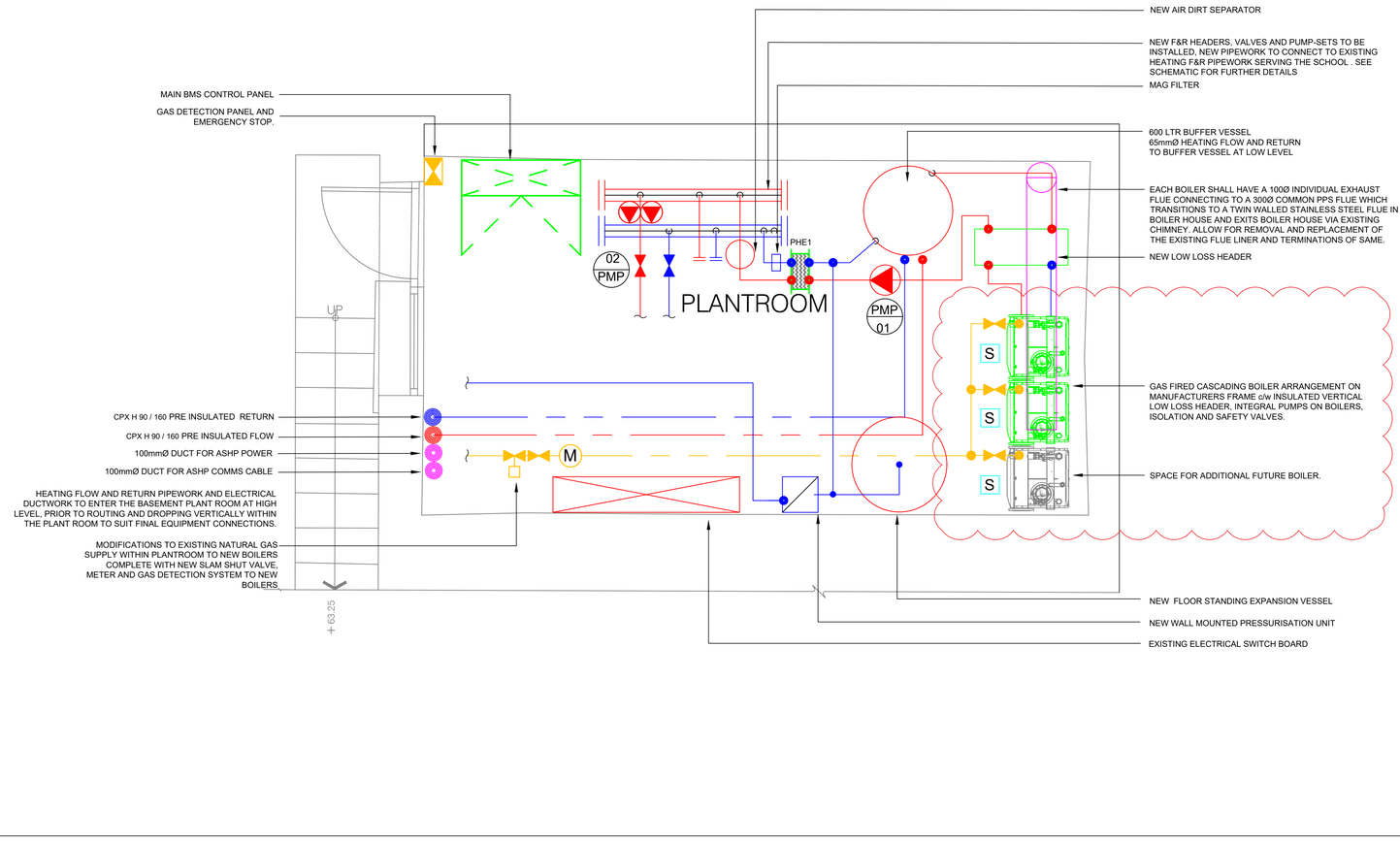
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCING WORKING DRAWINGS

BOILERHOUSE LAYOUT (1:25)

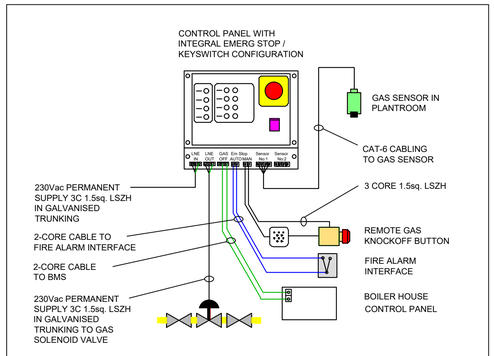


LEGEND

- PIPE AT LOW LEVEL
- PIPE IN CEILING VOID
- PIPE AT HIGH LEVEL
- PIPE IN FLOOR
- ISOLATION VALVES
- ISOLATING VALVE
- DC — DRAIN COCK
- COMMISSIONING SET
- DOUBLE REGULATING VALVE
- LSV — LOCK SHIELD VALVE
- 3 PORT CONTROL VALVE
- 2 PORT CONTROL VALVE
- SV — SAFETY VALVE
- AF — ANTI-FREEZE VALVE
- BP — BINDER POINT
- AAV — AUTOMATIC AIR VENT
- (T) — TEMPERATURE GAUGE
- (P) — PRESSURE GAUGE
- HP/LP — HIGH PRESSURE/LOW PRESSURE TEMP SENSOR
- Ts — BMS TEMPERATURE STAT
- FLEXIBLE CONNECTIONS
- (M) — METER
- STRAINER
- GAS DETECTION/PRESSURE PROVING PANEL
- GAS SOLENOID VALVE
- REMOTE 'KNOCK OFF' BUTTON
- S — NATURAL GAS SENSOR
- HM — HEAT METER

HEATING NOTES:

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION & ALL OTHER RELEVANT DRAWINGS.
2. THE SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR CO-ORDINATING THE MECHANICAL SERVICES SO AS TO ENSURE A NEAT AND ACCESSIBLE INSTALLATION
3. REFER TO OTHER RELEVANT STRUCTURE DRAWINGS INCLUDING ARCHITECTURAL DETAILED ROOM LAYOUTS.
4. CONTRACTOR SHALL TAKE FULL COGNISANCE OF THE SAFETY AND HEALTH PLAN, AND PROVIDE FULL METHOD STATEMENTS FOR ALL HAZARDOUS OPERATIONS LISTED THEREIN. METHOD STATEMENTS SHALL ALSO BE PROVIDED FOR ANY HAZARDOUS OPERATION WHICH BECOMES APPARENT THROUGHOUT THE CONSTRUCTION PHASE.
5. ALL HEATING PIPEWORK SHALL BE MEDIUM GRADE STEEL AND SHALL BE INSTALLED IN ACCORDANCE WITH PART 3 OF THE STANDARD SPECIFICATION.
6. ALL PIPEWORK IN PLANTROOM, CEILING VOIDS, FLOOR DUCTS AND RISING SERVICES DUCTS SHALL BE INSULATED IN ACCORDANCE WITH THE SPECIFICATION.
7. WHERE PIPEWORK PASSES THROUGH WALLS OR FLOOR SLABS, SLEEVES MANUFACTURED FROM SIMILAR MATERIAL SHALL BE PROVIDED.
8. AUTOMATIC AIR VENTS SHALL BE PROVIDED ON ALL HIGH POINTS IN THE PIPEWORK INSTALLATION TO FACILITATE VENTING OF THE SYSTEM AND DRAINED TO TUNDISH.
9. DRAIN VALVES SHALL BE PROVIDED ON ALL LOW POINTS OF THE INSTALLATION TO FACILITATE COMPLETE DRAINING DOWN OF THE SYSTEM.
10. HEATING SYSTEM TO BE COMPLETE WITH NECESSARY CORROSION INHIBITOR AS DETAILED BY THE MANUFACTURER.
11. ALL HEATING PIPEWORK TO BE HYDRAULICALLY TESTED TO TWICE THE WORKING PRESSURE FOR A PERIOD OF TWO HOURS. TEST TO WITNESSED BY THE ENGINEER (TEST CERTIFICATE TO BE PROVIDED BY THE CONTRACTOR).
12. ALL LPHW PIPEWORK PASSING THROUGH FIRE COMPARTMENT WALLS & FLOORS TO BE FIRE DAMPED, STOPPED & SLEEVED BY THE CONTRACTOR.



Ⓐ TYPICAL GAS DETECTION SYSTEM SCHEMATIC WIRING DIAGRAM

AIR TO WATER HEAT PUMP SCHEDULE

ITEM	MAKE/MODEL	NOMINAL HEATING CAPACITY (EN14511)	SIZE	SCOP @ NOMINAL OUTPUT	DESIGN TEMPERATURES	REFRIGERANT	COMPRESSOR TYPE	POWER SUPPLY	NOTES:
ASHP 01	HIGH TEMPERATURE AIR SOURCE HEAT PUMP.	63.7W	2660X1130X2136 LXWXH	3.67	55°C FLOW TEMPERATURE @ A7 / W55	R290	SEMI-HERMETIC	400/3ph/50Hz	ASHP TO BE SUPPLIED WITH MASTER/SLAVE CONTROLLER TO ENABLE STEPPED PERFORMANCE c/w ALL PIPE FITTINGS, PUMPS AND FINAL CONNECTORS. HEAT PUMPS TO BE PROVIDED WITH INTEGRAL HYDRAULIC CONNECTOR KIT WITH FLANGED CONNECTION FOR HEATING FLOW AND RETURN

BOILER SCHEDULE

ITEM	MAKE/MODEL	OUPUT DUTY @ 50 / 30 °C:	GAS CONSUMPTION (Kg/Hr)	SIZE	WEIGHT (EMPTY)	FLUE	SBEM SEASONAL EFFICIENCY	NOTES:
BOILER 1	CONTRACTOR SELECTION	150 kW	11.3	600x584x952	147kg	C13 110/160mm	96.8	BOILER TO BE SUPPLIED c/w ALL PIPE FITTINGS, PUMPS AND FINAL CONNECTORS
BOILER 2	CONTRACTOR SELECTION	150 kW	11.3	600x584x952	147kg	C13 110/160mm	96.8	BOILER TO BE SUPPLIED c/w ALL PIPE FITTINGS, PUMPS AND FINAL CONNECTORS

PUMP SCHEDULE

ITEM	CIRCUIT	DUTY	STATIC HEAD	TYPE	POWER	CONTROLS
P1	BUFFER PRIMARY LOOP	12.5 kg/s	55 kPA	TWIN HEAD INLINE	230v/1ph/50Hz	VARIABLE SPEED PUMP c/w DIFFERENTIAL PRESSURE CONTROLS & BACNET BMS LINK
P2	HEATING CIRCUIT	12.5 kg/s	120 kPA	TWIN HEAD INLINE	230v/1ph/50Hz	VARIABLE SPEED PUMP c/w DIFFERENTIAL PRESSURE CONTROLS & BACNET BMS LINK

BUFFER VESSEL SCHEDULE

ITEM	MAKE/MODEL	CAPACITY:	PRESSURE RATING	SIZE:	NOTES:
BFF 01	600 LITRE BUFFER VESSEL SUITABLE FOR LARGE VOLUME STORAGE OF HOT WATER	600 LITRES	3 Bar	1895mmH x 750mmØ	PRE INSULATED - FACTORY FITTED. SENSOR POCKETS TO BE PROVIDED ALONG THE VERTICAL FACE OF THE BUFFER VESSEL FOR TEMPERATURE MONITORING.

PLATE HEAT EXCHANGER SCHEDULE

ITEM	CIRCUIT	HEAT OUTPUT	F&R TEMP PRIMARY SIDE °C	F&R TEMP SECONDARY SIDE °C	MIN PLATE AREA
PHE1	GROUND FLOOR HEATING CIRCUIT	426kW	55 / 50	55 / 50	38-42m²

PRESSURISATION UNIT & EXPANSION SCHEDULE

ITEM	TYPE	VESSEL CAPACITY	VESSEL DIAMETER
PRU001	WALL MOUNTED FILL UNIT WITH FLOOR STANDING EXPANSION VESSEL	500 LITRE	650MM MAX

REV	DESCRIPTION	DRN	CKD	DATE
T02	BOILER & ASHP SIZE & QUANTITIES UPDATED	SK	SF	11-06-2026
T01	TENDER ISSUE	SK	SF	08-05-2026

ISSUE: TENDER STAGE

semple mckillop
NATURALLY INNOVATIVE **CONSULTING ENGINEERS**
ISO 9001 ISO 14001 ISO 45001 Registered
Belfast +44 (0)28 90331700
Castleblayney +353 (0)42 9749570
www.semplemckillop.com admin@semplemckillop.com

PROJECT TITLE: SCHOOLS ENERGY PATHFINDER - 8.2 OUR LADY OF MERCY NS

DRAWING TITLE: MECHANICAL SERVICES INSTALLATION

DRAWING REFERENCE: 3232-SMK-8.2-L0-DR-M-5101 (Project - Originator - Volume - Level - Type - Role - Number)

DRN: KC

SCALE: A1 1:25