clarke saunders

Technical Advice Note

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Company:	The Construction Consultants	Pages:	2 + 1
cc:	Tim Goodison	Date:	20 November 2025
		Ref:	14077.250827.TN1.2
Project:	AS14077 TGG Oldham Street, Manchester		
Subject:	Plant Noise Feasibility Assessment		

Introduction & Project Targets

The Gym Group (TGG) is intending to take on vacant basement and ground-floor commercial spaces at The Quarters, Oldham Street, Manchester, M4 1LF.

Clarke Saunders Acoustics (CSA) has been instructed to undertake an acoustic appraisal of the external noise emissions associated with the proposed ventilation and cooling plant.

An initial feasibility study has been undertaken to assess the potential noise impact of proposed external plant units on nearby residential receptors. The acoustic requirements for plant sound emissions have been based Manchester City Council's (MCC) standard policy, wherein plant sound emissions should be controlled to a level 5dB below the pre-existing background level.

CSA measured the pre-existing background levels at the position indicated in the attached site plan between the hours of 18:00 on Monday 19th May and 08:00 on Tuesday 20th May 2025. The results of this survey and the resultant plant sound emissions criteria are summarised below.

Period	Daytime (07:00-19:00)	Evening (19:00-23:00)	Night-time (23:00-07:00)
Background Sound Level	L_{A90} 49 dB	L_{A90} 50 dB	L_{A90} 42 dB
Criteria	L_{Aeq} 44 dB	L_{Aeq} 45 dB	L_{Aeq} 37 dB

Table 1 – Plant noise emissions criteria

It is noted that there are some existing plant items serving the Sainsbury's at ground floor level. These units have been confirmed as being present during the survey period, and their contribution to the soundscape has therefore been taken into account in the above criteria.

Proposed Plant Selection

The proposed plant selection is summarised below. Note that the AHU listed here is an indicative unit.

Plant Item	Location	Sound Level
6 no. Mitsubishi PUZ-M200YKA Condensers	Rooftop	58 dBA (L_p @ 1m, cooling mode)
1 no. Mitsubishi QAHV-N560YA-HPB ASHP	Rooftop	58 dBA (L_p @ 1m, Winter mode)
1 no. Swegon Gold F RX AHU	Ground Floor Plant Room	65 dBA (In-duct L_w, Intake) 79 dBA (In-duct L_w, Exhaust)

Table 2 – Plant source noise levels

It is understood that the rooftop plant will be enclosed in a decorative screen to protect the visual amenity of the area. Additionally, 900mm long attenuators will be installed on the AHU intake and exhaust ductwork, which shall terminate at louvres on the Spear Street façade.

Assessment

The rooftop plant units have been assessed to the fourth floor flats of The Quarters (circa 16m away) and to the third floor flats of 121 Oldham Street (circa 32m away). AHUs intake and exhaust louvres have been assessed to the first floor flats of 70 Spear Street (circa 6m away). Each of these receptors are indicated on the attached site plan.

Typical insertion losses for a 900mm attenuator with 40% free area are shown below. These insertion losses have been incorporated into the AHU calculations.

Attenuator Location	63	125	250	500	1k	2k	4k	8k
Intake and Exhaust 900mm, 40% F.A.	4	7	13	19	23	23	16	13

Table 3 – Attenuator insertion losses

In order to meet MCC's criteria, the portion of the decorative screen facing towards The Quarters (indicated in the attached site plan) should be made imperforate such that line of sight is just obscured, providing 5dB of acoustic screening.

The predicted plant sound levels at the receptors are summarised below, which incorporate the AHU attenuation and 5dB screening to The Quarters.

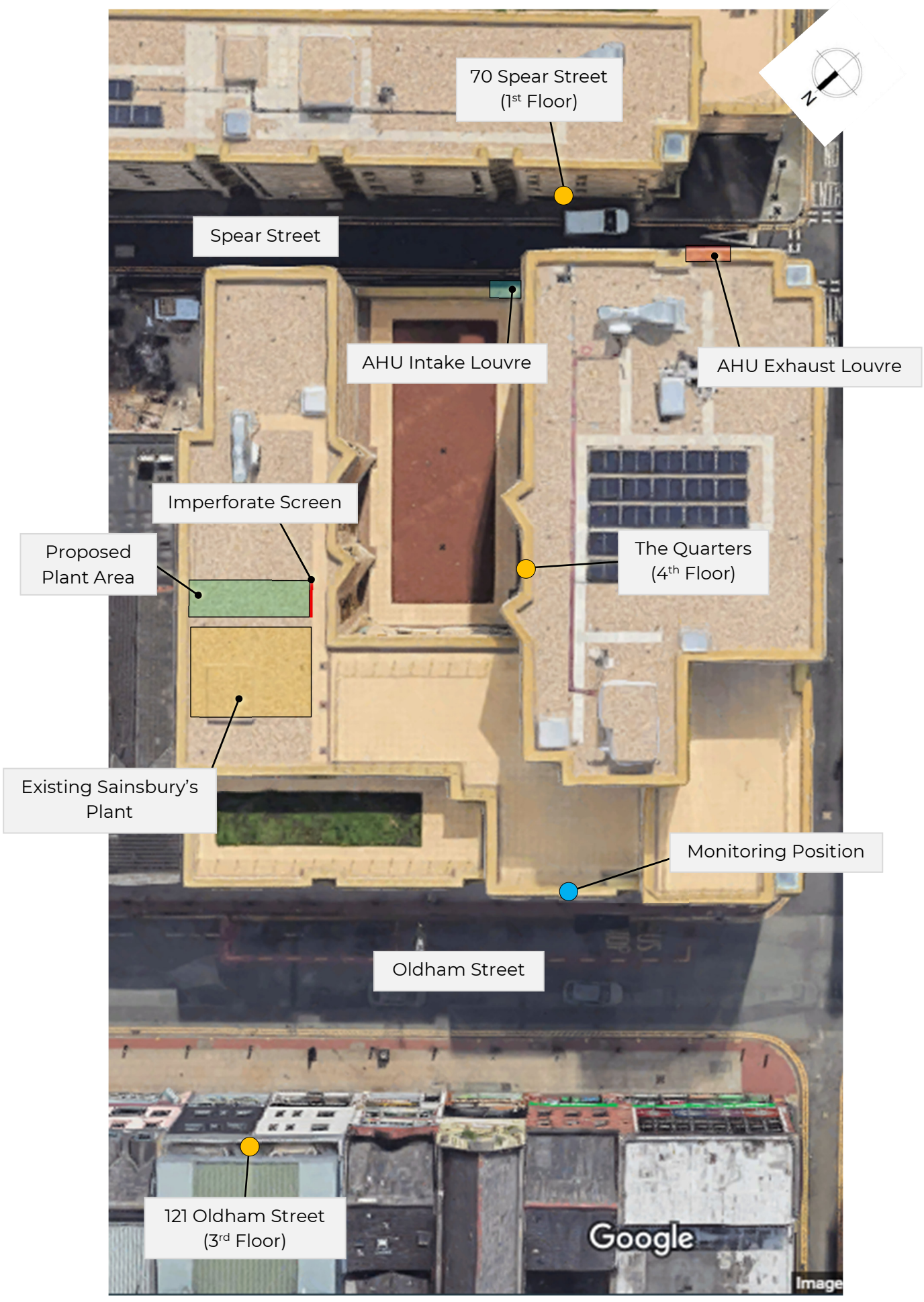
Receptor	Predicted Sound Level ($L_{Aeq,1hr}$)	Criteria
The Quarters	37dB	L_{Aeq} 44 dB (daytime) L_{Aeq} 45 dB (evening) L_{Aeq} 37 dB (night-time)
121 Oldham Street	36dB	
70 Spear Street	37dB	

Table 4 – Calculated plant noise levels with mitigation

These calculated noise levels, inclusive of mitigation, achieve the requirements of Manchester City Council for all periods.

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This note has been prepared in response to client instructions. It is not intended for and should not be relied upon by any other party or for any other purpose.


70 Spear Street
(1st Floor)
Spear Street
AHU Intake Louvre
AHU Exhaust Louvre
Imperforate Screen
Proposed
Plant Area
The Quarters
(4th Floor)
Existing Sainsbury's
Plant
Monitoring Position
Oldham Street
121 Oldham Street
(3rd Floor)
Google
Image