

General Notes:

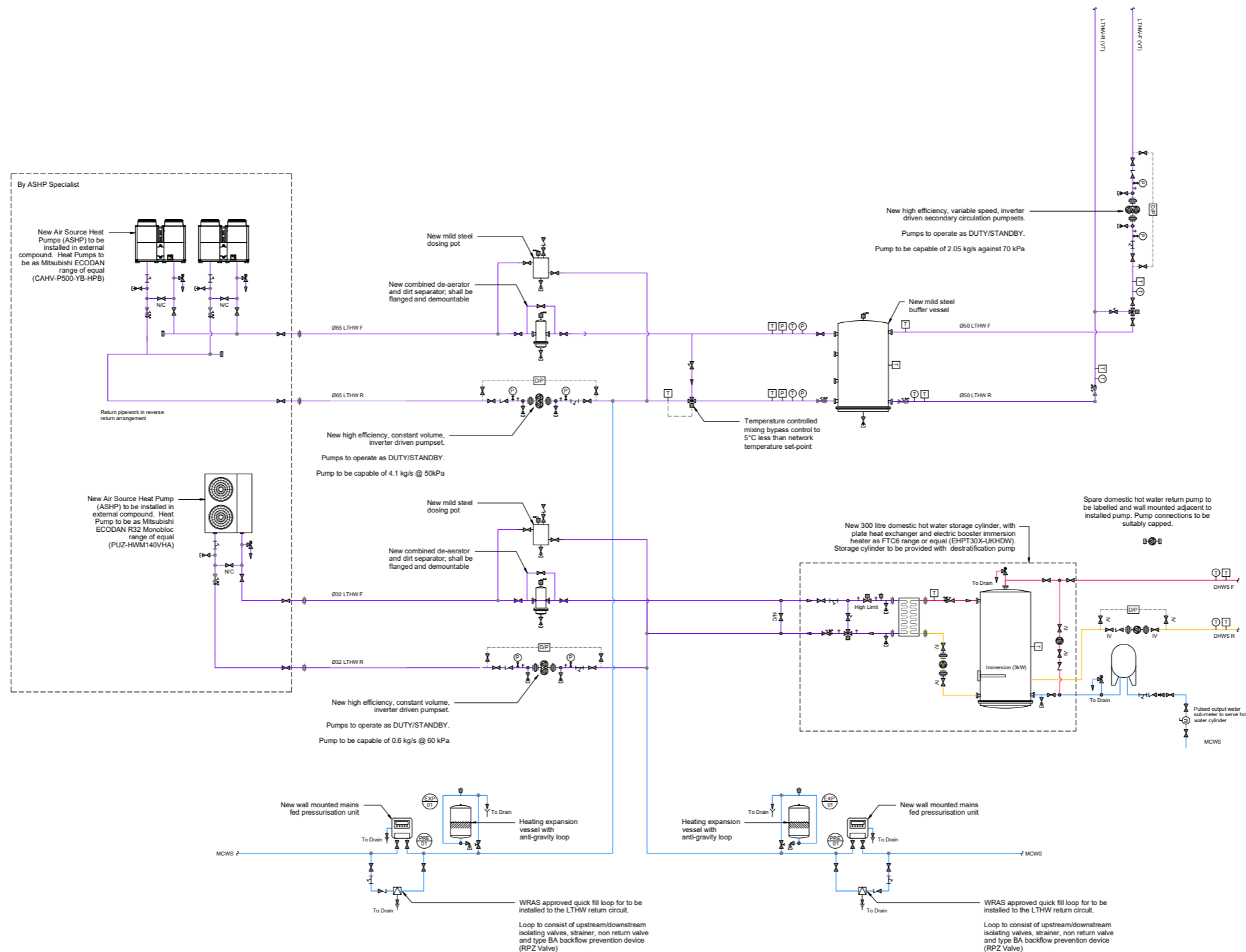
- The Contractor shall allow to strip out, remove and dispose the existing LTHW heating system in its entirety. This shall include all radiators, pipe work, flues, support fittings, boilers, controls, oil fuel tanks, gas pipe works, electrics and ancillaries.
- New radiators and low level pipework distribution routes have, where practicable, been positioned in line within the existing installation to keep builders work to a minimum. The contractor shall allow to make good and redecorate all areas where services are not reinstated.
- Where existing pipe work is routed below ground and in floor voids, the pipe work shall be drained, disconnected and capped. Pipework tails shall be kept to a minimum and suitably protected from damage and to ensure that it does not create a tripping hazard.
- The drawing has been produced for illustration purposes only. Where shown, all dimensions are in millimetres and shall be checked on site.
- The Contractor to check sizing and positioning of all equipment items on site prior to ordering. Locations of all items of equipment shall be agreed on site with the Engineer.
- The Contractor shall be responsible for on site co-ordination of the new M&E Services with existing services and the new/existing building structure.
- The Contractor shall allow all required sets/changes in direction, not identified on the drawing.
- The Contractor shall be responsible for any access/lifting equipment required to carry out their works.
- All builders work including penetrations through walls, roofs, weathering, upstands, etc., associated with the services installation(s) including all making good, shall be the responsibility of the Contractor.
- The Contractor to provide leveling plinths for all external plant items, buffer vessels and DHWS cylinder in line with manufacturers recommendations
- The Contractor to provide fenced enclosure for new external plant compound with security lock.
- The Contractor shall be responsible for the identification of existing services prior to connection into existing systems, i.e., Domestic Water Services etc.
- Pipework insulation within plantrooms shall be finished with purpose made aluminium cladding.
- All equipment shall be installed in accordance with relevant manufacturers recommendations and accepted good practice.
- The Contractor shall at a time to be agreed and prior to handover instruct the employer's staff in the use and correct operation of the installation and shall satisfy himself that such staff are competent to take over the installation on completion. All mechanical services shall be tested and demonstrated to the Engineer for correct operation prior to hand-over.
- All certificates and as fitted drawings shall be contained within the Operating and Maintenance Manuals which shall be made available to the Engineer prior to hand over. Failure to provide appropriate certificates at this time may delay acceptance and hand over

Domestic Services General Notes (Copper Pipework):

- Domestic hot and cold water services shall be carried out in kitemarked copper tube to BS EN 1057 grade R250 complete with lead free pre-soldered capillary fittings and brass munson type split ring brackets and rectangular back plates. All materials shall be suitable for potable quality water and all outlets shall be provided with a chrome plated screw driver operated quarter turn ball valve for isolation. Compression fittings will be permitted for final connection to equipment only.
- Drain cocks shall be provided at all low points and equal tee air bottles at high points in accordance with BS 2879. Automatic air vents will be permitted within plant areas only. Inaccessible air vents shall be extended in 15mm copper pipework to low level within nearest suitable store area complete with needle valves.
- Domestic hot and cold water services pipework within ceiling voids, service risers, service ducts, boxing, plantrooms, etc. shall be insulated with foil faced rigid phenolic foam to thickness identified within BS 5422 to achieve a minimum thermal performance of 0.021 W/mK. Surface mounted pipework shall be finished with two coats of gloss paint applied by the Main Contractor to Architects requirements. Unless otherwise stated pipework insulation within plantrooms shall be finished with purpose made hammer finished aluminium cladding.
- Where domestic hot water installations are provided with a return pipework arrangement, new and existing domestic legs shall include a Crane D2890 Thermal Regulating Valve. The Thermal Regulating Valves shall be supplied with pocket temperature sensors suitable for the type and size of valve. Unless otherwise stated the system shall be commissioned to maintain a minimum temperature of 55°C in all return pipework.
- All pipework penetrations through walls/floors shall be sleeved with suitably sized sleeves (copper on domestic water services). Those penetrations through fire compartmentation lines shall also be sleeved and finished with intumescent sealant.
- Valve and union connections shall be provided to isolate all equipment.
- Domestic hot and cold water services shall be subjected to full chlorination using new injection points and drawn off through all outlets in the system. This chlorination shall be carried out by an approved water treatment specialist and undertaken in accordance with BS 6700 prior to hand over and witnessed by the Engineer. The Contractor shall carry out potability (e-coli, choliforms, tvc) and legionella testing of the hot and cold water service from several outlets evenly spread across the building on completion of the new domestic water services and associated results/certification included within the operation and maintenance files. Sampling points shall include sentinel points, i.e. furthest and nearest points on the system.
- All Domestic Water Systems shall be commissioned by an approved reputable commissioning specialist to achieve the flow rates as detailed and shall be witnessed by the Engineer.
- All equipment shall be installed in accordance with relevant manufacturers recommendations and accepted good practice.
- All electrical works associated with the mechanical installation shall be carried out by the Electrical Contractor.
- All hot water sanitary items will be provided with Thermostatic Mixing Valves except for Cleaners Sinks.
- The Contractor will ensure that HWS deadlegs are no greater than 0.5m to final outlets.

Low Temperature Hot Water General Notes (Steel Pipework):

- LTHW heating pipework of nominal sizes up to and including 125mm shall be of mild steel to BS EN 10255. Pipes of larger sizes shall be seamless carbon steel to BS EN 10216.
- Pipework up to and including 50mm shall be assembled using malleable cast iron screwed fittings to BS EN 10242. Otherwise, all pipework shall be assembled using welding fittings to BS EN 10253-1 and BS EN 10253-2, of the same thickness as the pipe, and shall be jointed by welding in running lengths.
- Heating pipework within ceiling voids, service risers, service ducts, boxing, plantrooms, etc. shall be insulated with foil faced rigid phenolic foam to achieve a minimum performance of 0.021 W/mK and installed to the thickness identified within BS 5422. Pipework insulation within plant rooms shall be finished with purpose made hammer finished aluminium cladding. Surface mounted pipework shall be finished with two coats of gloss paint to the Architects requirements.
- Drain cocks shall be provided at all low points and equal tee air bottles at high points in accordance with BS 2879. Automatic air vents will be permitted within plant areas only. Inaccessible air vents shall be extended in 15mm copper pipework to low level within nearest accessible plant or store area complete with needle valves.
- All pipework penetrations through walls/floors shall be sleeved with suitably sized sleeves (steel on LTHW pipework services). Those penetrations through fire compartmentation lines shall also be sleeved and finished with intumescent sealant.
- All equipment shall be installed in accordance with relevant manufacturers recommendations and accepted good practice. Valve and union connections shall be provided to isolate all equipment.
- Unless specified all radiators are to be installed with outside tapings and piped 'top bottom opposite ends' with thermostatic radiator valves installed on the flow connections and lockshield valves on the return connections.
- All electrical works associated with the mechanical installation shall be carried out by the Electrical Contractor.
- All LTHW heating systems shall be commissioned by an approved reputable commissioning specialist to achieve the flow rates as detailed and shall be witnessed by the Engineer.
- Flushing points to be installed at strategic locations in accordance with the Flushing Strategy.
- Final location of all sensors to be agreed.



Notes

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

Refer to the relevant Construction (Design and Management) documentation where applicable.
 It is assumed that all works on this drawing will be carried out by a competent contractor, working where appropriate to an approved method statement.

Project Notes

The Contractor shall ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the installation. No claim will be considered on the grounds of the lack of site knowledge.
 The Contractor shall be responsible for the final coordination of all new and existing services, with the building structure, architecture and fixed furniture and equipment.
 The Contractor shall allow for all required changes in height and direction not identified on the drawing and the final setting out of all plant, equipment and services shall be agreed on site with the Engineer.
 The Contractor shall be responsible for any temporary access or lifting equipment required to carry out the work.

Revision Cloud Reference (A1)		
P01 Tender Issue	CH/BWBV	16/11/22
Rev Description	By / Chk'd / App'd Date	



Client
 Link Academy Trust

Project
 Morchard Bishop Heating CIF BID

Drawing Title
 Mechanical Engineering Services Schematic

Suitability - Status Code	Suitability - Purpose of Issue	
S3	Preliminary	
Project No.	Scale @ A1	Revision
34235	1:100	P01

A1 Drawing Identifier
 Project Code / Director / Function / Space / Form / Discipline / Number
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