

# **M60/M62/M66 Simister Island Interchange**

**TR010064**

## **6.5 FIRST ITERATION ENVIRONMENTAL MANAGEMENT PLAN APPENDIX B: OUTLINE NOISE AND VIBRATION MANAGEMENT PLAN**

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009

**VOLUME 6**

April 2024

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedure) Regulations 2009**

**M60/M62/M66 Simister Island Interchange  
Development Consent Order 202[ ]**

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APPENDIX B: OUTLINE NOISE AND VIBRATION MANAGEMENT PLAN**

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<b>Regulation Reference</b>	Regulation 5(2)(a)
<b>Planning Inspectorate Scheme Reference</b>	TR010064
<b>Application Document Reference</b>	TR010064/APP/6.5
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<b>Version</b>	<b>Date</b>	<b>Status of Version</b>
P01	April 2024	DCO Application Issue

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## Outline Noise and Vibration Management Plan

### B.1 Background to the plan

- B.1.1 This Outline Noise and Vibration Management Plan (Outline NVMP) sets out the measures that will be used by the Principal Contractor (PC) to manage noise and vibration generated by construction of the M60/M62/M66 Simister Island Interchange (the "Scheme"), which can affect residential occupants, users of non-residential noise and vibration sensitive buildings, settings of heritage sites and sensitive ecological sites and habitats.
- B.1.2 This management plan will be updated by the PC and included within the Second Iteration Environmental Management Plan (EMP), as appropriate and necessary, prior to commencement of works in accordance with Schedule 2 of the draft Development Consent Order (DCO) (TR010064/APP/3.1) and the requirements of the First Iteration EMP.

### B.2 Responsibilities

- B.2.1 In relation to the control and management of noise and vibration, the PC shall establish the appropriate roles and responsibilities for site staff in accordance with the roles and responsibilities set out in Chapter 2 of the First Iteration EMP.

### B.3 Legislation and Consent Requirements

- B.3.1 The Control of Pollution Act 1974 controls noise atmospheric pollution.
- B.3.2 Under the Control of Pollution Act, the relevant planning authority may serve notice imposing requirements as to how and when works to roads are carried out in order to limit construction noise arising from such works and having regard to the need to ensure the best practicable means are employed to minimise noise.
- B.3.3 The Control of Pollution Act sets out the procedure for applying to the Relevant planning authority for consent prior to carrying out works with the intention of agreeing noise and vibration limits in advance of works and avoiding the need for service of a notice for control of noise under the Control of Pollution Act.
- B.3.4 The Environmental Protection Act 1990 provides for the control of air pollution, land wastes, nuisance and radioactive substances in order to protect the environment. Part III of the Environmental Protection Act defines what may constitute a statutory nuisance (including noise prejudicial to health), what activities are specifically exempt, the

procedures the relevant planning authority must follow for service of notices to deal with abatement of statutory nuisances and the penalties payable for conviction of causing a statutory nuisance. Local authorities have a duty under the Environmental Protection Act to inspect their area from time to time to detect statutory nuisances.

- B.3.5 Construction of the Scheme would be authorised by, and undertaken in accordance with, the draft DCO (TR010064/APP/3.1). Except in the case of an emergency, before any works are undertaken outside of standard working hours and which comprise noise generating activities, the PC shall consider submission of an application to the relevant planning authority for prior consent under section 61 of the Control of Pollution Act.
- B.3.6 If works for which a section 61 consent has been applied for have to be rescheduled or modified, e.g. method or working hours change, for reasons not envisaged at the time of the section 61 consent submission, the contractor shall apply for a dispensation or variation from the relevant local planning authority, in advance of the start of those works.

## **B.4 Working Hours**

- B.4.1 The Scheme would comply with the working hours as set out in this plan.
- B.4.2 The PC would adhere to standard working hours as far as is reasonably practicable, except in the case of emergency or in respect of exceptions as set out below.

### **Standard working hours**

- 07:00–19:00 Monday to Friday
  - 07:00–13:00 on Saturday
- B.4.3 The majority of the works will take place either offline or online with appropriate traffic management in place. Standard working hours are detailed in paragraph B.4.2. In addition, there may be an hour before or after these times for site set up and close down (this would include activities such as deliveries, movement to place of work and general preparation works, but would not involve operation of plant or machinery). These periods would not be considered an extension of standard working hours.
- B.4.4 During the summer months, the standard daytime working hours may extend to take advantage of the longer daylight hours:
- 07:00–21:00 Monday to Saturday
- B.4.5 Work undertaken outside standard working hours, as well as on bank holidays, is considered off-peak working. There are certain exceptions

where night-time, weekend, or Bank Holiday working would be required. In addition, there may be an hour before or after these times for site set up and close down (this would include activities such as deliveries, movement to place of work and general preparation works, but would not involve operation of plant or machinery). These periods would not be considered an extension of standard working hours. Off peak working hours are as follows:

**Night working hours**

- 19:00–07:30 Monday to Saturday

**Saturday, Sunday and Bank Holiday working hours**

- 07:00–21:00 Sunday and Bank Holidays
- 21:00–07:00 Sunday and Bank Holidays
- 13:00 – 18:00 Saturdays

B.4.6 Certain works will be required to be undertaken outside of the standard working hours as well as on bank holidays. Off-peak working hours will be required for the following activities:

- Installation, maintenance, and removal of traffic management layouts
- Demolition of existing structures, construction of new structures, and any potential movements of large transporters to deliver bridge superstructures and gantry steel sections to their temporary and permanent locations.
- Piling works for structures and retaining walls.
- Removal, modification, and installation of new signage/technology to existing gantries and traffic signs.
- Central reservation works where daytime working is not suitable due to existing carriageway widths or proximity to existing slip merges/diverges.
- Works on slip roads and designated free flow links where carriageway widths will not allow for daytime works.
- Online works within the verges which cannot be safely completed under the daytime working room available behind the temporary vehicle restraint barrier.
- Cross carriageway duct crossings.
- Installation/removal of street lighting and traffic signals.

- Online pavement construction and white lining of the existing carriageway and surfacing works to tie-in the existing carriageway to the new carriageway.
- Some compounds may be in 24-hour operation at certain stages of the construction programme to facilitate off-peak working.
- Emergency and planned carriageway maintenance and repair works
- Maintenance of plant and equipment requiring 24/7 operation such as pumps.

## **B.5 General control measures**

- B.5.1 Noise and vibration from construction activities will be controlled by employing Best Practicable Means (BPM), as defined under Section 72 of the Control of Pollution Act 1974 and Section 79 of the Environmental Protection Act 1990 at all times.
- B.5.2 BPM shall consider the recommendations of BS 5228: Code of practice for noise and vibration control on construction and open sites (Parts 1 and 2) (BSI, 2014a and 2014b), and BS 7385-2: Evaluation and measurement for vibration in buildings guide to damage levels from ground borne vibration (BSI, 1993).
- B.5.3 BPM will include the control of noise and vibration at source, where reasonably practicable, such as the provision of acoustic screens and the use of less intrusive alarms. Should the application of BPM at source not prove effective and noise exposure exceed the relevant trigger level (as defined in BS 5228-1), the PC will offer noise insulation and temporary rehousing.
- B.5.4 The codes of practice for construction works and piling given in BS 5228 and the guidance therein for minimising noise emissions from the site will be applied where reasonably practical.

### **Control of noise**

- B.5.5 The following noise control measures will be implemented across all construction works where practicable:
- Site management teams shall employ best practice and consider the timing, duration, and phasing of construction activities to cause minimum annoyance to sensitive receptors where practicable and reasonable.
  - Seeded bunds may be used to provide noise and visual screening around the perimeter of the temporary works and construction areas.

- All ancillary plant such as generators, compressors and pumps will be positioned to cause minimum noise disturbance. If necessary, acoustic barriers or enclosures will be provided, where appropriate. Consideration shall be given to the site establishment to ensure that low noise generators are used where reasonably practical.
- Working methods will be developed specific to the area and will consider use of equipment and methods of operations to minimise noise.
- Where reasonably practical fabrication of materials will be undertaken off-site.
- All plant and machinery in intermittent use will be shut down in intervening periods between work or throttled down to a minimum.
- Proper use of plant with respect to minimising noise emissions with regular maintenance will be undertaken.
- Minimising the drop height of materials into hoppers, lorries or other plant.
- Use of less intrusive alarms on vehicles, for example broadband vehicle reversing warnings.
- Works would be planned to reduce the overall number of full carriageway closures required.
- When planning and implementing carriageway closures needing the use of the strategic diversion route, consideration would be given to both the impacts for communities alongside the diversion route as well as aiming to avoid strategic traffic diverting through communities alongside the M60 between junctions 17, 18 and 19 and M66 Junction 3 to achieve an appropriate balance.
- Where full carriageway closures are required, the number of nights that these would be implemented will be kept to below the following timescales: 10 or more days in any 15 consecutive nights, or a total number of nights exceeding 40 in any consecutive 6 months. The provision of temporary noise screening at the edge of working areas where a road traffic noise barrier needs to be temporarily removed to allow access to construction plant to working areas.

## **Control of vibration**

**B.5.6** A review of the construction activities identified two activities that were likely to generate levels of vibration with the potential to create vibration effects for receptors. These include but are not limited to the following:

- Retaining walls piling
- Vibratory compaction



- B.5.7 Where considered necessary, the PC would undertake condition surveys of buildings and structures prior to works likely to create vibration.
- B.5.8 Where potential exists for vibration to arise because of construction activities, the PC would make efforts to minimise vibration effects during construction by implementing the following measures, where practicable:
- The appropriate selection of plant and method of works to minimise vibration as far as practicable, for example piling plant and rollers.
  - Consideration of low vibration working methods, including non-vibratory compaction plant where practicable
  - To limit potential building damage or disturbance to residents, the use of compaction techniques other than vibratory compaction will be investigated for use within 10m of buildings.
  - Where haul roads pass within 100m of a sensitive receptor they would be kept as smooth as practicable, and a reduced speed limit would be considered if complaints are received about vibration.

### **Communication**

- B.5.9 The Principal Contactor will attempt to contact local residents ahead of construction works which may affect them, in order to maintain good relations.
- B.5.10 Community liaison team engagement to ensure local residents are kept informed of upcoming works.
- B.5.11 Stakeholder liaison is an activity that has been ongoing and would continue leading up to and during construction.
- B.5.12 In instances where a member of the public has made a noise and/or vibration complaint, the complaint would be registered in accordance with the site complaints procedure. An investigation would be undertaken by the PC to review the noise and/or vibration control measures and noise and/or vibration levels.

### **Control of subcontractors**

- B.5.13 Subcontractors whose works are likely to give rise to noise, vibration or other annoyance issues must develop appropriate control measures within method statements. These control measures will be communicated to the subcontractors' staff using site inductions and toolbox talks.

## **Noise monitoring and measurement**

### **Baseline Monitoring**

- B.5.14 The existing noise climate near the Scheme is dominated by road traffic noise, predominantly from the M60, M62 and M66, as well as traffic using local roads. There is also a combined railway line and Metrolink tramline that passes over the M60 at the western end of the Scheme, about 240m east of M60 J17. Railway noise would therefore contribute to the local noise climate in some locations.
- B.5.15 A series of baseline noise surveys were undertaken between October and December 2021. These surveys were undertaken at five locations that are representative of individual or groups of sensitive receptors. The full details of the noise measurement surveys, including the rationale for the selection of each location, is provided in Appendix 11.3: Baseline Noise Survey Results of the Environmental Statement Appendices (TR010064/APP/6.3). The noise survey locations are indicated in Figure 11.1 of the Environmental Statement Figures (TR010064/APP/6.2), which summarises the locations and baseline measurement results.
- B.5.16 Noise surveys undertaken between October and December 2021 are considered sufficient to establish the baseline for construction, as the survey locations were selected with this requirement in mind. Should an amendment to the baseline be required (for example, due to a change in local noise environment) this would be discussed with the relevant planning authority.

### **Construction Monitoring**

- B.5.17 Noise and/or vibration monitoring during construction would be carried out by the PC to ensure ongoing compliance with all controls and, where relevant, consent for the works.
- B.5.18 Monitoring would include physical measurements and observational checks, such as:
- Review of BPM and implementation of noise and/or vibration control measures; for example, location and condition of local noise screening.
  - Verification that the identified noise and vibration mitigation measures are in place for activities where there is potential for likely significant effects to occur.
  - Compliance with agreed hours of working.

- Measurement of noise and/or vibration levels; for example, attended noise and/or vibration measurements at the start of the high-risk activities to check levels against agreed thresholds.
  - Monitoring noise and vibration procedures and practices to check adverse effects are no worse than those predicted.
  - Where applicable, review of compliance with specific consent conditions and noise assessment as discussed in Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1).
  - Number and types of plant, construction method, and where applicable, any specific consent conditions.
  - Vibration measurement surveys during construction will be carried out by the PC, if required, and as agreed with the relevant local authorities.
- B.5.19 In instances where a member of the public has made a noise and/or vibration complaint, the complaint would be registered in accordance with the site complaints procedure. An investigation would be undertaken by the PC to review the noise and/or vibration control measures and noise and/or vibration levels.
- B.5.20 Given the scope of the works and the number of potentially affected receptors the Scheme would not permanently measure noise and/or vibration levels at any single location throughout the duration of the works.
- B.5.21 The location and duration of noise and/or vibration measurements to be taken during construction of the Scheme would be identified prior to starting that phase of work onsite and included within the NVMP included within the Second Iteration EMP.
- B.5.22 The reporting requirements would be included within the NVMP included within the Second Iteration EMP.
- B.5.23 It is anticipated that noise measurements would be undertaken for works likely to cause significant effects as identified within Section 11.10 of Chapter 11: Noise and vibration, of the Environmental Statement (TR010064/APP/6.1).
- B.5.24 Suitably trained staff would be tasked with undertaking the noise and/or vibration measurements onsite where required.
- B.5.25 Where appropriate the results of noise level measurements would be compared with the noise assessment and results of vibration level measurements would be compared with specific trigger thresholds.
- B.5.26 If noise and/or vibration levels exceed agreed thresholds the PC would:

- Determine as far as is reasonably practicable the activities/plant responsible for the exceedances and if this is due to the construction of the Scheme.
- Review BPM and implementation of noise and/or vibration control measures
- Ascertain if there are any reasonably practicable means of reducing the measured construction noise and/or vibration levels.
- Monitoring for vibration shall be undertaken during piling works near statutory undertakers if required. Specific trigger thresholds are to be agreed with the statutory undertaker and will be included in the operation specific RAMS.

## **B.6 Noise Insulation and Temporary Rehousing**

**B.6.1** In the event that it is not practical to mitigate construction noise onsite or reduce construction noise exposure to tolerable levels the PC would offer noise insulation or temporary rehousing to qualifying parties when:

- Noise levels are predicted or measured to exceed the relevant trigger level (as defined in BS 5228-1 (British Standards Institution (BSI) 2014a)) for at least 10 days out of any period of 15 consecutive days or alternatively 40 days in any six-month period at affected properties.
- The property complies with all other requirements of the Noise Insulation Regulations 1975 (as amended).
- The property is lawfully occupied as a permanent dwelling.
- With regards to noise insulation only, noise insulation does not already exist that is of an equivalent standard to that which would be allowed for under the Noise Insulation Regulations 1975 (as amended).

**B.6.2** The framework to determine if any dwellings are eligible for noise insulation or the residents eligible for temporary rehousing would be described within the NVMP included within the Second Iteration EMP. This would include the noise limits used for determining eligibility and the frequency of such assessments.

## **B.7 References**

British Standards Institution (2014a). BS 5228-1:2009 + A1:2014 Code of practice for Noise and Vibration Control on Construction and Open Sites Part 1 – Noise.

British Standards Institution (2014b). BS 5228-2:2009 + A1:2014 Code of practice for Noise and Vibration Control on Construction and Open Sites Part 2 – Vibration.

British Standards Institution . (1993). BS 7385 - Evaluation and Measurement for Vibration In Building .