Building Services Report

Melia White House Hotel
Albany Street London NW1 3UP

MH ASSOCIATES *Making a Difference*
CONSULTING ENGINEERS

Report Ref: 17/MHA/1191
Project Ref: 17/MHA/985
Date: 10th May 2017
Rev: Rev 01

CONTENTS

1.0 Introduction

Mike Harvey Associates (MHA) were commissioned to visit The Melia White House Hotel to carry out a High level review of the mechanical and electrical engineering services to look at the feasibility and type of plant solutions as a priority to serve the new works proposals for the 3 Phases of works on the ground floor.

The very limited documentation that has been made available would suggest some of the base building original services were installed circa 25 years ago, eg the fire alarms, more recently some of the mechanical drawings are dated 2002 circa 15 years ago and these have been supplemented by 2 No new Chillers at Roof level in the last year. Some Record drawings were made available but no landlord base building original record Operation and Maintenance Manual information was provided for review.

The contents in this report have been based on a desk top review and a non-intrusive visual inspection only, within the limitations of the building system enclosure.

No attempt was made to remove system enclosures, access covers and a very limited inspection was carried out. The visit also reviewed the ground floor office area.

No attempt has been made to introduce any mechanical or electrical load tests, carry out any scan or commissioning tests/data to identify the systems compliance with the IEE Regulations/CIBSE Commissioning Codes.

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2.0 Environment (heating and cooling) and Ventilation Proposed Solutions

Plant and Risers / Options considered

The site was reviewed and walkaround by the team with Miguel and Gary during our walkround on 16th February 2017 and subsequently on 23rd February 2017 and 2nd March 2017.
Following the receipt of survey drawings on 8th March 2017, several plant locations and potential riser locations were considered and these have been highlighted on the drawings in colour for ease.

We have estimated the loads and sized the plant and risers required.

There is one ***stand out*** option and again this is shown on the drawings. the proposed riser is a store location and in principle there is enough space in the riser for the ductwork and pipework to go to the roof.

Ventilation

The original outside air solution is via holes through the façade at low level to the back of the perimeter fancoils. This method would no longer be efficient or compliant.
A new ventilation plant is required to serve the restaurant and hospitality areas. This will provide better quality of air from the roof rather than from ground floor level.

Environmental/Heating and cooling options considered.

- Installing new 4 pipe fan coils onto the existing LTHW and CHW circuits.
  This was discounted for contamination and performances reasons and a total clean and continual clean of the system would be prohibitively expensive and hard to achieve.

  Commentary

  The discussion with the technical staff reported problems and issues with the CHW and LTHW system contamination. This of course will prevent the fan coil terminals from working properly as the control valves will clog up. Unless a very rigorously controlled cleansing and back flushing of the whole system was undertaken prior to connecting any new systems, it would not be advisable to install new pipework and fancoils directly onto these systems in the same manner. That said the depth of these fancoils would preclude Architectural improvement in the void height dimensions being achieved. The smallest depth fancoil available is manufacture by Mitsubishi Electric as a VRF slimline FCU at 200mm deep.

- Installing new 4 pipe fan coils onto the existing LTHW and CHW circuits but with hydraulic separation via a plate heat exchanger.

  This would protect the new pipework and fancoils from cross contamination but there would be a circa 3oC temperature loss across the HX and thus larger fancoils would be required.

- A New VRF heat pump and fancoil system (s) that will provide simultaneous heating and cooling utilising slimline (by Mitsubishi) chassis type fancoils in the ceiling void.

  This type of system readily allows for standalone phasing without phase interference and downtime.
  The plant space is available at roof level and by utiling the space replacement of the previous chiller, no planning is impacted.
  It is a more efficient controllable system.
  This would make spare capacity available on the existing CHW and LTHW systems.
  Slimline fancoils should allow the Architectural requirement of smaller ceiling voids to be achieved – see drawing section.

3.0 Overlay Plans to show proposed plant and riser locations

OPTION PLANT SPACE CONSIDERED
BUT LOW HEADROOM AND ACCESS
NON COMPLIANT

PLANT AREA CONSIDERED HERE
BUT THE SPACE FOR AHU & VRF
WAS TOO SMALL @ APPROX 3m
LONG x 1.7m WIDE x 2.0m HIGH
INCLUDING ACCESS + CLEARANCE

PROPOSED DUCTWORK &
PIPEWORK RISER FROM HIGH
LEVEL GROUND TO ROOF

ACCESO LEVEL

PHASE 1

PHASE 2

PHASE 3

PHASE 1 - Zone C
- Bar and Restaurant

PHASE 2 - Zone C
- Terrace

PHASE 3 - Zone B
- New Meeting Rooms

OUTSIDE AIR INTAKE LOUVER

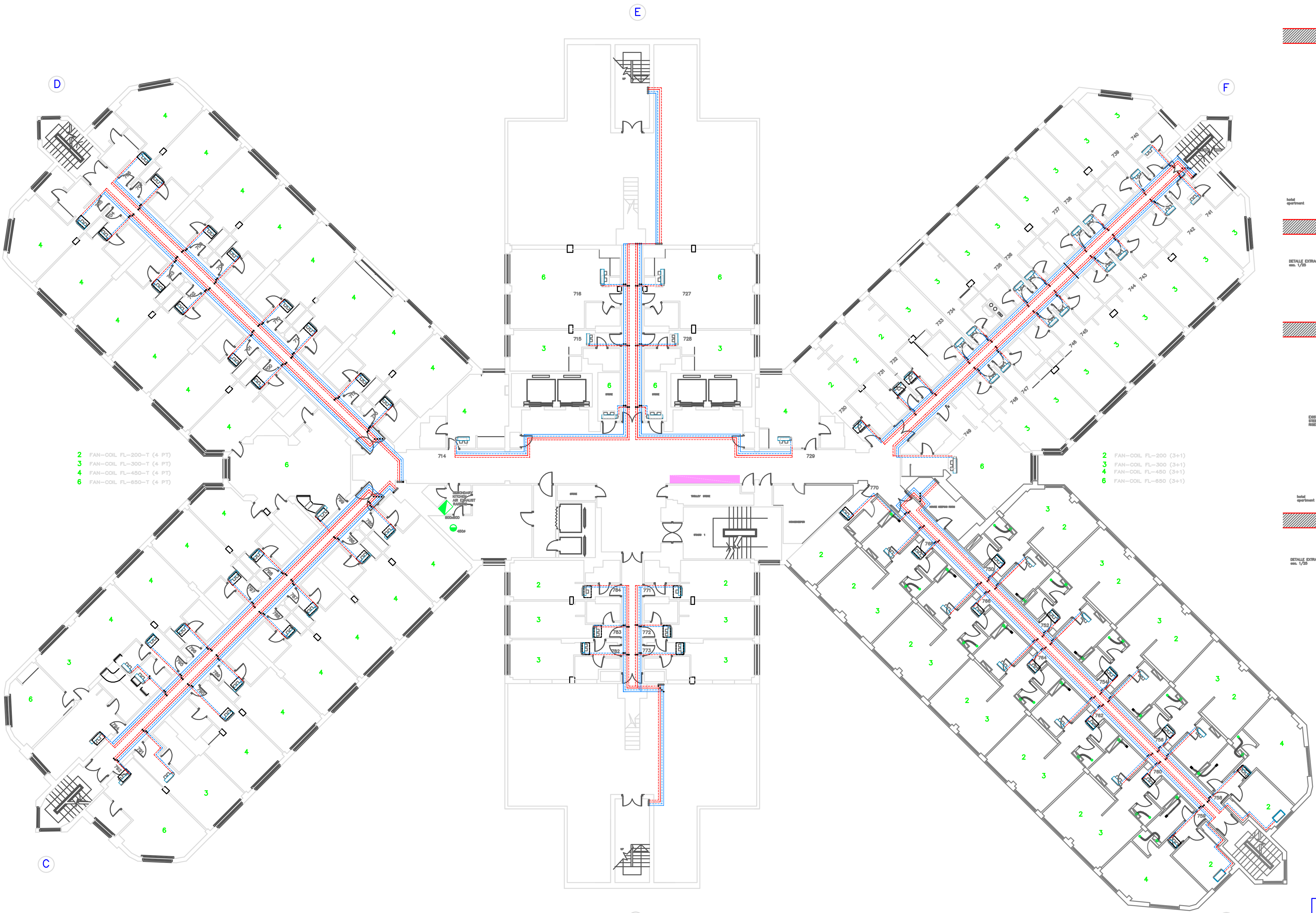
BATHROOM/MEETING ROOM AIR EXHAUST

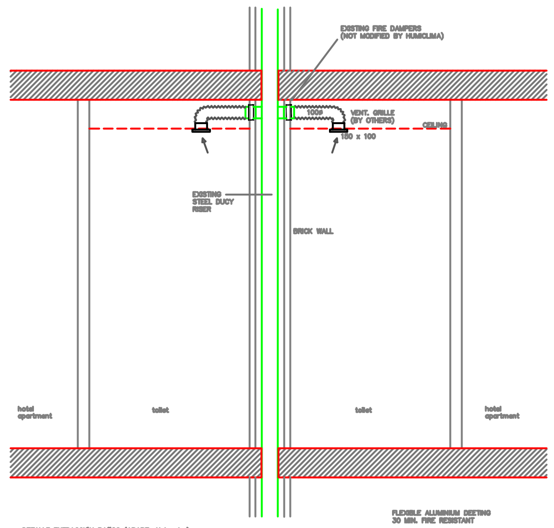
STORE OFFICE AND BUFFET AIR EXHAUST

MANTENER LOS TECHOS
MANTENER LAS MOLDURAS DE MADERA

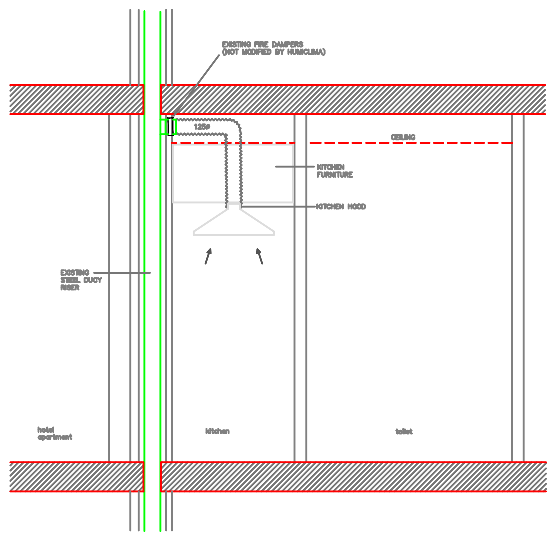
GROUND FLOOR
MELIA WHITE HOUSE
LONDON

21 OCTOBER 2015





DETALLE EXTRACCIÓN BAÑOS (APART. ALA -A-)
esc. 1/25



DETALLE EXTRACCIÓN COCINA (APART. ALA -A-)
esc. 1/25

DETAIL OF THE EXTRACT DUCTING IN THE KITCHEN & TOILET AREAS AT THE APARTMENT WINGS. (FLOORS 3rd,4th,5th,6th,7th,and 8th)

HOTEL MELIA WHITE HOUSE

MELIA WHITE HOUSE HOTEL - LONDON

PLANTA SEPTIMA CLIMATIZACION

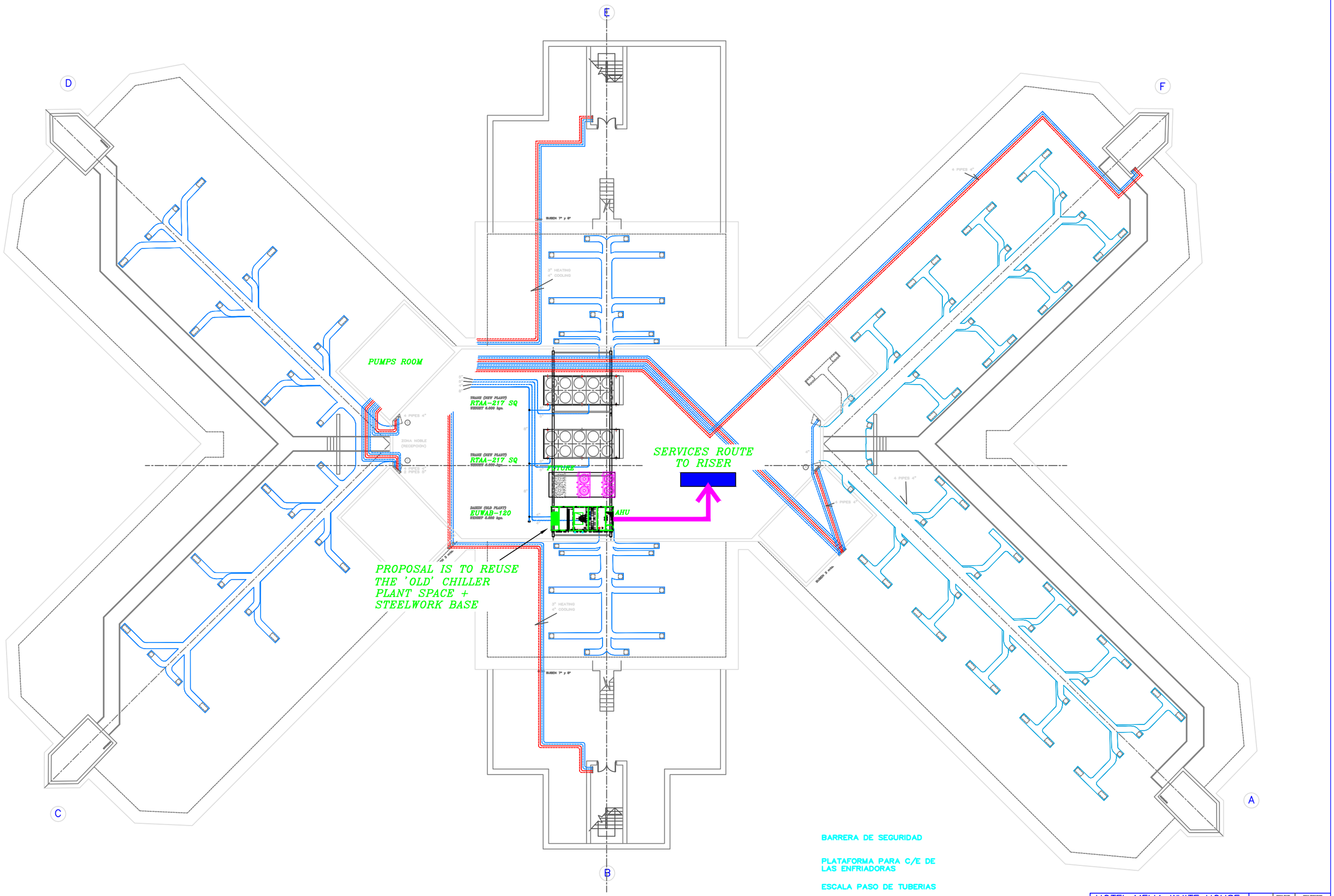
7th FLOOR

HUMICLIMA

	FECHA/DATE	FIRMA/SIGNATURE
DIBUJADO/DRAWN	29.11.99	J.M. CORTES
MODIF./MODIFIED	28.02.02	macu
COMPROB./CHECKED	28.02.02	I. BLASCO
MODIF./MODIFIED	04.06.02	macu
VISTO/APPROVED	04.06.02	F. LLODRA

ESCALA/SCALE: 1:100

PLANO Nº/DRAWING no.: 24667pl7



HOTEL MELIA WHITE HOUSE
MELIA WHITE HOUSE HOTEL – LONDON

PLANTA CUBIERTAS 8th FLOOR

HUMICLIMA

	17.01.01	
	17.01.01	

1:100

13

24667cub

4.0 Fire Alarm System

ICS visited site several times and their correspondence and options proposed are in the Appendices section.

Summary

There is spare capacity on loops 2,3 and 4 serving the proposed phased areas.
It is possible to continue to support the existing system albeit they advise that the existing equipment/ system in now obsolete and the detectors and panel will only be supported by Siemens until 2017/18.
They advise that this is not to say that it cannot continue to be supported but to do so will require a software upgrade; (only by Siemens); and they have some spares going forward in the immediate future. Please note their advice that the newer Siemens smaller detector heads will not be backward compatible with the existing system.

So to Answer Miguel's question; now is a good time to consider and begin to implement a new fire alarm system and a strategy needs to be agreed.

ICS propose 2 options:-

Continue to use the existing system and panel, but piggy back (a new panel) and migrate a gradual upgrade with a new switch; ie with planned replacement for the new works but thereafter planned phased replacement to the rest of the hotel over a period of time to suit budget years with either:-

1) A new switch by Siemens (closed protocol).
   or
2) A new different manufacturer open protocol switch.

This will need to be discussed in more detail and the Way Forward agreed.

5.0 Recommendations

5.1 Proposed

- New VRF heat pumps providing simultaneous heating and cooling to be located at roof level (see drawings) utilising slimline Fan Coil Units.
- New Eco ventilation plant with Heat recovery to be located at roof level
- Reuse the existing steelwork at roof level to locate the plant
- Riser interconnection as shown on the drawings as discussed on site with Miguel using the “sacrificial” store.

5.2 The Way Forward

It is suggested a quick meeting is held with Miguel and Gary to review to :-

- Obtain feedback from the client team on the ideas and agree the proposed environmental and Ventilation Strategies to be adopted.
- Agree the Fire Alarm strategy to be implemented.
- Engage a structural engineer to detail the works required to the proposed riser and connection through to the roof plant area.
- Undertake a power availability evaluation review when the LV schematic is made available.

6.0 Appendices

6.1 Survey photos
6.2 Fire Alarm correspondence from ICS.

7.0 Survey Photos

IMG001 EXISTING STEELWORK; PREVIOUS CHILLER

IMG002 NEW CHILLER; SPARE PLANT SPACE

IMG003 VIEW OF CHILLERS + ADJACENT PLANT SPACE

IMG004 PIPEWORK + VIEW ACROSS ROOF

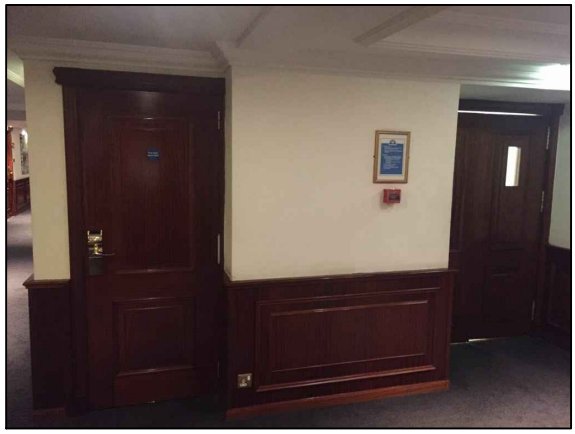
IMG005 EXISTING AHU PLANTROOM – NO SPARE SPACE

IMG006 EXISTING AHU PLANTROOM – REDUCED HEADROOM

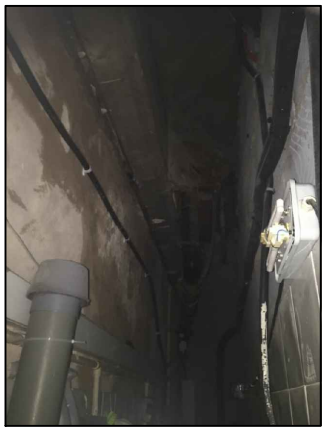
IMG007 OUTSIDE AIR LOUVRES TO RESTAURANT PERIMETER FAN COILS

IMG008 POTENTIAL PLANT SPACE BEHIND SCREEN

IMG009 POTENTIAL PLANT SPACE (AS DISCUSSED ON SITE)

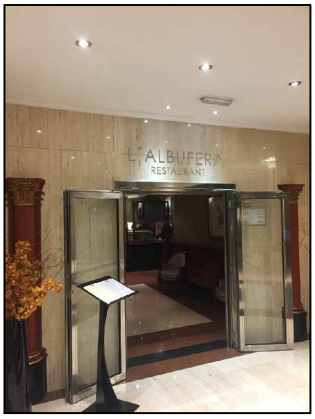


IMG010 DOOR TO LONG STORAGE 'SACRIFICIAL' FOR NEW PROPOSED RISER LOCATION



IMG011 SERVICES AT BACK OF PROPOSED RISER CUPBOARD

IMG012 GROUND FLOOR VIEW OF RISER (ABOVE) LOCATION



IMG013 REDUCED HEADROOM IN ALBUFERA RESTAURANT

IMG014 REVIEW OF LINES OF SIGHT FROM STREET PERIMETER FOR 'CORNER' OPTION

Mike Harvey

From: Martin Taylor <MartinTaylor@icservice.uk.com>
Sent: 23 March 2017 10:12
To: Mike Harvey
Subject: FW: Re: Fire Alarm System - Melia Whitehouse
Attachments: MHA Melia White House Report.pdf

Hi Mike,

Further to the report attached, please find below the two options regarding the fire alarm system both short term and long term.

Option 1. Gradual Upgrade of existing Siemens System

The manufacturers recommendation is introduce a new panel, introducing new technology, to accommodate the areas being refurbished an link to network to existing system.
Change out all existing panels with relevant new technology, but supporting the devices installed at present with a gradual upgrade on a loop by loop basis.
Initially this would be detection devices to allow a smooth transition, with manual call points and interfaces following on.
As the detection on each loop is upgraded loop card would be changed to suit.
Please note any upgrade whatsoever requires to be done on a loop by loop basis.

Option 2. Gradual Change of System to "open protocol"

The procedure would be as above but would require new panels to piggyback with existing. **IC is at present carrying out this procedure at 55 King William Street.**
The only difference in how the works would be instigated would be that the interfaces and call points on each loop would require changing on the loop by loop basis.

On both options a full set of as installed drawings and the disc containing all device information and the Cause & Effects would be required.
A full survey could then be carried out to verify the information submitted and a programme could then be offered.

IC Service & Maintenance would be pleased to offer their services for one or all of the following:

Project Management
System Verification
Install of new system (either option)

Should the client remain with the Siemen product the operational design responsibility would be with Siemens, regardless of the appointed fire alarm contractor.
With the installation of a new "open protocol" system the design responsibility would be with the fire alar contractor and for this purpose we would recommend an LPS1014 approved company.

These works can be carried out with minimum disruption and downtime and we would be happy to meet with you to go through the procedures to avoid any problems.

Kind regards

Martin Taylor
Managing Director
IC Service & Maintenance Ltd
T. 01634 290300
F. 01634 290700
www.icservice.uk.com

Head Office UK: I.C. Service & Maintenance Ltd. Unit K3, Temple Court, Knights Park, Knight Road, Strood, Kent, ME2 2LT
Ireland Office: I.C. Service & Maintenance Ltd. Unit G6, Centrepoint Business Park, Oak Road, Dublin 12, D12 X5K5 Tel: 00353 14500804

From: Martin Taylor
Sent: 10 March 2017 11:25
To: 'mike.harvey@mhassociates.co.uk' <mike.harvey@mhassociates.co.uk>
Subject: Re: Fire Alarm System - Melia Whitehouse

Hi Mike,

Please find attached our findings on the above.

Regards

Martin Taylor
Managing Director
IC Service & Maintenance Ltd
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Ref No. MRT/Melia
Please use this number on all correspondence
Date: 10th March 2017

MHA
Attention Mike Harvey

Dear Mike,

Re: Fire Alarm System – Melia Whitehouse Hotel

Further to our site visit and the subsequent visit by our engineer, please find below our observations.

Our brief was to assess the loop loadings on the ground floor for potential expansion to accomodate fit out works in these areas. As per our report issued 3rd March there is spare capacity on loops 2,3 and 4.

The existing system was installed pre 2001 and the equipment is now obsolete, the detectors and panel will only be supported until 2017/2018.

This is not to say it cannot be supported, or devices added to the existing system, but will probably require a "software upgrade", as there is no evidence of an upgrade on site. As there are no software discs on site, devices cannot be added to the system without these.

This upgrade can only be carried out by Siemens, as can any device additions or changes to "cause & effects". In essence at present the system installed is "closed protocol" with all changes under the control of Siemens.

We are sure the System installed has afforded your client many years of protection and comfort, but time marches on.

Our recommendation would be to support the existing system while replacing with "open protocol" on a gradual basis.

This will give the client much more control of his system, allowing the opportunity to go to the open market for maintenance support, which will obviously ensure a quality service at a competitive price.

Should MHA require our support or assistance with regards to a full system survey or any other matters relating to the system, please do not hesitate to contact us.

Subject: Melia White House Hotel

Head Office UK: IC Service & Maintenance Ltd. Unit K3, Temple Court, Knights Park, Knight Road, Strood, Kent, ME2 2LT
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I.C. Service & Maintenance Ltd Unit K3, Temple Court, Knights Park, Knight Road, Strood, Kent, ME2 2LT

Hi Lulu,

Further to my earlier site visit, please see below confirmation of current fire alarm detection line loadings on the Ground Floor.

Martin advised me that there is a project on the Ground Floor (Restaurant extension?) and he wanted to know if the Siemens panel had the capacity to add more devices.

The two detection circuits covering the Ground Floor both have spare capacity. There is also a spare detection circuit that could be used if the quantity of devices required exceeds the availability on lines 1 & 2.

Melia White House Hotel			
Detection Line No.	Area	Line Loading	Spare Capacity
2	Not Used	0	128
3	Ground Floor	111	17
4	Ground Floor	105	23

Please note the following important points:

1. **As explained, the Siemens system is closed-protocol and therefore requires Siemens to modify any programming. It is not possible for others to carry out the modifications due to licensed software.**
2. **The site programming disk is missing, therefore Siemens would need to rely on having the latest files backed up on their servers. As I understand Siemens have not had any involvement with the site for a number of years, the backup files they have may not be accurate.**
3. **Siemens AlgoRex A+ detection devices are no longer available, but there is a base adapter and compatible device that could be used.**

IC are comfortable supporting the system from a maintenance point of view, however the modifications identified can only be completed by Siemens. Therefore if this project was to commence we'd suggest you deal direct with Siemens.

Please do not hesitate to contact me if you require any further information.

Regards,

Martin

Please consider the environment before printing this e-mail

Yours faithfully,

Martin Taylor
IC SERVICE & MAINTENANCE LTD.

Regards

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From: Ian Smith
Sent: 02 March 2017 13:53
To: Lulu <Lulusteer@icservice.uk.com>
Subject: Melia White House Hotel

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Regards,

Martin

Produced by MHA Associates
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