

Notes

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Ordnance Survey Paper Map Copying License number: 40006119

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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.

Prior to commencement of any stripping-out works, the Contractor shall carry out a full survey of the existing systems within and around the proposed areas of works, including any independent, overlapping or communicating systems.

The Contractor shall identify, trace, record and verify the status of all existing systems which may be affected by the undertaking of the proposed works and report any potential risk of damage or disruption to other areas of the site, prior to commencement.

The Contractor shall be responsible for any temporary access or lifting equipment required to carry out the works.

The Contractor shall ensure that the proposed works are undertaken with due consideration given to (and coordination with), any other planned works at the site.

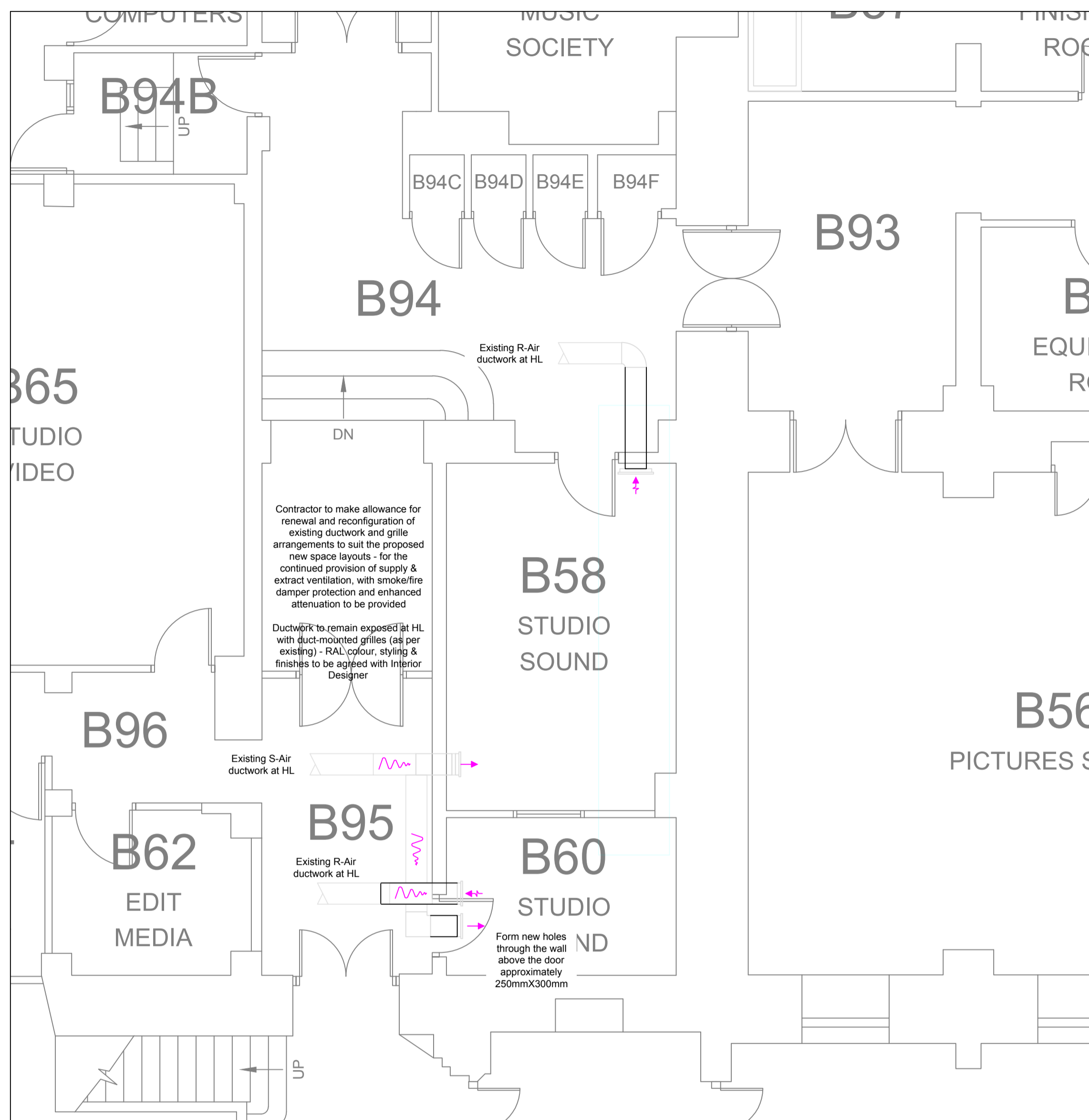
The Contractor shall be responsible for the final coordination of all new and existing services, with the building structure, architecture and fixed furniture and equipment.

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.

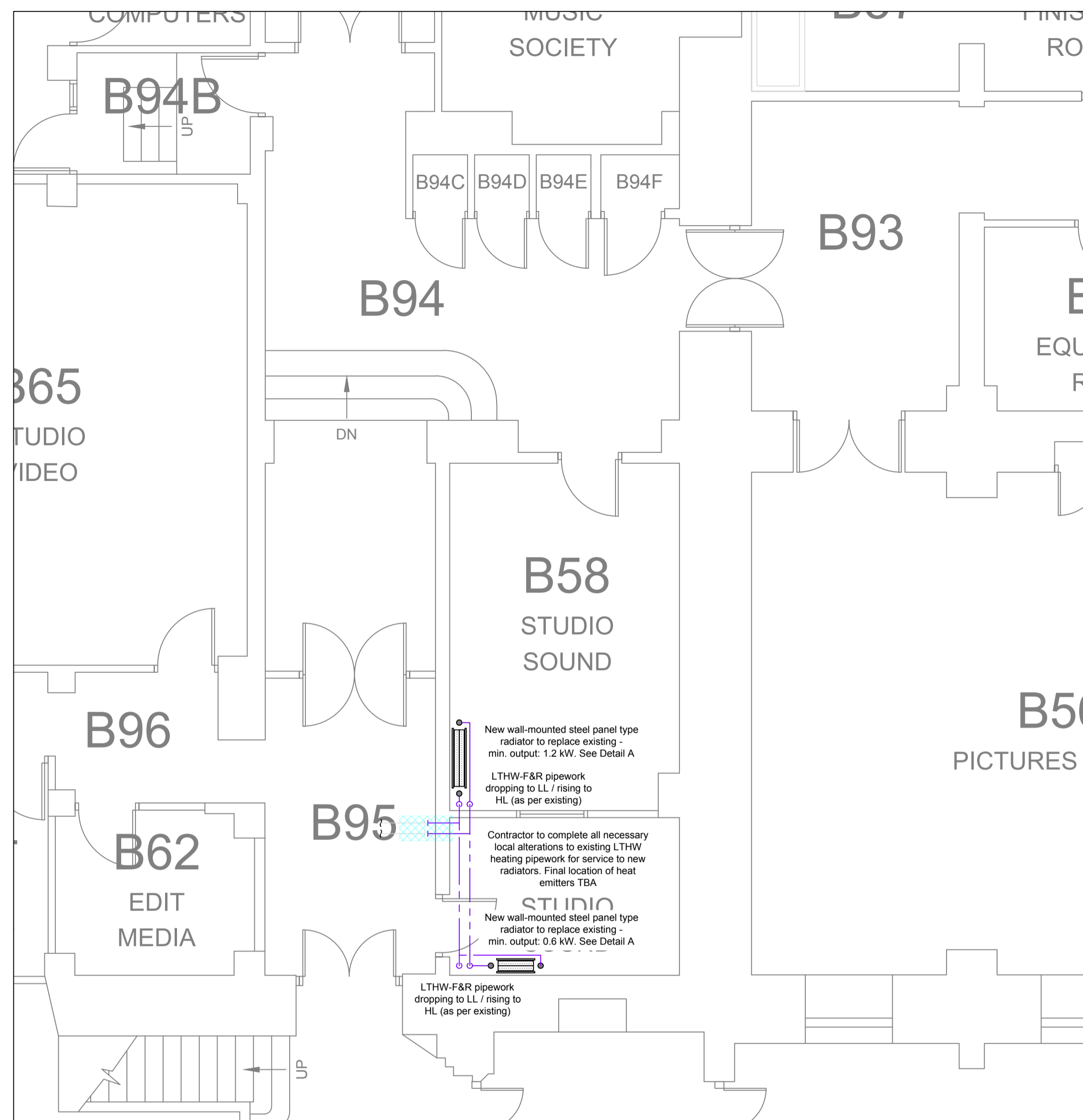
The Contractor shall assess the capacity of existing mechanical and electrical infrastructure and confirm that the proposed new duties can be accommodated by the existing systems.

Colour Scheme Legend

 Local ductwork/pipework alterations to be completed



Scope of Proposed Mechanical Works: Ventilation Services



Scope of Proposed Mechanical Works: Heating Services

Technical Notes

General

All equipment sizes, locations and proposed distribution routes shown are indicative only, being subject to further design development and final coordination on site.

All new mechanical and electrical installations shall be completed in a workmanlike manner.

All mechanical and electrical equipment to be installed, shall be new - unless otherwise specified or with the approval of the Contract Administrator.

All new equipment shall be suitable and approved for use in the intended application.

All new equipment shall be installed in strict accordance with the manufacturer's recommendations.

New services shall generally be concealed as far as reasonably practicable or otherwise routed for discreet installation (unless otherwise indicated).

Following a full investigation, the Contractor shall isolate, drain down, disconnect, make safe and remove all redundant mechanical and electrical services and/or equipment.

The removal of the services shall include all associated redundant supports, hangers, bracketry, containment etc.

The proposed works shall include any / all builders works required for siting, mounting, housing and concealment (as required) of all new equipment and distribution services, with provision also made for redecoration, finishing and making good.

The Contractor shall allow for the supply and installation of all associated valves, switches, safety devices, controls components or any other ancillary items considered necessary for correct installation and optimum performance of the new equipment.

All new services and equipment shall be of consistent compatible materials with that of the existing - where interconnection is to be made. Where connection of dissimilar pipework materials is necessary, the Contractor shall utilise dielectric fittings for the prevention of electrolytic action and subsequent galvanic / bimetallic corrosion.

The Contractor shall ensure that adequate provision is made within the installation for safe isolation, venting of air, balancing, cleaning, draining-down and general maintenance across all areas of the system - in accordance with best practice guidance and the design specification.

The Contractor shall ensure that adequate tolerance is provided within the installation for the expansion and contraction of pipework, with expansion loops or suitable (approved) flexible couplings to be provided where necessary.

The Contractor shall allow for the supply and installation of any additional filtration or water softening equipment, as may be required by the new equipment manufacturers.

All new building services including (but not limited to) ductwork, condensate drainage, domestic water, heating, and refrigerant pipework, shall be thermally insulated following the successful installation. Flow/pressure testing, balancing, commissioning and witnessing thereof by the Project Manager / Contract Administrator and responsible Engineer.

All insulated services shall be identified by colour banding and labels with flow direction arrows in accordance with BS 7170 2014.

The Contractor shall include for all measures available to isolate the transmission of noise or vibration from the mechanical plant to the structure and occupied spaces.

Heating & Cooling

All existing pipe sizes shown are subject to verification by the Contractor on site. The Contractor shall make due allowance for the renewal/upgrade of existing pipework sections and controls/safety valves, as may be necessary to accommodate the increased system duty.

All LTHW heating pipework shall be mild/stainless steel or copper (to suit existing distribution).

Adequate pipework supports shall be provided supporting from the soffit, floor or wall in accordance with the employer's requirements.

All steel pipework is to be finished in two coats of red oxide prior to the final colour coats or insulation being applied.

All new heating circuits shall be equipped with automatic air vents at all high points of the distribution network, with draincock valves provided inversely at all low points.

Strainers are to be fitted to protect heat exchangers, pumps and other sensitive areas of the system. Full bore flap-type non return valves shall be fitted at each pump discharge to prevent back flow, or short circuiting in multi-pump systems.

Valves shall be installed so that they are easily accessible and positioned with due regard to the existing building fabric, plant layout and accessibility. Isolation valves shall be quarter turn ball valves and valves installed horizontally shall be fitted with the valve spindle vertically upwards unless this will result in the valve handle clashing with adjacent services.

All strainer fittings sized at 500 or larger, shall be equipped with a dedicated draincock.

The Contractor shall include provision within the pipework system for installation of adequately sized flushing points to ensure that all mains, branches and sub-circuits can be completely flushed through.

Pipework shall be subjected to a pressure test of at least 1.5 times the normal working pressure or 3 bar whichever is the greater, and demonstrated and witnessed to ensure the system is sound and tight. Any equipment in the system which may be damaged by the test shall be isolated and made safe.

Following the successful completion of the pressure test, the heating and cooling systems, including all pipework, plant, pumps and heat emitters shall be subjected to a thermal test under normal operating conditions.

All new heating pipework shall be cleaned, flushed and chemically dosed with suitable corrosion proofing/scale inhibiting/anti-freezing agents (as appropriate) upon completion - following successful pressure testing.

The Contractor shall make due allowance for testing, balancing and re-commissioning of the entire system upon completion of the new installations - including re-balancing of the existing LTHW distribution network.

Ventilation

All fans provided as part of the mechanical ventilation installation shall be selected to comply with the specific fan power requirements as detailed in Non-Domestic Building Services Compliance Guide.

These systems are to be commissioned to provide the fresh air volume to satisfy the current requirements of the UK Building Regulations (Part F), all relevant Building Bulletins and the Non-Domestic Building Services Compliance Guide.

Supply (make-up) air shall generally be admitted to the areas served by mechanical extract ventilation, via under-cut doors or air transfer grilles.

All ventilation systems, equipment, ductwork, components and ancillaries shall be suitably manufactured and/or treated to withstand both the internal and external air conditions specific to the internal spaces, building exterior and site geography, with due consideration given to the presence of any airborne chemicals (e.g. indoor swimming pool facilities) and/or coastal site locations.

Any and all air transfer grilles to be provided, shall be suitably fire rated and sight-negative according to their intended location and application.

Ductwork shall be galvanneal mild steel, designed, constructed and installed in accordance with BESA (formerly HVCA) ductwork specification DW144 (Low Pressure Classification). Provisions for ductwork cleaning shall be in accordance with CIBSE Publication TR17, level 2 as a minimum.

The use of PVC ductwork shall be acceptable for internal ducts of sizes (and equivalent cross sectional areas) not exceeding 1000 (circular). PVC ductwork shall be designed, constructed and installed in accordance with BESA (formerly HVCA) plastic ductwork specification DW154 (Low Pressure Classification).

All ductwork shall be clean when erected and shall be continuously protected during installation against the ingress of dirt, debris and vermin.

All ductwork and air handling plant shall be leakage tested to a standard appropriate to its operating pressures, in accordance with DW144. In the event of the test showing leakage, the Contractor shall be responsible for sealing and re-testing until a satisfactory result is obtained.

The Contractor shall allow for the supply and installation of all required smoke and/or fire damper equipment to ductwork penetrations through fire rated walls and floors, in accordance with the existing/proposed architectural fire strategy drawings, UK Building Regulations Part B, Building Bulletin 100 and as generally indicated.

Fire dampers are to be provided with mechanical actuators to provide a minimum of two hours fire protection, or to match fire resistance of building fabric being penetrated, and come complete with access panel to allow manual resetting of the damper(s). Penetrations through fire compartmentation lines shall be made good by the Main Contractor and finished with intumescent sealant.

The Contractor shall allow to supply and install volume control dampers at all branch off-takes as required to accurately commission the system to achieve the flow rates detailed on the tender drawings.

All internal ductwork surfaces shall be accessible for cleaning and inspection, with access doors installed at minimum 3m centres. The access panels shall be of at least the same thickness and material as the ductwork, be grease tight using heat-proof gasket and contain minimum projections into the duct. Access doors shall be installed on the side of the duct, with the underside of the door at least 400mm above the underside of the duct. Where duct runs are insulated the insulation and finish shall be adapted to allow sections to be to access hatches.

Where fans, ductwork, attenuators, dampers and other ancillaries mounted within risers, ceiling voids, or other spaces that are not directly accessible, the Contractor shall allow to provide suitably sized access panels to facilitate maintenance to the units. The finish of the access panels shall be to the architect's specification.

All grilles shall be supplied with opposed blade dampers or integral cassette fittings to enable accurate commissioning to the flow rates detailed on the tender drawings. Grille faces shall be removable for maintenance and cleaning.

All external louvres shall be treated to withstand corrosion and shall be manufactured specifically for external use, designed to prevent ingress of driving rain. They shall incorporate drip-bars and bird screens to the whole of the rear face.

The Contractor shall confirm with Architect/Interior Designer and Employer, the preferred RAL colours for all grilles, diffusers and louvres prior to the placing of any orders.

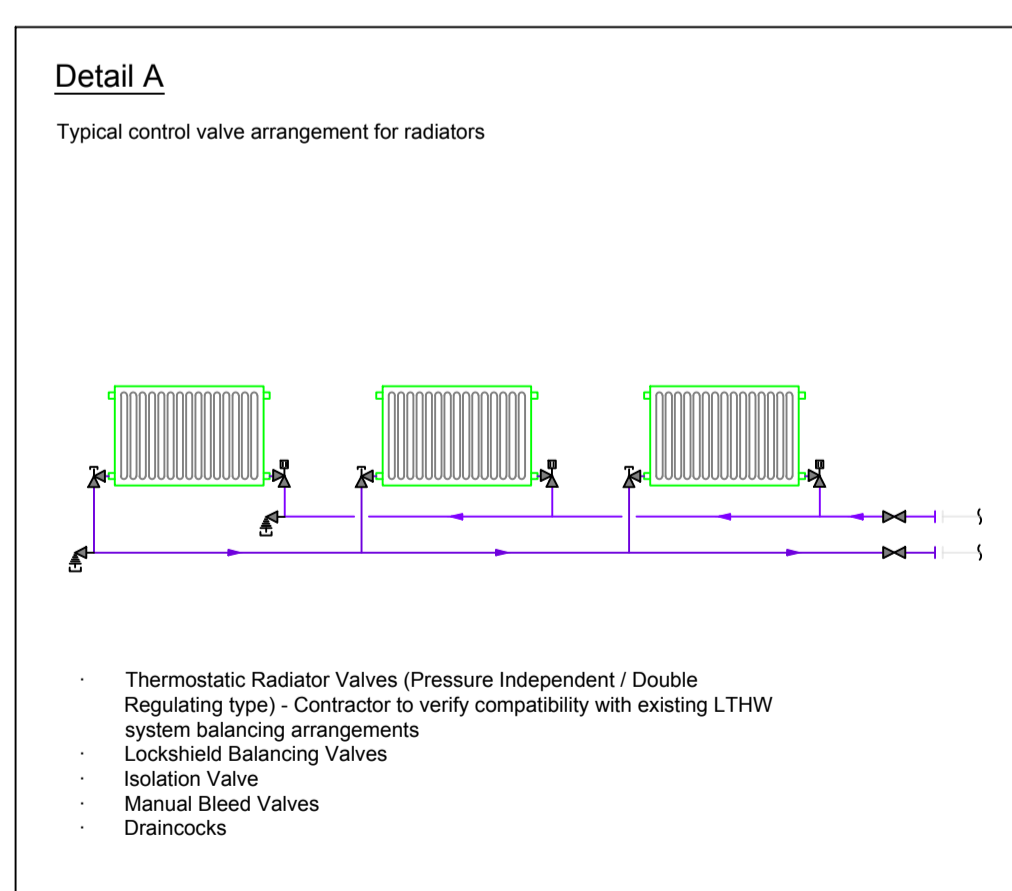
The Contractor shall design and provide duct mounted sound attenuators for the control of noise transmission from building systems to the occupied spaces. Atmospheric side attenuators will also be provided to control ambient noise levels to the specified background noise criteria.

Attenuators shall be provided as generally indicated on the design drawings. However, the Contractor shall consult with the recommended Acoustic Specialist Manufacturer, prior to order, to confirm the final selection of all ductwork attenuators and ensure that the specified equipment can achieve satisfactory levels of noise and cross-talk attenuation, in accordance with the design criteria.

The Contractor shall also confirm with the Acoustic Specialist Manufacturer, the requirements for any additional attenuation, such as acoustic insulation or screening, to prevent excessive noise breakout from the fan motors to any of the occupied spaces or critical areas surrounding the building exterior.

Where ducts cross partitions and open ends allow the transfer of sound from one space to another, cross talk attenuators shall be provided.

Where supply intake and exhaust ductwork from separate ventilation systems is to be combined, suitable backflow / back pressure prevention devices (such as non-return dampers or shutters) shall be provided at each branch connection.



Revision Cloud Reference (A1)

Rev	Description	By / Chk'd / App'd	Date
P02	Tender Issue (Re-named)	LN/BB/BB	12/10/23
P01	Tender Issue	LN/BB/BB	13/04/23



Client

Project

UCL Slash Small Works (21-23)

Drawing Title
Slade School (005): Recording Studios
Mechanical Systems:
Combined Mechanical Services Layouts

Suitability - Status Code	Suitability - Purpose of Issue
S2	TENDER - Proposed

Project No.	Scale @ A1	Revision
34008	1:50	P02

A1 Drawing Identifier

UCL - BPC - 04 - 00 - D - M -

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