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**BUILDING SERVICES
MECHANICAL & ELECTRICAL CONSULTANCY**

Planning Condition 17 – Report with photographic evidence

**On
Centrepont Restaurant**

**For
Keytask Management**

July 2018

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INTRODUCTION

Report as requested by:

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The following report concerns the Centrepoint Restaurant; Condition 17, Plant Noise Attenuation. Photographic evidence has been included.

Our report is based on the following:

- The requirement of condition 17 of Planning Permission reference 2017/0994/P
- The document "*Centre Point Restaurant - Plant Noise Assessment - Report 16/0163/R1*" as issued by Cole Jarman, dated 7 March 2018 and approved under application ref 2017/6957/P.
- Drawings also approved under application reference 2017/6957/P:
L1975M003
L1975M004

REPORT

The following mitigation measures have been installed by the contractors:

1. Ductwork Silencers

As per paragraph 4.2.1. of the above mentioned document, *"Atmospheric side silencers are required on all air handling units and the extract fans in order to meet plant noise limits"*

All Air handling units and extract fans are provided with atmospheric side attenuation as required. Refer to pictures below:

Photo.1.1. Atmospheric side attenuator installed on AHU 1
See Drawing L1975M003



Photo.1.2 Atmospheric side attenuator installed on AHU 2
See Drawing L1975M003



Photo.1.3. Atmospheric side attenuator installed on AHU 3
See Drawing L1975M003



Photo.1.4. Atmospheric side attenuator installed on AHU 4
See Drawing L1975M004

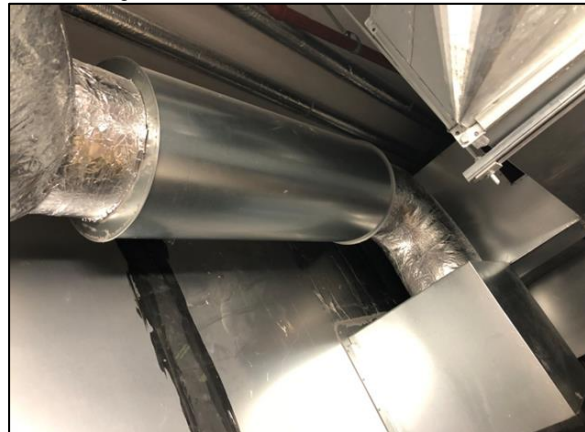


Photo.1.5. Atmospheric side attenuator installed on Extract fan - See Drawing L1975M004



2. Existing louvres

As per paragraph 4.2.3. of the above maintained document

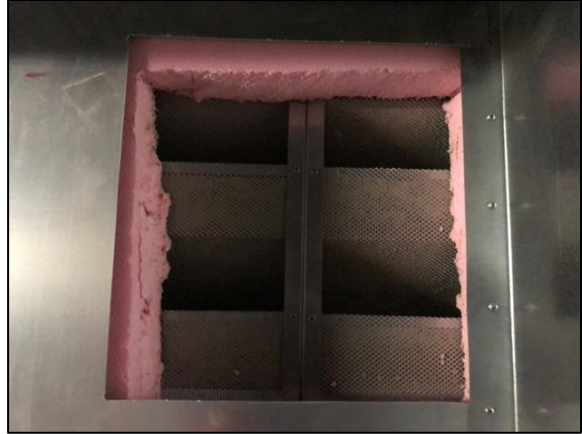
"The landlord louvres must be also covered up, with openings only where air handling unit plant equipment is ducted directly to the louvre"

All existing landlord louvres have been covered with metal sheet and insulation board as required.

Photo.2.1. Existing louvers covered.
Opening left for ductwork connection



Photo.2.2. Existing louvers covered.
Opening left for ductwork connection

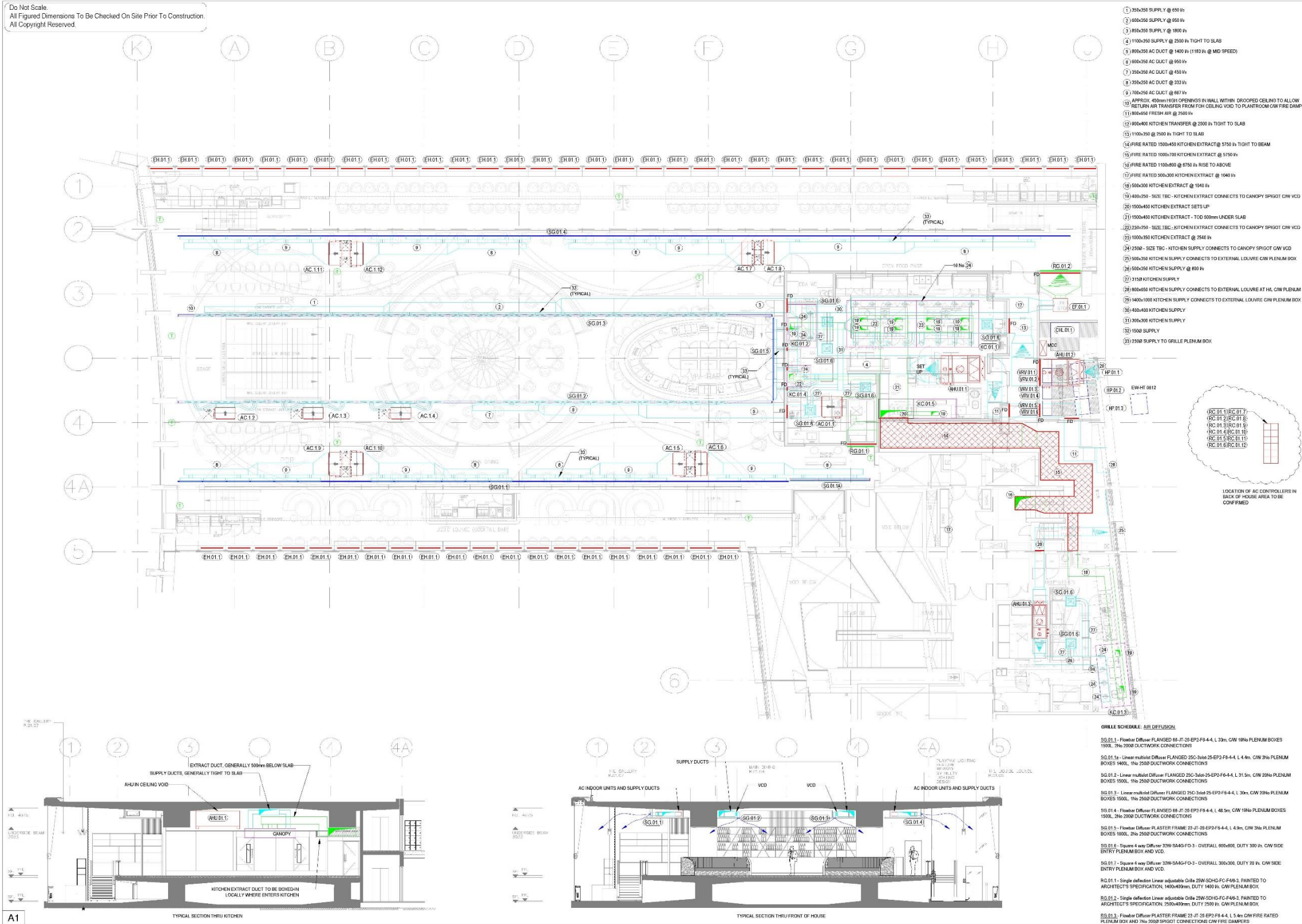


CONCLUSIONS

We can confirm that the mitigation measures identified as required within the approved 'Plant Noise Assessment' dated 7 March 2018, have been installed as per the requirements of Condition 17 of Planning Permission, reference 2017/0994/P.

APPENDICES

Do Not Scale.
All Figured Dimensions To Be Checked On Site Prior To Construction.
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- 1) 200x250 SUPPLY @ 450 Pa
- 2) 400x250 SUPPLY @ 450 Pa
- 3) 800x250 SUPPLY @ 1000 Pa
- 4) 1100x250 SUPPLY @ 2000 Pa TIGHT TO SLAB
- 5) 800x250 AC DUCT @ 1400 Pa (1100 Pa @ MD SPEED)
- 6) 800x250 AC DUCT @ 950 Pa
- 7) 250x250 AC DUCT @ 450 Pa
- 8) 250x250 AC DUCT @ 350 Pa
- 9) 700x250 AC DUCT @ 607 Pa
- 10) APPROX. 400mm HIGH OPENINGS IN WALL WITHIN GROUPOFF CEILING TO ALLOW RETURN AIR TRANSFER FROM FCH CEILING VOID TO PLANTROOM CW F DAMPERS
- 11) 800x450 FRESH AIR @ 2500 Pa
- 12) 800x400 KITCHEN TRANSFER @ 2500 Pa TIGHT TO SLAB
- 13) 1100x250 @ 2000 Pa TIGHT TO SLAB
- 14) FIRE RATED 1500x400 KITCHEN EXTRACT @ 5750 Pa TIGHT TO BEAM
- 15) FIRE RATED 1000x700 KITCHEN EXTRACT @ 5750 Pa
- 16) FIRE RATED 1100x800 @ 4750 Pa RISE TO ABOVE
- 17) FIRE RATED 500x200 KITCHEN EXTRACT @ 1040 Pa
- 18) 500x200 KITCHEN EXTRACT @ 1540 Pa
- 19) 400x250 - SIZE TBC - KITCHEN EXTRACT CONNECTS TO CANOPY SPRIGOT CW VCD
- 20) 1000x400 KITCHEN EXTRACT SET UP
- 21) 1000x400 KITCHEN EXTRACT - TO 500mm UNDER SLAB
- 22) 250x250 - SIZE TBC - KITCHEN EXTRACT CONNECTS TO CANOPY SPRIGOT CW VCD
- 23) 1000x500 KITCHEN EXTRACT @ 2540 Pa
- 24) 2500 - SIZE TBC - KITCHEN SUPPLY CONNECTS TO CANOPY SPRIGOT CW VCD
- 25) 300x250 KITCHEN SUPPLY CONNECTS TO EXTERNAL LOUVER CW PLENUM BOX
- 26) 500x250 KITCHEN SUPPLY @ 850 Pa
- 27) 3150 KITCHEN SUPPLY
- 28) 800x450 KITCHEN SUPPLY CONNECTS TO EXTERNAL LOUVER AT HL CW PLENUM BOX
- 29) 1400x1000 KITCHEN SUPPLY CONNECTS TO EXTERNAL LOUVER CW PLENUM BOX
- 30) 400x400 KITCHEN SUPPLY
- 31) 300x200 KITCHEN SUPPLY
- 32) 1000 SUPPLY
- 33) 2500 SUPPLY TO GRILLE PLENUM BOX

GENERAL NOTES:
1. ALL SERVICES/RIGS THROUGHOUT BUILDING TO BE FULLY CO-ORDINATED ON SITE.
2. DRAWING TO BE READ IN CONJUNCTION WITH MECHANICAL INSTALLATION SPECIFICATION AND ALL OTHER RELEVANT DRAWINGS.
3. DUCTWORK MATERIAL, INSTALLATION TO DM14 CLASS 'A' EXTERNAL DUCTWORK INSULATION SHALL BE AS ELSEWHERE FINISHED WITH POLYISOCYANURATE SHEETING.
4. FINAL DESIGN PROP DRAWINGS AND ALL CO-ORDINATION DRAWINGS TO BE SUBMITTED FOR ENGINEER COMMENT PRIOR TO START ON SITE.
5. FIRE DAMPERS TO BE PROVIDED AT ALL PENETRATIONS THROUGH FIRE COMPARTMENTS. SEE ARCHITECT'S DRAWING FOR COMPARTMENTATION DETAILS.
6. DUCTWORK ACCESS DOORS TO BE PROVIDED ADJACENT TO EACH CHANGE OF DIRECTION DAMPERS AND DUCT MATED EQUIPMENT OR EVERY 90°.
7. PROVIDE VOLUME CONTROL DAMPERS ON ALL DUCTWORK BRANCHES.
8. FINAL CONNECTIONS TO CANOPIES TO BE CO-ORDINATED WITH KITCHEN INSTALLER. ALL CONNECTIONS TO CANOPIES TO BE PROVIDED WITH VCD'S FOR SYSTEM BALANCING.
9. SUPPLY DUCTWORK AND AIR CONDITIONING DUCTWORK TO BE INSULATED. EXPOSED INSULATION IN FRONT OF HOUSE TO BE PAINTED TO ARCHITECT SPECIFICATION.
10. PROVIDE WET TRAP ON FCH CONDENSATE DRAIN AIR TRAP WILL NOT BE PERMITTED.

PLANT SCHEDULE:
LEVEL 1
AIR CONDITIONING - MITSUBISHI ELECTRIC:
WRV E1.1, WRV E1.2, WRV E1.3, WRV E1.4, WRV E1.5, WRV E1.6
WATER COOLED RW CONDENSERS
PUMP P250 @ 25kW
SIZE 800x500x1000
WEIGHT 195 kg EACH - FLOOR MOUNTED, DOUBLE STACK
SOUND PRESSURE LEVEL 43 dBA
SOUND POWER LEVEL 43 dBA
HP E1.1, HP E1.2, HP E1.3
WATER COOLED HEAT PUMPS FOR PRODUCTION OF LTHW
CRW P400 @ 80kW HEATING
SIZE 2047x1515x1915
WEIGHT 350 kg EACH - FLOOR MOUNTED
SOUND PRESSURE LEVEL 43 dBA
SOUND POWER LEVEL 43 dBA
CHE E1.1 - MITSUBISHI / CLIMATEVA WATER COOLED CHILLER
NW / SE2
SIZE 1570x885x1900h
WEIGHT 960 kg - FLOOR MOUNTED
SOUND PRESSURE LEVEL 43 dBA
SOUND POWER LEVEL 43 dBA
AC I.1 - PEFF P250, DUTY 25kW HEATING / COOLING, 1400 Pa @ 250 Pa, SOUND PRESSURE 46dBA, SIZE 1250x1200x470h, WEIGHT 100 kg, HANG FROM SLAB
AC I.2, AC I.3, AC I.4 - PEFF P100, DUTY 8.0kW HEATING / COOLING, 300 Pa @ 150 Pa, SOUND PRESSURE 38dBA, SIZE 1100x700x350h, WEIGHT 22 kg, HANG FROM SLAB
AC I.5, AC I.6, AC I.7, AC I.8, AC I.9, AC I.10, AC I.11 AND AC I.12 - PEFF P100, DUTY 12.5kW HEATING / COOLING, 607 Pa @ 150 Pa, SOUND PRESSURE 46dBA, SIZE 1400x1000x450h, WEIGHT 42 kg, HANG FROM SLAB
VENTILATION:
AHU E1.1 - FRESH AIR
PANEL FIL 109
2000 Pa @ 500 Pa
LTHW HEATING 15kW @ 4°C-12°C-12°C - LTHW 60/56 5°C
CHW COOLING 78kW @ 4°C-17°C-12°C - CHW 6/12°C
SIZE: 2000x1100x710h
WEIGHT: 415 kg - HANG FROM SLAB
AHU E1.2 - MAIN KITCHEN
PANEL FIL 109
2000 Pa @ 500 Pa
LTHW HEATING 4kW @ 4°C-12°C-12°C - LTHW 60/56 5°C
CHW COOLING 4kW @ 4°C-14°C-12°C-12°C - CHW 6/12°C
SIZE: 2000x1100x710h
WEIGHT: 262 kg
AHU E1.3 - STAFF KITCHEN
PANEL FIL 109
800 Pa @ 400 Pa
LTHW HEATING 15kW @ 4°C-12°C-12°C - LTHW 60/56 5°C
CHW COOLING 25kW @ 4°C-14°C-12°C-12°C - CHW 6/12°C
SIZE: 2000x1100x710h
WEIGHT: 262 kg
EF E1.1 - KITCHEN TRANSFER FAN
HELIOS G6040X OBD 13044
DUTY 2500 Pa @ 400 Pa
SIZE 800x850x80h
WEIGHT 105 kg - HANG FROM SLAB
KITCHEN CANOPIES - HALTON FOODSERVICE:
KC E1.1 - HALTON LUF - SIZE 725x280x550h - DUTY 4700 Pa - WEIGHT 1200 kg
KC E1.2 - HALTON LUF - SIZE 300x450x550h - DUTY 930 Pa - WEIGHT 315 kg
KC E1.3 - HALTON LUF - SIZE 375x160x550h - DUTY 1040 Pa - WEIGHT 350 kg
KC E1.4 - HALTON LUF - SIZE 100x130x550h - DUTY 190 Pa - WEIGHT 130 kg
KC E1.5 - HALTON CW - SIZE 230x130x550h - DUTY 710 Pa - WEIGHT 130 kg
ELECTRICAL HEATERS:
EH E1.1 - COMPLEX TUBULAR ECOT4FT, 160W
SIZE 132h, 41h, 80d, 1.9kg
F - REFER TO SITE MEASUREMENTS
E - CONSTRUCTION ISSUE
D - AC AMENDED IN DINING AREA
C - REVISED TENDR ISSUE
B - TENDR ISSUE
A - ISSUED FOR COMMENT AND COORDINATION
REV: 1/2/16
CLIENT: BY APP TABLE

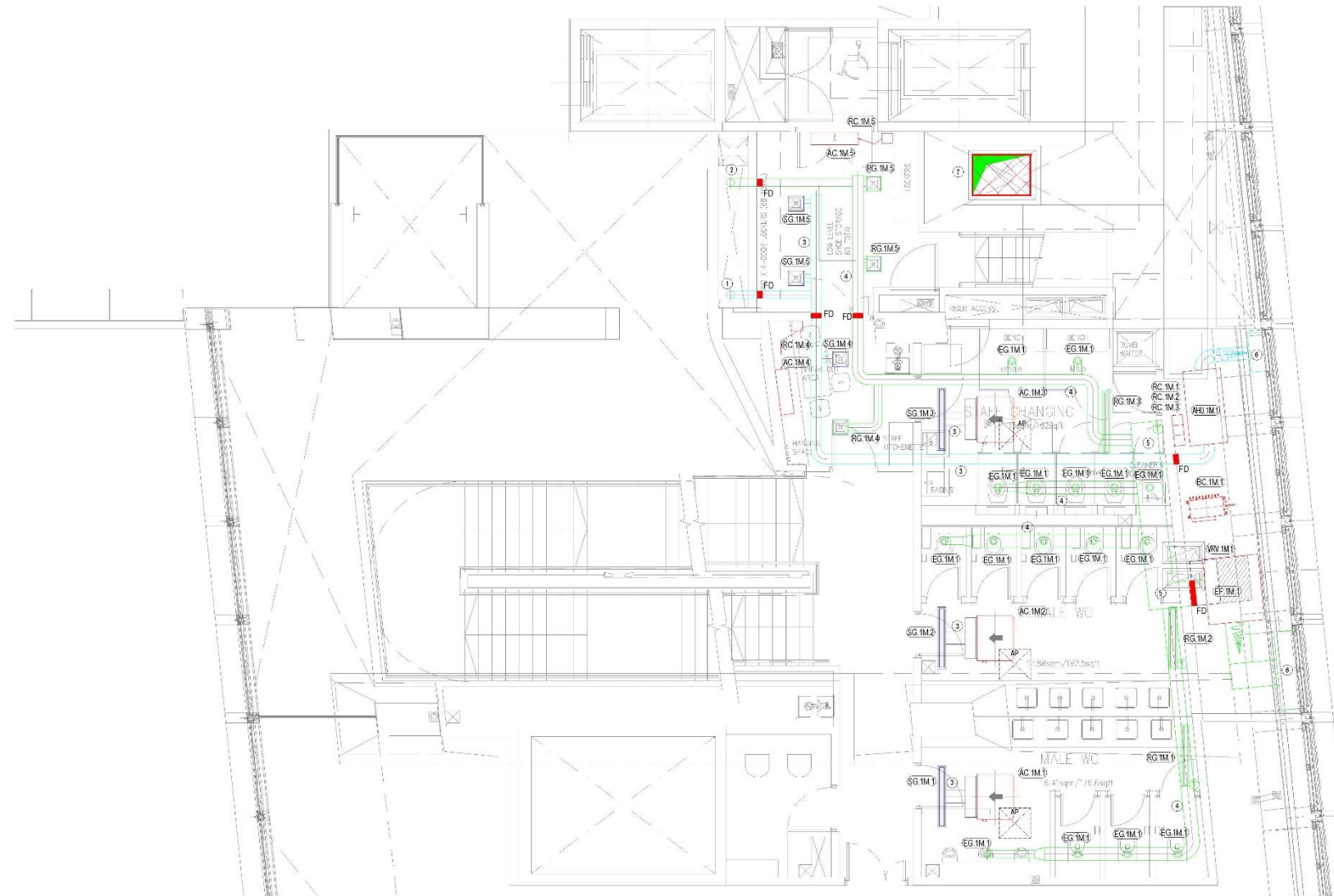
GRILLE SCHEDULE: AIR DIFFUSION
SG 01.1 - Flowair Diffuser FLANGED 66 JT 20 EP2 F4-4, L 23h, CW 190h PLENUM BOXES 1500L, 2h 2000 DUCTWORK CONNECTIONS
SG 01.2 - Linear multi-louver Diffuser FLANGED 25C 34h 25 EP2 F4-4, L 4.4m, CW 29h PLENUM BOXES 1500L, 2h 2500 DUCTWORK CONNECTIONS
SG 01.3 - Linear multi-louver Diffuser FLANGED 25C 34h 25 EP2 F4-4, L 31.5m, CW 29h PLENUM BOXES 1500L, 2h 2500 DUCTWORK CONNECTIONS
SG 01.4 - Flowair Diffuser FLANGED 66 JT 20 EP2 F4-4, L 48.5m, CW 190h PLENUM BOXES 1500L, 2h 2000 DUCTWORK CONNECTIONS
SG 01.5 - Flowair Diffuser PLASTER FRAME 22 JT 20 EP2 F4-4, L 4.8m, CW 29h PLENUM BOXES 1500L, 2h 2500 DUCTWORK CONNECTIONS
SG 01.6 - Square 4 way Diffuser 37W S40G F0-3 - OVERALL 600x600, DUTY 300 Pa, CW SIDE ENTRY PLENUM BOX AND VCD.
SG 01.7 - Square 4 way Diffuser 37W S40G F0-3 - OVERALL 300x300, DUTY 20 Pa, CW SIDE ENTRY PLENUM BOX AND VCD.
RG 01.1 - Single deflection Linear adjustable Grille 25W-SCH4G-F4-W-3, PAINTED TO ARCHITECT'S SPECIFICATION, 1400x400mm, DUTY 1400 Pa, CW PLENUM BOX.
RG 01.2 - Single deflection Linear adjustable Grille 25W-SCH4G-F4-W-3, PAINTED TO ARCHITECT'S SPECIFICATION, 2500x400mm, DUTY 2500 Pa, CW PLENUM BOX.
RS 01.1 - Flowair Diffuser PLASTER FRAME 22 JT 20 EP2 F4-4, L 5.4m CW FIRE RATED PLENUM BOX AND 2000 SPRIGOT CONNECTIONS CW FIRE DAMPERS

A1

TYPICAL SECTION THRU KITCHEN

TYPICAL SECTION THRU FRONT OF HOUSE

Do Not Scale.
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- GENERAL NOTES:**
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 2. DRAWING TO BE READ IN CONJUNCTION WITH MECHANICAL INSTALLATION SPECIFICATION AND ALL OTHER RELEVANT DRAWINGS.
 3. DUCTWORK MATERIAL & INSTALLATION TO DW144 CLASS 'M'. EXTERNAL DUCTWORK INSULATION SHALL BE AS ELIMINABLE FINISHED WITH POLYISOCYANURATE SHEETING.
 4. FINAL DESIGN SHOP DRAWINGS AND DETAIL CO-ORDINATION DRAWINGS TO BE SUBMITTED FOR ENGINEER COMMENT PRIOR TO START ON SITE.
 5. FIRE DAMPERS TO BE PROVIDED AT ALL PENETRATIONS THROUGH FIRE COMPARTMENTS. SEE ARCHITECT'S DRAWING FOR COMPARTMENTATION DETAILS.
 6. DUCTWORK ACCESS DOORS TO BE PROVIDED ADJACENT TO EACH CHANGE OF DIRECTION, DAMPERS AND DUCT MOUNTED EQUIPMENT ON EVERY 10m.
 7. PROVIDE VOLUME CONTROL DAMPERS ON ALL DUCTWORK BRANCHES.
 8. FINAL CONNECTIONS TO CANOPES TO BE CO-ORDINATED WITH KITCHEN INSTALLER. ALL CONNECTIONS TO CANOPES TO BE PROVIDED WITH VCD'S FOR SYSTEM BALANCING.
 9. SUPPLY DUCTWORK AND AIR CONDITIONING DUCTWORK TO BE INSULATED. EXPOSED INSULATION IN FRONT OF HOUSE TO BE PAINTED TO ARCHITECT SPECIFICATION.
 10. PROVIDE WET TRAP ON FLO CONDENSATE DRAIN. AIR TRAP WILL NOT BE PERMITTED.

- 1) 1500 SUPPLY TO BELOW @ 80 Pa
- 2) 1500 EXTRACT FROM BELOW @ 50 Pa
- 3) 2500 SUPPLY
- 4) 2500 EXTRACT
- 5) 190-205 EXTRACT
- 6) CONNECTION TO LOUVRES TO BE CONFIRMED
- 7) FIRE RATED 1100/800 @ 8750 Pa FROM BELOW RISE TO ABOVE AND CONNECTS TO LANDLORD DUCT

PLANT SCHEDULE:

LEVEL 1M

AIR CONDITIONING INDOOR UNITS - MITSUBISHI ELECTRIC

VRV IM 1 - WATER COOLED VRV CONDENSER, SIMULTANEOUS HEATING AND COOLING WITH HEAT RECOVERY
 PORY P250 @ 25kW COOLING/HEATING
 SIZE 880x550x1100
 WEIGHT: 105 kg - FLOOR MOUNTED
 SOUND POWER LEVEL 49 dBA

BC IM 1 - BC MASTER CONTROL BOX - CMB - P1010V - GA1

AC IM 1, AC IM 2 AND AC IM 3 - PERY P210M-E - CEILING CONCEALED UNIT, UK CAPACITY: COOLING 2.8kW / HEATING 3.2 kW. DIMENSIONS (MM) 700X 732X 250. WEIGHT: 23KG. NOISE: 220/200 DBA. ELECTRICAL SUPPLY: 1.55A
 CW WALL MOUNTED REMOTE CONTROLLER (RC) IN PLANTROOM AND AIR TEMPERATURE SENSOR IN RETURN AIR GRILLE

AC IM 4 AND AC IM 5 - PERY P210M-E - WALL MOUNTED UNIT, UK CAPACITY: COOLING 3.0kW / HEATING 4 kW. DIMENSIONS (MM) 880X 240 X 294. WEIGHT: 13KG. NOISE: 240/210 DBA. ELECTRICAL SUPPLY: 2.2A
 RC - WALL MOUNTED REMOTE CONTROLLER

VENTILATION:
 AHE IM 1 - BACK OF HOUSE SUPPLY AHU - VES CL5435-1.0R SIMILAR AND APPROVED PANEL FILTER
 250 Pa @ 250 Pa
 LTHW HEATING 7.5kW @ 47+21°C (4 - 21°C)
 SIZE: 1470x700x560 H
 WEIGHT: 75 kg - HAND FROM SLAB
 NR AT 1m - 38 dBA

EF IM 1 - TOILET EXTRACT FAN - VENT AXIA ACOUSTIC TWIN FAN - AT0500-14C
 800 Pa @ 250 Pa
 SIZE: 130x100x127 H
 WEIGHT: 120kg - HAND FROM SLAB
 NR AT 3m - 45 dBA

GRILLES:
 SG IM 1, SG IM 2 AND SG IM 3 - Linear multi-leaf Diffuser 13P-80x25-EP2-F4-4.4 - 1200mm LENGTH, DUTY 142 Pa, CW SIDE ENTRY PLENUM BOX.
 SG IM 4 AND SG IM 5 - Square 4 way Diffuser 20W-SAG-F0-3 - OVERALL 373x373, DUTY 60 Pa, CW SIDE ENTRY PLENUM BOX AND VCD.
 RG IM 1, RG IM 2 AND RG IM 3 - Linear multi-leaf Diffuser 13P-80x25-EP2-F4-4.4 - 1200mm LENGTH, DUTY 142 Pa.
 RG IM 4 AND RG IM 5 - Square 4 way Diffuser 20W-SAG-F0-3 - OVERALL 373x373, DUTY 80 Pa, CW SIDE ENTRY PLENUM BOX AND VCD.
 EG IM 1 - 1500 EXTRACT VALVE, DUTY 25 Pa

E	UPDATED TO SITE MEASUREMENTS	HN	01/03/2018
D	CONSTRUCTION ISSUE	HN	22/08/2017
C	REVISED TENDER ISSUE	HN	24/03/2017
B	TENDER ISSUE	HN	20/03/2017
A	ISSUED FOR COMMENT AND COORDINATION	HN	13/03/2017
REV	DETAILS	BY	APP DATE

CLIENT: **RHUBARB**

PROJECT: **R04 - CENTRE POINT**

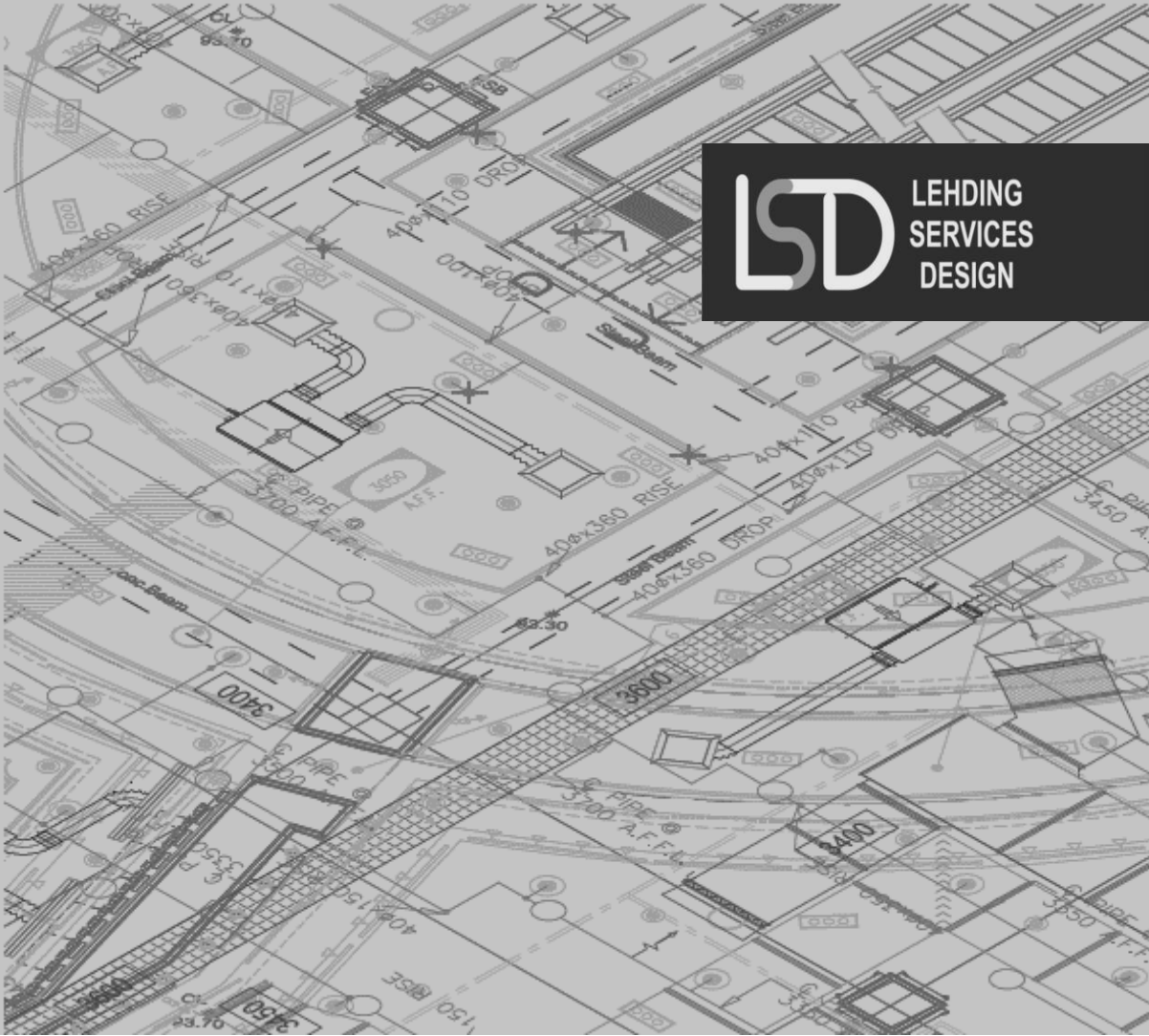
DRAWING TITLE: **LEVEL 01M - WC's VENTILATION AND AC**

DRAWN BY: **H.NISIC** APPROVED BY: **[Signature]** DATE: **AUG '16**

PROJECT No.: **L1975** DRAWING No.: **M004** SCALE: **1:50**



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