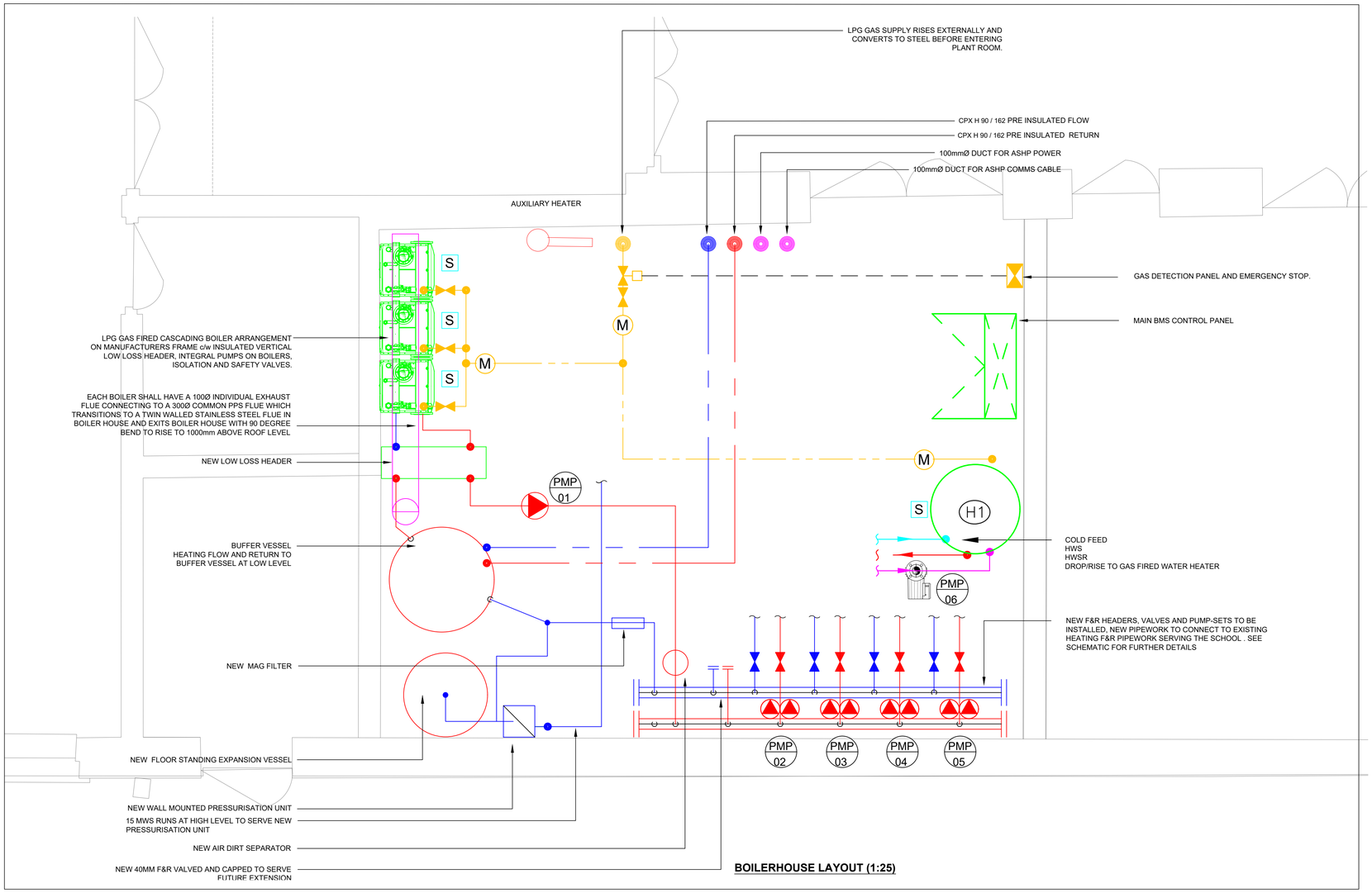
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCING WORKING DRAWINGS



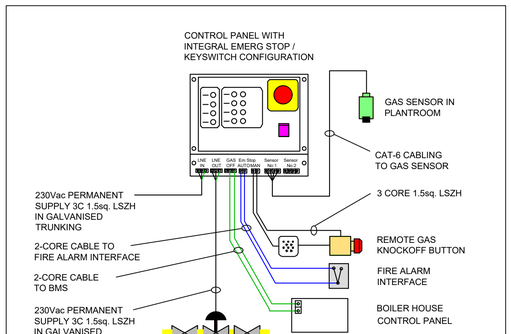
BOILERHOUSE LAYOUT (1:25)

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.
ASHP 02	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 (m3/Hr)	SIZE	WEIGHT (EMPTY)	FLUE	NOTES:
BOILER 1	CONTRACTOR SELECTION	21.6-103.9 kW	10.8	850X520X500	73kg	C13 100/150mm	BOILER TO BE SUPPLIED c/w ALL PIPE FITTINGS, PUMPS AND FINAL CONNECTORS
BOILER 1	CONTRACTOR SELECTION	21.6-103.9 kW	10.8	850X520X500	73kg	C13 100/150mm	BOILER TO BE SUPPLIED c/w ALL PIPE FITTINGS, PUMPS AND FINAL CONNECTORS
BOILER 1	CONTRACTOR SELECTION	21.6-103.9 kW	10.8	850X520X500	73kg	C13 100/150mm	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	12.8 kg/s	55 kPA	TWIN HEAD INLINE	230v/1ph/50Hz	VARIABLE SPEED PUMP c/w DIFFERENTIAL PRESSURE CONTROLS & BACNET BMS LINK
P2	HEATING CIRCUIT	4.0 kg/s	120 kPA	TWIN HEAD INLINE	230v/1ph/50Hz	VARIABLE SPEED PUMP c/w DIFFERENTIAL PRESSURE CONTROLS & BACNET BMS LINK
P3	HEATING CIRCUIT	4.0 kg/s	120 kPA	TWIN HEAD INLINE	230v/1ph/50Hz	VARIABLE SPEED PUMP c/w DIFFERENTIAL PRESSURE CONTROLS & BACNET BMS LINK
P4	HEATING CIRCUIT	4.0 kg/s	120 kPA	TWIN HEAD INLINE	230v/1ph/50Hz	VARIABLE SPEED PUMP c/w DIFFERENTIAL PRESSURE CONTROLS & BACNET BMS LINK
P5	HEATING CIRCUIT	4.0 kg/s	120 kPA	TWIN HEAD INLINE	230v/1ph/50Hz	VARIABLE SPEED PUMP c/w DIFFERENTIAL PRESSURE CONTROLS & BACNET BMS LINK
P6	HOT WATER RETURN	0.4 kg/s	270 kPA	SINGLE 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	2500 LITRE BUFFER VESSEL SUITABLE FOR LARGE VOLUME STORAGE OF HOT WATER	2500 LITRES	3 Bar	2200mmH x 1450mmØ	PRE INSULATED - FACTORY FITTED. SENSOR POCKETS TO BE PROVIDED ALONG THE VERTICAL FACE OF THE BUFFER VESSEL FOR TEMPERATURE MONITORING.

GAS FIRED HOT WATER HEATER

REF	MINIMUM STORAGE CAPACITY (L)	RECOVERY RATE l/hr @ 50°C	FLUE DIA (mm)
HW1	230	600	150/200

THE HOT WATER GENERATOR SHALL BE A FULLY MODULATING LPG FIRED UNIT
THE HOT WATER HEATER SHALL BE SUPPLIED WITH A ROOM SEALED HORIZONTAL FLUE KIT

REV	DESCRIPTION	DRN	CKD	DATE
P02	TENDER STAGE	KC	SK	20.04.2026
P01	TA ISSUE	SK	SF	02-04-2026

ISSUE: TENDER STAGE

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PROJECT TITLE
SCHOOLS ENERGY PATHFINDER - 8.7 ST OLIVERS POST PRIMARY

DRAWING TITLE
MECHANICAL SERVICES INSTALLATION

DRAWING REFERENCE	DRN	SCALE
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