

6.0 Noise and Vibration

6.1.1 This chapter considers the details of Plot 1 submitted for approval in the Reserved Matters Application to determine the extent to which the noise and vibration effects of Plot 1 Reserved Matters Application remain in conformity with the 2019 ESA.

6.2 Scope of the Assessment

6.2.1 This chapter assesses the likely significant effects of the Proposed Development in terms of noise and vibration.

6.2.2 The chapter describes: any changes to legislation, policy and guidance, the changes to baseline conditions, assessment of effects of the Reserved Matters Application, the mitigation measures required to prevent, reduce or offset any significant adverse effects and the cumulative effects associated with the Proposed Development in combination with other developments within 1 km of the Site.

6.2.3 An updated consideration of effect interactions is provided in Environmental Compliance Report **Chapter 10: Cumulative effects and Conclusions**.

6.3 Changes to Legislation, Policy and Guidance

6.3.1 Since submission of the planning application for the Bishopsgate Goodsyrd Plot 1 and the 2019 ESA, the LB Hackney borough wide Local Plan 2039, known as LP33 was adopted on 22nd July 2020 and is the key document used in determining planning applications in Hackney. The Local Plan as adopted remains broadly as per the Main Modifications version considered in the 2019 ESA, with no changes to the requirements listed which require proposals to mitigate the impact of noise and vibration pollution. As such, no further considerations for noise have been introduced by the adoption of the LB Hackney Local Plan.

6.3.2 Likewise, the Tower Hamlets Local Plan 2031: Managing Growth and Sharing Benefits was adopted on 15 January 2020, however remains broadly as per the version considered in the 2019 ESA, with no further considerations for noise introduced.

6.3.3 The National Planning Policy Framework (NPPF) was updated in September 2023. The policies remain broadly the same as none of the text on noise was changed. As such, no further considerations for noise in relation to the changes in the NPPF have been considered.

6.3.4 No other changes in legislation, policy, and guidance have occurred since the 2019 ESA submission.

6.4 Changes to Baseline Conditions

6.4.1 The Chapter adopts the baseline conditions set out previously in the 2019 ESA. This is considered appropriate in this case because the surrounding land uses have remained as measured in the 2019 survey.

6.5 Assessment of Effects of the Reserved Matters Application

6.5.1 The changes that affect the noise and vibration assessment since the 2019 ESA are the revised construction programme and changes in vehicle flows associated with the revised programme for the Proposed Development.

6.5.2 Due to the changes to the proposed construction programme, new future baseline years for assessment have been identified. For the traffic assessments peak construction year and peak operation year are 2027 and 2030 respectively.

Construction Traffic

6.5.3 Noise from road traffic sources during construction of the Proposed Development has been assessed based on the updated traffic data associated with the revised programme for the Proposed Development. In effect, the overall number of vehicle movements on the local road network will marginally increase, but movement on individual roads near or within the Site may stay the same.

6.5.4 The traffic survey locations are presented in **Figure 1** in **Appendix F**.

6.5.5 **Table 6.1** outlines the predicted change in noise level associated with construction traffic on the surrounding road network during peak construction year 2027.

Table 6.1 Predicted noise level change on surrounding road network during construction year 2027

Road Name	Predicted Change in Traffic Noise Level, $L_{A10,18hr}$ dB	DMRB Short Term Impact Level
Site A	0.0	No Change
Site B	0.1	Negligible
Site C	0.1	Negligible
Site D	0.0	No Change
Site E	0.0	No Change
Site F	0.0	No Change
Site G	0.0	No Change
Site H	0.0	No Change
Site I	0.0	No Change
Bethnal Green Road East of Sclater Street	0.1	Negligible

Road Name	Predicted Change in Traffic Noise Level, $L_{A10,18hr}$ dB	DMRB Short Term Impact Level
Brick Lane (North)	0.0	No Change
Brick Lane (South)	0.0	No Change
Holywell Lane	0.0	No Change

- 6.5.6 The assessment indicates the predicted change in traffic noise at Site B, Site C and Bethnal Green Road East of Sclater Street will have a negligible short-term impact according to the DMRB Short Term Traffic Noise Effect Criteria.
- 6.5.7 The construction traffic noise level at all other local road links is not predicted to change.
- 6.5.8 In the 2019 ESA the overall effect due to construction traffic noise was negligible, and this conclusion remains valid.
- 6.5.9 **Table 3 in Appendix F** presents the traffic data provided by the WSP for peak construction year 2027 with and without the Proposed Development.

Construction Noise

- 6.5.10 The assessment of construction noise effects in the 2019 ESA concluded that the noise levels from construction activities were predicted to be higher than existing ambient noise levels at the closest noise sensitive receptors to the works so a temporary minor to moderate adverse effects were likely. Where minor to moderate adverse effects were predicted, the 2019 ESA stated that further best practicable means measures should be investigated to minimise noise from the construction Site, in which case the effect would be minimised as far as is practicable and, in some cases, reduced to negligible effects.
- 6.5.11 In keeping with the previous approach in the 2019 ESA, the construction phases for the Proposed Development were assumed to occur concurrently and are proposed to constitute the following main activities:
 - Site Clearance;
 - Enabling Works;
 - Foundations & Substructure works;
 - Super Structure works;
 - Cladding; and
 - Internal Fit Out.

- 6.5.12 For the purposes of this assessment, a worst-case scenario has been assumed where the closest proposed construction phases overlap, and loudest activities are taking place simultaneously.
- 6.5.13 Predictions of noise levels associated with construction activities listed above have been undertaken at the receptors identified in the 2019 ESA.
- 6.5.14 **Table 6.2** presents the predicted $L_{Aeq,10hr}$ levels for a working day ($L_{Aeq,5hr}$ for Saturdays) at each receptor.

Table 6.2 Predicted construction noise level at each receptor group

Receptor	Baseline noise level at receptor, $L_{Aeq,10hr}$ ($L_{Aeq,5hr}$ for Saturdays) (dB) Façade Predictions	Worst Case Construction noise level at receptor, $L_{Aeq,10hr}$ ($L_{Aeq,5hr}$ for Saturdays) (dB) Façade Predictions	Impact Category
R1: 1 Sclater Street	71	75	Minor
R2: 2-5 Sclater Street	71	75	Minor
R3: 51 Sclater Street	71	73	Minor
R4: 102 Sclater Street	71	77	Moderate
R5: 178 Brick Lane	71	74	Minor
R6: 105 Brick Lane	68	69	Minor
R7: 13 Sheba Place	68	69	Minor
R8: 56 Quaker Street	68	68	Minor
R9: 10 Quaker Street	68	77	Moderate
R11: 169 Commercial Street	74	73	Negligible
R12: 2-4 Great Eastern Street	74	66	Negligible
R13: 1 Great Eastern Street	74	68	Negligible
R14: 13 Bethnal Green Road	71	69	Negligible
R15: 56 Shoreditch High Street	71	69	Negligible
R16: 196 Shoreditch High Street	74	67	Negligible

- 6.5.15 Based on **Table 6.2** the assessment indicates that, with all plant working at the closest location, the predicted noise levels would have a temporary (medium-term) moderate adverse effect at the R4 and R9. When all plant working at the closest location, the predicted noise levels would have a temporary (medium-term) minor adverse effect at this R1, R2, R3, R5, R6, R7 and R8. The predicted impact at receptors R11, R12, R13, R14, R15 and R16 are predicted to be negligible.

- 6.5.16 The effects of construction activities on receptors beyond 50 m to the Site perimeter are deemed to be negligible.
- 6.5.17 It should be noted that the calculation methodology used assumes that no screening or other forms of attenuation are provided (except site hoarding), and a worst-case distance has been used for all work activities.
- 6.5.18 Predicted noise levels are therefore conservative and in practice the actual noise levels may be lower than those predicted.
- 6.5.19 The nature of the construction works mean that the conservative situation predicted may only exist for a matter of days, or even hours. There would be regular periods, even during a single day, when the assumed plant would not be in operation, for example during breaks or changes of working routine. As discussed in the 2019 ESA, all works would be undertaken in accordance with best practice, and appropriate mitigation adopted where applicable.

Operation Noise

- 6.5.20 Noise from road traffic sources during operation of the Proposed Development has been assessed based on the updated traffic data associated with the revised programme for the Proposed Development. In effect, the overall number of vehicle movement on the local road network will marginally increase, but movement on individual roads near or within the Site may stay the same.
- 6.5.21 In the 2019 ESA the overall effect due to operational traffic noise was negligible in accordance with the DMRB Short- and Long-Term impact level.
- 6.5.22 **Table 6.3** outlines the predicted change in noise level associated with operational traffic on the surrounding road network during peak operation year 2030.

Table 6.3 Predicted noise level change on surrounding road network during operation year 2030

Road Name	Predicted Change in Traffic Noise Level, LA10,18hr dB	DMRB Short Term Impact Level	DMRB Long Term Impact Level
Site A	-0.1	No Change	No Change
Site B	-0.2	No Change	No Change
Site C	0.0	No Change	No Change
Site D	0.5	Negligible	Negligible
Site E	-0.1	No Change	No Change
Site F	0.6	Negligible	Negligible
Site G	-0.1	No Change	No Change
Site H	-0.2	No Change	No Change
Site I	-0.2	No Change	No Change

Road Name	Predicted Change in Traffic Noise Level, LA10,18hr dB	DMRB Short Term Impact Level	DMRB Long Term Impact Level
Bethnal Green Road East of Sclater Street	-0.2	No Change	No Change
Brick Lane (North)	-0.2	No Change	No Change
Brick Lane (South)	-0.1	No Change	No Change
Holywell Lane	-0.1	No Change	No Change

- 6.5.23 The assessment indicates the predicted change in traffic noise at Site D and Site F will have a negligible short-term and long-term impact according to the DMRB Short and Long Term Traffic Noise Effect Criteria.
- 6.5.24 The operational traffic noise level at all other local road links is predicted to have a positive impact or is not predicted to change.
- 6.5.25 In line with the conclusions of the 2019 ESA, the overall effect due to operational traffic noise on the local road network will be negligible in accordance with the DMRB Short- and Long-Term impact level..
- 6.5.26 **Table 4 in Appendix F** presents the traffic data provided by the WSP for peak operational year 2030 with and without the Proposed Development.

6.6 Requirement for Additional Mitigation

Construction Traffic

- 6.6.2 No additional mitigation is proposed. The assessment shows that the effect of construction traffic noise is likely to be negligible with embedded mitigation measures.

Construction Noise

- 6.6.3 With regards to the construction noise, there are moderate and minor effects predicted at R1, R2, R3, R4, R5, R6, R7, R8 and R9.
- 6.6.4 Where adverse effects are predicted, best practicable means measures should be investigated to minimise noise from the construction site.
- 6.6.5 BS5228 does not state criteria for acceptable levels of construction noise, therefore the preferred approach is to reduce noise levels where possible, but with due regard to practicability. Sometimes a greater noise level may be acceptable if the overall construction time, and therefore length of disruption, is reduced.

- 6.6.6 In line with the 2019 ESA mitigation advice, impacts during the noisiest periods should be considered and addressed in terms of “Best Practicable Means”.
- 6.6.7 Some examples of BPM could include but are not limited to:
- Careful selection of construction plant, construction methods and programming;
 - Suitable siting of plant and equipment so as to minimise noise impact on sensitive receptors;
 - Use of site enclosures, and temporary stockpiles to provide acoustic screening;
 - Careful programming so that activities which may generate significant noise would be planned with regard to local occupants and sensitive receptors; and
 - Hoarding would be of a height and extent to achieve appropriate noise attenuation.
- 6.6.8 In addition, impacts should be controlled and managed through the Section 61 process of the Control of Pollution Act 1974.
- 6.6.9 Mitigation measures are recommended to be included within the Construction Environmental Management Plan (CEMP), which has been secured by condition for both LBH (condition 28) and LBTH (condition 27). Additionally, the conditions give reference to BS5228 compliance.
- 6.6.10 With the additional mitigation measures listed above, minor adverse effects are still possible at the closest residential properties surrounding the Site when work occurs directly on the eastern boundary of the Site, however, they will be minimised as far as is practicable and, in most cases, reduced to negligible effect.

6.7 Consideration of any new Cumulative Schemes

- 6.7.1 Cumulative effects are the combined effects of several development schemes (in conjunction with the Proposed Development) which may, on an individual basis be insignificant but, cumulatively, have a significant effect.
- 6.7.2 The 2019 ESA has given consideration to 'Cumulative 'Effects' for schemes located within 1 km radius from the boundary of the Site. These committed schemes have been listed in **Chapter 1**.

Construction Noise

- 6.7.3 Committed developments that are located within approximately 200 m of the identified sensitive receptors can give rise to a potential cumulative noise and vibration impacts should construction works take place simultaneously on all sites.
- 6.7.4 Several committed developments are within 200 m of the Site boundary and so potential cumulative noise and vibration impacts are possible.
- 6.7.5 The following nearby committed development schemes are identified as potentially affecting some of the same receptors as the Proposed Development during construction:
- Block C, Truman's Brewery, 91 Brick Lane, (LPA ref: PA/21/00140/NC, PA/21/00145/NC, PA/14/02147);
 - Land bounded by Elder Street, Folgate Street, Blossom Street, Norton Folgate, Shoreditch High Street and Commercial Street, E1 (LPA ref: PA/14/03548, PA/19/01608);
 - Huntingdon Industrial Estate Land bounded by 2-10 Bethnal Green Road, 1-5 Chance Street (Huntingdon Industrial Estate) and 30-32 Redchurch Street (LPA ref: PA/20/00557);
 - The Stage (Plough Yard) (LPA Ref: 2012/3871, 2015/3276, 2015/37112015/3453);
 - 201-207 Shoreditch High Street (LPA Ref: 2015/2403);
 - G F I House, 9 Hewett Street, Hackney, London, EC2A 3RP (LPA ref: 2021/0406);
 - Shoreditch Village (183-187 Shoreditch High Street, bounded by Holywell Lane, New Inn Yard and rail viaduct) (LPA Ref: 2017/0596); and
 - 140, 146 Brick Lane and 25 Woodseer Street (LPA ref: PA/20/00415).
- 6.7.6 Locations of the schemes can be found in **Chapter 1 Introduction – Figure 1.12**
- 6.7.7 Compliance with the mitigation measures detailed within the 2019 ESA will reduce these effects as far as practicable.
- 6.7.8 The contractors will liaise with LBTH and LBH in order to establish working guidelines in order to reduce the impacts of cumulative construction works noise.

Construction Off-Site Traffic Noise

- 6.7.9 Cumulative noise effects from construction traffic from planned committed developments have been considered and the off-site construction traffic figures used in this assessment include the cumulative developments. As a result, the cumulative developments are unlikely to give rise to any additional adverse effects. The contractors should liaise with LBTH and LBH to establish a traffic management plan to minimise potential for effects of cumulative construction traffic noise along surrounding roads.

Operational Traffic Noise

- 6.7.10 The operational traffic assessment presented above includes traffic data for the cumulative schemes listed in the vicinity of the Site. As a result, the change in noise associated with increased development traffic and committed developments on the surrounding road network has been predicted and is presented in **Table 6.3**.

6.8 Summary and Conclusion

- 6.8.1 There are no identified changes to the baseline noise conditions.
- 6.8.2 The assessment of the road traffic noise change due to revisions to the programme for the Proposed Development has been assessed. The predicted overall effect due to operation and construction traffic noise is negligible. This is in agreement with the conclusions of the 2019 ESA which also predicted negligible effects on the local road network.
- 6.8.3 The impact of noise and vibration during construction of the Proposed Development has been re-assessed due to revisions to the Proposed Development programme. Temporary minor to moderate adverse effects have been predicted at the closest receptors to the Proposed Development as a result of construction works, in line with the conclusions from the 2019 ESA. Best practicable means measures have been recommended to minimise adverse noise and vibration impacts from the construction activities, which when implemented are capable of reducing the impact of noise and vibration during the construction to a non-significant effect.
- 6.8.4 Committed schemes that are located within approximately 200 m of the identified sensitive receptors can give rise to a potential cumulative noise and vibration impacts should construction works take place simultaneously on all sites. The contractors will liaise with LBTH and LBH in order to establish working guidelines in order to reduce the impacts of cumulative construction works noise.
- 6.8.5 Cumulative noise from construction traffic from planned schemes is unlikely to give rise to any additional adverse effects. The contractors will liaise with LBH and LBTH to establish a traffic management plan, which has been secured by condition 29 (LBH) and condition 28 (LBTH), in order to reduce potential for effects of cumulative construction traffic noise along surrounding roads.