPEN FULLY.
 - ISOLATION VALVES SUPPLIED AND INSTALLED BY MECHANICAL.
 - INSTALL NEW DIFFERENTIAL PRESSURE SENSOR ACROSS HEADER LOCATED IN D BLOCK MEZZANINE MECHANICAL ROOM.

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0 ISSUED FOR SCHEMATIC DESIGN REVIEW	2017/01/08



1 HEATING AND DOMESTIC PIPING SCHEMATIC - NEW
 SCALE: NTS



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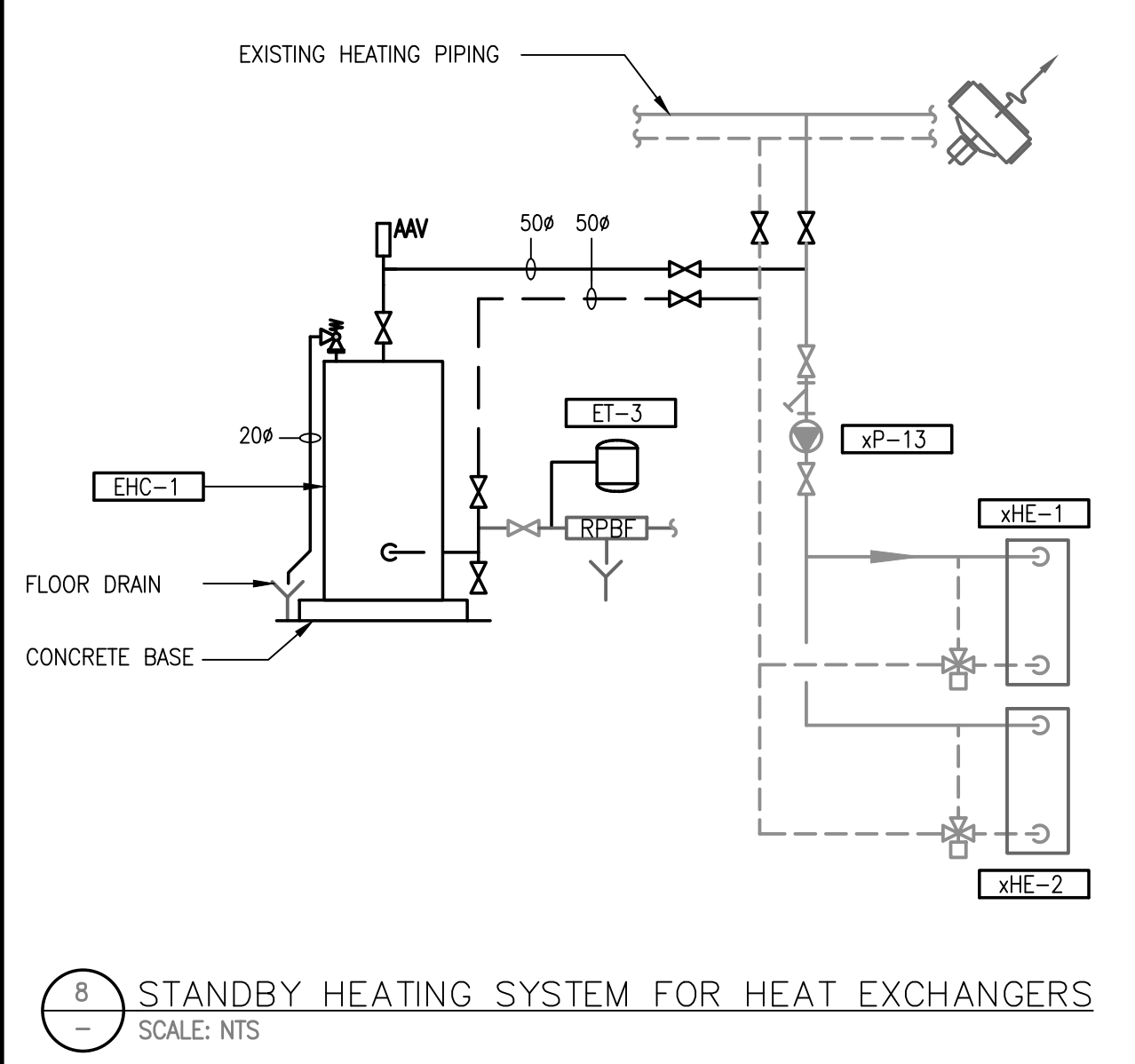
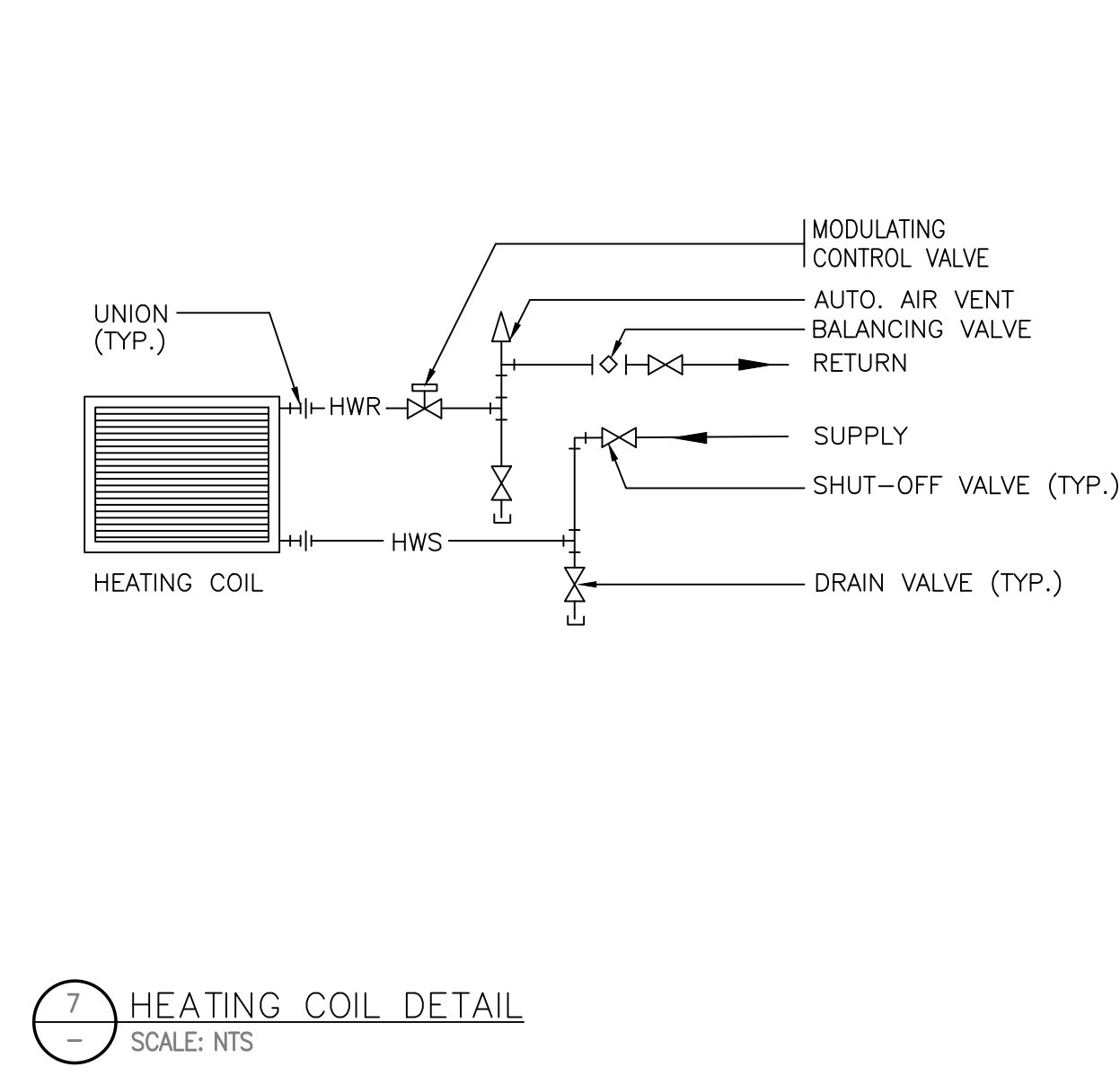
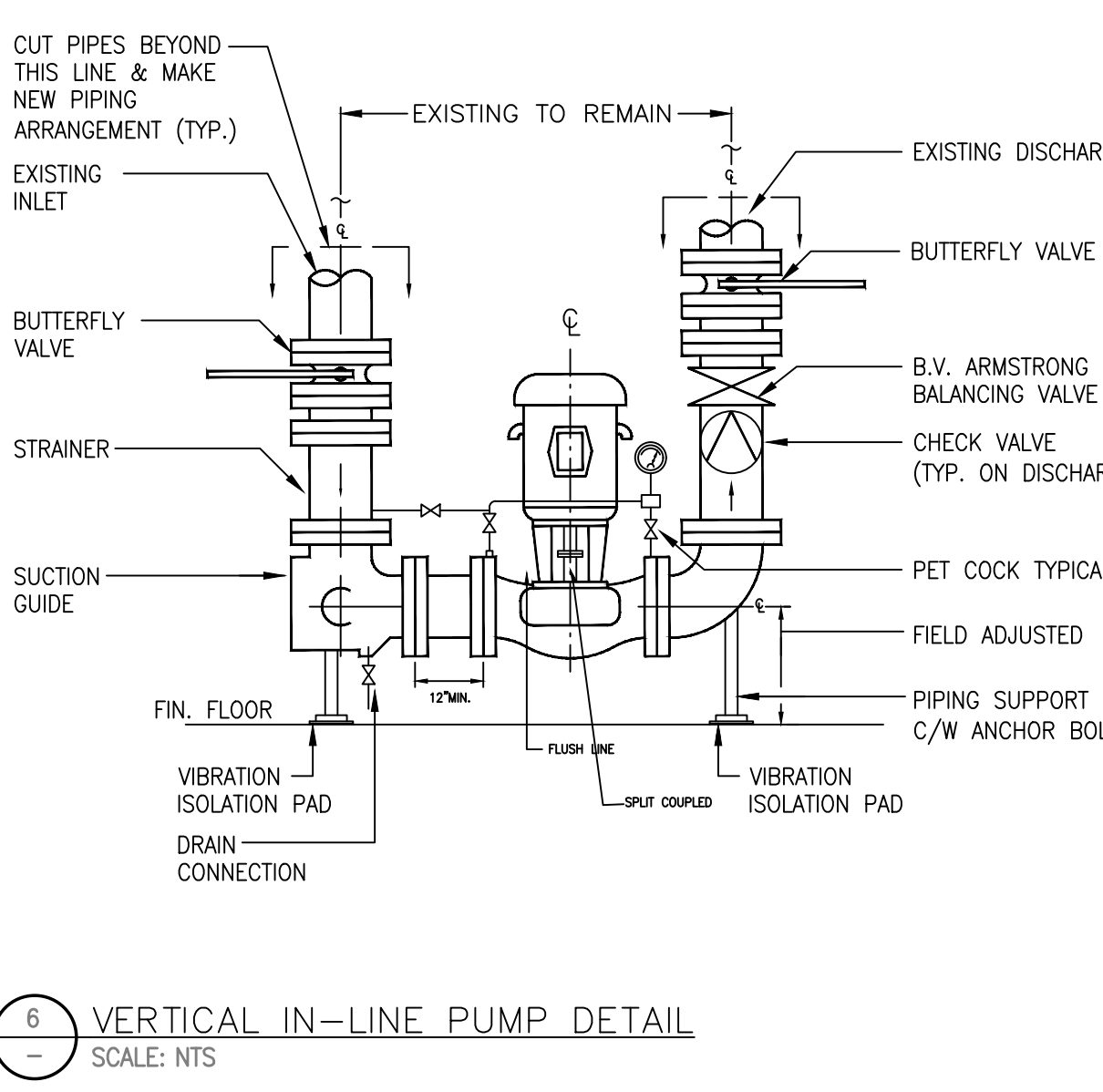
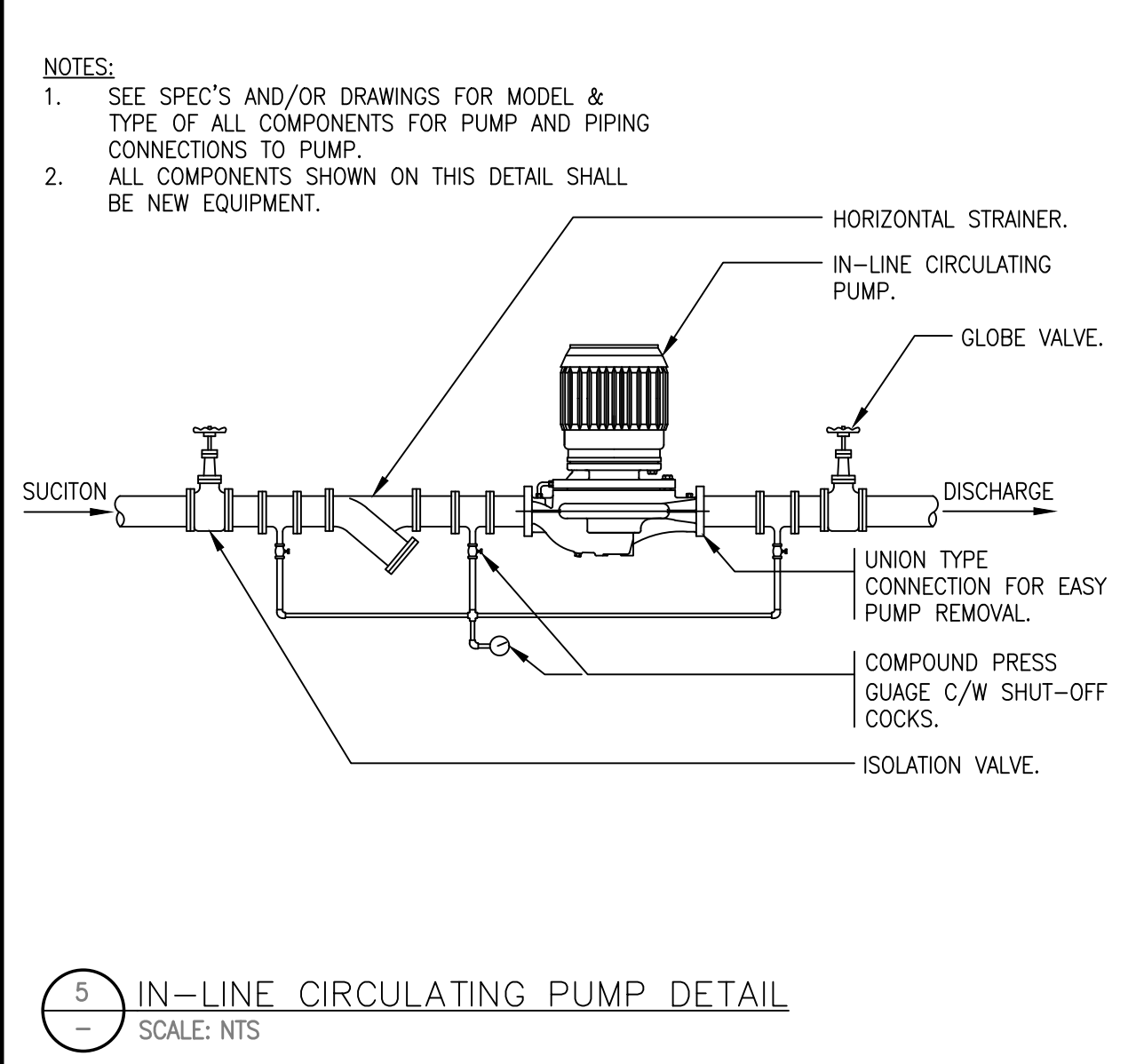
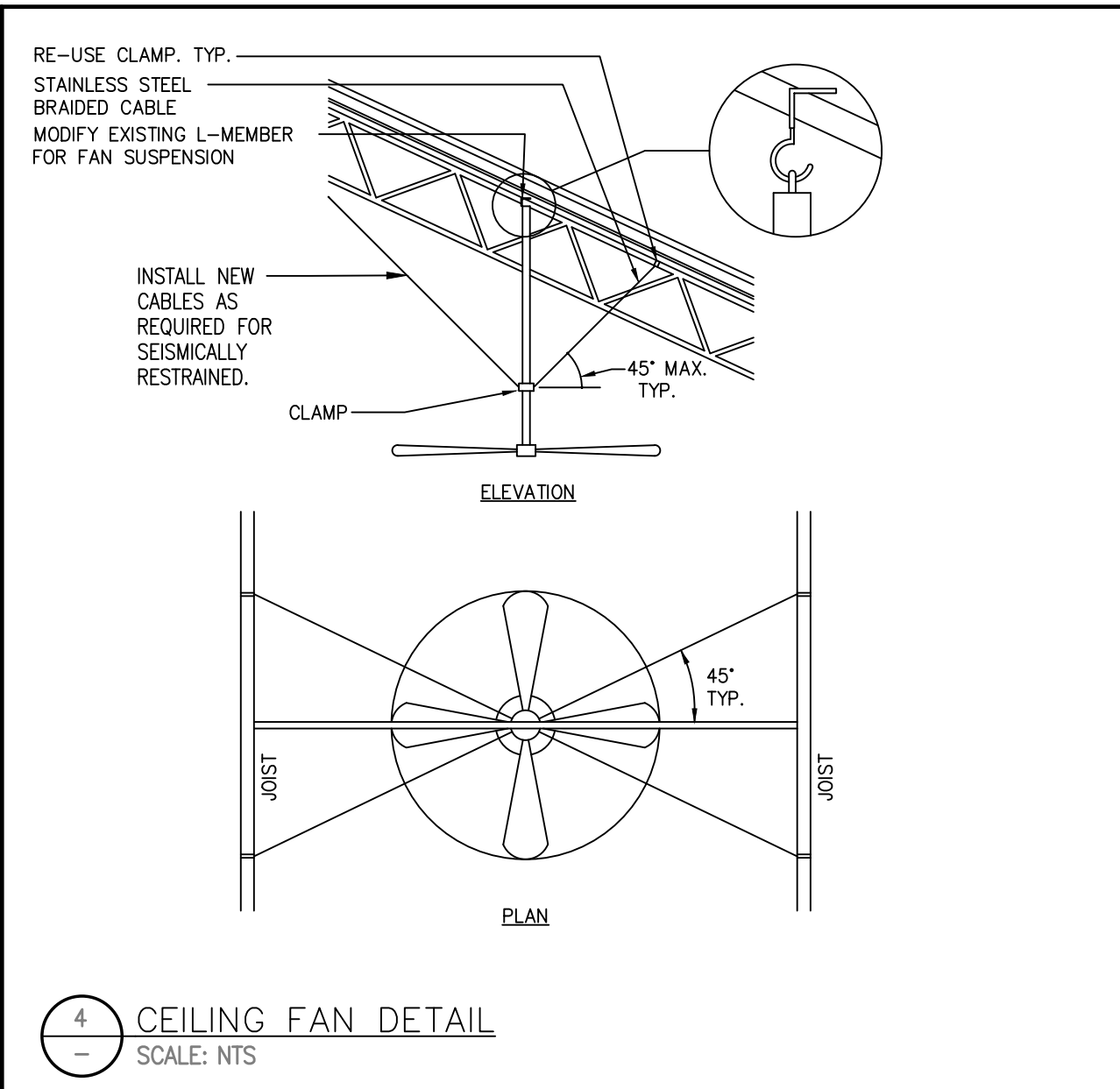
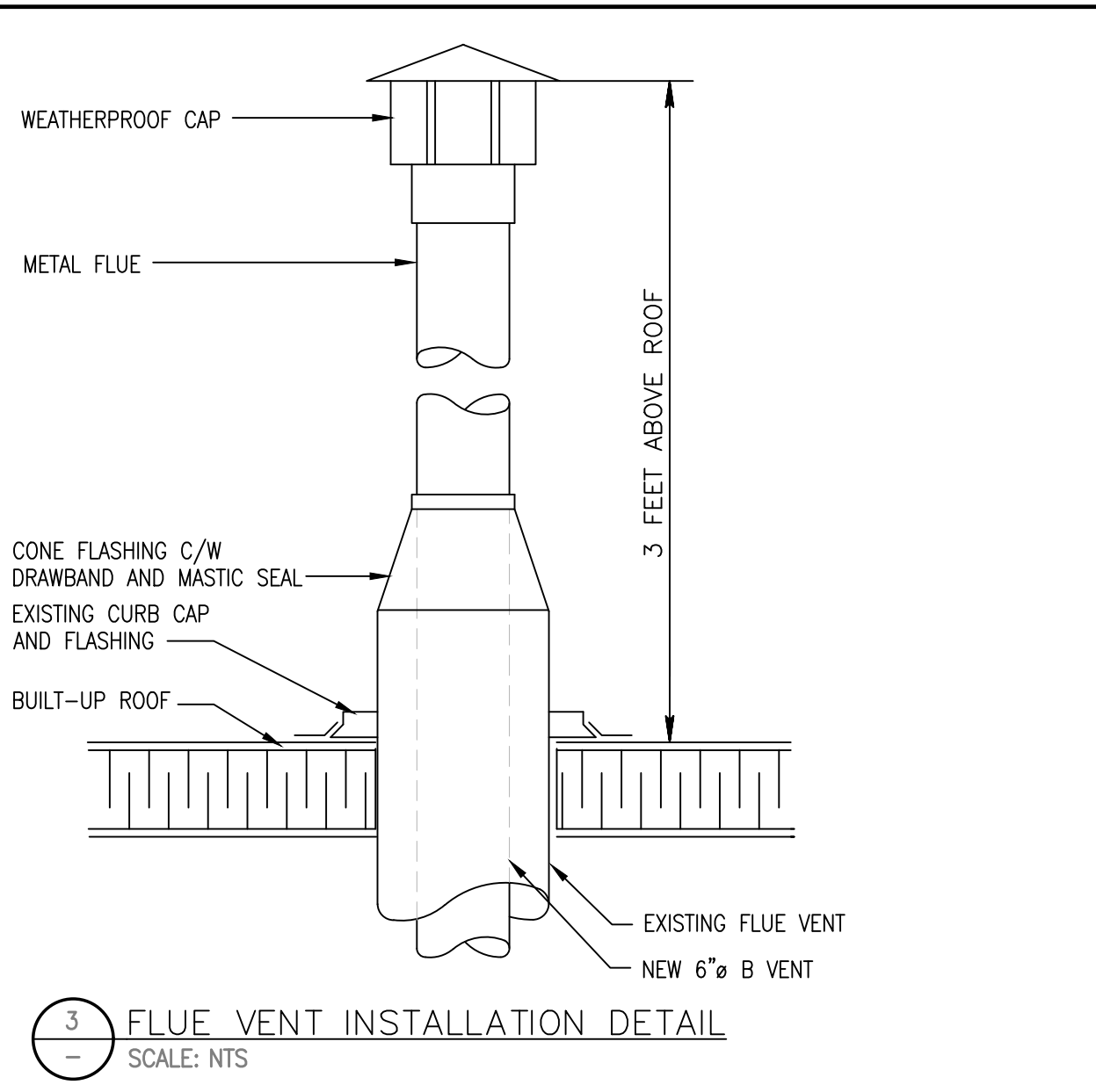
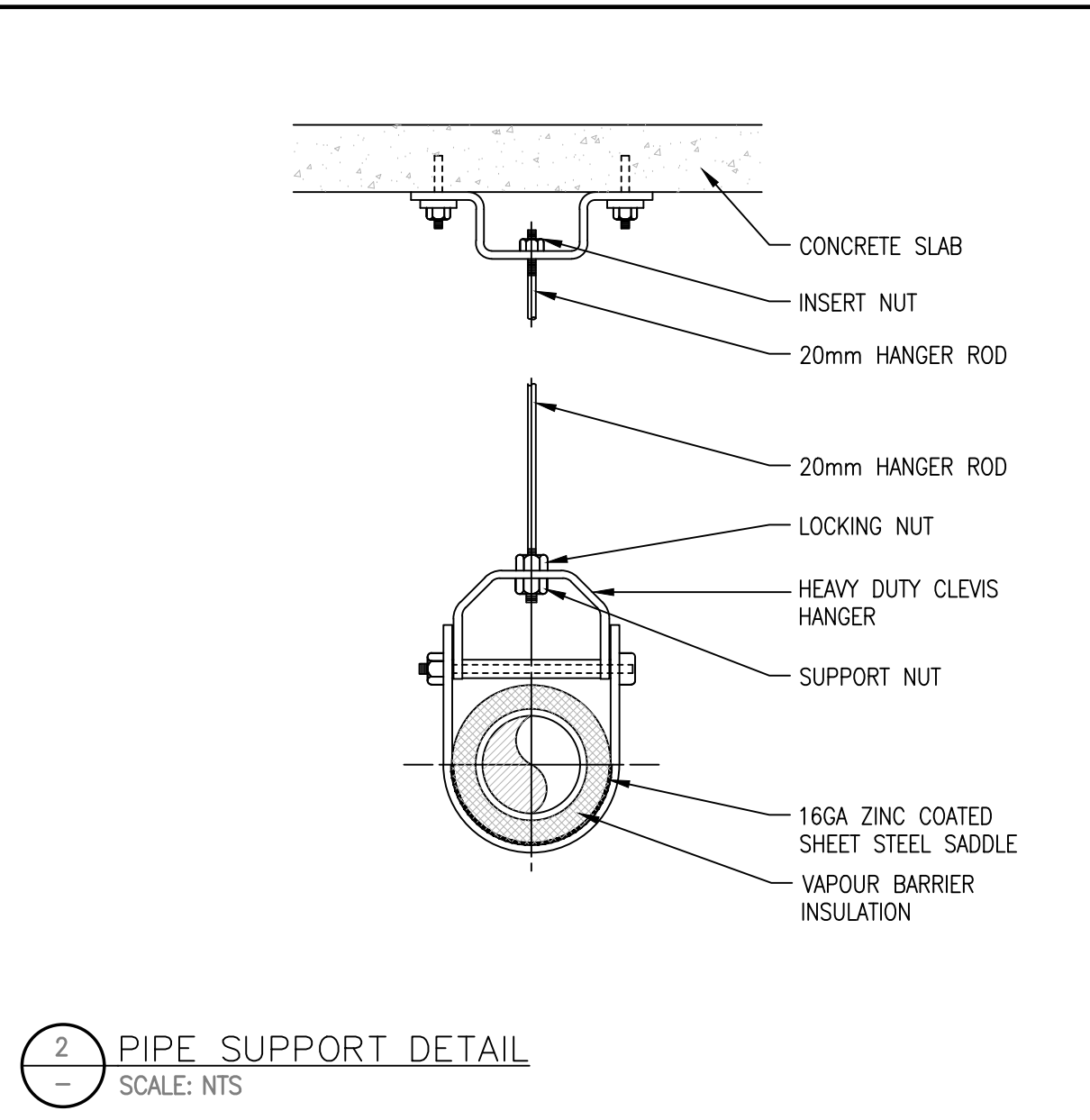
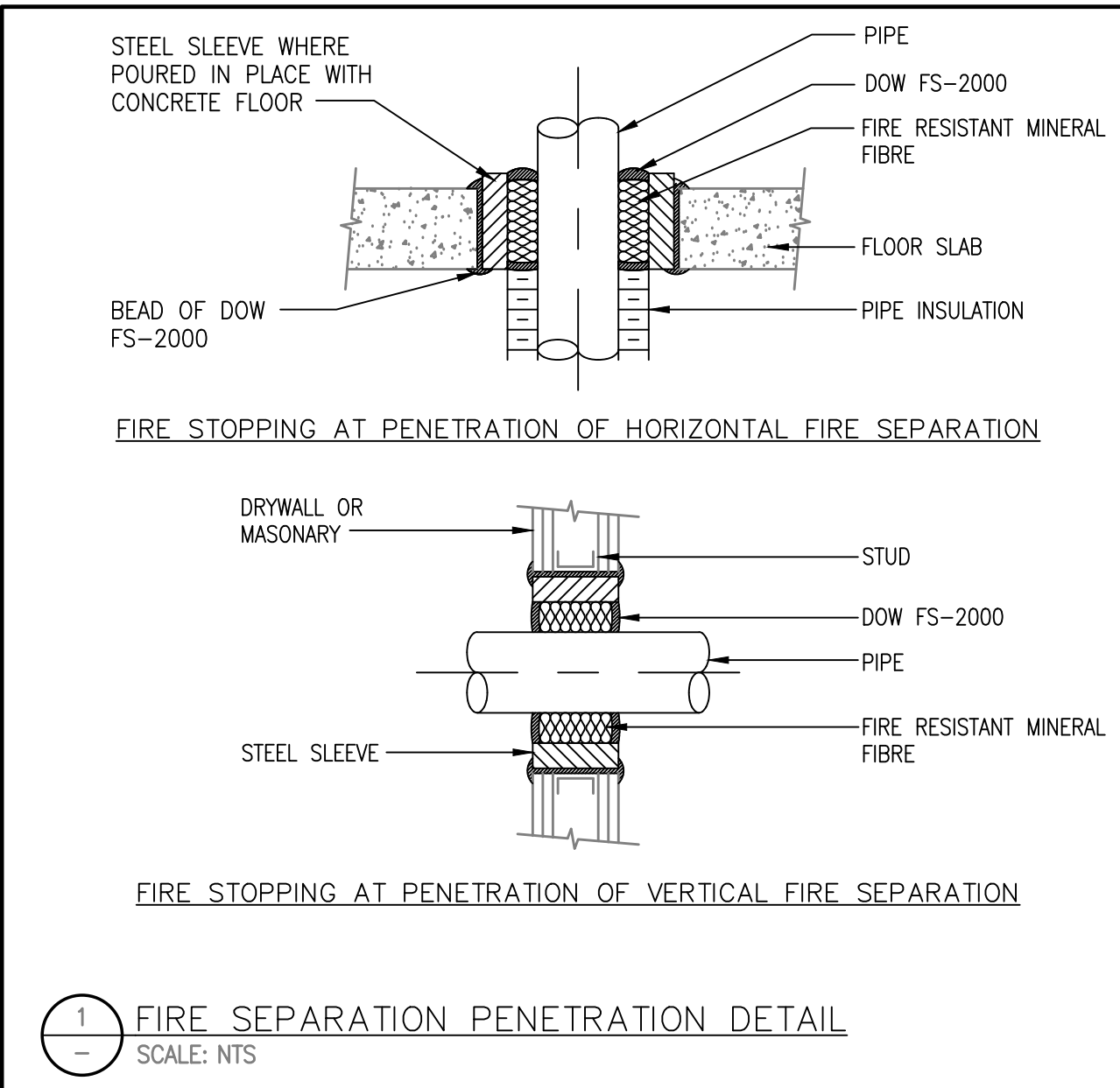
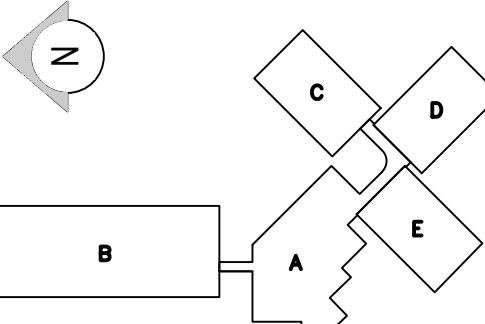
DRAWING TITLE:
**HEATING AND
 DOMESTIC WATER
 SCHEMATICS - NEW**

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CONSULTANT: Project No: 2014099



PROJECT:
**PACIFIC ENVIRONMENTAL
 SCIENCE CENTRE MECHANICAL
 SYSTEMS ENERGY UPGRADE**
 2645 DOLLARTON HWY.
 NORTH VANCOUVER, BC

DRAWING TITLE:
DETAILS

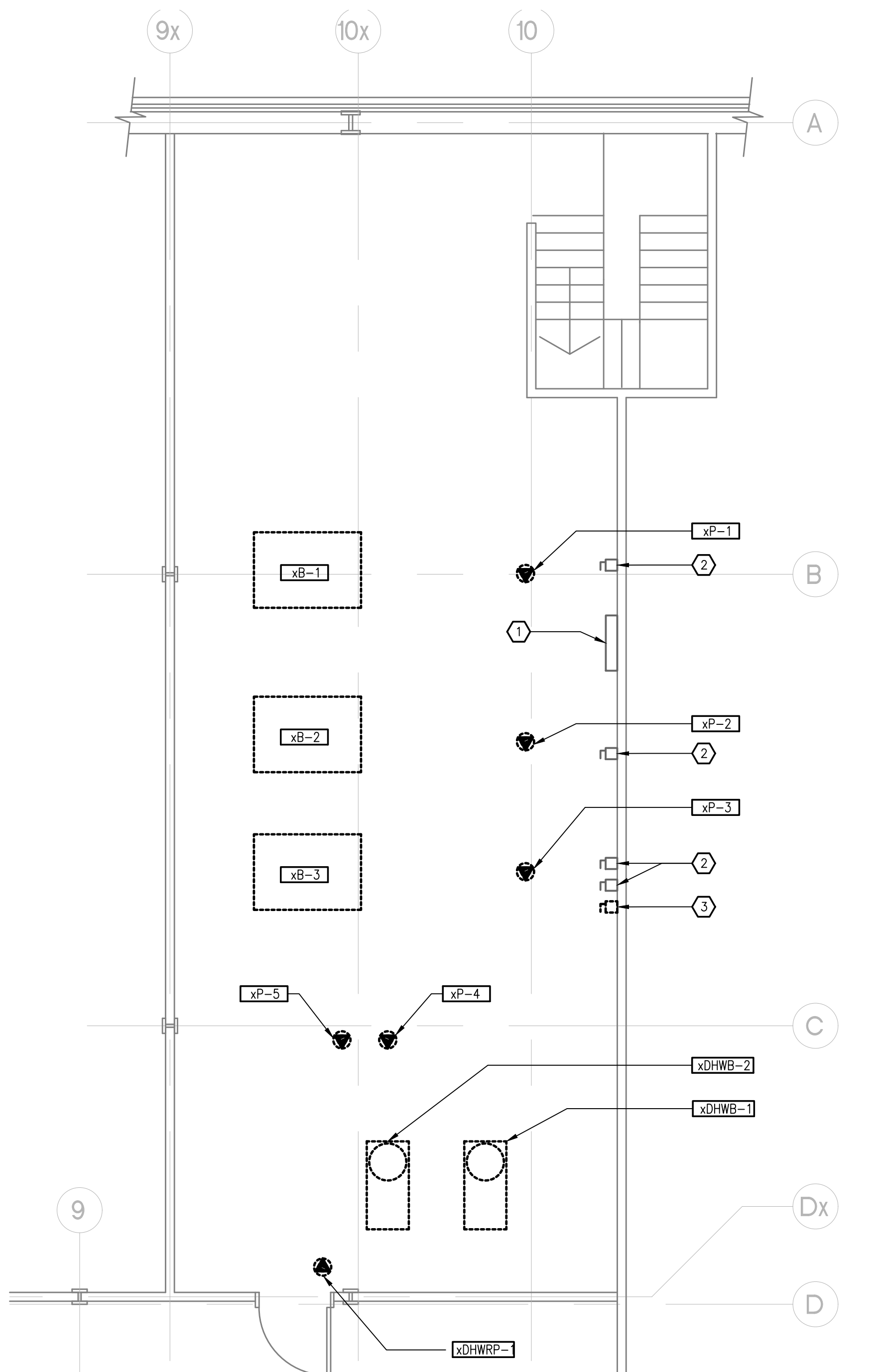
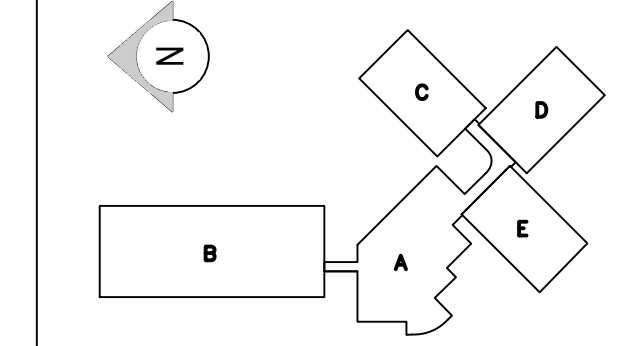
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M-10

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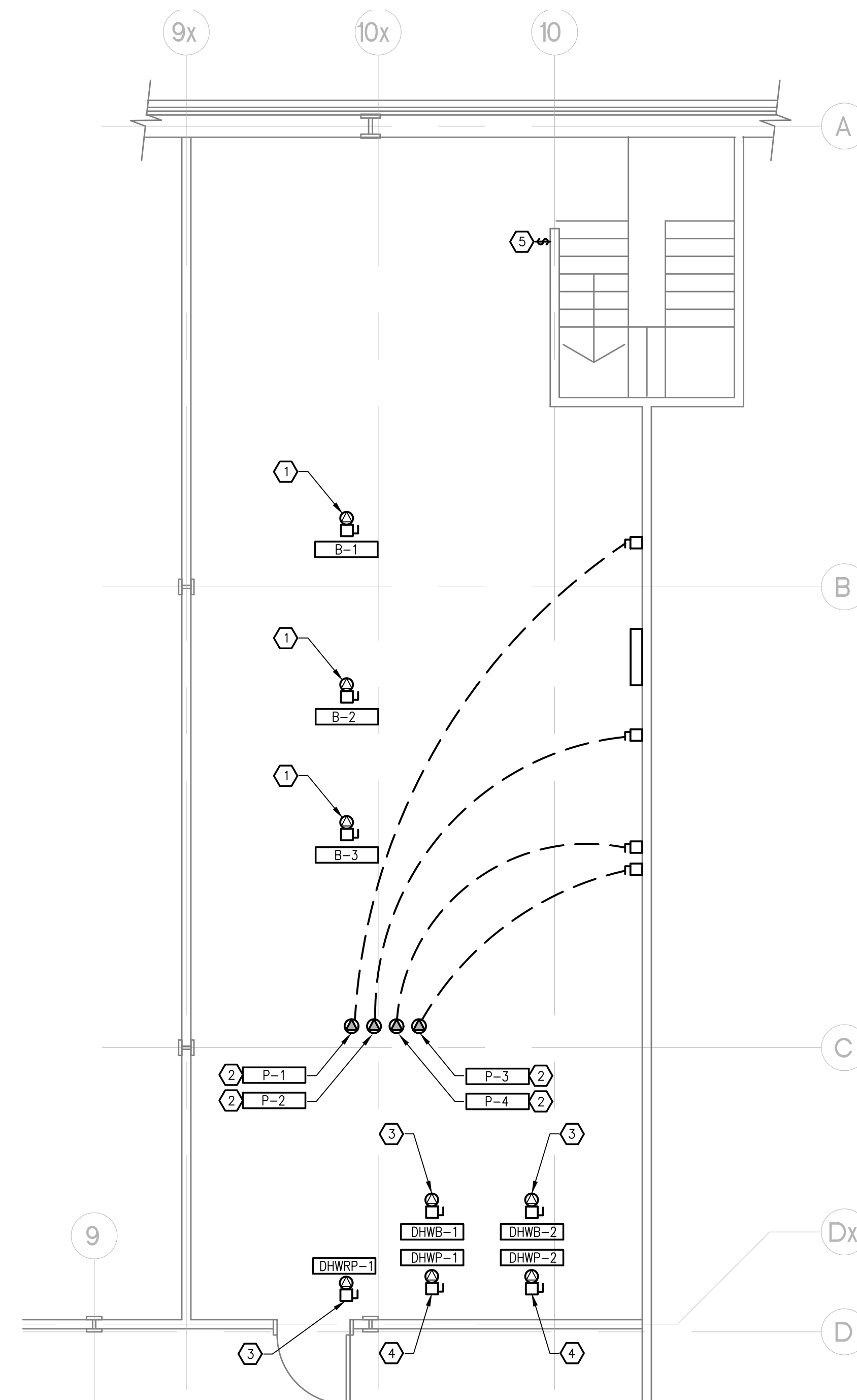
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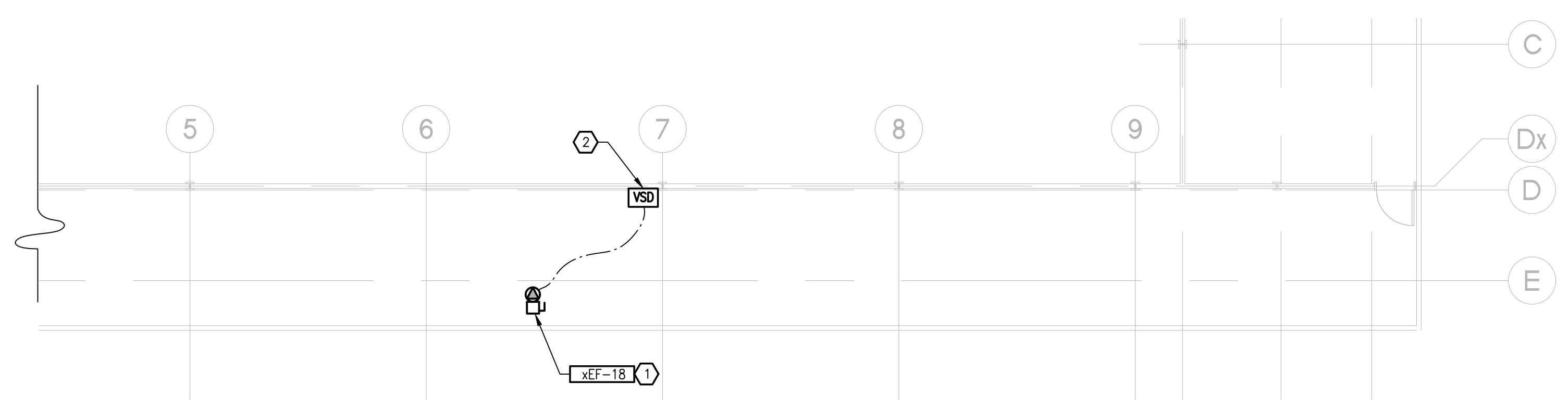
1 BLOCK B PENTHOUSE MECHANICAL ROOM - LOWER LEVEL PLAN - DEMO
 E-2 SCALE: 1:50

- DEMO GENERAL NOTES**
- REMOVE ALL ELECTRICAL CONNECTION TO EQUIPMENT AS SHOWN UNLESS OTHERWISE NOTED.
- DEMO DRAWING NOTES**
- EXISTING 225A 120/208V 3P 4W ELECTRICAL PANEL '2B' TO REMAIN. PROVIDE NEW BREAKERS AS SHOWN ON TABLE 1/E-1.
 - EXISTING SAFETY SWITCH FOR PUMP TO BE REUSED.
 - REMOVE EXISTING P-5 SAFETY SWITCH, WIRE/CONDUIT BACK TO SOURCE.



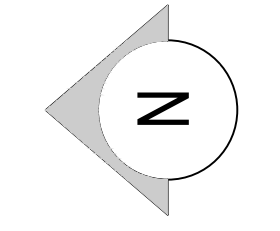
2 BLOCK B PENTHOUSE MECHANICAL ROOM - LOWER LEVEL PLAN - NEW
 E-2 SCALE: 1:50

- GENERAL NOTES**
- REFER TO TABLE 1/E-1 FOR EXACT POWER REQUIREMENT FOR ALL EQUIPMENT.
- DRAWING NOTES**
- PROVIDE NEW SAFETY SWITCH. COORDINATE EXACT LOCATION OF SAFETY SWITCH WITH MECHANICAL. REUSE EXISTING WIRE AND CONDUIT TO CONNECT TO EXISTING CIRCUIT. EXTEND SERVICES AS REQUIRED. PROVIDE NEW BREAKER IN THE EXISTING ELECTRICAL PANEL.
 - REUSE EXISTING WIRE AND CONDUIT TO CONNECT NEW PUMP TO EXISTING CIRCUIT. CONNECT TO EXISTING SAFETY SWITCH AS SHOWN. MECHANICAL TO PROVIDE VSD AND THIS CONTRACTOR TO INSTALL. COORDINATE EXACT LOCATION WITH MECHANICAL.
 - REUSE EXISTING WIRE AND CONDUIT TO CONNECT TO A NEW BREAKER. EXTEND SERVICES AS REQUIRED. PROVIDE NEW SAFETY SWITCH. COORDINATE EXACT LOCATION OF THE SAFETY SWITCH WITH MECHANICAL.
 - PROVIDE NEW SAFETY SWITCH AND ROUTE NEW 2#12 + #12 GRN. GND. TO A NEW 15A-1P BREAKER IN THE NEAREST ELECTRICAL PANEL. COORDINATE EXACT LOCATION OF THE SAFETY SWITCH WITH MECHANICAL.
 - MECHANICAL TO SUPPLY NEW BOILER PLANT SHUT DOWN MUSHROOM SWITCH. THIS CONTRACTOR TO INSTALL THE SWITCH AT 1500mm AFF. INTERLOCK ALL NEW HEATING AND DOMESTIC BOILERS. PROVIDE LABEL TO SAY "BOILER PLANT EMERGENCY SHUT DOWN SWITCH".



3 BLOCK B MECHANICAL PENTHOUSE FLOOR PLAN
 E-2 SCALE: 1:50

- DRAWING NOTES**
- EXISTING EXHAUST FAN TO BE REPLACED. REUSE EXISTING WIRE/CONDUIT AND CONNECT TO EXISTING CIRCUIT. PROVIDE NEW BREAKER AS REQUIRED AND A NEW SAFETY SWITCH. COORDINATE EXACT LOCATION WITH MECHANICAL.
 - MECHANICAL TO SUPPLY VSD AND THIS CONTRACTOR TO INSTALL. COORDINATE EXACT LOCATION WITH MECHANICAL.



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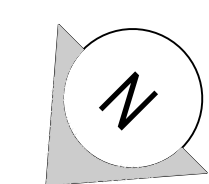


PROJECT:
**PACIFIC ENVIRONMENTAL
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 SYSTEMS ENERGY UPGRADE**
 2645 DOLLARTON HWY.
 NORTH VANCOUVER, BC

DRAWING TITLE:
**BLOCK B -
 MECHANICAL ROOM
 POWER PLAN**

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GENERAL NOTES

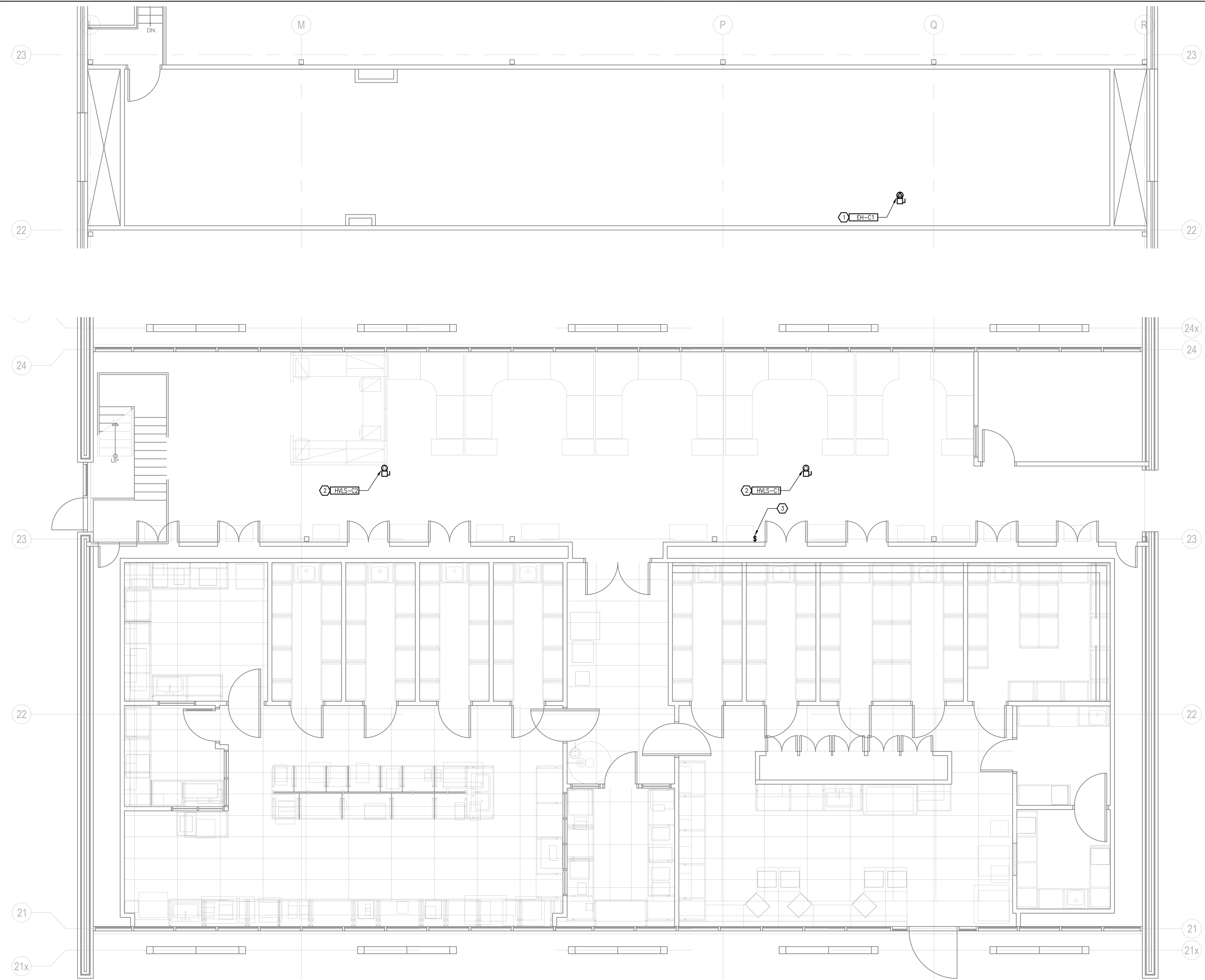
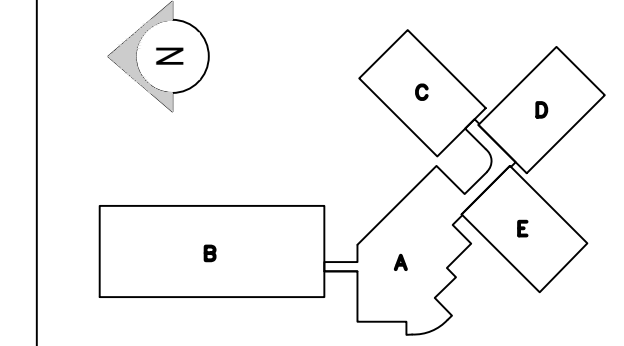
- REFER TO TABLE 1/E-1 FOR EXACT POWER REQUIREMENT FOR ALL EQUIPMENT.

DRAWING NOTES

- PROVIDE NEW 600V SAFETY SWITCH AND ROUTE 3#6 + #6 GRN. GND. - 1" TO A NEW BREAKER IN NEAREST ELECTRICAL PANEL.
- REUSE EXISTING WIRE/CONDUIT TO CONNECT TO EXISTING CIRCUIT. PROVIDE NEW 15A-1P BREAKER AS REQUIRED. PROVIDE NEW SAFETY SWITCH AND COORDINATE EXACT LOCATION WITH MECHANICAL.
- REMOVE EXISTING FAN SWITCH. PROVIDE A BLANK COVERPLATE.

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1 BLOCK C POWER PLAN
 E-3 SCALE: 1:50

CONSULTANT: Project No: 2014099



PROJECT:
PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE
 2645 DOLLARTON HWY.
 NORTH VANCOUVER, BC

DRAWING TITLE:
BLOCK C POWER PLAN

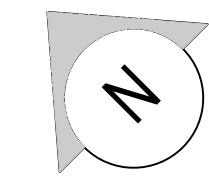
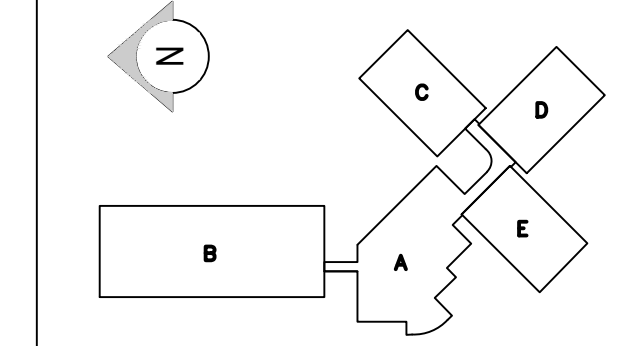
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DRAWING NO. **E-3**

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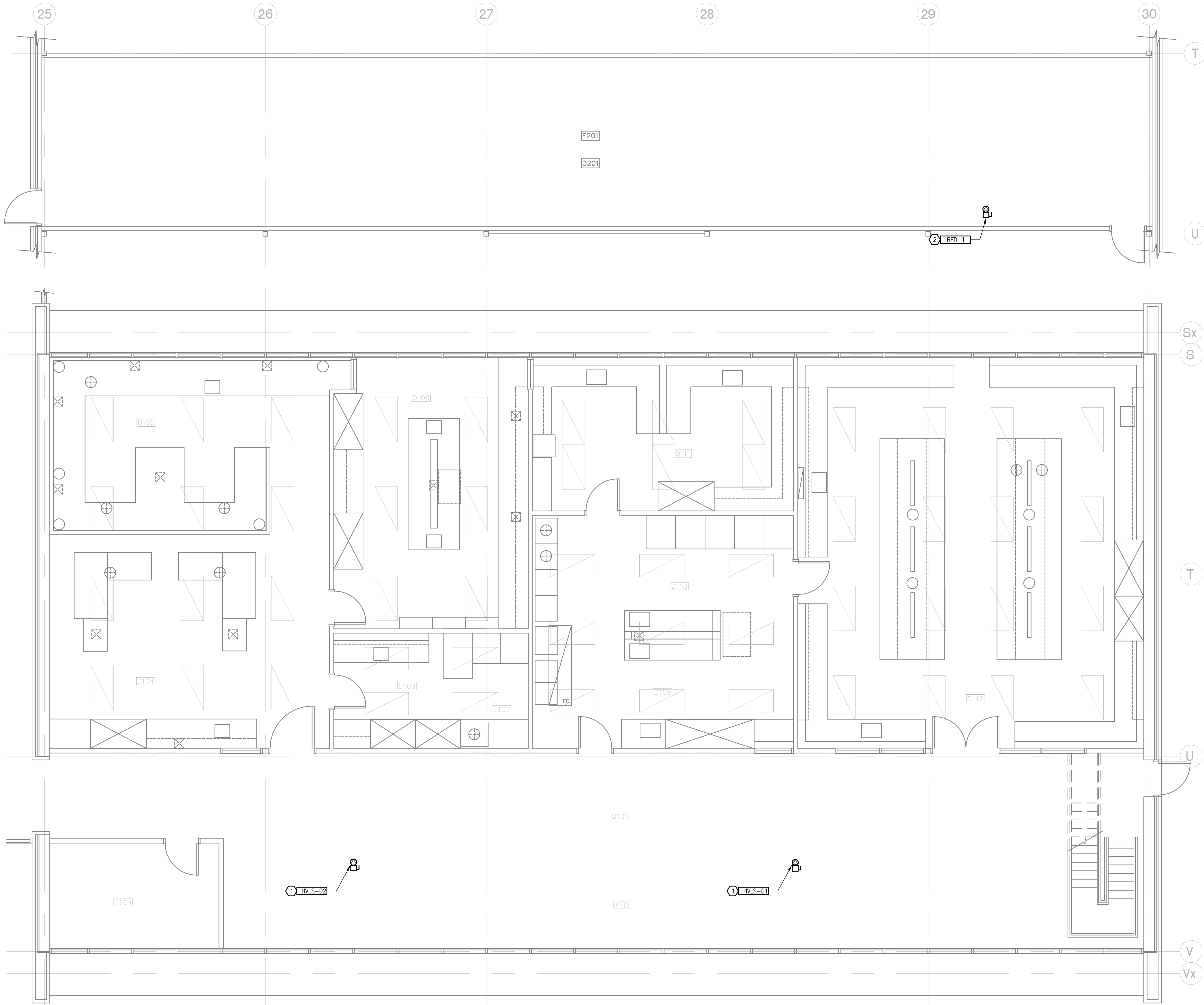


GENERAL NOTES

- REFER TO TABLE 1/E-1 FOR EXACT POWER REQUIREMENT FOR ALL EQUIPMENT.

DRAWING NOTES

- REUSE EXISTING WIRE/CONDUIT TO CONNECT TO EXISTING CIRCUIT. PROVIDE NEW 15A-1P BREAKER AS REQUIRED. PROVIDE NEW SAFETY SWITCH AND COORDINATE EXACT LOCATION WITH MECHANICAL.
- ROUTE NEW 2#12 + #12 GRN. GND. - 1/2" TO CONNECT TO NEW 15A-1P BREAKER AS REQUIRED. PROVIDE NEW SAFETY SWITCH AND STARTER AND COORDINATE EXACT LOCATION WITH MECHANICAL. MECHANICAL TO SUPPLY VSD AND THIS CONTRACTOR TO INSTALL.



1 BLOCK D POWER PLAN
 E-4 SCALE: 1:50

CONSULTANT: Project No: 2014099



PROJECT: PACIFIC ENVIRONMENTAL SCIENCE CENTRE MECHANICAL SYSTEMS ENERGY UPGRADE

2645 DOLLARTON HWY. NORTH VANCOUVER, BC

DRAWING TITLE: BLOCK D POWER PLAN

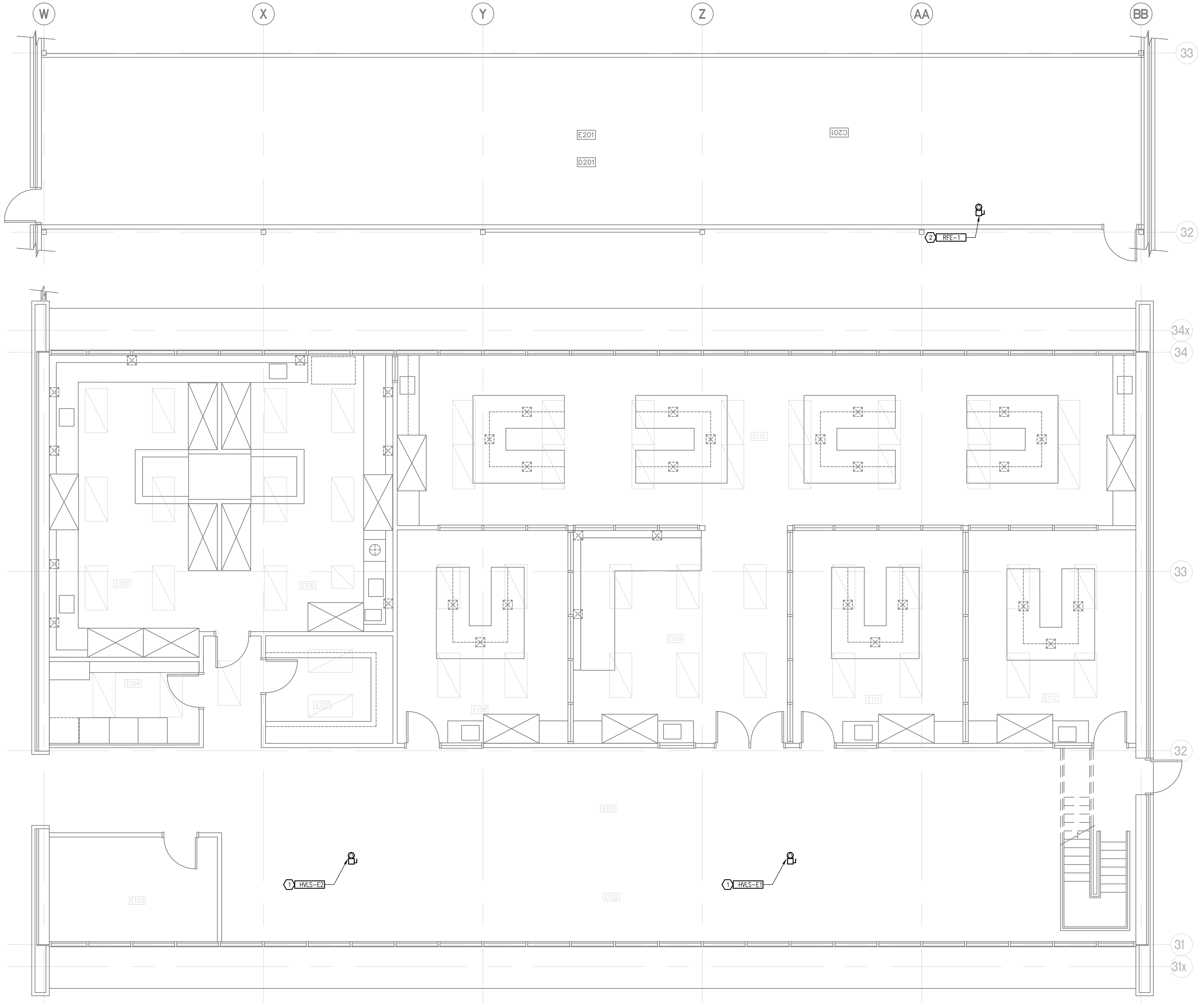
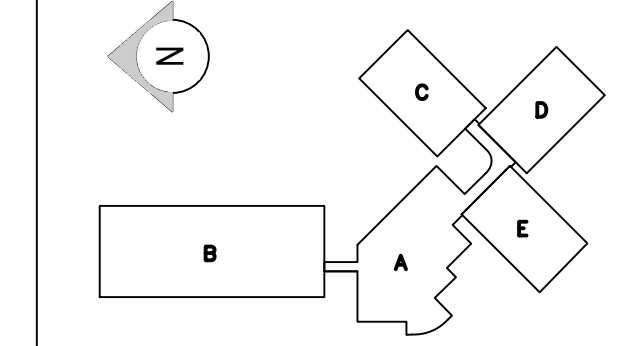
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GENERAL NOTES

- REFER TO TABLE 1/E-1 FOR EXACT POWER REQUIREMENT FOR ALL EQUIPMENT.

DRAWING NOTES

- REUSE EXISTING WIRE/CONDUIT TO CONNECT TO EXISTING CIRCUIT. PROVIDE NEW 15A-1P BREAKER AS REQUIRED. PROVIDE NEW SAFETY SWITCH AND COORDINATE EXACT LOCATION WITH MECHANICAL.
- ROUTE NEW 2#12 + #12 GRN. GND. - 1/2" TO CONNECT TO NEW 15A-1P BREAKER AS REQUIRED. PROVIDE NEW SAFETY SWITCH AND STARTER AND COORDINATE EXACT LOCATION WITH MECHANICAL. MECHANICAL TO SUPPLY VSD AND THIS CONTRACTOR TO INSTALL.

1 BLOCK E POWER PLAN
 E-5 SCALE: 1:50

CONSULTANT: Project No: 2014099



PROJECT: PACIFIC ENVIRONMENTAL
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 SYSTEMS ENERGY UPGRADE

2645 DOLLARTON HWY.
 NORTH VANCOUVER, BC

DRAWING TITLE:
**BLOCK E
 POWER PLAN**

DATE: JANUARY 2017	REV. NO.
DRAWN BY: DJ	CHECKED BY: CG
SCALE: AS SHOWN	

DRAWING NO. **E-5**