

NOISE ASSESSMENT

REPLACEMENT WASTE TRANSFER BUILDING WEST LONDON COMPOSTING NEWYEARS GREEN LANE, HAREFIELD, UXBRIDGE

WEST LONDON COMPOSTING LTD

JANUARY 2025

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Revision	Prepared By	Date
1.1	L Jephson BEng (Hons) MIOA	20/1/25

This report has been prepared using all reasonable skill and care within the resources and brief agreed with the client. LF Acoustics Ltd accept no responsibility for matters outside the terms of the brief or for use of this report, wholly or in part, by third parties.

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1. Introduction

LF Acoustics Ltd have been appointed by West London Composting Ltd to carry out an assessment of the noise levels attributable to a proposed replacement waste transfer building at their facility located to the north of Newyears Green Lane, Harefield, Uxbridge.

The site has been operational for a number of years. The site is split into two areas north and south of Newyears Green Lane. The northern site area has the composting maturation area, with the southern site area used for the main processing operations and the operation of a small waste transfer station.

The Company are proposing to replace the existing waste transfer building, located within the northern site area, adjacent to the main composting buildings, with a new building allowing a throughput of up to 50,000 tonnes per annum.

The main changes in relation to noise would be associated with the noise generated from the larger waste transfer building (noting that there are no proposed changes to the plant presently operating within the building) and a small increase in vehicle movements, associated with the increased capacity.

There are a small number of properties located along Newyears Green Lane, which have been considered in this assessment.

The following section of this report presents an overview of the relevant standards and guidelines applicable when assessing noise from this type of facility. Section 3 provides a description of the site, its surroundings and the proposed operation. A baseline noise assessment is provided within Section 4, with details of the calculation and assessment of noise levels associated with the operation of the facility provided in Section 5. Finally, Section 6 provides a summary of the assessment.

2. Standards and Guidelines

A description of the noise units referred to in this report is provided in Appendix A.

2.1. National Planning Policy Framework

The National Planning Policy Framework (NPPF) revised in December 2024 [1], sets out the Government's planning policies for England and how these should be applied. It provides a framework upon which locally prepared plans for housing and other development can be produced.

The purpose of the planning system is to contribute to the achievement of sustainable development and at the heart of the Framework is a presumption in favour of sustainable development.

With regards noise, local planning policies and decisions should contribute to and enhance the natural and local environment by:

- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels noise pollution.
- mitigate and reduce to a minimum, potential adverse impacts resulting from noise from new development (including cumulative effects) – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

Reference is made within the NPPF to the Noise Policy Statement for England [2] (NPSE), which sets out the long term vision of the Government noise policy. Further information has been provided on the assessment of noise within Planning Practice Guidance, updated in July 2019 and available on the Government planning web site. Whilst this guidance does not provide any objective criteria upon which to base noise assessments, the guidance provides a description of the relevant Effects Levels identified within the NPPF and NPSE and this is reproduced in Table 2.1.

Perception	Examples of Outcomes	Increasing Effect Level	Action
Not noticeable	No Effect	No Observed Effect (NOEL)	No specific measures required
Noticeable and not intrusive	Noise can be heard, but does not cause any change in behaviour or attitude. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
		Lowest Observed Adverse Effect Level (LOAEL)	
Noticeable and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
		Significant Observed Adverse Effect Level (SOAEL)	
Noticeable and disruptive	The noise causes a material change in behaviour and/or attitude, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Noticeable and very disruptive	Extensive and regular changes in behaviour and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

Table 2.1 Significance Criteria

2.2. British Standard BS 4142

BS 4142 [3] is the British Standard for rating and assessing noise of a commercial or industrial nature.

BS 4142 is a comparative standard in which the estimated noise levels from the proposed development are compared to the representative / typical background noise level from existing uses.

BS 4142 relates the likelihood of adverse impact to the difference between the Rating Level of the noise being assessed and the background noise level.

The background noise level is the L_{A90} noise level, usually measured in the absence of noise from the source being assessed, but may include other existing industrial or commercial sounds. The background noise levels should generally be obtained from a series of measurements each of not less than 15 minute duration.

The Rating Level of the noise being assessed is defined as its L_{Aeq} noise level (the 'specific noise level'), with the addition of appropriate corrections should the noise exhibit a marked impulsive and/or tonal component or should the noise be irregular enough in character to attract attention. The extent of the correction is dependent upon the degree of tonality or character in the noise and is determined either by professional judgement, where the plant is not operational at present, or by measurement.

During the daytime, the specified noise levels are determined over a reference time interval of 1 hour.

If the Rating Level of the noise being assessed exceeds the background level by 10 dB or more BS 4142 advises that there is likely to be an indication of a significant adverse impact, depending upon context. A difference between background level and Rating Level of around 5 dB is likely to be an indication of an adverse impact, depending upon context. The lower the Rating Level is, relative to the background noise level, the less likely the specific source will have an adverse or significant adverse impact. Where the Rating Level does not exceed the background noise level is an indication of a low impact, depending upon context.

The assessment method outlined above is intended for the assessment of external noise levels and is not intended to assess the extent of impact at internal locations.

Where the initial assessment of impact, based upon and assessment of the external noise levels, needs to be modified due to the context, all pertinent factors should be taken into account, including:

- The absolute level of sound;
- Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night; and
- The sensitivity of the receptor and whether the premises will already incorporate measures to ensure good internal and/or external acoustic conditions.

3. Current and Proposed Operations

The current site location and its surroundings are indicated on Figure 1.

3.1. Noise Sensitive Receptors

There are a small number of residential properties along Newyears Green Lane, located to the north of the waste transfer building, that have the potential to be affected by noise from the operation of the site, as indicated on Figure 1.

3.2. Current Planning Permission

Planning permission to regularise the site operations was granted by Hillingdon Council in July 2021 (Application Ref. 12579/APP/2021/2010).

Conditions were imposed which restrict the annual throughput of the site to 75,000 tonnes and the number of vehicle movements to 100 per day into the site, with no more than 41 HGVs with a weight of more than 7.5 tonnes. Operational hours are also restricted to the following:

- Between 07:30 – 18:00 hours Mondays to Fridays;
- Between 07:30 – 13:00 hours Saturdays; and
- No working on Sundays and Public Holidays.

There would be no changes to operational hours for the presently permitted operations should planning permission for the replacement waste transfer building be granted.

3.3. Present Site Operations

At present, the main operations within the northern site area are associated with the composting operations, with the existing waste transfer building used to process small volumes of materials.

Noise generated by the composting operations is principally attributable to the plant operating within the two main buildings, which includes the use of a shredder during the day. It was noted that the noise from the shredder operating was generally the main source of noise from the current operations.

Operations within the current waste transfer building are carried out when sufficient material is available for processing. Vehicles deliver material into the building, which is handled using a small excavator and loading shovel, with the material sorted by hand.

There are regular vehicle movements within the site throughout the day, principally associated with the composting operations.

At present, the Certificate of Lawful Use for the waste transfer station (dated 1991) permits up to 24 deliveries of waste per week. This equates to typically around 8 vehicle movements per day.

3.4. Proposed Site Operations

The proposed site layout is indicated on Figure 2.

It is proposed to replace the existing waste transfer station building with a larger building, as shown on Figure 2.

The larger building would allow more materials to be sorted and stored.

The new building would be clad with steel profile cladding, providing a better construction to the present building, which is old. There would be two doorways within the northern façade to allow vehicle movements into and out of the building. The doors would remain open whilst operational, with the calculations assuming them fully open, as with the present use of the existing building. The main source of noise break out from the building would be through the open doorways.

There would be no requirement for any additional plant to operate within the building, although the plant would operate more frequently than at the present time, with the materials still be sorted by hand.

Extended operational hours are being sought for the proposed WTS operations (i.e. HGV movements and operations within the WTS building), as follows:

- Between 07:00 – 18:00 hours Mondays to Fridays; and
- Between 07:30 – 16:00 hours Saturdays, Sundays and Public Holidays.

With the proposed increase to 50,000 tonnes per annum, there would be an increase in the numbers of vehicles accessing the waste transfer building. It is anticipated that there would be up to 26 vehicle movements per day, comprising a mix of HGVs and smaller vehicles.

4. Baseline Noise Assessment

To evaluate the baseline noise conditions within the surrounding area, an unattended noise survey was carried out between Wednesday 11th and Monday 16th December 2024.

A Rion NL-52 Class 1 Sound level Meter was used for the survey. The microphone was fitted with Rion WS-15 Outdoor Microphone Protection, which maintains Class 1 performance. The instrument was field calibrated before and after the exercise using a Rion NC-74 Class 1, reading 94.0 dB on both occasions. Both instruments had been laboratory calibrated within the past 12 / 24 months in accordance with national standards. A summary of the calibration dates is provided below (full calibration certificates can be provided on request).

Instrument	Serial No.	Calibration Date	Laboratory / Certificate No.
Rion NL-52 Class 1 SLM	00231655	21/4/23	AcSoft – 1505168-2
Rion NC-74 Class 1 Acoustic Calibrator	35125830	5/9/24	AcSoft – 1509697-1

Table 4.1 Calibration Details

The monitoring equipment was located along the site boundary with the closest property, Pylon Farm, as indicated on Figure 1. The microphone was set at a height of 2 metres and in free-field conditions.

The instrument was configured to record over 15-minute periods during the survey, in accordance with the requirements of BS 4142.

Weather conditions during the survey period were suitable for undertaking an environmental noise survey. The weather conditions noted from local weather stations during the survey period were as follows.

Date		Conditions	Wind Strength [m/s]	Wind Direction
Wednesday	11/12/24	Fine & Dry	1 – 2 m/s	NE
Thursday	12/12/24	Fine & Dry	2 – 3 m/s	NE
Friday	13/12/24	Fine & Dry	2 – 3 m/s	SW
Saturday	14/12/24	Fine & Dry	2 – 3 m/s	W
Sunday	15/12/24	Fine & Dry	2 – 3 m/s	W
Monday	16/12/24	Fine & Dry	3 – 4 m/s	SW

Table 4.2 Summary of Weather Conditions

The results of the noise monitoring are presented within Appendix B.

During the daytime periods, noise from the operations carried out within the two main composting buildings were observed to be the main influence on the measured noise levels, principally associated with the operation of the shredder and the loading shovels.

Vehicles passing along the exit road adjacent to the noise monitoring position were also audible and influenced the measured noise levels.

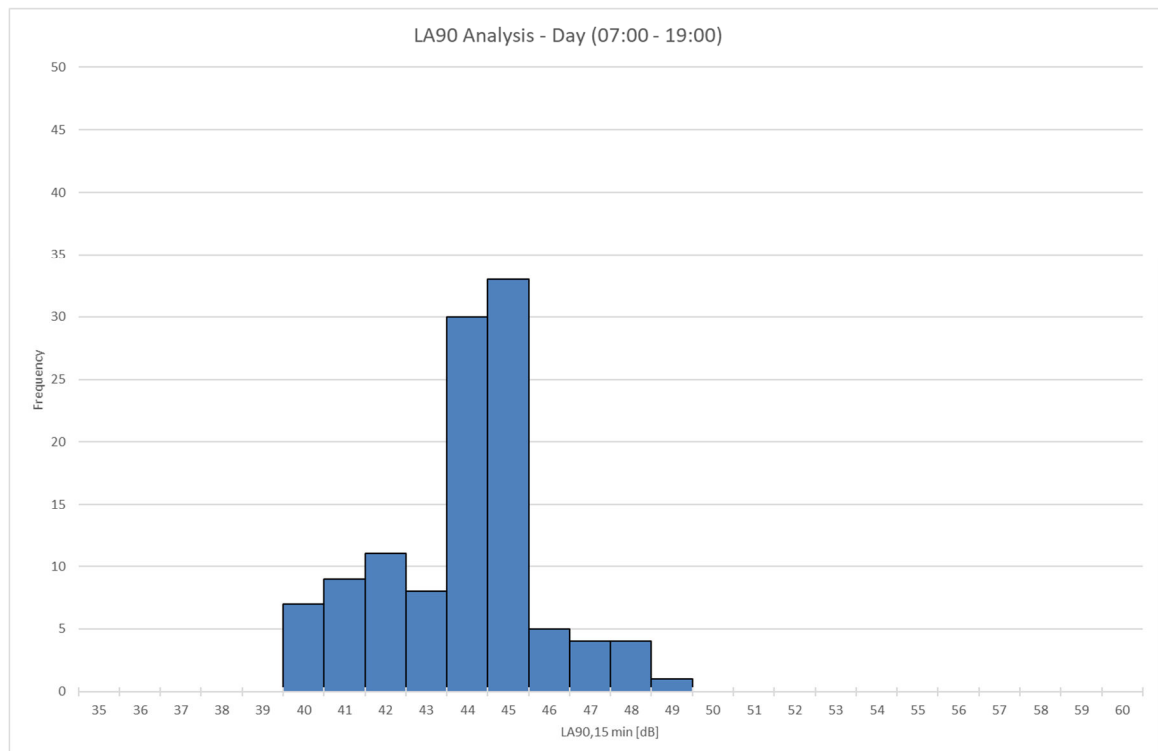
No plant was operational within the waste transfer building during the period of the survey, with an occasional vehicle noted to deliver material into the building, although this had no effect on the measured noise levels.

Noise levels monitored during the periods when the composting shredding operations were being carried out were noted to be typically between 57 – 60 dB $L_{Aeq, 15 \text{ min}}$ at the noise monitoring position. The shredder was noted to be operational during the weekday periods and was noted to influence both the ambient (L_{Aeq}) and background (L_{A90}) noise levels, attributable to the continuous noise whilst in use.

Given that the present site operations influenced the noise levels whilst operational, it has not been possible to derive the typical background noise levels for the daytime periods, upon which to base this assessment, simply from a statistical analysis of the measured data.

Consequently, the typical background noise levels have been derived by an analysis of the noise measurement results during the early morning period before the plant started operating (typically between 07:00 – 07:30) and after the site closes, typically between 17:00 – 19:00 hours. In addition, the results obtained during Saturday afternoon and Sunday have also been considered. Utilising these times is likely to result in marginally lower noise levels than during the main daytime operating periods, as traffic on surrounding roads may be lighter at these times. The baseline levels are, however, applicable to the proposed additional early morning and weekend hours which are being sought for the WTS.

Based upon an evaluation of these periods, the typical background noise levels were as follows:



The above data indicates that the typical background noise levels when the plant was not operational are between 44 - 45 dB L_{A90} .

5. Calculation and Assessment of Noise from the Operation of the Site

5.1. Plant and Equipment

Noise levels have been obtained from the main plant operating within the composting building.

As indicated previously, the plant was not operating within the waste transfer building at the time of the survey and only presently operates, as required, when there is sufficient material available to process. To facilitate an assessment of the noise levels associated with the current and future use, noise levels have been obtained within a similar building, where a small excavator and loading shovel were operating with vehicles tipping materials, which was representative of the proposed waste transfer building.

The measured noise levels have been converted into equivalent Sound Power Levels (SWL) for use within the modelling software. The source term noise levels utilised within this assessment are as follows.

Plant	Octave Band Noise Level [dB $L_{eq,T}$ / SWL]							Overall Noise Level
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	
Shredding Operations within Composting Building (L_{eq})	83	90	87	90	87	83	79	91.5 dB $L_{Aeq,T}$
Typical Operations within Composting Buildings (L_{eq})	77	84	81	84	81	77	73	85.7 dB $L_{Aeq,T}$
Noise Level Within Waste Transfer Building (L_{eq})	77	82	82	79	74	72	68	80.8 dB $L_{Aeq,T}$
HGV Movements (SWL)	102	105	101	96	97	93	89	101.3 dB(A) SWL

Table 5.1 Source Term Noise Levels

5.2. Calculation of Noise Levels

Calculations of the noise levels at the surrounding properties have been made using the SoundPlan computer modelling package, which implements the calculation methodology from ISO 9613-2 [4]. The calculations have taken account of the land formation around the site and surrounding area, based upon LiDAR mapping data.

To provide an indication of the present noise levels at the surrounding properties, an initial model has been prepared, based upon the plant presently operating on the site, taking account of noise from the composting and waste transfer station operations.

A second model has been prepared, based upon the operation of the new waste transfer station building.

The modelling has assumed all plant operational over an assessment period of 1 hour, in accordance with BS 4142.

Both models have assumed 10 vehicle movements per hour associated with the composting operations. With regards the operation of the waste transfer station, two vehicles per hour have been assumed for the existing scenario, with 6 vehicles per hour assumed for the proposed use, to provide worst-case conditions.

The noise modelling results for the existing scenario are presented in Figures 3 and 4, which present the overall site noise levels and those attributable to the operation of the waste transfer station. Figures 5 and 6 present the corresponding noise levels for the proposed operations with the new waste transfer building.

The calculated noise levels at the closest properties are summarised in Table 5.2 below.

Location	Calculated Noise Levels [dB L _{Aeq,1} hr]			
	Present Operations		Proposed Operations	
	Overall	Waste Transfer Building	Overall	Waste Transfer Building
Pylon Farm	56	41	56	45
Highview Bungalow	54	40	54	45

Table 5.2 Noise Levels Generated by Current and Proposed Operation of the Site

5.3. Assessment

An initial assessment of the potential impacts associated with the operation of the waste transfer station has been made in accordance with the requirements of BS 4142 at the locations identified above.

The noise attributable to the operation of the plant within the waste transfer station would not be tonal or impulsive in nature. The operation of the plant would have equivalent characteristics to the plant presently operating within the site. To provide a worst-case assessment, a 3 dB(A) other character correction has therefore been applied to determine the rating noise level when considering the noise levels whilst the waste transfer station would be operational.

An assessment of the noise levels has been made at Pylon Farm, which is the closest property to the waste transfer station building. The property would be effectively screened by other buildings within the farm, which are in commercial use and thus the farm may be considered less noise sensitive on this basis.

Noise levels at other surrounding properties would be lower and thus assessing the noise levels at Pylon Farm will provide a worst-case assessment of the potential impacts associated with the replacement waste transfer building.

The assessment has taken account of the proposed additional hours for the WTS between 07:00 – 07:30 weekdays, Saturday afternoons and Sundays, with consideration also given to the overall noise levels during the main permitted operating hours for the site.

The assessment of the proposed operations is provided in the table below.

Description	Waste Transfer Station Noise Level [dB]	
	Existing Operation	Proposed Operation
Calculated Noise Level at Dwelling [dB L _{Aeq, T}]	41	45
Acoustic Feature Correction	3	3
Rating Level [dB L _{Aeq, 1 hour}]	44	48
Background Level [dB L _{A90}]	44	44
Excess Over Background	0	+4
Likelihood of Impact	Indication of Low Impact	Indication of Low Impact

Table 5.3 Initial BS 4142 Assessment – Pylon Farm

The initial assessment of the noise levels attributable to the proposed operations at this location indicates that the noise levels attributable to the operation of the proposed waste transfer station building would generally remain equivalent to the prevailing background noise levels.

The initial BS 4142 assessment above, which takes account of the potential character of the noise in deriving the rating level, indicates a low potential for adverse impact.

The noise levels associated with the operation of the WTS during the proposed extended operating hours would remain low and marginally lower than the ambient noise levels during the periods when the existing site is not operational. On this basis, the operation of the WTS during the extended hours would not result in a potential for adverse noise impacts at the neighbouring properties.

BS 4142 advises that the context also needs to be considered when evaluating the potential impacts of the proposed development.

At this property, during the daytime periods, the main source of noise was identified to be associated with the permitted composting operations, which would continue should planning permission be granted.

The calculations and assessment above indicate that there would be an increase in noise levels attributable to the operation of the replacement waste transfer building. As there would be no change to the plant requirements within the building, the noise levels associated with the processing operations would remain equivalent to those associated with the presently permitted operation. The main influence on the increase in noise levels would therefore be attributable to the additional vehicle movements associated with the increased throughput.

Whilst there would be a small increase in the overall noise generated by the operation of the replacement waste transfer station compared to the presently permitted operations within the existing building, the noise levels attributable to the use would remain at least 10 dB(A) below the noise levels associated with the main site / composting operations. On this basis, it is unlikely that the noise generated by the operation of the waste transfer station would be audible above the noise associated with the presently permitted operations.

In summary, the operation of the replacement waste transfer station and increased output would not result in an increase in the overall noise levels associated with the West London Composting operations at the surrounding properties. On this basis, the proposals would not result in a potential for adverse noise impacts at the neighbouring properties.

6. Summary

LF Acoustics Ltd were appointed by West London Composting Ltd to carry out an assessment of the noise levels attributable to a proposed replacement waste transfer building, located at their site to the north of Newyears Green Lane, Harefield, Uxbridge.

The site has been operational for a number of years. West London Composting have recently obtained planning permission to regularise the development and obtain permanent planning permission for the northern part of the site, where the composting operations are undertaken (Hillingdon Application Ref. 12579/APP/2021/2010).

There is a small waste transfer building located within the northern part of the site. It is proposed to replace this building with a larger building, capable of processing up to 50,000 tonnes per annum. The plant which presently operates within the building would continue to operate, with the materials sorted by hand. No additional plant is therefore required. There would be an increase in the vehicle movements to the building associated with the increased throughput, although the overall vehicle movements would remain low compared to those using the main composting facility.

Calculations and an assessment of the noise levels generated by the operation of the presently permitted and proposed operations have been made at the surrounding dwellings along Newyears Green Lane.

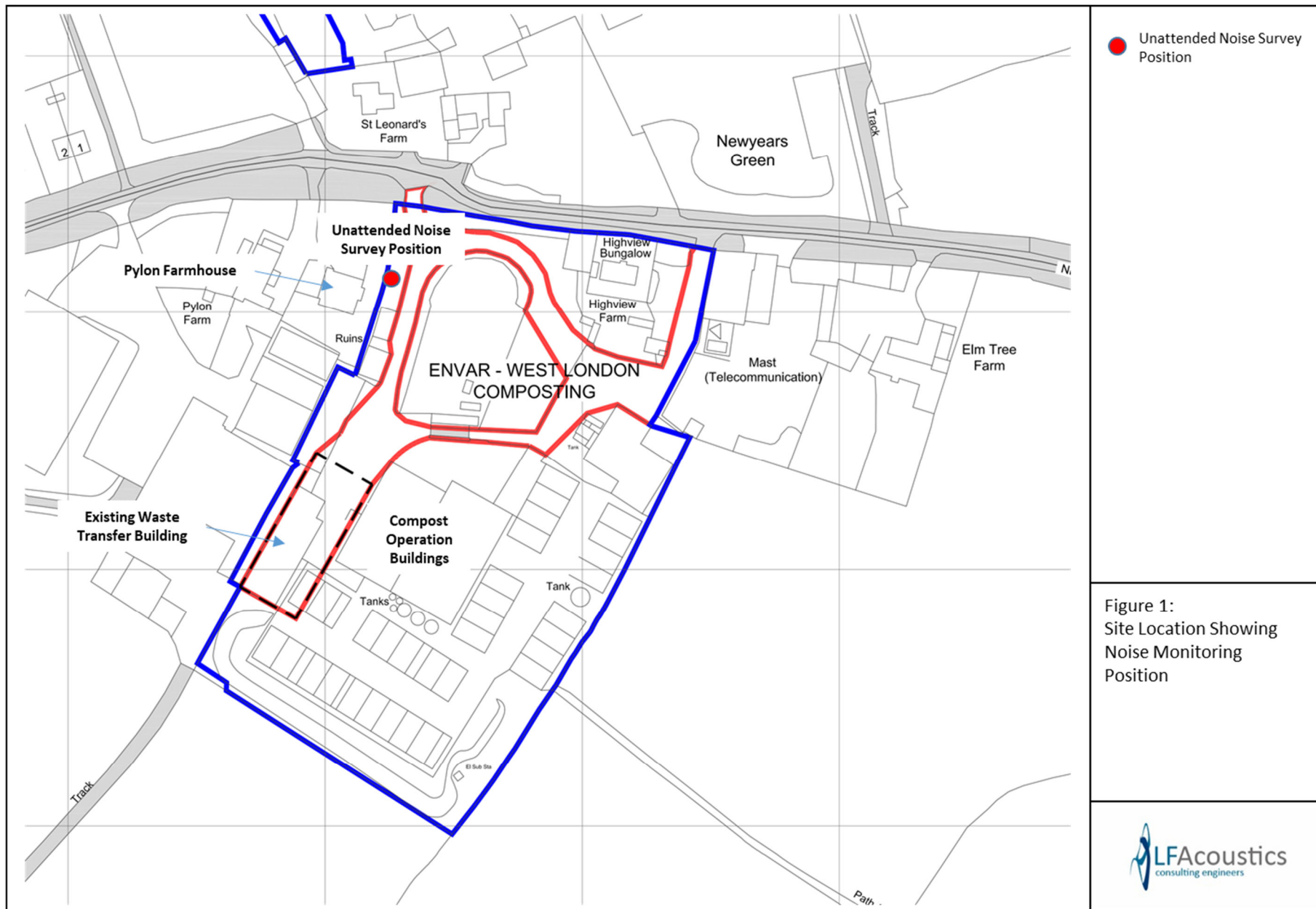
Whilst no changes are proposed for the main site, extended operating hours are being sought for the WTS, with operations proposed from 07:00 hours weekdays and between 07:00 – 16:00 hours at weekends and Bank Holidays.

The assessment concluded that, whilst there would be a small increase in noise levels attributable to the operation of the waste transfer station, principally attributable to the increase in vehicles, the overall noise levels would remain very low and substantially below those associated with the permitted composting operations on the site. Noise levels during the extended hours would also remain very low. The operation of the replacement waste transfer building would therefore not result in any potential for adverse noise impacts at the neighbouring properties.

References

1. Ministry of Housing, Communities and Local Government. National Planning Policy Framework. December 2024.
2. Department for Communities and Local Government. Noise Policy Statement for England. 2010.
3. British Standards Institute. Methods for Rating and Assessing Industrial and Commercial Sound. BS 4142:2014 +A1:2019.
4. Bsi. Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: Engineering Method for the Prediction of Sound Pressure Levels Outdoors. BS ISO 9613-2. 2024.

Figures

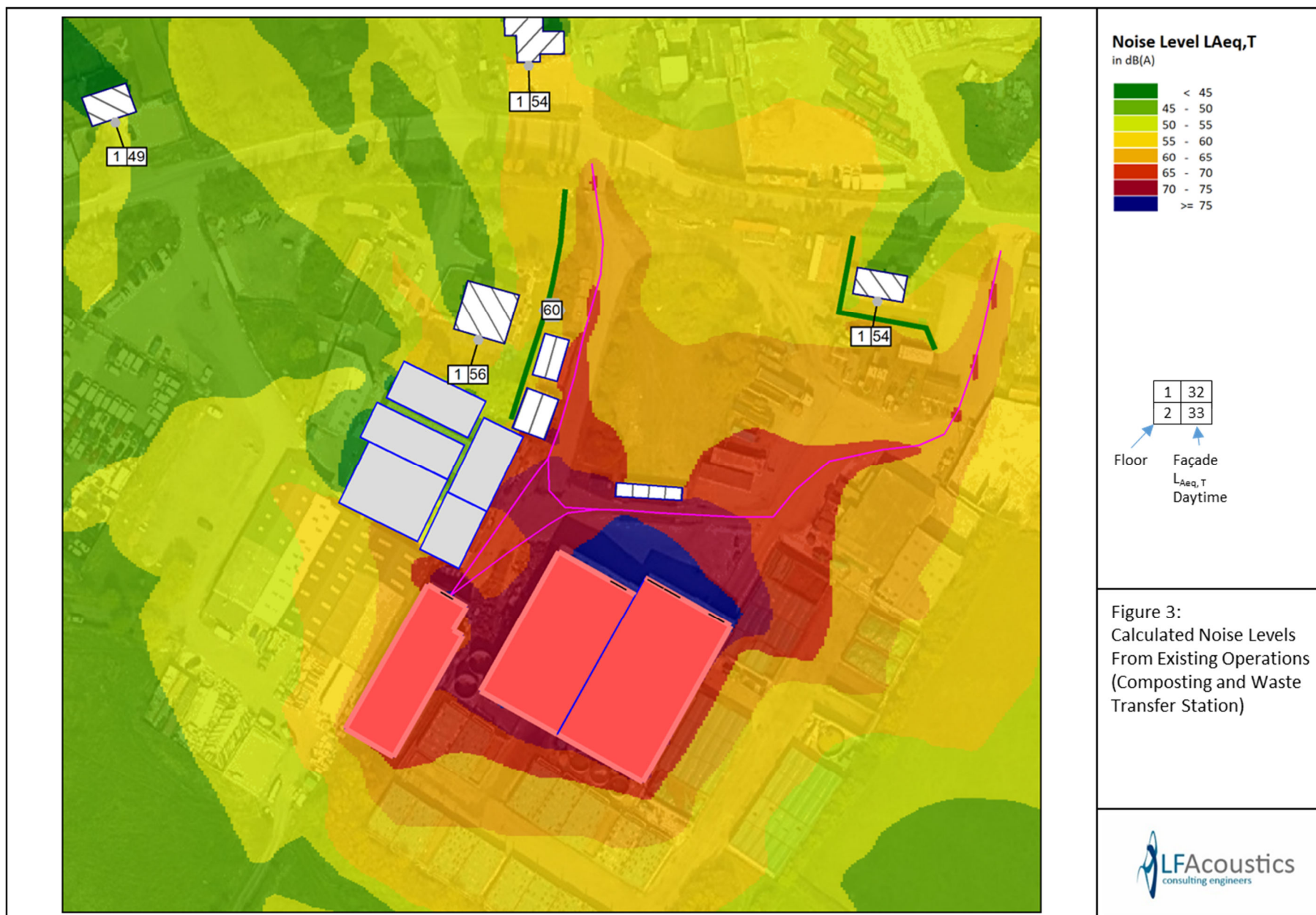


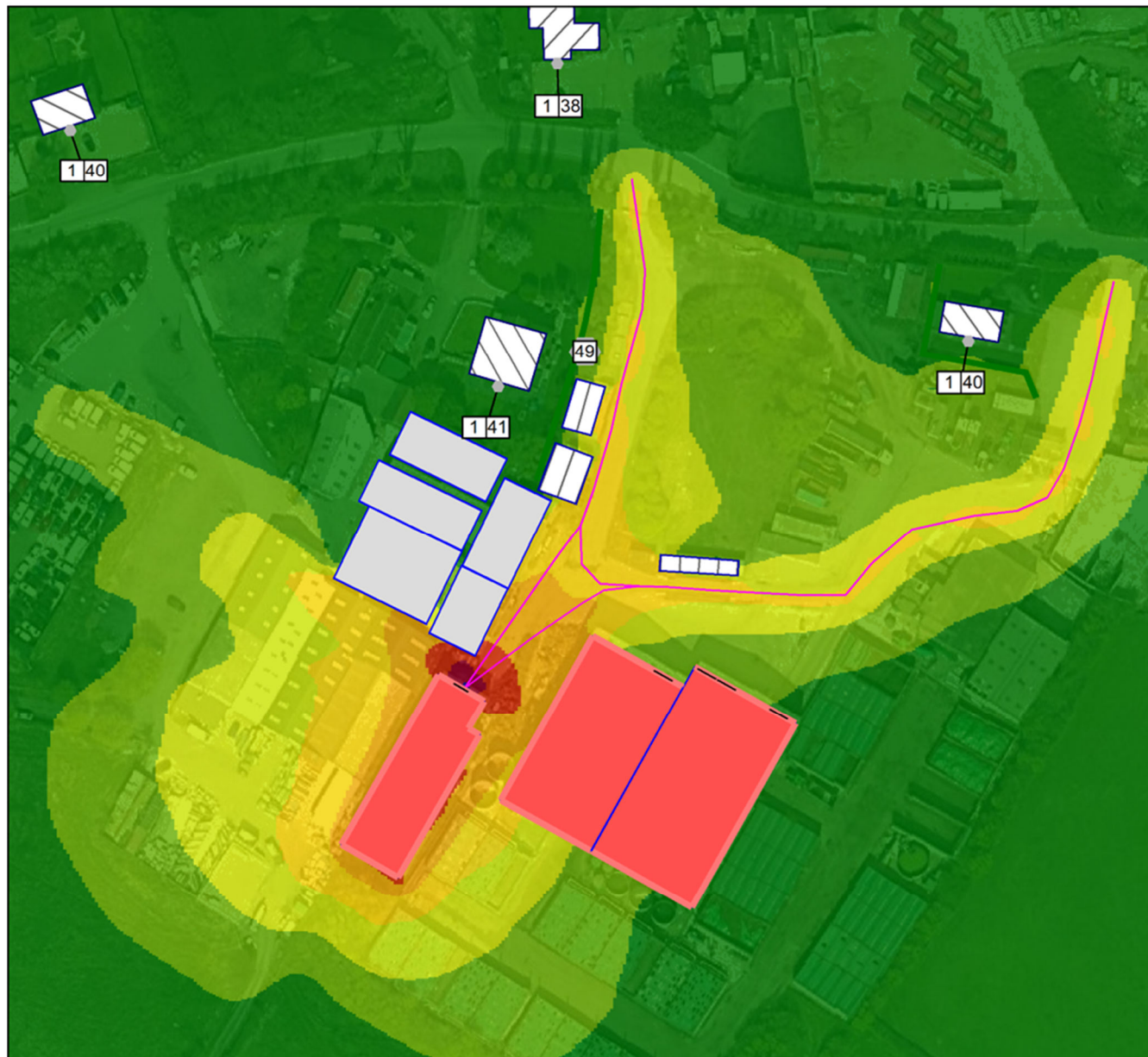
Unattended Noise Survey Position

Figure 1:
Site Location Showing
Noise Monitoring
Position



Figure 2:
Proposed Waste Transfer
Building





Noise Level LAeq,T
in dB(A)

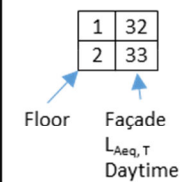
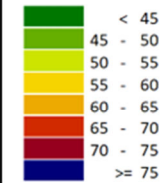
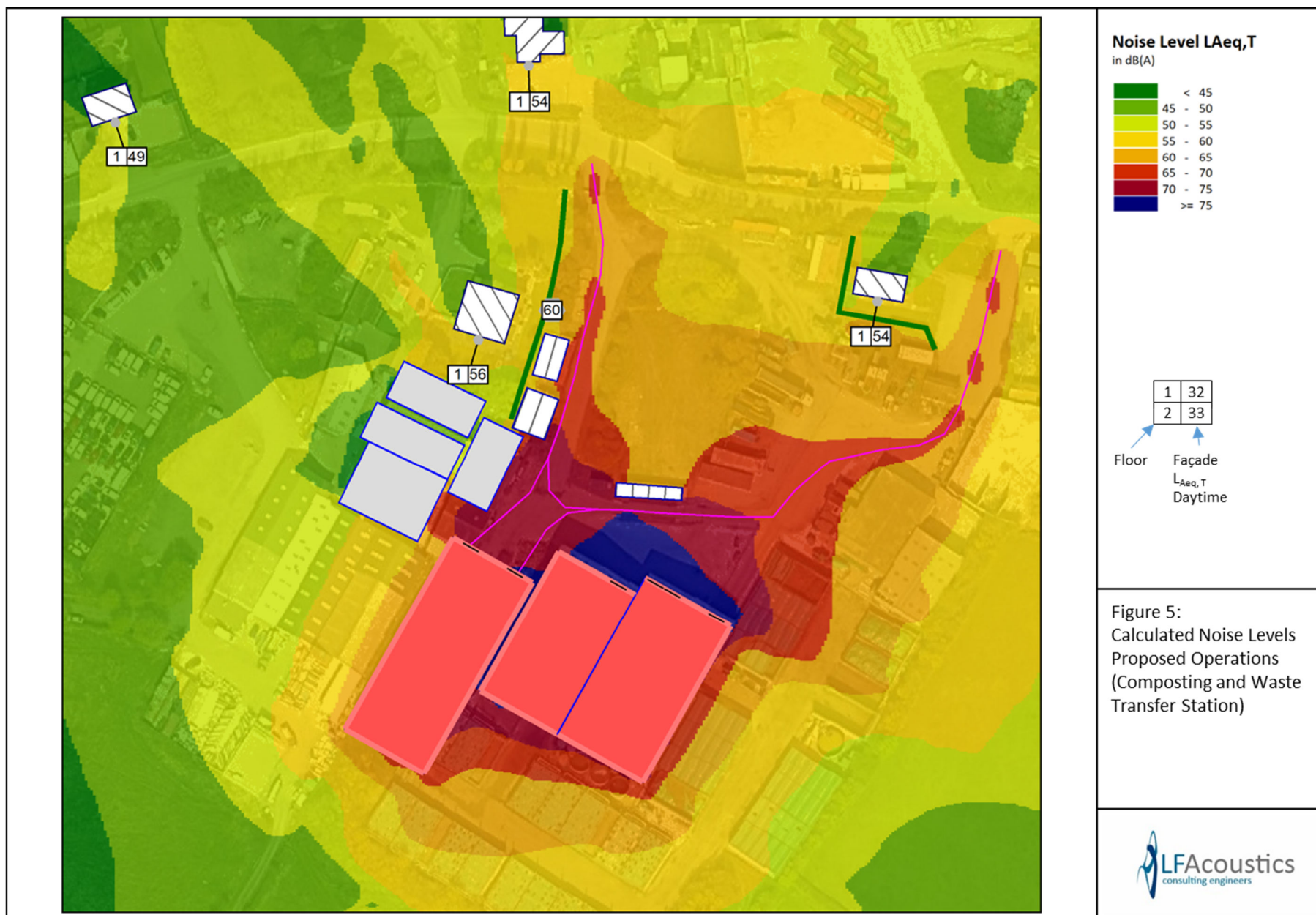
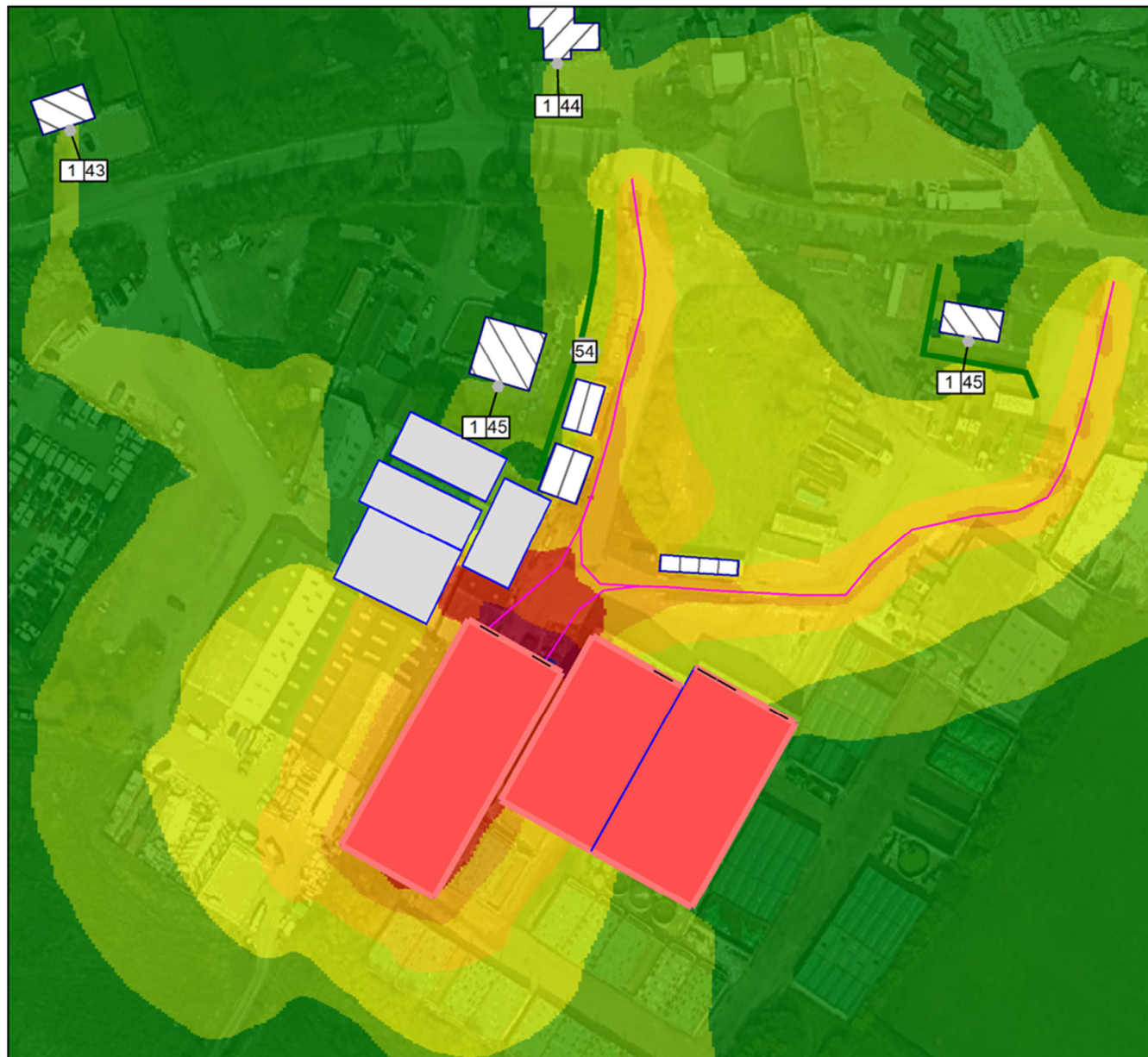


Figure 4:
Calculated Noise Levels
From Existing Site
Operations (Waste
Transfer Station Only)





Noise Level LAeq,T
in dB(A)

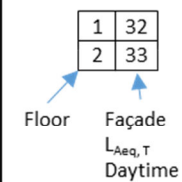
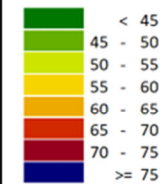


Figure 6:
Calculated Noise Levels
Proposed Operations
(Waste Transfer Station
Only)

Appendix A

Noise Units

Decibels (dB)

Noise can be defined as unwanted sound. Sound in air can be considered as the propagation of energy through the air in the form of oscillatory changes in pressure. The size of the pressure changes in acoustic waves is quantified on a logarithmic decibel (dB) scale firstly because the range of audible sound pressures is very great, and secondly because the loudness function of the human auditory system is approximately logarithmic.

The dynamic range of the auditory system is generally taken to be 0 dB to 140 dB. Generally, the addition of noise from two sources producing the same sound pressure level, will lead to an increase in sound pressure level of 3 dB. A 3 dB noise change is generally considered to be just noticeable and a 10 dB change is generally accepted as leading to the subjective impression of a doubling or halving of loudness. A 5 dB change is generally considered to be clearly discernible.

A-weighting

The bandwidth of the frequency response of the ear is usually taken to be from about 18 Hz to 18,000 Hz. The auditory system is not equally sensitive throughout this frequency range. This is taken into account when making acoustic measurements by the use of A-weighting, a filter circuit which has a frequency response similar to the human auditory system.

Units Used to Describe Noises Which Change Their Level with Time

The Equivalent Continuous A-Weighted Sound Pressure Level ($L_{Aeq,T}$) is the principal measurement index for environmental noise. The $L_{Aeq,T}$ is defined as the A-weighted sound pressure level of the steady sound which contains the same acoustic energy as the noise being assessed over a specific time period, T.

The L_{A90} is the noise level exceeded for 90% of the measurement period. It is generally used to quantify the background noise level, the underlying level of noise which is present even during the quieter parts of the measurement period.

The L_{Amax} is the single maximum value that the A-weighted sound pressure level reaches during a measurement period. $L_{Amax F}$, or Fast, is averaged over 0.125 of a second and $L_{Amax S}$, or Slow, is averaged over 1 second. The measured L_{Amax} noise levels in this assessment are Fast.

Appendix B
Unattended Noise Monitoring Results

