



Appendix E – Mitigation Measures Table

Environmental Impact	Mitigation Measure	Residual Impact
<p>Aboriginal Cultural Heritage</p> <p>Impacts to archaeological materials</p>	<p>Unexpected Archaeological finds procedure</p> <p>In the unlikely event that any archaeological material, or suspected archaeological material is uncovered during any works within the subject area it is recommended that all works within the vicinity of the find, immediately stop, and the unexpected archaeological finds procedure is followed</p>	<p>Low</p>
<p>Environmental Heritage</p> <p>Impacts to environmental heritage items</p>	<p>Recommendations regarding the historic values within and near to the study area are as follows:</p> <ul style="list-style-type: none"> All ground disturbing works must be confined to the study area. Should works be required outside of the assessed area, then further archaeological assessment may be required. The Unanticipated Finds Protocol should be followed if items suspected to have significant historic heritage values are discovered during the works associated with the proposal. 	<p>Low</p>
<p>Noise & Vibration</p> <p>Impacts arising from excessive noise levels and/or duration of noise</p>	<p>Construction Noise</p> <p>The contractor will, where reasonable and feasible, apply best practice noise mitigation measures, as advised in the NVIA. These include:</p> <ul style="list-style-type: none"> Noise monitoring, if required, will be performed by an acoustical consultant directly engaged by the contractor in accordance with the Conditions of Consent. Issue project updates to tenants in affected premises. Selecting plant and equipment with low vibration generation characteristics. Operating plant and equipment in the quietest and most efficient manner. Exceedance of the site's NMLs should result in an investigation as to whether alternate equipment could be used, or a difference process could be undertaken. For plant items which are static it is recommended that, in the event exceedances are being measured due to operation of the plant item, an acoustic enclosure/screen is constructed to reduce impacts. <p>Construction Vibration</p> <p>In order to maintain compliance with the human comfort vibration criteria discussed in the CNVMP, it is recommended that the indicative safe distances detailed in the CNVMP be maintained. These indicative safe distances should be validated at the start of construction works by undertaking measurements of vibration levels generated by construction and demolition equipment to be used on site.</p> <p>As part of the CNVMP, the following vibration mitigation measures should be implemented:</p> <ul style="list-style-type: none"> Any vibration generating plant and equipment is to be in areas within the site in order to lower the vibration impacts. 	<p>Low</p>



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	<ul style="list-style-type: none"> • Investigate the feasibility of rescheduling the hours of operation of major vibration generating plant and equipment • Use lower vibration generating items of construction plant and equipment; that is, smaller capacity plant. • Minimise conducting vibration generating works consecutively in the same area (if applicable). • Use only dampened rock breakers and/or “city” rock breakers to minimise the impacts associated with rock breaking works. • Conduct attended measurements of vibration generating plant at commencement of works in order to validate the indicative safe working distances • Vibration monitoring, if required, should be undertaken continuously at the nearest most affected structures in accordance with the conditions of the consent. <p>Operational Noise</p> <p>The recommended mitigation measures are summarised below:</p> <ul style="list-style-type: none"> • Windows should have adequate sound insulation, including laminated glass and well-sealed frames, to meet noise level criteria. • If lightweight construction is used, it should meet a minimum acoustic performance standard. • lightweight roofs should include acoustic insulation to reduce noise intrusion. • Acoustic considerations should be integrated into mechanical ventilation systems to ensure compliance with noise level requirements. • Noise from mechanical equipment such as air conditioning units must comply with noise limits. Prior to construction, a detailed acoustic assessment is recommended to verify compliance. • Communal outdoor spaces should be designed with noise mitigation measures to minimise noise impact on nearby residential areas. <p>By incorporating the recommendations outlined in the NVIA, it is anticipated that the proposed development will align with the applicable criteria set out in Section 3 of the NVIA. Consequently, the proposed development is deemed satisfactory in relation to the noise and vibration requirements.</p>	
<p>Ground and Water Conditions</p> <p>Increased geological instability resulting from excavation works.</p>	<p>The following recommendations have been made by Cardno:</p> <p>Excavation Conditions</p>	<p>Low</p>



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<p>Environmental damage from groundwater seepage</p>	<ul style="list-style-type: none"> The induced vibration level control will be required to avoid impacting the adjacent properties. It is recommended that dilapidation surveys of the adjacent properties and roads be carried out prior to earthwork commencement. It is recommend that inspections be carried out by a Geotechnical Consultant at every 1.5m deep intervals during excavation to assess excavation stability <p>Groundwater Conditions</p> <p>The following control measures can also be considered during design and construction:</p> <ul style="list-style-type: none"> Strip drains, weepholes, subsoil drains, drainage materials should be included in the design of shoring and retaining walls. Collection trenches or pipes and pits connected to the building stormwater system. A stormwater storage tank and pump system may be required. The basement walls and slabs should be designed to withstand hydrostatic pressures taking into consideration the potential for seepage, where adequate drainage is not provided behind the full height of the walls. Seepage or subsurface runoff inside the excavated foundation pits or pile holes should be removed prior to pouring of concrete. <p>Retaining Structures</p> <ul style="list-style-type: none"> Shoring and support basement excavation and control lateral ground movement are recommended. The options include the following: Soldier pile wall shoring system; or Contiguous or semi-contiguous cast in-situ reinforced concrete piles embedded into underlying Class II sandstone or better rock, and gaps between the piles should be covered with reinforced shotcrete or reinforced concrete panels. 	
<p>Contamination</p> <p>Exposure of contamination of hazardous materials during construction</p>	<p>The following recommendations have been made by Stantec:</p> <ul style="list-style-type: none"> A Report on Hazardous Building Materials (HAZMAT) Survey was prepared for the site (DP, 2024). Demolition activities and post-demolition clearance inspections are to be undertaken in accordance with the recommendations of the HAZMAT Survey. Following demolition and removal of structures, a data gap investigation is required to characterise soil properties and to delineate the Benzo(a)pyrene identified at soil bore BH01. The investigation must be conducted by a qualified and experienced contaminated land professional. 	



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	<ul style="list-style-type: none"> Any material removed from the site during construction must be classified in accordance with the NSW EPA Waste Classification Guidelines (2014) and/or applicable resource recovery exemptions / orders. Future classification must consider all existing environmental data. Any material imported to the site under the proposed development, such as for landscaping and establishment of garden beds, must not present a potential health risk to receptors under the proposed land use. A Construction Environmental Management Plan should be implemented for the works and include reference to the actual and potential contamination identified as part of this assessment as well as appropriate mitigations. This should also include an Unexpected Finds Protocol to be implemented in the event contamination, not identified in this assessment, is revealed during construction. <p>The PSI does not recommend that a Detailed Site Investigation, Remedial Action Plan or Long-term Environmental Plan be prepared, subject to the implementation of mitigation measures</p>	
<p>Pedestrian Wind Management</p> <p>Impacts of the built form on pedestrian wind outcome</p>	<p>The proposed development integrates various wind mitigation strategies, including building articulation, tower setbacks, recessed balconies, landscaping, and awnings. However, elevated outdoor areas and certain street corners may still require additional wind management solutions, such as fixed furniture, further screening, or additional landscaping.</p> <p>Future detailed wind studies and a resulting Wind Management Plan are recommended to optimise these strategies.</p>	
<p>Tree & Landscaping</p> <p>Impacts on trees during construction and removal</p>	<p>The Arborists confirmed that given that none of the subject trees are proposed to be retained as part of the development, no Tree Protection Measures have been detailed. The only Mitigation Measures included are for replacement planting with new trees to compensate for loss of amenity.</p>	<p>Low</p>
<p>Construction Traffic</p> <p>Impacts on traffic during construction</p>	<p>The recommended construction traffic management measures have been detailed within the Construction Traffic Management Plan (Appendix T) will be implemented during construction phase.</p>	<p>Low</p>



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<p>Water Management</p> <p>Impacts on quality of stormwater discharge into drainage system</p>	<p>Stormwater Drainage Inlets</p> <ul style="list-style-type: none"> Sediment traps protection will be installed surrounding all existing stormwater drainage infrastructure inlets to prevent sediment entering the system. Temporary Stormwater Systems are to be installed where required to capture all site runoff within the zone of excavation. Runoff will be allowed to settle out suspended particles and debris, and an acceptable water of 50mg per litre of Non-Filterable Residues (NFR) is required to be achieved prior to discharge. Installation of a fence around the perimeter of the basin is required as well as a rip rap to allow for bobcat access for periodic removal of sediment. Also, a perforated riser outlet pipe needs to be placed for the connection and discharge to an existing pit. <p>Construction Exit Protection</p> <ul style="list-style-type: none"> A shaker grid and wash down facility will be installed at all exits from the construction site. All vehicles leaving the site will have their wheels washed down and pass over the shaker grid to remove any spoil collected on their wheels and retaining the spoil on site. <p>Downstream Site Boundaries</p> <ul style="list-style-type: none"> Installation of sediment fences on all downstream boundaries of the site to collect sediment and prevent it discharging onto downstream properties or waterbodies. <p>Sediment Runoff</p> <ul style="list-style-type: none"> One sediment basin will be installed, and all overland flow directed towards them. The basins will attenuate stormwater flows allowing for the settlement of sediment preventing discharge into the downstream infrastructure. 	<p>Low</p>
<p>Waste Management</p> <p>Management of waste during construction and operational phases</p>	<p>Overall, the waste-related impact of the site during both construction and operational phases can be appropriately managed and have been formulated to accommodate Council's controls and requirements. Much of the operational waste management details have been established through rigorous discussion with Council's during their assessment of the DA. These recommendations have been carried through to the established SSDA design.</p> <p>The recommended demolition and construction management measures have been detailed within the Demolition and Construction Waste Management Plan (Appendix AI) and will be implemented during construction phase.</p>	<p>Low</p>
<p>Safety & Security</p> <p>Crime prevention measures</p>	<p>Overall, the assessment identified no major crime and safety concerns associated with the proposal. In general, it provides improvements over the existing development against each of the CPTED categories. However, the assessment identifies several aspects of the proposal that could be altered or mitigated to improve CPTED outcomes, as outlined in the following points:</p>	<p>Low</p>



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	<p>Surveillance</p> <p>Recommendations to improve surveillance at the site include:</p> <ul style="list-style-type: none">• Where passive and natural surveillance is lacking, consider interventions such as sensor lighting and CCTV to provide formal surveillance• Provide 24/7 lighting and CCTV at key internal and external areas of the site, particularly around entry and exit points• In the detailed design of the communal areas, consider lighting requirements and minimising any potential opportunities for hiding or entrapment. <p>Access Control</p> <p>Recommendations to improve access control at the site include:</p> <ul style="list-style-type: none">• Determine how access to the residential and commercial lobbies is to be controlled (i.e. swipe/code access)• Ensure that residents' / workers' keys only grant access to access their floor and any communal areas• Consider limiting access to communal areas to certain times of day. <p>Territorial Reinforcement</p> <p>Recommendations to improve territorial reinforcement at the site include:</p> <ul style="list-style-type: none">• Utilise (one or a combination of) landscaping, plantings, signage, awnings, or different paving materials to adequately delineate the entrances to the commercial and residential lobbies• Utilise different materials and signage to reinforce the publicly accessible area of level 02 and discourage access to private areas. <p>Space and Management</p> <p>Recommendations to improve space management at the site include:</p> <ul style="list-style-type: none">• Prepare a plan of management for the site (both the commercial and residential components) that describes how, when, and by whom shared and communal facilities are to be used• Installation of appropriate signage identifying both the intended and prohibited uses of a space• Ensure signage clearly defines areas where access is restricted to certain personnel• Prepare a plan of management for the site (both the commercial and residential components) that describes arrangements to ensure the cleaning and maintenance of shared and public areas is undertaken to a high standard over the life of the proposed development• In the design of the public and communal areas, utilise hard-wearing and resilient structures (e.g. seating) to	



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	support the ongoing attractiveness, amenity, and utility of these areas	
Social Impact Disruption to community and potential amenity impacts associated with operation of development	<p>The proposed development is likely to generate a range of social impacts and benefits. Some potential social impacts were considered to have been partly mitigated, with some level of impact remaining. These include:</p> <ul style="list-style-type: none">• Noise and vibration from construction activity affecting amenity for surrounding residents and occupants, impacting upon quiet enjoyment of surroundings, way of life, and health and wellbeing.• Potential disruptions caused by construction activities associated with increased traffic movements.• Changes to community composition arising from the introduction of new residents and workers.• Potential interruptions from changed access arrangements during construction. <p>Furthermore, the proposal is likely to generate a range of residual social impacts that are unable to be sufficiently mitigated. These include:</p> <ul style="list-style-type: none">• The proposal would result in an increased demand for services such as schools, healthcare, and childcare. However, the area has been strategically identified by council and planning strategies for future densification and increased development, suggesting that this planning has taken into account the necessary infrastructure required to support the growing population.	Low