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## MEMORANDUM 1382020\_DD\_N\_AC02

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**To:** Jimmy's Bar - Management Team

**From:** Jordan Mayes, Complete Sustainability Solutions Ltd

**Date:** 28/07/2021

**Subject:** Jimmy's Bar – Noise Impact Assessment – Discharge of Planning Conditions 5b and 6b

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### Overview

Complete Sustainability Solutions Ltd (CSS) has been appointed to support an application to discharge Planning Conditions 5b and 6b relating to the consented change of use of 27 Blossom Street from Office use (Class B1) to Restaurant use (Class A3) with an ancillary bar area and a private function room (application reference: 125213/FO/2019).

### Planning Condition 5b

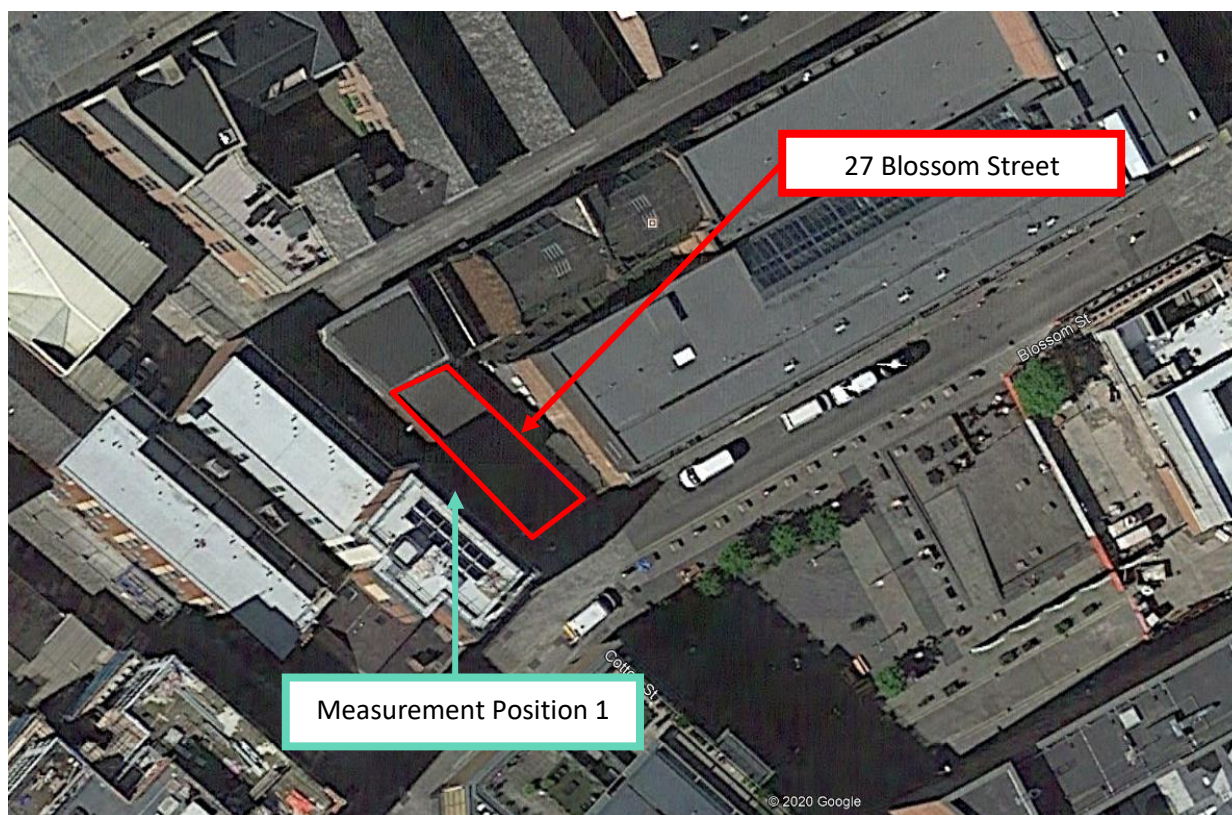
Planning Condition 5 consists of two parts; "a" and "b". For context and ease of reference, both parts of the planning condition are replicated below.

*"5) (a) The installation of plant at the premises hereby approved shall be carried out in accordance with the Noise Impact Assessment prepared REC (ref. AC10 8436-1R1) stamped as received by the City Council, as Local Planning Authority, on the 13 August 2020. For the avoidance of doubt, externally mounted plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5 db (L<sub>aeq</sub>) below the typical background (L<sub>a90</sub>) level at the nearest noise sensitive location.*

*(b) The approved scheme shall be implemented and prior to the first use of the development, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ."*

To support the discharge of part b of Planning Condition 5, noise monitoring was undertaken over two consecutive 5-minute periods commencing at 12:30 on Wednesday 2<sup>nd</sup> December at a location considered representative of the closest noise sensitive dwellings to the development. Fixed plant associated with 27 Blossom Street was turned off for the first 5-minute measurement and turned on for the second measurement. Measurement equipment was positioned at 1.5 m above local ground level and 1 m from the façade properties on Cotton Street. The measurement position adopted during the survey is identified in **Figure 1**.

**Figure 1: Noise measurement position on Cotton Street**



Noise monitoring was undertaken using the Class 1 specification measurement equipment detailed in **Table 1**. Measurement equipment was calibrated using a portable calibrator immediately before and after the measurements with no significant drift in calibration observed. The sound level meter, pre-amplifier and microphone were calibrated to traceable standards within 24 months prior to the measurements. The portable calibrator was calibrated within 12 months prior to the measurements.

**Table 1: Measurement equipment details**

| Equipment         | Make & Model      | Serial Number | Calibration Due |
|-------------------|-------------------|---------------|-----------------|
| Sound Level Meter | SVAN 971          | 80344         | 17/03/2022      |
| Microphone        | ACO 7052E         | 69566         |                 |
| Preamp            | SV18              | 71577         |                 |
| Calibrator        | 01dB-Stell Cal 21 | 34675335      | 24/11/2021      |

**Table 2** overleaf provides a summary of the measurement results during the two 5-minute periods.

**Table 2: Summary of measured sound pressure levels with fixed plant on and off**

| Fixed Plant Associated with the Development | Measured Sound Pressure Level |                           |
|---------------------------------------------|-------------------------------|---------------------------|
|                                             | dB L <sub>Aeq,5mins</sub>     | dB L <sub>A90,5mins</sub> |
| Off                                         | 54                            | 47                        |
| On                                          | 53                            | 47                        |

The figures presented in **Table 2** show that the background noise level (L<sub>A90</sub>) did not increase when noise from fixed plant associated with the development was operational. As such, it is demonstrated that the noise level from fixed plant items associated with the development is at least 10 dB below the prevailing background sound level at the measurement position (i.e. 47 – 10 = 37 dB L<sub>Aeq</sub>).

The representative background sound level adopted in the REC report referenced in part a of Planning Condition 5 was 48 dB L<sub>A90</sub>. Thus, the local authority requirement of noise emissions from external plant being 5 dB below the background sound level is achieved by a margin of circa. 6 dB.

### Planning Condition 6

Planning Condition 6 also consists of two parts; “a” and “b”. For context and ease of reference, both parts of the planning condition are replicated below.

*“6) (a) The premises hereby approved shall be acoustically insulated in accordance with the Noise Impact Assessment prepared REC (ref. AC10 8436-1R1) stamped as received by the City Council, as Local Planning Authority, on the 13 August 2020.*

*(b) The approved scheme shall be implemented and prior to the first use of premises, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.”*

Part b of Planning Condition 6 requires a verification report to validate that the works undertaken as part of the change of use conform to the recommendations and requirements outlined in the REC report referenced in part a of the condition. The assessment of noise break-out within the REC report was based on the existing building and did not make any recommendations for mitigation measures to control noise break-out.

The building envelope has not been changed since the REC report and therefore the existing building envelope is as per the REC assessment. Part b of Planning Condition 6 should therefore be discharged without delay.

Further to the above, the REC report referred to in part a of Planning Condition 6 predicted noise levels from the operational restaurant at 27 Blossom Street, in octave bands, within the closest noise sensitive receptors and compared the predicted internal noise levels with the NR 25 reference curve.

The assessment assumed a 15 dB reduction in free-field noise levels incident on the façade of the closest receptors, in each octave band, due to open windows and predicted that operational noise from 27 Blossom Street will be below the NR 25 curve.

CSS has undertaken a verification noise survey during which amplified music was played within the ground floor restaurant at 27 Blossom Street at a level considered by the proprietor to be representative of typical operations. The internal noise level in the restaurant during the survey was 78 dB  $L_{Aeq,5mins}$ . The representative internal noise level adopted in the REC assessment of noise break-out was 75 dB  $L_{Aeq,1mins}$ , which was measured at the applicants' sister bar in Liverpool. The internal noise levels measured during the verification survey are therefore considered representative of typical conditions.

During the survey, noise monitoring was undertaken at the measurement position identified in **Figure 1** over two consecutive 5-minute periods with and without amplified music from the venue playing. **Table 3** presents a summary of predicted internal noise levels within dwellings on Cotton Street due to noise break-out from 27 Blossom Street.

**Table 3: Predicted internal noise levels at the closest noise sensitive receptors on Cotton Street due to noise break-out from 27 Blossom Street**

| Description                                                                                                                                                             | Sound Pressure Level (dB) |        |        |       |       |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------|--------|-------|-------|-------|
|                                                                                                                                                                         | 125 Hz                    | 250 Hz | 500 Hz | 1 kHz | 2 kHz | 4 kHz |
| Measured noise level on Cotton Street due to emissions from 27 Blossom Street (correcting for background and applying a -3 dB correction for free-field conditions) [A] | 49                        | 45     | 44     | 40    | 36    | 33    |
| Predicted internal level in dwellings on Cotton Street with partially open windows [A]-15=[B]                                                                           | 34                        | 30     | 29     | 25    | 21    | 18    |
| NR 25 Rating Curve [C]                                                                                                                                                  | 44                        | 35     | 29     | 25    | 22    | 20    |
| Comparison with NR 25 Criteria [B]-[C]=[D]                                                                                                                              | -10                       | -6     | 0      | 0     | -1    | -1    |

The figures presented in **Table 3** show that noise emissions from 27 Blossom Street meet the assessment criteria adopted in the REC report.

However, in response to the assessment summary presented above, MCC advised as follows:

*“For conditions 5 and 6, the plant noise on Cotton Street has been verified but not the residents behind on Loom Street and above the in the Ice Plant. The noise impact for the original noise report by REC was modelled to the north, south, east and west (to cover all*

*receptors), therefore there is the need to validate for all receptors for the validation portion.*

*From the description of the noise, it is likely some attenuation will be required for the plant to comply for Loom Street and the Ice Plant residents.*

*The same issue applies for the noise breakout report and it will need updating for all residents, not just Cotton Street”*

CSS has therefore sought to undertake further validation monitoring to demonstrate that noise emissions from fixed plant and equipment, and noise break-out, comply with the relevant limits at the closest noise sensitive receptors.

As such, additional baseline noise monitoring has been undertaken at the closest noise sensitive receptors to the rooftop plant items associated with the proposed development. The additional measurement positions adopted during the survey are identified in **Figure 2** overleaf. Details of the two positions adopted during the survey are presented below.

#### Measurement Position 2 (MP2)

Attended noise monitoring was undertaken at MP2 over a 15-minute period commencing at 15:50 on 24<sup>th</sup> March 2021 at 1 m from the closest bedroom window to the proposed plant items. MP2 is circa. 13 m from the proposed plant items with windows at 90 degrees to the source (i.e. off-axis). Long term monitoring at MP2 was not feasible due to the nature of access to the measurement position. The noise climate at MP2 was dominated by anonymous urban noise including distant road traffic, mechanical noise etc. It should be noted that the survey was undertaken during a COVID-19 lockdown so no noise from mechanical equipment associated with nearby bars or restaurants was audible.

#### Measurement Position 3 (MP3)

Long term unattended monitoring was undertaken at MP3 from 12:00 on Friday 23<sup>rd</sup> April 2021 until 12:00 on Wednesday 28<sup>th</sup> April 2021 on the balcony of the roof terrace directly overlooking the proposed fixed plant items. The microphone was circa. 1.5 m from the façade of the dwelling and at 1.5 m above local ground level (circa. 2 m above the rooftop plant level). MP3 was at a horizontal distance of circa. 8 m from the proposed rooftop plant items.

**Figure 2: Additional Noise Measurement Positions**

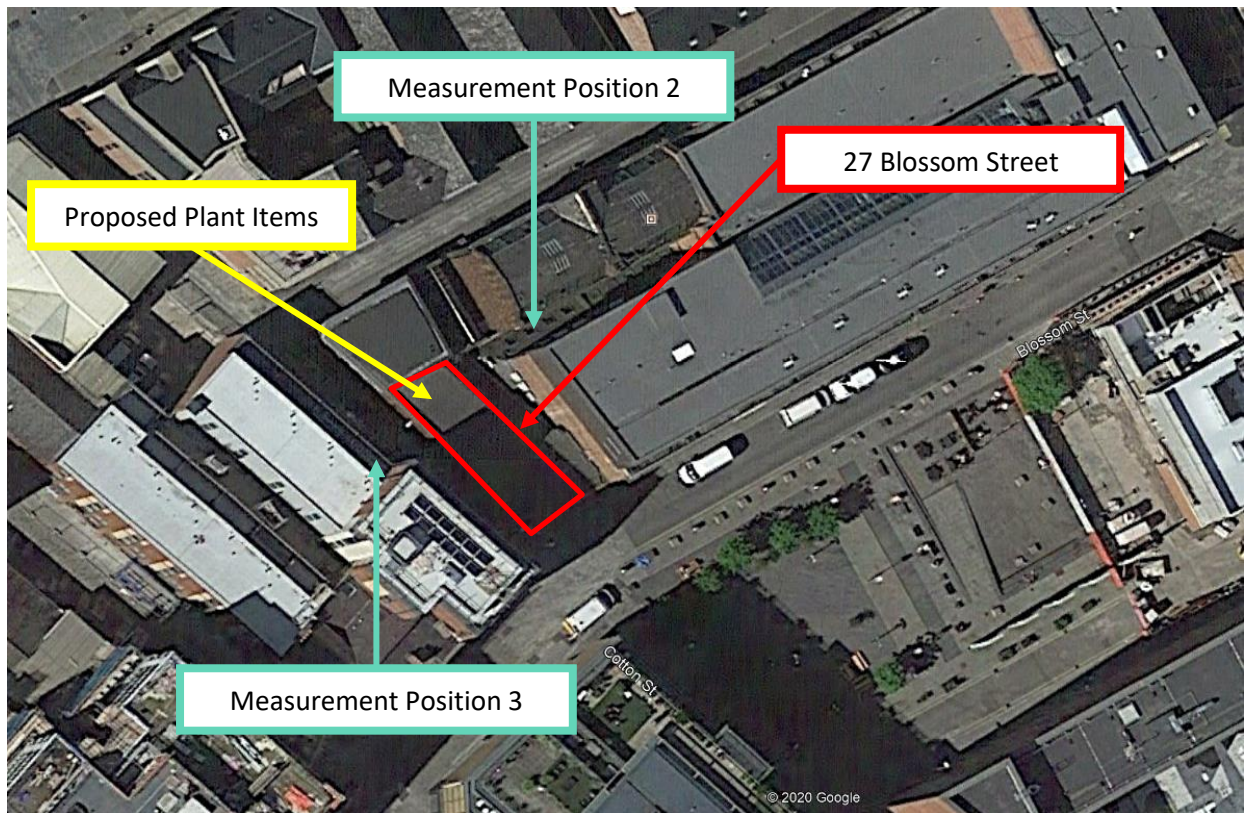


**Figure 3: Additional noise measurement positions**

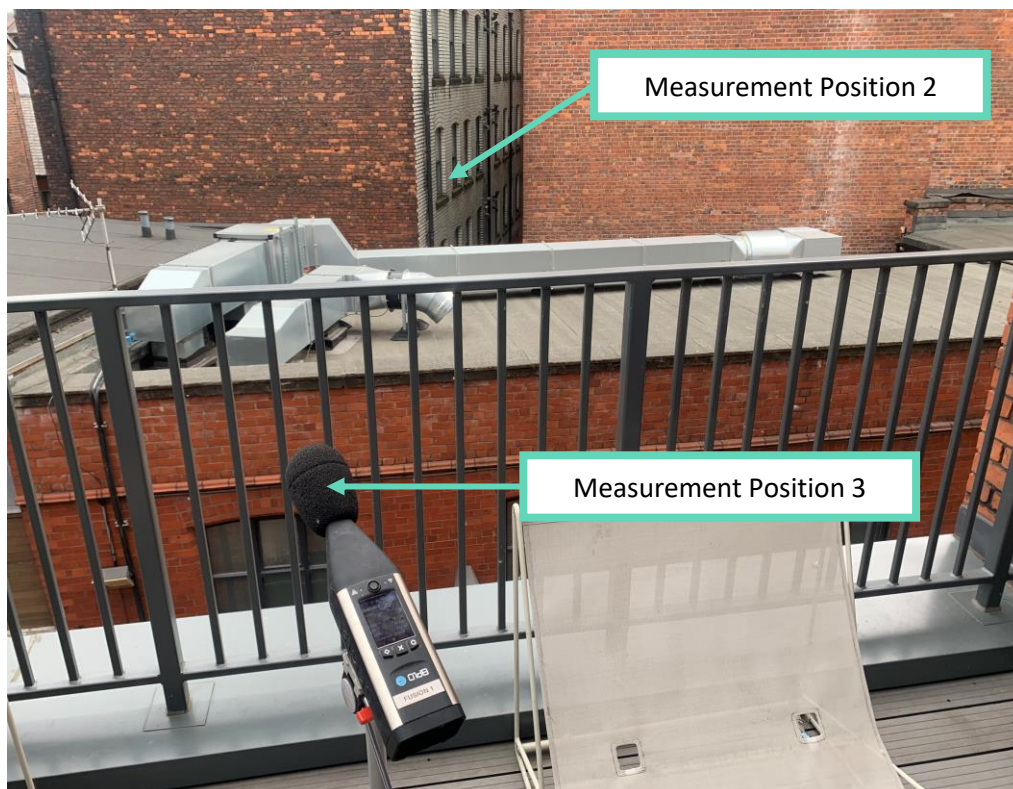


**Table 4** and **Table 5** present a summary of sound pressure levels measured at MP2 and MP3. It should be noted that fixed plant associated with the proposed development was not operational during the survey periods presented in **Table 4**.

**Table 4: Summary of Measured Sound Pressure Levels at MP2 Without Plant Running**

| Day                         | Start Time | Period (T) | dB L <sub>Aeq,T</sub> | dB L <sub>A90,T</sub> |
|-----------------------------|------------|------------|-----------------------|-----------------------|
| 24 <sup>th</sup> March 2021 | 15:50      | 15-mins    | 49.2                  | 46.1                  |

**Table 5: Summary of Measured Sound Pressure Levels at MP3 Without Plant Running**

| Day                             | Start Time | Period (T) | dB L <sub>Aeq,T</sub> | dB L <sub>A90,T</sub> |
|---------------------------------|------------|------------|-----------------------|-----------------------|
| Friday 23 <sup>rd</sup> April   | 12:00      | 9-hours    | 57.6                  | 52.6                  |
| Saturday 24 <sup>th</sup> April | 09:00      | 12-hours   | 58.1                  | 52.4                  |
| Sunday 25 <sup>th</sup> April   | 09:00      | 12-hours   | 56.2                  | 48.4                  |
| Monday 26 <sup>th</sup> April   | 09:00      | 12-hours   | 51.1                  | 46.4                  |
| Tuesday 27 <sup>th</sup> April  | 09:00      | 3-hours    | 54.6                  | 47.6                  |

To achieve compliance with MCCs criteria, noise from fixed plant should not exceed 5 dB below the prevailing representative background noise level at the worst affected assessment location. Based on the results of the baseline noise measurements presented in **Table 4** and **Table 5**, noise from fixed plant associated with the development should not exceed 41 dB(A) at MP2 or MP3.

In June 2021, CSS undertook further noise monitoring at MP3 to determine noise emissions from the proposed fixed plant items under typical operational conditions. A summary of measurement results is presented in **Table 6**.

**Table 6: Summary of Measured Sound Pressure Levels at MP3 With and Without Plant Running**

| Fixed Plant Status | Start Time       | Period (T) | dB L <sub>A90,T</sub> |
|--------------------|------------------|------------|-----------------------|
| On*                | 18/06/2021 10:39 | 5-mins     | 47.6                  |
| Off                | 18/06/2021 10:45 | 5-mins     | 46.4                  |

\*Mode 3 setting on fans which is understood to be the typical setting during service periods

The measured background noise levels presented in **Table 6** show an increase in background noise level at MP3 of 1.2 dB when the fixed plant items are operational. Given that the fixed plant items operate continuously and at a constant duty, noise emissions from the fixed plant items must contribute no more than 41.4 dB(A) at MP3 (i.e. 46.4 dB + 41.4 dB = 47.6 dB). It is therefore demonstrated that noise emissions from fixed plant items associated with the development does not exceed 5 dB below the typical background noise level at the closest noise sensitive receptor, when rounded to the nearest dB.

In July 2021, CSS undertook further noise monitoring at MP2 to determine noise emissions from the proposed fixed plant items under typical operational conditions. A summary of measurement results is presented in **Table 7**.

**Table 7: Summary of Measured Sound Pressure Levels at MP2 With and Without Plant Running**

| Fixed Plant Status | Start Time       | Period (T) | dB L <sub>A90,T</sub> |
|--------------------|------------------|------------|-----------------------|
| On*                | 27/07/2021 11:55 | 5-mins     | 45.1                  |
| Off                | 27/07/2021 12:02 | 5-mins     | 44.3                  |

\*Mode 3 setting on fans which is understood to be the typical setting during service periods

The measured background noise levels presented in **Table 7** show an increase in background noise level at MP3 of 0.8 dB when the fixed plant items are operational. Given that the fixed plant items operate continuously and at a constant duty, noise emissions from the fixed plant items must contribute no more than 37.4 dB(A) at MP2 (i.e. 44.3 dB + 37.4 dB = 45.1 dB). It is therefore demonstrated that noise emissions from fixed plant items associated with the development does not exceed 5 dB below the typical background noise level at the closest noise sensitive receptor, when rounded to the nearest dB.