



APPENDIX D - ENVIRONMENTAL RISK ASSESSMENT AND MITIGATION MEASURES

The following section provides recommendation for mitigation measures in response to potential impacts identified in **Section 6** of the EIS for SSD - 33701741 – Wyong Regional Distribution Centre Expansion. The structure of mitigation measures is based on the DPIE's hierarchy of approaches for managing impacts identified in the *Draft Environmental Impact Assessment Guidance Series* released by DPE in June 2017, as:

- **Performance 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 measure** – require action to be taken or specify something that must not 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
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.

		LIKELIHOOD				
		A	B	C	D	E
CONSEQUENCE	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

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
Waste Management	Waste from demolition and construction	C	D	4	Low	Implementation of the Waste Management Plan to manage waste and recycling and minimise waste being disposed in landfill, in line with the waste management hierarchy in the <i>Waste Avoidance and Resource Recovery Act 2001</i> .	Ma	Low
	Ongoing waste from day-to-day operations (office)	O	D	5	Low	Implementation of the Waste Management Plan to manage waste and recycling and minimise waste being disposed in landfill, in line with the waste management hierarchy in the <i>Waste Avoidance and Resource Recovery Act 2001</i> .	Ma	Low
	Waste from Materials Recycling Facility Operation	O	D	5	Low	Implementation of the Waste Management Plan to manage waste and recycling and minimise waste being disposed in landfill, in line with the waste management hierarchy in the <i>Waste Avoidance and Resource Recovery Act 2001</i> .	Ma	Low
Traffic and Transport	Impacts on road network from construction and operational phase. Additional demand on car parking spaces.	C & O	D	4	Low	Traffic control would be required to manage and regulate construction vehicle traffic movements to and from the site during construction. Implementation of a Construction Traffic and Pedestrian Management Plan prepared by Fabcot Pty Ltd.	Ma	Low
Noise and Vibration	Impacts on surrounding landowners from construction and operational phase.	C & O	D	4	Low	Implementation of the mitigation measures contained within the Noise Impact Assessment prepared by Renzo Tonin and Associates.	Ma	Low
Air Quality	Impacts from demolition and construction phase	C	C	3	Medium	Implementation of the mitigation measures contained within the Air Quality and Odour Assessment prepared by Northstar Air Quality.	Ma	Medium
	Impacts from operational phase	O	D	4	Low	Implement design solutions including all materials receipt, handling, processing and loading activities will occur in an enclosed building. Fast acting roller shutter doors will be closed at all times except to allow the ingress and egress of vehicles. Implement the Construction Management Plan prepared by Root Partnership, which contains procedures for dust management, etc associated with construction.	Ma	Low
Soils and Water	Impacts from soil quality	C	D	4	Low	The proposed development will be designed to meet Australian Standards that will be suitable for the existing geotechnical conditions of the site.	Ma	Low
	Impacts on downstream water quality	C & O	D	4	Low	Implement the Stormwater Management Plan for the site, including on-site stormwater detention and contribution to offsite water quality management. A sediment and erosion control plan will ensure downstream receiving waters are not adversely impacted by construction activities	Ma	Low
Contamination	Soil and groundwater contain contaminants	C	D	4	Low	Whilst findings indicate the site is suitable for the proposed use, further site investigation will be undertaken prior to the construction to address any additional contamination identified during site works and implementing contamination mitigation measures if required.	Ma	Low

SEARS	Potential Impact	Stage of Project	Likelihood	Consequence	Risk Level	Approach	Mitigation Measure (Pe/Pr/Ma)	Residual Impact
Infrastructure requirements	None. The site has access to existing utility services	O	E	5	Very low	Consultation with utility providers to facilitate connection to existing utility services.	Ma	Very low
Fire and Incident Management	Combustible materials stockpiled on site	O	C	3	Medium	Stockpiles of combustible materials are sorted, separated. Valuable materials are compacted, banded and located in storage areas for collection from site. Solid waste materials that have no value are separated and stockpiled to be sent to landfill.	Pe	Low
	Spread of fire	O	C	3	Medium	The building is designed with separated fire compartments and includes a fire hydrant and sprinkler systems.	Pe	Low
Hazards and Risks	Storage of dangerous goods on site (liquid petroleum gas for forklifts)	O	D	3	Medium	The quantity of dangerous goods on site is below the threshold for detailed assessment.	Ma	Low
Aboriginal Cultural heritage	Construction impacts on significant Aboriginal artefacts of place of significance	C	D	3	Medium	The project would implement an Unexpected Finds Procedure to manage any potential Aboriginal objects that may be located during construction.	Ma	Low
Urban Design and Visual	Visual impacts from the built form on surrounding sensitive receptors	O	D	3	Low	Implement landscaping to provide visual screening around the perimeter of the site and soften the appearance of built form on adjoining land uses.	Pr	Low
Socio-Economic	Impact on the social quality or equity or economy in the locality.	O	E	5	Very low	None. The proposed development is considered to provide public benefit.	Ma	Very low
Biodiversity	Demolition and construction resulting in loss of flora and fauna.	C	A	3	Medium	Implementation of the mitigation measures set out in the Aborigicultural Development Impact Assessment Report prepared by Birds Tree Consulting prior to and during construction. Retention of the cultural significant tree located within the eastern portion of the site in accordance with the findings of the ACHAR.	Pr	Medium
Ecologically Sustainable Development	Ecological impacts that would contribute to climate change and inter-generational impacts.	O	E	4	Low	Implementation of sustainability initiatives proposed for the facility including, but are not limited to: <ul style="list-style-type: none"> - Space efficient building layout. - Water sensitive urban design principles. - High efficiency equipment and lighting. - On-site renewable energy generation in the form of a rooftop solar array. - Incorporation of good daylighting to reduce lighting power usage. - Installation of a rainwater capture and reuse systems. - Natural ventilation to open spaces. - Waste storage spaces to promote recycling and sortation. 	Pe & Ma	Low