



Environmental Impact Statement ReDirect Recycling Pty Ltd Somersby Resource Recovery Facility

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This Environmental Impact Statement has been prepared by the following staff of Jackson Environment and Planning Pty Ltd, Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060.

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We declare that:

We declare that: The statement has been prepared in accordance with clauses 6 and 7 of Schedule 2 of the *Environmental Planning and Assessment Regulation* 2000.

The statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and the information contained in the statement is neither false nor misleading.

Report version	Authors	Date	Reviewer	Approved for issue	Date
Draft	R.Loemker, Dr M. Jackson and S. Coles	04/09/2021	Dr M.Jackson	Dr M.Jackson	07/09/2021
Final	R.Loemker, Dr M. Jackson and S. Coles	14/10/2021	Dr M.Jackson	Dr M.Jackson	14/10/2021



Executive Summary

About the development

ReDirect Recycling Pty Ltd (ReDirect) propose to operate a best practice Resource Recovery Facility within an existing warehouse building located at 33 Pile Road, Somersby. Construction of the warehouse building was approved under DA56372/2019 and is due to be completed by the end of 2021. The facility will have a maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials. ReDirect propose to operate the facility 24 hours, 7 days per week, in line with previous approvals for the site.

Purpose of the environmental impact statement

This Environmental Impact Statement (EIS) has prepared by Jackson Environment and Planning Pty Ltd on behalf of ReDirect. It presents the findings of a comprehensive environmental evaluation which has been undertaken to establish the potential impacts associated with the establishment of the Somersby Resource Recovery Facility.

The EIS study evaluates the social, environmental, and economic impacts and benefits of the proposed development. The EIS defines the context of the proposed development, and examines those issues considered to be relevant. This EIS considers the potential environmental effects of the proposed development during construction and operation, and proposes mitigation measures to prevent, reduce or offset significant adverse impacts on the environment.

The aims of this EIS are to:

- Identify all constraints affecting future development on the subject site;
- Consider the economic, social, and environmental impacts of the proposed development; and
- Assess the capability of the subject site to support the proposed development.

The Somersby Resource Recovery Facility will provide capacity for recycling up to 99,000 tonnes of material from the Central Coast per year. As a result, the proposed facility will be considered designated development under Clause 32(1)(b)(iii) of Schedule 3 of the *Environmental Planning and Assessment Regulation* 2000, and an EIS is required as part of the development application and planning approval for the development.

The development is also considered to be an Integrated Development, requiring a licence from the NSW EPA under Schedule 1 of the *Protection of the Environment Operations Act* 1997.

This EIS has addressed the NSW Department of Planning and Environment's Secretary's Environmental Assessment Requirements (SEAR 1548), which were issued on 19 February 2021 by Mr Chris Ritchie, Director, Industry Assessments as a delegate of the Secretary, in addition to the requirements of other government agencies, namely NSW EPA and Transport for NSW.

Planning and approvals pathway

ReDirect propose to operate a best practice Resource Recovery Facility at 33 Pile Road, Somersby. The facility will have a maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials. ReDirect Recycling Pty Ltd propose to operate the facility 24 hours, 7 days per week, in line with previous approvals for the site.

The proposed development will utilise the approved warehouse facility, with minor modifications and change of use into a fully integrated resource recovery facility. The development of the new warehouse was approved on 16th December 2019 under DA56372/2019.



The maximum waste processing capacity will be 99,000 tonnes per annum. Under Section 4.10 of the *Environmental Planning and Assessment Act* 1979 the proposed development is considered to be a Designated Development, requiring an EIS to be submitted with the development application.

General overview of the proposed development

To ensure that the development complies with contemporary standards for waste and transfer stations, a number of site upgrades are proposed as part of the development application. These include:

- Installation of a misting system within the warehouse building to suppress dust during tipping, sorting, and loading of waste materials for off-site recycling;
- Allocation of a dedicated tip and spread bay for verifying that waste materials do not contain contaminants as per the EPA's *Standards for Managing Construction Waste in NSW*;
- 13 separate waste storage bays to store sorted waste prior to being loaded onto trucks for off-site recycling;
- Two 27m in-ground weighbridges to be located on the southern side of the warehouse building for measuring the quantity of waste entering and leaving the facility to ensure the site complies with Clause 36 of the *Protection of the Environment Operations (Waste) Regulation* 2014;
- Drained stormwater from the pits beneath the weighbridge and used water from the wheel wash are to be directed to an oil/water separator. Treated water will require disposal via a trade waste connection to the Central Coast Council sewer system (subject to a separate approval);
- Site office, lunchroom, and amenities in the southwestern corner of the warehouse for waste sorting staff and truck drivers;
- A wheel wash for trucks exiting the warehouse building after tipping to clean wheel before exiting onto the public road;
- Isolation valves are to be fitted into pits within the warehouse buildings to isolate from the sewer system in case of a chemical spill;
- An isolation value is to be fitted to the pit which connects the stormwater drainage system to Pile Road to detain any firewater or other spilled liquids in an emergency;
- Concrete rollover bunding is to be installed inside the warehouse to contain firewater;
- Construction of a 2m high wall on the south-western corner of the lot to provide shielding against radiant heat impacts of a potential bushfire; and
- Additional landscaping to the front of the premises.

The facility will accept mixed construction and demolition waste and source-separated waste from construction sites and commercial sites throughout the region.

ReDirect will continue to use the wood waste materials shed, truck wash and hardstand area that were approved under DA51047/2016. The main use of the wood waste materials shed will be for the collection and stockpiling of the different type of woods which will then be taken to other licensed facilities for processing as mulch or in manufacturing. Intermittent shredding of wood waste materials, using a mobile shredder, will be carried out to optimise the wood waste for transport. The wood waste materials shed has approval to operate 24 hours, 7 days per week.

Up to 10 staff will be employed to work at the Resource Recovery Facility including administration staff, waste handling operators and truck drivers. It is anticipated that three shifts of staff will be required for the premises. As a result, it is expected that 30 ongoing direct jobs will be created by the development. A further 10 jobs over a three-month period will be created during construction. The total construction cost for the development is estimated to be \$2.878M.



Summary of environmental issues

Hazard and risk

A Preliminary Hazard Analysis and Environmental Risk Assessment has been performed to identify key potential impacts of the development, as well as potentially offensive or hazardous issues that need to be considered as part of the EIS process.

As a result of this analysis, it was found that under worst-case scenarios modelled with risk prevention, treatment and detection measures, all risks are considered moderate to low. All risks are low except those that involve fire caused by vehicle collisions, excess dust and some other form of ignition.

The proposed development is not considered a potentially hazardous development as per the SEPP 33 Guidelines, therefore, no further Preliminary Hazard Analysis or Multi-Level Risk Assessment has been performed.

Waste

A Waste Minimisation and Management Plan has been developed for the proposed development. The Waste Minimisation and Management Plan assesses how waste will be managed in the most environmentally sustainable way and contains the following information:

- Relevant legislation and guidelines for waste management for the Facility;
- The systems, procedures and initiatives proposed to address the management of waste materials generated during the construction and operation phases of the Facility;
- Safeguards, mitigation measures and monitoring to manage waste impacts during construction and operation;
- Roles and responsibilities of those involved in the design and implementation of waste management controls; and
- An effective monitoring, auditing and reporting framework to assess the effectiveness of the controls implemented.

The development phase of the project does not involve the demolition of any built structures.

During the construction phase, minor amounts of concrete, timber, metal and plastics will be generated during the installation of the weighbridges and wheel wash. These wastes will be segregated to maximise recycling and stored separately in hook lift bins and will be transported off-site for recycling at a lawful facility. The overall waste recovery rate during the construction phase will be >99%.

During the operational phase, the facility will have a maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials and store no more than 1,005 tonnes indoors at any one time. The facility will recycle an expected 97% of all incoming waste (or 96,050 tonnes per annum). The remainder of the waste received will be disposed at a lawful landfill (~2,950 tonnes per annum). Table 7.2 provides a summary of the products / waste export forecasts for the facility.

Fuels and chemicals

A small range of fuels, oils and fluids will be stored in the approved mechanical workshop for the principal purpose of servicing on site vehicles and equipment, including the excavator, front end loader and shredder. These chemicals will be stored in a cool, shaded area of the workshop, on bunded stands and shelves as per the requirements of the Australian Dangerous Goods Code. Preventative and mitigating measures will be in place. Provided proposed storage and handling protocols are adhered to, the impact of the chemicals and fuels to be stored on site will be minimal.

Air Quality

RWDI Australia conducted an air quality impact assessment for the proposed development.



Potential dust impacts associated with the operation of the proposed development have been assessed in general accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016).

Quantitative assessments of potential dust impacts from the operation of the proposed development have been conducted, based on TAPM meteorological simulations and the AERMOD dispersion modelling system.

The results of the dispersion modelling indicate that dust and particulate matter concentrations due to the operation of the proposed development would comply with the established criteria at all sensitive receptors.

Several measures have been identified to further reduce air quality impacts associated with the operation of the Proposal.

Noise and vibration

RWDI Australia conducted a noise and vibration assessment for the proposed waste facility and resource recovery site at 33 Pile Road, Somersby. The assessment is based on plans and information provided by ReDirect Recycling Pty Ltd and has been conducted in general accordance with the EPA's Noise Policy for Industry (NPfI) and the Interim Construction Noise Guideline (ICNG). The findings of this assessment are as follows:

- Operational noise predictions associated with the proposed operations under noise-enhancing meteorological conditions are found to comply with the project noise trigger levels at all identified receivers and for all assessment periods. As such, operational noise is not expected to impact on the acoustic amenity of the surrounding noise-sensitive receivers.
- Noise levels associated with maximum noise events at night are predicted to comply with the noise trigger level used for the maximum noise event assessment at receiver R1. As such, maximum noise events at night are not expected to impact on the acoustic amenity of the surrounding community.
- Construction activities associated with the Proposal are found to comply with the construction noise management levels at all identified receivers. As such, construction noise is not expected to impact on the acoustic amenity of the surrounding noise-sensitive receivers.
- The Proposal would generate heavy vehicle movements along Pile Road, Pacific Highway and Wisemans Ferry Road between the Proposal site and the Sydney-Newcastle M1 or Central Coast Motorways. However, no sensitive land uses are located along this route. Therefore, road traffic noise is not expected to impact on the acoustic amenity of the surrounding community.
- No significant sources of vibration have been identified for the Proposal. Therefore, potential vibration
 resulting from the Project is not expected to impact on the amenity of the surrounding noise-sensitive
 receivers.

Traffic

SECA Solutions carried out a Traffic Impact Assessment of the proposed development. The assessment has determined that the proposed development will have a minimal and acceptable impact upon the local road network in the general vicinity of the subject site.

The additional traffic being generated by the proposal will have a minor impact upon the local road network, with between 1 and 3 trucks per hour accessing the site (between 2 and 6 truck movements) across 24 hours and 7 days a week. This shall have a minor and acceptable impact upon the operation of this intersection.

The site access complies with AS2890 and can operate in a safe manner allowing for vehicles to enter and exit the site in a safe manner. The key intersection of Pile Road and the Old Pacific Highway has been observed on site during both the morning and afternoon peak periods and the current operation is very good with minimal delays and congestion.

Parking provided on site is suitable to accommodate the staffing requirements on site.



Traffic Impact Assessment concluded that the development should be approved on traffic and access grounds.

Bushfire

A Bushfire Threat Assessment (BTA) for the proposed development was conducted by Anderson Environment and Planning. Investigations undertaken for this Bushfire Threat Assessment have revealed that the proposed development will be affected by off-site Hazard Vegetation.

Suitable access and egress to the site will be provided via a street entrance from Pile Road which will allow for adequate access for emergency vehicles needing to access the site. In addition to this, to meet acceptable access principles for evacuation and firefighting, defendable space is provided surrounding the entirety of the development. As the minimum distance of 10m cannot be achieved surrounding the whole of the development, a 2m high wall is proposed between the building and the Hazard Vegetation to provide shielding against radiant heat impacts of a potential bushfire.

Existing reticulated water supply system for the existing buildings is expected to service the site, and street hydrant access is to be delivered in accordance with AS2419.1 – 2017.

Assuming the mitigation measures are implemented, and appropriate access and egress, the proposed development will meet the objectives of the *Planning for Bushfire Protection guidelines*. When applied, these measures should provide adequate protection in the event of a bushfire occurring in the immediate locality.

Stormwater

The Soil and Water Management Plan for the proposed development was prepared by Eclipse Consulting Engineers Pty Ltd. The findings of this assessment are as follows:

- The rainwater capture system has an average reuse performance of 86.1%, providing non-potable recycled water for flushing toilets in the new structures and topping up a wheel wash in the proposed warehouse.
- A comparison of the pre-development and post-development show that the post-development flows have been reduced to match the predevelopment flows at a maximum in all rainfall events more frequent than the 1% AEP event.
- The stormwater treatment train achieves the following reductions in total pollutant loads, compared to untreated runoff from the developed impervious areas of the site:
 - o 86.4% reduction in total suspended solids;
 - o 95.9% reduction in gross pollutants (grit, sediment, leaves, grass clippings, litter);
 - o 45.9% reduction in total nitrogen; and
 - 55.9% reduction in total phosphorus.
- The proposed development is not located within a Flood Planning Area and is not inundated or partially inundated by the 1% AEP flood.
- There are no expected water quality impacts to groundwater caused by the proposed development because of the ongoing use of the site.

Soil

The contaminated land - record of notices maintained by the NSW Office of Environment and Heritage indicates that, with regard to the Site, there are:

- No orders made under Part 3 of the *Contaminated Land Management* Act 1997 (CLM Act);
- No approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the Environment Protection Authority has not been revoked;
- No site audit statements provided under Section 53B of the CLM Act that relate to significantly contaminated land;
- No copies of anything formerly required to be part of the public record (where practicable); and



• No actions taken by the EPA under Section 35 or 36 of the *Environmentally Hazardous Chemicals Act* 1985.

A search of the NSW EPA public register of contaminated sites notified to NSW EPA under Section 60 of the CLM Act did not identify any records for the Site.

As part of the approved development under DA51047/2016, the site will be fully sealed, thus protecting underlying soils from contamination for current and historic site activities. The proposed development works will involve only minor excavation of soil for installation of the weighbridges. Excavated soil will be tested and classified as per the NSW EPA's *Waste Classification Guidelines* (2014). Given the minor nature of works and the low risk of site contamination from existing site uses further assessment under SEPP55 is not warranted.

Aboriginal and cultural heritage

An archaeological site containing Aboriginal objects is located adjacent to the development site, on Lot 1 DP1194897 (947 Old Pacific Highway). Development application DA51047/2016 included a due diligence report prepared by Baker Archaeology in regard to the Aboriginal site located on Lot 1 DP 1194897. The report concluded that the significant site had adequate protection and that the approved development would not impact it.

There are no proposed changes to the configuration of structures that will impact the Aboriginal heritage site. The existing buffer around the Aboriginal heritage site is to be maintained which will provide adequate protection around the archaeological site and the proposed development will not impact it, or its curtilage.



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1. Introduction

1.1. Project overview

ReDirect Recycling Pty Ltd (ReDirect) propose to operate a best practice Resource Recovery Facility within an existing +warehouse building located at 33 Pile Road, Somersby. Construction of the warehouse building was approved under DA56372/2019 and is due to be completed by the end of 2021. The facility will have a maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials. ReDirect propose to operate the facility 24 hours, 7 days per week, in line with previous approvals for the site.

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- Consider the economic, social, and environmental impacts of the proposed development; and
- Assess the capability of the subject site to support the proposed development.

The Somersby Resource Recovery Facility will provide capacity for recycling up to 99,000 tonnes of material from the Central Coast per year. As a result, the proposed facility will be considered designated development under Clause 32(1)(b)(iii) of Schedule 3 of the *Environmental Planning and Assessment Regulation* 2000, and an EIS is required as part of the development application and planning approval for the development.

The development is also considered to be an Integrated Development, requiring a licence from the NSW EPA under Schedule 1 of the *Protection of the Environment Operations Act* 1997.

This EIS has also been delivered to meet the NSW Department of Planning and Environment's Secretary's Environmental Assessment Requirements (SEAR 1548), which were issued on 19 February 2021 by Mr Chris Ritchie, Director, Industry Assessments as a delegate of the Secretary (refer to Appendix A). An overview of how the SEARs requirements have been addressed can be found in Appendix B. The assessment requirements for other government agencies have been addressed in Appendix C (NSW EPA) and Appendix D (TfNSW).

1.3. The site

The proposed facility is to be located at 33 Pile Road, Somersby within the Central Coast Council local government area (Figure 1.1). The site is located over two lots, Lot 1 DP 1093201 and Lot 5 DP 1151970, Somersby NSW.

The proposed development is located in the Somersby Industrial Park, which is located on the Somersby Plateau section of the Hunter Range on the Central Coast of New South Wales. The Somersby Industrial Park contains approximately 300 hectares of land zoned for industrial purposes and is bisected by the Sydney-Newcastle M1 Pacific Motorway. The Somersby Industrial Park is located 5.7 kilometres west of Gosford and 76 kilometres north of Sydney.

An aerial view of the immediately surrounding area is shown in Figure 1.2, and a view of the entire lot is shown in Figure 1.3.

The lot has an area of 4,608m² and is located on IN1 General Industrial zoned land under the *Gosford Local Environmental Plan* 2014 (Figure 1.4).

1.4. Site history and approvals

The site has development approval under DA51047/2016 for the following works:

- Consolidation of Lot 1 DP1093201, Lot 51 DP1151970 and part Lot 1 DP1194897 into one lot;
- Earthworks including extensive cut to maintain consistent floor levels across Borg and adjacent properties;



- Removal of 41 trees;
- Relocation of the existing stormwater and sewer easement to allow it to run continuously across the northern boundary of the consolidated site;
- Construction of a mechanics workshop;
- Construction of a truck wash including installation of a relocatable fuel tank and bowser;
- Construction of a wood waste materials handling shed;
- Construction of hardstand areas;
- Landscaping; and
- Operation of the site 24 hours a day, 7 days a week.

Approval for this development was granted by Central Coast Council on 21 July 2017. The construction certificate for the approved development (DA51047/2016) was issued on 27 November 2017. Between November 2017 and April 2019, the site has been cleared in accordance with the approved plans, and bulk earthworks have been carried out. As a result of the works carried out, there is no vegetation on the site, and the site has been manipulated to the required ground levels.

In April 2019, DA56372/2019 (contained in Appendix E) was lodged with Central Coast Council which sought approval for the construction of a new building containing a large warehouse on the upper level with an industrial unit on the lower level and the repositioning of the mechanic's workshop. The approved truck wash was also be incorporated into the new workshop. The approved above ground diesel tank and fuel bowser was repositioned to the western end of the site. Approval for this development was granted by Central Coast Council on 16 December 2019.

Figure 1.5 shows the approved site layout. Full detailed plans are provided in Appendix F.









Figure 1.2. Aerial view of the site and surrounding area. Approximate site boundaries are shown in yellow.





Figure 1.3. Close up aerial view of the lot, 33 Pile Road, Somersby NSW. Approximate site boundaries are shown in yellow.





Revision Jackson Environment and Planning Pty Ltd ReDirect Recycling Pty Ltd Date Drawn By Site description Client 30/08/21 Somersby Resource Recovery Facility Revision A R. Loemker
 33 Pile Road,
 Strategy | Infrastructure | Compliance | Procurement

 Somersby (Lot 1 DPA: Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060
 33 Pile Road, Project Site Zoning Title 1093201, Lot 5 DP E: admin@jacksonenvironment.com.au Scale Not to Scale ENVIRONMENT AND PLANNING T: 02 8056 1849 1151970) Source Department of Planning, Industry and Environment W: http://www.jacksonenvironment.com.au

Figure 1.4. Land use zoning of the subject site (IN1 General Industrial). Approximate site boundaries are shown in yellow.





Figure 1.5. Site layout as approved under DA56372/2019 (dashed blue outline). The site boundaries for the development application are shown in yellow.



1.5. Easements

An existing stormwater and sewer easement run continuously across the northern boundary of the consolidated site. Under DA51047/2016, the stormwater and sewer easement were relocated to allow it to run continuously across the northern boundary of the site.

1.6. Project team

In delivering this EIS, Jackson Environment and Planning Pty Ltd has undertaken all statutory planning assessments, as well as prepared the following sections of the EIS:

- Hazard and risk assessment;
- Waste mitigation and management;
- Fuels and chemicals;
- Aboriginal and non-indigenous heritage;
- Emergency Management Plan; and
- Pollution Incident Response Management Plan.

ReDirect carried out the stakeholder consultation and has consulted with:

- Neighbouring properties;
- Central Coast Council;
- Environment, Energy and Science Group (including the Climate Change and Sustainability Division);
- Environment Protection Authority;
- Fire and Rescue NSW;
- NSW Rural Fire Service;
- NSW Office of Environment and Heritage; and
- Transport for NSW.

ReDirect also prepared the following sections of the EIS:

- Consultation;
- Fire and incident management; and
- SEPP55 Preliminary Site Investigation.

ReDirect engaged a project team to undertake the design and specialist investigations for the EIS. The role/s of each team member is given below:

- Architectural design Crossmuller
- Capital Investment Valuation Muller Partnership
- Community consultation ReDirect Recycling Pty Ltd;
- Air quality impact assessment RWDI Australia Pty Ltd;
- Noise and vibration impact assessment RWDI Australia Pty Ltd;
- Traffic impact assessment SECAsolution Pty Ltd;
- Water Cycle Management Plan Eclipse Consulting Engineers Pty Ltd;
- Civil and stormwater design Eclipse Consulting Engineers Pty Ltd;
- Bushfire Threat Assessment Anderson Environment & Planning; and
- Fire Engineering Report Affinity Fire Engineering.





1.7. Site suitability and review of alternative sites

A number of sites were assessed by ReDirect for suitability as resource recovery facility. These included:

- 119 Wisemans Ferry Road, Somersby NSW;
- 110 Somersby Falls Road, Somersby NSW; and
- 65 Pile Road, Somersby NSW.

33 Pile Road Somersby NSW was considered the most suitable due to the existing approved warehouse building, which requires only minor modification to make the existing structure suitable for the establishment of a resource recovery facility.

The site also allowed for flow of materials from the manufacturing site located 1090 Pacific Highway, Somersby NSW. The sire also allows for a waste facility close to the other Crossmuller construction sites.

Overall, the selected site is suitable as a resource recovery facility and truck parking depot as:

- It is located within an industrial precinct away from residential areas;
- It is easy for heavy vehicles to access using major roads for the majority of their journey;
- The site is a low risk for flooding;
- The site is strategically located a short distance from Sydney and Newcastle, and the site has efficient transport access to customers in the Central Coast regions; and
- As discussed in detail in this EIS, the potential emissions can be mitigated to ensure there is no impact on surrounding properties.



2. Description of the Proposed Development

ReDirect Recycling Pty Ltd propose to operate a best practice Resource Recovery Facility within the new warehouse building that was approved under DA56372/2019, at 33 Pile Road, Somersby (Lot 1 DP 1093201 and Lot 5 DP 1151970). The facility will have a maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials.

To ensure that the development complies with contemporary standards for waste transfer stations, a number of site upgrades are proposed as part of the development application. These include:

- Installation of a misting system within the warehouse building to suppress dust during tipping, sorting, and loading of waste materials for off-site recycling;
- Allocation of a dedicated tip and spread bay for verifying that waste materials do not contain contaminants as per the EPA's *Standards for Managing Construction Waste in NSW*;
- 13 separate waste storage bays to store sorted waste prior to being loaded onto trucks for off-site recycling;
- Two 27m in-ground weighbridges to be located on the southern side of the warehouse building for measuring the quantity of waste entering and leaving the facility to ensure the site complies with Clause 36 of the *Protection of the Environment Operations (Waste) Regulation* 2014;
- Drained stormwater from the pits beneath the weighbridge and used water from the wheel wash are to be directed to an oil/water separator. Treated water will require disposal via a trade waste connection to the Central Coast Council sewer system (subject to a separate approval);
- Site office, lunchroom, and amenities in the southwestern corner of the warehouse for waste sorting staff and truck drivers;
- A wheel wash for trucks exiting the warehouse building after tipping to clean wheel before exiting onto the public road;
- Isolation valves are to be fitted into pits within the warehouse buildings to isolate from the sewer system in case of a chemical spill;
- An isolation value is to be fitted to the pit which connects the stormwater drainage system to Pile Road to detain any firewater or other spilled liquids in an emergency;
- Concrete rollover bunding is to be installed inside the warehouse to contain firewater;
- Construction of a 2m high wall on the south-western corner of the lot to provide shielding against radiant heat impacts of a potential bushfire; and
- Additional landscaping to the front of the premises.

The facility will accept mixed construction and demolition waste and source-separated waste from construction sites and commercial sites throughout the region.

The total waste received is expected to be 99,000 tonnes per year. A breakdown of the waste types is provided in Table 2.1. The amount of waste expected to be on the premises at any one time is 1,005 tonnes which will be stored indoors.

Waste will be delivered to the site and separated waste will be removed from the site via 19m semi-trailers (walking floors) and truck and dogs combinations.

All vehicles will access the facility from Pile Road. Vehicles tipping waste are directed to proceed to the weighbridge (Inspection Point 1). Rejected loads and unwanted materials will be managed in accordance with the *Standards for Managing Construction Waste* in NSW (NSW EPA, 2018) and the *Waste Classification Guidelines* (NSW EPA, 2014).



Visitor vehicles not carrying waste or other materials do not proceed over the weighbridge, instead proceed to park in the visitor / staff car park at the front of the site.

Accepted waste will be tipped in the "tip and spread inspection area" (Inspection Point 2) which is a dedicated area located within the warehouse and after Inspection Point 1 (weighbridge). This area will be used solely for tipping, spreading, turning and inspecting each load of construction waste as required. Rejected loads and unwanted materials will be managed accordingly.

Inspected waste will then be moved to the primary waste sorting area and sorted via an excavator. Waste materials will be separated and stored in separate, designated storage bays for each waste material to be accepted.

ReDirect Recycling Pty Ltd will use the wood waste materials shed (approved under DA51047/2016) for the collection and stockpiling of the different type of woods which will then be taken to other licensed facilities for additional processing as mulch or in manufacturing. Intermittent shredding of wood waste materials, using a mobile shredder, will be carried out to optimise the wood waste for transport.

Processed and recovered products will be collected and transported as required for off-site recycling. Trucks and vehicles picking up product will enter via the main entrance, will pass over the weighbridge, and will manoeuvre through the warehouse through the designated warehouse entrance. Trucks will be loaded via front end loader, then will exit the warehouse in the front direction, through the wheel wash and pass over the outgoing weighbridge for assessing net weight of product transferred off site.

The residual fraction will be transported to other EPA licenced facilities for further processing / recycling. Any residual waste from this process will be sent to landfill.

Figure 2.1. provides a process flow chart for the operation of the tip and spread area.

The layout of the site is given in Figure 2.2. Detailed site plan is provided in Appendix F.



Figure 2.1. Process flow chart for the operation of the tip and spread area.





Figure 2.2. Proposed site layout and truck turning paths.





2.1. Quantities of waste materials to be received and stored

A Waste Minimisation and Management Plan was prepared by Jackson Environment and Planning Pty Ltd. A brief summary of the plan is provided in Section 7. The full Waste Management Plan is provided as Appendix H. The Waste Minimisation and Management Plan has been developed to meet the NSW Department of Planning and Environment's Secretary's Environmental Assessment Requirements (1548).

The facility will include a fully enclosed and integrated Resource Recovery Facility with a proposed maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials and store no more than 1,005 tonnes indoors at any one time.

All waste materials and processed products will be stored in separate concrete bays with three side. Storage of incoming waste in dedicated areas and sorted materials and products in dedicate bays helps in inventory control, good housekeeping, reduces potential for cross contamination and is critical for quality control.

The vast bulk of "waste" materials will be brought onto site for processing or for aggregation and off-site transport to other facilities for recycling. While some material will be non-recyclable "residual" waste, most material will be recovered, sorted and moved off site for further processing / recycling. In is estimated that the facility will recycle 97% of all incoming waste (or 96,050 tonnes per annum). The remainder of the waste received will be disposed at a lawful landfill (~2,950 tonnes per annum).

Where appropriate, manufactured products will meet the EPA's Resource Recovery Orders under the *Protection of the Environment Operations (Waste) Regulation* 2014.

The Waste Minimisation and Management Plan provides the environmental control measures and safeguards that will be implemented in order to minimise waste generated during the construction and operation phases of the facility.

The site does not accept waste from public drop off.

The proposed waste materials and quantities to be stored at the site are provided in Table 2.1

Waste Type	Waste Composition (% by weight)	Annual Weight (tonnes)	Average Daily Weight (tonnes)	Density (tonnes/m ³) ¹	Total Storage Bay Volume (m ³)	Site Capacity (tonnes)
Mixed C&D waste	40%	40,000	108.5	0.83	204	169
Mixed clean timber	15%	15,000	67.8	0.36	204	73
Pallets	4%	4,000	8.1	0.16	140	22
MDF and particle board	2%	2,000	10.8	0.26	191	50
Green Waste	15%	15,000	16.3	0.45	166	74
Metals	5%	5,000	5.4	0.20	217	43

Table 2.1. Types and quantities of waste material to be stored at the Site (quantities are approximate)

¹ NSW Environment Protection Authority (2018). Waste Levy Guidelines. Table 4.1.



Waste Type	Waste Composition (% by weight)	Annual Weight (tonnes)	Average Daily Weight (tonnes)	Density (tonnes/m ³) ¹	Total Storage Bay Volume (m ³)	Site Capacity (tonnes)
Gypsum	1%	1,000	5.4	0.17	204	35
Glass	1%	1,000	2.7	0.41	204	84
Tyres	4%	4,000	10.8	0.83	140	116
GSW CT1 (Recyclable)	10%	10,000	27.1	0.83	204	169
GSW CT2 (Restricted)	2%	2,000	8.1	0.83	204	169
TOTAL	100	99,000	271	-	2,078	1,005

2.2. Waste materials not accepted

The following materials will not be accepted:

- Special waste (incl. asbestos);
- Hazardous waste; and
- General solid waste (putrescible).

2.3. Proposed operating hours

ReDirect Recycling Pty Ltd propose to operate the facility 24 hours, 7 days per week, in line with previous approvals for the site.

2.4. Staffing

Up to 10 staff will be employed to work at the Resource Recovery Facility including administration staff, waste handling operators and truck drivers. It is anticipated that three shifts of staff will be required for the premises. As a result, it is expected that 30 ongoing direct jobs will be created by the development. Note that approximately 10 jobs over a three month period will be created during construction.

2.5. Plant and equipment

The following plant and equipment will be used on site:

- Wood Shredder;
- 1x 30-Tonne Excavator;
- 1x 20-Tonne Front-End Loader; and
- 1x Mini Crane Telehandler.

Waste will be delivered to the site via 19 m semi-trailers (walking floors) and truck and dogs combinations.

An above ground portable wheel wash will be installed for trucks exiting the warehouse building after tipping to clean wheel before exiting onto the public road. An example of the portable wheel wash that will be installed at the site is provided in Figure 2.3.



Figure 2.3. Example of the wheel wash that will be installed at the site (source: Weigh Pack Electrical).







3. Planning and Legislation

3.1. Project approval

ReDirect propose to operate a best practice Resource Recovery Facility at 33 Pile Road, Somersby. The facility will have a maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials. ReDirect Recycling Pty Ltd propose to operate the facility 24 hours, 7 days per week, in line with previous approvals for the site.

The proposed development will utilise the approved warehouse facility, with minor modifications and change of use into a fully integrated resource recovery facility. The development of the new warehouse was approved on 16th December 2019 under DA56372/2019.

The maximum waste processing capacity will be 99,000 tonnes per annum. Under Clause 32(1)(b)(iii) of Schedule 3 of the *Environmental Planning and Assessment Regulation* 2000, the proposed development is considered to be a Designated Development, requiring an EIS to be submitted with the development application.

Under Section 5.18 of the *Environmental Planning and Assessment Act* 1979, ReDirect prepared a 'Preliminary Environmental Assessment' of the project and requested the Secretary's Environmental Assessment Requirements from the DPIE.

The Secretary's Environmental Assessment Requirements (SEAR 1548) was issued on 19th February 2021 by Mr Chris Ritchie, Director, Industry Assessments as a delegate of the Secretary (refer to Appendix A).

All requirements provided by the following agencies have been addressed in this EIS:

- Neighbouring properties;
- Central Coast Council;
- Environment, Energy and Science Group (including the Climate Change and Sustainability Division);
- Environment Protection Authority;
- Fire and Rescue NSW;
- NSW Rural Fire Service;
- NSW Office of Environment and Heritage; and
- Transport for NSW.

An overview of how the SEARs requirements have been addressed can be found in Appendix B. The assessment requirements for other government agencies have been addressed in Appendix C (NSW EPA) and Appendix D (TfNSW).

The planning consent authority for this proposed development will be the Hunter and Central Coast Regional Planning Panel.

3.2. Approvals/licenses required

The development is considered to be a Designated Development under Schedule 3 of the *Environmental Planning and Assessment Regulation* 2000.

For Designated Development an EIS will be required, and third parties must be notified and can appeal against a decision to grant consent. Designated Development refers to developments that are high-impact



developments (e.g. likely to generate pollution) or are located in or near an environmentally sensitive area (e.g. a wetland). There are two ways a development can be categorised as 'designated development':

- The class of development can be listed in Schedule 3 of the EP&A Regulation as being designated development; or
- An LEP or SEPP can declare certain types of development to be designated.

Examples of designated development include chemical factories, large marinas, quarries and sewerage treatment works and waste management facilities or works.

If a development application is categorised as designated development, the application:

- Must be accompanied by an EIS;
- Will require public notification for at least 30 days; and
- Can be the subject of a merits appeal to the Land and Environment Court by objectors.

The proposed Designated Development requires an Environment Protection Licence from the NSW Environment Protection Authority as a Resource Recovery Facility, as the site is located in the levy-paying area and processing capacity is greater than 6,000 tonnes per annum, pursuant to Clause 34(3) of Schedule 1 of the *Protection of the Environment Operations Act* 1997.

3.3. Statutory Context

The statutory context of the proposed development is summarised in Table 3.1.

Regulatory	Considerations	Comment
Environmental Planning and Assessment Act 1979	The proposed project is considered to be State Significant Development requiring assessment under Part 4 Division 4.7 of the <i>Environmental Planning and Assessment Act</i> 1979.	This EIS has been prepared to satisfy the requirements of the <i>Environmental Planning</i> and Assessment Act 1979. The Hunter and Central Coast Joint Regional Planning Panel will be the approval authority for the development.
Environmental Planning and Assessment Regulation 2000	As Designated Development, Clause 4.12(8) of the <i>Environmental Planning and</i> <i>Assessment Act</i> 1979 applies, an EIS in the form prescribed by the <i>Environmental</i> <i>Planning and Assessment Regulation</i> 2000 must accompany the development application, in addition to addressing the SEARs.	This EIS has been prepared to satisfy the requirements of the <i>Environmental Planning</i> and Assessment Regulation 2000. The proposal is also Designated Development as per Clause 32(1)(b)(iii) of the Regulation.
Protection of the Environment Operations Act 1997	Schedule 1 of the <i>Protection of the</i> <i>Environment Operations Act</i> 1997 (34) details "Resource Recovery" as an activity. Section 48 of the Act requires a person to obtain an Environment Protection License (EPL) from the NSW Environment Protection Authority before carrying out any of the premise-based activities described in Schedule 1 of the Act. The facility will require an Environment Protection Licence (EPL) as it will receive more than 6,000 tonnes per year, and an EPL	N/A – an application for an Environment Protection Licence will be made to the NSW Environment Protection Authority following the issue of consent conditions.

Table 3.1. Strategic and statutory context.



Regulatory	Considerations	Comment
Requirements		
	is required under the <i>Protection of the Environment Operations Act</i> 1997.	
<i>Biodiversity Conservation Act 2016</i>	The <i>Biodiversity Conservation Act</i> 2016 provides the legislative framework for land management and biodiversity conservation. Biodiversity elements include major innovations to offsetting and private land conservation, as well as improvements to threatened species conservation and how we manage human-wildlife interactions. The purpose of this Act is to maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development (described in section 6 (2) of the Protection of the Environment Administration Act 1991).	No clearing or removal of native vegetation is proposed as part of the development and thus the development will have negligible adverse impacts on threatened species or ecological communities, considering habitat suitability, abundance and occurrence, habitat connectivity, movement and water sustainability including consideration of any non-natural features, non-native vegetation, and human-built structures.
Heritage Act 1977	The NSW Heritage Act 1977 (the Heritage Act) is the primary piece of State legislation affording protection to items of environmental heritage (natural and cultural) in New South Wales. Under the Heritage Act, 'items of environmental heritage' include places, buildings, works, relics, moveable objects and precincts identified as significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values. State significant items are listed on the NSW State Heritage Register (SHR) and are given automatic protection under the Heritage Act against any activities that may damage an item or affect its heritage significance.	An archaeological site containing Aboriginal objects is located adjacent to the proposed development site, on Lot 1 DP1194897 (947 Old Pacific Highway). The existing buffer around the site is to be maintained which will provide adequate protection around the archaeological site and the proposed development will not impact it.
Environmental Protection and Biodiversity Conservation Act 1999	The Commonwealth <i>Environment Protection</i> and <i>Biodiversity Conservation Act</i> 1999 (EPBC Act) came into force from 16 July 2000. The EPBC Act requires actions which are likely to have a significant impact on matters of National Environmental Significance, or which have a significant impact on Commonwealth land, to be referred to the Commonwealth Minister for the Environment for approval.	No National Environmental Significance matters would be impacted by the proposed development. This will be further addressed in the EIS for the proposed development.
State Environmental Planning Policy (Infrastructure) 2007	The aim of <i>State Environmental Planning</i> <i>Policy (Infrastructure)</i> 2007 is to facilitate the effective delivery of infrastructure across the State by improving regulatory certainty and efficiency through a consistent planning regime for infrastructure and the provision of services, and by providing greater flexibility in the location of infrastructure and service facilities	The proposed development meets the definition of a "Resource recovery facility" and "Waste or resource management facility" under Section 120 of the Infrastructure SEPP. Given the proposed development is to occur in a prescribed IN1 General Industrial zoning, the development is considered to be consistent with Section 120 of the Infrastructure SEPP being



Regulatory	Considerations	Comment
Requirements		
		development, which is permissible subject to development consent.
State Environmental Planning Policy (Vegetation in Non- Rural Areas) 2017	The State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017 ("Vegetation SEPP") commenced on 25 August 2017. The Vegetation SEPP is part of an extensive overhaul of native vegetation clearing laws in NSW and requires a Council permit to clear any vegetation below the Biodiversity Offset Scheme threshold, to which Part 3 of the Vegetation SEPP applies. The Vegetation SEPP applies to vegetation in 'non-rural' areas. Non-rural areas are defined as being land in the local government areas in metropolitan Sydney and Newcastle and land within a wide range of specified 'urban' zones.	The site is located within bushland as identified in the <i>State Environmental Planning Policy (Vegetation in Non-Rural Areas)</i> 2017 as land zoned IN1 General Industrial. However, the site is entire hardstand, no native vegetation exists on site and no vegetation is to be cleared as part of the proposed development and therefore the approval from the Native Vegetation Panel is not required.
State Environmental Planning Policy No 33 – Hazardous and Offensive Development	State Environmental Planning Policy No 33: Hazardous and Offensive Development (SEPP 33) outlines the requirements for a Preliminary Hazard Analysis screening test, required to be undertaken for hazardous and potentially hazardous industries.	An assessment of the proposed development in the EIS has been carried out in accordance with SEPP 33 to confirm the proposed development is not offensive or hazardous. The Preliminary Hazard Analysis is provided in Section 6.
State Environmental Planning Policy No 55 – Remediation of Land	Under the provisions of <i>State Environmental</i> <i>Planning Policy No. 55 – Remediation of Land</i> , it is necessary to establish if the proposed development is to be developed on land which has been declared or found to be contaminated, where rezoning of the land is proposed or where development contemplates a change of use.	As part of the approved development under DA51047/2016, the site will be fully sealed, thus protecting underlying soils from contamination for current and historic site activities. The proposed development works will involve only minor excavation of soil for installation of the weighbridges. Excavated soil will be tested and classified as per the NSW EPA's <i>Waste Classification Guidelines</i> (2014). Given the minor nature of works and the low risk of site contamination from existing site uses further assessment under SEPP55 is not warranted.
State Environment Planning Policy No. 64 – Advertising and Signage	The aim of <i>State Environmental Planning</i> <i>Policy No 64 – Advertising and Signage</i> (SEPP 64) is to ensure that signage is compatible with the desired amenity and visual character of an area, provides effective communication in suitable locations and is of a high-quality finish and design	SEPP 64 does not apply to the proposed development, as proposed signage to be installed as part of the development is defined as a 'business identification sign'.

3.4. Gosford Local Environmental Plan 2014

The following section provides the local planning and legislative framework for the proposed development. The purpose of this section is to outline the approval process and identify the applicable local planning controls that relate to the *Gosford Local Environmental Plan* 2014 (Gosford LEP).



3.4.1. Zone objectives

The objectives of zone IN1 General Industrial are:

- To provide a wide range of industrial and warehouse land uses;
- To encourage employment opportunities;
- To minimise any adverse effect of industry on other land uses;
- To support and protect industrial land for industrial uses;
- To promote ecologically, socially and economically sustainable development;
- To ensure that retail, commercial or service land uses in industrial areas are of an ancillary nature; and
- To ensure that development is compatible with the desired future character of the zone.

3.4.2. Land use permissibility

The Somersby Resource Recovery Facility can be defined as a waste or resource management facility which has the meaning of any of the following:

- (a) a resource recovery facility,
- (b) a waste disposal facility,
- (c) a waste or resource transfer station,
- (d) a building or place that is a combination of any of the things referred to in paragraphs (a)–(c).

A resource recovery facility is described under the definitions of the Gosford LEP as:

"... a building or place used for the recovery of resources from waste, including works or activities such as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from gases and water treatment, but not including re-manufacture or disposal of the material by landfill or incineration."

Under the Gosford LEP, resource recovery facilities are not expressly defined as 'permitted with consent' or 'Prohibited'. However, any other development not specified as 'permitted without consent' or 'prohibited' is considered 'permitted with consent'.

3.4.3. Gosford LEP Part 5.10 – Heritage Conservation

An archaeological site containing Aboriginal objects is located adjacent to the development site, on Lot 1 DP1194897 (947 Old Pacific Highway). Aboriginal objects and Aboriginal places of heritage significance are protected under Clause 5.10 of the Gosford LEP.

Development application DA51047/2016 included a due diligence report prepared by Baker Archaeology in regard to the Aboriginal site located on Lot 1 DP 1194897. The report concluded that the significant site had adequate protection and that the development would not impact it.

The proposed development will have no impact on the Aboriginal heritage site, or its curtilage, previously identified on the land. There are no proposed changes to the configuration of structures that will impact the Aboriginal site.

The proposed development will be consistent with clause 5.10 of the Gosford LEP.


3.4.4. Gosford LEP Part 7.4 – Development in Somersby Business Park

The subject site is identified as being within the Somersby Industrial Park (also known as Somersby Business Park) on the Key Sites map in the Gosford LEP.

Under clause 7.4 of the Gosford LEP, consent must not be granted unless the consent authority considers that the development is consistent with:

- a) any applicable plan of management adopted by the consent authority, and
- b) the objectives of the clause.

The applicable plan of management for the Somersby Industrial Park is the Draft Plan of Management for Somersby Industrial Park prepared by Connell Wagner Pty Ltd and dated June 2005. This Draft Plan of Management identifies performance objectives and management actions for environmental, Aboriginal heritage and economic values.

The objectives of this Clause 7.4 are as follows:

- a) to maximise the opportunity for industrial development in Somersby Business Park to provide employment opportunities in Gosford,
- b) to protect ecologically significant land and land with Aboriginal heritage characteristics in Somersby Business Park,
- c) to ensure that the function and appearance of future subdivision of, or other development in, Somersby Business Park protects ecologically significant land and land with Aboriginal heritage characteristics within Somersby Business Park,
- d) to provide that subdivision occurs in a flexible manner to take account of ecologically significant land and land with Aboriginal heritage characteristics within Somersby Business Park.

In regard to the objectives of this Clause 7.4, the proposed development will provide additional employment opportunities in the Central Coast Council LGA meeting objective (a).

Concerning objectives (b) to (d) the site has been cleared as per the previous approval, meaning no ecologically significant vegetation will be lost. The site does contain a significant archaeological site, however, this will be protected by the measures outlined in the previous development consent DA51047/2016. The buffer area to the item will not be encroached upon and the item will not be impacted by the proposed development. In summary, no archaeological or ecologically significant impacts will result from the proposed development. Overall, the proposed works therefore meet the objectives of Clause 7.4.

3.5. Gosford Development Control Plan 2013

The purpose of the Gosford Development Control Plan 2013 is:

- To identify Council's expectations and requirements for development within Gosford local government area and build upon the Gosford LEP, the Gosford Planning Scheme Ordinance and Interim Development Order No 122 by providing detailed objectives and controls for development;
- To ensure that all development is consistent with the desired character of the surrounding neighbourhood;



- To identify approaches and techniques which promote quality urban design and architectural outcomes in Gosford local government area; and
- To promote best practice and quality environmental outcomes.

The development is required to demonstrate full compliance the *Gosford Development Control Plan* 2013. Relevant sections and provisions are described in Table 3.1.

3.5.1. Gosford DCP Chapter 3.11 – Industrial Development

The general objectives of *Chapter 3.11 – Industrial Development* are as follows:

- To encourage good design solutions for industrial development.
- To ensure that new industrial development represents a high level of urban design with recognition of the form and character of the existing man-made and natural context.
- To ensure the efficient use of urban land by maximising development potential of new and existing land and infrastructure.

Many of the compliance requirements under Chapter 3.11 – Industrial Development of the *Gosford Development Control Plan 2013* have been addressed in the previous development application DA51047/2016. These include:

- Section 3.11.5.2 Setbacks and Boundaries
- Section 3.11.5.3 Building Height
- Section 3.11.5.4 Building Appearance
- Chapter 6.3 Erosion and Sedimentation Control
- Chapter 6.4 Geotechnical Requirements for Development Applications
- Chapter 6.6 Preservation of Trees and Vegetation
- Chapter 6.7 Water Cycle Management
- Chapter 7.1 Car Parking
- Chapter 7.2 Waste Management

The relevant compliance requirements which have been considered further in this EIS, with consideration of the proposed development within existing infrastructure at the site, include:

- Section 3.11.7.3 Loading and Unloading
- Section 3.11.8.4 Pollution Control
- Section 3.11.8.6 Advertising Signs
- Section 3.11.9.2 Road Access
- Section 3.11.9.3 Stormwater Drainage
- Section 3.11.9.5 Solid Wastes

These compliance requirements and how the proposed development complies is summarised in Table 3.2.



Regulatory Requirements	Considerations	Comment		
Section 3.11.7.3 – Loading and Unloading	To ensure that sufficient provision is made for parking of employees, visitors and company vehicles on site to prevent congestion in adjoining streets.	Complies – under DA56372/2019, an allocation of 65 car parking spaces on site was provided to accommodate parking demands whilst also providing additional capacity for any future expansion or change of use within the site, per the <i>Gosford</i> <i>Development Control Plan</i> 2013. The car parking provided satisfies the minimum car parking requirements set out in <i>Gosford</i> <i>Development Control Plan</i> 2013. Refer to Section 11.		
	To provide adequate provision for the manoeuvring and access for all vehicles serving and using the site to ensure adequate traffic safety on adjoining streets and an appropriate level of amenity to all developments.	Complies – the onsite haul route includes semi-trailers and rigid trucks delivering waste and collecting waste for transfer to off-site processing. All haul routes are proposed to be paved. The site has been designed to allow trucks to enter and exit in a forward direction and sufficient turning paths for all trucks to safely load and unload. Refer to Section 11.		
Section 3.11.8.4 – Pollution Control	Any premises, machinery, or activity shall not give rise to an offensive noise to either residential or other industrial premises and shall comply with the requirements of the Industrial Noise Policy of the Department of Environment and Climate Change. Noise should not be transmitted to adjoining incompatible land uses or be permitted to invade into areas within developments that require low noise levels. Where this is likely to be an issue, or where requested by the Council, an acoustic consultant's assessment and report is to be submitted.	Complies – refer to Section 10 for more information.		
	Premises must comply with the requirements of the <i>Protection of Environment Operations</i> <i>Act</i> , 1997 and regulate the control of air impurity emissions as defined.	Complies – refer to Section 9 for more information.		
	Stormwater drainage systems must be designed so that significant levels of nutrients and other substances are not discharged into the hydrological environment of the City.	Complies – refer to Section 14 for more information.		
Section 3.11.8.6 – Advertising Signs	All advertising signs should be designed as an integral part of the design of the external elements of the development i.e. building - landscaping - signage.	Complies – proposed signage to be installed as part of the development is defined as a 'business identification sign'.		
Section 3.11.9.2 – Road Access	To ensure satisfactory road access for safety and convenience, industrial developments should be on land serviced and accessed by fully constructed and sealed roads.	Complies – the site access complies with AS2890 and can operate in a safe manner allowing for vehicles to enter and exit the site in a safe manner. Refer to Section 11.		

Table 3.2. <i>Go</i>	sford Development	Control Plan 2013	compliance red	quirements.



Regulatory Requirements	Considerations	Comment
Section 3.11.9.3 – Stormwater Drainage	All surface and roof stormwater is to be drained to the nearest Council piped stormwater system provided the system is capable of carrying the discharge. If the existing system is not capable of carrying the discharge, the water is to be discharged via a new system to be provided by the developer as directed by Council. This may include a requirement to provide on-site detention of stormwater flows	Complies – refer to Section 14 for more information.
	For sites which require drainage through adjoining property(s), the applicant shall be responsible for the acquisition of inter- allotment drainage easements (where necessary), and shall lodge proof of agreement with adjoining owner(s) with the development application.	N/A.
	In addition to the erosion and sedimentation controls, energy dissipation may be required at the point of discharge from the property, to reduce erosion potential.	N/A.
	Design for stormwater drainage shall be in accordance with the procedures specified in "Australian Rainfall and Runoff Vols 1 and 2, Edition 1987" and Council's "Specification for Drafting and Design of Stormwater Drainage Works and Roadworks".	Complies – refer to Section 14 for more information.
	Provision is to be made for the collection and dispersal of overland runoff upstream of the development for the 1% AEP flood event.	Complies – refer to Section 14 for more information
	The floor level of buildings are to be a minimum 500mm above the finished site surface levels or 500m above the 1% AEP Flood Level where applicable.	Complies – refer to Section 14 for more information.
Section 3.11.9.5 – Solid Wastes	A garbage and recycling storage area is to be provided, designed and constructed in accordance with Council's requirements so as to conceal its contents from view from public places and adjacent properties and is to be blended into the landscaping layout. The storage area is to be located so as to be readily accessible from within the site, and to the garbage collector from the adjoining road. The storage area is to be of sufficient size to accommodate trade wastes and recyclable material generated.	Complies – refer to Section 7 for more information.



3.6. Other applicable legislation or strategies

3.6.1. Standards for Managing Construction Waste in NSW

The *Standards for Managing Construction Waste in NSW* commenced on 15 May 2019. The Standards have been implemented to:

- Minimise the risk of harm to human health and the environment from asbestos and other contaminants found in construction waste;
- Ensure operators of construction waste facilities implement appropriate processes and procedures to manage these risks; and
- Improve industry and community confidence in the quality of resources recovered from construction and demolition waste.

The Standards apply to all construction and demolition waste facilities with an environment protection licence for waste storage, waste processing or resource recovery.

The Standards require construction and demolition waste facilities to:

- Implement a two-stage inspection process to ensure asbestos waste and other unpermitted wastes do not enter the facility;
- Implement sorting and waste storage requirements to improve the quality of recovered resources and avoid cross-contamination of materials;
- Ensure construction waste is only transported from the facility if it has been handled in accordance with the Standards on-site; and
- Ensure that all staff managing, supervising or undertaking tasks required by the Standards have been appropriately trained.

Where any load is found or reasonably suspected to contain unpermitted wastes, the entire load of waste must be rejected, and must be removed from the facility on the vehicle on which it arrived.

The Standards also include the following requirements:

- Construction waste must be sorted and classified into individual waste types;
- Sorted construction waste must not be mixed with any other type of waste;
- Each individual waste type must be stored separately, and storage areas must be clearly labelled;
- Stockpiles must be clearly delineated and separated by a minimum of three metres; and
- Stockpiles must be checked by staff every business day to ensure waste is correctly stored.

Compliance with the Standards is a compulsory licence condition for all construction and demolition waste facilities. Failure to comply with the Standards is a breach of section 64 of the *Protection of the Environment Operations Act* 1997.

3.6.2. Fire and Rescue NSW – Fire Safety Guidelines

In August 2019, Fire and Rescue NSW published new guidelines that apply to waste and resource recovery operations. These guidelines need to be considered for facilities that are seeking approval for upgrades or changes, and for new facilities.

The purpose of the document is to provide guidance on fire safety in waste facilities that receive combustible waste materials, including adequate provision for fire safety and facilitate safe fire brigade intervention to



protect life, property and the environment. The guideline specially outlines the requirement of Fire and Rescue NSW for:

- (a) Considering for safety during all stages of a waste facility, including site selection, planning, design, assessment and operation;
- (b) Fire safety systems to be adequate to the special hazards identified within a waste facility and which also meet the operational needs of fire fighters;
- (c) Safe storage and stockpiling of combustible waste material based on expected combustibility and maximum pile size; and
- (d) Workplace fire safety and fire safety planning, including procedures in the event of fire or an emergency incident.

An assessment of the proposed development will be carried out in the EIS in accordance with the Fire and Rescue NSW – Fire Safety Guidelines.

3.6.3. NSW Waste and Sustainable Materials Strategy 2041

The NSW Waste and Sustainable Materials Strategy 2041: Stage 1 - 2021-2027 is the recent update to the NSW Waste Avoidance and Resource Recovery Strategy 2014–21. It sets out the long-term vision for managing waste, planning for infrastructure, reducing carbon emissions, creating jobs, and refocusing the way NSW produces, consumes and recycles products and materials. The strategy will be used to track, review and measure NSW's progress toward meeting the targets set out in the National Waste Policy Action Plan. The targets are to:

- reduce total waste generated by 10% per person by 2030;
- have an 80% average recovery rate from all waste streams by 2030;
- significantly increase the use of recycled content by governments and industry;
- phase out problematic and unnecessary plastics by 2025; and
- halve the amount of organic waste sent to landfill by 2030.

In addition to the above National targets, NSW has committed to:

- introduce a new overall litter reduction target of 60% by 2030;
- introduce a plastic litter reduction target of 30% by 2025, as set out in the NSW Plastics Action Plan;
- set a goal to triple the plastics recycling rate by 2030, as set out in the NSW Plastics Action Plan;
- reaffirm NSW's commitment to the goal of net zero emissions from organic waste by 2030, as laid out in the NSW Net Zero Plan Stage 1: 2020–2030;
- establish new indicators to help track NSW's progress on infrastructure investment and the cost of waste services; and
- develop a new measure of the emissions performance of NSW's waste and materials management. This will help to track performance across the lifecycle of materials.

A major focus area of the strategy is to increase waste infrastructure and services to meet future needs. The highest priority is to extend the life of existing landfills by reducing the volumes of waste being sent to landfill. Whilst the main focus is on waste avoidance, improving recycling capacity is an important aspect of waste management.



Somersby Resource Recovery Facility – Environmental Impact Statement | 43 3.6.4. NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs

The NSW Waste and Sustainable Materials Strategy: A Guide to Future Infrastructure Needs is a supplement to the NSW Waste and Sustainable Materials Strategy 2041. The guide outlines the emerging needs in NSW's waste and circular economy infrastructure network. The needs have been grouped by material types with a focus on materials commonly found in municipal solid waste (MSW) and commercial and industrial (C&I) waste streams. Significant gaps exist in the system for the reprocessing of some of these materials that have historically been exported for processing.

The guide sets out how the NSW Government will support the development of new infrastructure through facilitating infrastructure, e.g., through planning activities; investing in high priority projects; strategically planning for infrastructure with local communities; and aligning policy and regulation with the Strategy. The three key areas of focus, based on extensive analysis of material flows, current and planned capacity and proposed policy changes, are residual waste, organics and plastics.

The guide specifically addresses the current market, processing capacity, throughput and future needs, and the opportunities and challenges associated with processing of plastics, organics, glass, paper and cardboard, and tyres.



4. Capital Investment Value

A Capital Investment Value (CIV) Estimate was prepared by Muller Partnership. The total estimated project costs (excluding GST) is estimated to be \$2,878,000. A summary is provided in Table 4.1 below. A copy of the full CIV assessment report is provided at Appendix G.

Table 4.1.	Capital	Investment	Value	summary.
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Ref.	Description	Total Cost (\$, ex. GST)
Cost1	Facility storage bays	\$936,800
2	Site services	\$103,500
3	Landscaping	-
4	Preliminaries and margin	\$187,700
6	Plant and equipment	\$1,650,000
7	Total (ex GST)	\$2,878,000



5. Consultation

A stakeholder and community consultation program have been undertaken by Redirect to assist in the preparation of the EIS for the Project. This chapter provides an overview of stakeholder engagement for the Project, a description of the stakeholder engagement activities undertaken and a summary of the findings that have been incorporated into this EIS.

5.1. SEARs consultation requirements

The NSW Department of Planning and Environment's Secretary's Environmental Assessment Requirements (SEAR 1548) were issued on 19 February 2021 by Chris Ritchie, Director, Industry Assessments as a delegate of the Secretary (refer to Appendix A). The SEARs for the project required consultation with the relevant local, State or Commonwealth Government authorities, service providers, community groups and potentially affected landowners. As part of the consultation process, the following groups were consulted:

- Neighbouring properties;
- Central Coast Council;
- Environment, Energy and Science Group (including the Climate Change and Sustainability Division);
- Environment Protection Authority;
- Fire and Rescue NSW;
- NSW Rural Fire Service;
- NSW Office of Environment and Heritage; and
- Transport for NSW.

The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.

5.2. Government consultation

Consultation was undertaken by Redirect with the required Government agencies during the preparation of this EIS to clarify agency requirements and to seek feedback. Each agency was sent a copy of the Preliminary Environmental Assessment Report, to provide the agency with the opportunity to provide any additional input.

The sections below summarise the key requirements outlined in both the SEARS and further comments provided because of further consultation.

5.2.1. NSW Department of Planning and Environment

The Department of Planning, Industry and Environment (DPIE) required that an EIS be prepared, which specifically addressed the following issues:

- Strategic context;
- Suitability of the site;
- Waste management;
- Hazards and risks;
- Air quality and odour;
- Noise and Vibration;
- Soil and water;
- Traffic and transport;
- Fire and Incident management;

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- Biodiversity;
- Visual impact.
- Heritage
- Environmental Planning Instruments and other policies;
- Guidelines; and
- Consultation.

DPIE also listed the key stakeholders to be consulted during the preparation of the development application. DPIE confirmed no additional issues need to be considered in the EIS.

5.2.2. NSW Environment Protection Authority

The NSW Environment Protection Authority (EPA) provided comprehensive details of the requirements of the EIS. In addition, it specifically highlighted the following issues to be addressed:

- Potential noise impacts due to construction and operation;
- Potential air quality impacts due to construction and operation;
- Impacts on water quality and site wide water management; and
- Waste management and disposal.

As a result of further consultation, the NSW EPA confirmed they have no additional issues that need to be considered in the EIS.

5.2.3. Environment, Energy and Science Group - Biodiversity, Conservation and Science Directorate

The Environment, Energy and Science (EES) Group - Biodiversity, Conservation and Science Directorate did not provide comments to the department to assist in the formulation of the SEARS.

As a result of further consultation, the EES Groups confirmed they have no additional issues that need to be considered in the EIS.

5.2.4. Transport for NSW

The Transport for NSW (TfNSW) required that a traffic impact study be prepared in accordance with Section 2 of the RTA's Guide to Traffic Generating Developments (2002). Specific requirements are provided in Appendix D and the EIS chapters where these specific requirements have been addressed.

As a result of the further consultation, TfNSW confirmed they have no additional issues that need to be considered in the EIS.

5.2.5. NSW Rural Fire Service

The NSW Rural Fire Service (RFS) did not provide comments DPE during the formulation of the SEARS.

When contacted for further consultation, the NSW RFS required that a Bush Fire Assessment report be prepared that demonstrates compliance with the guideline *Planning for Bush Fire Protection* 2019. This requirement has been addressed in Section 12.

5.2.6. Central Coast Council

Central Coast Council (CCC) was consulted with by the DPE to assist in the formulation of the SEARS for the project, however no comments were received from Council in relation to the proposal. As a result of the further consultation, CCC confirmed they have no additional issues that need to be considered in the EIS.

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5.2.7. NSW Office of Environment and Heritage

The NSW Office of Environment and Heritage (OEH) did not provide comments to the department to assist in the formulation of the SEARS.

As a result of further consultation, the NSW OEH confirmed they have no additional issues that need to be considered in the EIS.

5.2.8. Fire and Rescue NSW

Fire and Rescue NSW did not provide comments to the department to assist in the formulation of the SEARS.

Fire and Rescue NSW did not respond to a request for further consultation.

5.3. Neighbours consulted

During the development of the EIS, consultation was primarily undertaken to facilitate engagement between the project team and key community stakeholders. This engagement served a dual purpose:

- To identify key community issues for consideration in the EIS and associated technical studies; and
- To create broad awareness of the Proposal to any remove uncertainty around the Proposal.

The community consultation program was undertaken from 10 May 2021 to 11 June 2021. Consultation activities undertaken included:

- A dedicated webpage (<u>https://www.redirectrecycling.com.au/designated-development/</u>) that offered general information about the Proposal, along with a factsheet, the preliminary environmental assessment that was prepared for the SEARs and site plans; and
- A contact number and project email address (<u>development@borgs.com.au</u>) that was used to provide a central point of contact for any community enquiries.

An information postcard was letter boxed dropped to all properties within 500m of the site. Figure 5.1 shows the area encompassed by the 500m consultation distance. A total of 80 postcards were delivered out to landowners and the community seeking feedback on the Proposal.

The information card provided a brief overview of the project and advised receivers to visit the project website to gain more information and advised where to send comments, issues and feedback. A copy of the postcard provided to the community is presented in Figure 5.2.

No submissions were received via telephone, email or online during the consultation period.







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Figure 5.2. Consultation postcard delivered to properties within the 500m consultation radius.





6. Hazard and risk assessment

A Preliminary Hazard Analysis and Environmental Risk Assessment has been performed to identify key potential impacts of the development, as well as potentially offensive or hazardous issues that need to be considered as part of the EIS process.

The assessment has been performed according to AS/NZS ISO 31000: 2009 *Risk Management – Principles and Guidelines* and the Preliminary Hazardous Analysis has been informed by the *Hazardous and Offensive Development Application Guidelines - Applying SEPP 33* (NSW Department of Planning, 2011)². We have also considered the following guidelines published by the NSW Department of Planning in 2011:

- Hazardous Industry Planning Advisory Paper No 2 Fire Safety Study Guidelines³
- Hazardous Industry Planning Advisory Paper No 3 Risk Assessment⁴
- Hazardous Industry Planning Advisory Paper No 4 Risk Criteria for Land Use Safety Planning⁵
- Hazardous Industry Planning Advisory Paper No 6 Hazard Analysis⁶.

6.1. Scope

The assessment has been performed to identify the risks posed to people, property and the environment, and to identify potential hazardous and offensive issues that need to be addressed as part of the development to ensure compliance with SEPP 33. The assessment also considers off-site risks to people, property and the environment (in the presence of controls) arising from atypical and abnormal hazardous events and conditions (i.e. equipment failure, operator error and external events). The hazard treatment measures that have been proposed assist in producing a 'low' level of risk in accordance with the risk acceptance criteria.

6.2. Methodology

The NSW Department of Planning (2011) in the *Hazardous and Offensive Development Application Guidelines* - *Applying SEPP 33* sets out a process for screening potentially hazardous materials that are stored on site as part of a proposed development.

Potential risk typically of holding certain types of hazardous materials on site depends on:

- The properties of the substance(s) being handled or stored;
- The conditions of storage or use;
- The quantity involved;
- The location with respect to the site boundary; and

Legislation/~/media/3ACC37BE3EFE4BAAB3EBA5872AFBA8BD.ashx

² NSW Department of Planning (2011). Hazardous and Offensive Development Application Guidelines - Applying SEPP 33. Published by the NSW Department of Planning. Internet publication: <u>http://www.planning.nsw.gov.au/en/Policy-and-Legislation/~/media/3609822D91344221BA542D764921CFC6.ashx</u>

³ NSW Department of Planning (2011). Hazardous Industry Planning Advisory Paper No 2 - Fire Safety Study Guidelines. Published by the NSW Department of Planning. Internet publication: <u>http://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/CCC734E980C4427DB95D319DF073C41A.ashx</u>

⁴ NSW Department of Planning (2011). Hazardous and Offensive Development Application Guidelines- Risk Criteria for Land Use Safety Planning. Published by NSW Department of Planning. Internet publication:

http://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/0D39F08E7889409BBA1FA88D5FB859FD.ashx

⁵ NSW Department of Planning (2011). Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning. Published by the NSW Department of Planning. Internet publication:

http://www.planning.nsw.gov.au/Policy-and-Legislation/~/media/0D39F08E7889409BBA1FA88D5FB859FD.ashx

⁶ NSW Department of Planning (2011). Hazardous Industry Planning Advisory Paper No 6 - Hazard Analysis. Published by NSW Department of Planning. Internet publication: <u>http://www.planning.nsw.gov.au/Policy-and-</u>

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• the surrounding land uses.

Risk screening needs to be undertaken as part of the SEPP 33 guidelines based on an estimate of the consequences of fire, explosion or toxic release from material(s) being handled. It takes into account information from the proponent on the properties of the materials, quantity, type of storage or use, and location.

The methodology used to inform preliminary hazard analysis and environmental risk assessment has included the following steps:

- Identify and screen the hazards associated with the project;
- Examine the maximum reasonable consequence of identified events;
- Qualitatively estimate the likelihood of events;
- Proposed risk treatment measures;
- Qualitatively assess risks to the environment, member of the public and their property arising from atypical and abnormal events and compare these to applicable qualitative criteria;
- Recommend further risk treatment measures if considered warranted; and
- Qualitatively determine the residual risk assuming the implementation of the risk treatment measures.

It is important to note that this preliminary hazard analysis and environmental risk assessment has been undertaken at an early stage of the proposed development to help inform key issues to be considered in the EIS. All hazards need to be identified, and an assessment of the resultant risk levels on a cumulative basis is also undertaken as part of the study.

6.2.1. Risk management

The environmental risk assessment has been informed by AS/NZ 31000: 2009 *Risk Management Principles and Guidelines* and *Hazardous Industry Planning Advisory Paper No 3 - Risk Assessment* (NSW Department of Planning, 2011). The risk management process has been informed by the following elements:

- Establish the context;
- Identify the risks;
- Analyse the risks;
- Evaluate the risks; and
- Treat risks.

6.2.2. Risk criteria

The following principles have been adopted to identify and assess risk in this study. This has been informed by the *Hazardous Industry Planning Advisory Paper No. 4 – Risk Criteria for Land Use Safety Planning* (NSW Department of Planning, 2011).

- The avoidance of all avoidable risks;
- The risk from a major hazard should be reduced wherever practicable, even where the likelihood of exposure is low;
- The effects of significant events should, wherever possible be contained within the site boundary; and
- Where the risk from an existing installation is already high, further development should not pose any incremental risk.



6.2.3. Qualitative measurement of consequence, likelihood and risk

To undertake a qualitative risk assessment, it is useful to describe the levels of consequence of a particular event, and the likelihood or probability of such an event occurring. Risk assessment criteria have been developed in AS/NZS ISO 31000: 2009 which allows the risk assessor to develop risk criteria during the establishment of the context.

In according with AS/NZS ISO 31000: 2009, Table 6.1 and Table 6.2 have been reviewed as part of establishing the context of the project. These tables were considered to be consistent with the specific objectives of the preliminary hazard analysis and environmental risk assessment.

Event	Likelihood	Description
Α	Almost certain	Happens often
В	Likely	Could easily happen
С	Possible	Could happen and has occurred elsewhere
D	Unlikely	Has not happened yet but could
E	Rare	Conceivable, but only in extreme circumstances

Table 6.1. Qualitative measures of probability.

Table 0.2. Qualitative incasules of maximum reasonable consequence
--

Event	People	Environment	Asset / Production
1	Multiple fatalities	Extreme environmental harm (e.g. widespread catastrophic impact on environmental values of an area)	More than \$1B loss or production delay
2	Permanent total disabilities, single fatality	Major environmental harm (e.g. widespread substantial impact on environmental values of an area)	\$100M to \$1B or production delay
3	Minor injury or health effects (e.g. major lost workday case / permanent disability)	Serious environmental harm (e.g. widespread and considerable impact on environmental values of an area)	\$5M - \$100M loss or production delay
4	Minor injury or health effects (e.g. restricted work or minor lost workday case)	Material environmental harm (e.g. localised and considerable impact on environmental values of an area)	\$250K to \$5M loss or production delay
5	Slight injury or health effects (e.g. first aid / minor medical treatment needed)	Minimum environmental harm (e.g. minor impact on environmental values of an area)	Less than \$250K or production delay

Combining the probability and consequence tables, Table 6.3 provides a qualitative risk analysis matrix to assess risk levels.



 Table 6.3. Qualitative risk analysis matrix used in this preliminary hazard analysis and environmental risk

 assessment.

			Proba	bility ¹		
		А	В	С	D	E
nce	1	1 (H)	2 (H)	4 (H)	7 (M)	11 (M)
seque	2	3 (Н)	5 (H)	8 (M)	12 (M)	16 (L)
Con	3	6 (H)	9 (M)	13 (M)	17 (L)	20 (L)
	4	10 (M)	14 (M)	18 (L)	21 (L)	23 (L)
	5	15 (M)	19 (L)	22 (L)	24 (L)	25 (L)

¹ Legend – L: low; M: Moderate; H: high; Risk numbering: 1 – highest; 25 – lowest risk. Colour coding: Green: tolerable risk; orange: ALARP – as low as reasonably practicable; red: intolerable risk.

Risk acceptance criteria for the project have been formulated following consideration of the *Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning* (NSW Department of Planning and Environment, 2011d) and AS/NZS ISO 31000 2009 – *Risk Management Principles and Guidelines.*

In assessing the tolerability of risk from potentially hazardous development, both qualitative and quantitative aspects need to be considered. Relevant general principles considered in this study as documented in the *Hazardous Industry Planning Advisory Paper No 4 - Risk Criteria for Land Use Safety Planning* (NSW Department of Planning, 2011):

- The avoidance of all avoidable risks;
- The risk from a major hazard should be reduced wherever practicable, even where the likelihood of exposure is low;
- The effects of significant events should, wherever possible be contained within the site boundary; and
- Where the risk from an existing installation is already high, further development should not pose any incremental risk.

6.3. Materials stored on site

Risk screening needs to be undertaken as part of the SEPP 33 guidelines based on an estimate of the consequences of fire, explosion or toxic release from material(s) being handled. It takes into account information from the proponent on the properties of the materials, quantity, type of storage or use, and location.

A risk screening analysis for the proposed materials to be stored on site is given in Table 6.4 below.

The Facility will be designed and operated to not exceed the thresholds for waste storage.



Not a dangerous good

Not a dangerous good

Material / potential pollutant	Storage location	Goods Class ¹	Packing Group ²	quantity on site	Screening method ³	Threshold ⁴	Notes
Asbestos (as potential contamination)	Processing area	9	Ш	0.1 tonne	Table 6	10 tonnes	Asbestos is classified as a Class 9 Dangerous Good and subdivided as 'substances which, on inhalation as fine dust, may endanger health'
Tyres	Processing area	n/a	n/a	116 tonne	n/a	n/a	Not a dangerous good but is potentially flammable
Diesel	Processing area	3	Ш	200L	n/a	n/a	Below threshold based on quantity stored
Engine coolant	Processing area	n/a	n/a	20L	n/a	n/a	Not a dangerous good
Hydraulic oil	Processing area	n/a	n/a	200L	n/a	n/a	Not a dangerous good
Engine oil	Processing area	n/a	n/a	200L	n/a	n/a	Not a dangerous good
Gear oil	Processing area	n/a	n/a	200L	n/a	n/a	Not a dangerous good
Transmission oil	Processing area	n/a	n/a	20L	n/a	n/a	Not a dangerous good

200L

<10L

n/a

n/a

n/a

n/a

Table 6.4. Risk screening analysis of potentially hazardous materials held on site as part of the development.

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Degreaser

Brake fluid

Processing

Processing

area

area

9

n/a

Ш

n/a



Material / potential pollutant	Storage location	Dangerous Goods Class ¹	Packing Group ²	Maximum quantity on site	Screening method ³	Threshold ⁴	Notes
Grease drum cartridges	Processing area	n/a	n/a	<10L	n/a	n/a	Not a dangerous good

¹ Dangerous Good Class:

- Class 2.1 Dangerous Goods are classified as 'flammable gases';
- Class 2.2 Dangerous Goods are classified as 'non-flammable, non-toxic gases';
- Class 3 Dangerous Goods are classified as 'flammable liquids';
- Class 6 Dangerous Goods are classified as 'toxic substances'
- Class 7 Dangerous Goods are classified as 'radioactive';
- Class 8 Dangerous Goods are classified as 'corrosive';
- Class 9 Dangerous Goods are classified as 'miscellaneous dangerous goods and articles';

² Packing Group

- Packing Group I is a group of dangerous goods that are classified as 'substances presenting high danger'
- Packing Group II is a group of dangerous goods that are classified as 'substances presenting medium danger'
- Packing Group III is a group of dangerous goods that are classified as 'substances presenting lower danger'

³ Screening method is the methodology used to assess dangerous goods in the NSW Department of Planning (2011) Hazardous and Offensive Development Application Guidelines - Applying SEPP 33.

⁴ Where dangerous goods are stored on-site which exceed the nominated thresholds as per Department of Planning (2011) *Hazardous and Offensive Development Application Guidelines - Applying SEPP 33*, the proposed development is considered to be hazardous and requires detailed assessment under SEPP 33.





6.4. Further hazard identification, scenarios, consequence, likelihood analysis and risk assessment

To help understand further hazards possible as part of the proposed development, a series of potential worstcase scenarios have been assessed to determine possible consequences, likelihood and risk. The NSW Department of Planning's (2011) *Hazardous Industry Planning Advisory Paper No 6 - Hazard Analysis* has been used to assist in guiding this analysis.

As per the above guidelines, this assessment has qualitatively assessed the impacts of the largest possible event on people, plant and the environment. The worst-case scenarios reflect any foreseeable factors that could exacerbate the severity of an accident, including abnormal process conditions, out of hours manning levels, and the potential for control measures to be disabled or rendered inoperable by the accident.

The worst-case scenarios we have assessed include the following:

- Vehicle collision on entry to the site, resulting in fire and possible death;
- Leaks / spills on vehicle entry to the site, with potential impacts on stormwater and fire risk;
- Vehicle theft and malicious damage, leading to equipment failure and injury to person(s);
- Leaks / spills in processing Facility, with potential impacts on stormwater and fire risk;
- Vehicle theft and malicious damage in processing Facility, leading to equipment failure and injury to person(s);
- Vehicle collision between delivery vehicles with other on-site vehicles through driver error, or pedestrian, resulting in possible fire or death near the product storage shed;
- Excess dust and build-up of electrostatic electricity causing spark and fire;
- Equipment breakdown and excess stock stored in the facility increases risk of vehicle collision or fire;
- Leakage of fuel and oil containers in workshop, potentially igniting and/or moving into stormwater, through human error or malicious act; and
- Fire caused by ignition source (e.g. cigarette, hot work such as welding) and flammable materials in workshop (e.g. fuels, oils) catch fire due to spark from cigarette or hot work.

Prevention and treatment measures to reduce the likelihood and resulting consequences from these worstcase scenarios are mapped out in Table 6.5 below. Note that a risk rating category has been prepared to understand the significance of these risks – on the environment and human health. Note that the risk ratings estimated as part of the qualitative analysis are specified after implementation of the risk prevention, treatment and detection measures.



Table 6.5. Hazard identification, scenario, consequence, prevention/treatment measures and risk rating table.

Facility / event	Cause / comment	Possible scenarios, results & consequences	Prevention, Treatment Measures and Detection Protection Required	Likelihood	Consequence	Risk rating and category (after treatment measures) ¹
Entry to site						
Vehicle collision	Possible collision of delivery vehicles with other on-site vehicles through driver error, or pedestrian, resulting in possible fire or death	Fire possible outside of the Facility, potentially spreading across the site. Possible impacts on stormwater from discharge of fire water.	 Ensure vehicle speed limits and regular driver education Firefighting equipment Emergency management / response plan Pollution incident response management plan / Environmental management plan Traffic management plan Work health and safety plan Hazardous material management plan Operator and driver training Spill response equipment and training Contact emergency services (NSW Fire Service) 	Possible (C)	3	13 (Moderate risk)
Leak / spill	Vehicle collision / damage causes spill / leak of hazardous material	Collision causes leakage of vehicle fuel or oil onto handstand and possible stormwater impacts and a fire risk	 Ensure vehicle speed limits and regular driver education Firefighting equipment Emergency management / response plan Pollution incident response management plan / Environmental management plan Traffic management plan Mork health and safety plan Hazardous material management plan Operator and driver training Spill response equipment and training Emergency response Communications 	Possible (C)	5	22 (Low risk)

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Facility / event	Cause / comment	Possible scenarios, results & consequences	Prevention, Treatment Measures and Detection Protection Required	Likelihood	Consequence	Risk rating and category (after treatment measures) ¹
			 Spill containment and sweeping of hardstand Contact emergency services (NSW Fire Service) 			
Vehicle theft / malicious damage	Vehicle or material within truck stolen	Components of a truck are stolen and leads to equipment failure and possible safety risk to staff	 Ensure staff compliance with site security measures Emergency management / response plan Traffic management plan Work health and safety plan Contact emergency services (Police) Site security / limited access 	Possible (C)	5	22 (Low risk)
Within the Facili	ty					
Leak / spill	Vehicle collision / damage causes spill / leak of hazardous material	Collision causes leakage of vehicle fuel or oil onto handstand and possible stormwater impacts and a fire risk	 Ensure vehicle speed limits and regular driver education Firefighting equipment Emergency management / response plan Pollution incident response management plan / Environmental management plan Traffic management plan Work health and safety plan Hazardous material management plan Operator and driver training Spill response equipment and training Emergency response Communications Spill containment and sweeping of hardstand Contact emergency services (NSW Fire Service) 	Possible (C)	5	22 (Low risk)



Facility / event	Cause / comment	Possible scenarios, results & consequences	Prevention, Treatment Measures and Detection Protection Required	Likelihood	Consequence	Risk rating and category (after treatment measures) ¹
Theft / malicious damage	Vehicle or material within truck stolen	Components of a truck are stolen and leads to equipment failure and possible safety risk to staff	 Ensure staff compliance with site security measures Emergency management / response plan Traffic management plan Work health and safety plan Contact emergency services (Police) Site security / limited access Contact emergency services (NSW Police) 	Unlikely (D)	5	24 (Low risk)
Vehicle collision	Possible collision of delivery vehicles with other on-site vehicles through driver error, or pedestrian, resulting in possible fire or death	Fire possible in Facility, potentially spreading to other parts of the site	 Ensure vehicle speed limits and regular driver education Firefighting equipment Emergency management / response plan Pollution incident response management plan / Environmental management plan Traffic management plan Work health and safety plan Hazardous material management plan Operator and driver training Spill response equipment and training Contact emergency services (NSW Fire Service) 	Possible (C)	3	13 (Moderate risk)
Excess dust causing fire	Fire caused by excess dust and build-up of electrostatic electricity or spark and fire	Excess build-up of dust during operations, and spark through electrostatic electricity or spark through electrical failure	 Ensure staff compliance with hot work procedures Regular machinery maintenance and safety inspections Dust minimisation practices Firefighting equipment Emergency management / response plan 	Possible (C)	3	13 (Moderate risk)

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Facility / event	Cause / comment	Possible scenarios, results & consequences	Prevention, Treatment Measures and Detection Protection Required	Likelihood	Consequence	Risk rating and category (after treatment measures) ¹
			 Pollution incident response management plan / Environmental management plan Traffic management plan Work health and safety plan Hazardous material management plan Operator and driver training Spill response equipment and training Contact emergency services (NSW Fire Service) 			
Equipment breakdown and excess stockpiling	Excess stock increases stored in Facility increases risk of vehicle collision or fire	Collision of vehicles due to constrained operational area, possible fire as a result	 Cease receipt of waste on the site and divert trucks to other facilities Firefighting equipment Emergency management / response plan Pollution incident response management plan / Environmental management plan Traffic management plan Work health and safety plan Hazardous material management plan Operator and driver training Spill response equipment and training Contact emergency services (NSW Fire Service) 	Unlikely (D)	5	24 (Low risk)
Storage of fuels and hydrocarbons	Leakage of fuel	Spill of fuel, and potentially ignite and/or move into stormwater, through human error or malicious act	 Ensure fuels stored in fully bunded container. Staff training on safe storage of fuel. Emergency management / response plan Pollution incident response management plan / Environmental management plan 	Possible (C)	4	18 (Low risk)

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Facility / event	Cause / comment	Possible scenarios, results & consequences	Prevention, Treatment Measures and Detection Protection Required	Likelihood	Consequence	Risk rating and category (after treatment measures) ¹
			 Traffic management plan Work health and safety plan Hazardous material management plan Spill response equipment and training Emergency response Communications Spill containment and sweeping of hardstand Contact emergency services (NSW Fire Service) 			
Fire	Fire caused by ignition source (e.g. cigarette)	Flammable waste is ignited through contact with an ignition source (e.g. cigarette, battery spark etc.)	 Ensure strict non-smoking policy is enforced at all times Firefighting equipment Emergency management / response plan Pollution incident response management plan / Environmental management plan Traffic management plan Mork health and safety plan Hazardous material management plan Operator and driver training Spill response equipment and training Contact emergency services (NSW Fire Service) 	Possible (C)	3	13 (Moderate risk)



6.5. Conclusion

As a result of this analysis, it is suggested that the worst-case scenarios modelled with risk prevention, treatment and detection measures are all moderate or low risks. All risks are low except those that involve fire caused by vehicle collisions, excess dust and some other form of ignition.

The proposed development is not considered a potentially hazardous development as per the SEPP 33 Guidelines, therefore, no further Preliminary Hazard Analysis or Multi-Level Risk Assessment has been performed.



7. Waste Minimisation and Management

A Waste Minimisation and Management Plan was prepared by Jackson Environment and Planning Pty Ltd. A brief summary of the plan is provided in this Section. The full Waste Management Plan is provided as Appendix H.

Waste management practices outlined below address the economic, environmental and safety imperatives during the construction phase and into the operational phase. These enhanced management practices also produce triple bottom line benefits including financial efficiencies, sustainable construction methods and a safe work site for the duration of the construction process.

These positive outcomes will be achieved through thorough planning and procurement of exacting measurements reducing upfront costs of construction and preventing the generation of waste.

The benefits of the management practices outlined in the plans will be realised from the outset by both the business and the broader community in the form of reduced costs of disposal, reduced costs of legal liability and common good through:

- Minimising waste by manufacturing building components off site to design specifications;
- Maximising recovery of valuable resources;
- Exercising due diligence for safe disposal of waste; and
- Providing a safe worksite.

7.1. Methodology

The waste management plan was compiled using the following steps:

- Estimate waste stream types and amounts based on the site activities during both construction and operational phases;
- Identify management options for each waste stream suitable within the regulatory framework; and
- Select most appropriate waste management option for each waste stream, aiming to recover as much waste as possible.

7.2. Existing environment

The current site is under construction and unoccupied. Therefore, there are currently no waste management systems on the site.

7.3. Impact assessment

7.3.1. Demolition phase

The development phase of the project does not involve the demolition of any built structures on 33 Pile Road, Somersby NSW.

7.3.2. Construction phase

The Somersby Resource Recovery Facility will operate out of a new warehouse building that was approved under DA56372/2019, at 33 Pile Road, Somersby. To ensure that the development complies with contemporary standards for waste and transfer stations, a number of site upgrades are proposed as part of the development application. Typical construction activities would include:



- Installation of a misting system within the warehouse building to suppress dust during tipping, sorting, and loading of waste materials for off-site recycling;
- Allocation of a dedicated tip and spread bay for verifying that waste materials do not contain contaminants as per the EPA's *Standards for Managing Construction Waste in NSW*;
- 13 separate waste storage bays to store sorted waste prior to being loaded onto trucks for off-site recycling;
- Two 27m in-ground weighbridges to be located on the southern side of the warehouse building for measuring the quantity of waste entering and leaving the facility to ensure the site complies with Clause 36 of the *Protection of the Environment Operations (Waste) Regulation* 2014;
- Drained stormwater from the pits beneath the weighbridge and used water from the wheel wash are to be directed to an oil/water separator. Treated water will require disposal via a trade waste connection to the Central Coast Council sewer system (subject to a separate approval);
- Site office, lunchroom, and amenities in the southwestern corner of the warehouse for waste sorting staff and truck drivers;
- A wheel wash for trucks exiting the warehouse building after tipping to clean wheel before exiting onto the public road;
- Isolation valves are to be fitted into pits within the warehouse buildings to isolate from the sewer system in case of a chemical spill;
- An isolation value is to be fitted to the pit which connects the stormwater drainage system to Pile Road to detain any firewater or other spilled liquids in an emergency;
- Concrete rollover bunding is to be installed inside the warehouse to contain firewater;
- Construction of a 2m high wall on the south-western corner of the lot to provide shielding against radiant heat impacts of a potential bushfire; and
- Additional landscaping to the front of the premises.

Minor amounts of concrete, timber, metal and plastics will be generated during the installation of the weighbridges and wheel wash. These wastes will be segregated to maximise recycling and stored separately in hook lift bins and will be transported off-site for recycling at a lawful facility.

The overall waste recovery rate during the construction phase will be >99%.

Residual waste will be collected in a separate hook lift bin and regularly removed from the site for disposal in a licensed landfill. Other recovered materials will be sent to EPA licenced recycling facilities in the region.

7.3.3. Operational phase

The site operations will generate little waste itself. The vast bulk of "waste" materials will be brought onto site for processing or for aggregation and off-site transport to other facilities for recycling. While some material will be non-recyclable "residual" waste, most material will be recovered, sorted and moved off site for further processing / recycling.

The facility will have a maximum processing capacity of 99,000 tonnes per annum for processing principally non-putrescible materials and store no more than 1,005 tonnes indoors at any one time.

A summary of the waste materials received is provided in Table 7.1.

7.3.4. Waste materials not accepted

The following materials will not be accepted:

• Special waste (incl. asbestos);

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- Hazardous waste; and
- General solid waste (putrescible).



Table 7.1. Summary of the waste materials to be received. Note that these tonnages are estimates only and the breakdown by material type may vary on a daily basis. The waste classification under the EPA's Waste Classification Guidelines is given, in addition to the proposed scheduled activity(ies) under Schedule 1 of the *Protection* of the Environment Operations Act 1997.

Waste Type	Waste Classification	Schedule Activity	Waste Composition (% by weight)	Annual Weight (tonnes)	Average Daily Weight (tonnes) ⁷	Density (tonnes/m³)	Total Storage Bay Volume (m ³)	Site Capacity (tonnes)
Mixed C&D waste	General solid waste (non-putrescible)	Waste storage Resource Recovery	40.4%	40,000	108.5	0.83	204	169.3
Mixed clean timber	General solid waste (non-putrescible)	Waste storage Resource Recovery	15.2%	15,000	67.8	0.36	204	73.4
Pallets	General solid waste (non-putrescible)	Waste storage Resource Recovery	4.0%	4,000	8.1	0.16	140	22.4
MDF and particle board	General solid waste (non-putrescible)	Waste storage Resource Recovery	2.0%	2,000	10.8	0.26	191	49.6
Garden organics	General solid waste (non-putrescible)	Waste storage Resource Recovery	15.2%	15,000	16.3	0.45	166	74.7
Metals	General solid waste (non-putrescible)	Waste storage Resource Recovery	5.1%	5,000	5.4	0.2	217	43.4
Gypsum (plasterboard)	General solid waste (non-putrescible)	Waste storage Resource Recovery	1.0%	1,000	5.4	0.17	204	34.6
Glass	General solid waste (non-putrescible)	Waste storage Resource Recovery	1.0%	1,000	2.7	0.41	204	83.6
Tyres	General solid waste (non-putrescible)	Waste storage Resource Recovery	4.0%	4,000	10.8	0.83	140	116.2
GSW CT1 (Recyclable)	General solid waste (non-putrescible)	Waste storage Resource Recovery	10.1%	10,000	27.1	0.83	204	169.3
GSW CT2 (Restricted)	Restricted solid waste	Waste storage	2.0%	2,000	8.1	0.83	204	169.3
	TOTAL		100.0%	99,000	271	-	2,078	1,005

⁷ NSW Environment Protection Authority (2018). Waste Levy Guidelines. Table 4.1.

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7.3.5. Products recovered

The facility will recycle an expected 97% of all incoming waste (or 96,050 tonnes per annum). The remainder of the waste received will be disposed at a lawful landfill (~2,950 tonnes per annum). Table 7.2 provides a summary of the products / waste export forecasts for the facility.

7.3.6. Quality specifications and standards for manufactured products

Manufacturing products to meet the EPA's Resource Recovery Orders under the *Protection of the Environment Operations (Waste) Regulation* 2014 is critical to ensure all products can be used in a manner lawfully that protects human health and the environment.

7.3.7. Waste storage, identification, and stockpile heights

All waste materials and processed products will be stored in separate concrete bays with three side. Storage of incoming waste in dedicated areas and sorted materials and products in dedicate bays helps in inventory control, good housekeeping, reduces potential for cross contamination and is critical for quality control.

All bays and waste storage bins will be marked and identified as per the site layout plan in Figure 7.1.

Stockpiles sizes are limited by the size of dedicate bays. Similarly, stockpile heights are limited by the height of concrete bays. Maximum stockpile heights for the Facility are based on best practice guidelines outlined in the NSW Fire and Rescue (2020) and South Australian Environmental Protection Agency (EPA SA, 2017) in order manage fire, dust and odour. Stockpiles of waste materials in the designated waste storage area will be limited to 3m. Height guidance will be provided within the 4m height of the concrete block bays.

7.3.8. Maximum amount of waste and product stored on site (authorised amount)

Under Clause 10B of the *Protection of the Environment Operations (Waste) Regulation* 2014, operators of licensed resource recovery facilities are required to not exceed the storage of a certain amount of waste and processed products (from waste) on site at any one point in time. This is referred to the 'Authorised Amount'. Exceedance of the Authorised Amount triggers the requirement for payment of the Waste and Environment Levy for tonnages of waste and product held on site (above the Authorised Amount). This regulatory measure encourages operators of resource recovery facilities to manage the inventory of waste and products held on site to avoid potential risks and hazards to the environment, public safety and human health.

The analysis found that that the facility can safety store, in separate designated areas, up to 1,005 tonnes (or 2,078 m³) of waste and processed products at any one point in time.



Table 7.2. Summary of the products / waste export forecasts for the facility.

Waste Type	Products	Percentage of waste source	Sorted and recovered product output (tpa)	Residual waste (tpa)	Suggested Receiving Facility and EPA licence
	Concrete/brick/tile	40%	16,000		EBH Environmental Services - 13 Craftsman Avenue, Berkeley Vale (EPL 20642)
	Glass	15%	6,000		
	Metals	5%	2,000		
Mixed C&D waste	Mixed dry general waste	5%		2,000	IQ Renew - 75 Pile Road,
	Paper / cardboard	5%	2,000		Somersby (EPL 13390)
	Plastics	5%	2,000		
	Timber / wood	25%	10,000		
Mixed clean timber	Mulch	100%	15,000		Recovered product under the:
	Mulch	95%	3,800		 The mulch order 2016 Borg specific Urban Waste Residues Order
Pallets	Treated pallets	3%		100	Poral Pooveling Egrat
	Painted timber	3%		100	Street, Kooragang (EPL
MDF and particle board	MDF and particle board	100%	2,000		11968)
Garden organics	Garden organics	95%	14,250		Benedict Recycling - Benedict Recycling Mayfield West - 1A McIntosh Dr, Mayfield West (EPL 20771)
	Treated timber	2%		300	Boral Recycling - Egret
	Painted timber	1%		150	11968)

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Waste Type	Products	Percentage of waste source	Sorted and recovered product output (tpa)	Residual waste (tpa)	Suggested Receiving Facility and EPA licence
	Plastics	2%		300	IQ Renew - 75 Pile Road,
Metals	Metals	100%	5,000		Somersby (EPL 13390)
Gypsum (plasterboard)	Gypsum (plasterboard)	100%	1,000		Regyp - 330 Captain Cook Drive Kurnell (EPL 2231)
Glass	Glass	100%	1,000		Boral Recycling - Egret Street, Kooragang (EPL 11968)
Tyres	Tyres	100%	4,000		Cessnock City Council - Cessnock Waste and Reuse Centre - Old Maitland Road, Cessnock (EPL 6121)
GSW CT1 (Recyclable)	GSW CT1 (Recyclable)	100%	10,000		EBH Environmental Services - 13 Craftsman Avenue, Berkeley Vale (EPL 20642)
GSW CT2 (Restricted)	GSW CT2 (Restricted)	100%	2,000		Muswellbrook Shire Council - Muswellbrook waste management facility, Coal Road, Muswellbrook (EPL 5980)
TOTAL Amount of waste proc	cessed (tonnes)		99,000		
TOTAL Amount of waste recy	cled (tonnes)		96,050		
TOTAL Amount of waste land	filled (tonnes)			2,950	
Overall recycling rate			97%		



Figure 7.1. Site plan showing waste storage areas.





7.3.9. Environmental risk assessment

A risk assessment has been undertaken to identify the level of risk that construction and operations activities may present to waste management.

The following points summarise the key activities identified in the risk assessment relevant to waste management for demolition, construction works and operation of the Facility:

- Litter (e.g. food waste, packaging) from site amenities reaching local waterways;
- Leakage of effluent from site amenities;
- Leakage of vehicles duration site civil works;
- Excess packaging material deliveries increasing waste generated;
- Inappropriate reuse or disposal of waste items which may be hazardous;
- Fuel and oil spills during operational plant and equipment maintenance; and
- The location and storage of waste on site prior to reuse or disposal.

7.3.10. Environmental control measures

Table 7.3 provides the environmental control measures and safeguards that will be implemented in order to minimise waste generated during the construction and operation phases of the Facility.



Table 7.3. Environmental control measures for waste management.

Control Measures and Safeguards	Timing	Responsibility
Waste management and minimisation will form part of the induction program (which includes environmental due diligence training). All Project and site personnel will be trained in the requirements of this document including minimising wastes, recognising which types of materials are recyclable and their obligations to use recycling facilities provided on site.	Prior to starting on site / Ongoing	Operations Manager
Clearly assign and communicate responsibilities to ensure that those involved in the construction are aware of their responsibilities in relation to the waste management plan	Prior to starting on site / Ongoing	Operations Manager
Engage and educate personnel on how the various elements of the waste management plan will be implemented	Prior to starting on site / Ongoing	Operations Manager
Specific locations for waste management (e.g. sorting area locations, recycling bin locations, material stockpile locations) will be established on site and signposted appropriately.	Weekly checks	Operations Manager
Waste management areas will be adequately managed to prevent sediment runoff and dust generation.	Daily	Operations Manager
Construction Method Statements (CMS) will include practices to minimise waste generation and to maximise recycling and reuse of materials including oils, greases, lubricants, timber, glass, and metal.	Prior to start of construction and ongoing	Operations Manager
Packaging minimisation and reuse initiatives will be implemented as part of the procurement.	Ongoing	Operations Manager
Development of an unexpected finds environmental procedure should any contamination be found during construction works.	Prior to starting on site	Operations Manager
Spill kit to be present on site in the case of any fuel leaks of plant and equipment during the construction phase of the development	Prior to start of demolition	Operations Manager
Segregated waste disposal containers for the collection and recycling/disposal of all waste streams generated during the construction and operation phases will be provided onsite. Waste disposal containers will have clear signage and instructions for use to avoid cross-contamination. No rubbish shall be disposed of on site.	Daily	Operations Manager
Waste will be disposed to an appropriate licensed facility. A Waste Management Register of all waste collected for disposal and / recycling, including amounts, data and time and details and location of disposal will be maintained at all times.	Daily	Operations Manager
All waste being transported off site must be covered. The transportation must be appropriately licensed to carry that material.	Daily	Operations Manager


Control Measures and Safeguards	Timing	Responsibility
Storage of all hazardous substances and dangerous goods will be in accordance with SDS requirements in a bunded area. Solid and hazardous wastes will be contained and separated from inert waste.	Daily	Operations Manager
Any hazardous waste will be managed and handled by an appropriately licensed contractor and transported for disposal to a licensed facility approved site	Daily	Operations Manager
Any material contaminated by spills i.e. fuel, oil, lubricants etc., including empty fuel, oil and chemical containers, will be stored in a sealed secure container within a bunded area and will be transported to a waste disposal site approved by the NSW EPA to accept such material.	Daily	Operations Manager
Incompatible wastes will not be mixed.	Daily	Operations Manager
Storage areas would be located away from waterways and the stormwater system.	Daily	Operations Manager
Biodegradable products will be used wherever practicable.	Daily	Operations Manager
Regular collection of wastes will ensure air emissions are at a satisfactory level. Inappropriate waste and wastewater management systems will be regularly inspected and audited.	Daily	Operations Manager
Conduct regular litter patrols to ensure litter is effectively controlled on site.	Daily	Operations Manager



8. Fuels and chemicals

8.1. Introduction

A small range of fuels, oils and fluids will be stored in the approved mechanical workshop for the principal purpose of servicing on site vehicles and equipment, including the excavator, front end loader and shredder.

These chemicals will be stored in a cool, shaded area of the workshop, on bunded stands and shelves as per the requirements of the Australian Dangerous Goods Code.

Types and volumes of chemicals to be stored on site are given in Table 8.1.

Liquid chemicals	Quantities stored
Diesel	200 L
Engine coolant	20 L
Hydraulic oil	200 L
Engine oil	500 L
Gear oil	200 L
Transmission oil	20 L
Degreaser	200 L
Brake fluid	<10 L
Grease drum cartridges	< 10 L

Table 8.1. Types and volumes of chemicals to be stored on site.

The facility will not accept putrescible, trackable liquid wastes or dangerous and hazardous goods. Any of these materials received at the facility as contamination will be separated, aggregated and sent to appropriate licensed facilities for further processing or disposal.

8.2. Impact assessment

The small volumes of fuels and chemicals stored on site result in a low risk to the environment.



8.3. Mitigation measures

A number of mitigation measures will be implemented to minimise any potential harm to the surrounding environment. These include:

- All chemicals and fuels to be handled and stored under cover in bunded areas;
- All staff working in areas with liquid wastes to be properly trained and wear PPE at all times;
- MSDS sheets, where available, to be readily accessible for all chemicals on site;
- Chemical spill kits and "absorbent sausages" to be kept on site and readily accessible near liquid waste and chemical storage; and
- Firefighting equipment to be accessible and regularly inspected.

The Pollution Incident Response Management Plan for the site is provided in Appendix E of the Emergency Response Plan (Appendix I of this EIS).

8.4. Conclusion

Storage of all liquid wastes, chemicals and fuels will be under cover in bunded areas. Preventative and mitigating measures will be in place. Provided proposed storage and handling protocols are adhered to, the impact of the chemicals and fuels to be stored on site will be minimal.



9. Air Quality Impact Assessment

RWDI Australia Pty Ltd (RWDI) was engaged by ReDirect to conduct an air quality impact assessment (AQIA) for the proposed development. The assessment was conducted to assess the potential operational air quality impacts associated with the proposed development and was prepared in general accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (EPA, 2016).

This section summarised the findings of the AQIA. The full AQIA report is provided in Appendix J.

9.1. Existing environment

The following sub-sections discuss the local conditions near the Proposal site and identify representative set of meteorological data for use in the dispersion modelling to be undertaken for this assessment.

9.1.1. Long term climate

Long term meteorological data for the area surrounding the is available from the Bureau of Meteorology (BoM) operated Automatic Weather Station (AWS) at Gosford. The Gosford AWS is located approximately 8 km east of the Proposal site and records observations of a number of meteorological data including wind speed, wind direction, temperature, humidity, and rainfall.

Long-term climate statistics are presented in Table 4 of the AQIA report (Appendix J). Temperature data recorded at the Gosford AWS indicates that January is the hottest month of the year, with a mean daily maximum temperature of 27.9°C. July is the coolest month with a mean daily minimum temperature of 5.0°C. January is the wettest month with an average rainfall of 155 mm falling over 10 days. There are, on average, 99 rain days per year, delivering 1,150 mm of rain.

9.1.2. Wind

Observations of wind speed and direction recorded at the Gosford AWS have been used to describe typical wind patterns in the area surrounding the Proposal site.

The annual and seasonal "wind rose" plots for the Gosford AWS for the period 2016 to 2020, inclusive show similar patterns of wind speed and wind direction over the five-year period, with north-westerly winds being prevalent in autumn and winter and south easterly winds being prevalent in summer. Wind speed and wind direction during 2019 are generally representative of the five-year period and have therefore been adopted for modelling purposes.

9.1.3. Local ambient air quality

No site-specific data was available to determine the existing concentrations of dust and particulate matter at sensitive receptors near the Site. The nearest AQMS is located at Wyong. The Wyong monitoring station is located approximately 20 kilometres north east of the Site.

A summary of the $PM_{2.5}$ and PM_{10} monitoring results collected at the Wyong AQMS during the modelling year (2019) is presented in Table 9.1.



Table 9.1. 2019 particulate matter monitoring results – Wyong.

Statistic	PM _{2.5} (μg/m³)	PM10 (μg/m³)
24-hour average, max	202.1	128.4
24-hour average, max complying (Highest values less than the EPA impact assessment criteria)	43.9	24.9
24-hour average, exceedances	8	83
Annual average	10.5	21.1

The data in Table 9.2 shows that ambient 24-hour average $PM_{2.5}$ and PM_{10} concentrations at the Wyong AQMS exceeded the goals of 25 μ g/m³ and 50 μ g/m³ on a number of occasions. These exceedances of the goals were due to extreme events such as bushfires, dust storms and hazard reduction burns.

There are no readily available site specific Total Suspended Particulates (TSP) and deposited dust monitoring data. The Wyong monitoring site does not measure these components; however, estimates of the background levels for the area are required to assess the impacts of the Site on TSP and deposited dust.

Estimates of the annual average background TSP concentrations can be determined from a relationship between measured PM₁₀ concentrations. This relationship assumes that 40% of the TSP is PM₁₀ and was established as part of a review of ambient monitoring data collected by co-located TSP and PM₁₀ monitors operated for reasonably long periods of time in the Hunter Valley.

Applying this relationship with the 2019 annual average PM₁₀ concentration of 21.1 μ g/m³ at the Wyong AQMS yields an estimated annual average TSP concentration of 52.8 μ g/m³.

To estimate annual average dust deposition levels, a similar process to the method used to estimate TSP concentrations is applied. This approach assumes that a TSP concentration of 90 μ g/m³ will have an equivalent dust deposition value of 4 g/m²/month; and indicates a background annual average dust deposition of 2.35 g/m²/month for the area surrounding the Site.

Table 9.2 summarises the background air quality adopted for assessment purposes. For 24-hour average $PM_{2.5}$ and PM_{10} , contemporaneous (Level 2) assessments have been conducted whereby the measured ambient concentrations at the Wyong AQMS are added to the dispersion model results for each day of the simulation.

Table 9.2.	Background	air quality	adopted f	for assessment.

Pollutant	Averaging Period	Criteria
	24-hours	Contemporaneous
Particulate Matter $\leq 2.5 \ \mu m \ (PM_{2.5})$	Annual	10.5 μ g/m ³
Deutieulete Matteur (10 une (DNA)	24-hours	Contemporaneous
Particulate Matter S 10 μ m (PM ₁₀)	Annual	21.1 µg/m ³
Total Suspended Particulates (TSP)	Annual	52.8 μg/m³
Deposited Dust	Annual	2.35 g/m²/month

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9.1.4. Surrounding land use

The land use immediately surrounding the site is industrial. The nearest sensitive receptors are an isolated residential dwelling approximately 300 metres west of the site and the Australian Reptile Park approximately 200 metres south west of the site. These sensitive receptors are shown in Figure 9.1 as R1 and R2 respectively.

Industrial land uses surrounding the site are not identified as sensitive receptors for the purposes of this assessment, however the predicted air quality impacts at these locations have been presented by way of the contour plots in Appendix A of the AQIA (Appendix J).



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Table 9.1. Air quality sensitive receptors.





9.2. Methodology

9.2.1. Pollutants of interest

Dust and particulate matter are the major air pollutants associated with the Proposal. Specifically, the following pollutants are identified:

- Particulate matter (PM_{2.5} and PM₁₀);
- Total suspended particulates (TSP); and,
- Deposited dust.

9.2.2. Impact assessment criteria

The EPA Approved Methods specifies air quality assessment criteria for assessing impacts from dust generating activities.

Table 9.3 summarises the air quality goals for dust and particulate matter that are relevant to this AQIA. The air quality goals relate to the total concentrations of dust and particulate matter in the air and not just that from the Proposal. Therefore, some consideration of background levels needs to be made when using these goals to assess impacts.

Table 9.3. Impact assessment criteria.

Pollutant	Averaging Period	Impact	Criteria
Particulate Matter < 2.5 µm (DMac)	24-hours	Total	$25 \mu \mathrm{g/m^3}$
For the line in all $r \ge 2.5 \mu m$ (FM2.5)	Annual	Total	8 μg/m³
Darticulate Matter < 10 um (DM)	24-hours	Total	50 μg/m³
Particulate Matter $\leq 10 \ \mu \text{m}$ (PM10)	Annual	Total	$25 \mu \mathrm{g/m^3}$
Total Suspended Particulates (TSP)	Annual	Total	90 μg/m³
Deposited Duct	Annual	Incremental	2 g/m²/month
	Annual	Total	4 g/m²/month

9.2.3. Dispersion modelling

Quantitative assessments of potential dust impacts from the operation of the Site have been conducted, based on TAPM meteorological simulations and the AERMOD dispersion modelling system. Details of the methodology used for the assessment are provided in Section 5 of the AQIA report (Appendix J).

9.2.4. Emissions to air

Dust emissions from the Proposal have been estimated based on information provided by the client, using emission factors sourced from both locally developed and US EPA developed documentation.

The most significant dust generating activities during the operation of the site would be:



- Loading/unloading of material;
- Processing material; and,
- Wheel generated dust.

No material handling, processing or stockpiling would occur outside the building. Therefore, wind-blown dust emissions would be negligible.

No control factors have been applied to the estimated emissions to account for all handling and processing activities being contained within buildings or to account for the misting system in the main building. Therefore, the estimated emissions are considered to be conservative.

The estimated dust emissions associated with the operation of the Site are presented in Table 9.4. A detailed emissions inventory is provided in Appendix B of the AQIA report (Appendix J).

Table 9.4. Estimated operational dust emissions.

Pollutant	Averaging Period	Impact	Criteria
Haulage – incoming waste	0.202	0.836	4.357
Dumping materials on tipping floor	0.010	0.067	0.142
Sorting materials into stockpiles	0.010	0.067	0.142
Shredding timber	0.004	0.019	0.042
Loading materials into trucks	0.012	0.076	0.161
Haulage – outgoing waste	0.167	0.691	3.599
Total	0.405	1.757	8.444

9.3. Impact assessment

Table 9.5 presents the predicted ground level concentrations of $PM_{2.5}$ and PM_{10} due to the Site and the existing background concentrations.

Table 9.5. Predicted 24-hour average PM_{2.5} and PM₁₀ concentrations at sensitive receptors.

	Maximum 24-hour Average PM _{2.5} (μg/m³)			Maximum 24-hour Average PM ₁₀ (μ g/m ³)			
Receptor	Increment Proposal only	Total Proposal + Background ⁸	Additional Exceedances	Increment Proposal only	Total Proposal + Background ⁸	Additional Exceedances	
R1	0.2	202.1	0	1.0	128.4	0	
R2	0.9	202.1	0	4.1	128.5	0	
Criteria	-	25	0	-	50	0	

⁸ As required by the Methods for the Modelling and Assessment of Air Pollutants in New South Wales the maximum background level measured was added to the calculated increment from the project. The maximum background level were due to extreme events such as bushfires, dust storms and hazard reduction burns.

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The results in Table 9.5 show that the Site is not predicted to result in any additional exceedances of the impact assessment criteria for $PM_{2.5}$ or PM_{10} compared to background levels (See Appendix A of the AQIA report (Appendix J). Therefore, in accordance with the Approved Methods, no additional measures to reduce $PM_{2.5}$ or PM_{10} emissions is considered necessary.

Contour plots of incremental 24-hour average $PM_{2.5}$ or PM_{10} are presented in Appendix A of the AQIA report (Appendix J).

Table 9.6 presents the annual average concentrations of PM_{2.5} or PM₁₀ due to the Proposal and the existing background concentrations.

	Annual Averag	e PM2.5 (μg/m³)	Annual Average PM10 (μg/m³)		
Receptor	Increment Proposal only	Total Proposal + Background	Increment Proposal only	Total Proposal + Background	
R1	0.0	10.5	0.1	21.2	
R2	0.2	10.7	0.7	21.8	
Criteria	-	8	-	25	

Table 9.6. Predicted annual average $PM_{2.5}$ and PM_{10} concentrations at sensitive receptors.

The results in Table 9.6 show that the Site would have a small effect on annual average $PM_{2.5}$ or PM_{10} concentrations, with the Proposal contributing less than 5% to total annual average $PM_{2.5}$ or PM_{10} concentrations.

Table 9.7 presents the predicted annual average TSP concentrations and deposited dust levels due to the Proposal and the existing background concentrations.

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Table 9.7.	Predicted	annual averag	eisr	concentrations	s anu ue	posited	austi	evers at	sensitive	recepti	urs.

	Annual Avera	ge TSP (μg/m³)	Annual Average Deposited Dust (g/m ² /mont			(μg/m ³) Annual Average Deposited Dust (g/m		
Receptor	Increment Proposal only	Total Proposal + Background	Increment Proposal only	Total Proposal + Background				
R1	0.4	53.2	0.02	2.37				
R2	3.6	56.4	0.12	2.47				
Criteria	-	90	2	4				

The results in Table 9.7 show that the predicted TSP concentrations and deposited dust levels comply with the impact assessment criteria.



9.4. Mitigation measures

Air quality impacts associated with the operation of the Site are predicted to comply with relevant impact assessment criteria. Notwithstanding, in an effort to minimise air quality impacts associated with the Site, the following mitigation measures should be implemented where reasonable and feasible:

- Engines of vehicles and plant to be switched off when not it use;
- Vehicles and plant to be fitted with pollution reduction devices where practicable;
- Vehicles and plant to be maintained in accordance with manufacturer's specifications;
- Reduce drop heights when handling dusty material;
- Dampen excessively dusty material during handling;
- Trafficable areas to be swept/cleaned regularly;
- Vehicles restricted to designated routes;
- On-site speed limits enforced; and
- Vehicle loads to be covered when travelling off-site.

9.5. Conclusion

Potential dust impacts associated with the operation of the Site have been assessed in general accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016).

Quantitative assessments of potential dust impacts from the operation of the Site have been conducted, based on TAPM meteorological simulations and the AERMOD dispersion modelling system.

The results of the dispersion modelling indicate that dust and particulate matter concentrations due to the operation of the Proposal would comply with the established criteria at all sensitive receptors.

Several measures have been identified to further reduce air quality impacts associated with the operation of the Proposal.



10. Noise and Vibration Impact Assessment

The Noise and Vibration Impact Assessment (NVIA) for the Site was conducted by RWDI. The objective of the investigation was to assess the potential construction and operational noise and vibration impacts associated with the Site.

This chapter summarises the findings of the NVIA. The full report is contained in Appendix K. This chapter should be read in conjunction with Appendix K.

The assessment is based on plans and information provided by ReDirect and has been conducted in general accordance with the:

- Noise Policy for Industry (NPfI) (NSW EPA, 2017); and
- Interim Construction Noise Guideline (ICNG) (Department of Environment and Climate Change, 2009).

The methods used to assess the noise and vibration impacts of the proposal are described in full in Appendix K.

10.1. Existing environment

The proposed development is located in the Somersby Industrial Park, which is located on the Somersby Plateau section of the Hunter Range on the Central Coast of New South Wales. The Somersby Industrial Park contains approximately 300 hectares of land zoned for industrial purposes and is bisected by the Sydney-Newcastle M1 Pacific Motorway. The Somersby Industrial Park is located 5.7 kilometres (km) west of Gosford and 76 km north of Sydney.

The site is directly adjacent to existing industrial premises. The nearest and potentially most exposed residential receiver is located approximately 300 metres (m) to the west-northwest of the site and the Australian Reptile Park approximately 230 m to the southwest. The nearest and potentially most affected noise-sensitive receivers surrounding the Proposal site are described in Table 10.1 and shown in Figure 10.1.

Receiver ID	Receiver Type	Approximate Distance to Site (metres)	Address
R1	Residential	300	36 Myoora Road, Somersby
R2	Active Recreation Area (Australian Technology Park)	230	66 Myoora Road, Somersby
R3	Industrial	10	7 Pinnacle Place, Somersby
R4	Industrial	10	3 Triennium Road, Somersby
R5	Industrial	10	35 Pile Road, Somersby
R6	Industrial	10	2 Warringah Close, Somersby
R7	Industrial	30	19-29 Pile Road, Somersby
R8	Industrial	10	47 Myoora Road, Somersby

Table 10.1. Noise-sensitive receivers.

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10.1.1. Proposed operating hours

Redirect propose to operate the facility 24 hour, seven days per week, in line with previous approvals for the site.

Waste deliveries would occur from 6:00 am to 7:00 pm, Monday to Friday, and from 7:00 am to 2:00 pm, Saturday and Sunday. Product collection would occur from 10:00 pm to 6:00 am, Monday to Friday. Whilst material handling activities would take place on a 24-hour basis, wood shredding would only occur between the hours of 7:00 am and 6:00 pm.



Figure 10.1. Noise sensitive receivers.





10.1.2. Baseline rating background levels

Intrusiveness noise levels for the Project are based on Rating Background Levels (RBLs) (see Glossary of Acoustics Terminology at Appendix A of NVIA report (Appendix K) obtained from two separate background noise surveys:

- A background noise survey conducted as part of a different application for the same site (Borg Manufacturing Somersby Mechanics Workshop, Truck Wash and Waste Wood Handling Facility Operational Noise Impact Assessment, Global Acoustics, October 2017); and
- A background noise survey conducted in October 2016 for the CSR Hebel Factory Extension project located at 98 and 112 Wisemans Ferry Road within the Somersby Industrial Park (CSR Hebel Factory Extension Operational Noise Assessment, Wilkinson Murray [now RWDI], October 2016).

The daytime RBL is not considered accurate for the purpose of the noise assessment as it is based on a threeday noise survey instead of a seven-day survey as recommended by the NPfI. Furthermore, as described in the Global Acoustics report, the daytime RBL is based on the Assessment Background Level (ABL) (see Glossary of Acoustics terminology) measured on a Saturday where ambient noise levels are likely to be lower than during weekdays.

As such, the daytime RBL was established using results from the background noise survey conducted for the CSR Hebel Factory Extension project. RBLs for that project were measured at 223 Debenham Road, South Somersby, and are considered representative of R1. The daytime RBL was established at 40 dBA and would primarily be driven by distant traffic noise from the Sydney-Newcastle M1 Pacific Motorway.

The intrusiveness noise level is the noise level 5 dB above the RBL for each time period of interest (daytime, evening or night-time) at a residential receiver. The NPfI stipulates that the project intrusiveness noise level for evening is set at no greater than that for the daytime, and that the project intrusiveness level for night-time is set at no greater than that for the evening and daytime. Therefore, the evening intrusiveness noise level was conservatively based on the daytime RBL of 40dBA (i.e. instead of the evening RBL of 42 dBA).

The project amenity noise levels for the relevant receiver types have been calculated from the recommended amenity noise levels set out in the NPfI and are presented in Table 10.2. It assumes the site is situated in an area which would be classified as "urban" under the NPfI.

The Project Noise Trigger Levels is the lower value of the project intrusiveness noise level (applicable to residential receivers only) and the project amenity noise level. Based on the project intrusiveness noise levels and project amenity noise levels, Table 10.2 summarises the Project Noise Trigger Levels (PNTLs) relevant to the Project.

Table 10.2 summarises the RBLs used for the proposed development.



Table 10.2. Project noise levels.

		Day (7:00 am - 6:00 pm) LA _{eq,15min}	Evening (6:00 pm - 10:00 pm) LA _{eq,15min}	Night (10:00 pm - 7:00 am) LA _{eq,15min}		
Background Noise Surveys ¹		35	38			
Rating Background Levels		40 ²	42	38		
Project Intrusiveness Noise Levels		45	45	43		
	Residential - Urban	58	48	43		
Project Amenity Noise Levels	Active Recreation Area					
	Industrial Premises	68 (when in use)				
	Residential - Urban	45	45	43		
Project Trigger Noise Levels	Active Recreation Area					
	Industrial Premises		68 (when in use)			

Notes:

1 - RBL from background noise survey conducted for Borg Manufacturing

2- Adjusted RBL from background noise survey conducted for CSR Hebel

10.2. Impact assessment

10.2.1. Operational noise assessment

Operational noise emissions associated with the Proposal were modelled using the CadnaA acoustic noise prediction software and the CONCAWE noise prediction algorithm. The CONCAWE noise propagation model is used around the world and is widely accepted as an appropriate model for predicting noise over significant distances. Factors addressed in the noise modelling are:

- Equipment noise level emissions and locations;
- Shielding from ground topography and structures;
- Noise attenuation due to geometric spreading;
- Ground absorption;
- Atmospheric absorption; and
- Noise enhancing meteorology.

The noise assessment, where predictions are compared against PNTLs expressed as LA_{eq,15min} levels, is based on a typical "busy" 15-minute period.

No modifying factor correction for low-frequency, tonal or intermittent noise is warranted for the Proposal.



10.2.2. Meteorological conditions

Conservative noise-enhancing meteorological conditions without processing meteorological data local to the site was adopted for the noise assessment.

10.2.3. Operational noise sources

The major noise sources associated with the Project are summarised in Table 10.3.

Table 10.3. Summary of noise sources.

Receiver Type	Location Assumed in Model	Assessment Period
1x Horizontal Grinder Peterson 2710C Wood Shredder	Inside waste wood storage and processing building	Day
1x 30-Tonne Excavator	Inside warehouse building	Day, Evening and Night
1x 20-Tonne Front-End Loader	Inside warehouse building	Day, Evening and Night
1x Mini Crane Telehandler	Inside warehouse building	Day, Evening and Night
12.5 m Heavy Rigid Vehicle / 19 m Semi-Trailer	Travelling between site entrance and loading/unloading areas inside buildings	Day, Evening and Night

Notes:

Day = 7:00 am – 6:00 pm Evening = 6:00 pm – 10:00 pm Night = 10:00 pm – 7:00 am

The following building properties have been assumed in the noise model:

- Warehouse building constructed with precast concrete walls up to 2.4 m in height with steel cladding above and steel/aluminium roof;
- Warehouse building is a fully enclosed building with two roller door openings on the western façade, one 6 (w) x 6 (h) m and the other 12 (w) x 6 (h) m. The noise model assumes both roller doors are left open this is conservative as the operator will generally keep the roller doors shut whenever practicable;
- Waste wood storage and processing building constructed with pre-cast concrete walls up to 9 m in height with steel cladding above and steel/aluminium roof; and
- Waste wood storage and processing building is a three-sided building, with the eastern façade entirely open.

The following equipment properties have been assumed in the noise model:

- The excavator, front-end loader and mini crane telehandler were conservatively assumed to be operating simultaneously and continuously for an entire 15-minute period for the day, evening and night operation scenarios;
- The wood shredder was assumed to be operating continuously for an entire 15-minute period for the day scenario;
- One truck movement (truck arrival or departure) per 15-minute period during the day and evening periods;
- Two truck movements per 15-minute period at night;



- Trucks are assumed to be travelling at 10 kilometres per hour (km/hr) between the site entrance (off Pile Road) and the loading areas inside the buildings; and
- For the rest of the time, during the loading/unloading process, trucks were conservatively assumed to be idling (inside buildings).

Table 10.4 provides typical sound power levels and spectra of the equipment, based on measurements previously conducted by RWDI.

	Octave Lzeq, 15min Levels									
Noise Source	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	dBA	Reference
Horizontal Grinder Peterson 2710C Wood Shredder	112	112	116	116	117	117	111	102	122	RWDI database
30-Tonne Excavator	103	106	102	102	99	97	93	88	105	RWDI database
20-Tonne Front-End Loader	98	110	102	105	104	101	95	89	108	RWDI database
Mini Crane Telehandler	99	102	98	98	95	93	89	84	101	RWDI database
12.5 m Heavy Rigid Vehicle/ 19 m Semi- Trailer Travelling at 10 km/hr ²	111	108	103	101	95	92	89	86	102	RWDI database

Table 10.4. Sound power levels and spectra.

Note:

¹ Broadband A-weighted level

² 12.5 m heavy rigid vehicle and 19 m semi-trailer are assumed to have the same sound power level and noise spectrum for the purpose of the assessment

10.2.4. Operational noise predictions

Based on the above assumptions, worst case $LA_{eq,15min}$ noise levels at the identified receivers have been predicted under noise-enhancing meteorological conditions. The results for the three assessment periods are summarised in Table 10.5.

Table 10.5. Predicted operational LA_{eq,15min} noise levels (dBA).

Peeeiver ID	Pr	edicted Noise Lev	rel	Project Noise Trigger Levels			
Receiver ID	Day	Evening	Night	Day	Evening	Night	
R1	45	45	30	45	45	43	
R2	45	45	37	53	53	n/a	
R3	66	66	56	68	68	n/a	
R4	47	47	43	68	68	n/a	
R5	46	46	42	68	68	n/a	



Pocoivor ID	Pr	edicted Noise Lev	vel	Project Noise Trigger Levels			
Receiver ib	Day	Evening	Night	Day	Evening	Night	
R6	47	47	42	68	68	n/a	
R7	66	66	53	68	68	n/a	
R8	48	48	30	68	68	n/a	

Noise predictions associated with the proposed operation are found to comply with the PNTLs at all identified receivers and for all assessment periods. As such, the proposed operation is not expected to impact on the acoustic amenity of the surrounding receivers.

10.2.5. Maximum noise level event assessment

The Proposal is expected to generate loud instantaneous noise events with the potential to generate sleep disturbance at night. Such events would typically consist of, but not limited to:

- Front-end loader buckets scraping the concrete hardstand;
- Waste material being loaded into trucks, especially when impacting empty truck trailers; and
- Waste material being collected using the excavator and front-end loader buckets.

The typical L_{AFmax} sound power level for such events is anticipated to range 110-117 dBA. Noise predictions presented in the maximum noise level event assessment conservatively assume the upper end of the nominated level range (i.e. 117 dBA).

Assuming loud instantaneous noise events would be generated inside the warehouse building with both roller doors open, L_{AFmax} noise levels are predicted at 46 dBA at receiver R1. This complies with the noise trigger level of 53 dBA used for the maximum noise event assessment at receiver R1. As such, no detailed assessment of potential sleep disturbance impacts is warranted. It should be noted that the predicted level is conservative as it assumes both roller doors are open.

10.2.6. Construction noise assessment

Some construction work – including installation of weighbridges, placement of firewater tanks and works within the warehouse building (i.e. construction of concrete waste storage bays, fire sprinklers, dust suppression system) – will be required.

The construction activities with the potential for most noise impacts on surrounding receivers consist of excavation works associated with the construction of the in-ground weighbridges and the wheel wash.

It is anticipated that the construction timeframe for the above activities will be approximately one week.

10.2.7. Noise management levels

The Interim Construction Noise Guideline (ICNG) recommends noise management levels (NMLs) to reduce the likelihood of noise impacts arising from construction activities. It has been assumed that all construction activities will be conducted within standard construction hours as follows:



- Monday to Friday: 7am to 6pm;
- Saturday: 8am to 1pm; and
- No work on Sundays or Public Holidays.

The ICNG NMLs for residential receivers and other relevant receiver types are summarised in Table 10.6.

Table 10.6. Project-specific construction NMLs.

		Project-Specific Construction NMLs					
Receiver ID	Receiver Types	Noise Affected L _{Aeq,15min} Level (Standard Daytime Construction hours)	Highly Affected Noise Level				
R1	Residential	50 ¹	75 ⁴				
R2	Active Recreation Area (Australian Technology Park)	65 ²	75 ⁴				
R3-R8	Industrial	75 ³	75 ⁴				

Note:

¹Noise affected: RBL + 10dBA

² Active Recreation Area: 65dBA

³ Industrial premises: 75dBA

⁴ Highly noise affected: 75dBA

10.2.8. Predicted construction noise levels

The predicted $L_{Aeq,15min}$ construction noise levels at the nearest noise-sensitive receivers are presented in Table 10.7 for the worst-case construction activity that will occur prior to operations.

Table 10.7. Predicted daytime LAeq,15min construction noise levels (dBA).

Receiver ID	Predicted Construction Noise Level	Noise Affected L _{Aeq,15min} Level (Standard Daytime Construction hours)
R1	32	50
R2	23	65
R3	67	75
R4	36	75
R5	31	75
R6	28	75
R7	66	75
R8	31	75



Construction noise predictions associated with the Proposal are found to comply with the relevant construction noise management levels at all identified receivers. As such, the proposed construction activities are not expected to impact on the acoustic amenity of the surrounding receivers.

10.3. Mitigation measures

10.3.1. Operational noise

Mitigation measures for operational noise should include the following:

- Carry out activities in a competent manner;
- Avoid dropping materials from height where practicable;
- Avoid any waste receival outdoors all to be done indoors;
- Reduce throttle settings and turn off equipment and plant when not being used (e.g. turn off truck engine during loading process where practicable);
- Minimise the use of horns on site, especially during the evening and night periods;
- Use less annoying alternatives to audible reversing alarms (such as broadband noise emitting models i.e. 'quacker alarm' or 'squashed duck') that provide a safe system of work;
- Maintain all roller doors of warehouse building shut as much as possible, especially during the evening and night periods and during noise-intensive activities such as tipping/picking up of waste;
- Fit front-end loader and excavator with noise attenuation kits to minimise noise emissions;
- Maintain all plant and equipment operating on site or used in connection with the site in a proper and efficient condition;
- Erect permanent signage on site that is visible to all personnel/sub-contractors and identifies the need to limit noise, (e.g. 'Respect our neighbours and keep noise to a minimum' sign at site entrance for trucks accessing the site);
- Enforce speed limits to all vehicles on site;
- Maintain road surface within site in proper condition to minimise deterioration in road pavement that may increase noise generation;
- Operate vehicles to minimise noise emissions when approaching and departing the site; and
- Provision of induction and training to relevant staff and sub-contractors to outline their responsibilities with regards to noise and encourage general environmental awareness.

Attended noise monitoring should be conducted to determine whether operational noise levels are complying with the relevant noise criteria within three months of the facility commencing operations. This should consist of operator-attended short-term noise monitoring carried out by a suitably qualified and experienced independent noise consultant. Table 10.8 summarises the required validation/compliance noise monitoring program.

Table 10.8. Attended compliance noise monitoring program.

Receiver ID	Monitoring Samples	Assessment Period
R1	2x 15-minute measurements	Day, evening and night
R2	2x 15-minute measurements	Day
R3	2x 15-minute measurements	Day



Receiver ID	Monitoring Samples	Assessment Period
R7	2x 15-minute measurements	Day

10.3.2. Construction noise

Mitigation measures for construction noise should include the following:

- Ensure sub-contractors carry out construction activities in a competent manner;
- Ensure sub-contractors avoid dropping materials from height where practicable;
- Ensure sub-contractors reduce throttle settings and turn off equipment and plant when not being used;
- Ensure sub-contractors minimise the use of horns on site;
- Ensure sub-contractors minimise shouting and loud radio while on site;
- Ensure sub-contractors use less annoying alternatives to audible reversing alarms (such as broadband noise emitting models i.e. 'quacker alarm' or 'squashed duck') that provide a safe system of work;
- Ensure sub-contractors maintain all construction equipment in a proper and efficient condition; and
- Ensure sub-contractors operate vehicle to minimise noise emissions when approaching and departing the site.

10.4. Conclusion

RWDI Australia was engaged to conduct a NVIA for the proposed waste facility and resource recovery site at 33 Pile Road, Somersby. The assessment is based on plans and information provided by ReDirect Recycling Pty Ltd and has been conducted in general accordance with the Noise Policy for Industry (NPfI) and the Interim Construction Noise Guideline (ICNG).

The findings of this assessment are as follows:

- Operational noise predictions associated with the proposed operations under noise-enhancing meteorological conditions are found to comply with the project noise trigger levels at all identified receivers and for all assessment periods. As such, operational noise is not expected to impact on the acoustic amenity of the surrounding noise-sensitive receivers.
- Noise levels associated with maximum noise events at night are predicted to comply with the noise trigger level used for the maximum noise event assessment at receiver R1. As such, maximum noise events at night are not expected to impact on the acoustic amenity of the surrounding community.
- Construction activities associated with the Proposal are found to comply with the construction noise management levels at all identified receivers. As such, construction noise is not expected to impact on the acoustic amenity of the surrounding noise-sensitive receivers.
- The Proposal would generate heavy vehicle movements along Pile Road, Pacific Highway and Wisemans Ferry Road between the Proposal site and the Sydney-Newcastle M1 or Central Coast Motorways. However, no sensitive land uses are located along this route. Therefore, road traffic noise is not expected to impact on the acoustic amenity of the surrounding community.
- No significant sources of vibration have been identified for the Proposal. Therefore, potential vibration resulting from the Project is not expected to impact on the amenity of the surrounding noise-sensitive receivers.



11. Traffic Impact Assessment

The Traffic Impact Assessment (TIA) for the proposed resource recovery facility was conducted by SECA Solution Pty Ltd. The objective of the investigation was to assess the potential impacts from traffic generated for the construction and operation of the proposed resource recovery facility on the local road network.

This chapter summarises the findings of the TIA. The full report is contained in Appendix L. This chapter should be read in conjunction with Appendix L.

11.1. Existing environment

11.1.1. Road network

The main road through the locality is the M1 Pacific Motorway, which runs in a north-south direction and provides an important road connection along the east coast of Australia. It connects through to Sydney and beyond to the south and towards Newcastle and beyond to the north. It provides a minimum of two lanes of travel in both directions to the north of the locality and three lanes to the south, with restricted access to side roads via grade separated interchanges. It operates under the posted speed limit of 110 km/h and carries high traffic volumes, especially between the Central Coast area and Sydney.

Access from the M1 Pacific Motorway is available via Wisemans Ferry Road which connects with the Central Coast Highway allowing for direct connection towards Gosford as well as connecting to the M1 Motorway. Wisemans Ferry Road connects with the Old Pacific Highway at a three-leg roundabout to the east of the site. The Old Pacific Highway is the road originally providing access to the Central Coast and Newcastle prior to the construction of the motorway and now connects a number of villages with the motorway at various interchanges before becoming the Central Coast Highway through Gosford.

The Central Coast Highway provides a direct connection to Gosford and provides a minimum of 2 lanes of travel in both directions, with additional lanes at intersections to maintain capacity and reduce delays / congestion. It has been upgraded through Gosford and beyond to ensure capacity is improved and it provides a feeder access road to the various suburbs and road network throughout the Central Coast.

Wisemans Ferry Road / Central Coast Highway connects with the M1 Motorway via a grade separated interchange, with access ramps permitting connection in all directions between the two roads.

In the vicinity of the site the Old Pacific Highway provides a single lane of travel in both directions, with a widened carriageway (14.5m) allowing for kerb side parking in places. It operates under the posted speed limit of 70 km/h.

The subject site is proposed to have access from Pile Road. Pile Road is an industrial estate road and provides a sealed carriageway in the order of 12.5m wide with one lane of travel in each direction, and kerb and gutter along both sides of the road. It operates under the posted speed limit of 60km/hr.

The Old Pacific Highway and Pile Road are both B-doubled approved.

11.1.2. Daily traffic flows

Daily traffic flows in the vicinity of the site are high along the M1 Motorway, reflective of its importance in the road network. Historic traffic provided by TfNSW indicates that the daily traffic flows along the M1 are in the order of 62,411 vehicles per day in 2016.



The surveys showed that the two-way flows on the Old Pacific Highway north of Pile Road in the AM peak (7-8AM) was 237 vehicles whilst the two-way flows on Pile Road was 157 vehicles. In the PM peak, (2.00-3.00PM) the two-way flows on the Old Pacific Highway were 411vph whilst on Pile Road were 155 vehicles two way. Based on this data and peak hour flows typically representing 10% of the daily flows, this would indicate that the daily traffic flow along Pile Road, adjacent to the subject site, is in the order of 1,500 vehicles per day. Daily traffic flows along the Old Pacific Highway are typically 3,300 vehicles per day.

South of Pile Road and the site, the two-way flows on the Old Pacific Highway are 94 and 292 (AM/PM). The daily flows in this location would be in the order of 2,000 vehicles per day.

There are a high number of heavy vehicle movements in the locality of the subject site, associated with other users across the Somersby Business area. There are a wide range of users across the business area which require heavy vehicle access including distribution warehousing. The peak hour surveys indicate that the heavy vehicle content is in the order of 18% of the total flows.

11.1.3. Parking supply and demand

Parking is generally permitted along both sides of the local roads in the general vicinity of the subject site, with normal restrictions at driveways and intersections. On the Old Pacific Highway parking is restricted along parts of the southern verge.

There was a demand for on street parking noted adjacent to the subject site on Pile Road during the site work as well as parking to both sides of the Old Pacific Highway adjacent to the Borg site associated with current staffing demands for Borg.

11.1.4. On-site conditions

The development has a single driveway onto Pile Road. The driveway to the south of the site provides access for all vehicles including light vehicles which will enter the car park developed to the front of the site. The driveway will allow for all truck movements and provide access to the workshop, wash bay and the storage shed. The vehicle driveway has been designed and constructed in accordance with AS2890.2 -Off-street Commercial Vehicle Facilities suitable to cater for heavy vehicle movements.

The majority of traffic movements will approach the site from the south with a left turn in movement and right turn out of the site for the outbound movement. Some traffic associated with staff may approach from the north depending upon their origin/destination.

The access has been designed to provide for the swept path of trucks to access from Pile Road.

11.1.5. Turning paths

The site layout allows for the entry and exit movements of large semi-trailers including B-doubles (up to 25m) to the site.

Heavy vehicles, including B-doubles, will be able to circulate as required within the subject site to be un-loaded and loaded. Attachment A of the TIA (Appendix L) shows the movement of the largest truck accessing the proposed truck wash and demonstrates the manoeuvring of trucks within the site. Allowing for this there is adequate space to manoeuvre within the site and be able to exit in a forward direction. Attachment A of the TIA (Appendix L)provides the site plan with swept paths of the proposed vehicles entering the access.



11.1.6. Parking

The project will have 10 staff located on site and assuming all staff drive to the site will require 10 parking spaces. The site provides 18 parking spaces on site, that shall accommodate the staff parking needs and allows for over-lap of parking demands at shift change times.

11.2. Methodology

As part of the TIA, SECA Solution collected traffic data at the intersection of Pile Road and the Old Pacific Highway. These counts were timed to coincide with the typical morning and afternoon peak period, covering the period 7:00 AM to 10:00 AM and 2:00 PM to 5:30 PM.

11.3. Impact assessment

The subject site offers a very specific development for waste resource management. The project will allow for an annual receival tonnage of 99,000 with a mix of products accepted on site. Table 11.1 and Table 11.2 provide the expected hourly breakdown in traffic volumes for the weekdays and weekends.

Light vehicle movements will be up to 17 in and out per day Monday to Friday and 7 inbound and outbound on a Saturday and Sunday. Staff levels on site shall be a maximum of 10 operating 3 shifts across the 24 hours of operation. The shift change at 6 AM will have 5 outbound staff movements and 6 inbound, with similar numbers at 2 PM and 10 PM.

For the outbound product, the 19 trucks loads per day and 19 inbound empty trucks. These will occur between 10 PM and 5 AM Monday to Friday only with no outbound product over a weekend.

This represents total daily movements of:

- Monday Friday:
 - Light vehicles 34 trips (17 inbound/17 outbound)
 - Heavy vehicles 84 (42 inbound/ 42 outbound)
- Saturday-Sunday:
 - Light vehicles 14 trips (7 inbound/7 outbound)
 - Heavy vehicles 16 (8 inbound/8 outbound)

The trucks bringing waste into the site and outbound products are hauled out of the site on an hourly basis, allowing for traffic movements to be spread out and reducing the potential for trucks to be queuing on entry and exit to the site.

This will also occur for product haul out at night-time. The product will be removed at night to remove the opportunity for conflict between inbound and outbound waste truck movements and reduces the conflicts internal to the site between truck movements. This outbound movement of waste is controlled and scheduled by the proponent to reduce the number of trucks on site at any one time.

The facility is not open to the general public for waste drop off.

Further truck movements details are provided in Attachment B of the Traffic and Transport Impact Assessment (Appendix L).



11.3.1. Haulage routes

All traffic will enter and exit the site via Pile Road from the Old Pacific Highway with traffic using the Central Coast Highway from the greater Gosford area, or the M1 Motorway from the north or south of the locality. Some traffic associated with staff may also access the site via Gindurra Road and Somersby Falls Road, turning left into Pile Road and then right into the site driveway.

All northbound entry movements will travel on Wisemans Ferry Road and turn left at the roundabout at the Old Pacific Highway. Vehicles associated with the subject site will then turn right at Pile Road before turning left into the site. Local staff traffic from suburbs north of Gosford may also use Gindurra Road to access Pile Road from the north.

The majority of vehicles will turn right out of the site to turn left at the Old Pacific Highway to continue along their existing routes via either the Central Coast Highway towards the greater Gosford area or head north and south along the M1 Motorway.

Some local staff traffic may turn left out of the site and travel northbound along Pile Road, Somersby Falls Road and Gindurra Road.

Traffic surveys undertaken by SECA Solution show that people working in this area generally travel via the Old Pacific Highway based on the low number of vehicles turning right out of Pile Road in the peak periods. This pattern would therefore continue with vehicles turning right into or left out of Pile Road.

The majority of the product haulage uses the M1 Motorway to travel north or south of the location.



Table 11.1. Operational Traffic Generation (Monday to Friday).

Hour Starting	Heavy Vehicles (Waste Deliveries)	Heavy Vehicles (Product Collections)		Light Vehicle Trips (Employees)		Total (Light Vehicles + Heavy Vehicles)	
nou starting	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips
0:00			3	6			3	6
1:00			2	4			2	4
2:00			2	4			2	4
3:00			2	4			2	4
4:00			2	4			2	4
5:00			2	4			2	4
6:00	1	2			5 (out) and 6 (in)	11	12	13
7:00	2	4					2	4
8:00	2	4					2	4
9:00	2	4					2	4
10:00	2	4					2	4
11:00	2	4					2	4
12:00	2	4					2	4



Table 11.1. Operational Traffic Generation (Monday to Friday) (continued).

Hour Starting	Heavy Vehicles (\	Waste Deliveries)	Heavy Vehicles (Product Collections)		Light Vehicle Trips (Employees)		Total (Light Vehicles + Heavy Vehicles)	
	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips
13:00	2	4					2	4
14:00	2	4			6 (out) and 6 (in)	12	14	16
15:00	2	4					2	4
16:00	1	2					1	2
17:00	1	2					1	2
18:00	2	4					2	4
19:00							0	0
20:00							0	0
21:00							0	0
22:00			3	6	6 (out) and 5 (in)	11	14	17
23:00			3	6			3	6
Total	23	46	19	38	34	34	76	118



Table 11.2 Operational Traffic Generation (Saturday to Sunday).

Llour Charting	Heavy Veł Deli	Heavy Vehicles (Waste Deliveries)		Heavy Vehicles (Product Collections)		Light Vehicle Trips (Employees)		Total (Light Vehicles + Heavy Vehicles)	
nour starting	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	
0:00									
1:00									
2:00									
3:00									
4:00									
5:00									
6:00					2 (out) and 3 (in)	5	5	5	
7:00	1	2					1	2	
8:00	1	2					1	2	
9:00	1	2					1	2	
10:00	1	2					1	2	
11:00	1	2					1	2	
12:00	1	2					1	2	

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Hour Starting	Heavy Vehicles (Waste Deliveries)		Heavy Vehicles (Product Collections)		Light Vehicle Trips (Employees)		Total (Light Vehicles + Heavy Vehicles)	
	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips	No. of Vehicles	No. of Trips
13:00	1	2					1	2
14:00	1	2			3 (out) and 2 (in)	5	6	7
15:00								
16:00								
17:00								
18:00								
19:00								
20:00								
21:00								
22:00					2 (out) and 2 (in)	4	4	4
23:00								
Total	8	16	0	0	14	14	22	30



11.3.2. Road safety

It is considered that the proposed development will have a minimal impact upon the road network in the general vicinity of the subject site. There is a minor hourly increase in traffic volumes generated by the development across the working week with 1 or 2 inbound trucks movements in and out only per hour through the day and 2 or 3 trucks per hour in and out between 10 PM and 5 AM for outbound product.

The roads in the general vicinity of the subject site have been designed to cater for the demands of the industrial park, are well laid out and the key intersections are controlled by roundabouts or traffic signals (for access to Gosford and south towards Sydney). Pile Road forms part of the Restricted Access Vehicle route and is therefore able to carry B-doubles.

The access to the site is located on a straight section of road offering good visibility for drivers entering or exiting the site, with sight distances exceeding the requirements of AS2890.

The intersection of Pile Road and the Old Pacific Highway is well laid out with clear visibility. This is reflected in the low number of accidents for this location.

Overall, it is considered that the development will have a minimal impact on road safety in this location.

11.3.3. Daily traffic flows

Overall, the project shall generate 118 vehicle movements per day Monday to Friday and 30 vehicle movements per day on a Saturday and Sunday.

This would increase the daily flows from 3,300 vehicles per day on the Old Pacific Highway to 3,418 Monday to Friday. Whilst representing an increase of 3.5% over the current flows, these flows will remain well within acceptable limits for this road. Whilst no daily limits are provided by the RTA Guide to Traffic Generating Developments, the hourly flows on this road would be less than 350 vehicles per hour, well within its limits of 900 vehicles per direction.

Similarly, for Pile Road the daily flows could increase from 1,500 vehicles to 1,618 in the immediate vicinity of the subject site but will remain well within the hourly capacity for this road.

11.3.4. Peak hour impacts

The operation of the intersection of Pile Road and the Old Pacific Highway has been observed on site and operates with minimal delays and queues in both the AM and PM peak periods.

It can be seen that the proposed development will have a minimal impact upon the operation of this intersection with 1 or 2 trucks turning right into Pile Road with minimal opposition, together with a similar number turning left out of Pile Road. The impact of the outbound flows turning left from Pile Road will also have a minor and acceptable impact.

The light vehicle movements, associated with staff movements are spit across 3 shift change times and shall have a minor impact upon the operation of this intersection.

11.3.5. Impact of construction traffic

All construction work will be contained within the site so minimal impact upon external road network. There will be the requirement for some construction machinery to access the site and traffic associated with workers. The movement of construction heavy vehicle in and out of the site will managed with a Construction Traffic Management Plan to be prepared as part of the Construction Certificate stage of the project.

Parking for the construction staff can be provided on site or along the adjacent road network.

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11.4. Mitigation measures

Mitigation measures will include traffic control via the weighbridge and two-way radio communications to coordinate drivers on site. The spread of vehicles in and out of the site across the day and low hourly traffic movements together with the gates always open no queueing on Pile Road will occur.

11.5. Conclusion

From the site work completed and the review of the project, it is considered that the proposed resource recovery facility at 33 Pile Road, Somersby will have a minimal and acceptable impact upon the local road network in the general vicinity of the subject site.

The additional traffic being generated by the proposal will have a minor impact upon the local road network, with between 1 and 3 trucks per hour accessing the site (between 2 and 6 truck movements) across 24 hours and 7 days a week. This shall have a minor and acceptable impact upon the operation of this intersection.

The site access complies with AS2890 and can operate in a safe manner allowing for vehicles to enter and exit the site in a safe manner. The key intersection of Pile Road and the Old Pacific Highway has been observed on site during both the morning and afternoon peak periods and the current operation is very good with minimal delays and congestion.

Parking provided on site is suitable to accommodate the staffing requirements on site.

It is concluded that the development should be approved on traffic and access grounds.



12. Bushfire Threat Assessment

The Bushfire Threat Assessment (BTA) for the proposed development was conducted by Anderson Environment and Planning. This chapter summarises the findings of the BTA. The full report is contained in Appendix M. This chapter should be read in conjunction with Appendix M.

12.1. Existing environment

12.1.1. Bushfire prone land mapping

Examination of the NSW Planning Portal (2019) Bushfire Prone Land (BPL) mapping (2021) confirms that parts of the Subject Site is mapped as "Vegetation Category 1" and "Vegetation Buffer". This designation has triggered the need for this assessment (Figure 12.1).

Appendix 1 of the PBP provides the steps required to determine the level of bushfire hazard that applies to the site. Factors influencing the hazard level include:

- The formation of vegetation surrounding the site;
- The distance between vegetation and the site (or proposed buildings therein);
- The effective slope for each patch of vegetation; and
- The Fire Danger Index (FDI) of the council area within which the development occurs.

These factors together provide an indication of the level of threat posed to the development from any vegetation retained within the site and surrounding vegetation in the event of a bushfire.

12.1.2. Vegetation analysis

The Site and surrounds occur within the Greater Hunter Region, with existing vegetation subsequently classified with a Fire Danger Index (FDI) of 100 as NSW Rural Fire Service (2017) NSW Local Government Areas FDI. Site investigation showed that Hazard Vegetation is present within 140m of the Subject Site boundary and is classified as 'Forest' under the PBP. This 'Forest' vegetation occurs to the south and south-west. The dominant canopy species include *Eucalyptus haemastoma* and *Angophora costata* (Figure 12.2).

Appendix A of the BTA report (Appendix M) contains photos showing the vegetation types within the 140m vegetation assessment buffer around the Site.

Figure 12.2 provides a visual representation of hazard vegetation and effective slope as it applies to the proposal.

12.1.3. Slope analysis

The Subject Site is generally flat, with a gentle slope to the east (Figure 12.2). Examination of slope class to relevant Hazard Vegetation areas reveals:

- Flat/ upslope to the west of the Study Area; and
- Flat/ upslope to the south of the Study Area.



Figure 12.1. Bushfire Prone Land Mapping.





Figure 12.2. Slope and Vegetation Assessment.





12.2. Methodology

The Bushfire Threat Assessment has been prepared to address the bushfire protection measures required by NSW Rural Fire Service's "Planning for Bushfire Protection – 2019" (PBP).

12.3. Impact assessment

The National Construction Code (NCC) does not provide for any bushfire specific performance requirements for a commercial class of building. As such AS 3959 Standards are not considered as a set of 'deemed to satisfy' provisions, however compliance with AS 3959 and National Association of Steel-frame Housing (NASH) should be considered when meeting the aims and objectives of PBP. Given the distance from the hazard it is recommended that the construction be of flame zone construction standards which will provide suitable protection for proposed development.

12.4. Mitigation measures

Investigations undertaken for this Bushfire Threat Assessment have revealed that the proposed development will be affected by off-site Hazard Vegetation. The following mitigations measures have been recommended for the Proposed Development:

- An emergency evacuation plan is required, which will include an evacuation area;
- Fire hydrant spacing, sizing and pressures to comply with AS 2419.1 2017;
- Construction of a wall made from appropriate flame retardant materials and constructed to minimum 2m in height along the south-western boundary to provide shielding from radiant heat impact to the proposed development; and
- A defendable space of at least 10m surrounding the remainder of the development (refer to Figure 12.3).






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12.5. Conclusion

Investigations undertaken for this Bushfire Threat Assessment have revealed that the proposed development will be affected by off-site Hazard Vegetation.

Suitable access and egress to the site will be provided via a street entrance from Pile Rd which will allow for adequate access for emergency vehicles needing to access the site. In addition to this to meet acceptable access principles for evacuation and firefighting, defendable space is provided surrounding the entirety of the development. As the minimum distance of 10m cannot be achieved surrounding the whole of the development, a 2m high wall is proposed between the building and the Hazard Vegetation to provide shielding against radiant heat impacts of a potential bushfire.

Existing reticulated water supply system for the existing buildings is expected to service the site, and street hydrant access is to be delivered in accordance with AS2419.1 - 2017.

The fire protection measures are discussed further in Section 13.

Assuming the above conditions are met it is considered that the development will meet the objectives of the Planning for Bushfire Protection guidelines, via the proposed protection measures, and appropriate access and egress. When applied, these measures should provide adequate protection in the event of a bushfire occurring in the immediate locality. However, it can never be guaranteed that the site, workers and property therein will not at some stage be affected by a bushfire event.



13. Fire Safety and Incident Management13.1. Existing environment

The proposed development will be located in the existing warehouse approved under DA56372/2019. The Construction Certificate was issued by Elite Certification on 7 April 2021. Construction of the warehouse is due to be completed by the end of 2021.

The Construction Certificate application included a Fire Engineering Report (FER) prepared by Affinity Fire Engineering. The FER was prepared in concurrence with NSW Fire and Rescue (Project Ref. FRN20/1099, Job No. BFS20/3972). The FER, fire service plans and hydraulic plans are included in Appendix N.

The purpose and use of the building identified for the preparation of the FER was for a general industrial and warehouse building, however the future use as a resource recovery facility was assessed in regard to increased safety requirements. The FER determined that the proposed facility was suitable in relation to fire safety measures identified in the National Construction Code (NCC) / Building Code of Australia (BCA) (2009) at the time, and the building had suitable measures to deal with any fire incident.

The detention of fire water for the buildings has been based on the deem to satisfy requirements outlined in the BCA and is sufficient regarding storing the hydraulic demand as required by NSW Fire and Rescue (2020) *Fire Safety Guidelines – Fire Safety in Waste Facilities.*

Provisions for a range of activities have been incorporated into the sprinkler / hydrant and hose real systems as it was anticipated that the building would have a range of future uses.

13.1.1. Material storage

The quantities of materials are identified below in Table 13.1.

Table 13.1. Waste storage Capacity on Site.

Material	Maximum storage quantity (tonnes)
Mixed C&D waste	169
Mixed clean timber	73
Pallets	22
MDF and Particle board	50
Metals	43
Green waste/ Garden Organics	74
Gypsum	35
Glass	84
Tyres	116
GSW CT1 (Recyclable)	169
GSW CT2 (Restricted)	169
TOTAL	1,005

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Material will be stored in compliance with the requirements of NSW Fire and Rescue (2020) *Fire Safety Guidelines*, with bays bay walls a maximum height of 4m, 1m over the stockpile height of 3m and extending 2m past the footprint of the stockpile. There are also appropriate internal movement areas in front of stockpile areas to assure easy access. There will be no external stockpiles.

13.2. Impact assessment

The waste wood chip storage will store chip produced from pallets and other recycled woods identified in this report. The chip is stored temporarily prior to transport to Oberon to be used in the production of particle board or for mulch, and animal bedding. The chip has a water content of approximately 30%; hence, ignition would be unlikely to occur. If ignition did occur, it would propagate relatively slowly through the storage. Notwithstanding this, there is the potential for ignition to occur, given the onsite processing. The unprocessed material, given its denser and larger size, is also unlikely to ignite.

The chip developed onsite is of a particle size that exceeds the limits for developing a combustible atmosphere; hence, the potential for a dust explosion or flash fire are considered low. Furthermore, a misting dust suppression system is used when materials that create dust are processed.

Notwithstanding this, there may be amounts of finer particles amongst the chip may accumulate within the processing and storage area which, as dust layers increase in thickness, there is a potential for layer disturbance, resulting in dispersal of the dust leading to a dust cloud within the storage. Given the size, volume and ventilation of the building, ignition of a dust cloud causing an explosion is unlikely. The risk of a dust atmosphere has been undertaken:

- **Fuel** Low concentrations present; however, housekeeping procedures limit dust accumulation within microchip storage.
- Ignition Sources potential electrical & processing equipment providing ignition sources.
- **Oxygen Supply** Present within the air.
- **Confinement** The storage is internal, however adequate ventilation and volume.
- **Dispersion/Particle Size** The particle size of the microchip is above the particle size that is larger than the require combustible dust size for wood. Based on the processes in the area, sufficient accumulation and dispersion is unlikely to occur.

Timber is the only material proposed to be processed on-site, with all over materials collected onsite and taken elsewhere for processing or re-use. The waste timbers pose the highest risk, as it is the most combustible material to be stored on-site. The other materials are identified as being either non-combustible or very low risk of combustion i.e. green waste, tyres.

13.2.1. Fire safety in waste facilities

As the development is a new waste facility, the NSW Fire and Rescue (2020) *Fire Safety Guidelines – Fire Safety in Waste Facilities* applies to the development. The proposal has considered the guidelines in the preparation of the documentation and plans.

The proposal for a resource recovery facility with an annual throughput of 99,000 tonnes within the existing approved warehouse building at 33 Pile Road, Somersby is consistent with the Fire Safety in Waste Facilities Guidelines, including the guidelines relating to special hazards. Table 13.2 provides a summary of the compliance against the Fire Safety in Waste Facilities Guidelines performance criteria.



Table 13.2	. Summary	of the c	ompliance	against the	Fire Safe	ety in Wa	ste Facilities	Guidelines	performance
criteria.									

Performance Requirements	Description of Provision	Guideline Reference	Compliance
СР9	'Specialist fire appliance' access is provided to satisfy performance requirement CP9 of the NCC and FRNSW guideline Access for fire brigade vehicles and firefighters.	Clause 7.4.1	Refer to FER in Appendix N. Access to the perimeter and internal areas of the site is provided for emergency vehicles. Access to hydrants is also achieved
СР9	Adequate firefighter access is provided to the building, fire safety systems and equipment.	Clause 7.4.7	Refer to FER in Appendix N. Available firefighter access to the building, fire safety systems and equipment
EP1.3	A fire hydrant system is installed to Australian Standard AS 2419.1 and provides coverage for both internal and external stockpiles	Clause 7.5.1	Refer to FER in Appendix N. Hydrant system installed
EP1.3	The fire hydrant system incorporates enhanced standard of performance for external stockpiles (i.e. one additional hydrant to flow).	Clause 7.5.3	No external stockpiles proposed
EP1.3	Fire hydrants are not located within 10 m of any stockpiled storage (or vice versa), whether being internal or external.	Clause 7.5.4	Hydrants located around perimeter of site, not within 10m of any stockpile
EP1.3	The fire hydrant system delivers the required number of fire hydrants to flow simultaneously for a minimum of four hours duration.	Clause 7.5.7	Refer to FER in Appendix N. Compliance achieved
EP1.3	A fire brigade booster connection is installed within sight of the designated site entry point.	Clause 7.5.6	Yes
EP1.3	A fire hose reel system is installed to Australian Standard AS 2441 and provides coverage for both internal and external stockpiles.	Clause 7.5.8	Installed as per the requirements of the BCA
EP1.1	An automatic fire sprinkler system is installed to Australian Standard AS 2118.1 and designed for special hazard (e.g. 'high hazard' class).	Clause 7.6.1	Installed as per the requirements of the BCA. Please see sprinkler plans
EP1.4	A fire brigade booster connection is installed for the automatic fire sprinkler system and is co- located with the hydrant system booster.	Clause 7.6.5	Installed as per the requirements of the BCA. Refer to FER in Appendix N
EP1.4	The fire sprinkler system delivers not less than the total hydraulic demand for a minimum of two hours duration.	Clause 7.6.6	Installed as per requirements of BCA. See sprinkler plans. Refer to FER in Appendix N
EP2.2	Manual alarm points are installed for staff to initiate alarm of fire.	Clause 7.7.1	Installed as per requirement of BCA
EP2.2	An automatic smoke hazard management system is installed and designed so the smoke layer does not descend below 4 m above floor level.	Clause 7.7.4	Installed as per the requirements of the BCA. Refer to FER in Appendix N
EP2.2	Low level openings (e.g. roller doors) on two or more walls to assist with venting de-stratified smoke.	Clause 7.8.1	Multiple roller doors included in design and construction
EP2.2	The automatic smoke hazard management system is capable of continuous operation for a minimum of two hours duration.	Clause 7.8.3	Installed in accordance with BCA requirements. Refer to FER in Appendix N



Performance Requirements	Description of Provision	Guideline Reference	Compliance
EP2.2	A fire detection and alarm system is installed to Australian Standard AS 1670.1 and designed for the fire scenarios and environment (e.g. visual flame detectors, infrared detectors, heat detectors/probes).	Clause 7.8.4	Installed in accordance with BCA requirements. Refer to FER in Appendix N
N/A	An automatic fire water run-off containment system is provided and designed to contain the total hydraulic demand of the fire hydrant and fire sprinkler systems.	Clause 7.9.1	Yes, water can be contained on-site
N/A	Pollution control equipment is provided to divert fire water run-off and isolate stormwater drainage in the event of fire.	Clause 7.9.6	Yes, isolation valves and bunding provided
NSW BPB	The waste facility complies with NSW RFS Planning for Bush Fire Protection when located on bush fire prone land.	7.10.1	Yes, see supplied Bushfire Threat Assessment in Appendix M
CP2	Any separating masonry wall, revetment or pen is to extend at least 1 m above and at least 2 m beyond the stockpile.	Clause 8.2.6	Complies
N/A	Any stockpile prone to self-heating is to be monitored and rotated as necessary to dissipate any hotspots.	Section 8.3	Not applicable, due to particle size of waste timber/wood
CP2	Any external stockpile is to be limited in size and maintain minimum separations to prevent fire spread, including reduced separation when protected by a masonry wall or an automatic fire sprinkler system.	Section 8.4	No external stockpiles
СР9	Fire brigade vehicle access is provided between external stockpiles	Clause 8.4.11	N/A
CP2	Each internal stockpile is to be limited in size to 1,000 m ³ .	Clause 8.5.2	N/A
СР9	Internal stockpiles are to be maintain a minimum of 6 m unobstructed access on each accessible side.	Clause 8.5.3	Complies
N/A	An operations plan is to be documented and implemented for stockpile management and a copy is be included within the Emergency Services Information Package (ESIP).	Section 8.6	To be developed and submitted prior to operation
WHS Reg.	An emergency plan is to be provided for staff and other persons at the waste facility in the event of fire.	Section 9.3	Will be provided to all staff prior to operation
N/A	An Emergency Services Information Package (ESIP) is provided for firefighters in accordance with FRNSW guideline Emergency services information package and tactical fire plans.	Section 9.4	Will be provided to FRNSW prior to operation
EP&A Reg.	Fire safety systems are to be inspected and maintained with corresponding fire safety statements being issued; The provision of maintenance should be covered in any leasehold contract.	Section 9.5	Site will be maintained in accordance with requirements



13.3. Mitigation measures

13.3.1. Fire services

This section summarises the fire safety service measures that have been included in the FER and have been incorporated into the construction of the building:

- Fire Hydrants in accordance with BCA E1.3 and AS 2419.1-2005;
- Fire Hose Reels is accordance with BCA E1.4 and AS 2441-2005;
- Automatic Sprinkler System in accordance with BCA E1.5 and AS 2118.1-1999. The system has been designed for the storage of combustible materials and special hazards;
- Portable Fire Extinguishers in accordance with BCA E1.6 and AS2444-2001;
- Building Occupant Warning System in accordance with BCA E2.2 and AS1670.1-2015; and
- Emergency Lighting and Exit Signage in accordance with BCA E4.4, E4.5, E4.6 and E4.8 and the relevant provisions of AS2293.1-2005.

13.3.2. Fire water run-off containment

The existing building has been designed to accommodate fire water containment in accordance with the deemed to satisfy provisions of the BCA, meaning that the facility will be able to contain the hydraulic demand for a fire event on the site.

The building has the following containment design features to assure that containment is achieved:

- 125mm bund within the building;
- Concrete panelling walls to assist the containment of water within the building; and
- Manual isolation valves installed within the on-site stormwater system to detain water within the freeboard of the system.

The bund has an overflow to the OSD and a shut off valve which is manually closed in a sprinkler event. The bund allows 30 minutes capacity. The OSD Bund will contain an additional 348,875 litres more than what is required under the Guidelines. The calculations can be seen below in Table 13.3, with the volume calculations shown in Table 13.4.

Table 13.3. Containment volumes of the building and OSD system against the required containment.

	Storage Volume (Litres)
Building	444,875
OSD Containment	624,000
Total Capacity	1,068,875
Capacity required	720,000
Extra capacity (over requirements)	348,875



	Volume (litres per minute)	Minutes	No Hydrants	Volume required
Sprinkler	7,200	60	-	432,000
Hydrant	1,200	60	4	288,000
Total				720,000

Table 13.4. Volume per minute for sprinkler and hydrants to determine required containment volume.

13.3.3. Further proposed fire safety measures

The following will be installed or mandated for use within the facility once operational to further improve the fire safety of the building and operations:

- Two-way radio systems for all staff within the facility to aid in emergency notification and evacuation;
- Spray dust suppression system to maintain moisture within the warehouse and stockpiles;
- On-board manual fire suppression is to be provided on all fleet vehicles (e.g. waste vehicles, front end loaders, forklifts, shredders);
- Adoption of Emergency Control Procedures including the development of an Emergency Response Plan and Emergency Management Plan, along with risk minimisation strategies; and
- Ongoing consultation and communication with Fire and Rescue NSW (FRNSW).

13.4. Conclusion

The proposed development does not propose any material changes to the building including any changes to the fire safety system. The FER has concluded that the building will be suitable for the proposed use as resource recovery facility with a throughput of 99,000 tonnes per annum. The proposed waste facility is consistent with the NSW Fire and Rescue (2020) *Fire Safety Guidelines – Fire Safety in Waste Facilities*, showing compliance with requirements.



14. Soil and Water Management

The Soil and Water Management Plan for the proposed development was prepared by Eclipse Consulting Engineers Pty Ltd. This chapter summarises the findings of the Soil and Water Management Plan Report. The full report is contained in Appendix O. This chapter should be read in conjunction with Appendix O.

14.1. Existing environment

14.1.1. Surrounding land uses

The development site is found centrally in the Somersby industrial area, with surrounding land uses being commercial and industrial. Neighbouring sites consist of warehouses dedicated to manufacturing or sites used for storage of goods.

14.1.2. Existing landform

The site covers an area of 23,752m² and slopes with a gradient of 5% from the western rear boundary to the eastern lot frontage on Pile Road.

14.1.3. Existing site drainage

Stormwater from the existing site is conveyed from the western boundary's localised high point to Pile Road at the eastern boundary by an existing pit and pipe network and overland flow paths. The existing piped drainage system consists of reinforced concrete pipes and remain on the development site. A part of the existing drainage system is intended to be used as part of the development's new stormwater system.

With the implementation of DA51047/2016, the entire site is connected to a single stormwater system, producing the following catchment areas across the development:

- Three industrial warehouses. Total roof area = 9,655m².
- External pavement, driveway, and car parking areas. Total pavement area = 11,677m².
- Landscaped area. Total pervious are = 2,420m²

Both the warehouse building and the associated stormwater management system for the entire site has been approved under DA56372/2019. Under DA51047/2016, the existing stormwater and sewer easement was relocated to allow it to run continuously across the northern boundary of the site.

The above-ground OSD tanks with discharge control contribute to both water quality and quantity exiting the site. The total site area draining to the OSD system is 20,470m², and most rainfall on impervious areas are directed to the OSD system prior to discharge from the site.

Whilst the mechanic's workshop is not included in this Development Application, it is connected to the stormwater system for the entire development. As such its catchment areas have been included in the analysis of the stormwater management system under this assessment.

14.1.4. Local hydrology

The existing Council-owned stormwater network within Pile Road conveys stormwater to the north before heading east to be disposed of in the nearby Piles Creek, 500 m to the east of the development site.



14.1.5. Regional hydrology

The development site lies within the catchment of the Piles Creek, a tributary of Mooney Creek and eventually the lower Hawkesbury River. The Hawkesbury River begins at the confluence of the Nepean River and the Grose River to the north of Penrith, flowing north-east towards Wisemans Ferry before turning south-west and flowing towards the coast at Broken Bay. The river travels 120 km, with a total catchment area of 21,624km². The proposed development is found 300 m from its discharge point to Piles Creek.

14.1.6. Existing flow regimes

The Piles Creek catchment is highly urbanised, and the natural flow regime has been significantly altered. Piles Creek is a minor tributary of the Hawkesbury River the and the creek itself has remained undisturbed in the urbanisation process of the catchment. Flows are likely to have increased due to the construction of industrial developments in the area in recent years.

The lower and middle reaches of the Mooney Creek south of Somersby have conversely not been significantly urbanised, as the Creek is surrounded by the Brisbane Waters National Park, which is undeveloped.

14.2. Methodology

The full details of the methodology adopted for the Soil and Water Management Plan is contained in Appendix O. This section provides a brief summary of methods and data assumptions used in the assessment.

14.2.1. Hydrological data

A DRAINS model was prepared in the design of the on-site detention system used in discharge control of stormwater. The rainfall depths were used in conjunction with procedures outlined in Australia Rainfall and Runoff 2019 to determine pre- and post-development discharge rates.

The Antecedent Moisture Condition for the site has also been determined based on daily rainfall for a Bureau of Meteorology rainfall station local to the site. The chosen rainfall station is Ourimbah (Dog Trap Road) (061093), which has a daily rainfall record spanning 1953 – 2021. The rainfall record from this site has returned an Antecedent Moisture Condition of 3.28 for the top one hundred rainfall events in the available record.

14.2.2. Discharge calculations

A Horton/ILSAX hydrological model was used to determine the pre-development discharge rates from the site.

14.2.3. Water quality analysis

To determine compliance with this requirements with Section 6.7.7.3.2 of the Gosford Development Control Plan 2013 (GDCP 2013), a full analysis of the water quality of the stormwater discharge leaving the site was undertaken using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) software modelling package.

The following stormwater quality improvement devices (SQIDs) have been designed for the proposed development and included in the MUSIC model of the system:

- Rainwater tanks;
- Sedimentation basins;
- Detention basins;
- Humeceptor; and
- SPEL Stormsacks.

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14.3. Impact assessment

14.3.1. Water balance

A CoolMist[™] (or equivalent) high pressure misting system will be used as an efficient method for controlling indoor dust. The misting system uses 1.5 mm per 8-hour day. Based on a floor area of 3,530 m² and 24/7 operations (worst case scenario), the misting system will demand 111,230 L/week or 5,784 kL/year. The misting system will require potable town water as the water is applied to an indoor environment as a mist which must be free of contaminants to support safe working conditions.

Toilet flushing based on Penrith City Council's parameter of 0.1 kL/toilet/day x 6 toilets = 0.6 kL/day or 219 kL/year.

Wheel wash water consumption using a Weigh Pack Electrical (or equivalent) portable above-ground wheel wash with inbuilt water recycling system uses 3 L per vehicle. At site capacity, seventy-seven vehicles per day during the week and twenty-two vehicles per day on weekends will access the site. Estimated potable water consumption is based on 424 vehicles per week, requiring 1.27 kL/week or 66.1 kL/year.

Rainwater is proposed to be collected from portions of the developments roof areas and stored in aboveground tanks. Non-potable recycled water is to be used for flushing toilets in the new structures and topping up a wheel wash in the proposed warehouse.

Table 14.1 provides the rainfall reuse analysis which shows that the rainwater capture system has an average reuse performance of 86.1%, providing sufficient non-potable recycled water for flushing toilets in the new structures and topping up a wheel wash in the proposed warehouse.

Structure	Catchment Area (m²)	No. of Toilets	Wheel Wash	Daily Demand (kL)	Tank Volume (kL)	Reuse Performance (%)
Warehouse	578	2	Yes	0.5	5	73.1
Materials Handling	2,252	4	No	0.4	3x 5	99.1

Table 14.1. Rainfall reuse analysis.

14.3.1. Hydraulic analysis

Section 6.7.7.4.4 of the GDCP 2013 supplies the following parameters for the design of detention systems:

- Limit post-development flow from the proposed development site to less than or equal to predevelopment flows for all storm events up to and including the 1% AEP storm event.
- Pre-development coverage shall be taken as the natural vegetation that would normally occur on the site with no impervious areas. Appropriate infiltration rates for the natural vegetated state and underlying soils shall be applied and provided in the calculation report.
- A maximum of 50% of the volume of rainwater/stormwater retention tanks can be claimed as part of the OSD volume.
- A runoff routing method is to be used for developments.
- Where no road pipe drainage system exists, the maximum permissible site discharge (PSD) from a development to either the kerb and gutter or table drain shall be thirty litres/sec unless otherwise advised by Council's engineer. Discharged water shall not be concentrated onto adjoining properties, unless through a formalised (legal) drain system.

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• Site controls will sometimes overflow. Council requires that overland flows must be directed to not cause intensification, concentration, or inappropriate flow over neighbouring properties.

A comparison of the pre-development and post-development critical outlet flows have been documented in Table 14.2 below. These results show that the post-development flows have been reduced to match the predevelopment flows at a maximum in all rainfall events more frequent than the 1% AEP event.

Rainfall Event	Pre-Development Flow (L/s)	Post-Development Flow (L/s)	Storage Volume Required (m³)
1EY	174	115	282
0.5EY	281	164	361
0.2EY	386	208	491
10%	525	235	600
5%	688	274	747
2%	932	506	825
1%	1094	698	873

Table 14.2. Pre- and Post-development stormwater discharge as determined using a DRAINS Model.

EY= Exceedance per Year

14.3.2. Water quality

Section 6.7.7.3.2 of GDCP 2013 requires the following minimum reductions in total pollutant load, compared to untreated runoff from the developed impervious areas of the site:

- 80% reduction in solids: suspended solids and gross pollutants (grit, sediment, leaves, grass clippings, litter).
- 45% reduction in nutrients: total phosphorus and total nitrogen.

Table 14.3 provides a summary of the pollutant reduction results for the designed treatment train.

Table 14.3. Treatment train effectiveness as reported by music model.

Pollutant	Pollutants Generated (kg/yr)	Residual Pollutants (kg/yr)	% Reduction Target	% Reduction Achieved
Total Suspended Solids	2,840	387	80	86.4
Total Phosphorus	5.77	2.54	45	55.9
Total Nitrogen	54.8	29.6	45	45.9
Gross Pollutants	608	24.6	90	95.9

14.3.1. Flooding

The development site is subject to the catchment areas of Piles Creek. Flood studies of the area have been conducted previously for a range of rainfall events.

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Central Coast Council Flood Mapping indicates that the proposed development is not located within a Flood Planning Area and is not inundated or partially inundated by the 1% AEP flood.

The development site is located outside flooding extents for the 1% AEP events. As such, a quantitative flood impact assessment is not required.

14.3.2. Groundwater

There are no expected water quality impacts to groundwater caused by the proposed development because of the ongoing use of the site.

It is noted that sealing a significant portion of the site with internal and external concrete slabs will prevent the infiltration of water in these areas, reducing recharge of underlying aquifers. In this context, the proposed development is no different to similar developments in the Somersby industrial area. Creation of large impervious areas significantly reduces recharge of groundwater. No downstream groundwater colonies affected by the development have been identified.

14.4. Mitigation measures

The following mitigations measures have been recommended for the Proposed Development.

- Drained stormwater from the pits beneath the weighbridge and used water from the wheel wash are to be directed to an oil/water separator. Treated water will require disposal via a trade waste connection to the Central Coast Council sewer system (subject to a separate approval);
- Isolation valves are to be fitted into pits within the warehouse buildings to isolate from the sewer system in case of a chemical spill;
- An isolation value is to be fitted to the pit which connects the stormwater drainage system to Pile Road to detain any firewater or other spilled liquids in an emergency;
- Concrete rollover bunding is to be installed inside the warehouse to contain firewater;
- Regular monitoring and maintenance of the installed systems must be undertaken to ensure that all systems are operating manually as per Section 12 of the Report. Full monitoring and maintenance instructions for the devices on the site have been provide in Appendix F of the Stormwater report (Appendix O).

14.5. Conclusion

Eclipse Consulting Engineers Pty Ltd was engaged to prepare a Soil and Water Management Plan for the proposed development. The findings of this assessment are as follows:

- The rainwater capture system has an average reuse performance of 86.1%, providing non-potable recycled water for flushing toilets in the new structures and topping up a wheel wash in the proposed warehouse.
- A comparison of the pre-development and post-development show that the post-development flows have been reduced to match the predevelopment flows at a maximum in all rainfall events more frequent than the 1% AEP event.
- The stormwater treatment train achieves the following reductions in total pollutant loads, compared to untreated runoff from the developed impervious areas of the site:
 - o 86.4% reduction in total suspended solids
 - o 95.9% reduction in gross pollutants (grit, sediment, leaves, grass clippings, litter).
 - 45.9% reduction in total nitrogen: and
 - 55.9% reduction in total phosphorus.

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- The proposed development is not located within a Flood Planning Area and is not inundated or partially inundated by the 1% AEP flood.
- There are no expected water quality impacts to groundwater caused by the proposed development because of the ongoing use of the site.



15. SEPP 55 Assessment

The aim of State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55) is to provide for a State-wide planning approach for the remediation of contaminated land. In particular, SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment:

- a) By specifying when consent is required, and when it is not required, for a remediation work;
- By specifying certain considerations that are relevant in rezoning land and in determining development applications in general and development applications for consent to carry out a remediation work in particular; and
- c) By requiring that a remediation work meet certain standards and notification requirements.

Under the provisions of SEPP 55, it is necessary to establish if the proposed development is to be developed on land which has been declared or found to be contaminated, where rezoning of the land is proposed or where development contemplates a change of use. Specifically, clause 7(1) states:

A consent authority must not consent to the carrying out of any development on land unless:

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Clause 7(2) states:

Before determining an application for consent to carry out development that would involve a change of use on any of the land specified in subclause (4), the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.

And Clause 7(3) states:

The applicant for development consent must carry out the investigation required by subclause (2) and must provide a report on it to the consent authority. The consent authority may require the applicant to carry out, and provide a report on, a detailed investigation (as referred to in the contaminated land planning guidelines) if it considers that the findings of the preliminary investigation warrant such an investigation.

The contaminated land record of notices is maintained by the NSW Office of Environment and Heritage in accordance with Part 5 of the *Contaminated Land Management Act* 1997 (CLM Act). A site will be on the register where site contamination is significant enough to warrant regulation and the NSW EPA has issued a notice under the CLM Act.

The search results indicated that, with regard to the Site, there are:



- No orders made under Part 3 of the Contaminated Land Management Act 1997 (CLM Act);
- No approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the Environment Protection Authority has not been revoked;
- No site audit statements provided under Section 53B of the CLM Act that relate to significantly contaminated land;
- No copies of anything formerly required to be part of the public record (where practicable); and
- No actions taken by the EPA under Section 35 or 36 of the *Environmentally Hazardous Chemicals Act* 1985.

A search of the NSW EPA public register of contaminated sites notified to NSW EPA under Section 60 of the CLM Act did not identify any records for the Site.

As part of the approved development under DA51047/2016, the site will be fully sealed, thus protecting underlying soils from contamination for current and historic site activities. The proposed development works will involve only minor excavation of soil for installation of the weighbridges. Excavated soil will be tested and classified as per the NSW EPA's *Waste Classification Guidelines* (2014). Given the minor nature of works and the low risk of site contamination from existing site uses further assessment under SEPP55 is not warranted.



16. Aboriginal and Cultural Heritage16.1. Non-indigenous heritage

A desktop search of the NSW State Heritage Inventory and Central Coast Council's Heritage Register was undertaken. This concluded that no State or Council heritage items are found within the subject site, or in close proximity.

16.2. Aboriginal archaeology

There are a total of 22 Aboriginal heritage sites with rock engravings within the Somersby Industrial Park. Of these 22 sites, 10 are closely associated with axe grinding grooves and 1 site occurs on a sandstone platform above a rock shelter with pigment art.

An archaeological site containing Aboriginal objects is located adjacent to the development site, on Lot 1 DP1194897 (947 Old Pacific Highway). Development application DA51047/2016 included a due diligence report prepared by Baker Archaeology in regard to the Aboriginal site located on Lot 1 DP 1194897. The report concluded that the significant site had adequate protection and that the approved development would not impact it.

16.3. Mitigation measures

There are no proposed changes to the configuration of structures that will impact the Aboriginal heritage site. The existing buffer around the Aboriginal heritage site is to be maintained which will provide adequate protection around the archaeological site and the proposed development will not impact it, or its curtilage.



17. Cumulative Impacts

A cumulative impacts assessment is an environmental assessment that examines both the positive and negative environmental impacts of a proposed development where there is a clustering of a land use type. A cumulative impact on the environment results from the incremental impact of human activities with consideration to the historic, current and foreseeable planned activities for a particular area. Cumulative impacts from a cluster of premises will vary between locations but typically cumulative impacts are a product of the location, the number and type of facilities present in the vicinity, the way they are managed, and the capacity of the local environment to accommodate these facilities.

This cumulative impacts assessment aims to achieve the following objectives:

- Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute;
- Assess the impact of the proposal against the long-term air, noise and water quality objectives for the area;
- Identified infrastructure requirements flowing from the proposal; and
- Assess the likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts.

17.1. Assessment of stress level of existing environment

The site is located in the Somersby Industrial Park, located on the Somersby Plateau section of the Hunter Range on the Central Coast of New South Wales. The Somersby Industrial Park (SIP) is approximately 300 hectares in size and is located four to five kilometres west of Gosford.

The key values of the Somersby Industrial Park are⁹:

- Economic values that provides substantial employment and industrial development opportunities;
- Ecological and environmental values relating to the remnant native vegetation which provides significant habitat and linkages for a range of threatened flora and fauna species as well as other species; and
- Aboriginal heritage values arising from previous indigenous occupation of the area and represented by unique rock art and culturally significant sites.

The Somersby Industrial Park is bisected by the Sydney-Newcastle F3 freeway which was constructed in the 1980s, and there are direct connections to the F3 from the Somersby Industrial Park. The SIP is also served by a number of internal roads that provide access to all allotments in the park. The Somersby Industrial Area is a successful regional industrial node and is an important strategic asset, being the second largest industrial node north of Central Sydney, after Hornsby. It has excellent regional road freight linkages with Sydney and will be further improved once the NorthConnex tunnel has been completed.

Early settlement in the Somersby area occurred in the later 1800s. The Somersby area was exploited for timber and for the resin of the grass trees. When land subdivision took place, a number of settlers moved into the area and established orchards and other agricultural activities.

⁹ Connell Wagner (2005). DRAFT Plan of Management Somersby Industrial Park. NSW Premier's Department and Gosford City Council, June 2005. Internet publication: <u>http://search.gosford.nsw.gov.au/documents/00/01/81/47/0001814731.pdf</u>

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Around 1910, there was relatively little land under cultivation. Post–WW1, the extent of land cleared increased significantly, although it still remained confined within the general bounds of the SIP.

The most significant alterations to the landscape occurred following the gazettal of the industrial park in 1981. By 1999 only a few isolated pockets of untouched bushland remained with the majority of the SIP having been built upon, cleared of trees and/or shrub understory cleared by heavy machinery.

The SIP was officially opened in June 1980. In July 1981, Local Environmental Plan (LEP) No. 22 at the time was gazetted, which zoned the majority of the SIP for General Industrial 4(a1) with a small area zoned for Business 3(a2). The area is now zoned IN1 General Industrial under the *Gosford Local Environmental Plan* 2014.

Approximately 50% of the Somersby Industrial Area is undeveloped, with 159 ha of undeveloped employment lands (Source: NSW Department of Planning and Environment's Employment Lands Development Monitor).

Subsequently, the land has since been heavily modified through industrial land use.

17.2. Assessment of the long-term impact of the proposal

The proposed development is not considered to make a significant contribution to cumulative impacts due to the best practice design and mitigation measures that will be put in place to manage environmental impacts. It is noted that the development will provide numerous long-term cumulative benefits, including diverting waste from landfill and avoiding the impacts of waste in landfill and the environment.

Potential cumulative impacts of the proposed development have been considered and are summarised in Table 17.1.

Issue	Potential cumulative impacts	Where mitigation measures are presented in the EIS
Soil and contamination	 The site mapped as Class 5 Acid Sulfate Soils. Class 5 mapped land has no known occurrence of Acid Sulfate Soils. The subject site is approximately 2.5 kilometres from any Class 1-4 mapped land. The risk for potential acid sulphate soils (PASS) is considered extremely low. No further assessment of PASS is considered warranted. The contaminated land - record of notices maintained by the NSW Office of Environment and Heritage indicates that, with regard to the Site, there are: No orders made under Part 3 of the Contaminated Land Management Act 1997 (CLM Act); No approved voluntary management proposals under the CLM Act that have not been fully carried out and where the approval of the Environment Protection Authority has not been revoked; No site audit statements provided under Section 53B of the CLM Act that relate to significantly contaminated land; No copies of anything formerly required to be part of the public record (where practicable); and No actions taken by the EPA under Section 35 or 36 of the Environmentally Hazardous Chemicals Act 1985. 	N/A

Figure 17.1. Potential Cumulative Impacts.



Issue	Potential cumulative impacts	Where mitigation measures are presented in the EIS
	A search of the NSW EPA public register of contaminated sites notified to NSW EPA under Section 60 of the CLM Act did not identify any records for the Site. As part of the approved development under DA51047/2016, the site will be fully sealed, thus protecting underlying soils from contamination for current and historic site activities. The proposed development works will involve only minor excavation of soil for installation of the weighbridges. Excavated soil will be tested and classified as per the NSW EPA's Waste Classification Guidelines (2014). Given the minor nature of works and the low risk of site contamination from existing site uses further assessment under SEPP55 is not warranted.	
Traffic and access	Overall, the project shall generate 118 vehicle movements per day Monday to Friday and 30 vehicle movements per day on a Saturday and Sunday. This would increase the daily flows from 3,300 vehicles per day on the Old Pacific Highway to 3,418 Monday to Friday. Whilst representing an increase of 3.5% over the current flows, these flows will remain well within acceptable limits for this road. Whilst no daily limits are provided by the RTA Guide to Traffic Generating Developments, the hourly flows on this road would be less than 350 vehicles per hour, well within its limits of 900 vehicles per direction. Similarly, for Pile Road the daily flows could increase from 1,500 vehicles to 1,618 in the immediate vicinity of the subject site but will remain well within the hourly capacity for this road. Based on the hourly flows being acceptable it is considered that the daily increase in traffic flows will also have an acceptable impact. It can be seen that the proposed development will have a minimal impact upon the operation of this intersection with 1 or 2 trucks turning right into Pile Road with minimal opposition, together with a similar number turning left out of Pile Road. The impact of the outbound flows turning left from Pile Road will also have a minor and acceptable impact. The light vehicle movements, associated with staff movements are spit across 3 shift change times and shall have a minor impact upon the operation of this intersection.	Section 11.4
Noise	The background acoustic environment is driven by traffic noise from the Sydney-Newcastle M1 Pacific Motorway and industrial noise from the Somersby Industrial Park, which are likely to have increased given the development of new industrial sites in the area, road upgrades and increase in traffic volumes since 2016/2017. Operational noise predictions associated with the proposed operations under noise-enhancing meteorological conditions are found to comply with the project noise trigger levels at all identified receivers and for all assessment periods. As such, operational noise is not expected to impact on the acoustic amenity of the surrounding noise-sensitive receivers.	Section 10.3
Air quality	The modelling results indicate that the proposed development is not predicted to result in any additional exceedances of the impact assessment criteria for $PM_{2.5}$ or PM_{10} compared to background levels. The results show that the proposed development would have a small effect on annual	Section 9.4



Issue	Potential cumulative impacts	Where mitigation measures are presented in the EIS
	average $PM_{2.5}$ or PM_{10} concentrations, with the proposed development contributing less than 5% to total annual average $PM_{2.5}$ or PM_{10} concentrations.	
Visual impact	Warehouse and landscaping design were approved under DA51047/2016 and DA56372/2019 and therefore existing amenity will not be impacted by the proposed development.	N/A
Bushfire	There is potential for bushfire attack at this site and a list of recommendations has been included to reduce that risk. However, the proposed development is not likely to increase the level of bushfire risk to the surrounding areas.	Section 12.4
Water	 A comparison of the pre-development and post-development show that the post-development flows have been reduced to match the predevelopment flows at a maximum in all rainfall events more frequent than the 1% AEP event. The stormwater treatment train achieves the following reductions in total pollutant loads, compared to untreated runoff from the developed impervious areas of the site: 86.4% reduction in total suspended solids 95.9% reduction in gross pollutants (grit, sediment, leaves, grass clippings, litter). 45.9% reduction in total nitrogen: and 55.9% reduction in total phosphorus. the proposed development is not located within a Flood Planning Area and is not inundated or partially inundated by the 1% AEP flood. There are no expected water quality impacts to groundwater caused by the proposed development because of the ongoing use of the site. 	Section 14.4
Heritage	There is no expected impact on the surrounding area with respect to Aboriginal and non-indigenous heritage items	Section 16.3

17.3. Infrastructure requirements flowing from the

proposal

No additional infrastructure is required to support the development.

17.4. Conclusion

The cumulative impacts of the proposed development have been considered in relation to each of the identified issues in this EIS. Impacts of the proposed development, particularly in relation to traffic, air quality and noise and vibration have been considered in technical studies undertaken as part of this EIS. The mitigation measures proposed in each of the chapters have been designed to:

- Ameliorate potential impacts associated with individual risks; and
- Minimise the overall cumulative impacts of the development.

Overall, the cumulative impact of the proposed development is expected to be minimal. The potential for adverse impacts will be mitigated by a range of measures, as listed in Section 18.



18. Compilation of Mitigation Measures

A wide range of mitigation measures to prevent or minimise environmental impacts that may be generated by the proposed development have been detailed throughout this EIS. This section compiles those considered necessary to minimise impacts and maximise positive outcomes on the physical, social and economic environments of the local area and wider region.

The recommended mitigation measures and strategies will be implemented and managed so that the proposed development complies with statutory obligations under EPA licenses and approvals. This includes environmental management and cleaner production principles in the planning, design, establishment, and operation of the proposed development.

18.1. Cleaner production principles

Cleaner production is a practical method for protecting human and environmental health. This is achieved through the continuous application of an integrated, preventive environmental strategy towards processes, products and services. Cleaner production increases the overall efficiency of products and services and reduces damage and risks to humans and the environment. A proactive approach to reduce initial risks and consequences of impacts will assist in lowering reliance on reactive environmental mitigation measures.

The cleaner production techniques that are applicable to the ongoing operations of the project include:

- Selecting and using the most appropriate technology and materials to reduce the quantity of resources used and to minimise the amount of waste generated;
- Improved operation and maintenance practices to reduce the quantity of resources used and to minimise the amount of waste generated;
- Employing processes that are efficient in their consumption of energy, materials and natural resources and reduce greenhouse gas emissions;
- Selecting energy efficient plant and equipment for use in the facility;
- Reuse of captured stormwater as the primary source of water for the site;
- Safely disposing of any residual wastes and process residues; and
- Promoting the safe use, handling, recycling and disposal of waste products through an understanding of their life cycle.

When cleaner production principles cannot further remove environmental risk or consequence, mitigation strategies must be considered to ensure the remaining potential environmental harm is reduced to the lowest risk level possible.

18.2. Mitigation measures and strategies

Table 18.1 summarises the mitigation measures and strategies identified in this EIS to minimise impacts and safeguard the environment so that the desired environmental outcomes are achieved for the design, construction and operation of the proposed development. Implementation of these measures will ensure the proposed development minimises or eliminates potential impacts on the physical, social and economic environments of the local area and wider region.



Table 18.1. Summary of mitigation measures and strategies.

Issue	Mitigation Strategy			
	Ensure vehicle speed limits and regular driver education			
Hazards and spills	Regular sweeping of hardstand			
	All chemicals and fuels to be handled and stored under cover in bunded areas			
	All staff working in areas with liquid wastes to be properly trained and wear PPE at all times			
	MSDS sheets, where available, to be readily accessible for all chemicals on site			
	Chemical spill kits and "absorbent sausages" to be kept on site and readily accessible near liquid waste and chemical storage;			
	Firefighting equipment to be accessible and regularly inspected.			
Waste	All Project and site personnel will be trained in the waste management and minimisation requirements of this document including minimising wastes, recognising which types of materials are recyclable and their obligations to use recycling facilities provided on site.			
	Clearly assign and communicate responsibilities to ensure that those involved in the construction are aware of their responsibilities in relation to the waste management plan			
	Engage and educate personnel on how the various elements of the waste management plan will be implemented			
	Specific locations for waste management (e.g. sorting area locations, recycling bin locations, material stockpile locations) will be established on site and signposted appropriately.			
	Waste management areas will be adequately managed to prevent sediment runoff and dust generation.			
	Construction Method Statements (CMS) will include practices to minimise waste generation and to maximise recycling and reuse of materials including oils, greases, lubricants, timber, glass, and metal.			
	Packaging minimisation and reuse initiatives will be implemented as part of the procurement.			
	Development of an unexpected finds environmental procedure should any contamination be found during construction works.			

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Issue	Mitigation Strategy				
	Spill kit to be present on site in the case of any fuel leaks of plant and equipment during the construction phase of the development				
	Segregated waste disposal containers for the collection and recycling/disposal of all waste streams generated during the construction and operation phases will be provided onsite. Waste disposal containers will have clear signage and instructions for use to avoid cross-contamination. No rubbish shall be disposed of on site.				
	Waste will be disposed to an appropriate licensed facility. A Waste Management Register of all waste collected for disposal and / recycling, including amounts, data and time and details and location of disposal will be maintained at all times.				
	All waste being transported off site must be covered. The transportation must be appropriately licensed to carry that material.				
	Storage of all hazardous substances and dangerous goods will be in accordance with SDS requirements in a bunded area. Solid and hazardous wastes will be contained and separated from inert waste.				
	Any hazardous will be managed and handled by an appropriately licensed contractor and transported for disposal to a licensed facility approved site				
	Any material contaminated by spills i.e. fuel, oil, lubricants etc., including empty fuel, oil and chemical containers, will be stored in a sealed secure container within a bunded area and will be transported to a waste disposal site approved by the NSW EPA to accept such material.				
	Incompatible wastes will not be mixed.				
	Storage areas would be located away from waterways and the stormwater system.				
	Biodegradable products will be used wherever practicable.				
	Regular collection of wastes will ensure air emissions are at a satisfactory level. Inappropriate waste and wastewater management systems will be regularly inspected and audited.				
	Conduct regular litter patrols to ensure litter is effectively controlled on site.				
	Engines of vehicles and plant to be switched off when not it use				
Air Quality	Vehicles and plant to be fitted with pollution reduction devices where practicable				



Issue	Mitigation Strategy			
	Vehicles and plant to be maintained in accordance with manufacturer's specifications			
	Reduce drop heights when handling dusty material			
	Dampen excessively dusty material during handling			
	Trafficable areas to be swept/cleaned regularly			
	Vehicles restricted to designated routes			
	On-site speed limits enforced			
	Vehicle loads to be covered when travelling off-site			
	Carry out activities in a competent manner			
	Avoid dropping materials from height where practicable			
Noise (Operational)	Avoid any waste receival outdoors – all to be done indoors			
	Reduce throttle settings and turn off equipment and plant when not being used (e.g. turn off truck engine during loading process where practicable)			
	Minimise the use of horns on site, especially during the evening and night periods			
	Use less annoying alternatives to audible reversing alarms (such as broadband noise emitting models i.e. 'quacker alarm' or 'squashed duck') that provide a safe system of work			
	Maintain all roller doors of warehouse building shut as much as possible, especially during the evening and night periods and during noise-intensive activities such as tipping/picking up of waste			
	Fit front-end loader and excavator with noise attenuation kits to minimise noise emissions			



Issue	Mitigation Strategy			
	Maintain all plant and equipment operating on site or used in connection with the site in a proper and efficient condition			
	Erect permanent signage on site that is visible to all personnel/sub-contractors and identifies the need to limit noise, (e.g. 'Respect our neighbours and keep noise to a minimum' sign at site entrance for trucks accessing the site)			
	Enforce speed limits to all vehicles on-site			
	Maintain road surface within site in proper condition to minimise deterioration in road pavement that may increase noise generation			
	Operate vehicles to minimise noise emissions when approaching and departing the site			
	Provision of induction and training to relevant staff and sub-contractors to outline their responsibilities with regards to noise and encourage general environmental awareness			
	Ensure sub-contractors carry out construction activities in a competent manner			
	Ensure sub-contractors avoid dropping materials from height where practicable			
	Ensure sub-contractors reduce throttle settings and turn off equipment and plant when not being used			
Noise (Construction)	Ensure sub-contractors minimise the use of horns on site			
	Ensure sub-contractors minimise shouting and loud radio while on site			
	Ensure sub-contractors use less annoying alternatives to audible reversing alarms (such as broadband noise emitting models i.e. 'quacker alarm' or 'squashed duck') that provide a safe system of work			
	Ensure sub-contractors maintain all construction equipment in a proper and efficient condition			
	Ensure sub-contractors operate vehicle to minimise noise emissions when approaching and departing the site			
Traffic and Transport	Traffic control via the weighbridge and two-way radio communications to coordinate drivers on site.			



Issue	Mitigation Strategy			
Fire Safety	Two-way radio systems for all staff within the facility to aid in emergency notification and evacuation			
	Spray dust suppression system to maintain moisture within the warehouse and stockpiles			
	On-board manual fire suppression is to be provided on all fleet vehicles (e.g. waste vehicles, front end loaders, forklifts, shredders);			
	Adoption of Emergency Control Procedures including the development of an Emergency Response Plan and Emergency Management Plan, along with risk minimisation strategies			
Bushfire	An emergency evacuation plan is required, which will include an evacuation area.			
	Fire hydrant spacing, sizing and pressures to comply with AS 2419.1 – 2017.			
	Construction of a wall made from appropriate flame retardant materials and constructed to minimum 2m in height along the south western boundary to provide shielding from radiant heat impact to the proposed development.			
	A defendable space of at least 10m surrounding the remainder of the development.			
Soil and Water	Drained stormwater from the pits beneath the weighbridge and used water from the wheel wash are to be directed to an oil/water separator. Treated water will require disposal via a trade waste connection to the Central Coast Council sewer system (subject to a separate approval).			
	Isolation valves are to be fitted into pits within the warehouse buildings to isolate from the sewer system in case of a chemical spill.			
	An isolation valve is to be fitted to the pit which connects the stormwater drainage system to Pile Road to detain any firewater or other spilled liquids in an emergency.			
	Concrete rollover bunding is to be installed inside the warehouse to contain firewater.			
	Regular monitoring and maintenance of the installed systems must be undertaken to ensure that all systems are operating manually as per Section 12 of the Report. Full monitoring and maintenance instructions for the devices on the site have been provide in Appendix F of the Stormwater report (Appendix O).			



18.3. Environmental management system

Adopting an Environmental Management System (EMS) and a monitoring program, for both the construction and operational phases, is an important component of the proposal to demonstrate the proponent's commitment to implementing the measures outlined in this EIS.

To ensure an integrated approach, the EMS will include Environmental Management Plans (EMPs), specifically created to address the management and mitigation of the following environmental issues, as compiled in the table above. These sub plans include:

- Waste;
- Air Quality;
- Noise and Vibration;
- Traffic;
- Water Quality;
- Heritage;
- Bushfire Risk;
- Chemicals and Fuels; and
- Work health and safety.

The key objectives of the EMPs will be to ensure:

- Works are carried out in accordance with relevant environmental statutory requirements and relevant non-statutory policy, as detailed throughout this EIS;
- Works are carried out in accordance with the goals and requirements presented in this EIS;
- Works are carried out in such a way as to minimise the likelihood of environmental degradation;
- Works are carried out in such a way as to manage the impact of the works on neighbouring properties;
- All employees engaged in the works comply with the terms and conditions of the EMPs;
- Clear procedures for management of environmental impacts, including corrective actions;
- Continual improvement of environmental management; and
- Responsibilities and reporting requirements to ensure compliance with the EMP.

The EMPs will be prepared following assessment and approval of the Project and will serve as working documents to be used throughout the detailed design, construction and operational stages. They will be integrated into proponent's existing management systems, procedures and plans for its activities within the facility, to ensure consistency in approach.

Each EMP developed for the site will contain, but not be limited to, the following information:

- Goals and objectives;
- Licenses, permits, approvals and statutory requirements;
- Lists of required actions, timing and responsibilities (including relevant environmental authorities);
- Operational procedures for preventing environmental impacts;
- Reporting requirements and procedures;
- Corrective and preventative action procedures;
- Procedures and forms for documentation and reporting of issues;
- Standard specifications for incorporating environmental safeguards;
- Environmental awareness and environmental management training and education requirements
- Guidelines for emergencies;
- Surveillance, review and auditing procedures for modification of the EMPs;

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- Complaint procedures;
- Maintenance and monitoring programs; and
- Quality assurance procedures.

Adherence to the EMPs will enable environmental safeguards and mitigation measures to be effectively implemented and sustainable work practices adopted for the entire Project. This also demonstrates the proponent's commitment to preventing environmental pollution, minimising the impact of the proposal on the environment and complying with all relevant legislation.

18.4. Environmental monitoring and reporting

Environmental monitoring will be a fundamental component of the Operational EMPs for the proposal. Monitoring programs will be developed and presented in an Environmental Management Plan (EMP) and relevant subplans in accordance with the conditions of approval and licence requirements. Proposed environmental monitoring is given in Table 18.2.

Environmental Issue	Monitoring	Purpose	Proposed limit conditions
	Weighbridge records for all incoming waste materials and outgoing products and waste exported by the site under an appropriate EPA Resource Recovery Orde	For monthly reporting to the EPA for compliance with proposed Authorised Amount and annual processing limits	Annual processing limit of 99,000 tonnes per year
Waste	Monitoring stockpiling heights	Storage of incoming waste in dedicated areas and sorted materials and products in dedicate bays helps in inventory control, good housekeeping, reduces potential for cross contamination and is critical for quality control	Stockpiles of waste materials in the designated waste storage area will be limited to 3m. Height guidance will be provided within the 4m height of the concrete block bays
Air Quality	Visually monitoring dust generation from work zones to ensure that excessive dust is not being produced.	Eliminate excess build-up of dust during operations, and spark through electrostatic electricity. To comply with relevant impact assessment criteria. Minimise air quality impacts associated with the Site	Visible dust is not leaving the boundaries of the site
Noise	Attended short-term noise monitoring carried out by a suitably qualified and experienced independent noise consultant.	To determine whether operational noise levels are complying with the relevant noise criteria within three months of the facility commencing operations.	Table 10.8 summarises the required validation/compliance noise monitoring program.
Specific Resource Recovery Orders and Exemptions	MonitormanufacturedproductstomeettheNSWEPA'sResourceRecoveryOrdersundertheProtectionoftheundertheProtectionoftheEnvironment	To ensure all products can be used in a manner lawfully that protects human health and the environment.	As required by the NSW EPA

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Environmental Issue	Monitoring	Purpose	Proposed limit conditions
	Operations (Waste) Regulation 2014		

Monitoring and maintenance procedures will also be developed to ensure plant and equipment systems remain fit for purpose and are in good working order to ensure they will remain effective.

Operational monitoring may also result from investigative monitoring or regulatory compliance monitoring, such as conducting investigative noise or air quality monitoring in response to specific complaints.

Environmental performance reporting is a key decision support tool that provides management with the information to make meaningful and positive change. Reporting requirements will be detailed in the EMPs.

The identification of actual and potential non-conformities contributes to continual improvement of the environmental management system through corrective action and preventive action, respectively. If the reports identify any shortcomings in the way that the construction activities or the operations are being conducted, or in the performance of environmental control structures, the necessary changes will be made to the EMP to reflect these changes. The NSW EPA will receive all relevant reports and prompt notification of any incidents or deviations in performance as well as updated EMP as required.

18.5. Environmental auditing and continual improvement

Environmental system audits will be conducted in accordance with a schedule nominated in the EMP. This will include a schedule of independent audits by accredited external auditors. Quantified and unquantified information contained in the EIS will be assessed to ensure that the construction and operational phases of the Project meet acceptable environmental standards. Audits will be based on available information and observations. Environmental audits will also assess the Project against any Conditions of Approval imposed by statutory authorities. The register that is completed during compliance audits becomes a record of the evaluation of compliance. All detected non-compliances will be followed up with corrective actions as per the flow chart below.

Any corrective and preventive action will require a change environmental management documentation in a continual process for document control. This process has the ultimate goal of driving continual improvement.









Actual and potential non-conformities identified and suggestions for improvement are made by the following means:

- Internal audit;
- External audit;
- Site inspections;
- Feedback from external parties;
- Complaints from customers or other stakeholders;
- Suggestions for improvement from staff and contractors;
- Occurrence of environmental emergencies and accidents;
- Testing of emergency preparedness and response; and
- Management review.

The above flowchart illustrates the organisation's process for non-conformity, corrective action and preventive action, through:

- Identifying actual and potential environmental nonconformities;
- Recording suggestions for improvement;
- Taking appropriate action to correct non-conformities and mitigate environmental impacts;
- Taking corrective action to avoid recurrence of non- conformities; and
- Taking preventive action to avoid occurrence of non-conformity.

The proponent or their environmental representative will be responsible for maintaining a register of environmental nonconformity and suggestions for improvement to environmental management. Each record is associated with a corrective and/or preventive action. Corrective and preventive action will require a change environmental management documentation in a continual process for document control.

This process has the ultimate goal of driving continual improvement.

18.6. Conclusion

The objective of this Section of the EIS is to outline how the recommended environmental protection measures will be implemented and managed in an integrated manner to demonstrate that the proposal is capable of complying with statutory obligations under EPA licenses or approvals.

This Section described the mitigation measures to be implemented for potential impacts of the proposal that have been identified throughout this EIS. This Chapter provides an outline of the proposed environmental management measures, and additional strategies, including cleaner production principles, which will be followed when planning, designing, establishing and operating the proposal. These measures and processes will be incorporated into EMPs and monitoring programs to ensure a commitment to implementing the requirements of relevant legislation outlined in this EIS. Monitoring the efficacy of those measures will inform a process to drive continual improvement.



19. Justification of the proposal

This Chapter presents a justification for the proposed development. An examination of ecologically sustainable development as related to the proposed production increase is also given.

19.1. Strategic drivers

19.1.1. NSW Waste and Sustainable Materials Strategy 2041

In June 2021, the NSW Government release an updated strategy titled NSW Waste and Sustainable Materials Strategy 2041: Stage 1 - 2021-2027. This strategy updates the previous Waste Avoidance and Resource Recovery Strategy which was in place between 2014 and 2021.

It sets out the long-term vision for managing waste, planning for infrastructure, reducing carbon emissions, creating jobs, and refocusing the way NSW produces, consumes and recycles products and materials. The strategy will be used to track, review and measure NSW's progress toward meeting the targets set out in the National Waste Policy Action Plan. The targets are to:

- Reduce total waste generated by 10% per person by 2030;
- Have an 80% average recovery rate from all waste streams by 2030;
- Significantly increase the use of recycled content by governments and industry;
- Phase out problematic and unnecessary plastics by 2025; and
- Halve the amount of organic waste sent to landfill by 2030.

In addition to the above National targets, NSW has committed to:

- Introduce a new overall litter reduction target of 60% by 2030;
- Introduce a plastic litter reduction target of 30% by 2025, as set out in the NSW Plastics Action Plan;
- Set a goal to triple the plastics recycling rate by 2030, as set out in the NSW Plastics Action Plan;
- Reaffirm NSW's commitment to the goal of net zero emissions from organic waste by 2030, as laid out in the NSW Net Zero Plan Stage 1: 2020–2030;
- Establish new indicators to help track NSW's progress on infrastructure investment and the cost of waste services; and
- Develop a new measure of the emissions performance of NSW's waste and materials management. This will help to track performance across the lifecycle of materials.

A major focus area of the strategy is to increase waste infrastructure and services to meet future needs. The highest priority is to extend the life of existing landfills by reducing the volumes of waste being sent to landfill. Whilst the main focus is on waste avoidance, improving recycling capacity is an important aspect of waste management.

The proposed development will commit to environmental sustainability, waste avoidance and reduction practices. The proposed development will also increase and expand recycling infrastructure in the Central Coast region and will make an important as well as increased recycling to help meet the waste targets under the *NSW Waste and Sustainable Materials Strategy* 2041.



19.1.2. NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs

The NSW Waste and Sustainable Materials Strategy: A Guide to Future Infrastructure Needs is a supplement to the NSW Waste and Sustainable Materials Strategy 2041. The guide outlines the emerging needs in NSW's waste and circular economy infrastructure network. The needs have been grouped by material types with a focus on materials commonly found in municipal solid waste (MSW) and commercial and industrial (C&I) waste streams. Significant gaps exist in the system for the reprocessing of some of these materials that have historically been exported for processing.

The guide sets out how the NSW Government will support the development of new infrastructure through facilitating infrastructure, e.g., through planning activities; investing in high priority projects; strategically planning for infrastructure with local communities; and aligning policy and regulation with the Strategy. The three key areas of focus, based on extensive analysis of material flows, current and planned capacity and proposed policy changes, are residual waste, organics and plastics.

The guide specifically addresses the current market, processing capacity, throughput and future needs, and the opportunities and challenges associated with processing of plastics, organics, glass, paper and cardboard, and tyres.

The proposed development will help address these critical infrastructure gaps and drive progress towards meeting NSW's waste and materials management targets as set by the NSW Government in the *NSW Waste and Sustainable Materials Strategy* 2041.

Combined, the ReDirect Recycling business is investing more than \$100 million into the NSW economy to develop additional recycling infrastructure, helping to create new jobs, economic activity and supporting local communities. The investment will help bring forward more than 600,000 tonnes per annum of new recycling capacity in NSW, which will help accelerate progress towards landfill diversion targets.

19.1.3. NSW Draft Waste and Resource Recovery Infrastructure Strategy 2017-2021

In August 2017, the NSW EPA published the State's first draft strategy for prioritising new recycling infrastructure required across NSW by regional council groupings. The NSW EPA recognises that to achieve the diversion from landfill targets, significant investment in new infrastructure is still needed.

The Draft Waste and Resource Recovery Infrastructure Strategy 2017-2021 found that there were significant projected gaps in expected capacity and demand for construction and demolition waste processing in the Hunter and Central Coast areas by 2021, with a total shortfall of over 460,000 tonnes per annum of available capacity projected.

The draft strategy specifies the need for a least four additional small C&D waste processing facilities to minimise inert waste disposal. The proposed development will help address this gap in recycling infrastructure on the Central Coast.



19.1.4. The National Waste Policy Action Plan 2019

This National Action Plan creates targets and actions to implement the 2018 National Waste Policy. These targets and actions will guide investment and national efforts to 2030 and beyond. These include:

- Ban the export of waste plastic, paper, glass and tyres, commencing in the second half of 2020;
- Reduce total waste generated in Australia by 10% per person by 2030;
- 80% average recovery rate from all waste streams by 2030;
- Significantly increase the use of recycled content by governments and industry;
- Phase out problematic and unnecessary plastics by 2025;
- Halve the amount of organic waste sent to landfill by 2030; and
- Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions.

The proposed development complements and supports the implementation of better waste management targets and actions as set out in *The National Waste Policy Action Plan* 2019.

19.1.5. NSW Circular Economy Policy Statement

The NSW Government has developed a Circular Economy Policy to deliver positive economic, social and environmental outcomes.

The circular economy is about changing the way we produce, assemble, sell and use products to minimise waste and to reduce our environmental impact. The circular economy can also be great for business; by maximising the use of our valuable resources, and by contributing to innovation, growth and job creation.

Moving to a circular economy will provide long-term economic, social, and environmental benefits for NSW. This transition will generate jobs, increase the robustness of the economy, increase the accessibility of goods, maximise the value of resources, and reduce waste.

The NSW Circular Economy Policy Statement will help guide NSW Government decision making to transition to a circular economy. It sets the ambition and approach for a circular economy in NSW and provides principles to guide resource use and management.

The NSW Circular Economy Policy Statement will provide a framework for implementing initiatives throughout the product life cycle, from design, manufacturing, and retail to end-of-life-disposal. These initiatives will promote long-lasting design, maintenance, repair, re-use, sharing, transforming products into services, remanufacturing, and recycling. The NSW Government will be an early adopter, implementing those opportunities where the benefits are clear.

Uniquely, ReDirect Recycling's mission is to recover materials which can be used in advanced manufacturing in NSW, helping to recover maximum value from discarded resources and reduce the dependence on export markets for recycling waste.

The company will recover materials to be used in Borg's advanced manufacturing business, being the largest manufacturer of melamine panels and components for all joinery applications in Australia. Borg's manufactured products include a range of medium-density fibreboard (MDF), particle board, shelving and components.

By using recovered resources from the urban waste stream in manufacturing, ReDirect Recycling will be helping the State of NSW to transition to a Circular Economy. A circular economy is all about valuing our resources, by getting as much use out of products and materials as possible and reducing the amount of waste we generate.



This includes using recycled materials in manufacturing, by maximising the use of valuable resources, and by contributing to innovation, growth and job creation.

19.2. Sustainability drivers

19.2.1. Environmental

The ReDirect Recycling Pty Ltd business, through its investments in new resource recovery infrastructure, aims to help NSW strive towards its ambitious objective of reducing NSW's net emissions to zero by 2030 as outlined in the Net Zero Plan Stage 1: 2020-2030.

ReDirect Recycling Pty Ltd.'s mission is to recover materials which can be used in advanced manufacturing in NSW, helping to recover maximum value from discarded resources and reduce the dependence on export markets for recycling waste.

The company will recover materials to be used in Borg's advanced manufacturing business, being the largest manufacturer of melamine panels and components for all joinery applications in Australia. Borg's manufactured products include a range of medium-density fibreboard (MDF), particle board, shelving and components.

By using recovered resources from the urban waste stream in manufacturing, ReDirect Recycling Pty Ltd will be helping the State of NSW to transition to a Circular Economy.

19.2.2. Ecologically Sustainable Development

The NSW Government is committed to encouraging Ecologically Sustainable Development, and this is a key objective of the State's environmental laws. The *Protection of the Environment Administration Act* 1991 defines ecologically sustainable development under Section 6(2) as: 'ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes.'

The National Strategy for Ecologically Sustainable Development (NSESD) (1992) states that there are two main features which distinguish an ecologically sustainable approach to development. These features are:

- The need to consider in an integrated way, the wider economic, social and environmental implications of our decisions and actions for Australia, the international community and the biosphere; and
- The need to take a long-term rather than a short-term view when taking those decisions and actions.

The *Protection of the Environment Administration Act* 1991 highlights four key principles of ecologically sustainable development under Section 6(2) (a)-(d). These principles are:

- Precautionary principle namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:
 - (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and
 - (ii) an assessment of the risk-weighted consequences of various options.
- Intergenerational equity namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.
- Protecting Biodiversity conservation of biological diversity and ecological integrity-namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration.


- Improved valuation improved valuation, pricing and incentive mechanisms should be promoted to
 ensure the full costs, including the cost to environmental and social systems, are included in the final
 valuation of the product or service. Environmental factors should be included in the valuation of assets
 and services, such as:
 - (i) polluter pays-that is those who generate pollution and waste should bear the cost of containment, avoidance or abatement;
 - (ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste; and
 - (iii) environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The proposed Facility has been designed to minimise impacts and where possible, improve the natural, social and economic environment of the region. This includes ensuring the protection and management of air quality, soil and surface waters as well as the appropriate storage, management and disposal of wastes and hazardous substances. Impacts on social systems, such as noise, vibration, traffic and transport, water quality and fire have been managed and improved through the proposed mitigation measures.

The processing capacity of the Facility will result in considerable social and economic benefits at both the local and regional level. The facility will be able to recycle up to 99,000 tonnes of material from the Central Coast region per year.

The development is consistent with land use controls and will enable material to be received, sorted and recycled by the facility to improve recycling outcomes for the region.

The facility will represent a new development that will assist in creating jobs within the region. The project has the capacity to inject up to \$30 million into the local economy over the twenty-year life of the project (comprising capital and operating expenditure from the plant, and product revenue).

19.2.3. Social and economic benefits

ReDirect Recycling Pty Ltd is developing best practice resource recovery centres across NSW to support the recovery of materials from the urban waste stream. This includes a 150,000 tonne per annum wood and plasterboard recycling facility in Dunheved Circuit, St Marys, and a further 350,000 tonne per annum facility to accept and recover a wide range of commercial and construction waste materials in St Marys. The business will be supported by a third 99,000 tonne per annum integrated resource recovery centre proposed for Pile Road (this development).

Up to 10 staff will be employed to work at the Resource Recovery Facility including administration staff, waste handling operators and truck drivers. It is anticipated that three shifts of staff will be required for the premises. As a result, it is expected that 30 ongoing direct jobs will be created by the development. A further 10 jobs over a three-month period will be created during construction. The total construction cost for the development is estimated to be \$2.878M.

These projects build upon the company's existing urban wood recovery centre in Ingleburn, which supplies recovered wood to support particle board and MDF production in NSW, and a sustainable bedding material for poultry farms.



ReDirect Recycling Pty Ltd is part of the Borg group of companies. The Borg business model supports sustainable practices and employs over 2,000 people nationwide. Development of the Somersby plant will employ an additional 10 staff.

19.3. Precautionary approach

A precautionary approach to the identification and management of environmental issues has been taken throughout the preparation of this EIS. In some instances, where information was not fully obtainable for reasons outside the control of Jackson Environment and Planning Pty Ltd, a precautionary approach has been taken to ensure all appropriate measures were employed to prevent any associated environmental degradation.

19.4. Benefits to current and future generations

The benefits to future generations include the protection and improved environmental management, increased employment opportunity, improved recycling infrastructure to respond to increasing demand (and community expectations) for efficient and effective resource recovery and recycling facilities. Benefits also include the subsequent economic and social benefits which will be vital for the sustainable expansion and growth of the Central Coast region.

The environmental and social costs with the proposed development have been minimised through the proposed mitigation measures, while it is expected that the proposed development will inject up to \$30 million into the local economy over the twenty-year life of the project and create 30 new and ongoing local employment positions within the community.



Appendix A – Secretary's Environmental Assessment Requirements 1548

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Appendix B – Secretary's Environmental Assessment Requirements Compliance Table



The Secretary's Environmental Assessment Requirements (SEARs) for the proposed development were issued by the NSW Department of Planning, Industry and Environment on 19 February 2021 by Mr Chris Ritchie, Director, Industry Assessments as a delegate of the Secretary (SEARs No. SSD-10447). The SEAR report is contained in Appendix A.

The planning and assessment requirements identified by the Secretary for consideration in the EIS are given in Table B.1. Note that all these requirements have been addressed in the EIS, and the relevant Sections are highlighted for ease of cross-referencing.



Table B.1. Summary of the SEARs and the relevant section within the EIS.

Secretary's Environmental Assessment Requirements	EIS section where this requirement is addressed	
General Requirements		
The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the Environmental Planning and Assessment Regulation 2000.	Noted	
Key Issues		
The EIS must include an assessment of all potential impacts of the proposed development on the existing environment (including cumulative impacts if necessary) and develop appropriate measures to avoid, minimise, mitigate and/or manage these potential impacts. As part of the EIS assessment, the following matters must also be addressed:	This EIS	
Strategic and statutory context – including:		
 a detailed justification for the proposal and suitability of the site for the development a demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, development control plans (DCPs), or justification for any inconsistencies a list of any approvals that must be obtained under any other Act or law before the development may lawfully be carried out 	Section 3 / Section 19	
Suitability of the site – including:		
 a detailed justification that the site can accommodate the proposed processing capacity, having regard to the scope of the operations and its environmental impacts and relevant mitigation measures floor plans depicting and proposed internal layout, including the location of machinery and equipment. 	Section 1.8	
Waste management – including:		
 details of the type, quantity, and classification of waste to be received at the site details of the resource outputs and any additional processes for residual waste details of waste handling including transport, identification, receipt, stockpiling and quality control the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and guidelines in the <i>NSW Waste Avoidance and Resource Recovery Strategy</i> 2014-21. 	Section 7 / Appendix H	
Hazards and risk – including:		
 a preliminary risk screening completed in accordance with State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP, 2011), with a clear indication of class, quantity and location of all dangerous goods and hazardous materials associated with the development. Should preliminary screening indicate that the project is "potentially hazardous" a Preliminary Hazard Analysis (PHA) must be prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011). 	Section 6	
Fire and incident management – including:	Section 12 / Section 13 /	
 an assessment of bushfire risks and asset protection zones (APZ) in accordance with NSW Rural Fire Service guidelines 	Appendix M / Appendix N	



Secretary's Environmental Assessment Requirements	EIS section where this
	requirement is addressed
 technical information on the environmental protection equipment to be installed on the premises such as air, water and noise conspill clean-up equipment, fire management (including the location of fire hydrants and water flow rates at the hydrants) and con measures 	ontrols, tainment
• details of the size and volume of stockpiles and their arrangements to minimise fire spread and facilitate emergency vehicle acce	ISS
• the measures that would be implemented to ensure that the proposed development is consistent with the aims, objectives and a in the NSW Fire and Rescue guideline <i>Fire Safety in Waste Facilities</i> dated 27 February 2020.	guidelines
Air quality – including:	
 a description of all potential sources of air and odour emissions 	
 an air quality impact assessment in accordance with relevant Environment Protection Authority guidelines 	Section 9 / Appendix J
 a description and appraisal of air quality impact mitigation and monitoring measures. 	
Noise and vibration – including:	
• a description of all potential noise and vibration sources during construction and operation, including road traffic noise	
• a noise and vibration assessment in accordance with the relevant Environment Protection Authority guidelines	Section 10 / Appendix K
 a description and appraisal of noise and vibration mitigation and monitoring measures. 	
Soil and water – including:	
 a description of local soils, topography, drainage and landscapes details of water usage for the proposal including existing and pr water licencing requirements in accordance with the Water Act 1912 and/or the Water Management Act 2000 	oposed
• an assessment of potential impacts on floodplain and stormwater management and any impact to flooding in the catchment det sediment and erosion controls	ails of
a detailed site water balance	Section 14 (Annondia O
 an assessment in accordance with ASSMAC Guidelines for the presence and extent of acid sulfate soils (ASS) and potential acid sulfate soils (PASS) on the site and, where relevant, appropriate mitigation measures 	ulfate Section 14 / Appendix O
 an assessment of potential impacts on the guality and guantity of surface and groundwater resources 	
• details of the proposed stormwater and wastewater management systems (including sewage), water monitoring program and ot	her
measures to mitigate surface and groundwater impacts	
• a description and appraisal of impact mitigation and monitoring measures.	
Traffic and transport – including:	
details of road transport routes and access to the site	
 road traffic predictions for the development during construction and operation 	Contion 11 / Annendia
• swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site	Section 11 / Appendix L
• an assessment of impacts to the safety and function of the road network and the details of any road upgrades required for the	
development.	



Secretary's Environmental Assessment Requirements	EIS section where this requirement is addressed
 Biodiversity – including: a description of any potential vegetation clearing needed to undertake the proposal and any impacts on flora and fauna. 	N/A – no vegetation clearing required and subsequently impacts on flora and fauna.
 Heritage – including: Aboriginal and non-Aboriginal cultural heritage. 	Section 16
Environmental Planning Instruments and other policies	
The EIS must assess the proposal against the relevant environmental planning instruments, including but not limited to: • State Environmental Planning Policy (Infrastructure) 2007 • State Environmental Planning Policy No. 33 – Hazardous and Offensive Development • State Environmental Planning Policy No. 55 – Remediation of Land • Sydney Regional Environmental Plan No 20 – Hawkesbury-Nepean River • Gosford Local Environmental Plan 2014 • Relevant development control plans and section 7.11 plans.	Section 3
Consultation	
During the preparation of the EIS, you must consult the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular, you should consult with the: • Department of Planning, Industry and Environment, specifically the: • Environment, Energy and Science Group • Environment Protection Authority • Heritage NSW • Transport for NSW • Fire & Rescue NSW • NSW Rural Fire Service • Central Coast Council • the surrounding landowners and occupiers that are likely to be impacted by the proposal. Details of the consultation carried out and issues raised must be included in the EIS.	Section 5



Appendix C – NSW EPA Assessment Requirements Compliance Table



The NSW EPA issued comments for the SEARs on 2 February 2021 by Mr Steven James, Unit Head Regulatory Operations Metropolitan North (Attachment 1 of Appendix A). The key project issues identified by the NSW EPA for consideration in the EIS are given in Table C.1. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.



Table C.1. Summary of the NSW EPA requirements and the relevant section within the EIS.

NSW EPA Requirements		EIS section where this requirement is addressed
Executi	ve summary	
The doo measur	ument's executive summary should include a discussion of the proposed development, the key environmental risks, the identified mitigation es, and an overall conclusion and justification for the proposal.	Executive Summary
The pro	posal	
The pro	posed development must be adequately described and should clearly state and refer to:	
a) b) c) d) e) f)	the type, the nature and size of the proposed development, including proposed average and maximum annual production rates that are expected to occur; the type, the nature and amount of the processes and the products to be used, including the plant and equipment proposed for use, fuel and chemicals required and proposed methods for their transportation, storage, use and their emergency management provisions, including relevant process flow diagrams; the by-products produced and/or wastes produced, including the fate of such products; the staging and timing of the proposal, including any construction works and any plans for potential future expansion plans and the proposed construction and operational hours, including and heavy vehicle movements; the anticipated benefits to relevant industry, community, etc; and the proposal's relationship to any other facility or industry both locally and abroad.	Section 7
Ine loca	ation	
Provide	an overview of the setting in which the proposed development is to take place in its local and regional environmental context including:	
a) b) c) d)	the location of the proposed facility, its layout, including plant and equipment, and details of the surrounding environment, including land use zoning with appropriate maps/diagrams; the topography; meteorological data (e.g. temperature, wind (prevailing wind direction and strength), rainfall, evaporation, etc); surrounding land uses, including ownership details of any residence and/or land likely to be affected by the proposed facility with appropriate maps/diagrams;	Section 1 / Section 2



NSW EPA Requirements	
 ecological information (vegetation, fauna, waters) with appropriate maps/diagrams; and f) availability of services and the accessibility of the site for passenger and freight transport. 	
List of approvals and licences	
Identify all approvals, licences or permits required to undertake the proposed development as well as those already obtained and those to be obtained.	Section 3.2
Identification and prioritisation of issues / scoping of impact assessment	
Identify a scoping risk assessment methodology, undertake a risk assessment, and identify and prioritise key issues.	
The environmental issues	
 Noise Identify the existing noise environment (including any relevant noise assessment groupings) and identify applicable noise goals in line with relevant guidance/standards; Identify potential noise and vibration sources and impacts during both construction and operational stages and identify best practice mitigation measures (pollution control) and strategies to be incorporated for both stages to minimise noise and vibration emissions/impacts (with proposed timing), including validation monitoring, in line with relevant guidance/standards; and Propose representative noise monitoring locations for determining compliance with applicable noise goals and where relevant noise goals would be set as representative limits. Note: this will require a detailed Noise Impact Assessment to be completed. 	Section 10 / Appendix K
 Air Identify the existing air quality environment and identify applicable air quality goals (i.e. ground level concentrations for pollutants and odour assessment criteria) in line with relevant guidance/standards; and Identify potential air quality and odour sources and impacts (including point source emissions from any site-based plant and equipment and/or fugitive dust or other emissions) during both construction and operational stages and identify best practice mitigation measures (pollution 	Section 9 / Appendix J



NSW EPA Requirements	EIS section where this requirement is addressed
 control) and strategies to minimise point and/or fugitive and/or odour emissions/impacts (with proposed timing), including monitoring, in line with relevant guidance/standards; and Include an emission inventory of all sources of air emissions. Note: this will require a detailed Air Quality Impact Assessment to be completed. 	
 Water Identify the condition of the local catchment and those immediate areas on and around the proposed development e.g. soils, erosion potential, vegetation cover, etc; and Identify nearby water resources, the background water conditions (including river flow data, water flow/direction and quality data, the depth to groundwater, groundwater flow/gradient and quality data, reliance on water resources by surrounding users and by the environment) and relevant water quality objectives in line with relevant guidance/standards; and Identify any water intakes, intake frequency and volumes related to the proposed development; and Identify any water intakes, intake frequency and volumes related to the proposed development; and Identify any expected discharges (including stormwater), discharge quality, discharge frequency and volumes related to the proposed development; and Identify any expected incharges (including stormwater), discharge quality, discharges or an explanation of why any specific discharges cannot be prevented; and Identify potential impacts to surface and groundwater during both construction and operational stages and identify best practice mitigation measures (pollution control) and strategies to protect surface and groundwater resources, particularly erosion and sediment controls during the construction stage and the rehabilitation stage and the inclusion of permanent erosion and sediment controls where required and applicable; and Include a detailed water balance and discharge inventory; and Include an assessment of any mixing zones; and Include any proposed discharge limits. Note: this will require a detailed Water Assessment to be completed.	Section 14 / Appendix O
Land	Section 14 / Section 15 / Appendix O



NSW EPA Requirements	
 Identify if the soils and groundwater in the area of the Proposal are contaminated or are acid forming (i.e. acid sulphate soils) and if so, identify best practice mitigation measures (pollution control) and strategies or remedial and/or disposal actions that will be required/undertaken if applicable in accordance with relevant guidance/standards. Investigations should be undertaken in accordance with (but not limited to) guidelines identified in Attachment B ; and Identify potential impacts to soils and groundwater /land resources as a result of the proposed development and identify best practice mitigation measures (pollution control) and strategies that will be required/undertaken if applicable in accordance with relevant guidance/standards. A site auditor accredited under the Contaminated Land Management Act 1997 (CLM Act) should be engaged to provide a Section A site audit statement (SAS) and accompanying site audit report (SAR) certifying suitability of the land for the proposed land use. By engaging a site auditor to provide a Section A SAS, the site auditor will review the adequacy of the investigations, any remedial works or management plan required and confirm suitability of the land for the proposed use. 	
 Waste Identify all waste types that will be generated as a result of the proposed development during both construction and operation, their classification and the ways in which they will be legally handled, stored, transported, reused, recycled or disposed of, including sampling/monitoring, record keeping, waste tracking, contingency measures and any other verification practices, in accordance with relevant guidance/standards; and Identify options and strategies for waste minimisation; reuse and recycling across all activities and processes during both construction and operational stages. 	Section 7 / Appendix H
Storage and use of fuels / chemicals etc	
 Identify all fuels/chemicals/products/dangerous goods to be stored/used onsite; and Identify adequate handling, storage, control and usage requirements for any fuels/chemicals/products/dangerous to be stored/used onsite. 	Section 8
Incident Management	
• Identify adequate incident management procedures to be established including notification requirements to the Appropriate Regulatory Authority and other relevant authorities for incidents that cause or have the potential to cause material harm to the environment (Part 5.7 of the Protection of the Environment Operations Act 1997).	Section 13 / Appendix I
Cumulative impacts	



NSW EF	'A Requirements	EIS section where this requirement is addressed
•	Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute; and	
•	Identify the cumulative impacts of the proposed development in a local context.	
Monito	ring Programs	
•	Include a detailed proposal of any noise, air, water, land, waste, meteorological etc monitoring during construction and operation to ensure and assumptions, predictions, goals, criteria etc are achieved. The proposal should include a detailed description of the monitoring locations, sample analysis methods and the level of reporting proposed.	Section 18.4
Compil	ation of mitigation measures	
•	Outline how the proposal and its environmental protection measures would be implemented and managed in an integrated manner so as to demonstrate that the proposal is capable of complying with statutory obligations under EPA licences or approvals (e.g. outline of an environmental management plan). Include any Statement of Commitments to be made by the Proponent.	Section 18
Justifica	ation for the proposed development and conclusion	
•	Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.	Section 19 / Section 20



Appendix D – Transport for NSW Assessment Requirements Compliance Table



The Transport for NSW (TfNSW) issued comments for the SEARs on 4 February 2021 by Mr Peter Marler, A/Manager Development Services North (Attachment 2 of Appendix A). The key project issues identified by the TfNSW for consideration in the EIS are given in Table D.1. Note that all these requirements have been addressed in the EIS, and the relevant Chapters are highlighted for ease of cross-referencing.



Table D.1. Summary of the TfNSW requirements and the relevant section within the EIS.

TfNSW Requirements	EIS section where this requirement is addressed
The proposal	
A traffic and transport study shall be prepared in accordance with the Roads and Maritime Services NSW's Guide to Traffic Generating Developments 2002 and is to include (but not be limited to) the following:	
 Review of historical development consents associated with the current (approved) operations. Comparison of current (approved) and proposed operations to determine change in traffic generation and distribution, and the associated impact on the road network. Details of all traffic types and volumes likely to be generated by the proposal during construction, operation and rehabilitation, including description of heavy vehicle types, and haul route origins and destinations. Details of dally inbound and outbound traffic profile by time of day and day of week broken down per vehicle types. An assessment of all relevant vehicular traffic routes and intersections for access to / from the site. If required, identification of any dangerous goods likely to be transported on the classified and local roads to/ from the site and, if necessary, the preparation of an incident management strategy. The distribution on the road network of the trips generated by the proposed development. It is requested that the predicted traffic flows are shown diagrammatically to a level of detail sufficient for easy interpretation. Traffic analysis of all major / relevant intersections impacted, including but not limited to the Pacific Highway and Pile Road intersection, using SIDRA or similar traffic counts and 10-year traffic growth projections Traffic generation and distribution during construction and operational stages With and without development scenarios Delays, level of service, 95th percentile back of queue lengths and midblock capacity on all legs of intersections Electronic modelling data for Transport for NSW review. An assessment of cumulative study area traffic impacts associated with the proposal and any other proposed/approved developments in the area. Details of access to, from and wit	Section 11 / Appendix L

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Table D.1. Summary of the TfNSW requirements and the relevant section within the EIS (continued).

TfNSW Requirements	EIS section where this requirement is addressed
 An assessment of affected intersections on bot to include review of road safety, crash data anal design compliance to current Austroads and Tf access the site. Identify the necessary road network infrastructu of service on both the local and classified road r concept drawings shall be submitted with the should be noted that any identified road infras TfNSW and Council. Any other impacts on the regional and state cyclist and public transport facilities and provise 	I and classified road network. The assessment distance, swept paths, pavement lifespan and plements for the largest vehicle anticipated to les that are required to maintain existing levels or the development. In this regard, preliminary ny identified road infrastructure upgrades. It upgrades will need to be to the satisfaction of work including consideration of pedestrian, ervice vehicles.



Appendix E – Notice of Determination for construction of warehouse (DA56372-2019)



Appendix F – Detailed Site Plans



Appendix G – Capital Investment Value Report



Appendix H – Waste Minimisation and Management Plan



Appendix I – Emergency Response Plan



Appendix J – Air Quality Impact Assessment



Appendix K – Noise and Vibration Impact Assessment



Appendix L – Traffic Impact Assessment



Appendix M – Bushfire Threat Assessment



Appendix N – Fire Engineering Report and Fire Service Plan



Appendix O – Soil and Water Management Plan