Checklist – CAC069M
Noise and Vibration Management Plan (MRTS51, Transport Noise Management Code of Practice: Volume 2 – Construction Noise and Vibration)

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| --- | --- | --- | --- | --- | --- |
| Contractor |  | Date |  | Review No. |  |
| Contract No. |  | Project No. |  | Project Name |  |

This project has been assessed as having a Choose an item. of Choose an item. impacts.

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| Review Decision |
|[ ]  The NVMP is considered compliant with the requirements of Transport Noise Code of Practice Volume 2 Construction Noise and Vibration requirements for a Noise and Vibration Management Plan and should be deemed suitable by the Administrator. |
|[ ]  The NVMP contains minor non‑compliance with the requirements of Transport Noise Code of Practice Volume 2 Construction Noise and Vibration requirements for a Noise and Vibration Management Plan that require to be addressed. However, the submitted NVMP is considered suitable as an interim NVMP as part of the EMP(C) under Clause 33.3 of the General Conditions of Contract. The NVMP shall be updated and re‑submitted by the Contractor prior to the commencement of Click here to enter text.. |
|[ ]  The NVMP is not considered compliant with the requirements of Transport Noise Code of Practice Volume 2 Construction Noise and Vibration requirements for a Noise and Vibration Management Plan or MRTS51 and not suitable for the noise and vibration risk associated with the Contract. It is advised that Works under the Contract should not commence until the EMP(C) is revised, resubmitted and accepted by the Administrator. |

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| Reviewed by: |  |  |  |
| Name |  | Signature |  | Date |  |

# Definitions

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| Conformance (C) | Fulfilment of a requirement, either contractual or legislative. |
| Non‑Conformance (NC) | A failure to comply with a requirement of Contract. |
| Not Fully Verifiable (NFV) | There was insufficient evidence to determine conformance or non‑conformance. |
| Observation (O) | A positive or negative comment of the auditor based on evidence and/or an observation made during the audit. Observations may or may not suggest corrective actions. |

| Reference | Requirements for a Noise and Vibration Management Plan | Addressed | Comments |
| --- | --- | --- | --- |
| Clause 7.1 | **Structure**The NVMP is a stand‑alone document. |  |  |
| Clause 7.1 | **Statement of Intent**A statement in the introductory section which states the intent of the NVMP (example below). The wording of the statement is at the discretion of the department and may be altered.This NVMP has been prepared in accordance with the Transport Noise Management Code of Practice: Volume 2 – Construction Noise and Vibration (Code). All reasonable and practicable mitigation will be implemented to achieve the noise and vibration criteria nominated in the Code.This NVMP will be reviewed and additional reasonable and practicable measures implemented where:* directed by the department, or
* in response to a justifiable complaint or in the event of structural / building damage caused by the project’s activities, or
* when changes in the equipment / work method, intensity, location, duration or timing of impacts that are expected to increase noise and vibration impacts are foreseen.
 |  |  |
| Clause 7.1 | Works under the ContractList significant noise and vibration‑related construction activities, plant and equipment to be utilised on the project. |  |  |
| Clause 7.1 | **Timing of Activities**The time periods of Works under the Contract. |  | The Contractor shall consider where relevant the:* particular requirements for impact pile‑driving or blasting
* activities conducted inside and outside of standard hours
* time periods in the vicinity of particular critical facilities or other nominated sensitive sites where these differ from general project areas
* activity time periods and mitigation where these differ from the general case (for example, where plant or equipment is permitted to operate on a project specific basis with specific noise mitigation)
* time period requirements for Site access, construction traffic routes or facilities / plant insofar as these influence general operations.
 |
| Clause 7.2 | **Locations**The location, preferably a map, of:[ ]  Site access points and construction traffic routes to and from the Site[ ]  construction traffic routes within the Site (where these are relevant to the management of construction noise and vibration impacts)[ ]  facilities associated with the project and the access arrangements to and from such facilities[ ]  proposed noise and vibration generating activities[ ]  adjoining residential or other noise or vibration sensitive facilities (this should include separate identification of all critical or heritage listed structures).[ ]  particular infrastructure, utilities or landforms for which specific vibration (or other) protection is required. |  |  |
| Clause 7.2 | Noise and vibration limitsNoise and vibration limits applicable to Works under the contract including, where relevant limits applicable to:[ ]  specific Work activities[ ]  particular items of plant[ ]  facilities[ ]  all buildings, building contents, structures and utilities requiring particular protection[ ]  safe working distances (provide a table of safe working distances from specific activities) to prevent damage to structures (buildings, bridges, and so on), services (pipes, cables, and so on), utilities and critical sites. |  |  |
| Clause 7.1 & 7.2 | Management MeasuresReasonable and practicable mitigation and management measures adopted to minimise disruption due to noise and vibration from Works under the contract.This would include particular noise and vibration control practices that apply a combination of the following, commensurate with risk:[ ]  administrative procedures[ ]  construction traffic and delivery procedures[ ]  plant and equipment selection and operation procedures[ ]  piling and compaction procedures[ ]  blasting procedures[ ]  transmission path management[ ]  facility layout[ ]  respite measures[ ]  alternative mitigation and management[ ]  complaint management procedures |  | Mitigation and management measures which may be used to control noise and vibration from construction, including community consultation procedures follow.Qualitative guidance on engineering noise and vibration controls applicable to construction is given in:* AS 2436-1981, Appendices A and E
* AS 2436-2010, Appendices C and D
* British Standard BS 5228: Part 1:2008, Section 8
* British Standard BS 5528: Part 2:2008, Section 8

Refer to Appendix 1 for further information and guidance on suitable management measures. Identify the measures employed by the Contractor in the NVMP. |
| Clause 7.1 | Condition SurveyDilapidation / building / structural condition survey and reporting requirements (or if these have been conducted separately, reference to the relevant completed pre‑construction surveys). |  |  |
| Clause 7.1 | **Monitoring Procedures**Monitoring procedures to verify compliance with noise and vibration limits including, where relevant, nominated monitoring positions and designated reporting intervals. |  |  |
| Clause 7.1 | Associated DocumentsReference to any associated documents such as relevant assessment reports used in plan preparation and associated documents and management plans. |  |  |
| Clause 7.1 | Community LiaisonCommunity liaison requirements and complaint procedures (including all contact details). The central point of contact should have the authority to alter mitigation and construction activities on‑site. |  |  |
| Clause 7.1 | Reporting ProceduresReporting procedures to provide the Principal and other relevant authorities with evidence of compliance when requested. |  |  |

Appendix 1 – NVMP Mitigation and Management Measures

NOTE: These are example lists of administrative and operational measures identified in the Transport Noise Code of Practice Volume 2 - Construction Noise and Vibration, that may be employed by a Contractor to mitigate and manage noise and vibration impacts from construction activities.

The Contractor does not have to employ all of these measures. The NVMP should however use a suite of measures commensurate with the risk of impact from construction noise and vibration. Use this Appendix to identify which measures are to be utilised by the NVMP and consider risk‑management suitability.

| Potential Management Measures | NVMP | Comments |
| --- | --- | --- |
| Administrative |
| Provide for an induction to Site personnel (including subcontractors) addressing the requirements of the NVMP and their responsibilities with regard to noise and vibration management. |[ ]   |
| Undertake ongoing education of supervisors, operators and subcontractors on the need to minimise noise and vibration through toolbox meetings and on‑site training. |[ ]   |
| Include clauses that require minimisation of noise and vibration in subcontractor agreements. |[ ]   |
| Develop and implement a protocol for handling noise and vibration complaints that includes recording, reporting and acting on complaints.A complaints handling procedure should consider the following:* a dedicated phone line should be provided to enable the community to contact a central project representative
* a central point of contact should have the authority to alter mitigation, management and construction activities on‑site
* a register of complaints should be maintained, including time, date, location, persons contact details and any details regarding construction activities which are the focus of the complaint. In addition, the actions taken as well as alterations to the NVMP should be recorded. The timeframe for response, as well as likely actions, should be provided immediately to the complainant by the recipient of the complaint
* reporting procedures to notify the department (that is, project manager) within 24 hours of any complaints occurring or within 24 hours of becoming aware of any damage caused by construction activities, and
* reporting procedures to notify the EHP within 24 hours of any material environmental harm or serious environmental harm caused by construction activities.
 |[ ]   |
| Organise Work to be undertaken during the standard hours where reasonable, practicable and safe to do so. |[ ]   |
| Include a procedure for Works outside standard hours to minimise the impact of any significant noise and vibration Works. |[ ]   |
| Develop and implement administrative procedures that:* avoid the use of radios or stereos outdoors where neighbours may be affected
* avoid the overuse of external public address systems or link these systems to the telephone system where neighbours may be affected
* avoid shouting, and minimise talking loudly and slamming vehicle doors, and
* avoid the use of horns within the construction area, except in the case of emergency or a requirement for safety.
 |[ ]   |
| Minimise mobile equipment reversing / movement or use alternative beepers, such as ‘broadband noise beepers’ or warning systems where noise assessment indicates reverse beepers / warning signals are likely to result in adverse impacts on amenity. |[ ]   |
| Construction traffic and deliveries |
| **Construction traffic and deliveries management procedures include:** |
| Setting the Site entry and egress points as far from sensitive and critical receptors as practical. |[ ]   |
| Providing on‑site parking for staff and on‑site truck waiting areas away from residences and other sensitive land uses. |[ ]   |
| Avoiding unnecessary revving of engines and switching off equipment when not required. |[ ]   |
| Positioning loading and unloading points away from sensitive and critical receptors. |[ ]   |
| Avoiding traffic calming devices which may cause loads to shift or securing loads to limit shifting. |[ ]   |
| Ensuring traffic movement is kept to a minimum (for example, ensuring trucks are fully loaded so that the volume of each delivery is maximised) and night‑time construction traffic is redirected away from sensitive and critical receptors where possible. |[ ]   |
| Regularly grading unsealed areas or fill potholes in sealed access roads and hardstand areas to reduce noise and vibration from vehicles. |[ ]   |
| Refilling aggregate bins prior to the bins being completely empty. |[ ]   |
| Plant and equipment |
| Plant and equipment management procedures include: |
| Selecting plant and equipment based on noise and vibration emission levels. |[ ]   |
| Turning off plant and equipment or throttling them down to a minimum when not in use. |[ ]   |
| Selecting appropriately sized equipment for the task, such as vibratory compactors and rock excavation equipment. |[ ]   |
| Avoiding use of plant and equipment simultaneously adjacent to sensitive receptors where possible. |[ ]   |
| Using alternative construction methods to minimise noise and vibration levels (for example, during clearing, excavators with grabs and rake attachments may be used instead of chainsaws, for piling, an alternative piling method may be selected). |[ ]   |
| Using mufflers and engine covers / screens where appropriate. |[ ]   |
| Ensuring equipment is operated in the correct manner and correctly maintained including replacement of engine covers, repair of defective silencing equipment, tightening of rattling components, repair of leakages in compressed air lines and shutting down of equipment not in use. |[ ]   |
| Avoiding where possible the night‑time use of equipment which generates impulsive noise:* impact piling
* dropping materials from a height, and
* metal-to-metal contact on equipment.
 |[ ]   |
| Lining aggregate bins and chutes with a rubber material, to dampen the vibration of the structure. |[ ]   |
| Minimising drop height of materials when transferring (for example, loading and unloading vehicles and storage areas). |[ ]   |
| Using damped tips on rock breakers where appropriate. |[ ]   |
| Replacing noisy fatigued sealed bearings on conveyor rollers. |[ ]   |
| Silencing dust extraction fan exhausts and orienting them away from sensitive receptors. |[ ]   |
| Enclosing standby generators or fitting them with an effective muffler. |[ ]   |
| Isolating stationary plant located near sensitive receptors with resilient mounts. |[ ]   |
| Piling and compaction |
| Piling and compaction mitigation and management procedures may include the following: |
| Avoiding impact pile driving where possible near noise and vibration sensitive receptors. |[ ]   |
| Avoiding dynamic compaction using large tamping weights near sensitive and critical receptors. |[ ]   |
| Providing acoustic screens to hammer head and top of pile. |[ ]   |
| Providing acoustic damping to sheet steel piles to reduce vibration and resonance. |[ ]   |
| Using resilient pad between pile and hammerhead. |[ ]   |
| Providing careful alignment of pile and rig. |[ ]   |
| Minimising cable slap and chain clink. |[ ]   |
| Providing mufflers and engine covers / screens where appropriate. |[ ]   |
| Removing obstructions which may exacerbate vibration transmission (for example, old foundations) where appropriate, prior to piling operations. |[ ]   |
| Providing cut‑off trenches to interrupt the direct transmission path of vibrations between source and receptors where reasonable and safe to do so. Refer to British Standard BS 5228 Part 2:2008 for further details. |[ ]   |
| Reducing energy per blow when piling (consider first whether this may result in prolonged exposure with no realised reduction in community disturbance). |[ ]   |
| Blasting |
| Blasting mitigation and management procedures may include: |[ ]   |
| Reducing the maximum instantaneous charge (MIC) by use of delays, reduced hole diameter, and/or deck loading. |[ ]   |
| Ensuring adequate stemming and eliminating exposed detonating cord. |[ ]   |
| Avoiding secondary blasting where possible; the use of rock breakers or drop hammers may be an acceptable alternative. |[ ]   |
| Avoiding toe shots where appropriate. |[ ]   |
| Avoiding blasting during heavy cloud cover or temperature inversions where possible. |[ ]   |
| Avoiding blasting during strong winds blowing towards sensitive receptors. |[ ]   |
| Establishing a blasting timetable through community consultation for example, blasts times negotiated with surrounding sensitive receptors. |[ ]   |
| Transmission path |
| Transmission path mitigation and management procedures may include: |
| Locating construction equipment in a position that provides the most acoustic shielding from buildings and topography. |[ ]   |
| Scheduling construction of permanent acoustic barriers as early as possible (for example, mitigation provided by operational noise barriers may be of use during construction phase). |[ ]   |
| Locating temporary noise barriers between the construction Site and sensitive receptors. Temporary barriers may be constructed using soil stockpiles, shipping containers and temporary Site offices. The barriers should be positioned to limit gaps. |[ ]   |
| Constructing temporary enclosures / screens around especially noisy activities, or clusters of noisy equipment (for example, loaded vinyl or plywood temporary acoustic barriers). |[ ]   |
| Constructing an enclosure around significant points of construction activity (for example, tunnel portals) for construction activities greater than 12 months, if appropriate. | [ ]  |  |
| Facility layout |
| Maximising acoustic shielding from existing topography and buildings and from structures and buildings associated with the facility, for the nearest adjacent sensitive sites. |[ ]   |
| Minimising reversing movements (and use of audible reversing alarms). |[ ]   |
| Considering the layout and orientation of individual items of plant and equipment to ensure that, where at all practicable, intake and exhaust vents from fans, blowers and other items of powered mechanical plant are orientated away from noise sensitive sites (that is, maximise use of ‘directivity’ effects). |[ ]   |
| Avoiding on‑site fabrication work where possible. The use of enclosures (for example, well‑sealed shed) may be an alternative, but ventilation should be adequate and not degrade the acoustic performance of the enclosure. |[ ]   |
| RespiteWhere all reasonable and practicable measures are implemented and noise and vibration impacts are unavoidable and significant, respite measures may be used. |
| Scheduling work when premises are not in operation (for example, commercial and educational facilities may not operate outside typical business hours). |[ ]   |
| Restricting the number of nights per week that the Works are undertaken near residences. |[ ]   |
| Alternative mitigation and management |
| Where noise and vibration impacts are unavoidable and significant after all reasonable and practicable measures and respite periods are implemented, alternative mitigation measures may be used. Alternative mitigation is limited to:* temporary relocation - involves the relocation of affected occupants for short periods of time where all reasonable and practicable measures and respite periods are implemented and further mitigation is impractical, and
* architectural treatments - may involve the provision of alternative ventilation where the windows are to remain closed.
 |[ ]   |
| Community consultation |
| Method for disseminating information regarding the project schedule and potential impacts to the surrounding sensitive locations. The following may be used:* letterbox drops
* community meetings
* newsletters
* website, and
* a point of contact for information (dedicated phone line).
 |[ ]   |
| Initiating a procedure for complaints response including a dedicated phone line for standard and non‑standard hours. |[ ]   |
| Notification regarding specific construction activities should be provided to adjacent residents and property owners likely to be affected by noise and vibration from the activity. Such notification should be provided prior to the activity commencing (typically one week notice).* the reason for the activity
* types of equipment required
* the expected hours of operation, including any permitted Site preparation works which will
* occur outside standard hours
* the likely duration and impact of operation at the Site and any requirement for subsequent

additional works, and* contact details for further information and complaints.
 |[ ]   |