

KR07252

Booker Distribution Warehouse

Technical Note...

Discharge of Condition 1 of 6/2022/2197/FULL

Site: Booker Distribution Warehouse

Address: Hatfield Business Park

Frobisher Way

Hatfield

Postcode: AL10 9TR

Issue: Version 1.1




Date: 26th April 2023

Status: Current Document

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Revisions...

KR07252		Project	Booker Distribution Centre Hatfield		
		Title	Discharge of Condition 1 of Planning Permission 6/2022/2197/FULL		
		Standard	British Standard 4142: 2014 + A1: 2019		
Issue	Date	Details of Revision			
v1_1	26/04/2023	Description	Report issue for submission to Local Authority		
		Signature			
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		Position	Technical Director	Project Manager	Technical Director

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1. Executive Summary....

1.1. Instruction

Welwyn Hatfield Council granted planning permission under reference 6/2022/2197/FULL on 5th December 2022 for the “Relocation of external refrigeration plant facilities” at the Booker Distribution centre at Frobisher Way in Hatfield. The planning permission contained condition 1 which required the following:

“Within two months of the installation of the plant and equipment, a noise report technical note must be submitted to and approved in writing by the Local Plan Authority. The note must include the results of the noise measurements that have been carried out to demonstrate compliance with the following:

The combined sound pressure levels from the operation of all plant must not exceed: 60dB LAeq 1 hour between 07:00 – 19:00 60dB LAeq 1 hour between 19:00 – 23:00 65dB LAeq 1 hour between 23:00 – 07:00 Noise measurements must be taken at 10m from the edge of the plant area in free field condition.

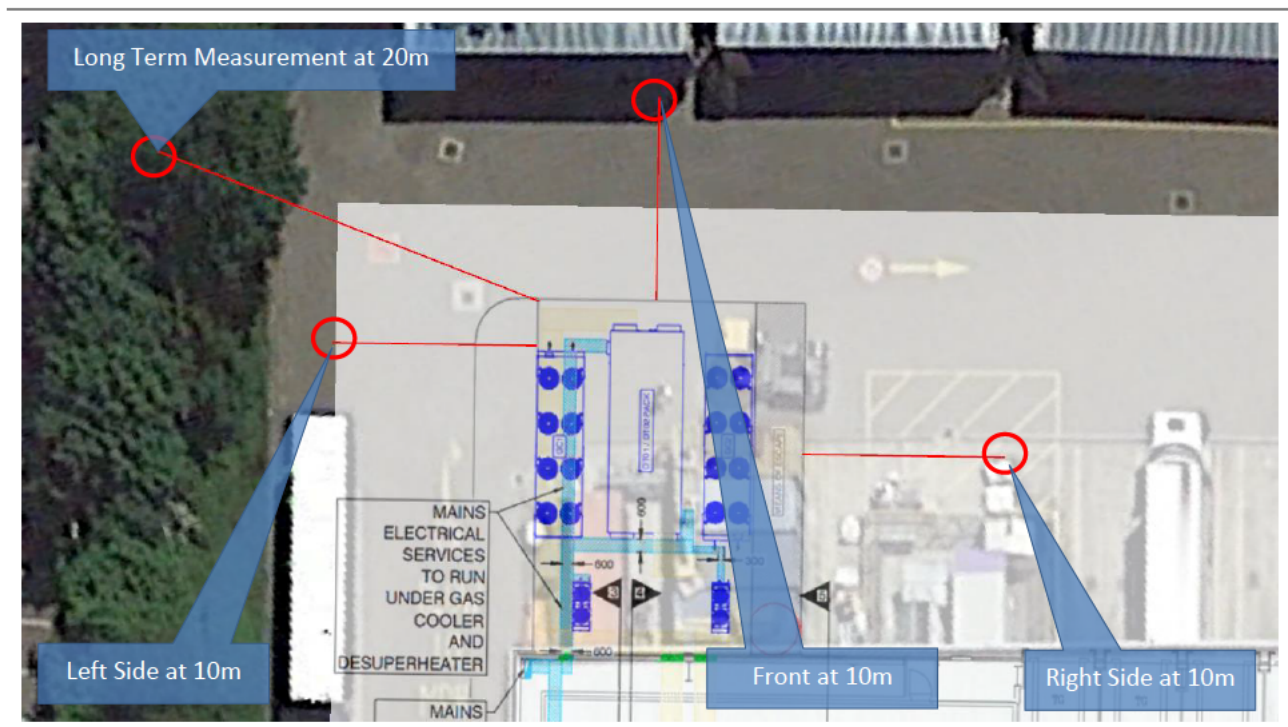
Non-compliance with the above noise criteria, will require additional noise mitigation measures to be implemented to ensure that compliance can be achieved”.

1.2. Scope of Report

To determine if the installation complies with condition 1 the following was undertaken on site.

- An inspection to ensure the installation has been undertaken in accordance with the approved drawings.
- Measurement to determine the sound pressure level 10m from the edge of the plant area.

1.3. Location of Measurements



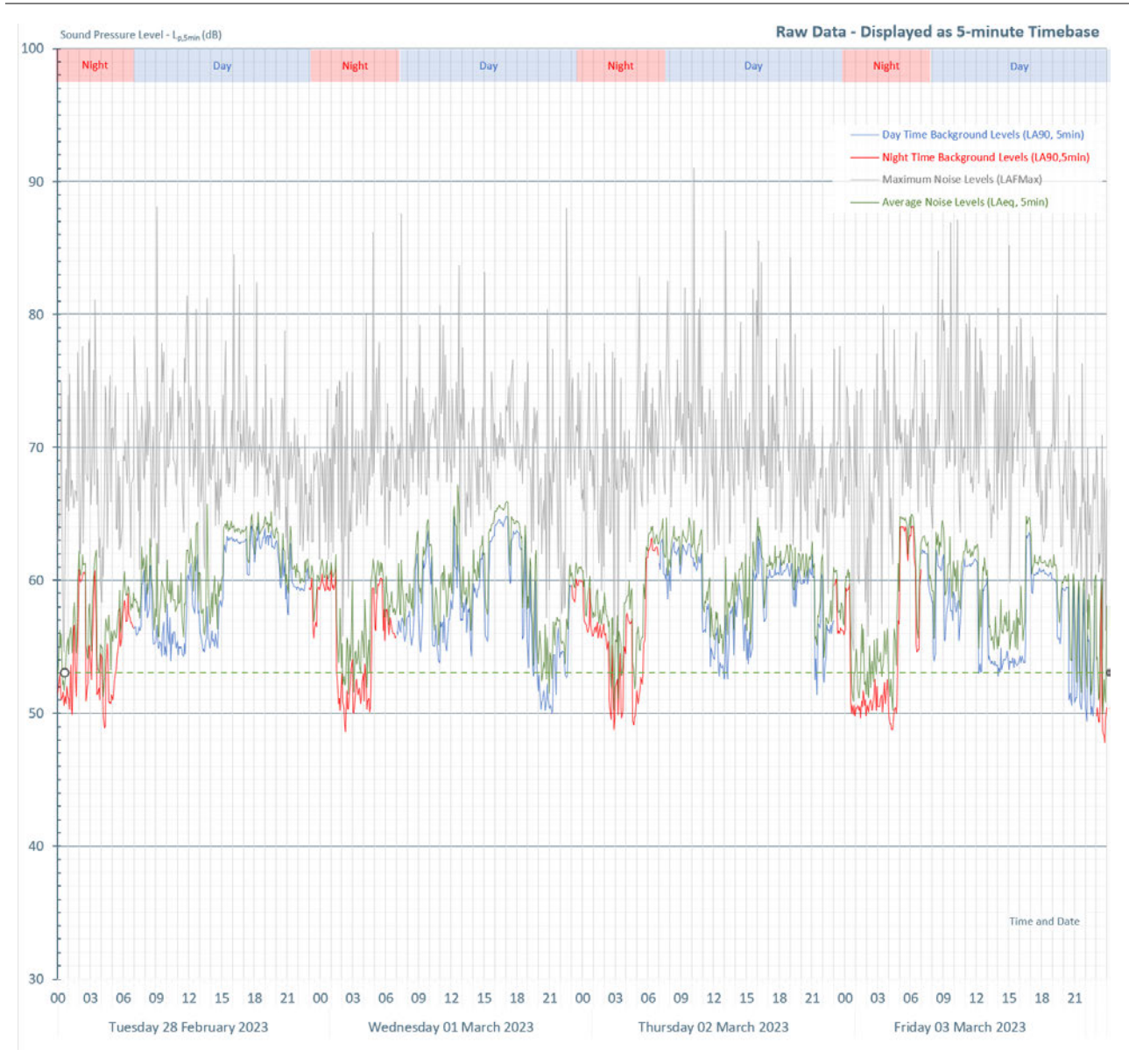
1.4. Short Term Measurements at 10m from the edge of the Plant

The following sound pressure levels were measured over a short measurement period between movement of lorries around the yard and were not impacted by the underlying background noise levels.

Sound Power Levels ISO 9614 – Part 2: 2009	(A)	Octave Band Centre Frequency (Hz)							
		63	125	250	500	1K	2K	4K	8K
Left side of plant area at 10m	48	53	59	55	54	51	50	47	45
Front of plant area at 10m	50	51	59	52	51	48	47	48	45
Right of plant area at 10m	50	51	57	53	52	51	56	49	47

Sound Pressure Levels (dB) Reference $2 \times 10^{-5} \text{ Nm}^{-2}$ – Uncertainty $\pm 2.0 \text{ dB}$ (95% Confidence, $k=2$)

1.5. Long Term Monitoring at 20m



1.6. Discussion of Long-Term Measurements

The proposed heat plant area operates 24-hours per day. The results recorded at the position 20m from the edge of the plant area were subject to the noise of the lorries passing the measurement position and therefore in the day time the peaks were from the other operations of the site. Closer inspection of the results indicated that during the night time period when there was a lull in the vehicle activity on the site the resultant noise levels were mainly due to the noise from the plant. Overall, the levels indicate that at 20m the plant area was producing the following noise levels.

- Recorded noise levels 20m from the edge of the plant area: $L_{Aeq, 15 \text{ min}}$ 53 dB.
- Corrected source level to account for the background level: $L_{Aeq, 15 \text{ min}}$ 50 dB
- Correction of noise levels for a reference point 10m from the plant: $L_{Aeq, 15 \text{ min}}$ 55 dB

The above results tie in with the short-term measurements undertaken on each of the three sides of the plant area.

1.7. Direct Measurement of Sound Power Level

Measurements were undertaken on the three sides of the plant enclosure with the unit's operating using a sound intensity meter to the general principles of ISO 9614 – Part 2: 2009 using a sweeping technique. The results had a high level of uncertainty as they included varying background noise levels. However, the results produced a good check of the overall sound power being radiated from the site as a single source. The measurement surface was set at a height of 2m, and a sweep undertaken along each side at a height of 500mm.

Only one unit was operating at a time and therefore the measurements gave a reasonable representation of the levels that are likely to exist in the night time period between 23:00 and 07:00 hours.

- Sound Power Level used in Original Report: $L_{w(A)}$ 83 dB.
- Measured using sound intensity probe: $L_{w(A)}$ 80 dB.
- Estimated Uncertainty (95 % confidence, $k = 2$) $\pm 4 \text{ dB(A)}$

The sound intensity meter was only used as a sense check to the short-term measurements 10m from the three sides of the plant area and the long-term measurement made at a distance of 20m from the boundary of the plant area.

1.8. Conclusions

The measurements on site indicate that the installed equipment complies with the noise levels detailed within condition 1 of planning permission 6/2022/2197/FULL.

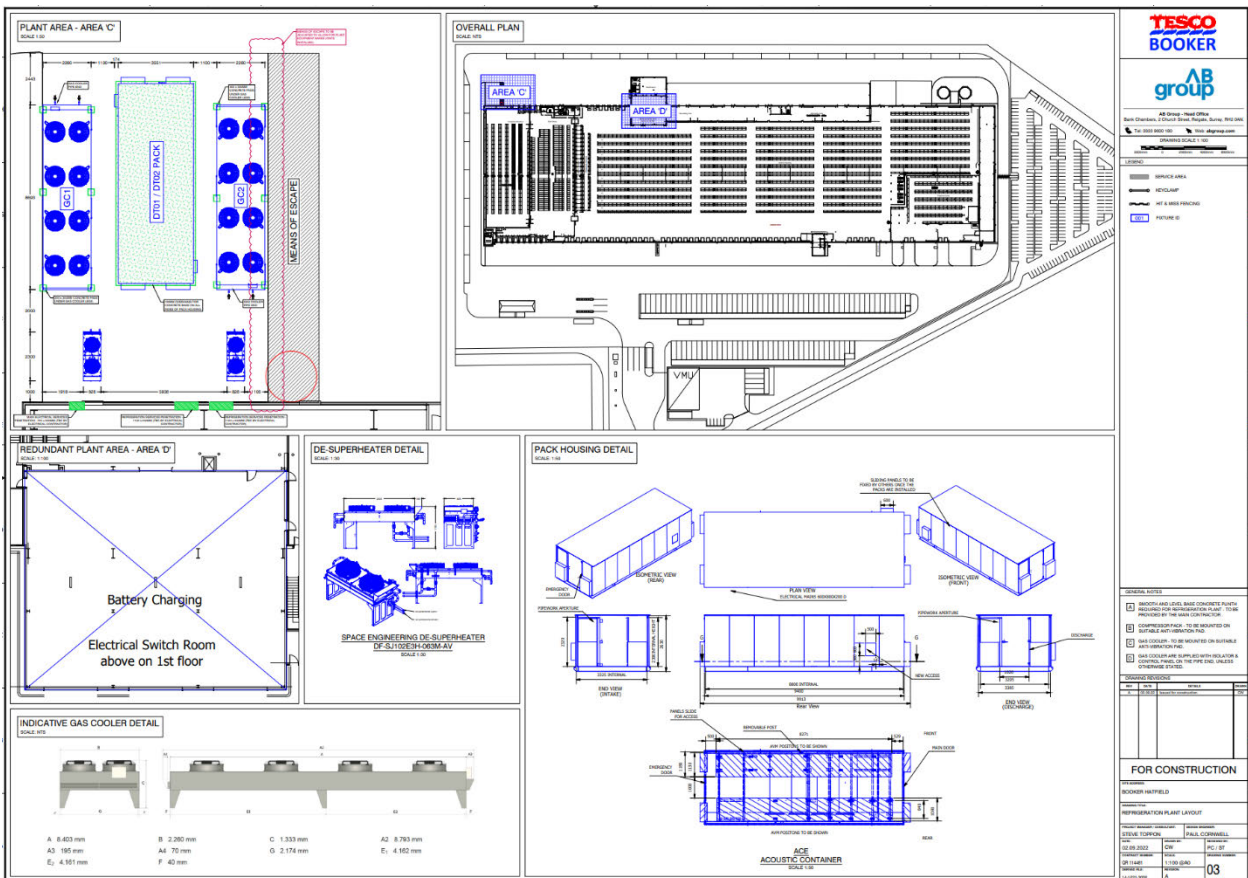
1.9. Discussions

1.9.1 Photographs of Site

The following shows the compound when the measurements were complete.



1.9.2 Plan Layout of Plant Area



END OF REPORT (1st and last page not numbered)

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