Camden Stables Market
Retail Spaces Upper Floors: Provender Store and Chalk Farm Building
Mechanical and Electrical Services Design Statement

1.0 Introduction

The proposed spaces on the upper floors of the Provender Store and Chalk Farm Road Building are generally serviced via above ground services either routed internally to the buildings or across the existing link bridges.

The refurbishment works to the Provender Store and Chalk Farm Road Building includes stripping-out of the existing limited services within the spaces, but retaining existing Electrical LV Installations, existing domestic mains cold water, (MCWS), Gas and Communications Containment at 1st Floor levels within the buildings, which will be supplemented with additional new containment of a similar type to the existing within the buildings and as used in other heritage areas of the Market.

2.0 Existing Services Arrangements

The existing M&E Services Installations to the building currently comprise: -

2.1 Drainage : Foul & Waste Water

The existing drainage services pipework to the 1st & 2nd floors is generally routed externally to the Provender Store building via 2no. existing vertical SVP's on the south elevation. It is intended that these existing drainage connections are maintained and adjusted to suit the proposed scheme.

Minor modifications are proposed to the branch connections to the proposed WC connections at 1st & 2nd floor to the Provender Store Building, with the branch connections locally extended laterally from existing positions behind the SVP to make connection to the Proposed WC.

2.2 External Façade Services

No revision to the existing external façade services are currently proposed, with the exception of minor alterations to foul drainage and provision of local mechanical extract ventilation services associated to the new internal WC accommodation.

2.3 Services Containment

Within the 1st floor of the Provender Store Building, existing services provision to these areas is supported & routed via 'Unistrut' suspended cable tray, trunking, and pipework. The containment is clamped to the existing steel beams and with intermediate threaded rod suspensions.

The proposal is to retain this containment and to supplement with additional similar installations as required to serve the refurbished areas. This will include new containment at second floor level, which will only be supported off the roof truss with 'Unistrut' ladder arrangements spanning between the trusses to eliminate the need to fix to the underside of the pitched roof construction.

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3.0 Proposed M&E Services Arrangements

The proposed M&E Services Installations to these buildings are currently proposed to be as set out below:-

3.1 Drainage : Foul & Waste Water

It is proposed that the 2 no. existing foul drainage SVP arrangements to the rear of the Provender Building are to be retained (south elevation). The existing above ground branch connections at 1st & 2nd floor of the Provender Store Building are proposed to be extended locally, to connect via new 110mm dia. penetrations at each level to connect to proposed new internal WC Installations.

All new installations will be in compliance with Building Regulations (Part H).

3.2 Lighting

New LED lighting is to be provided to the internal areas of the building at 1st and 2nd floor levels throughout and to the new ground floor reception area and staircase/ lift lobby within the Provender Store Building.

New lighting services will be suspended where possible from existing and new containment systems, and secondary 'Unistrut' supports to minimise the fixings to the existing building structure wherever possible. Where surface conduit drops are required on existing brickwork walls, these shall be fixed to the mortar courses only. No drilling of brickwork is proposed.

New lighting services will be generally served from the suspended new and existing containment at high level on each floor.

New Lighting to retail spaces and ground floor lift lobby/staircase will be controlled via a central control system, exact extent to be developed as a part of the detailed design and end user requirements.

WC's and infrequently used spaces will be provided with presence detection only to minimise energy usage.

Emergency lighting will be provided throughout to BS5266 requirements and will include surface and recessed self-contained LED emergency luminaires and Exit luminaires.

Lighting scheme to be determined by Lighting designer as part of detailed design development.

3.3 Electrical LV Distribution

LV distribution to the Provender Store Building is provided via below ground LV service routed into the buildings from the existing Tack Room pit LV switchroom.

At 1st floor level a wall mounted MCCB panel board is provided which serves the Ground floor shop units and distribution boards at 1st and 2nd floor levels.

It is proposed that the existing 1st floor MCCB board and circuits feeding the ground floor retail units shall be retained.

Subject to detailed design, current proposals are to retain existing distribution boards for the 1st and 2nd floors of Provender Store Building (two per floor) together with the small MCB distribution boards within each area of the 1st Floor of the Chalk Farm Building.

New Boards, where required will be served via new sub main cables from the existing 1st floor MCCB panel board with the new sub main cabling installed on the existing h/l containment at 1st and 2nd floor levels within the building extended or modified as required to accommodate new services. Metering will be provided at each board position but as a landlord service, it is not proposed that separate retail spaces within the Provender Store will be individually metered, with energy being charged via service charge only.

Within the units on the 1st floor of Chalk Farm Building existing LV distribution is provided by MCB distribution boards in each part of the building. These are to be retained, fitted with metering and utilised to feed lighting and power within each retail space.

Final circuits for lighting and power will be routed through the h/l existing and new containment routes to serve lighting and small power accessories throughout the spaces.

3.4 Small Power Installations

Small power installations to serve the retail spaces will be primarily derived from the h/l containment running through each floor at high level.

Generally, accessories will be surface mounted to existing brickwork walls via class 4 galvanised conduit and back boxes. Conduit will drop to low level or rise to the floor above from the high-level containment. All fixings to be to the mortar courses, no drilling of existing brickwork is to be allowed.

Where possible floor boxes will be provided within the floor, which shall be served from the existing or proposed high level containment arrangements on the floor level below.

3.5 Fire Alarm Installation

The Provender Store Building and Chalk Farm Building to be provided with an Analogue addressable fire alarm system covering the buildings with the panel being located at ground floor within Provender Store Building local to the new Lift lobby / staircase entrance area.

Internally within the building FP200 type fire alarm cable will be routed on the new and existing high-level containment. Devices will be wired from this position routed via surface galvanised conduit, installed to minimise the fixings into the existing structure where possible.

Building to be provided with automatic detectors, sounders and beak glasses with detection to all areas to give coverage to BS5839 L1 classification. System will be linked to the Stables market central control room.

At ground floor within each retail unit a fire alarm interface unit will be provided to enable connection of tenant installed systems to the building landlord system.

3.6 Mains Cold Water Services

MCWS pipework is currently routed at 1st floor level within the Provender Store Building and Chalk Farm Building as a part of the existing high-level services containment arrangement.

It is currently proposed that these installations are to be retained with localised modifications to serve the new WC facilities within the refurbished areas.

Domestic hot water will be generated via local electric point-of-use water heaters served from the MCWS pipework.

All cold water installations will be direct mains connected, and will be potable, and thereby suitable for drinking water purposes.

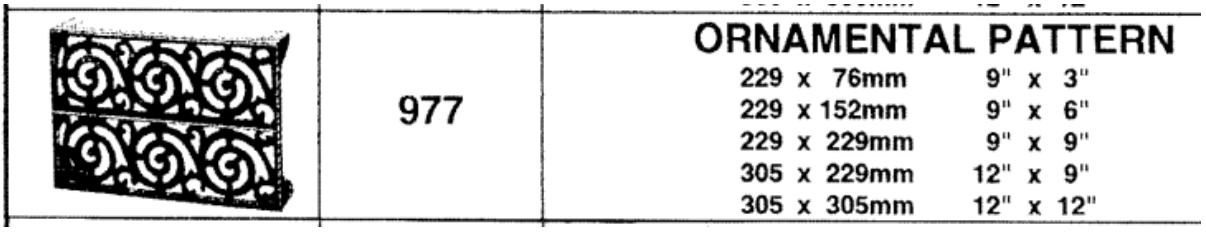
All domestic water services installations will be WRAS compliant and also in compliance with Building Regulations (Part G).

3.7 Mechanical and Natural Ventilation

Generally, the Provender Store Building and Chalk Farm Building will be naturally ventilated by utilising the existing openable windows.

Mechanical extract ventilation will be provided to WC facilities to meet Building Regulations (Part F) requirements.

Extract ventilation associated to the WC facilities is proposed to be routed to external elevations and terminated at a 229x229mm cast-iron 'Heritage' grille, as J+JW Longbottom Ltd ornamental pattern 977 to match wall grilles on other buildings within the Market.



3.8 LPHW Heating System

The 1st & 2nd floor levels of the Provender Building are proposed to be provided with a new gas-fired LPHW (Low Pressure Hot Water) heating system comprising of traditional column type heat emitters with steel circulatory pipework from new low NOx, efficient modular condensing gas-fired boilers and associated equipment, located at 2nd floor level within the Provender Store Building.

The boilers will be arranged to operate in parallel, offering load-sharing and alternating lead boiler operation, and will be connected to a common LPHW primary distribution header to serve the Provender Store building. Associated to the boiler system there will be a pressurisation unit and expansion vessel, the required primary & secondary heating pumps, low-loss header, dosing pot, piped services arrangements, controls and flue installation. Each boiler will be independently flued to atmosphere via the roof or external wall, to an approved terminal detail, compliant with boiler manufacturers guidance.

The LPHW heating installation within the Provender Store Building will be arranged to include separate heating zones serving the 1st & 2nd floor levels respectively, with each zone being of a variable temperature heating flow/return circuit, including weather compensation and optimisation controls, thereby controlling the internal spaces against the external conditions. Each heating zone will include an internal space temperature sensor, and external sensor, located on a north facing wall.

Pipework will be of black mild steel to ensure robustness, and this will be routed exposed at low level at the building perimeters of each floor level, connecting to vertical riser positions as appropriate to connect to the central modular boiler plant.

Heat emitters will be of a cast-iron column type, which will be aesthetically in keeping with the building, and these will primarily be positioned beneath or adjacent to existing windows. Heat emitters will be a mixture of units without feet and these will be wall-mounting only – in some locations, the heat emitters will be provided as floor-standing units of matched specification, with cast-in feet, and secured with wall-fixings for stability.

All fixings will be into existing mortar joints between bricks; no fixings into brickwork will be made. All pipe connections to heat emitters will be at low level and will be bottom-connected at opposite ends of the heat emitter.

An example of a proposed heat emitter style is shown below, including proposed 'in-keeping' radiator valves at each connection.

Heat emitters will be served by the LPHW flow/return pipework routed either at low level on each of the 1st/2nd floors, or at high level on the containment system running through the 1st floor level, rising and/or dropping to traditional column radiators via steel pipework.

Each individual heat emitter will incorporate thermostatic control via its own TRV (thermostatic control valve) fitted to the flow connection, and a LSV (lockshield valve) fitted to the return connection – these will be of a specification and pattern that is in-keeping with the proposed feature heat emitter.

The Chalk Farm Building will be provided with local electric background heating derived from the local MCB distribution board within each retail unit.