EPS

KOORAGANG RECYCLING FACILITY
STATE SIGNIFICANT DEVELOPMENT
PRELIMINARY ENVIRONMENTAL ASSESSMENT

Prepared for Boral Property Group
Prepared by Environmental Property Services

Egret Street, Kooragang Island NSW 2304

ENVIRONMENTAL PROPERTY SERVICES
Reference No. 11200
April 2015

Quality Assurance & Version Control Table				
Project: SSD Support Documentation – Kooragang Recycling Facility				
Client:	Boral Property Group			
Rev No.	**Date**	**Our Reference**	**Author**	**Reviewer**
V01	23/04/2015	20150423_11200_PEA_01	T.Kelly	M.Shelly
Checked by	23/04/2015			S. McCall
Approved by	23/04/2015			S. McCall

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1 INTRODUCTION

1.1 The Proposal

Boral Property Group (Boral) is proposing to expand its existing recycling facility on Kooragang Island, NSW. The facility was granted development consent by Newcastle City Council in 2003 (DA 01/2716) and is approved to process 100,000 tonnes of material per year.

Boral wishes to intensify current recycling operations to process a maximum of 350,000 tonnes of material per year and to expand stockpile area and height (to approximately 2.9 ha and 20 m respectively), allowing additional waste streams to be accepted and processed, and to increase the hours of operation to cater for growing market demand.

The information within this Preliminary Environmental Assessment has been provided to support a request for Secretary's Environmental Assessment Requirements (SEARs) to initiate the State Significant Development approval process and the preparation of an Environmental Impact Statement under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This document provides information regarding the applicant and the proposal, as well as outlining the scope of the proposed environmental impact assessment.

1.2 The Proponent

The proponent is Boral, which is Australia's largest building and construction materials supplier with operations in all states and territories. The Boral Recycling business operates three sites in NSW, two in Sydney and the third on Kooragang Island.

1.3 Project Location

The site is on Lot 12 DP 1032146 Egret Street, Kooragang Island. The site is north of Newcastle, across the South Arm of the Hunter River, as shown in Figure 1. Figure 1 shows that the site is within a large industrial area extending northeast of the Mayfield residential suburbs to the old BHP Steelworks lands and across the River to Kooragang Island. The site is approximately 2,200 m from the nearest house in Mayfield East and approximately 3,000 m from the nearest house in Stockton. Wholly owned by Boral Cement, the 12.49 ha Lot 12 DP 1032146 is occupied by four separate businesses including; Boral Recycling, Boral Concrete, Boral Cement and Origin Energy (under lease). Figure 2 illustrates the occupying businesses within and adjacent to the site.

Figure 1: Site Context Map

Figure 2: Businesses within and adjacent to Subject Site

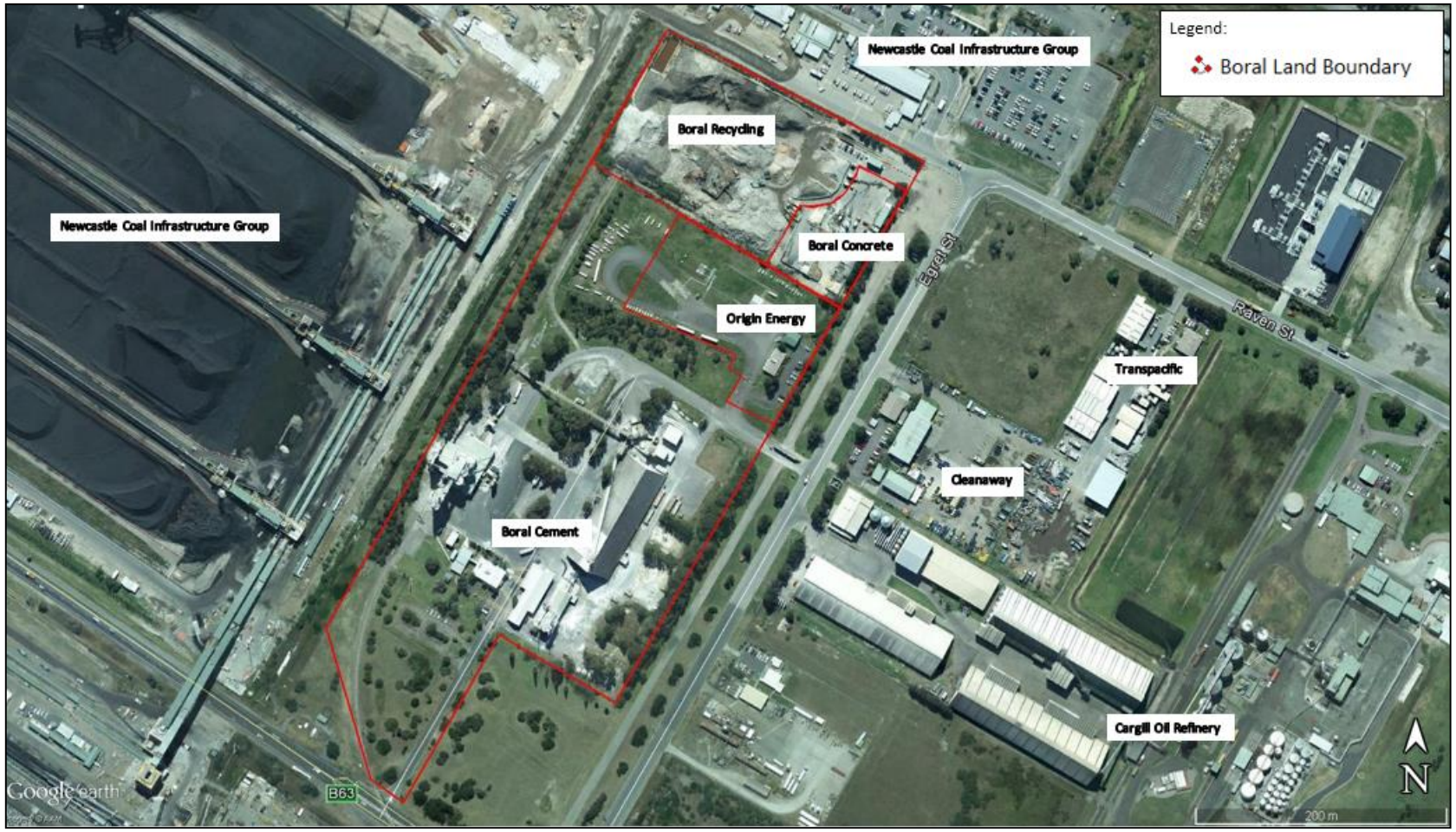
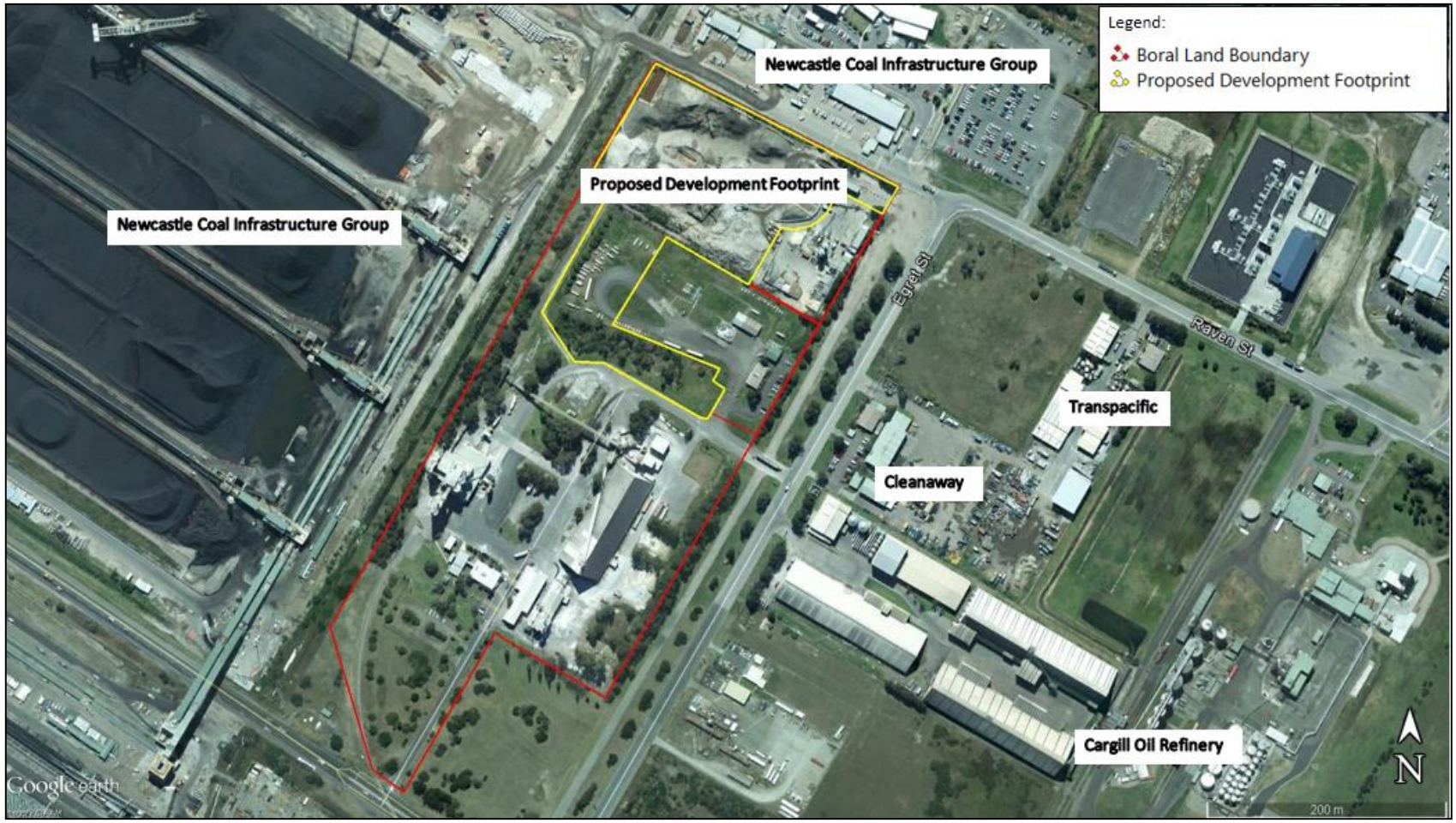


Figure 3: Proposed Development Footprint



2 EXISTING OPERATIONS

2.1 Site Description

The existing recycling activities are undertaken across approximately 2 ha within the northern portion of Lot 12 DP 1032146. The Boral Recycling facility is bounded to the east by Boral Concrete and to the south by Origin Energy (see Figure 2), and comprises the following operational areas:

- Site access including car parking, weighbridge and wheel wash;
- Office and administration building and load checking platform;
- Incoming load stockpiles;
- Processing areas;
- Product stockpiles;
- Mobile plant and equipment; and
- Water management area.

Access to the site is via Egret Street which is a 26 m B-Double Restricted Access Vehicle route.

2.2 Property Zoning

The site is zoned SP1 – Special Activities under the State Environmental Planning Policy (Three Ports) 2013. Waste management facilities are not listed as prohibited development or as development permitted without consent, therefore the proposal is classified as development permitted with consent.

2.3 Approved Operations

As outlined, the Kooragang Recycling Facility was granted development consent by Newcastle City Council on 20 February 2003; DA 01/2716. The site is approved to process 100,000 tpa of wastes and to produce a range of materials including aggregates, pipe bedding, engineered and non-engineered fill.

Incoming trucks are weighed over a weighbridge and the loads visually inspected from the elevated weighbridge office. Trucks proceed to check point manned by a site spotter, who again checks loads for potential hazardous materials and directs driver to the appropriate drop off point. This process is regularly monitored by the site manager via closed circuit television cameras placed on 5m poles around the site. No asbestos is accepted, and any fibro or asbestos contaminated loads are turned away and registered in a rejected load register.

Following crushing, a picker selects non-recyclables such as, plastics, rags and wood fragments. These are placed into skip bins for disposal by a registered waste contractor. A mobile pug mill (stabilisation plant) and an 18 metre high flyash silo have been approved for the facility but not yet been installed.

The facility is approved to operate between 7 am – 5 pm on Monday to Saturday. There are no operations on Sundays or public holidays.

The site currently employs 10 full-time equivalent staff members.

The site is accessed via Egret Street, which provides sheltered turns in both directions from Cormorant Road. Egret Street is classified as a 26 m B-Double Restricted Access Vehicle route. Sight lines from the site are clear and the access road is sufficient for the development.

There are 11 car parking spaces within the Boral Recycling compound, including 2 disabled parking spaces. Additional parking is located outside of the main entry gate. Drivers loading or unloading material at the site do not require car-parking spaces. The site receives limited visitors (apart from material pickups) and the current parking facilities are adequate.

2.4 Environmental Management

Boral has extensive experience in the management of waste recycling facilities, and has operated the Kooragang facility for more than 10 years. This experience includes the implementation of an Environmental Management Plan.

A Pollution Incident Response Management Plan (PIRMP) was finalised in 2014 in accordance with the *Protection of the Environment Operations (General) Regulation 2009* and provides details on internal and external communication and actions in the case of pollution incidents. The Kooragang PIRMP specifies the substances stored on site that could potentially be spilt, and their current controls.

3 PROJECT DESCRIPTION

3.1 Processing Capacity

It is proposed to increase production to 350,000 tpa to meet the ever-increasing market demand for recycled products.

3.2 Materials Received

It is proposed to primarily accept the following waste streams:

- Building & demolition waste, as defined in Schedule 1 of the POEO Act;
- Asphalt waste;
- Cured concrete waste (washout) or in solid form from a concrete batching plant;
- Virgin excavated natural material (VENM);
- Ceramics;
- Soil (meeting CT1 thresholds for General Solid Waste in Table 1 of the waste classification guidelines);
- Excavated natural material (ENM);
- Tiles/masonry;
- Natural quarry product;
- General or specific exempted waste (meeting all conditions of a resource recovery exemption under clause 51A of the POEO (Waste) regulation);
- Any waste that is below licensing thresholds in schedule 1 of the POEO Act; and
- Bricks, tiles and masonry seconds direct from the manufacturer.

3.3 Site Layout

The existing layout will be retained, with additional stockpiling and processing areas provided in the extension areas of the development footprint (Figure 3).

3.4 Staff and Hours of Operation

It is proposed to operate the site 24 hours per day Monday to Saturday with only maintenance occurring between 6 am to 6 pm Sundays and public holidays.

The currently approved operational hours do not allow the required flexibility to cater for the modern market. Large projects, such as RMS roadwork and major infrastructure developments are commonly either built at night, or on a 24 hour basis. Construction and demolition projects both produce waste materials suitable for recycling and are both increasingly undertaken outside daylight hours. A modern waste recycling facility needs to be able to receive, process and despatch 24 hours per day, although for the majority of times, it can be expected that most operations would be carried out in daytime hours.

The current number of employees is expected to rise by one to 11 full time equivalents.

3.5 Environmental Management and Licences

Consistent with the present activities, the proposal will operate under the existing Environmental Management Plan (EMP) that will be updated as necessary to incorporate any key changes. It is expected that the following sections of the EMP will be updated:

- Description of the facility including volume of material production and stockpile locations;
- Monitoring requirements;
- Any changes to emergency procedures; and
- Any changes to auditing and reporting requirement.

Boral currently holds an Environment Protection Licence (EPL 11968) for waste storage and resource recover issued under the *Protection of the Environment Operations Act 1997*. As part of the development application process, Boral is proposing to vary the existing conditions of the EPL to include the additional waste streams proposed to be accepted.

3.6 Environmental Risk Screening

An initial environmental risk screening assessment considered the likelihood and consequences of certain environmental outcomes, by assigning a semi-qualitative score to each of the identified environmental issues. This assessment highlighted that the following issues had the potential to cause unwarranted risk if left unmitigated, and accordingly are considered to be key issues for the EIS to consider:

- Dust;
- Noise;
- Surface water management;
- Traffic; and
- Socio-economics.

The risk assessment also guided certain issues that would not be key concerns for this particular proposal by reason of the locational context and the efficacy of current environmental controls. These included odour, vibration, heritage, flooding and biodiversity.

The key and other issues are discussed further in Chapter 6.

The EIS will provide an environmental risk assessment that considers the nature and extent of environmental impacts both before and after the implementation of mitigation and control measures.

4 STATUTORY AND STRATEGIC PLANNING

The following section outlines the key legislation and planning instruments relevant to the proposed development. A detailed assessment of all relevant legislation would be undertaken as part of the EIS.

4.1 Commonwealth Legislation

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

The primary objective of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is to 'provide for the protection of the environment, especially those aspects of the environment that are Matters of National Environmental Significance'. Where there is potential for a proposal to have a significant impact on any Matter of National Environmental Significance, or it is unclear whether the proposal may have a significant impact, a Referral under the EPBC Act can be submitted to the Department of Environment for approval, concurrent with the State Significant Development process.

Two potential issues with regard to Matters of National Environmental Significance have been considered. The first is the potential presence of the federally listed Green and Golden Bell Frog, while the second is the potential to impact the Kooragang Island Ramsar wetland.

Inspection of the site has confirmed that there is no breeding habitat or regular foraging habitat for the Green and Golden Bell Frog on site, and while the Island has a known population, there have been very few recorded sightings close to the Boral facility.

The nearest section of the Ramsar listed wetland, which forms the bulk of the Hunter Wetlands National Park is some 1200 m to the north of the Boral site. Most of the separating distance is covered by the Port Waratah Coal Services coal stockyards. The Boral site drains wholly to the south via a large concrete drain that flows into the South Arm of the Hunter River, between Kooragang docks K7 and K8, both of which are used for coal loading.

Given the minimal likelihood of direct or indirect impact to either the Ramsar wetland or the Green and Golden Bell Frog, and in the absence of other EPBC Matters of National Environmental Significance, there is no reason to consider a referral in this case.

4.2 State Legislation

4.2.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) forms the statutory framework for environmental assessment and planning approval in NSW. The project is considered 'State Significant Development' (SSD) in accordance with Division 4.1 of Part 4 of the EP&A Act. Specifically, section 89C of the EP&A Act states the following:

> ***89C Development that is State significant development***
> *(1) For the purposes of this Act,* ***State significant development*** *is development that is declared under this section to be State significant development.*
> *(2) A State environmental planning policy may declare any development, or any class or description of development, to be State significant development.*

In accordance with s89C(2), the development is declared to be SSD as it is a type listed in Schedule 1 of the *State Environmental Planning Policy* (SEPP) - *State and Regional Development*. Namely;

> ***23 Waste and resource management facilities***
> *(3) Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.*

Having triggered as SSD, the relevant consent authority is the Minister pursuant to s89D of the EP&A Act:

> ***89D Minister consent authority for State significant development***
> *(1) The Minister is the consent authority for State significant development.*
> ***Note.*** *Section 23 enables the Minister to delegate the consent authority function to the Planning Assessment Commission, the Secretary or to any other public authority.*

An important distinction for State Significant Development is the requirement of all applicants to apply to the Director-General of the Department of Planning and Infrastructure for SEARs, prior to the preparation of an Environmental Impact Statement (EIS). The requirement for an EIS is specified by s78A (8A) of the EP&A Act.

The EIS must then comply with any SEARs issued, in addition to complying with the requirements of the EP&A Regulation. Finally, as the proposal triggers as SSD, it cannot also trigger as Designated Development as specified by s77A (2) of the EP&A Act.

4.2.2 Protection of the Environment Operations Act 1997

The existing recycling facility has been granted an Environmental Protection Licence (11968) from the Environment Protection Authority under the *Protection of the Environment Operations Act 1997* (POEO Act). On determination of the project application, a variation to the EPL will be sought to reflect the new development consent. A variation to the EPL is permitted in accordance with s58 of the POEO Act. As the proposal is subject to an environmental assessment under the EP&A Act, the EPA will not be required to invite or consider public submissions prior to the licence variation.

4.2.3 Waste Avoidance and Resource Recovery Act 2001

The objects of the NSW *Waste Avoidance and Resource Recovery Act 2001* are to encourage efficient use of resources and reduce environmental harm. This is aimed to be achieved with the principles of ecologically sustainable development and considering resource management options against the hierarchy of avoid, reuse and dispose.

The proposed amendments to the existing recycling facility are consistent with these objectives by promoting reduction of waste and facilitating waste re-use.

4.3 Relevant Environmental Planning Instruments

4.3.1 State Environmental Planning Policy (State and Regional Development) 2011

The project triggers as SSD in accordance with Division 4.1 of Part 4 of the EP&A Act, as it is a type listed in Schedule 1 of the *State Environmental Planning Policy* (*State and Regional Development) 2011*. Pursuant to Clause 8 of the SEPP:

> ***8 Declaration of State significant development: section 89C***
> *(1) Development is declared to be State significant development for the purposes of the Act if:*
> *(a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and*
> *(b) the development is specified in Schedule 1 or 2.*

Specifically, Clause 23 of Schedule 1 lists "*Waste and Resource Management Facilities*" as SSD if the development triggers one of the six sub-clauses.

This proposal is triggered by sub-clause 3 as it is expected to process up to 350,000 tonnes of material per year:

> *3) Development for the purpose of resource recovery or recycling facilities that handle more than 100,000 tonnes per year of waste.*

Accordingly, the appropriate government approval process for the proposal is SSD under Part 4 of the EP&A Act.

4.3.2 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33) provides definitions for hazardous and offensive industry based on the likely impacts of the proposal. A potentially hazardous industry is defined within SEPP 33 as a development for the purpose of any industry which, if the development were to operate without employing any measures to reduce or minimise its impact, would pose a significant risk to human health, life or property, or to the biophysical environment.

The *Hazardous and Offensive Development – Applying SEPP33 Guideline* sets out a risk screening and threshold procedure to assist in determining whether a particular proposal exceeds specified threshold limits and falls within the definition of a "Potentially Hazardous Industry", and therefore whether SEPP 33 applies. A risk screening procedure to determine whether the proposal exceeds the risk threshold criteria will be considered as part of the EIS to determine whether a Preliminary Hazard Analysis is required.

4.3.3 State Environmental Planning Policy (Three Ports) 2013

The *State Environmental Planning Policy (Three Ports) 2013* (Three Ports SEPP) applies to the proposal as the subject site is located within the Land Application Map for the Port of Newcastle. The site is zoned SP1 – Special Activities under the Three Ports SEPP. Waste management facilities are not listed as prohibited development or as development permitted without consent within the land use zone of SP1, therefore the proposal falls within the classification of development permitted with consent. This confirms the development is consistent with the requirement of Clause 8(1)(a) of the *State Environmental Planning Policy* (*State and Regional Development) 2011*.

The objectives of the SP1 – Special Activities zone as listed in the Three Ports SEPP are:

- *To provide for special land uses that are not provided for in other zones.*
- *To provide for sites with special natural characteristics that are not provided for in other zones.*
- *To facilitate development that is in keeping with the special characteristics of the site or its existing or intended special use, and that minimises any adverse impacts on surrounding land.*
- *To maximise the use of waterfront areas to accommodate port facilities and industrial, maritime industrial, freight and bulk storage premises that benefit from being located close to port facilities.*
- *To enable the efficient movement and operation of commercial shipping and to provide for the efficient handling and distribution of freight from port areas through the provision of transport infrastructure.*
- *To provide for port related facilities and development that support the operations of Port Botany, Port Kembla and the Port of Newcastle.*
- *To facilitate development that by its nature or scale requires separation from residential areas and other sensitive land uses.*
- *To encourage employment opportunities.*

The proposal is consistent with the objectives of the SP1 zone and with the existing activities on site.

The site is not located on land identified as “Lease Area”, “Deferred Area” or unzoned land pursuant to the Three Ports SEPP. Accordingly, as the proposed development is permissible with consent in the SP1 zone, the matters of section 89C of the EP&A Act and Clause 8 of the *State Environmental Planning Policy* (*State and Regional Development) 2011* confirm that the project triggers SSD.

5 STAKEHOLDER CONSULTATION

Consultation will occur with relevant stakeholders during the preparation of the EIS. It is anticipated that the key stakeholders will comprise:

- Relevant government agencies and authorities;
- Adjacent industrial landusers; and
- Relevant community groups.

6 ENVIRONMENTAL MATTERS

6.1 Air Quality

6.1.1 Dust

The site operators currently manage dust by a series of water sprays that are triggered by programmable timer and fed from the main water pond. This pond receives runoff water from the whole site and is topped up by an adjacent licenced spear point. The sprays are supplemented by a site-based water cart that waters roadways and areas out of reach of the sprayers. All transfer points on the mobile crusher have fixed water sprays. Two wheel washes are on the exit road and all outgoing trucks are washed.

The site is approximately 2,200 m from the nearest house in Mayfield East and approximately 3,000 m from the nearest house in Stockton. To assess the potential impacts for the proposal, a quantitative dust impact assessment will be prepared. Deposited dust and dust concentrations will be modelled using CSIRO's TAPM model and the US EPA's CALMET and CALPUFF models.

6.1.2 Odour

While some recycling facilities can cause odour, the current facility neither accepts odour producing waste, nor has it received any odour complaints. The proposed modifications do not entail the acceptance of odour producing waste and therefore no odour modelling is justified or proposed.

6.2 Noise and Vibration

Noise impacts of the operation will be modelled in accordance with the Industrial Noise Policy for day, evening and shoulder periods. Sleep disturbance potential will be specifically considered.

Transport noise impacts will be considered in accordance with the Road Noise Policy.

The site is approximately 2,200 m from the nearest house in Mayfield East and approximately 3,000 m from the nearest house in Stockton (see Figure 1). This significant separation distance from the nearest residential receivers and the limited propensity of the proposed plant to generate ground transmitted vibration means that vibration from the facility would not be felt at the nearest residence.

The nearest landuses include coal stockpiling, oil refining and metal recycling, all of which generate measurable ground vibration and none of which are sensitive to the very low levels of vibration that would be generated by the Boral proposal. Accordingly no quantitative vibration predictions are proposed.

6.3 Surface Water

The site is a flat sandplain that generates little surface flow due to the topography and high infiltration rate. The existing Boral facility is graded so that what surface flows are generated, flow towards a single catchment dam in the northwest corner of the site (see Figure 2). From here the water is recycled for dust suppression.

The proposed extension area is also flat and sandy, but any surface flows generated in very wet weather tend to flow either into a large infiltration channel or directly into the main north south drainage channel that is contiguous with the western boundary of Lot 12 DP 1032146.

The existing water management system will require modification to account for water from the extension area. The EIS will consider the existing system, the potential impact of the proposal, and the required mitigation measures. Specifically the surface water assessment will:

- involve consultation with relevant authorities;
- develop a hydrological/hydraulic model using XP-RAFTS/DRAINS or similar to route runoff on the proposed site through the preferred drainage solution;
- undertake conceptual MUSIC modelling (or similar); and
- report on methodology, assumptions and results and appropriate mitigation measures. This report will discuss water quantity (including on-site detention if applicable), water quality, flooding, wastewater, conceptual erosion and sediment controls and a description of the water demands including any water licensing requirements.

6.4 Flooding

Flood prone land can be defined as that which is susceptible to flooding by either the 1% annual exceedance probability levels (1% AEP) or the probable maximum flood (PMF). The 1% AEP level is equivalent to a 1 in 100 year flood level. The PMF is the largest flood that could conceivably occur at a particular location and is estimated from probable maximum precipitation coupled with the worst flood-producing catchment conditions. While Kooragang Island is some 500 m from the South Arm of the Hunter River, it is above the 1% annual exceedance probability predictions in the Newcastle Floodplain Risk Management Study (Map Series 2) (BMT WBM, 2012).

A flood information certificate obtained from Newcastle City Council (No.2014/227) indicates that the site is located above the estimated PMF level from both ocean flooding (3.4 m AHD) and flooding of the Hunter River (4.5 m AHD). This information is from (BMT WBM, 2012) and the ocean flood level estimates include a sea level rise relative to 1990 mean sea levels of 900 mm by 2100.

BMT WBM (2012) categorizes the site as PMF flood fringe, with regard to probable maximum flooding. Flood fringe is the least severe of the three categories analysed. Accordingly, flooding is not a key issue at the site. The EIS will detail the site elevation with respect to predicted flood levels and discuss any potential flooding impacts either to or from the proposal.

6.5 Groundwater

In 2001, as part of the EIS for the now approved operation, Environmental Resources Management Pty Ltd (ERM) prepared a preliminary assessment of the potential for contaminants to be present. This document (ERM, 2001) noted that the static water table was approximately two metres below the surface.

Kooragang Island is underlain by a discontinuous surficial aquifer, much of it artificially formed by reclamation with sandy dredge spoils. This fill aquifer is underlain by an estuarine aquifer with some assumed interconnection between the two. Neither aquifer is used for drinking water, and the site is some distance from the Tomago and Stockton drinking water resources. The fill aquifer does provide water for industrial uses, including dust suppression water for the Boral facility.

The facility is not expected to intercept groundwater and the additional loading from the proposed stockpiles are expected to have a negligible additional effect on local groundwater systems when compared to the loading from the much larger NCIG stockpiles adjacent. It is unknown what effect that loading from the NCIG coal stockpiles has had on the local groundwater system, if any.

The proposed facility is expected to consume more water for dust suppression than the current operation, and the EIS will detail the predicted water deficit and the expected additional water that might be required to be drawn from the licensed spear point. The proposed incoming wastes are not expected to provide an avenue for the generation of acid or contaminating leachate that might otherwise contaminate the groundwater. The EIS will provide a qualitative assessment of the existing groundwater environment, an analysis of the potential of the proposal to impact this system, and will elaborate on any required mitigation measures.

6.6 Traffic and Transport

The proposed increase in production will increase truck traffic, albeit in an industrial area with an excellent road network. The current Egret Road intersection design provides sheltered turns in both directions from Cormorant Road. Both inward movements are provided with deceleration lanes, the eastbound lane approximately 90 m long and the westbound approximately 130 m long. The left turn from Egret Street onto Cormorant Road has no acceleration lane, however Cormorant Road has two eastbound lanes in this zone. The right movement from Egret Street onto Cormorant Road is prohibited. Cormorant Road, Egret Street and Raven Street are all approved 26 m B-double restricted access (RAV) routes, which means that trucks up to these dimensions are able to use the roads.

The EIS will:

- Report on liaison with Newcastle Council and RMS with regards scope and known issues;
- Collate existing traffic data;
- Conduct traffic counts if background data is insufficient;
- Provide intersection analysis (Sidra); and
- Provide a summary of potential impacts and associated mitigation measures, if any.

6.7 Ecology

The majority of the site has been extensively disturbed and is currently used as an approved waste recycling facility, cement facility and gas terminal and has little ecological value. The proposed stockpile extension area, like the rest of Kooragang Island, is reclaimed land formed primarily of sand from river dredging. Most of the extension area is mowed exotic grassland.

In 2014, SLR Consulting conducted a desktop review and inspection of the site for the potential presence of threatened species and ecological communities. A particularly focus was the Green and Golden Bell Frog (*Litoria aurea*) and whether potentially suitable habitat existed for this species, which is listed as endangered under both the *Threatened Species Conservation Act 1995* (TSC Act) and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). SLR found that the infiltration area in the proposed extension area "*lacked the minimal dampness levels preferred by this species for movement between habitats. During periods of higher rainfall it is possible that individuals of this species could utilise the drainage feature whilst foraging, however, movement and dispersal of adult frog along the drainage feature is unlikely*..."

SLR also noted that the infiltration area contained "*no areas that would constitute suitable breeding habitat for the Green and Golden Bell Frog… and would represent only marginal foraging habitat during high rainfall. In addition there is no aquatic emergent vegetation or shelter material such as rubble or debris, which is used as for shelter (or 'over-wintering') during cold months. A small retention basin in the southern corner of the facility…..may represent some marginal habitat ….although the presence of this species at this location is unlikely. Furthermore, the basin will not be removed or altered by the proposal.*"

In addition, SLR ecologists noted that *"Whilst Kooragang Island does contain a known population* [of the Green and Golden Bell Frog]*, there are very few records of individuals at the eastern end of the island or close to the Boral cement facility (NSW Bionet, 2014). Additionally, recent surveys and mapping of Kooragang Island as part of the T4 Environmental Assessment …… indicate that there are no areas of breeding habitat and no recent records for Green and Golden Bell Frog near the Boral facility."*

EPS's Principal Ecologist subsequently undertook a further site inspection to validate SLR's preliminary advice. This inspection was undertaken on 25 February 2015 and involved a detailed walkover, focusing on the infiltration area in the proposed extension area. Searches for the Green and Golden Bell Frog were also undertaken. This additional site inspection revealed the following:

- The vegetation along the infiltration area is a mixture of planted native species (mostly *Acacia* sp.) and invasive exotic species. It is assumed that the native plants were planted for landscaping or erosion control. Prevalent weeds included Bitou Bush, Prickly Pear, Tobacco Bush, Verbena and Cobbler's Pegs;
- No native remnant vegetation communities exist;
- No threatened flora was observed or is likely to occur;
- Only common bird species were observed such as Willy Wagtail, Grey Fantail, Silvereye, Superb Fairy Wren, Crested Pigeon, Australian Magpie-lark and Australian Magpie. No important habitat for migratory wetland-dependant bird species known to occur in the locality was found.
- No trees likely to contain hollows were observed;
- No important aquatic habitat was observed, in fact the infiltration area is blocked from flowing into the nearby off-site channel by a permanent storm water release valve. This valve is designed only to be opened during periods of flooding rains and according to the Boral Cement site manager it has never actually needed to be opened as heavy rains have always infiltrated the sandy soils quickly. The poor capacity of the infiltration area to retain standing water significantly reduces its potential to form habitat for frogs, particularly breeding habitat;

- EPS supported the conclusions made by SLR in relation to the low likelihood that the site (particularly the infiltration area) would comprise habitat for the Green and Golden Bell Frog; and
- The site provides very poor habitat for any threatened species, population or endangered ecological community listed under the TSC Act, *Fisheries Management Act 1994* or the EPBC Act, aside from possible aerial foraging habitat for mobile species such as bats and birds.

No further targeted additional ecological surveys are warranted for the proposal due to the high level of disturbance of the site and the lack of remnant native vegetation or habitat for threatened species such as the Green and Golden Bell Frog.

It is highly unlikely that any threatened species, population or endangered ecological community would be impacted by the project. In addition, it is highly unlikely that any biodiversity offsets would need to be provided for the project, given the identified lack of remnant native habitats within the site. The EIS will document the existing environment, with special regard to the likelihood of threatened species, communities and populations and will provide a 7 Part Test of Significance for the Green and Golden Bell Frog

6.8 Contamination and Soil

In 2001, as part of the EIS for the now approved operation, ERM prepared a preliminary assessment of the potential for soil and groundwater contaminants to be present. This document found that while the original sources of fill used to construct Kooragang Island may have been impacted by unknown contaminants, the post construction land uses were not expected to have added further contaminants.

Since approval in 2003, the recycling facility has been built and operated. Given that the facility has not installed fuel storage tanks, and nor has it accepted wastes with the potential to contaminate the ground or groundwater, no additional risk of contamination is apparent. Accordingly, no additional contamination assessment is proposed for this EIS.

Acid Sulphate Soils Maps 003 and 004 from the Newcastle Local Environmental Plan (2012) show that the site is not within any areas mapped as having acid sulphate soils. Notwithstanding this mapping, it is likely that at depth under the reclaimed material, the previously intertidal mudflats contain potentially acid sulphate material. However the project will not entail deep excavation, and any potential or actual acid sulphate material, should it occur at depth, will not be disturbed. Further, an inspection of the site shows that the dredge spoil used in reclamation contains a significant proportion of sea shells, which are known to balance acid produced by such oxidation.

Accordingly the project has a very low risk of generating acid from the oxidation of potential acid sulphate materials. No further sampling or assessment of acid sulphate soils is justified or proposed to be undertaken in the EIS.

6.9 Visual Amenity

The proposal is anticipated to result in minor to negligible visual amenity impacts to the locality. The site is within an industrial area with a number of large-scale operations. Directly adjacent to the west is the Newcastle Coal Infrastructure Group (NCIG) facility where coal is stockpiled prior to shipping. The NCIG stockyard has separate stockpiles approximately 1,200 metres long and 25 metres high (the stockpile pad is 4 m high and the coal stockpile itself nominally 21 m high).

Given the significant distance to fixed sensitive receptors (minimum of 2,200 m), the very large coal stockpiles to the north and west, and the already approved 18 m tall flyash silo, the proposal to increase the Boral stockpiles to 20 m high is not expected to result in adverse impacts to the visual landscape. The heavy industrial background landscape, screening of the site from surrounding residential areas and limited impact of the proposal negates the need for photo-montages or other detailed assessment. The EIS will detail the existing and proposed visual landscape and describe potential visual impacts (if any), supported by photographs and required amelioration (again if any).

6.10 Hazards and Risk Impacts

No fuels, gases or chemicals are stored on site. Fuel is delivered daily by mini-tanker. A small pallet bunded oil store is kept in a locked shipping container, which contains engine oils/lubricants, and grease for general plant maintenance. The proposed modifications will not include any change in material storage or refuelling.

A risk screening procedure to determine whether the proposal exceeds the risk threshold criteria will be undertaken as part of the EIS to determine whether a Preliminary Hazard Analysis under SEPP 33 is required.

6.11 Heritage

6.11.1 Aboriginal Heritage

Kooragang Island is an artificial island constructed by the extensive filling (with dredge spoil and blast furnace slag) of an area that previously consisted of a series of tidal mudflats and islands. The Boral site itself is on such fill and has been the site of industrial activity for many years.

A search of the Environment and Heritage Aboriginal Heritage Information Management System for the site and a 1,000 m radius (conducted 19/03/2015) found that no Aboriginal heritage sites have been recorded.

Because of the site's history, there cannot be any in-situ Aboriginal artefacts on the land surface at the Boral site, and consequently it is not proposed to undertake any archaeological survey or due diligence assessment. This approach is in keeping with the 2006 advice from Worimi Aboriginal Land Council with respect to the adjoining NCIG project, the currently exhibited Stolthaven Fuel Terminal EIS and the T4 coal loader EIS. The Boral EIS will provide a brief text description and plans outlining the potential for Aboriginal sites on the site, with reference to known sites.

6.11.2 Historical heritage

As for Aboriginal heritage, the relatively recent construction of Kooragang Island and the occurrence of heavy industry on the site, significantly reduces the potential for the presence of historical heritage values.

The NSW State Heritage Register and Office of Environment, and the NSW Heritage online service for local environment plan and Section 170 Registers, list between them three items on Kooragang Island, all at least 6 km northwest of the Boral Site.

The EIS will provide search results of the various relevant databases, but no heritage survey will be undertaken.

6.12 Socio-Economic

The proposal will provide the following positive socio-economic outcomes:

- It is consistent with and would contribute to the delivery of NSW's recycling strategies and objectives;
- It will continue to promote sustainable waste recovery and recycling in line with strategic planning polices; and
- It aligns with the hierarchy of priorities as outlined in the *Waste Avoidance and Resource Recovery Act 2001*.

Further, the proposal will generate an additional full-time equivalent job on-site and is expected to produce a number of indirect employment opportunities by increasing the sites production capacity from 100,000 tpa to 350,000 tpa.

7 CONCLUSION

Boral proposes to expand its existing recycling facility on Egret St, Kooragang Island as well as to increase production volumes and operational hours. The existing site and approval does not allow Boral to meet current and predicted market demand for recycled products. Specifically, the current site and approval restricts operational flexibility with regards receival, processing and despatch times and volumes.

The changing and growing market for the disposal of wastes and purchase of recycled products, means that recycling operations must be able to respond to daily, seasonal and annual changes in volume and product demand. To allow this flexibility, the Boral operation requires more stockpile volume, needs to be able to accept additional waste types and needs extended operational hours.

8 REFERENCES

(ERM 2001) Environmental Resources Management Pty Ltd 2001 Proposed Slag, Building and Demolition Waste Recycling Plant Kooragang Island Lot 1 DP 594332: Phase I – Preliminary Site Investigation.

(ERM 2002) Environmental Resources Management Pty Ltd 2001 Proposed Slag, Building and Demolition Waste Recycling Plant Kooragang Island Lot 1 DP 594332: Environmental Impact Assessment.

BMT WBM 2012 Newcastle City-wide Floodplain Risk Management Study and Plan