

MPF/PR0634/L09

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Dear James

CROWN STREET PHASE II, MANCHESTER – PLANNING CONDITION 21 AND 120

We write with confirmation of the measured external noise levels due to emergency and non-emergency plant at Crown Street Phase II, Manchester.

INTRODUCTION

Fisher Acoustics Ltd has been commissioned by Renaker Limited to measure the external noise levels due to operation of external plant installed at Crown Street, Phase II, Building C4 and the public car park and to compare the noise levels to the requirements of Conditions 21 and 120 of the planning approval for the development.

PLANNING CONDITIONS

In relation to building services plant the planning conditions for Crown Street Phase II (planning application number 126668/FO/2020) state:

Condition 21 (C4 Plant):

- *“Prior to first occupation of Phase A, the building, together with any externally mounted ancillary equipment, shall be acoustically insulated in accordance with a scheme submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the equipment.*

Upon completion of Phase A of the development a verification report to validate that the work undertaken throughout Phase A of the development conforms to the recommendations and requirements in the approved acoustic consultant's report shall be submitted to and approved in writing by the City Council as local planning authority. The verification report shall include post completion testing to confirm that acceptable criteria has been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria and timescales for the implementation of those measures.”

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.

Condition 120 (Public Car Park)

- *Prior to first use of the car park within Phase D, the building, together with any externally mounted ancillary equipment, shall be acoustically insulated in accordance with a scheme submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the equipment.*

Upon completion of Phase D of the development a verification report to validate that the work undertaken throughout Phase D of the development conforms to the recommendations and requirements in the approved acoustic consultant's report shall be submitted to and approved in writing by the City Council as local planning authority. The verification report shall include post completion testing to confirm that acceptable criteria has been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria and timescales for the implementation of those measures.

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.

Fisher Acoustics' letter reference MPF/PR0634/L03 dated 13 February 2023 responds to Condition 21 and 120. The letter advises that compliance with the requirement of the condition is expected.

BUILDING SERVICES PLANT AND LOCATIONS

The following non-emergency plant items have been installed at C4 and the public car park of Crown Street, Phase II:

C4

- 5 no. VRF units for penthouse air conditioning – roof mounted
- 1 no. fan for Refuse Lobby extract – roof mounted
- 1 no. Mitsubishi VRF unit – car park entrance
- 1 no. fan for refuse store extract – internally at Ground Floor level
- 1 no. refuse chute extract - internally at Ground Floor level
- 3 no. car park extract fans (also serve as emergency smoke extract fans) - exhaust louvres at ground level

Public Car Park

- 2 no. car park extract fans (also serve as emergency smoke extract fans)

The following emergency plant items have been installed at Crown Street Phase II:

C4

- 3 no. car park extract fans – exhaust louvres at ground level
- 4 no. roof-mounted smoke extract fans

Public Car Park

- 2 no. car park smoke extract fans – exhaust louvres at ground level
- 2 no. west stair smoke fan – intake louver at ground level

Figure 1 identifies the locations of the car park extract louvres at Crown Street, Phase II, all at ground floor level.

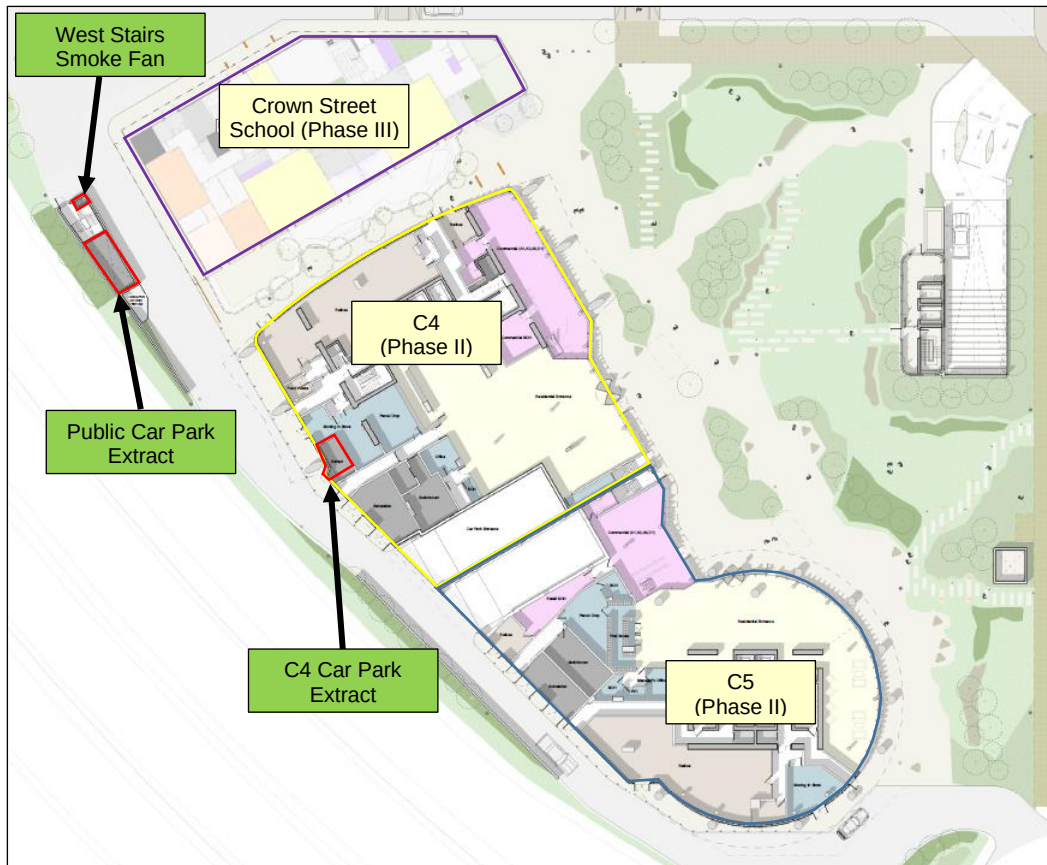


Figure 1: Smoke extract plant locations, Crown Street Phase II

Figure 2 identifies the locations of the non-emergency plant at C4 installed at roof level.

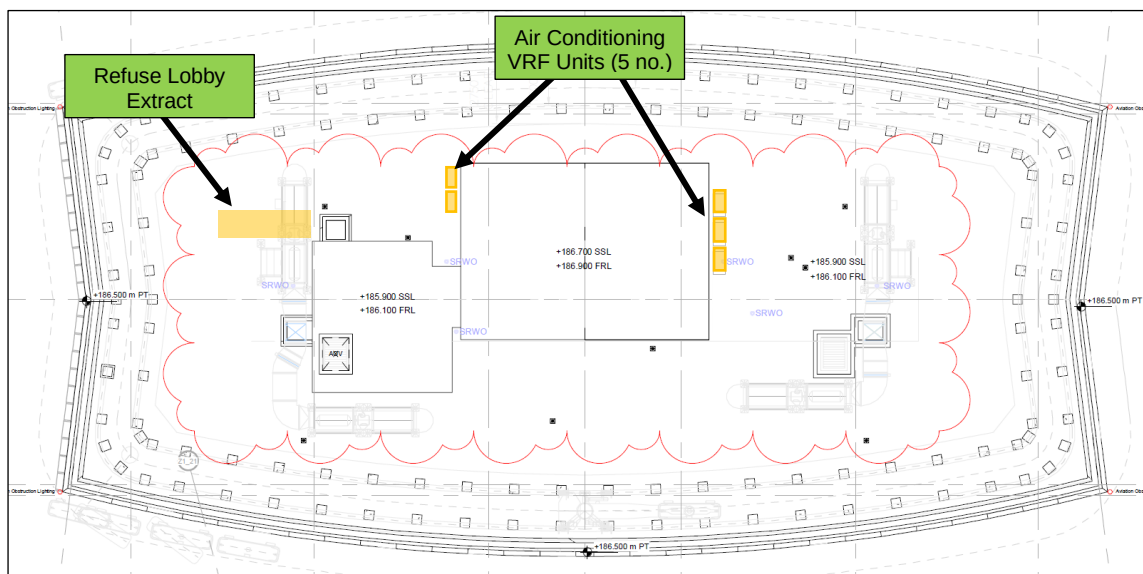


Figure 2: Roof level non-emergency plant locations, C4

Figure 3 identifies the locations of the non-emergency plant at C4 installed on the ground floor.

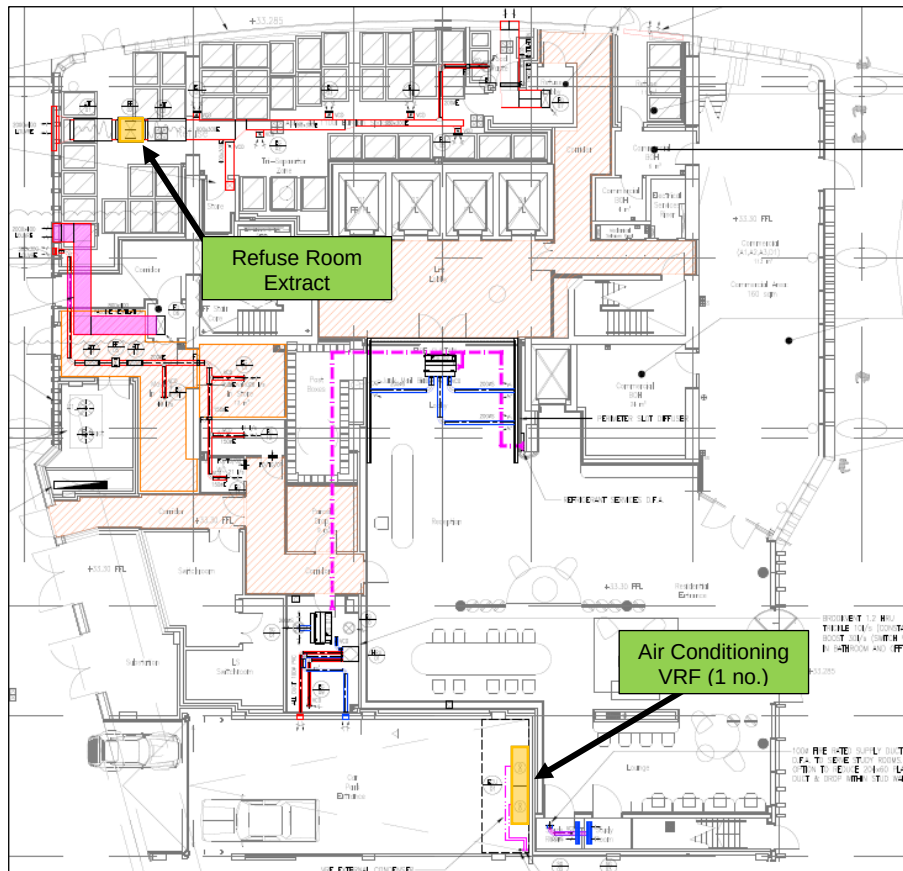


Figure 3: Ground Floor level non-emergency plant locations, C4

Figure 4 identifies the locations of the roof mounted emergency smoke extract fans at C4.

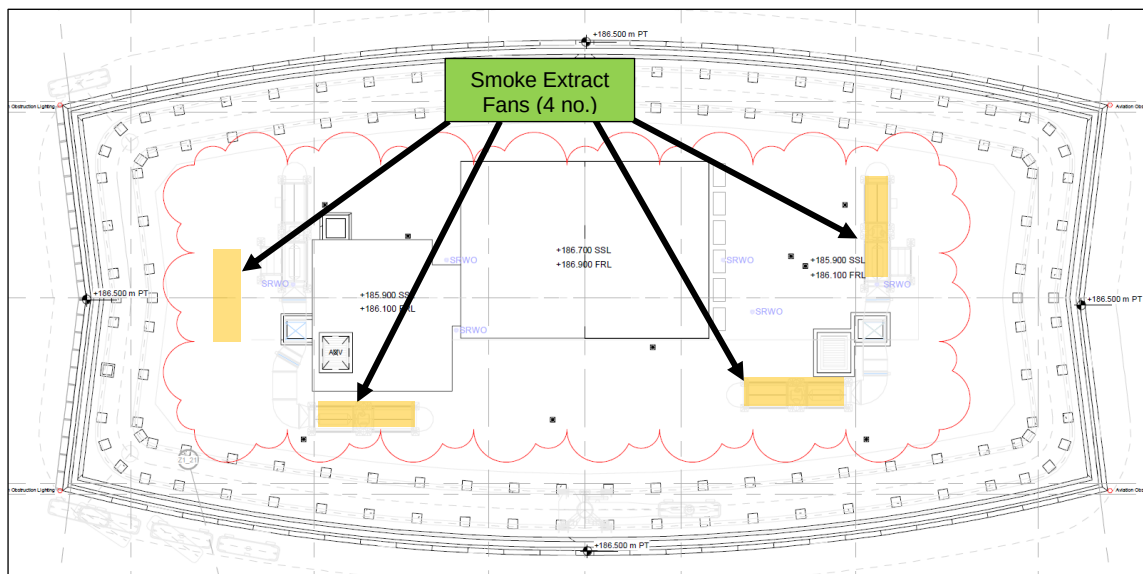


Figure 4: Roof-mounted emergency plant locations, C4

NOISE LIMITS FOR NON-EMERGENCY BUILDING SERVICES PLANT

With reference to Fisher Acoustics' letter reference MPF/PR0634/L03 dated 13 February 2023, Table 1 identifies the maximum allowable noise levels at the nearest pre-existing noise sensitive receptors to comply with the noise criterion of Condition 21 and 120 in relation to non-emergency building services plant.

Location	Rating Level (dB LAeq)	
	Daytime (07:00 hrs to 23:00 hrs)	Night time (23:00 hrs to 07:00 hrs)
C4 North/ North East Façade	44	39
C4 South/ South West Façade	65	60
C4 - residential facades overlooking Level 2 Podium	57	52

Table 1: Environmental noise limits for non-emergency building services plant

NOISE LIMITS FOR EMERGENCY BUILDING SERVICES PLANT

With reference to Fisher Acoustics' letter reference MPF/PR0634/L03 dated 13 February 2023, Table 2 identifies the maximum recommended allowable noise levels due to the emergency plant.

Location	Daytime Noise Level (dB LAeq)
C4 & C5 North/ North East Façade	59
C4 & C5 South/ South West Façade	80
C4 & C5 Over-looking Podium	72

Table 2: Environmental noise limits for emergency building services plant

EXTERNAL NOISE MEASUREMENTS

Measurements of each plant item were made in normal operation, emergency mode and emergency test modes. At the time of measurement, only one of the identical roof top VRF condensers was operational. A correction has been made to the measured data to determine the noise level when all five condensers are fully operational.

Figure 5 identifies the locations of the ground floor measurement positions at Crown Street, Phase II.

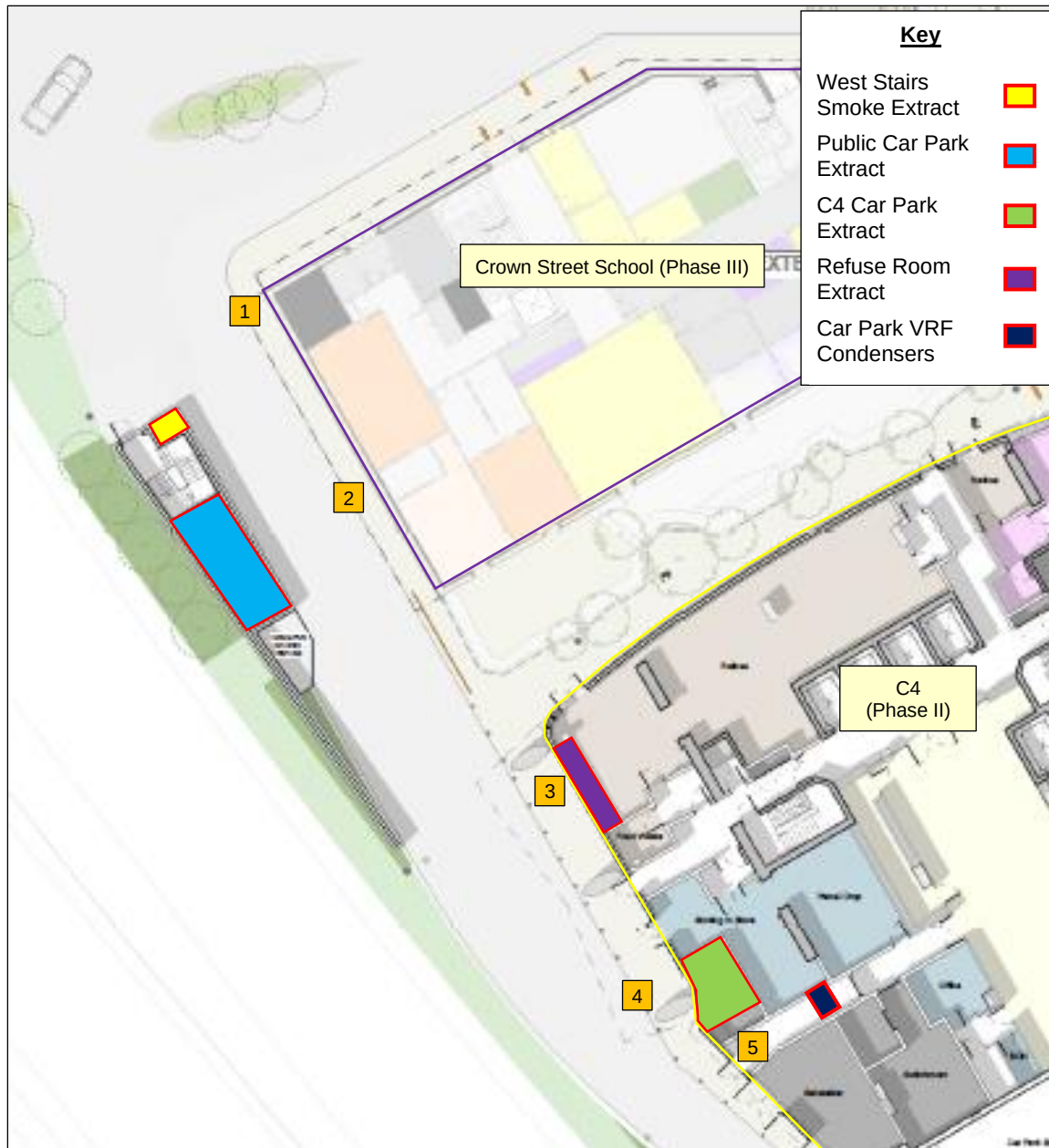


Figure 5: Ground floor measurement locations, Crown Street Phase II, C4

The ground floor noise measurement locations were as follows:

- Location 1: At the corner of school, approximately 6 metres from the MSCP west stair car park supply fan inlet, at a microphone height of 1.5 metres above site ground level
- Location 2: 4 metres from public car park extract room (approximately 2.5 metres from the school ground floor wall)
- Location 3: 1 metre from the refuse room fan, at a microphone height of 1.5 metres above site ground level
- Location 4: 3 metres from the C4 car park exhaust louvres, at a microphone height of 1.5 metres above site ground level
- Location 5: At entrance to car park ramp that houses the C4 amenity condensers, at a microphone height of 1.5 metres above site ground level

Figure 6 identifies the roof-top measurement locations at C4.

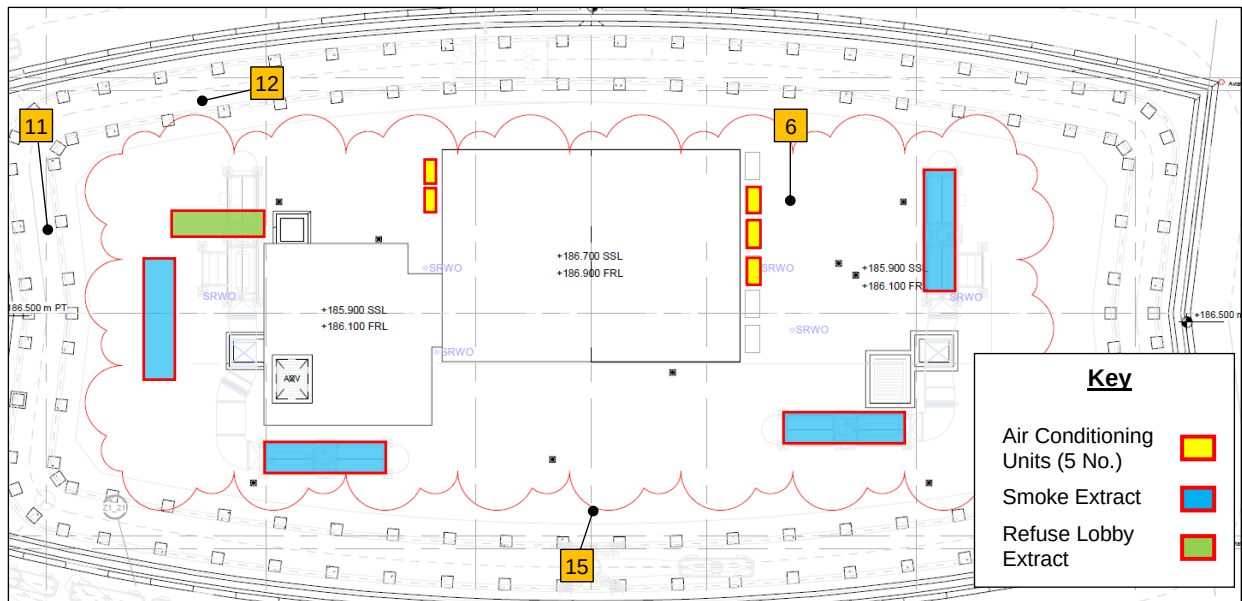


Figure 6: Roof level measurement locations, C4

The roof-top noise measurement locations were as follows:

- Location 6: At 1 metre from external condenser at a microphone height of 1.5 metres above roof level
- Location 11: At 3 metres from the outlet of the bin chute fan
- Location 12: 3 metres from side of bin chute fan
- Location 15: At a location equidistant from smoke fans, 3 metres from the parapet wall

During the site visit, both the total noise level during operation of the plant and the ambient noise level in the absence of noise from the plant was measured. The specific noise level due to operation of the plant has then been derived.

From the measurement results, the noise level at the closest residential receptors due to the operation of non-emergency and emergency plant has been determined. From an acoustic perspective, the closest dwellings to the rooftop plant at C4 are the apartments at Level 50. The closest dwellings to the ground level plant at C4 and the public car park are the apartments Building C4.

Table 3 identifies the derived noise levels at the closest residential receptors due to the emergency and non-emergency plant serving Building C4 and the public car park

Location	Free-field Sound Pressure Level (dB LAeq)				
	Non-Emergency plant operational noise level	Noise Limit		Emergency plant operational noise level	Noise Limit for Emergency plant
		Day Time	Night Time		
C4 North East Elevation, Level 50	31	44	39	45	59
C4 South West Elevation, Level 2	52	65	60	56	80
C4 South West Elevation, Level 50	35	65	60	43	80
C4 West Corner, Level 2	52	65	60	57	80

Table 3: Specific noise levels due to Crown Street Building C4 and public car park plant operation

It can be seen that the derived non-emergency plant noise levels identified in Table 3 comply with the applicable noise limits.

It can also be seen that the derived emergency plant noise levels identified in Table 3 comply with the noise limits.

Compliance with the requirements of planning condition 21 and 120 has therefore been achieved in relation to the assessed building services plant.

CONCLUSION

The derived noise levels at the closest noise sensitive receptors due to the operation of all non-emergency and emergency building services plant at Crown Street Building C4 and the public car park comply with the applicable noise limits in relation conditions 21 and 120 of the planning approval.

If there is any aspect of the above that you would like to discuss then please do not hesitate to contact the undersigned.

Yours sincerely



MATT FISHER BEng(Hons) CEng MIOA
For and on behalf of Fisher Acoustics Limited