

Appendix 4

Mitigation Measures Table

Issue	Mitigation Measure	Reference
Archaeological Cultural Heritage	<ul style="list-style-type: none"> • <i>As harm is unlikely mitigation is not required</i> • <i>To manage Wallgrove Business Hub AS01AS 01 (AHIMS ID 45-5-5738) measures must be put in place to ensure workers and machinery do not access that area.</i> • <i>Wallgrove Business Hub AS01 (AHIMS ID 45-5-5738) should be marked on site plans</i> • <i>A heritage induction should be provided to all site staff prior to commencing works.</i> • <i>An unexpected finds policy should be prepared in consultation with the RAPs and would be implemented in the event of any unexpected finds of Aboriginal sites, objects, or archaeological deposits being identified during construction.</i> • <i>To facilitate the preparation and operation of the unexpected finds policy Aboriginal community consultation should be maintained in accordance with Consultation Requirements.</i> • <i>Unexpected Aboriginal objects remain protected under the NPW Act and must not be harmed without authorisation.</i> • <i>If there are any changes to the project area to include areas which have not been previously inspected, further archaeological assessment will be required.</i> 	Section 6.10.1 and Appendix 24
Heritage	<ul style="list-style-type: none"> • <i>Based on the study area's generally low potential for historical archaeological remains of significance, it is recommended that the proposed works proceed in accordance with the unexpected finds procedure. In the event that unexpected archaeological remains were encountered during any ground disturbance associated with the project, works in the affected area should cease, the exposed remains protected, and a historical archaeologist contacted for assessment. Should the remains be assessed as 'relics' of local or state significance, Heritage NSW would be notified in accordance with Section 146 of the Heritage Act.</i> • <i>Consideration should be given to the provision of heritage interpretation as part of the project, which would outline the history, associations and significance of the surrounding heritage sites. Interpretive measures could involve interpretive signage, panels or displays on the history of the Western Sydney Parklands.</i> 	Section 6.10.2 and Appendix 14
Bushfire	<ul style="list-style-type: none"> • <i>The internal public road is to comply with PBP Table 5.3b for 'general requirements' and 'non-perimeter road', with the exception that the road may exceed 200 m in length.</i> • <i>Defendable space to warehouse footprints to consist of a minimum 7 m wide fire access road as indicated on Figure 5. Through road access is required around the warehouses.</i> 	Section 6.9 and Appendix 15

Issue	Mitigation Measure	Reference
	<ul style="list-style-type: none"> • <i>BAL compliance is to be considered with future development application for individual warehouses.</i> • <i>The subject land, outside of the vegetation retention areas, is to be maintained to achieve the performance requirement of an Inner Protection Area (IPA) as described by Appendix 4 of PBP. The following landscaping specifications have been designed to achieve the IPA at this site:</i> <ul style="list-style-type: none"> ○ <i>Trees at maturity should not touch or be within 2 m of the building;</i> ○ <i>Ensure gaps in the vegetation, such as between garden beds, to prevent the spread of fire towards the building;</i> ○ <i>Landscaping should be separated from the building by at least 1 m;</i> ○ <i>Grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and</i> ○ <i>Leaves and vegetation debris should be regularly removed.</i> • <i>A 'Bushfire Emergency Management and Evacuation Plan' is to be prepared in accordance with the NSW Rural Fire Service document 'A Guide to Developing a Bushfire Emergency Management and Evacuation Plan'. Plan preparation is to be a condition of approval for future warehouse applications.</i> • <i>Future warehouses are to have fire hydrants installed to comply with AS 2419.1 – 2005 Fire Hydrant Installations - System Design, Installation and Commissioning (AS 2419).</i> • <i>Future warehouses are to have gas services are to be installed and maintained in accordance with AS/NZS 1596-2014 The storage and handling of LP gas.</i> • <i>Hazardous or combustible materials are not to be stored external to future warehouses.</i> 	
Traffic	<ul style="list-style-type: none"> • <i>Further investigation is required for the proposed access arrangement (i.e. the Wallgrove Road / Internal Road intersection) is required with particular discussion on the proposed northbound acceleration lane.</i> • <i>The proposed parking layouts for Building 1 comply with the requirements outlined in AS2890 except for Building 2 Warehouse A, in which insufficient length is provided for the proposed parking bay. Thus, a revision of the proposed plan is recommended to ensure compliance with AS2890.</i> 	Section 6.5 and Appendix 20
Construction Traffic Management Plan	<p>Implementation</p> <ul style="list-style-type: none"> • <i>Traffic management for the project site will need to be in accordance with the TfNSW's Traffic Control at Work Sites Manual and modified to site-specific conditions.</i> <p>Managers</p> <ul style="list-style-type: none"> • <i>The responsibilities of managers are to:</i> <ul style="list-style-type: none"> ○ <i>Ensure that the site-specific CTMP is being correctly and safely implemented</i> ○ <i>Correctly accredited personnel are implementing TGSs, Vehicle Management Plans and PMPs</i> 	Section 6.5.1 and Appendix 21

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	<ul style="list-style-type: none"> ○ <i>Ensure that the project is following the project and Council-specific guidelines</i> ○ <i>Notify and collaborate with stakeholders, Council and transport agencies affected by the project</i> ● <i>Additional and more detailed responsibilities must be defined in the site-specific CTMP.</i> <p>Truck Drivers</p> <ul style="list-style-type: none"> ● <i>Truck drivers are to:</i> <ul style="list-style-type: none"> ○ <i>Always obey road rules</i> ○ <i>Follow the haulage routes defined in this CTMP and/or the site-specific CTMP</i> ○ <i>Notify site contact/escort of arrival</i> ○ <i>Follow instructions from traffic controllers to access the site or perform manoeuvres in a TGS</i> ○ <i>Follow instructions from site contact/escort, including directions to nominated laydown or holding areas</i> ○ <i>After arriving at the nominated laydown area, exit the vehicle and remain in a pre-defined safe area while unloading of freight is being undertaken</i> ○ <i>Once unloading of the freight has been completed, return to the vehicle and exit the site, following instructions from site contact/escort and traffic controllers. The driver is to then follow the designated haulage routes</i> ○ <i>Read, understand and follow this CTMP, site-specific CTMPs and any other relevant project documentation regarding road safety and traffic management</i> <p>Traffic Controllers</p> <ul style="list-style-type: none"> ● <i>Traffic controllers are required to be certified with a Traffic Control Work Training Card (i.e. Blue Card) issued by SafeWork NSW. They must ensure that the TGSs are implemented safely and correctly. The responsibilities of traffic controllers are to be clearly shown on the specific TGSs.</i> <p>Worker Parking Restrictions</p> <ul style="list-style-type: none"> ● <i>Workers are not to parking within state roads around the work area. Workers should use public transport where possible and onsite parking facilities.</i> <p>Traffic Guidance Schemes</p> <ul style="list-style-type: none"> ● <i>Any changes to traffic through or around a work site or temporary hazard will require a Traffic Guidance Scheme (TGS) that has been designed and approved by TfNSW-accredited personnel with the appropriate and current qualification as outlined in TfNSW QA Specification G10 Traffic Management Clause 1.7.3.</i> 	

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	<ul style="list-style-type: none"> Wallgrove Business Hub: Preliminary Construction Traffic Management Plan Project: P6072 Version: 001 13 A Road Safety Audit (RSA) should be undertaken of the of the existing road conditions and the TGSs prior to their implementation. 	
Geotechnical	<p>Preliminary Site Classification:</p> <ul style="list-style-type: none"> If additional site classification assessment is required, further investigation and testing would be required following completion of the earthworks phase. <p>Earthworks: Reuse of Site Won Materials</p> <ul style="list-style-type: none"> Topsoil Option 1 -Use of Site Won Topsoil for Landscaping Only <ul style="list-style-type: none"> It is generally preferred that site won topsoil (Unit 1) is considered as unsuitable material. In this case, topsoil should be stripped to spoil or stockpiled for later re-use for landscaping purposes. Some level of remediation will likely be required for following stripping to increase in-situ strength where firm or weaker material was encountered, namely BH2, BH3 BH7 and BH11. Topsoil Option 2 – Limited Reuse of Site Won Topsoil <ul style="list-style-type: none"> In parts of the site where the depth of new controlled fill is 5m or greater: <ol style="list-style-type: none"> Grub shrubs and trees Strip grass and roots Strip topsoil and separately stockpile topsoil which is inorganic clay/silt/sand, free of roots with the exception of trace root fibres. Screening of the material will be required to remove larger tree roots. This prepared topsoil material is designated RTS. Assess the subgrade in accordance with initial subgrade inspection and proof rolling requirements in AS3798:2007 Place maximum 250mm of uncompacted material deemed suitable in accordance with a site fill specification. Place 50mm of PTS evenly over the surface and blend into the suitable material by compacting with a sheeps foot compactor roller. The topsoil content shall constitute a maximum 1 part PTS to 6 parts material deemed suitable in accordance with a site fill specification. The blended layer shall be thoroughly mixed and homogenous. Conduct compaction testing in accordance with the site fill specification. Repeat septs 5,6 and 7 above for additional layers of blended material. The PTS blended layers may not be placed within 4m of the finished fill level. This option should only be considered where the earthworks contractors has sufficient experience and logistical capability to identify and effectively treat the material. 	Section 6.11 and Appendix 9

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	<ul style="list-style-type: none"> • <i>Reuse of Site Won Materials Other than Topsoil</i> <ul style="list-style-type: none"> ○ <i>Horizontal layers should remain homogeneous to minimise risk of differential movement.</i> ○ <i>Consideration to shrink swell characteristics should be given to clay material as preliminary testing indicated levels ranging between 1.8%-3.5%. The higher end of the value range would likely coincide with substantial surface movement in response to seasonal weather variations, particularly where the cracked zone has been disturbed by construction plant.</i> ○ <i>The designer should consider these potential impacts on footing and slab thickness' and confirm whether clay with higher shrink swells should be used in the controlled filling phase.</i> ○ <i>If considered a concern, further testing would be required to attempt in delineating the clay profile/areas into groups of high and low shrink swell characteristics.</i> ○ <i>Weathered rock is considered suitable for filling provided that the placed material conforms with specifications outlined in AS3798: 2007.</i> ○ <i>Further considerations include potential construction related challenges arising from placement of crushed rock should be used within the subgrade zone of proposed pavement and slab areas.</i> ○ <i>Additional CBR testing of site won crushed rock should be carried out to verify that the CBR of material placed within the subgrade zone is greater than the CBR adopted for the pavement design.</i> ○ <i>Unless documentation confirming that any historically placed fill meets controlled conditions as stipulated in AS3798: 2007, uncontrolled fill must be remediated so that requirements of the same document are met.</i> • <i>Site Preparation for Filling</i> <ul style="list-style-type: none"> ○ <i>Some level of remediation will likely be required following stripping to increased in-situ strength where firm or weaker material was encountered, namely BH2, BH3, BH7 and BH11.</i> ○ <i>Treatment of encountered weak material is subject to further geological assessment following availability of construction plans to review significance in relation to depth and proximity of weak layers to the proposed development.</i> ○ <i>Anticipated remediation of the pond identified in Zone 5 will be required prior to any subsequent filling or construction if the area is to be located within the proposed construction footprint.</i> ○ <i>The dam should be dewatered in accordance with an approved dewatering plan.</i> ○ <i>All organic or overly wet, weak material must be excavated to spoil and, and the stripped surface rolled and subsequently filled in accordance with AS3798: 2007.</i> ○ <i>In general, prior to placement of new controlled fill, the site surface must be stripped of vegetation, pre-existing uncontrolled fill, topsoil, significant roots and unsuitable soil, then an initial subgrade</i> 	

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	<p><i>inspection and proof rolling conducted by a suitably qualified and experienced geotechnical consultant, in accordance with AS3798: 2007.</i></p> <p><i>Preliminary Guidance for Fill Inspection</i></p> <ul style="list-style-type: none"> • <i>All filling should be carried out under level 1 supervision in accordance with AS3798: 2007;</i> • <i>All filling surface must be stripped of unsuitable material and proof rolled to ensure that the surface is within acceptable deflection criteria</i> • <i>If rock is encountered at bulk excavation level, the rock should be ripped and recompact to facilitate dissipation of water ingress and prevent material saturation at the interface;</i> • <i>Material should be placed and compacted in layers no thicker than 300mm loose or in accordance with council specifications; whichever is lesser;</i> • <i>Placed material is to be moisture conditioned to $\pm 2\%$ of Standard Optimum Moisture Content (SOMC).</i> • <i>Compaction material of general earthworks fill across the site should be 98% Standard Maximum Dry Density (SMDD) in accordance with AS3798: 2007 for commercial developments unless otherwise specified by the designer or the governing authority.</i> <p>Excavation:</p> <p><i>General Summary of Expected Conditions</i></p> <ul style="list-style-type: none"> • <i>Given the considerable change in elevation across the width of each warehouse structure as discussed in Section 1.2 (of the Geotechnical Report), the contractor must select suitable excavation equipment for soil, weathered rock and potentially medium to high strength rock depending on finalised bulk excavation levels.</i> <p><i>Excavatability:</i></p> <ul style="list-style-type: none"> • <i>Deeper excavations that encounter extremely weathered material will require larger machinery and possibly prior ripping at depth with a tyne attachment.</i> • <i>Excavation into bedrock if required would necessitate significant excavation equipment, such as a large excavator and rock-hammer attachment.</i> <p><i>Batter Angles and Support</i></p> <ul style="list-style-type: none"> • <i>All excavation work should be completed with reference to the Code of Practice 'Excavation Work', by Safe Work Australia</i> • <i>Excavation method statements will need to be prepared by the excavation contractor prior to the issue of the CC.</i> • <i>Work OHS generally limits the maximum height of an unsupported excavation to 1.5m, however, greater depths can be achieved by applying interim benching methods or shoring boxes.</i> 	

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	<ul style="list-style-type: none"> • <i>Alternatively, inspection can be undertaken by a Geotechnical Engineer to assess the stability of the cut face/trench to allow personnel to work in the excavation for a given period under necessary conditions to ensure the safety of all personnel.</i> • <i>Temporary embankment/batters are to be protected with conventional surface erosion control techniques, such as redirection of surface run-off and/or protection with geotextile products.</i> • <i>Longer term temporary or permanent cut/fill embankments should be stabilised using industry standard practices such as hydro-mulching or jute mesh and grass seed as appropriate, with surface drainage provided in such a way as to reduce erosion potential.</i> • <i>Surface water should not be allowed to flow over any un-sealed batters.</i> • <i>Sealing/stabilisation of batters should happen concurrently with other works or as soon as it is practicable to minimise erosion.</i> • <i>Where temporary or permanent batter sloped cannot be accommodated in the development or are not desired, temporary shoring and/or permanent retaining support will be required designed based on parameters given in Sections 5.1 and 5.2, however, additional Geotechnical Investigation may need to be carried out to collect spatially relevant data.</i> • <i>Consideration may be given to the following options:</i> <ul style="list-style-type: none"> ○ <i>Gravity retaining structures, where the depth of excavation is relatively low;</i> ○ <i>Engineered reinforced concrete or block walls, where the depth of excavation or height of retention does not exceed about 2.0m-2.5m without bracing provided by integral structures;</i> ○ <i>Cantilevered reinforced concrete bored or continuous flight auger (CFA) soldier walls with mesh reinforced shotcrete in-fill panels or excavations;</i> ○ <i>Soil nail walls/rock belts;</i> ○ <i>A combination of the above</i> • <i>In addition, pile walls could be designed to provide permanent support to proposed structures. However, pile sockets in rock may need to be longer to accommodate additional lateral and axial loads. For design of temporary and permanent support, we recommend:</i> <ul style="list-style-type: none"> ○ <i>Geotechnical design parameters presented in Table 14 (of the Geotechnical Report) are adopted for preliminary design of flexible retaining walls, considering a triangular earth pressure distribution.</i> ○ <i>Rigid retaining structures, such as propped or anchored walls, are adopted to limit lateral and vertical movements when in close proximity to existing buildings/structures and buried services.</i> ○ <i>Subsoil drainage is to be provided behind retaining walls to limit static water pressures on the retaining walls.</i> 	

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	<ul style="list-style-type: none"> ○ <i>Avoid surcharge loading from construction equipment, vehicular traffic and materials storage within the zone of influence of excavations, which in the absence of site-specific geotechnical advice should a horizontal distance back from the crest not less the depth of excavation.</i> ○ <i>CS recommends the use of stress/strain dependent analysis (including soil-structure interaction analysis) during detailed design to further consider likely deformations and to better model the earth pressures and influence of the excavation on adjacent structures and services.</i> ● <i>Rock bolts, if needed may comprise hot-dipped galvanised steel bars, or similar.</i> ● <i>Where long-term support is required, rock bolts must be provided with a high level of corrosion protection if they cannot be maintained (i.e. inspected and replaced, if necessary).</i> ● <i>At least two layers of corrosion protection should be provided such as bolts encapsulated in cement grout and PVC sheaths.</i> ● <i>Rock bolts and anchors should generally be specified in terms of performance requirements and constructed by contractors experienced in ground anchor technology.</i> ● <i>It is recommended that there be provision for an experienced Geotechnical Engineer to inspect excavation support installation as excavation progresses (at least every 1.5m excavation depth intervals) in order to confirm inferred geotechnical conditions, assess the suitability of design assumptions and provide further advice with regards to excavation retention/support and proposed construction methodologies, if required.</i> ● <i>Given the presence of groundwater recorded in the three installed groundwater monitoring ells, construction and water table interactions must be considered in further detail. The geotechnical aspects are highlighted below should bulk earthworks depths exceed ground water depth.</i> <ul style="list-style-type: none"> ○ <i>Provisions for sufficient drainage within the design;</i> ○ <i>Allowance for increased slope stability measures as groundwater will have significant reduction on slope stability both in short term and permanent situations;</i> ○ <i>If the groundwater is not designed to discharge into an approved system, buoyancy affects should be considered;</i> ○ <i>If groundwater is discharged, a dewatering assessment should be carried out to determine impacts on surrounding land and any infrastructure within the affected radius.</i> <p>Erosion Control:</p> <ul style="list-style-type: none"> ● <i>CS recommend further testing and assessment after receipt of detailed plans and designs.</i> ● <i>Site preparation and planning for erosion control during the construction phase should consider the following:</i> <ul style="list-style-type: none"> ○ <i>Gully erosion risk</i> 	

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	<ul style="list-style-type: none"> ○ <i>High run-on, when concentrated large volumes of overland flow move onto an area. Areas with high run-on are often prone to temporary localised flooding.</i> ○ <i>Mass movement hazard – short and long term slope stability hazard</i> ○ <i>Permanent waterlogging – Where there is a permanent water table at or near the surface. The north-western low-lying part of the site has been mapped (by others) as a creek zone with potential for flooding. At the same time of the fieldwork, soils in the zone were observed to be wet to saturated at shallow depth.</i> ● <i>Erosion control measures should be formed based on, but not limited to the following:</i> <ul style="list-style-type: none"> ○ <i>Fairfield City Council, Specification for Roadworks and Drainage associated with subdivision or other development, Policy No. 4-515</i> ○ <i>Landcom (2004) Soils and Construction Volume 1, Edition 4, Managing Urban Stormwater.</i> ○ <i>Witheridge, G. (2012) Principles of Construction Site Erosion and Sediment Control, Publication of Catchments & Creeks Pty Ltd</i> <p>Geotechnical Parameters for Design</p> <ul style="list-style-type: none"> ● <i>NO Further detailed investigation may be required to reduce the risk of inhomogeneities following finalisation of bulk earthworks plans, especially in the circumstance where higher parameters for greater than Class III are adopted.</i> <p>Geotechnical Advice for Foundations</p> <ul style="list-style-type: none"> ● <i>Based on the nature of the proposed development as summarised in Section 1.2 (of the Geotechnical Report) and the surface and subsurface conditions described in Section 3 and 4 (of the Geotechnical Report), respectively, the following footing types may be considered for the proposed development subject to consideration of bulk excavations and structural loadings.</i> <ul style="list-style-type: none"> ○ <i>Large diameter bored piers founded within the rock as the dominant footing systems for the warehouses. Particularly to the west of the site were depths to suitable are expected to be deeper than what would be considered reasonable for a high-level footing.</i> ○ <i>Shallow pad/strip footings founded on rock may be considered at the eastern and southern extent where bulk excavation is considered likely to intersect underlying rock.</i> ○ <i>Shallow pad/strip footings on controlled fill may be considered where the zone of influence of loads from the footing can be accommodated by nearby structures, including retaining walls or embankments.</i> ○ <i>At locations near the crest of existing batters or retaining walls, bored piers founded in weathered rock will be required.</i> ○ <i>Bored piles may require the use of permanent or temporary steel liners as spile excavations are likely to encounter groundwater, and concrete pouring should utilise a tremie system. There</i> 	

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	<p><i>should be several further rounds of groundwater level measurements within the installed monitoring wells in the period leading up to finalising the design and then again prior to construction to finalise temporary and permanent drainage works during bulk excavation, footing and building construction.</i></p> <ul style="list-style-type: none"> • <i>Geotechnical parameters recommended for design of footings are summarised in Table 13 (of the Geotechnical Report).</i> • <i>Notwithstanding the ranges of allowable bearing capacities detailed in Table 13 (of the Geotechnical Report) for all encountered strata, it is recommended structures be founded on strata of similar stiffness to limit potential different settlement.</i> • <i>Suitable piling equipment capable of drilling through high strength rock should be allowed for, subject to bulk excavation levels.</i> • <i>Footing/pile excavations should be inspected by a Geotechnical Engineer or Principal Certifying Authority (PCA) and conducted with minimal delay following excavation.</i> <p><i>Design Considerations for Block Retaining Walls</i></p> <ul style="list-style-type: none"> • <i>It is anticipated that block retaining walls restrained by geosynthetic strap reinforced earth may be selected for this development. The following should be considered for the design of these retaining walls:</i> <ul style="list-style-type: none"> ○ <i>Footing designs for the retaining wall should not exceed the maximum recommended bearing capacities provided in Table 12 (of the Geotechnical Report).</i> ○ <i>If high bearing pressures are anticipated, the retaining wall footing should be widened with a structural engineer design spread footing, such that the design bearing pressures do not exceed maximum recommended bearing capacities provided in Table 12 (of the Geotechnical Report). Alternatively a piled footing system may be required.</i> ○ <i>If footing design drawings require confirmation of a bearing capacity for the strap zone of the retaining wall, note that this would require the strap zone to be treated as a large footing. This would need stringent checks by a geotechnical engineer prior to field confirmation of the tract bearing capacity. Ideally the design should accommodate potential ground conditions in the strap zone.</i> ○ <i>Adequate field quality control is required during installation, such that target compaction is achieved and straps are installed at the correct configuration and tension.</i> <p><i>Design CBR for Pavement Design</i></p> <ul style="list-style-type: none"> • <i>Current site conditions would dictate that a low design CBR of 3% would need to be adopted, subject to additional CBR testing, for pavements founded on unit 2.</i> • <i>Subgrade remediation would likely be necessary in the weak areas identified in Section 6.3 (of the Geotechnical Report).</i> 	

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	<ul style="list-style-type: none"> • Remediation could include subgrade replacement using better quality crushed rock and possibly the use of a geogrid, otherwise lime stabilisation may be suitable if the pavement footprint geometry and exposed subgrade materials permit. • In the instance where subgrade remediation is required, further geotechnical assessment would be required to determine appropriate remedial measures. • However, given the anticipated significant excavation that will likely expose better quality materials at depth, there is opportunity to stockpile such material for use in the pavement subgrade zone. • Further assessment would be required quantify the amount of available better-quality material won from bulk excavation. • Additional CBR testing would be required to determine the design CBR if this option is pursued. • If the subgrade comprises of varied subgrade material i.e. partly founded on rock and soil, the design should include the provision of articulation joints where necessary. 	
Preliminary Site Investigation	<ul style="list-style-type: none"> • The client should barricade off the areas where asbestos containing material (ACM) has been observed at the site and erect appropriate signage to prevent access by the public; and • The client should seek the advice of an appropriately qualified environmental consultant on how best to remediate or implement interim controls to prevent potential asbestos exposure risks • A stage 2 detailed site investigation (DSI) should be undertaken at the site to further assess potential contamination risks associated with the identified areas of environmental concern; and • Any contamination found while undertaking the DSI should be remediated in accordance with a Remedial Action Plan (RAP); and The stage 2 DSI and the RAP (if required) should be undertaken / prepared by a suitably experienced environmental consultant. 	Section 6.6 and Appendix 12
Air Quality	<p>Mitigation Measures Specific to Earthworks</p> <ul style="list-style-type: none"> • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable. • Only remove the cover in small areas during work and not all at once. <p>Mitigation Measures Specific to Construction</p> <ul style="list-style-type: none"> • Avoid scabbling (roughening of concrete surfaces) if possible. • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. 	Section 6.13 and Appendix 26

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	<ul style="list-style-type: none"> • <i>Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.</i> • <i>For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.</i> <p>Mitigation Measures Specific to Trackout</p> <ul style="list-style-type: none"> • <i>Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.</i> • <i>Avoid dry sweeping of large areas.</i> • <i>Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.</i> • <i>Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.</i> • <i>Record all inspections of haul routes and any subsequent action in a site log book.</i> • <i>Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.</i> • <i>Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).</i> • <i>Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.</i> • <i>Access gates to be located at least 10 m from receptors where possible.</i> 	

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Noise and Vibration	<ul style="list-style-type: none"> • <i>A detailed noise management plan should be developed by the main contractor that describes in detail the construction phases, programme, processes and equipment used, noise impact assessment and proposed mitigation and management.</i> • <i>Quiet work methods/technologies:</i> <ul style="list-style-type: none"> ○ <i>Materials handling/vehicles:</i> <ul style="list-style-type: none"> ▪ <i>Trucks and bobcats to use a non-tonal reversing beacon (subject to OH&S requirements) to minimise potential disturbance of neighbours.</i> ▪ <i>Avoid careless dropping of construction materials into empty trucks.</i> ▪ <i>Trucks, trailers and concrete trucks (if feasible) should turn off their engines during idling to reduce noise impacts (unless truck ignition needs to remain on during concrete pumping).</i> • <i>Complaints handling – in the event of complaint, the procedures outlined in Sections 8.8, 8.9 and 8.10 should be adopted.</i> • <i>Site induction:</i> <ul style="list-style-type: none"> ○ <i>A copy of the Noise Management Plan is to be available to all contractors. The location of the Noise Management Plan should be advised in any site induction.</i> ○ <i>Site induction should also detail the site contact is to be notified in the event of noise complaint.</i> 	Section 6.7 and Appendix 16
Social Impact Assessment	<p>Construction Impacts</p> <ul style="list-style-type: none"> • <i>No specific construction noise mitigation measures are required to be undertaken. Best practice measures to minimise construction noise should be implemented as part of the Construction Noise and Vibration Management Plan (once prepared).</i> • <i>The recommendations included in the SSD Acoustic Assessment should be implemented.</i> • <i>Traffic control mitigation measures should be included as part of the Construction Environment Management Plan.</i> <p>Noise Impacts (Operational)</p> <ul style="list-style-type: none"> • <i>No specific operational noise mitigation measures are required to be undertaken.</i> • <i>It is recommended that at the detailed design state, an Acoustic Assessment be prepared, and any noise attenuation and mitigation measures proposed in that report be implemented.</i> • <i>It is recommended detailed assessment of potential noise emissions from future uses in each warehouse be undertaken and noise mitigation measures implemented as recommended.</i> <p>Traffic and Parking Impacts (Operational)</p>	Section 6.17 and Appendix 28

Issue	Mitigation Measure	Reference
	<ul style="list-style-type: none"> As noted, the proposal has been determined to generate negligible impacts on the local road network and is unlikely to result in any significant social impacts for road users. The recommendation included in the Traffic Impact Assessment for further consideration of the proposed access arrangement (Wallgrove Road/internal road intersection) is required specifically as it relates to the proposed northbound acceleration lane. <p>Visual Impact</p> <ul style="list-style-type: none"> None identified. Recommended that the landscaping plan proposed is implemented. <p>Crime</p> <ul style="list-style-type: none"> Application of CPTED principles to be applied at the detailed design and operational stage to ensure safety in and around the subject site. 	
Biodiversity	<p>Construction Environment Management Plan</p> <ul style="list-style-type: none"> To avoid potential indirect offsite impacts during construction, an appropriate erosion and sedimentation control plan (ESCP) should be put in place following best practice protocols such as Landcom (2004). It is recommended that the ESCP, a pre-clearance protocol and a clearing protocol are included in a site-specific Construction Environmental Management Plan (CEMP), prior to any construction works taking place. <p>Vegetation Management Plan</p> <ul style="list-style-type: none"> It is understood that the vegetation management plans exist for the parklands and that the principles and actions contained within will be applied to the retained vegetation within the study area where practicable. <p>Protection of native flora and fauna – pre-clearance and clearance protocols</p> <ul style="list-style-type: none"> Appropriate pre-clearance protocols should be put in place at the time of construction to avoid and mitigate any potential harm or injury to these individuals. HBTs identified in the subject land, which was not suspected to contain any microbat species. An ecologist will be required onsite for the removal of this stag tree and the homestead. The stag should be salvaged and retained within the riparian zone or offset using an appropriate number of nest boxes (i.e., 2:1). Whilst extreme care will be taken to protect fauna, in the unlikely event that fauna is injured, the ecologist will ensure that any injured animals receive the appropriate level of care. The nearest 	Section 6.4 and Appendix 13

Issue	Mitigation Measure	Reference
	<p><i>veterinary clinics will be contacted prior to the works beginning to determine that they have the capabilities to care for injured native animals.</i></p> <ul style="list-style-type: none"> <i>An unexpected finds protocol should be prepared and incorporated into the CEMP should any bats encountered during the removal of [manmade] structures. A preclearance survey should also be conducted by a suitable qualified and experienced ecologist.</i> 	
Waste	<p>Waste Storage and Collection</p> <ul style="list-style-type: none"> <i>Designated waste storage areas will be established for the collection of all waste and recyclables.</i> <i>The waste storage areas shall have appropriate signage to clearly identify the area to construction workers and to prevent unauthorised access to the area.</i> <i>Stockpile size or bin numbers should be minimised by regular removal of waste from site and construction staging plans must allow for the waste storage area to move within the site as the development progresses if necessary.</i> <i>The waste storage areas do not have to be enclosed. However, bins should be covered where possible to prevent transmission of dust and fine particles, odour, wind impacts, vermin and vandalism or theft.</i> <i>Bins will be stored on a hardstand area with appropriate sediment control measures implemented to mitigate run-off into stormwater.</i> <i>Any spillages in the waste storage area should be treated immediately using a spill kit.</i> <i>Contaminated or hazardous wastes should be stored in a secure area with appropriate signage.</i> <p>Site Waste Control and Management</p> <ul style="list-style-type: none"> <i>To ensure adequate site environmental standards are maintained, is recommended that the following controls be implemented and enforced by the proponent:</i> <ul style="list-style-type: none"> <i>All waste generated during the project is assessed, classified, and managed in accordance with the “Waste Classification Guidelines Part 1: Classifying Waste” (DECCW, December 2009).</i> <i>The body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste or spoil from the vehicle or trailer.</i> <i>Mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorized plant leaving the site, is removed before the vehicle, trailer or motorized plant leaves the premises.</i> <i>Appropriate control measures to eliminate/minimise the airborne emission of dust and fibres, such as:</i> <ul style="list-style-type: none"> <i>Dust screening barrier around site and relevant areas within site</i> 	Section 6.15 and Appendix 27

Issue	Mitigation Measure	Reference
	<ul style="list-style-type: none"> ▪ <i>Cover stockpiles</i> ▪ <i>Water suppression</i> <p>Hazardous Wastes</p> <ul style="list-style-type: none"> • <i>Hazardous construction materials should be disposed of in accordance with EPA guidelines to protect the environment and personnel.</i> • <i>In order to avoid risk to the environment and any breach of legislation this development endeavours to uphold the following practices:</i> <ul style="list-style-type: none"> ○ <i>Early identification and reporting of hazardous waste.</i> ○ <i>Reporting of any suspicious activities of involved stakeholders (waste generator, transporter, or receiver) to including handling waste unlawfully or illegally dumping waste through the Environment Line on 131 555.</i> ○ <i>Ensure waste is transported to a place that can lawfully accept it under Section 143 of the Protection of the Environment Operations Act 1997.</i> ○ <i>Take all reasonable precautions, and exercise due diligence at all times, to prevent/minimise commission of any offence.</i> ○ <i>Keep accurate written records such as:</i> <ul style="list-style-type: none"> ▪ <i>who transported the waste (company name, ABN, vehicle registration and driver details, date and time of transport, description of waste)</i> ▪ <i>copies of waste dockets/receipts from the waste facility (date and time of delivery, name and address of the facility, its ABN, contact person)</i> <p>Asbestos</p> <ul style="list-style-type: none"> • <i>To manage the risk of asbestos during the demolition/construction phase the following minimum requirements must be implemented:</i> <ul style="list-style-type: none"> ○ <i>Identify all asbestos and asbestos containing material and record in an asbestos register for the project.</i> ○ <i>Assess the risk of exposure to airborne asbestos.</i> ○ <i>Eliminate or minimise the risks associated with asbestos by implementing control measures.</i> ○ <i>Continually review control measures to ensure they are effective.</i> • <i>If asbestos is identified a detailed asbestos management plan is required to be prepared for the project which must:</i> <ul style="list-style-type: none"> ○ <i>Identify the location of asbestos and any naturally occurring asbestos.</i> ○ <i>Include decisions—and reasons for them—about the management of asbestos at the site, for example safe work procedures and control measures.</i> 	

Issue	Mitigation Measure	Reference
	<ul style="list-style-type: none"> ○ <i>Outline procedures for incidents and emergencies involving asbestos, including who is responsible for what.</i> ○ <i>Be maintained with up-to-date information.</i> ○ <i>Be accessible to any worker who has carried out or intends to carry out work at the workplace and any health and safety representatives who represent workers at the site.</i> ○ <i>Provide information, consultation and training responsibilities to workers carrying out work involving asbestos.</i> <p>Contracts and Purchasing</p> <ul style="list-style-type: none"> ● <i>Each subcontractor working on the site will be required to adhere to the Construction & Demolition Waste Management Plan (C&DWMP).</i> ● <i>The Head Contractor will ensure each subcontractor:</i> <ul style="list-style-type: none"> ○ <i>Takes practical measures to prevent waste being generated from their work.</i> ○ <i>Implements procedures to ensure waste resulting from their work will be actively managed and where possible recycled, as part of the overall site recycling strategy.</i> ○ <i>Implements source separation of off cuts to facilitate reuse, resale or recycling.</i> ● <i>The Site Manager will be responsible for:</i> <ul style="list-style-type: none"> ○ <i>Ensuring there is a secure location for on-site storage of materials to be reused on site, and for separated materials for recycling off site.</i> ○ <i>Ensuring all skips/bins/stockpiles are clearly labelled identifying which material is suitable for each receptacle.</i> ○ <i>Engaging appropriate waste and recycling contractors to remove waste and recycling materials from the site.</i> ○ <i>Co-coordinating between subcontractors, to maximise on site reuse of materials.</i> ○ <i>Monitoring of bins on a regular basis by site supervisors to detect any contamination or leakage.</i> ○ <i>Ensuring the site has clear signs directing staff to the appropriate location for recycling and stockpiling station/s. And that each bin/skip/stockpile is clearly sign posted.</i> ○ <i>Providing training to all site employees and subcontractors in regard to the C&DWMP as detailed in Section 6.6 below.</i> ○ <i>Should a subcontractor cause a bin to be significantly contaminated, the Site Manager will be advised by a non-conformance report procedure. The offending subcontractor will then be required to take corrective action, at their own cost. The non-conformance process would be managed by the Head Contractors' Quality Management Systems.</i> 	

Issue	Mitigation Measure	Reference
	<ul style="list-style-type: none"> ○ <i>Retaining demolition and construction waste dockets to confirm and verify which facility received the material for recycling or disposal.</i> <p>Training and Education</p> <ul style="list-style-type: none"> ● <i>All site employees and sub-contractors will be required to attend a site-specific induction that will outline the components of the C&DWMP and explain the site-specific practicalities of the waste reduction and recycling strategies outlined in the C&DWMP.</i> ● <i>All employees are to have a clear understanding of which products are being reused/recycled on site and where they are stockpiled. They are also to be made aware of waste reduction efforts in regard to packaging.</i> ● <i>The site manager will post educational signage in relation the recycling activities on site in breakout areas, lunchrooms etc.</i> 	
Ecologically Sustainable Design	<ul style="list-style-type: none"> ● <i>Employment of technical specialists for considered building design and fabric selection.</i> ● <i>High performance glazing and cool roof provisions.</i> ● <i>Future capacity and anticipation of renewable energy sources through considerate warehouse roof area design with Solar PVC system capabilities.</i> ● <i>Future provisions for installation of EV charging.</i> ● <i>Water usage meters and efficient plumbing fittings and fixtures within the buildings on-site.</i> ● <i>Promotion of native landscaping and site biodiversity.</i> ● <i>Use of low to zero VOC content materials.</i> ● <i>Water efficiency targeted through WSUD which will additionally improve and maintain local ecology.</i> ● <i>Transport planning to connect the business hub with the broader region.</i> ● <i>Waste management and minimization strategies.</i> 	Section 6.16 and Appendix 30