

Project:	Whittington House, London, Ground Floor Fit Out
Client:	Lowe & Oliver
Report Title:	Plant & Equipment Proposal for Ground Floor Roof
File Ref.:	4168-4-2-REP-M01-B
Date:	Updated 12 th October 2018.

1.00 Introduction

The existing Whittington House building extends over 9 floors, basement to seventh, and is located in Alfred Place, London WC1E 7EA. The basement area generally comprises car parking, plantrooms and welfare facilities. Ground to seventh floor comprises office accommodation.

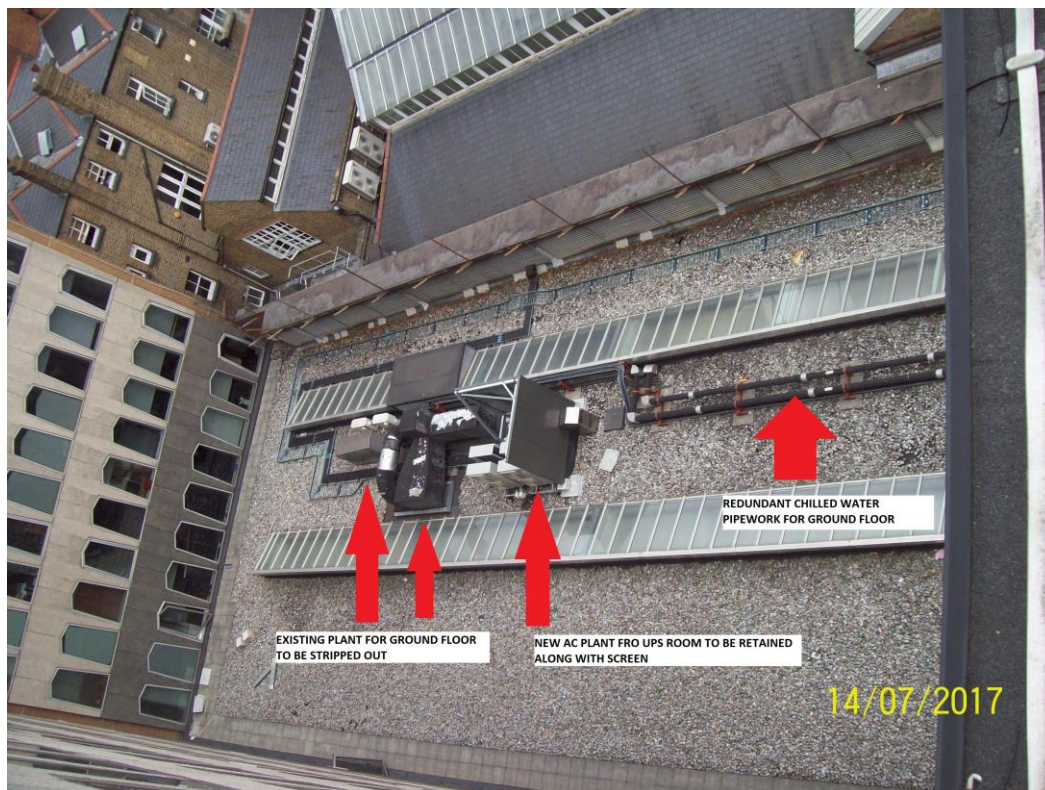
Referring to the images below it can be seen that there is an existing flat roof area over part of ground floor and that the first to seventh floor office accommodation extends vertically in an L formation to two sides of the flat roof. Neighboring properties abut the flat roof on the other two sides. The flat roof area includes 2No linear roof lights and various items of mechanical services plant and equipment.

As part of the above project works Vector Design in conjunction Lowe & Oliver are currently preparing design proposals for the mechanical & electrical services installations associated with the ground floor office fit out.

The works will include installation of new plant and equipment to the flat roof area along with removal of plant items which will now be redundant.

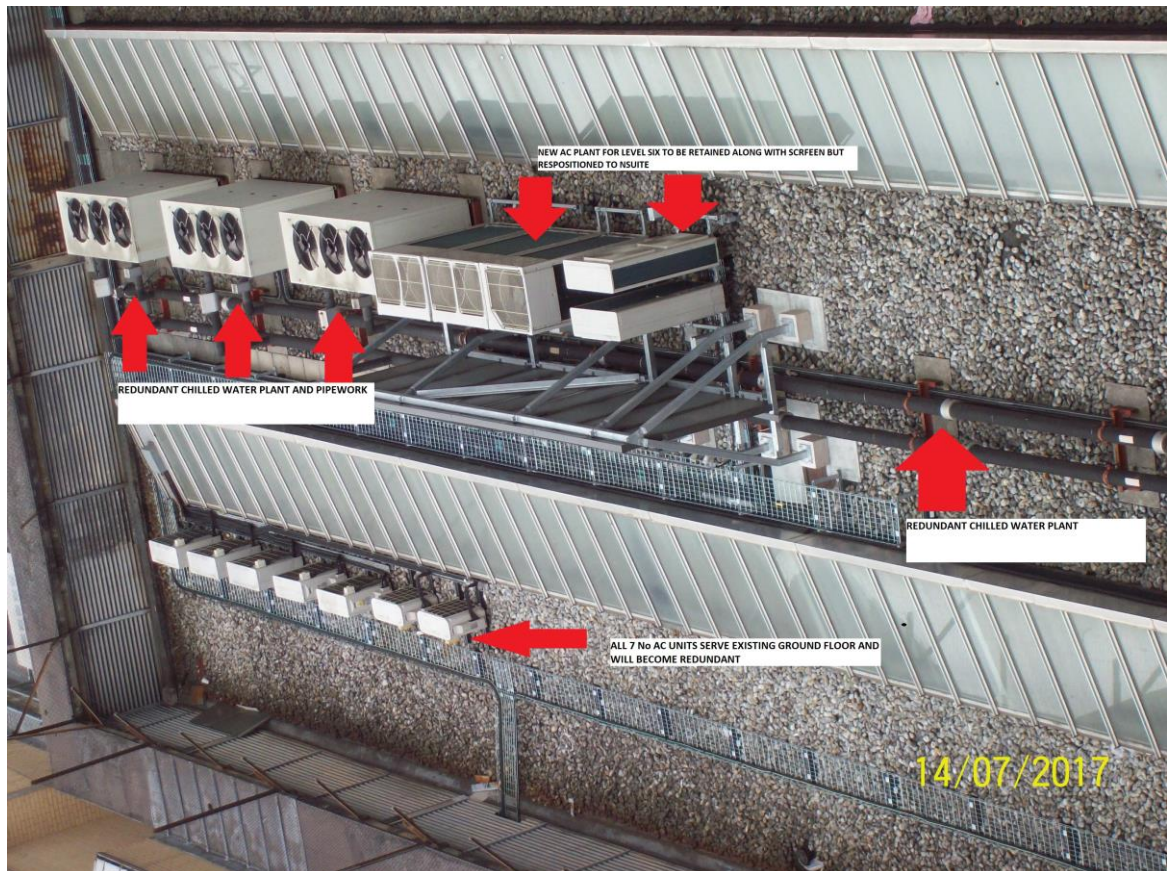
2.00 Flat Roof – Existing Plant and Equipment

Referring to the images below the northerly end of the roof mainly comprises ventilation plant, cooling plant and chilled water pipework which served the ground floor retail area. This plant and equipment will be stripped out and removed from site. There is however also some new / recently installed AC equipment with screen which serves a UPS / Data room and this equipment will be retained.



North Roof Image

To the southerly end of the roof mainly comprises chiller plant, cooling plant and chilled water pipework which served the ground floor retail area which will be stripped out and removed from site. There is however also some new / recently installed AC equipment with screen which serves existing sixth floor office accommodation and this equipment will be retained.



South Roof Image

As evident from the images the two sides of the roof abutting neighboring properties comprise continuous vertical louvres. The louvres connect to a plenum behind which then drops down to basement car park level. The louvres primarily provide natural ventilation to the basement car park but, in addition, include water heater flue termination and ventilation air intake and exhaust for the diesel generator installed at basement level.

3.00 Flat Roof – Proposed Plant and Equipment

This section of the report should be read in conjunction with drawing 4168- M403 Rev P5 - Proposed Combined Services at Roof Level. A copy of this drawing is enclosed with the report.

As mentioned in section 2.0 above the existing AC equipment serving the UPS / Data Room and sixth floor shall generally be retained untouched.

It should be noted that, concurrent with the ground floor fit out works, the first floor office accommodation is being fully refurbished with new comfort cooling / heating equipment installed throughout. It is proposed that external cooling units associated with first floor be located on the ground floor roof.

The proposed new roof plant and equipment shall generally comprise external condensing / cooling units associated the comfort cooling and heating requirements to the ground and first floor accommodation including dedicated units serving the data installations at both floor levels.

Additionally the new services installation for the ground floor accommodation includes three packaged heat recovery type air handling units providing fresh air supply and extract ventilation to suit the occupancy requirements of the accommodation. Fresh air intake and exhaust air discharge for these air handling units is ducted from / to ground floor roof level as indicated on the drawing. Heating & cooling to these air handling units is provided from dedicated external condensing units installed at roof level.

A new toilet extract ventilation twin fan unit is also included serving ground floor and the exhaust air discharge will be at roof level.

Two new boiler / water heater flues, in addition to the single retained water heater flue, shall also be included terminating through the existing vertical louvres.

The air handling unit ventilation air intakes and exhaust shall all include duct mounted attenuator units sized and selected to ensure there is no increase to the existing external noise levels.

As currently proposed the external condensing units will all be mounted exposed at roof level as indicated on the drawing.

As indicated on the drawing and listed below the following new condensing / cooling units shall be installed.



Northerly End of Flat Roof – Grid Lines 4 – 8

- Level 1 North Office AC Condensing Unit – Daikin REYQ20T.
- Ground Floor Office AC Condensing Unit AC2.1 – Daikin REYQ12T.
- Ground Floor Office AC Condensing Unit AC2.2 – Daikin REYQ16T.
- Ground Floor Office AC Condensing Unit AC1.1 – Daikin REYQ12T.
- Ground Floor Office AC Condensing Unit AC1.2 – Daikin REYQ14T.
- Ground Floor North AHU 1 Condensing Unit – Toshiba RAV-SM22 44 AT8 E
- Ground Floor North AHU 2 Condensing Unit – Toshiba RAV-SM22 44 AT8 E
- Ground Floor Comms Room AC Condensing Unit 1 – Daikin RZQG 100L9V1
- Ground Floor Comms Room AC Condensing Unit 2 – Daikin RZQG 100L9V1

Southerly End of Flat Roof – Grid Lines 8 – 13

- Level 1 South Office AC Condensing Unit – Daikin REYQ8T.
- Level 1 South Office AC Condensing Unit – Daikin REYQ12T.
- Level 1 South Office AC Condensing Unit – Daikin REYQ18T.
- Ground Floor South AHU 3 Condensing Unit – Toshiba RAV-SM22 44 AT8 E
- Level 1 Comms Room AC Condensing Unit 1 – Daikin RZQG 100L9V1
- Level 1 Comms Room AC Condensing Unit 2 – Daikin RZQG 100L9V1





4.00 Environmental Noise Survey & Acoustic Assessment

Based on the contents of this report and drawing 4168- M403 Rev P4 - Proposed Combined Services at Roof Level, an assessment needs to be undertaken by a specialist acoustician to determine if the cumulative sound levels from all of the plant falls within acceptable limits in relation to;

- Neighboring properties.
- Whittington House office occupants at ground floor level directly under the plant and or first to seventh floors overlooking the plant on two sides.

To assist with the above assessment manufacturer's dimensional and sound data for each of the units detailed in section 3 above have been obtained and copies are enclosed with this report.

