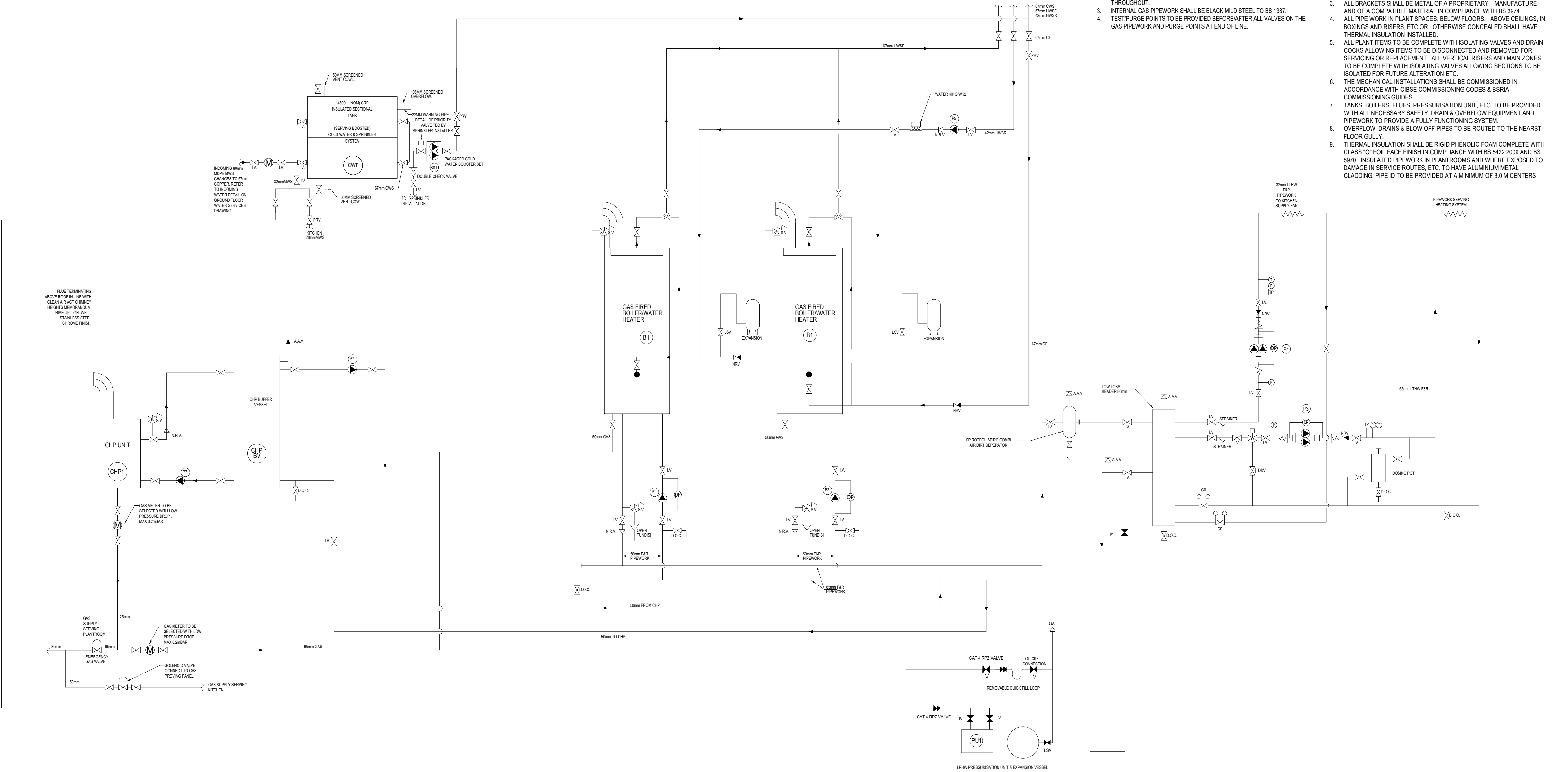




- GAS NOTES
- EXTERNAL GAS PIPEWORK SHALL BE YELLOW PE80 WAVIN.
 - GAS MAINS TO BE INSTALLED IN COMPLIANCE WITH THE CURRENT GAS SAFETY REGULATIONS.
 - MANUFACTURERS INSTRUCTIONS SHALL BE STRICTLY ADHERED TO THROUGHOUT.
 - INTERNAL GAS PIPEWORK SHALL BE BLACK MILD STEEL TO BS 1387.
 - TEST/PURGE POINTS TO BE PROVIDED BEFORE/AFTER ALL VALVES ON THE GAS PIPEWORK AND PURGE POINTS AT END OF LINE.

- HEATING NOTES:
- ALL HEATING INSTALLATIONS TO BE IN ACCORDANCE WITH THE BUILDING (SCOTLAND) REGULATIONS.
 - ALL INTERNAL GAS PIPE WORK UP TO 50mm DIAMETER SHALL BE IN SHALL BE IN HEAVY WEIGHT BLACK STEEL TUBE TO BS 1387 WITH FITTINGS TO BS 143 7 BS 1256 AND SCREWED JOINTS TO BS 21.
 - ALL BRACKETS SHALL BE METAL OF A PROPRIETARY MANUFACTURE AND OF A COMPATIBLE MATERIAL IN COMPLIANCE WITH BS 5974.
 - ALL PIPE WORK IN PLANT SPACES, BELOW FLOORS, ABOVE CEILINGS, IN BOXINGS AND RISERS, ETC OR OTHERWISE CONCEALED SHALL HAVE THERMAL INSULATION INSTALLED.
 - ALL PLANT ITEMS TO BE COMPLETE WITH ISOLATING VALVES AND DRAIN COCKS ALLOWING ITEMS TO BE DISCONNECTED AND REMOVED FOR SERVICING OR REPLACEMENT. ALL VERTICAL RISERS AND MAIN ZONES TO BE COMPLETE WITH ISOLATING VALVES ALLOWING SECTIONS TO BE ISOLATED FOR FUTURE ALTERATION ETC.
 - THE MECHANICAL INSTALLATIONS SHALL BE COMMISSIONED IN ACCORDANCE WITH CIBSE COMMISSIONING CODES & BSRIA COMMISSIONING GUIDES.
 - TANKS, BOILERS, FLUES, PRESSURISATION UNIT, ETC. TO BE PROVIDED WITH ALL NECESSARY SAFETY, DRAIN & OVERFLOW EQUIPMENT AND PIPEWORK TO PROVIDE A FULLY FUNCTIONING SYSTEM.
 - OVERFLOW, DRAINS & BLOW OFF PIPES TO BE ROUTED TO THE NEAREST FLOOR GULLY.
 - THERMAL INSULATION SHALL BE RIGID PHENOLIC FOAM COMPLETE WITH CLASS "O" FOIL FACE FINISH IN COMPLIANCE WITH BS 5422:2009 AND BS 5970. INSULATED PIPEWORK IN PLANTROOMS AND WHERE EXPOSED TO DAMAGE IN SERVICE ROUTES, ETC. TO HAVE ALUMINIUM METAL CLADDING. PIPE ID TO BE PROVIDED AT A MINIMUM OF 3.0 M CENTERS

NOTES

- THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE MECHANICAL SERVICES PERFORMANCE SPECIFICATION.
- ALL PLANT & EQUIPMENT MUST BE ISSUED FOR COMMENT/ APPROVAL PRIOR TO ORDER.
- PIPEWORK SIZES BASED ON 80DEGC FLOW 60 DEGC RETURN.

TI - OPTIMISER

TU - COMPENSATOR

SUMMER/WINTER HEATING OPERATION

ALL PLANT ALARM/STATUS CONDITION

EQUIPMENT SCHEDULE	
B1	(2No.) AIC COILMASTER 120 c/w MAINS WATER PACK 3 28MM CONNECTIONS / 25 LITRE VESSEL 1" DHW MIXING VALVE STAINLESS STEEL DN80 LOW LOSS HEADER (<480KW OUTPUT) BSV 100 BALANCING AND SEDIMENTATION VESSEL SCREWED CONNECTION CABLE FOR CASCADE CONTROL FLOW SENSOR FOR CASCADE CONTROL
CHP	MANUFACTURER - ENERGI MIZER MODEL SMARTBLOCK 22. OPERATIONAL MODE MAINS PARALLEL OPERATION FUEL NATURAL GAS ELECTRIC OUTPUT 22KWe THERMAL OUTPUT 34.7 - 51.3 kW TOTAL EFFICIENCY 106,1% ELECTRIC EFFICIENCY 32,4% THERMAL EFFICIENCY 76,5% FLOW TEMPERATURE MAX. 85°C RETURN TEMPERATURE MAX. 65°C DIMENSIONS LxHxH 1.41x0.82x0.98 m BUFFER VESSEL TO BE SELECTED BY CHP MANUFACTURER.
CWT	14,500 LITRE (NOMINAL CAPACITY) GRP SECTIONAL COMBINED COLD WATER STORAGE TANK SERVING BOOSTED COLD WATER AND SPRINKLER SYSTEM C/W LEVEL SWITCHES WIRED TO BOOSTER SET.
BST	COLD WATER BOOSTER SET C/W DUTY AND STANDBY PUMPS, INVERTER DRIVE, CAPABLE OF 6.8l/s AT 2.5 BAR. BOOSTER SET TO BE C/W CONTROL PANEL AND MATCHING HYDRAULIC ACCUMULATOR, DAB 3 KVC AD 45/120T TRIPLE BOOSTER SET.
P1	TWIN PUMP CAPABLE OF 1.5kg/s @ 80kPa. PUMP TO BE VARIABLE SPEED. BOILER/WATER HEATER SHUNT.
P2	TWIN PUMP CAPABLE OF 1.5kg/s @ 80kPa. PUMP TO BE VARIABLE SPEED. BOILER/WATER HEATER SHUNT.
P3	TWIN PUMP CAPABLE OF 2.5kg/s @ 180kPa. PUMP TO BE VARIABLE SPEED. V7/UNDERFLOOR HEATING PUMP.
P4	TWIN PUMP CAPABLE OF 0.6kg/s @ 120 kPa. PUMP TO BE VARIABLE SPEED. CT CIRCUIT PUMP
P5	DOMESTIC HOT WATER RETURN PUMP CAPABLE OF 0.6kg/s @ 48 kPa. PUMP TO BE VARIABLE SPEED.
P6	CHP BUFFER SHUNT PUMP
P7	CHP SHUNT PUMP
PU1	PACKAGED PRESSURISATION UNIT/EXPANSION VESSEL - EXPANSION VESSEL SIZE 750 L, MIKROFILL 3 WALL MOUNTED.

