



Prepared for: Kronospan Ltd

September 2023

3046-01- Noise and Vibration Impact Assessment Addendum



Introduction

- 1.1.1 This report provides an Addendum to the Noise and Vibration Impact Assessment set out at Chapter 8.0 of the Environmental Statement (ES) for the Proposed Development, which formed part of the initial planning submission made to Wrexham County Borough Council (WCBC) in December 2022 and a subsequent Regulation 24 submission made to WCBC in July 2023. This Addendum considers the noise and vibration implications of revisions to the design of the Proposed Development and whether this would affect the conclusions made in the ES regarding noise and vibration effects.
- 1.1.2 For a description of the revisions to the Proposed Development design refer to the cover letter (dated September 2023) that accompanies the further Regulation 24 (of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017) submission to WCBC. In summary, the revisions would comprise the removal of the northern part of the previously proposed bund located along the eastern boundary of the Site, adjacent to the B5070 Holyhead Road. This would result in associated revisions to the noise levels for the Proposed Development at NSRs. The updated General Arrangement is shown on Figure 4.1_revB and the updated Illustrative Landscape Masterplan reflecting the removal of the previously proposed bund and the inclusion of a further acoustic screen along the access road is presented on Figures 4.3a_revB and 8.2_revB.

Construction Effects

- 1.1.3 The effects of construction of the Proposed Development would be similar to those described in Chapter 8.0 of the ES. Given that the proposed bund along the eastern perimeter of the Site would be less extensive, the noise and vibration effects associated with the construction of this feature would be less than stated in Chapter 8.0. The inclusion of a further acoustic screen would have also no effect on predicted construction noise levels within the ES. These changes would not affect any of the conclusions made regarding construction stage effects and therefore they would remain as stated in Chapter 8.0.

Further Mitigation, Monitoring and Enhancement

- 1.1.4 As a result of the changes to the design, the following updates are made to the relevant sections of the Noise and Vibration Chapter 8.0 of the ES:



1.1.5 Paragraph 8.7.3 update:

*Further noise mitigation would be required to help reduce noise impacts during the operational phase. This would include the following additional measures which can be viewed at **Figure 8.2**:*

- a) *Solid acoustic screen east of the lorry park to a height of 5m (e.g. cbf or brick wall and fence on top to a minimum mass of 15kg/m²).*
- b) *Solid acoustic screen west of the lorry park and east of the HGV access road (the western arm of the proposed roundabout as it starts to head towards the proposed lorry park) to a height of 3m (e.g. cbf or brick wall and fence on top to a minimum mass of 10kg/m²).*
- c) *The embankment east of the lorry park extended to a minimum height of 4m; the bund along the eastern boundary (i.e. beyond the lime kiln location) will then taper down from 4m to existing ground level. The proposed finished height and location of the embankment is shown using spot heights on **Figure 4.1 rev B** and **Figure 4.3a rev B**.*
- d) *Engines would be turned off when parked.*

Summary of Potential Residual Effects

1.1.6 Tables 8.29 and 8.30 have been updated as follows.

Table 8.29: Predicted Noise Contribution from Proposed Development during Daytime (with Additional Noise Mitigation Measures)

Receptor Position (Refer to Figure 8.1)	Time Period (0700-2300 hours)	Predicted Rating ¹ Noise Level from Site LAeq _{1hr} dB	Assessment ² Baseline Sound Level LA90 _{1hr} dB [LAeq]	Rating ¹ compared to Baseline Sound LAeq _{1hr} dB	Noise Change ³ LAeq dB
R1. Receptors off Wern & Offa (east – Lodgevale Park)	Daytime	35-40	45-48 [57]	-13 to -6	0 to +0.1
R2. Receptors off Old Black Park Road (northeast)	Daytime	42	51 [61]	-9	+0.1
R3. Afon Bradley Farm (northwest)	Daytime	44	43 [51]	+1	+0.8
R4. Bryn Hyfryd (south)	Daytime	39-42	48 [58]	-9 to -6	+0.1
R5. West View (southeast)	Daytime	27-39	45-48 ⁴ [57]	-21 to -6	0 to +0.1
R5. George Street (southeast)	Daytime	31	33-35 ⁴ [40]	-4 to -2	+0.5
R6. New Hall Farm (west)	Daytime	26	38 [48]	-12	+0.3



Receptor Position (Refer to Figure 8.1)	Time Period (0700-2300 hours)	Predicted Rating ¹ Noise Level from Site LAeq _{1hr} dB	Assessment ² Baseline Sound Level LA90 _{1hr} dB [LAeq]	Rating ¹ compared to Baseline Sound LAeq _{1hr} dB	Noise Change ³ LAeq dB
R7. Canal & Marina (west)	Daytime	34-40	43 [51]	-9 to -3	+0.1 to +0.3

Note 1: Noise characteristics at receptor locations do not include a penalty due to masking from residual sound levels.

Note 2: Based on a period of a week or 5-days of baseline sound monitoring including a weekend at NSRs.

Note 3: Column 6 is calculated by the logarithmic addition of columns 3 and column 4 **Leq** level in [] and subtraction of the background **Leq** noise level (i.e. column 4 in []).

Note 4: West View is at a similar distance to Wern monitoring position, George Street monitoring position was set back from Holyhead Road and therefore screened by housing closer to the main road producing lower baseline levels.

Table 8.30: Predicted Noise Contribution from the Proposed Development during Night-time (with Additional Noise Mitigation Measures)

Receptor Position (Refer to Figure 8.1)	Time Period (2300-0700) hours)	Predicted Rating ¹ Noise Level from Site LAeq _{15mins} dB	Assessment ² Baseline Sound Level LA90 dB [LAeq]	Rating ¹ Compared to Background Sound LAeq _{15mins} dB	Noise Change ³ LAeq dB
R1. Receptors off Wern & Offa (east – Lodgevale Park)	Night-time	35-41	40 [52]	-5 to +1	+0.1 to +0.3
R2. Receptors off Old Black Park Road (northeast)	Night-time	44	42 [55]	+2	+0.3
R3. Afon Bradley Farm (northwest)	Night-time	45	43 [49]	+2	+1.5
R4. Bryn Hyfryd (south)	Night-time	43-44	46 [53]	-3 to -2	+0.4 to +0.5
R5. West View (southeast)	Night-time	28-38	38-41 ⁴ [52]	-13 to 0	0 to +0.2
R5. George Street (southeast) ⁴	Night-time	30	30-31 [37]	-1 to 0	+0.8
R6. New Hall Farm (west)	Night-time	26	34-36 [47]	-10 to -8	0
R7. Canal & Marina (west)	Night-time	33-37	43 [49]	-10 to -6	+0.1 to +0.3

Note 1: With additional mitigation no character correction for engine noise at R1 to R5.

Note 2: Based on a week or 5-day period of baseline sound monitoring including a weekend at NSRs.

Note 3: Column 6 is calculated by the logarithmic addition of columns 3 and column 4 **Leq** level in [] and subtraction of the background **Leq** noise level (i.e. column 4 in []).

Note 4: West View is at a similar distance to Wern monitoring position, George Street monitoring position was set back from Holyhead Road and therefore screened by housing closer to the main road producing lower baseline levels.

1.1.7 The results of updated noise predictions provided in Tables 8.29 and 8.30 show a slight reduction in noise levels at NSRs. Chapter 8.0 of the ES concluded that the impact magnitude at all receptors would be **negligible to slight** and considered to represent a **neutral to minor** level of effect, and **not significant**, which remain unchanged.



Cumulative Effects

1.1.8 Tables 8.31 and 8.32 have been updated as follows.

Table 8.31: Predicted Noise Contribution from the Other Cumulative Projects

Receptor Position (Refer to Figure 8.1)	Time Period	Cumulative Noise Level from other Cumulative Projects Plant $L_{Aeq,T}$ dB	Predicted Noise Contribution from Proposed Development (with Additional Mitigation) $L_{Aeq,T}$ dB	Total Noise ¹ Level (Cumulative Projects & Proposed Development) $L_{Aeq,T}$ dB	Increase In Noise Level $L_{Aeq,T}$ dB
R1. Receptors off Wern & Offa (east – Lodgevale Park)	Daytime	35	40	41.2	+1.2
	Night-time	35	41	42.0	+1.0
R2. Receptors off Old Black Park Road (northeast)	Daytime	31	42	42.3	+0.3
	Night-time	31	44	44.2	+0.2
R3. Afon Bradley Farm (northwest)	Daytime	32	44	45.2	+0.2
	Night-time	32	45	45.2	+0.2
R4. Bryn Hyfryd (south)	Daytime	35	42	43.6	+0.6
	Night-time	35	44	44.5	+0.5
R5. West View (southeast)	Daytime	36	39	40.8	+1.8
	Night-time	36	38	40.1	+2.1
R5. George Street (southeast)	Daytime	34	31	35.8	+1.8
	Night-time	34	30	35.4	+1.4
R6. New Hall Farm (west)	Daytime	37	26	37.3	+0.3
	Night-time	37	26	37.3	+0.3
R7. Canal & Marina (west)	Daytime	38	40	42.1	+2.1
	Night-time	38	37	40.5	+2.5

Note 1: Column 5 is calculated by the logarithmic addition of columns 3 and column 4.

Table 8.32: Predicted Noise Contribution from Proposed Development & Cumulative Development (with Additional Noise Mitigation Measures)

Receptor Position (Refer to Figure 8.1)	Time Period	Predicted Rating Total Site Noise Level from $L_{Aeq,1hr}$ dB	Assessment Baseline Sound Level $LA_{90,1hr}$ dB [LAeq]	Rating compared to Baseline Sound $L_{Aeq,1hr}$ dB	Noise Change ¹ L_{Aeq} dB
R1. Receptors off Wern & Offa (east – Lodgevale Park)	Daytime	41	45-48 [57]	-7 to -4	+0.1
	Night-time	42	40 [52]	+2	+0.4
R2. Receptors off Old Black Park Road (northeast)	Daytime	42	51 [61]	-9	+0.1
	Night-time	44	42 [55]	+2	+0.3
R3. Afon Bradley Farm (northwest)	Daytime	45	43 [51]	+2	+1.0
	Night-time	45	43 [49]	+2	+1.5
R4. Bryn Hyfryd (south)	Daytime	44	48 [58]	-4	+0.2
	Night-time	45	46 [53]	-1	+0.6
R5. West View (southeast)	Daytime	41	45-48 [57]	-7 to -4	+0.1
	Night-time	40	38-41 [52]	-1 to +2	+0.3
R5. George Street (southeast)	Daytime	36	33-35 [40]	+1 to +3	+1.5
	Night-time	35	30-31 [37]	+4 to +5	+2.1



Receptor Position (Refer to Figure 8.1)	Time Period	Predicted Rating Total Site Noise Level from LAeq _{1hr} dB	Assessment Baseline Sound Level LA90 _{1hr} dB [LAeq]	Rating compared to Baseline Sound LAeq _{1hr} dB	Noise Change ¹ LAeq dB
R6. New Hall Farm (west)	Daytime	37	38 [48]	-1	+0.3
	Night-time	37	34-36 [47]	+1 to +3	+0.4
R7. Canal & Marina (west)	Daytime	42	43 [51]	-1	+0.5
	Night-time	41	43 [49]	-2	+0.6

Note 1: Column 6 is calculated by the logarithmic addition of columns 3 and column 4 **Leq** level in [] and subtraction of the background **Leq** noise level (i.e. column 4 in []).

- 1.1.9 The updated tables show the effect of noise contribution from the operation of other cumulative developments as identified in Chapter 8.0 of the ES (ref. paragraph 8.9.3). The results show that the effect of the Proposed Development (including cumulative development) when considered in context with baseline levels would result in a **negligible impact** with no significant change in overall noise levels.

Vibration Effects

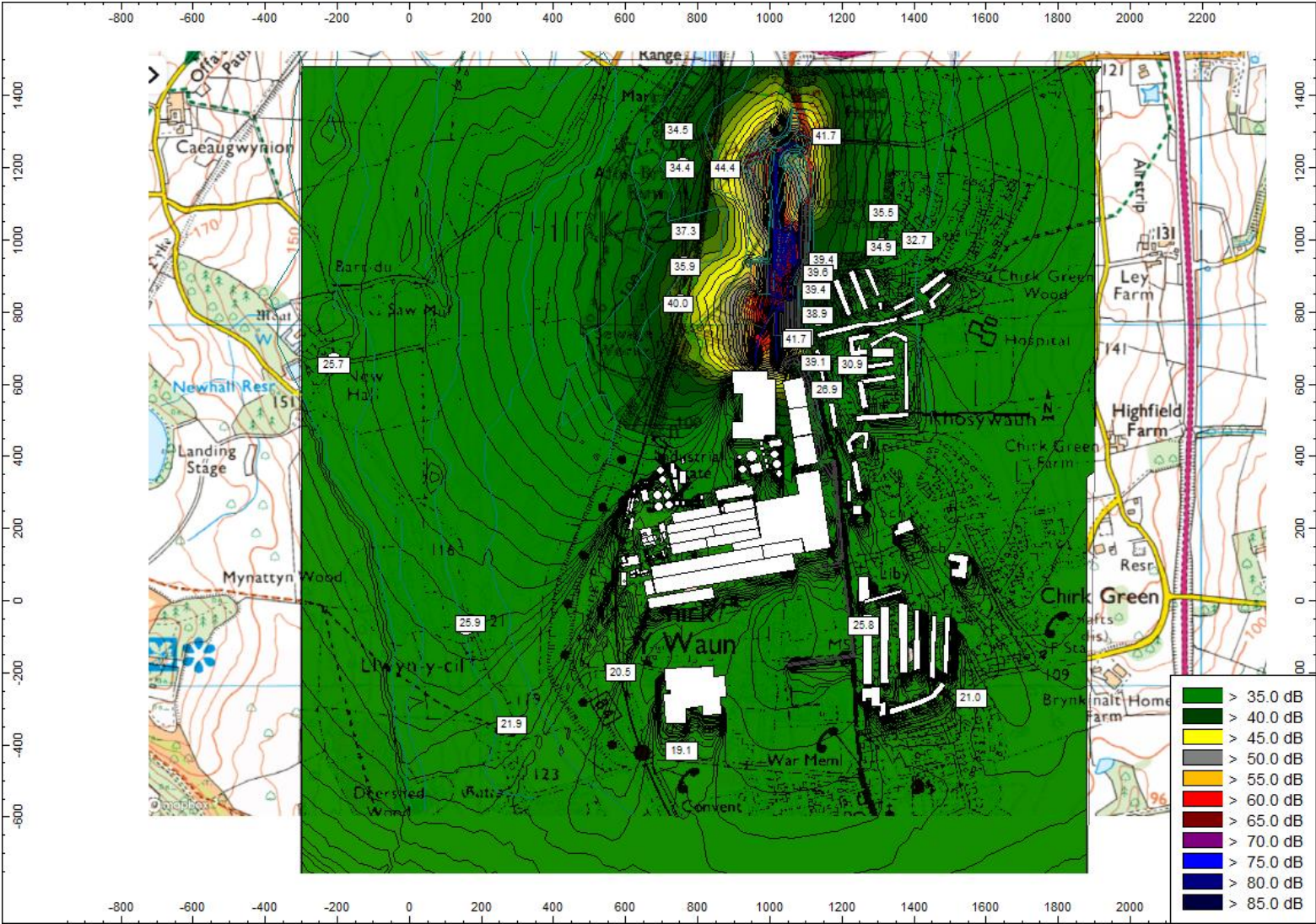
- 1.1.10 The proposed revisions to the design of the Proposed Development would result in no change to the conclusions in relation to vibration as set out in Chapter 8.0 of the ES.

Conclusions

- 1.1.11 The proposed revisions to the design of the Proposed Development would result in the conclusions set out in Chapter 8.0 of the ES remaining valid.
- 1.1.12 The assessment shows that there would be no significant impacts at all NSRs during the construction or operation of the Proposed Development following the implementation of appropriate mitigation.



NOISE MAP 8-1: NOISE CONTOURS FOR DAYTIME OPERATIONS (WITH MITIGATION)



NOISE MAP 8-2: NOISE CONTOURS FOR NIGHT-TIME OPERATIONS (WITH MITIGATION)

