

STONEBOND PROPERTIES

Suite 5, First Floor
Egerton House, Towers Business Park
Didsbury
Manchester
M20 2DX

Date: 13th August 2026 / 15-888-R1-3

TECHNICAL NOTE ON ROAD TRAFFIC NOISE ON PROPOSED RECEPTORS OAKENROD, ROCHDALE

1. BACKGROUND & OBJECTIVES

E3P have been instructed to undertake a desk-based noise assessment in relation to a proposed residential development at Oakenrod in Rochdale, to be hereafter referred to as 'the Site'.

The proposed development comprises 46 dwellings with associated access roads and landscaping. The assessment is informed by the previously completed noise survey and assessment work by Azymuth Acoustics UK with the Noise Impact Assessment (Z52388) dated 6th September 2022. The NIA was submitted as part of the original planning application which was consented. Stonebond Properties have amended the layout and require a renewed NIA. The planning condition in relation to noise is provided below:

20. The development hereby approved shall be implemented in accordance with Section 5 (Recommendations for Noise Mitigation) of the submitted Noise impact Assessment (NIA) prepared by Azymuth Acoustics UK referenced Z52388 to achieve the following internal and external noise levels:

- i. 35 dB(A) Leq (1 hour) in the bedrooms with windows shut and other means of ventilation provided between 7 am and 11 pm;*
- ii. 30 dB(A) Leq 5 mins in the bedrooms with windows shut and other means of ventilation provided between 11 pm and 7 am;*
- iii. 35 dB(A) Leq (1 hour) in the living rooms with windows shut and other means of ventilation provided between 7 am and 11 pm;*
- iv. 40 dB(A) Leq (1 hour) in other habitable rooms with windows shut and other means of ventilation provided at all times;*
- v. Noise in external amenity areas shall not exceed 58 dB(A).*

The dominant source of sound is noted to be road traffic from Bury Road. Four of the courts are proposed beneath a canopy structure.

The purpose of this technical note is to provide an assessment of noise associated with Bury Road and to quantify its potential impact upon proposed residential receptors.

The assessment has been undertaken by Ollie Harrison, Acoustic Consultant at E3P and reviewed by Lee Faulkner, Associate Director at E3P.





2. EXISTING SOUND ENVIRONMENT

To inform the assessment, reference has been made to an unattended environmental noise survey undertaken by Azymuth Acoustics UK in support of planning application 22/01068/FUL for 52 homes on the same site. The survey location is situated within the red line boundary of the proposed development and is considered appropriate for the purposes of this assessment.

The survey was undertaken between 30th and 31st August 2022 and identified daytime average road noise levels of 68.3 dB and night-time road noise levels of 62.7 dB with a measured nighttime L_{AFmax} of 77.5 dB. The measured sound environment was primarily influenced road traffic along Bury Road. Figure 1 details the measurement location, labelled as Noise Measurement Position 1 (NMP1) but noted as Position 2 in the NIA.

From review of the NIA, no noise was noted from the car breakers to the south or the substation to the south west.

Figure 1 Noise Measurement Position



Figure 2 details the proposed development.



3. NOISE IMPACT ASSESSMENT

For the purposes of this assessment, E3P has used noise modelling software, CadnaA 2026, to determine the impact of road traffic noise.

The following inputs have been included in the model:

- ✿ Proposed Site Plan – Reference MAN038-SBP-ZZ-ZZ-DR-A-91-003 (Feasibility Layout)– Dated October 2025.
- ✿ Bury Street is calibrated using NMP1.
- ✿ Site elevations have been taken as existing by way of a 1 m grid Digital Terrain Model (DTM), which contains public sector information licensed under the Open Government License v3.0.
- ✿ Existing buildings are included.
- ✿ A reflection order of 2 has been used in all calculations.
- ✿ Noise levels generated using ISO 9613-2:2024 “Acoustics – Attenuation of sound during propagation outdoors” and CRTN as incorporated into CadnaA software.

Figures 3 and 4 present the noise levels across the proposed development during the day and night-time periods, respectively, due to noise associated with road traffic along Bury Road.

3.1. EXTERNAL AMENITY AREA

The noise model has been used to predict noise levels in rear garden areas to be used for relaxation. The predicted levels range between 38 dB and up to 68 dB.

As such, it is predicted that the No Observed Adverse Effect Level (NOAEL) is achieved in most rear garden areas with the following commentary:

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.

However, noise levels in certain gardens exceed the conditioned noise level of 58 dB(A).

Accordingly, mitigation measures are required for these areas.

3.2. INTERNAL NOISE LEVEL ASSESSMENT

With regards to internal noise levels, E3P has assumed a standard glazing specification of 4 mm glass/20 mm air space/4 mm glass, which provides approximately 32 dB of sound insulation; however, this assumes a pink noise spectrum. The same unit, weighted for road traffic noise, has a sound insulation performance value of approximately 28 dB, and so this value has been used to calculate internal noise levels for noise break-in.



The model has been used to predict façade noise levels on the ground, first, and second floors. To determine any mitigation requirements, E3P has added the glazing reduction (28 dB) to the relevant day (35 dB) and night (30 dB) criteria. As such, any facades subject to noise levels exceeding 63 dB during the day and/or 58 dB at night will require higher-specification glazing.

As the Figures show, certain facades have levels that exceed this criterion; therefore, standard glazing will not be sufficient across the site. Noise levels range between 40 and 66 dB during the day and 35 dB to 60 dB during the night.

Consideration must also be given to the maximum noise levels generated by road traffic. The 10th-highest maximum noise level has been used. A distance correction is required as NMP1 is not representative of the closest proposed residential façade adjacent to Bury Street. The measurement position was approximately 4 m from the curb edge of Bury Road, whereas the closest façade to Bury Road is proposed to be approximately 14 m from the curb edge of Bury Road. This results in a predicted maximum noise level of 67 dB.

Internal maximum noise levels of 45 dB L_{Amax} should also not be exceeded. The sound insulation performance achieved by standard glazing (32 dB) has been added to the 45 dB maximum internal noise level limit. As such, facades subject to noise levels above 77 dB will require higher-specification glazing.

As such, standard specification glazing is sufficient to mitigate against the maximum noise levels generated by road traffic along Bury Street.

3.2.1. VENTILATION CONDITION

When considering a partially open window for ventilation purposes, E3P has assumed that a Building Regulations ADF-compliant system would be installed in all plots as part of the development, as the plots are unlikely to be suitable for natural ventilation.

Therefore, the only consideration in relation to noise will be the performance of any window-mounted or through-the-walls vents in relation to the passage of external to internal noise.

This is discussed in the mitigation section.

3.2.2. OVERHEATING CONDITION

E3P has considered ADO's requirements regarding opening windows at night to mitigate the potential for overheating, which, at this stage, is assumed to be required. Therefore, external noise levels at affected facades apply. Any plots that experience noise levels below these limits will be able to have openable windows to mitigate any overheating. Those that exceed these limits will be subject to an Overheating Assessment by a suitably qualified professional.

It is noted that the site is within a medium-risk area and, as such, the outside-to-inside level difference for window openings in the simplified method is 10 dB.

As such, the allowable façade noise levels are 50 dB averaged over the 8-hour night-time period and 65 dB L_{Amax} , fast, 2min during the night.

As can be seen from Figure 5, certain facades experience higher night-time noise levels than the limits set above. As such, an overheating assessment in accordance with ADO is required. The exact facades and plots are highlighted in Figure 5.



4. MITIGATION

4.1. EXTERNAL AMENITY

As shown in Section 3.1, certain garden areas would experience an exceedance of the 58 dB criterion in rear garden areas. As such, an additional noise model has been run to determine the required barrier height needed to achieve levels of 58 dB and below.

As shown in Figure 6, barriers for the following plots are required:

-  Plots 1-11 (Communal Gardens – Northern boundary) – 1.8 m barrier.
-  Plots 12 (Communal Garden – North and northeastern boundary) – 1.8 m barrier.

The barriers can be a wooden fence or brick wall construction but must be free from holes, be sealed at the base and have a minimum mass of 10kg/m². Exact barrier locations are detailed in Figure 6 within the appendices.

4.2. FAÇADE INSULATION AND VENTILATION

The previous section determined that a whole dwelling ventilation system in accordance with Part F would be installed across the site as it is assumed natural ventilation is not appropriate for these dwellings. Higher specification glazing will be required for across certain facades.

Table 4.1 details the required glazing per façade. The worst-case required glazing is chosen per façade. For example, where a glazing needed due to night-time noise is higher than for daytime periods, the night-time requirements are recommended. Where maximum noise levels need mitigation the R_w value is provided.

It is recommended that a glazier is consulted to ensure any system installed achieves the above reduction as a minimum. These specifications should be reviewed by an acoustician.

Table 4.1 Glazing Requirements – Dwellings

PLOT	REQUIRED GLAZING REDUCTION (dB)	EXAMPLE GLAZING (GLASS/AIR SPACE/GLASS) (mm)
Plot 1	34 R_w (30 R_w + C_{tr})	3 / 10 / 10.38
Plot 2-3	33 R_w (29 R_w + C_{tr})	3 / 10 / 6
Plot 11	35 R_w (21 R_w + C_{tr})	3 / 10 / 14.38



5. CONCLUSIONS AND DISCUSSION

E3P was commissioned to undertake a desk-based assessment for the proposed residential development at Oakenrod in Rochdale.

This assessment looked to determine the key noise sources impacting upon the development site and to assess their impact, if any, upon the noise-sensitive use and to recommend mitigation measures, where necessary.

E3P has undertaken 3D noise modelling to assess road traffic noise across the site, within garden areas and incident upon facades and assessed in accordance with BS 8233.

The assessment determined that certain facades require higher specification glazing to control internal noise levels across the development. A whole dwelling ventilation system is assumed to be installed across the site as per approved document F. A full overheating assessment in accordance with the guidelines indicated in Part O is required for certain plots to allow for the provision of an alternative method of providing the mitigation of overheating without the need for opening windows.

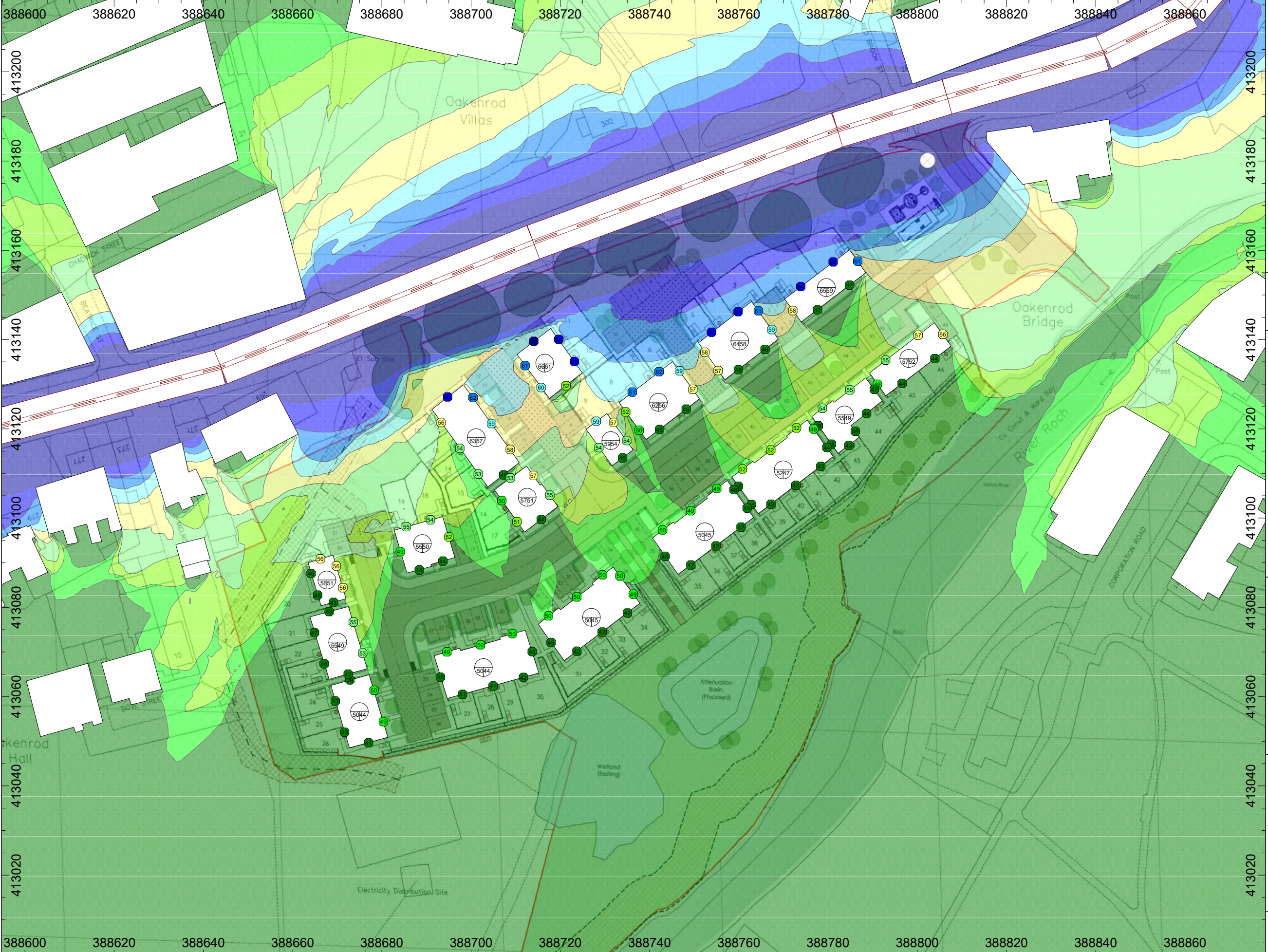
Furthermore, acoustic barriers are required for several plots to control noise levels in external amenity areas.

With mitigation measures in place, this assessment has shown that no adverse impact is predicted day or night at the receptors due to road traffic sound.

Yours sincerely,
For and on behalf of E3P Ltd

Ollie Harrison
Acoustic Consultant

Figure 3 - Daytime Grid Noise Map - Calculation at 1.5m above ground level



Project:
Oakenrod
Rochdale

Project-No:
51-888

Client:
Stonebond Properties

**Predicted Noise Level,
LAeq,T (dB)**

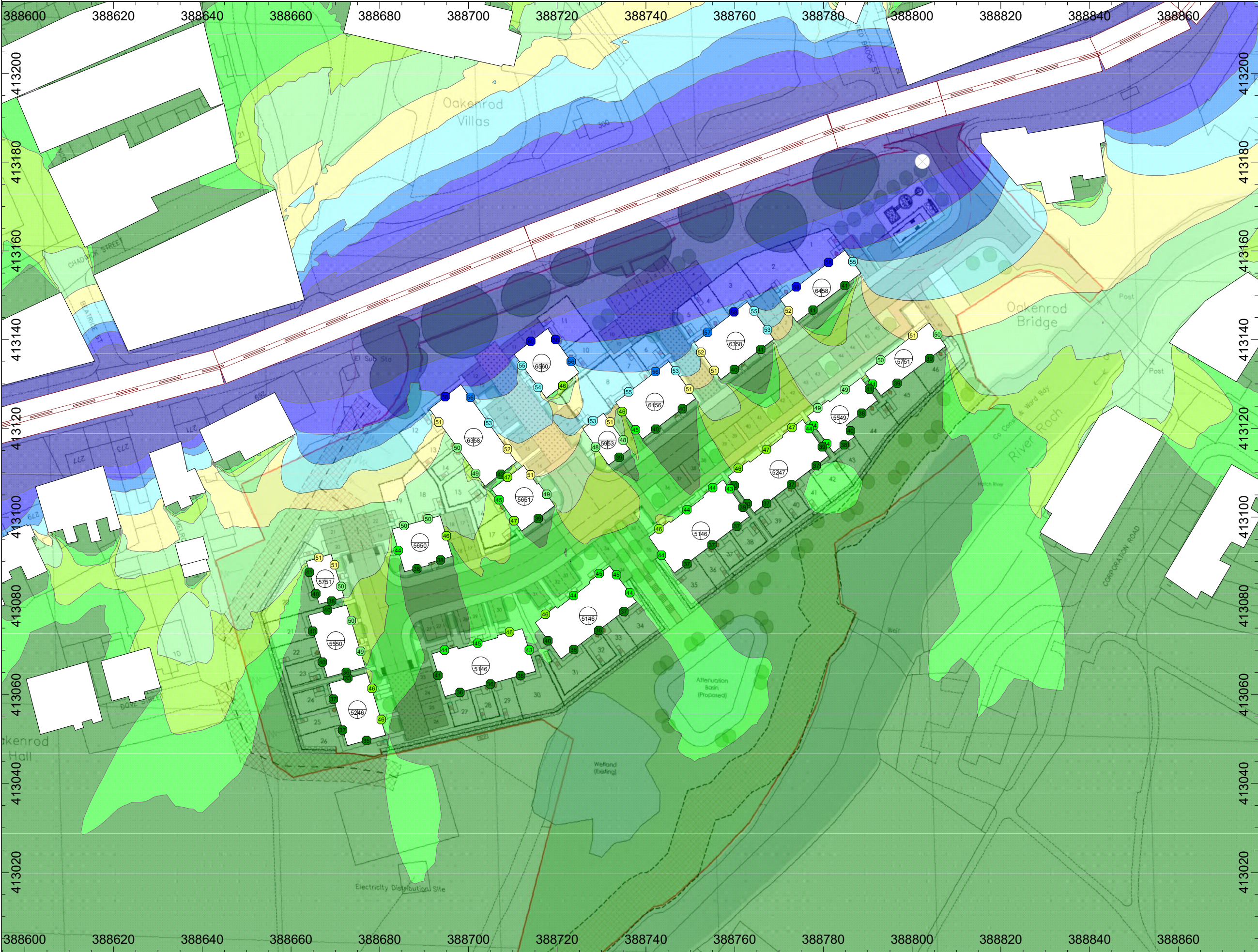
Dark Green	... <= 48
Light Green	48 < ... <= 50
Yellow-Green	50 < ... <= 52
Yellow	52 < ... <= 56
Orange	56 < ... <= 58
Light Blue	58 < ... <= 60
Blue	60 < ... <= 62
Dark Blue	62 < ... <= 65
Very Dark Blue	65 < ...

Noise Map Objects

- Road
- Building
- Receiver
- Building Evaluation
- Calculation Area

Project Engineer: Ollie Harrison
Date: 11/08/2026

Figure 4 - Nighttime Grid Noise Map - Calculation at 4.0m above ground level



Project:
Oakenrod
Rochdale

Project-No:
51-888

Client:
Stonebond Properties

**Predicted Noise Level,
LAeq,T (dB)**

...	≤ 42
42 < ...	≤ 45
45 < ...	≤ 47
47 < ...	≤ 50
50 < ...	≤ 52
52 < ...	≤ 55
55 < ...	≤ 57
57 < ...	≤ 60
60 < ...	

Noise Map Objects

- Road
- Building
- Receiver
- Building Evaluation
- Calculation Area

Project Engineer: Ollie Harrison
Date: 11/08/2026

Figure 5 - Nighttime Overheating Risk Assessment - Calculation at 4.0m above ground level



Project:
Oakenrod
Rochdale

Project-No:
51-888

Client:
Stonebond Properties

**Predicted Noise Level,
LAeq,T (dB)**

... <= 50.0

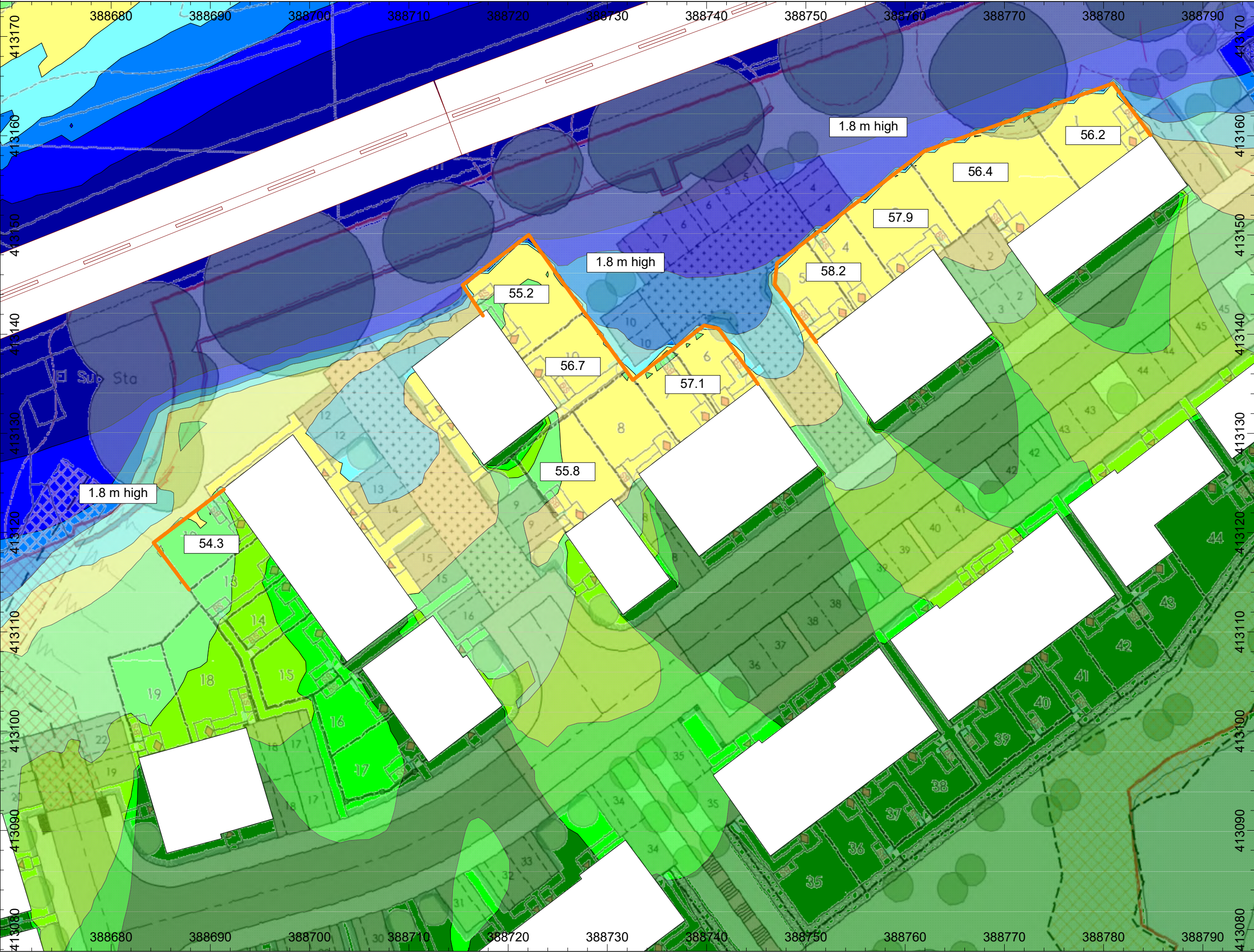
50.0 < ...

Noise Map Objects

- Road
- Building
- Receiver
- Building Evaluation
- Calculation Area

Project Engineer: Ollie Harrison
Date: 11/08/2026

Figure 6 - Daytime Grid Noise Map With Mitigation - Calculation at 1.5m above ground level

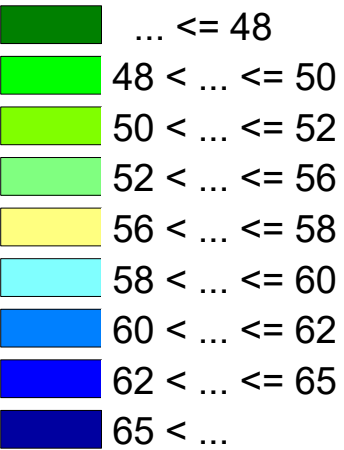


Project:
Oakenrod
Rochdale

Project-No:
51-888

Client:
Stonebond Properties

**Predicted Noise Level,
LAeq,T (dB)**



Noise Map Objects

- Road
- Building
- Barrier
- Receiver
- Calculation Area



Project Engineer: Ollie Harrison
Date: 11/08/2026