URBIS

# APPENDIX E – ENIRONMENTAL RISK ASSESSMENT AND MITIGATION MEASURES

## SSD-10272349 – 311 SOUTH STREET, MARSDEN PARK

The following section provides recommendation for mitigation measures in response to potential impacts identified in Section 6 of the EIS. The structure of mitigation measures is based on the DPE's hierarchy of approaches for managing impacts identified in the Draft Environmental Impact Assessment Guidance Series released by DPE in June 2017, and the July 2021 State Significant Development Guidelines as:

- **Performative based measure** – identify performance criteria that must be complied with to achieve an appropriate environmental outcome but do not specify how the outcome is to be achieved.
- **Prescriptive based measure** – require action to be taken or specify something that must be done.
- **Management based measure** - identify one or more management objectives that must be achieved through the implementation of a management plan.

Following the implementation of appropriate mitigation measures as recommended, it is determined that the proposal will not result in any significant adverse impacts on the surrounding environment. The following table illustrates how the matters raised within the SEARs will be addressed.

This analysis comprises a qualitative assessment consistent with AS/NZS ISO 31000:2009 Risk Management–Principles and Guidelines (Standards Australia 2009). The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures. In accordance with the SEARs, the Environmental Risk Assessment (ERA) addresses the following significant risk issues:

- The adequacy of baseline data;
- The potential cumulative impacts arising from other developments in the vicinity of the site; and
- Measures to avoid, minimise, offset the predicted impacts where necessary involving the preparation of detailed contingency plans for managing any significant risk to the environment.

Risk comprises the likelihood of an event occurring and the consequences of that event. For the proposal, the following descriptors were adopted for 'likelihood' and 'consequence'.

| **Likelihood** | | **Consequence** | |
|---|---|---|---|
| A | Almost certain | 1 | Widespread and/or irreversible impact |
| B | Likely | 2 | Extensive but reversible (within 2 years) impact or irreversible local impact |

| Likelihood | | Consequence | |
|---|---|---|---|
| C | Possible | 3 | Local, acceptable or reversible impact |
| D | Unlikely | 4 | Local, reversible, short term (<3 months) impact |
| E | Rare | 5 | Local, reversible, short term (<1 month) impact |

The risk levels for likely and potential impacts were derived using the following risk matrix.

| CONSEQUENCE | LIKELIHOOD A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | High | High | Medium | Low | Very low |
| 2 | High | High | Medium | Low | Very low |
| 3 | Medium | Medium | Medium | Low | Very low |
| 4 | Low | Low | Low | Low | Very low |
| 5 | Very low | Very low | Very low | Very low | Very low |

The results of the environmental risk assessment for the proposed development are presented in the below table and are based upon the range of technical and specialist consultant reports appended to the EIS. The table has directly related mitigation measures responding to each impact also based upon the range of technical and specialist consultant reports appended to the EIS.

**N.B.** **'O' – Operational; 'C' – Construction**

**'Pe' – Performance based mitigation measure; 'Pr' – Prescriptive based mitigation measure; 'Ma' – Management based mitigation measure**

| SEAR | Potential Impact | Stage of Project | Likelihood | Consequence | Risk Level | Approach | Mitigation Measure (Pe/Pr/Ma) | Residual Impact |
|---|---|---|---|---|---|---|---|---|
| **Urban Design and Visual Impact** | Loss of existing visual landscape and threat to view corridors of local residents/ sensitive receivers. | C | C | 3 | Medium | The Urban Design Report (UDR) (**Appendix L**) and Visual Impact Assessment (VIA) (**Appendix M**) provides a series of mitigation measures respectively integrate the proposed building design and landscaping into the immediate surrounds and to complement the future urban character of adjoining sites. The key measures include:<br>▪ Proposed design for the site to respond to the site conditions and topography, leveraging off the strategic context of the site and achieving the land use vision for the broader precinct.<br>▪ The proposed scale of the built form is smaller and less visually intrusive than some of the larger scale built forms that exist to the south and south east of the site. The proposed development also provides sufficient landscape setbacks which emphasise the street corners and street frontage facades. | Pr | The implementation of the proposed urban design and visual impact measures enables more seamless integration of built form character that is not only permissible within the land use controls, but also complements future land uses on adjacent sites. |

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|---|---|---|---|---|---|---|---|---|
| | | | | | | ▪ Extensive planting with a lix of low, medium and high level planting.<br>▪ Retention of existing vegetation where possible.<br>▪ The landscape response to the proposed development is another critical measure to mitigate the built form and act as buffer to screen the warehouse and distribution centre buildings.<br>▪ The proposed landscaping provides high quality communal areas within the estate as well as improving amenity along key interfaces of the site with existing and proposed road corridors and adjacent residential uses.<br>▪ Future built form to be screened by landscape buffers from key view points from surrounding uses. | | |

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|---|---|---|---|---|---|---|---|---|
| **Traffic and Transport** | Increased traffic, impacting the local road network | C & O | A | 4 | Low | The potential traffic impact for the proposed development is intended to be significantly lower than what was planned in the area wide modelling for the Marsden Park Industrial Precinct, which had significantly more trips.<br><br>The anticipated traffic generated by the site can be served by the existing intersections surrounding the site.<br><br>The traffic impacts from the construction phase are anticipated to be minor and is not expected to have a significant impact on the mid-block capacity of South Street, or the operation of surrounding key intersections.<br><br>In order to mitigate the potential traffic impacts generated by the proposed development, it is recommended that a Green Travel Plan (GTP) (**Appendix P**) and Construction Traffic Management Plan (CTMP) (**Appendix O**) be adopted as part of construction and operational | Pe | Management of traffic and transport impacts specifically during the construction phase and ongoing during operational. |

| SEAR | Potential Impact | Stage of Project | Likelihood | Consequence | Risk Level | Approach | Mitigation Measure (Pe/Pr/Ma) | Residual Impact |
|---|---|---|---|---|---|---|---|---|
| | | | | | | phase of the proposed development. | | |
| **Trees and Landscaping** | Loss of existing visual landscape in a development without sufficient landscape buffers and setbacks | O | E | 3 | Low | Retention of existing vegetation where possible.<br>Implementation of a landscape maintenance and management regime to ensure the planting successfully establishes and thrives. | Pr | The delivery of the landscape plan for the proposed development eliminates any future risk or impacts. |
| **Greenhouse Gas and Ecologically Sustainable Development** | The impacts of greenhouse gas emissions, energy efficiency and the impacts of the site on the environment are not properly considered.<br>Development not being undertaken in a manner that adopts ESD principles. | C | D | 4 | Low | The ESD and Greenhouse Assessment by Northrop details key initiatives for energy efficiency including:<br>▪ Natural ventilation of tertiary spaces<br>▪ Improved building fabric and glazing performance<br>▪ HVAC system control<br>▪ Highly efficient lighting system<br>▪ Electric-only building and environmentally friendly refrigerants | Ma | Development potentially resulting in increased greenhouse gas emissions and not adopting best practice in ESD principles. |

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|---|---|---|---|---|---|---|---|---|
| | | | | | | ▪ Effective water management through water efficient fixtures and fittings. | | |
| **Biodiversity** | Impacts on Biodiversity Values | C & O | E | 3 | Low | The Biodiversity advice from Travers Bushfire and Ecology confirms the site does not contain any waterfront land, is biodiversity certified and does not contain any existing native vegetation or retention areas. As such, no biodiversity mitigation measures are required. | Pr | Low risk |
| **Air Quality** | Dust and odour impacts due to construction work, and also combustion emissions associated with proposed development operations. | C | A | 3 | Medium | The Air Quality Impact Assessment by WSP details a series of mitigation measures for dust, contaminated material, and combustion emissions which include:<br>▪ Temporary site fencing and gates to be installed around all construction site areas.<br>▪ Minimise the extent of exposed and stripped surface areas.<br>▪ Cover or stabilise potentially dust-generating materials | Pe, Ma | Surrounding area have poor air quality for the duration of construction works. |

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| | | | | | | during transport to, from and around the site.<br>▪ Restrict on-site vehicle speeds to minimise wheel generated dust on sealed roads.<br>▪ Unexpected find protocol to be implemented when necessary.<br>▪ Emissions from HDVs to be regulated. | | |
| **Noise and Vibration** | Potential noise increase during the construction phase | C | C | 3 | Medium | While noise exceedances are predicted in all construction scenarios, mitigatory measures are proposed to minimise these impacts.<br>In order to mitigate construction noise for nearby sensitive receivers, the following mitigation measures are proposed, especially during intensive works such as work with excavators and breakers:<br>▪ Scheduling of activities to be inside working operation hours | Pe, Ma | Disturbance to proximal sensitive receivers. Given the high level of construction within the precinct, cumulative impact form construction remains a concern. |

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| | | | | | | ▪ Site layout to have vehicle exists away from noise sensitive areas<br>▪ Vibration associated with truck activity to comply with relevant NSW guidelines. | | |
| | Potential noise increase during for the 24hr operation of the proposed development | O | | | Low | Whilst some degree of noise will always emanat from the 24hr operation of the proposed development, screening from the main areas of operation is the most effective measure to mitigate impacts on adjoining sensitive receivers.<br>In order to mitigate operational noise for nearby sensitive receivers, the following mitigation measures are proposed:<br>▪ The construction of an acoustic barrier at 4.2m high above the concrete pad RL as indicated in Section 11.1 of **Appendix U**.<br>▪ Construction of 10m high awnings along the hardstand | Pr | Risk of disturbance from 24hr operation of the proposed development and the potential to cause impact to nearby sensitive receivers. |

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| | | | | | | areas as indicated in Section 11.1 of **Appendix U**.<br>▪ Warehouses to be constructed using concrete tilt walls to a minimum height above pad level RL as specified in Section 11.1.1 of **Appendix U**.<br>▪ Onsite mechanical plants to be assessed by a qualified acoustic consultant prior to its installation. | | |
| **Ground and Water Conditions** | Changes to the flood level, excavation of contaminated land during the construction of the proposed development | C | D | D | Low | The proposed development will be supported by a Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP) to ensure site runoff during typical construction activities on site are mitigated and that there is no significant sediment load from the runoff. | Ma | Subsequent management of runoff redirected as a result of the proposed works. |
| **Stormwater and Wastewater** | Potential site runoff and significant sediment load during | C | C | 4 | Medium | A Water Cycle Management plan will be implemented to achieve a series of targets in relation to water quantity and quality. The stormwater quantity management | Pr | Stormwater quantity and quality to be monitored and maintained in the |

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|---|---|---|---|---|---|---|---|---|
| | construction activities | | | | | for the site will be satisfied by the Little Creek regional detention system which will see a proposed basin to be constructed in the first quarter of 2022.<br><br>Stormwater quality for the proposed development will achieved through measures including:<br><br>▪ Stormwater quality improvement devices incorporated as part of the design<br><br>▪ Primary treatment of external areas through pit inserts<br><br>▪ Installation of two tertiary proprietary treatment systems<br><br>▪ Rainwater treatment tanks<br><br>The site is not currently served by on-site wastewater infrastructure however there are a number of adjoining sewer reticulation systems which the site could potentially connect into. There is an adjacent sewer reticulation system constructed under Sydney | | future to ensure the increase in density within the broader precinct does not place additional pressure on the existing stormwater and drainage network. |

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| | | | | | | Water which the proposed development can connect to. | | |
| **Flooding Risk** | Potential flooding onsite or the potential triggering of flooding in adjacent properties. | O | E | 5 | Low | The Water Cycle Management Strategy by Costin Roe has identified that the site is not subject to flooding or overland flow paths and hence no flood assessment or mitigation measures are required. As such, risk of flood is minimal. | Pr | Low risk |
| **Hazards and Risks** | No dangerous goods are proposed to be stored onsite as part of this SSDA | C & O | D | 4 | Low | Proper mitigation measures and storage facilities will be implemented on site if hazardous materials or dangerous goods need to be stored on site. | Pr | Potential risk from future dangerous goods to be stored on site within warehouse tenancies. |
| **Contamination and Remediation** | Potential contamination sources or area of environmental concern (AEC) within site | C | D | 4 | Low | The Detailed Site Investigation (DSI (**Appendix W**) has identified as series of measures to respond to the potential sources of contamination on the site which include:<br>▪ Undertake an asbestos building survey of buildings and structures by a qualified Occupational Hygienist. | Pr | Potential risks presented by additional asbestos containing material discovered during the construction phase, despite being identified as |

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| | | | | | | ▪ Program of abatement to remove surficial materials to improve the possibility of soil retention and improve risk mitigation outcomes during operation of the proposed development<br>▪ A CEMP needs to be considered as part of the development process. | | a relatively low risk.<br>Subject to the mitigation measures outlined within the DSI, the site can be made suitable for the proposed development. The site's contamination conditions would not preclude the proposed warehouse and distribution centre use through the implementation of the mitigation measures. |
| **Waste Management** | Amassing of waste as a result of both construction and operation, placing significant | C & O | C | 4 | Low | Material waste as part of the demolition works to be managed, disposed of and/or recycled in accordance to the demolition management plan. General waste disposal bins will be provided throughout the site, and surplus | Pr | Threat of incorrect disposal of waste streams which have potential for environmental risk. |

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| | pressure on existing waste streams | | | | | soil material transported to a licensed waste facility.<br>The anticipated impact of waste collection vehicles is minimal. | | |
| **Aboriginal Cultural Heritage** | Indigenous Heritage impact or destruction | C & O | N/A | N/A | N/A | Whilst the Aboriginal Cultural Heritage Assessment (ACHA) (**Appendix AA**) identifies no further assessment or works are required to be undertaken for the site, a series of mitigation measures have been recommended for future stages of the development process.<br>▪ In the event that unexpected finds occur during any activity within the study area, all works must in the vicinity must cease immediately. The find must be left in place and protected from any further harm. Depending on the nature of the find, the following processes must be followed:<br>▪ If, while undertaking the activity, an Aboriginal object is identified, it is a legal | N/A | A very low risk that a recovered item is not respectfully reburied on site in line with the methodology as presented in the ACHA. |

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| | | | | | | requirement under Section 89A of the NPW Act to notify Heritage NSW, as soon as possible. Further investigations may be required prior to certain activities recommencing.<br>▪ If, human skeletal remains are encountered, all work must cease immediately and NSW Police must be contacted, they will then notify the Coroner's Office. Following this, Heritage NSW should be contacted to liaise with NSW Police, in the instance that the remains are determined to be of historical Aboriginal origin. Upon this determination, Aboriginal stakeholders should be notified.<br>▪ It is recommended that the proponent continues to inform the Aboriginal stakeholders about the management of Aboriginal cultural heritage within the study area throughout the completion of | | |

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| | | | | | | the project. The consultation outlined as part of this ACHA is valid for six months and must be maintained by the proponent for it to remain continuous. | | |
| **Environmental Heritage** | Built form heritage impact or destruction | C & O | E | 5 | Low | The European Heritage Impact Statement for the proposed development found no heritage items listed on the site and hence no mitigation measures were required. | N/A | Low Risk |
| **Social Impact** | Impacts of the construction and operation on surrounding residents, loss of community and Aboriginal heritage items. | C & O | C | 4 | Low | The Social Impact Assessment (SIA) (**Appendix BB**) recommends the following mitigation measures:<br>▪ Consider creating an employment plan for the construction phase and letting/tenant selection process. The plan could include measures to facilitate local employment and a strategy to attract and select suitable tenants from a range of industries and sectors. | Ma | Through the implementation of mitigation measures in relation to the key impacts identified within the SIA, the SIA identifies it would result in a medium-high positive impact on the surrounding environment and community. |

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|---|---|---|---|---|---|---|---|---|
| | | | | | | ▪ A Green Travel Plan (GTP) to increase active and public transport modes.<br>▪ Provision of internal lunchrooms, outdoor areas and breakout spaces for each of the proposed offices.<br>▪ Proposed landscaping providing shade for workers and visitors to the site and outdoors spaces for workers.<br>▪ Implement end of trip facilities as specified in the Green Travel Plan.<br>▪ Clarify the timing of the proposed development in relation to the timing of road network upgrades to identify the potential for short term road capacity and traffic impacts.<br>▪ Continue to consult with TfNSW and Blacktown City Council as the proposal and Marsden Park Industrial Precinct develops to monitor | | |

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|---|---|---|---|---|---|---|---|---|
| | | | | | | road performance and infrastructure delivery and make future modelling adjustments as required. | | |
| **Bush Fire Risk** | Impact to the proposed development by threat of bushfire | O | D | 4 | Low | The provision of a suitable emergency and evacuation arrangements for the site and all occupants.<br><br>Asset Protection Zones are to be constructed in accordance with PBP 2019, managed and maintained.<br><br>An emergency evacuation plan is to be prepared for the site.<br><br>Rainwater tanks and hydrants are to be provided with each warehouse development. | Ma | Potential damage to life and property as a result of threat from bushfire and inappropriate mitigation measures. |