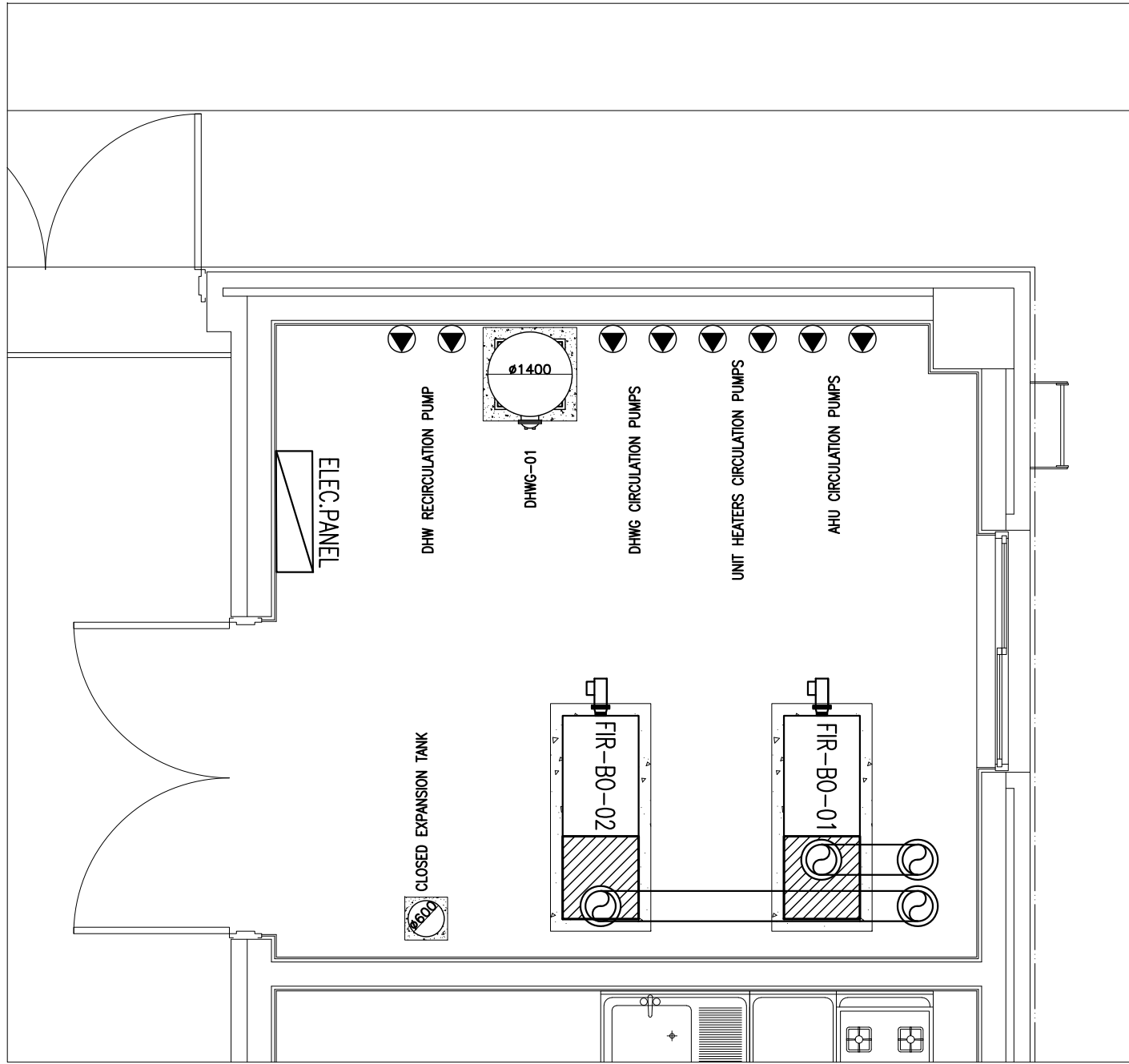


## MECHANICAL FLOW DIAGRAM

Sc:NTS

### LEGEND & SYMBOLS

— DHWR —	DOMESTIC HOT WATER RETURN PIPE		IN-LINE PUMP
— DHWS —	DOMESTIC HOT WATER SUPPLY PIPE		HEADER
— DCW —	DOMESTIC COLD WATER PIPE		PRESSURE GAUGE
— HWS —	HOT WATER SUPPLY PIPE		TEMPERATURE GAUGE
— HWR —	HOT WATER RETURN PIPE		PRESSURE RELIEF VALVE
— EXP —	EXPANSION LINE SUPPLY PIPE		THERMOSTAT
	GATE VALVE N.O.		AQUASTAT
	GATE VALVE N.C.		
	GLOBE VALVE N.O.		
	GLOBE VALVE N.C.		
	BALL VALVE		
	CHECK VALVE		
	STRAINER		
	PRESSURE REGULATING VALVE		
	REDUCER		
	FLEXIBLE CONNECTION		
	AIR VENT		
S.C.	SUMMER CLOSED		
W.C.	WINTER CLOSED		
N.C.	NORMALLY CLOSED		
EVAP	EVAPORATOR		
COMP	COMPRESSOR		
FS	FLOW SWITCH		
BO	BOILER		
BU	BURNER		
PU	PUMP		
DHWG	DOMESTIC HOT WATER GENERATOR		
C.EXT	CLOSED EXPANSION TANK		
EWS	MAGNETIC WATER SOFTENER		



## MECHANICAL ROOM ARRANGEMENT

Sc:1/50

### GENERAL NOTES

- 1-ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.
- 2-ALL ELEVATIONS AND COORDINATES ARE IN METERS.
- 3-THE EXECUTIVE CONTRACTOR MUST CHECK ALL DIMENSIONS AT SITE PRIOR TO ANY FABRICATION & CONSTRUCTION.
- 4-THE EXECUTIVE CONTRACTOR SHALL PREPARE SHOP DRAWINGS WHICH HAVE BEEN COORDINATED WITH OTHER TRADES BEFORE OF ANY FABRICATION AND INSTALLATION.
- 5-CHIMNEY SHALL BE CONSTRUCTED FROM WELDED BLACK STEEL WITH 3.5mm THICKNESS & INSULATED WITH 50mm ROCK WOOL AND ALUMINUM CLADDING.
- 6-THE CHIMNEY SHALL HAVE A CLEAN OUT ACCESS AT BOTTOM OF THE STACK.
- 7-THE CHIMNEY SHALL HAVE "BALANCED DRAFT REGULATING DAMPER" AT THE HORIZONTAL PART OF CHIMNEY.
- 8- ALL CHIMNEYS SHALL BE EXTENDED MIN. 1.0 METERS FROM FINISHED FLOOR OF ROOF.
- 9-EACH BOILER ARE SIZED BY 50% FULL LOAD CAPACITY.
- 10-EACH BOILER SHALL BE INSTALLED WITH SEPARATE FLUE STACK.
- 11-BOILER SHOULD BE EQUIPPED WITH THE FOLLOWING MINIMUM WATER TRIM:
  - a. HIGH LIMIT AQUASTAT: TO SHUT OFF THE GAS BURNER IF THE BOILER WATER TEMPERATURE REACHES A PREDETERMINED HIGH LIMIT SETTING.
  - b. OPERATING AQUASTAT: TO START AND STOP THE GAS BURNER TO MAINTAIN A PER-DETERMINED SETTING.
  - c. WATER PRESSURE RELIEF VALVE OF THE NUMBER AN CAPACITY AS REQUIRED BY THE ASME CODE AND MANUFACTURE.
  - d. COMBINATION ALTITUDE GAUGE AND THERMOMETER SHALL BE PROVIDED ON THE BOILER.
- 12-ALL EQUIPMENTS SHALL BE INSTALLED AND TESTED ACCORDING TO MANUFACTURE MANUAL AND RECOMMENDATIONS.
- 13-WHEN MECHANICAL ROOM CONTROL PANEL RECEIVE GAS DETECTION COMMAND FROM F&G PANEL SHUT DOWN COMMAND WILL CLOSE NATURAL GAS SAFETY SHUT OFF VALVE AND SHUT DOWN THE BURNER.
- 14-THE MATERIAL OF HOT WATER SUPPLY AND RETURN PIPEWORK SHOULD BE OF BLACK STEEL PIPE ACCORDING TO STANDARD ASTM/ANSI A-53.
- 15-THE MATERIAL OF DOMESTIC COLD AND HOT WATER PIPE INSIDE MECHANICAL ROOM SHALL BE HOT-DIPPED GALVANIZED ACCORDING TO STANDARD ASTM/ANSI A-53.
- 16-NATURAL GAS PIPEWORK SHOULD BE OF BLACK STEEL PIPE ACCORDING TO DIN 2440 OR EQUAL STANDARD.
- 17-DOMESTIC HOT WATER AND HOT WATER SUPPLY AND RETURN PIPES SHALL BE INSULATED WITH 25mm THICKNESS ELASTOMERIC MATERIAL (EPDM) COVERED BY VAPOR BARRIER PLUS ALUMINUM CLADDING.
- 18-THE ACIDIC CONDENSATE SHALL BE DILUTED OR NEUTRALIZED BEFORE DISCHARGING INTO THE DRAINAGE SYSTEMS AND SHOULD MAINTAIN A PH LEVEL BETWEEN 7.5 AND 8.5.

REFERENCE DOCUMENTS	DOC. NO.
HVAC DESIGN CRITERIA	LRP-TNA-HV-99-SPC-0001
FIRE STATION NO.2 HVAC CALCULATION	LRP-TNA-HV-15-CAL-0001
FIRE STATION NO.2 HVAC EQUIPMENT DATA SHEETS	LRP-TNA-HV-15-DSH-0001

### LEGEND

### KEY PLAN

03	24-JAN-24	AFC	H.RASOOLI	H.RASOOLI	R.JAVADZADEH
02	06-DEC-23	Issued for Approval	H.RASOOLI	H.RASOOLI	AR.AHOOEI
01	06-AUG-23	Issued for Approval	H.RASOOLI	H.RASOOLI	AR.AHOOEI
00	13-MAY-23	Issued for Approval	H.RASOOLI	H.RASOOLI	AR.AHOOEI

Rev.	Date	Purpose of Issue	PRE'D.	CHK'D.	APR'D.
Project					
Completing the Remaining Documents of Design and Engineering Services for LAB2 Unit					

P.O. No.:XXXX	
Client:	Consultant:

DRAWING TITLE:	FIRE STATION NO.2 HVAC FLOW DIAGRAM
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OLD Doc. No.: -		Doc. No.: LRP-TNA-HV-15-PID-0001	
Size: A1	SHEET No.	2 OF 2	REV. 03