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Appendix E – Consolidated Mitigation Measures

SSD-99910476 – Demolition and Remediation for Mixed-Use Development, 17-24 Loftus Crescent, Homebush

Ref No.	Mitigation Measures
Construction Noise and Vibration	
Noise	
CNV-1	• It is recommended that respite period are provided between: • Mon-Fri - 7:00am to 8:00am – No noisy works (Respite Periods); • Mon-Fri - 11:30am to 12:30pm – No Noisy Works (Respite Periods); • Mon-Fri - 3:30pm to 4:30pm – No noisy works (Respite Period); and • Saturday - 8:00am to 9:00am – No noisy works (Respite Period).
CNV-2	• Delivery drivers are to be instructed to mitigate noise impacts including the following: 1. Mitigate engine braking from truck when possible, including deactivating breaks within the vicinity of residential receivers. 2. Reduce aggressive acceleration from the site. 3. Ensure all trucks and equipment are well maintained. 4. Other relevant noise reducing operations where possible. 5. Details of the required driver codes are include in the projects Construction Management Plan.
CNV-3	• The contractor will, where reasonable and feasible, apply best practice noise mitigation measures. These measures shall include the following: • Maximising the offset distance between plant items and nearby noise sensitive receivers. • Preventing noisy plant working simultaneously and adjacent to sensitive receivers. • Minimising consecutive works in the same site area. • Orienting equipment away from noise sensitive areas. • Carrying out loading and unloading away from noise sensitive areas.
CNV-4	• Based on the proposed works to be undertaken as part of the project the following noise monitoring is recommended: - Attended noise monitoring of construction activities is to be undertaken during the following periods: ◦ Commencement of any rock breaking or sawing on the site. ◦ In response to any ongoing complaints received from neighbours.
CNV-5	• Any vibration generating plant and equipment is to be in areas within the site in order to lower the vibration impacts.
CNV-6	• Investigate the feasibility of rescheduling the hours of operation of major vibration generating plant and equipment.

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	• Use lower vibration generating items of construction plant and equipment; that is, smaller capacity plant.
CNV-7	• Minimise conducting vibration generating works consecutively in the same area (if applicable).
CNV-8	• Use only dampened rock breakers and/or "city" rock breakers to minimise the impacts associated with rock breaking works.
CNV-9	• Conduct attended measurements of vibration generating plant at commencement of works in order to validate the indicative safe working distances advised in Table above and, consequently, to establish safe working distances suitable to the project. Measurements should be conducted at the nearest affected property boundary. These safe working distances should be defined by considering the vibration criteria discussed above. (i.e., criteria for structural damage, human comfort and impact to scientific or medical equipment).
CNV-10	• AS 2436-2010 "Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites" sets out numerous practical recommendations to assist in mitigating construction noise emissions. Examples of strategies that could be implemented on the subject project are listed below, including the typical noise reduction achieved, where applicable.
CNV-11	• Adoption of Universal Work Practices: - Regular reinforcement (such as at toolbox talks) of the need to minimise noise and vibration. - Regular identification of noisy activities and adoption of improvement techniques. - Avoiding the use of portable radios, public address systems or other methods of site communication that may unnecessarily impact upon nearby sensitive receivers. - Where possible, avoiding the use of equipment that generates impulsive noise. - Minimising the need for vehicle reversing for example (particularly at night), by arranging for one-way site traffic routes. Use of broadband audible alarms on vehicles and elevating work platforms used on site. - Minimising the movement of materials and plant and unnecessary metal-on-metal contact. - Minimising truck movements.
CNV-12	• Plant and Equipment: - Choosing quieter plant and equipment based on the optimal power and size to most efficiently perform the required tasks. - Selecting plant and equipment with low vibration generation characteristics. - Operating plant and equipment in the quietest and most efficient manner.
CNV-13	• On Site Noise Mitigation: - Maximising the distance between noise activities and noise sensitive land uses. - Installing purpose-built noise barriers, acoustic sheds and enclosures.
CNV-14	• Work Scheduling - Scheduling work to coincide with non-sensitive periods.

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	- Planning deliveries and access to the site to occur quietly and efficiently and organising parking only within designated areas located away from the sensitive receivers. - Optimising the number of deliveries to the site by amalgamating loads where possible and scheduling arrivals within designated hours. - Including contract conditions that include penalties for non-compliance with reasonable instructions by the principal to minimise noise or arrange suitable scheduling.
CNV-15	• Some ways of controlling noise at the source are: - Where reasonably practical, noisy plant or processes should be replaced by less noisy alternatives. - Modify existing equipment: Engines and exhausts are typically the dominant noise sources on mobile plant such as cranes, graders, excavators, trucks, etc. In order to minimise noise emissions, residential grade mufflers should be fitted on all mobile plant utilised on site. - Siting of equipment: locating noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise. - Regular and effective maintenance.
CNV-16	- Deliveries should be undertaken, where possible, during standard construction hours. - Maximise hammer penetration (and reduce blows) by using sharp hammer tips. Keep stocks of sharp profiles at site and monitor the profiles in use. - It is advised that mobile plant and trucks operating on site for a significant portion of the project are to have reversing alarm noise emissions minimised. This is to be implemented subject to recognising the need to maintain occupational safety standards. - No public address system should be used on site (except for emergency purposes).
Construction Waste Management	
CWM-1	• **As detailed within Appendix KK**, Contaminated material stockpiled on site will be minimised as far as possible and should be stored on HDPE liner, in a bunded location which is protected from inclement weather;
CWM-2	• Sediment fences should be installed around the base of stockpiles and the stockpiles should be covered. Where excavated material requires validations, samples should be taken for NATA laboratory testing as per the requirements of the contamination assessment prior to restoration works, backfilling exercises and disposal;
CWM-3	• Any trucks carrying contaminated materials should be securely and completely covered immediately after loading the materials (to prevent windblown emissions and spillage) and must be licensed by the NSW Environmental Protection Authority (EPA);
CWM-4	• Decontamination of all equipment prior to demobilisation from the site is important so that contaminated materials are not spread off-site.

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CWM-5	• The following measures and safeguards will apply to the development for excavated material: - Wherever practical, excavation material will be reused as part of the development; - Excavation material that is not natural (virgin) material will be transported to an approved landfill site or off-site recycling depot; - A waste classification assessment of the fill material should be undertaken prior to it being acceptable for waste disposal purposes; and - Transportation routes for excavation material removed from site will be identified and used.
Traffic and Transport	
TF-1	• There is one construction site located within 250m of the site. The nominated contractor will liaise with other identified contractors to minimise any cumulative construction traffic impacts.
TF-2	• The nominated contractor shall also engage with the surrounding building teams at the time of construction to establish the extent of truck delivery movements with an aim to minimise overlapping movements on the same routes.
TF-3	• The nominated heavy vehicle haulage routes will largely be limited to State Roads and Regional Roads which are designed to accommodate heavy vehicle movements to minimise the impact on immediate local road network.
TF-4	• Temporary fencings will be established along the construction site perimeter to cordon off the site from pedestrian movements along the site frontages and neighbouring properties where applicable.
TF-5	• During the course of construction, all trucks will approach and depart the site in a forward direction. In the event where construction vehicles are unable to manoeuvre from/to the site, a Works Zone will be established along the site frontage.
TF-6	• All necessary oversized mobile crane/truck access will be subject to a separate permit issued by the Council before the planned event. If reversing is necessary, vehicle movements should be undertaken under the supervision of accredited traffic controllers.
TF-7	• All construction-related traffic movements along the frontages will occur under the supervision of on-site trained personnel, with trucks escorted between the site access and associated frontage to ensure pedestrian safety;
TF-8	• Activities related to the works would not impede traffic flow along local roads;
TF-9	• Materials are to be delivered during standard demolition hours;
TF-10	• All materials must be loaded/off-loaded and stored within the site boundary at all times;
TF-11	• Truck movements associated with the construction processes will approach and depart the site using the existing vehicular access via Loftus Crescent.
TF-12	• No queuing of heavy vehicles is to occur on the surrounding streets unless previously approved by the Council or TfNSW.
Arboricultural	

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A-1	The existing 31 trees on the site are proposed to be removed as part of the development, with 45 trees proposed to be planted across the site at ground and podium level as part of the redevelopment.
Integrated Water Management	
IW-1	Provide an On-Site Detention system to limit the post developed discharge to pre-developed site conditions;
IW-2	Provide a rainwater tank to collect part of the roof runoff and to re-use on site for irrigation of landscaped areas;
IW-3	Provide a water quality treatment system capable of meeting the pollutants reduction targets as stipulated by Council; and
IW-4	Divert and upgrade the stormwater infrastructure that traverses the site around the footprint of the proposal.
Geotechnical	
G-1	It is recommended that all foundations are to be founded on the same stratum to minimise and avoid potential future differential settlement.
G-2	Detail design of the foundation system should be carried out by the project engineer and reviewed by project geotechnical engineer.
G-3	A qualified geotechnical engineer should inspect the foundation excavations to confirm appropriate foundation materials and to ensure the serviceability bearing pressures could be met.
G-4	Foundation excavations should be cleaned; and west and debris should be removed prior to the concrete placement.
G-5	Verification of the capacity of the shallow and pile foundations by inspections would be required and inspections should constitute as 'Hold point.'
Heritage	
H-1	• The study area does not contain and is not likely to contain any Aboriginal objects. It is recommended that no further Aboriginal heritage assessments or investigations are required, and the proposed works can proceed with caution.
H-2	• It is advised that this AHIA does not constitute consent to harm Aboriginal objects, nor it is a 'site clearance' mechanism to allow activities to occur in an area where Aboriginal objects are likely or known to be present.
H-3	• If Aboriginal objects are discovered during the proposed works, works must stop immediately, and an assessment must be undertaken in accordance with Part 6 of the National Park and Wildlife Act 1974. It is recommended that a stop-work procedure be developed to allow proper assessment and management of any unexpected Aboriginal objects. A sufficiently experienced and qualified archaeologist should be engaged immediately to address the unexpected find and advise of further actions.
Flooding	
F-1	• Raise the ground floor retail spaces to the relative FPL.

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F-2	• Raise the vehicular entry ramps to relative FPL to protect the basement from flooding.
F-3	• Provide a flood void area under the ground floor slab for flood storage to ensure that the proposal does not adversely impact on flood levels and hazards elsewhere.
F-4	• Ensure that all vehicle access into the site is from the higher end of Loftus Crescent which is Low Hazard. This will ensure safe evacuation in a flood event.
Hydrogeological	
H-1	• Water Quality Testing: Prior to competing the design, it is recommended to conduct laboratory testing on collected groundwater samples to ensure they comply with WaterNSW groundwater quality requirements. Furthermore, this testing procedure is required during the construction stage to confirm the groundwater quality is still within the acceptable limit.
	• Drainage System: The basement design and construction should incorporate an adequate drainage system to prevent groundwater inflow into the basement and mitigate potential adverse effects.
	• Dewatering Management Plan: During the construction stage, groundwater inflow into the basement excavation should be monitored. If present dewatering of groundwater can be conducted using the sump and pump method until the drainage system is completed. The volume of dewatered groundwater should be managed to verify that the designed drainage system is to manage the groundwater inflow throughout the building's design life. Additionally, the quality of the groundwater before disposal should be tested prior to disposal to ensure compliance with WaterNSW guidelines.