



# **Shoalhaven City Council**

## **Proposed Resource Recovery Park, West Nowra State Significant Development Supporting Document**

February 2015



# Executive summary

## OVERVIEW

Shoalhaven City Council (Council) wishes to have the construction and operation of a Resource Recovery Park (RRP) at West Nowra (referred to in this report as 'the proposal') considered for approval under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (the EP&A Act).

Council is seeking a staged development application for the proposal in accordance with Section 83B of the EP&A Act. That is, the RRP and Master Plan for the site would be developed in stages and these stages would be subject to separate development applications.

This report has been prepared to support a request to the NSW Department of Planning and Environment to receive the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an EIS under Part 4 of the EP&A Act.

This supporting document provides an outline of the statutory approvals process, a description of the proposal, a preliminary assessment of potential environmental issues and an outline of the proposed scope of assessment in the EIS.

## THE PROPOSAL

The proposal is defined as the construction and operation of a RRP with combined capacity to receive and process up to 130,000 tonnes of waste per year, comprising:

- A composting facility to process up to 65,000 tonnes of waste per year from both domestic and commercial waste sources.
- A materials recovery facility for sorting up to 40,000 tonnes of dry (non-putrescible) solid wastes per year from both domestic and commercial waste sources.
- A sorting and recovery facility for approximately 15,000 tonnes per year of construction and demolition (C&D) waste
- Other areas for processing and storing approximately 10,000 tonnes per year of other recyclable materials, such as green waste, scrap steel and concrete.

The proposal also includes ancillary infrastructure including:

- Circulation roadways and weighbridges for entering and exiting vehicles
- Offices and amenities
- Sediment / detention basins
- Car parking for up to 30 cars plus 10 visitor spaces
- Fencing around the perimeter of the site
- Asset protection zones (APZs).

The proposal is expected to take approximately 12-18 months to construct. This includes demolition of the existing Animal Shelter building, site clearance and preparation, construction of erosion and sediment control infrastructure, earthworks and of new buildings/sheds and installation of equipment.

The capital investment cost of the proposal is estimated to be between \$65 million. The final cost of the proposal would be determined by the technology selected and the final design of the facility.

## LOCATION

The proposal would be located at 114 Flatrock Road in West Nowra (City of Shoalhaven), specifically, a 3.6 hectares (ha) site which currently operates as an animal shelter (Lot 342 DP 257515). The proposal site is approximately 5 kilometres (km) west of the Nowra Central Business District, and adjacent to the existing West Nowra Recycling and Waste Facility.

## NEED FOR THE PROPOSAL

### *Strategic need*

The proposal would deliver outcomes consistent with national and state legislation and strategies for sustainable waste management. These include the National Waste Policy, the 'NSW Waste Avoidance and Resource Recovery Strategy 2014-21' and 'NSW 2021'.

The proposal aligns with the philosophy of viewing waste as a resource – and recovering resources in their highest net resource value state. The recovery of resources in this manner creates value from the waste stream.

The proposal forms part of an overall strategy for the council to become a leader in the recovery of recyclable materials from the waste stream, and minimise the quantities of waste disposed to landfill by re-using and processing waste types that would normally end up in landfill.

### *Regional drivers*

There are two landfills in the local government area: the Huskisson landfill and West Nowra landfill. Huskisson landfill only accepts general solid waste (non-putrescible).

The West Nowra landfill is the only general solid waste (putrescible) landfill in the Shoalhaven. Based on carrying on operations at the current rate of disposal and current landfill design, the landfill is projected to reach full capacity in 2024.

There is a need for additional capacity to manage and dispose of putrescible waste from the Shoalhaven beyond 2024. The proposal would help reduce waste to landfill and extend the life of the West Nowra landfill potentially a further 13 years.

In addition, the increased diversion of waste from landfill would assist Council to reduce future financial liabilities associated with the section 88 Waste and Environment Levy. The proposal would reduce the volume of waste being disposed of to landfill and therefore reduce the future levy payments of Council.

## PROPOSAL BENEFITS

Overall the proposal would:

- Divert valuable resources from landfill and remit recovery and recycling of resources from the waste stream
- Extend the life of the West Nowra landfill to allow it to continue to serve the local community's waste disposal needs further into the future
- Contribute to the achievement of the targets for increased recycling and landfill diversion in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*
- Provide benefits through development of a new industry and new employment opportunities in the Shoalhaven

## **PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT**

Based on consultation with Council, information available about the proposal, technology and processing, environmental controls proposed and previous environmental assessments undertaken, the priority environmental issues for further assessment are considered to include:

- Air quality
- Flora and fauna
- Soil and water
- Hazards and bushfire risks
- Traffic
- Aboriginal heritage
- Noise
- Greenhouse gas



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# 1. Introduction

## 1.1 Background

Shoalhaven City Council (Council) wishes to have the construction and operation of a Resource Recovery Park (RRP) at West Nowra (referred to in this report as 'the proposal') considered for approval under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (the EP&A Act).

Council is seeking a staged development application for the proposal in accordance with Section 83B of the EP&A Act. That is, the RRP and Master Plan for the site would be developed in stages and these stages would be subject to separate development applications.

## 1.2 Purpose of this report

This report has been prepared to support a request to the NSW Department of Planning and Environment to receive the Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an EIS under Part 4 of the EP&A Act.

This supporting document provides an outline of the statutory approvals process, a description of the proposal, a preliminary assessment of potential environmental issues and an outline of the proposed scope of assessment in the EIS.

The EIS would be completed in accordance with the scope outlined in this document, the requirements of the Secretary and all relevant NSW and Commonwealth environmental legislation.

## 1.3 Overview of the proposal

The proposal is defined as the construction and operation of a RRP with combined capacity to receive and process up to 130,000 tonnes of waste per year, comprising:

- A composting facility to process up to 65,000 tonnes of waste per year from both domestic and commercial waste sources.
- A materials recovery facility for sorting up to 40,000 tonnes of dry (non-putrescible) solid wastes per year from both domestic and commercial waste sources.
- A sorting and recovery facility for approximately 15,000 tonnes per year of construction and demolition (C&D) waste
- Other areas for processing and storing approximately 10,000 tonnes per year of other recyclable materials, such as green waste, scrap steel and concrete.

The proposal also includes ancillary infrastructure including:

- Circulation roadways and weighbridges for entering and exiting vehicles
- Offices and amenities
- Sediment / detention basins
- Car parking for up to 30 cars plus 10 visitor spaces
- Fencing around the perimeter of the site
- Asset protection zones (APZs).

As the alternative waste technology provider has not yet been selected (it will be part of a formal tendering process) the details required for a full development application are not currently

available. Council is therefore seeking a staged development application for the proposal. That is, the resource recovery park (master plan) would be developed in stages and these stages would be subject to separate development applications.

Stage 1 of the proposal comprises clearing of land and provision of basic infrastructure on the nominated site, which would be undertaken by Council or contractors appointed by Council as part of early construction works.

Stage 2 of the proposal would be undertaken by an alternative waste technology provider/facility operator, who would be selected by a tendering process to provide the specialised resource recovery facilities.

It is anticipated that the successful alternative waste technology provider/facility operator would submit separate development applications for the remainder of the resource recovery park and master plan including the composting facility, materials recovery facility and C&D sorting and recovery facility technology/processes, buildings, services and internal roadways. These would be based on the specific technologies and designs that they have put forward in their tender.

## **1.4 Proposal objectives**

The objectives of the proposal are to:

- Reduce the amount of waste requiring landfill disposal, and thereby extend the life of the West Nowra landfill to allow it to continue to serve the local community's waste disposal needs further into the future
- Improve resource recovery rates in line with the objectives of the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*, which includes targets for diverting more waste from landfill and increasing recycling.

## **1.5 Location of the proposal**

The proposal would be located at 114 Flatrock Road in West Nowra (City of Shoalhaven), specifically, a 3.6 hectares (ha) site which currently operates as an animal shelter (Lot 342 DP 257515). The proposal site is approximately 5 kilometres (km) west of the Nowra Central Business District, and adjacent to the existing West Nowra Recycling and Waste Facility.

## **1.6 Scope and limitations**

This report has been prepared by GHD for Shoalhaven City Council and may only be used and relied on by Shoalhaven City Council for the purpose agreed between GHD and the Shoalhaven City Council as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Shoalhaven City Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Shoalhaven City Council and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

## 2. Site details

### 2.1 Site location

The proposal site is approximately five kilometres to the west of the Nowra Central Business District and is accessed from Flatrock Road, off Yalwal Road in West Nowra (refer to Figure 2.1).

The proposal site is adjacent to the existing landfill and is located on an approximate 3.6 ha parcel of land (Lot 342 DP 257515), which is owned by the proponent. The land is currently used as an animal shelter with associated kennels and paddocks for impounded and surrendered animals.

### 2.2 Surrounding development and potentially affected properties

A small number (approximately six) of rural residential properties are located approximately 700 m south of the proposal site and a rural residential property located approximately 900 m to the north east. The Shoalhaven Campus of the University of Wollongong is located approximately 1.3 km to the south-east.

The existing West Nowra landfill is immediately to the west of the proposal site.

The Office of Environment and Heritage (OEH) Nowra Area Office and Depot is located immediately to the southeast.

The remaining land to the north and east of the proposal site is undeveloped bushland – primarily the Bamarang Nature Reserve and/or land owned by the Nowra Local Aboriginal Land Council and the proponent.

### 2.3 Location of key infrastructure and environmental features

The land is currently occupied by an animal shelter and associated buildings. The majority of it is cleared with some small paddocks around the kennels. There is approximately 0.5 ha of relatively intact (though degraded) vegetation in the south of the lot where the site fronts Flatrock Road.

Around the boundaries and scattered over the northern half of the land are numerous remnant and regrowth Scribbly Gums (*Eucalyptus sclerophylla*) and Red Bloodwood (*Corymbia gummifera*) with small areas of native shrubs and occasionally mown or slashed vegetation.

There are a number of small dams scattered through the north of the site. The current entrance to the site is currently off Flatrock Road. There is a small carpark in front of the animal shelter building.



Figure 2.1 Location plan



## 3. Description of the proposal

### 3.1 The proposal

The proposal is defined as 'a Resource Recovery Park with combined capacity to receive and process up to 130,000 tonnes of waste per year', comprising:

- A composting facility to process up to 65,000 tonnes of waste per year from both domestic and commercial waste sources.
- A materials recovery facility for sorting up to 40,000 tonnes of dry (non-putrescible) solid wastes per year from both domestic and commercial waste sources.
- A sorting and recovery facility for approximately 15,000 tonnes per year of construction and demolition (C&D) waste
- Other areas for processing and storing approximately 10,000 tonnes per year of other recyclable materials, such as green waste, scrap steel and concrete.

The proposed alternative waste technology for the composting facility has not yet been selected and will not be known until Stage 2 of the project.

The RRP buildings, roadways and other infrastructure would be located on the site that is currently occupied by the animal shelter. Additional facilities would also be required on the existing landfill site to support the operation of the RRP. These may include but not be limited to, a waste education centre, greater areas for additional public car parking, a public C&D waste drop-off area and a compost maturation area. These are part of the overall Master Plan proposal for which approval is being sought.

### 3.2 Staging

It is proposed that the RRP and Master Plan for the site would be developed in stages and these stages would be subject to separate development applications (DAs). The first stage of development (Stage 1) would include:

- Demolition of the existing animal shelter
- Site preparation and clearing of the site
- Construction of perimeter, entry/exit and service roads and line marking
- Installation of perimeter/boundary fencing
- Weighbridge and weighbridge office
- Staff and visitor car parking, including line marking
- Detention and sedimentation dams/basins
- Identification of asset protection zones

Subsequent DAs would be submitted by the alternative waste technology provider/facility operator for the construction and operation of the remainder of the RRP and Master Plan including the composting facility, materials recovery facility and C&D sorting and recovery facility technology/processes, buildings, services and internal roadways.

### 3.3 Proposed facilities and infrastructure

A building or buildings would be provided to enclose the composting facility and materials recovery facility components of the proposal. A shed would be provided for the construction and

demolition sorting, although some mechanical processing (crushing) may be conducted outdoors. Raw and processed materials and finished products would likely be stockpiled and stored outdoors, predominantly on the existing landfill site.

Details of the proposed buildings and access road arrangements for Stage 1 would be provided in the EIS. The building sizes and locations are indicative at this stage, and would be better defined in the approvals documentation to be prepared by the alternative waste technology provider/facility operator.

A service road would be provided to permit sealed vehicle access around the perimeter of the proposal site.

Offices and amenities would be provided on site. These would likely include a toilet and a kitchenette and shower facilities. All facilities would meet regulatory and building requirements related to the number of people employed.

Employee parking for up to 30 vehicles, plus 10 visitor spaces would be provided within the proposal site. Buses would be required to park offsite, on neighbouring land to the west of the proposal site.

The proposal site would be fenced with 1.8 metre high cyclone fencing, with two barbed wire strands at the top of the fence. The western side of the site is already fenced, so this would match the existing fence.

### **3.4 Processing and operations**

#### **3.4.1 Composting process**

The composting processes have not been selected but are expected to involve either tunnel composting, or composting in bays in a ventilated composting hall. Whichever process is chosen and used, there will be a need for exhaust air from the composting processes to be passed through a biofilter or another odour management device, before being discharged to the external environment.

The first process to occur on site would be an inspection of the incoming waste materials, which would likely be deposited onto the floor. If food and garden organics are processed, any contamination would be removed from the raw material whilst it is on the floor.

It is likely that the material would then go through a manual picking line, where people stand alongside a conveyor belt, and the material is visually inspected and contamination removed before going into another stockpile prior to a shredder. The material would be loaded into a shredder using a front end loader or grab system. The shredder would be used to grind the material into fine material so that it can be composted.

If mixed waste is processed, rather than food and garden organics, any large items would first be removed from the waste manually, whilst the material is on the floor. A manual picking line using a conveyor belt would be used to remove any hazardous items, and other items unsuitable for composting. The material would then likely pass through one or more rotating trommels and screens, with the fine fraction of the material passing through the screens and onto a conveyor to be transported to the composting area.

Material rejected by the facility would be disposed of at the existing landfill, or otherwise managed in accordance with regulatory requirements e.g. car batteries or gas cylinders.

Staff would be trained to identify hazardous items and procedures for their handling and management/disposal.

### **3.4.2 Materials recovery facility process**

The materials recovery facility process would be designed specifically to suit the waste stream that is delivered to it. There are likely to be a number of sources of waste – retail shops, offices and factories, kerbside domestic recyclables. Only dry wastes would be processed at the facility.

The processes used may include equipment such as manual picking lines to remove recyclable items, and hazardous items, trommels to separate paper from bulky materials, vibrating screens to sort materials by weight, and magnets and eddy current separators to recover steel and non-ferrous metals.

If food and garden organics only processing occurs in the composting facility, the materials recovery process line would be completely separated from the organics line. On the other hand, if the composting facility processes mixed waste, the receipt and sorting component of the materials recovery facility may be either fully or partially integrated with the front end of the composting facility.

Material rejected by the facility would be disposed of at the existing landfill, or otherwise managed in accordance with regulatory requirements.

### **3.4.3 Construction and demolition sorting and recycling process**

The activities conducted in this area would involve inspection of wastes brought into the area to determine if hazardous materials are present (unlikely but possible). Unsuitable items would be removed at this point.

Once a stockpile has been inspected and contaminants removed, long and bulky items such as lengths of wood or metal would likely be put onto a heavy duty conveyor using a front end loader. Various mechanical and/or manual processes would be used to sort the material into different types –timber, concrete and brick, cardboard, and miscellaneous materials.

## **3.5 Environmental management**

### **3.5.1 Odour management**

Subject to the alternative waste technology option selected for composting, either the entire composting processing building(s) may need to be sealed from outdoors and actively ventilated or only specific areas of the buildings, for example the composting tunnels or composting hall, may need to be sealed from the outdoors and actively ventilated. The exhaust air from forced ventilation would be treated through a biofilter or another odour mitigation system.

Other indoor areas where waste is received and inspected before processing may only require sufficient ventilation to create a negative pressure environment. The air exhausted from these areas may not require treatment before discharge, as it may not be very odorous. In addition, odours may only be present at certain times of the day, when material is being delivered and inspected, and prepared for processing. It may therefore only be necessary to ventilate via a biofilter or other odour control device during these times.

The biofilter(s) would be enclosed and vented via a biofilter stack(s). The actual size and type of biofilter would be determined by the alternative waste technology type, and by consideration of which areas of the buildings are to be ventilated and the overall air volumes contained within them.

### **3.5.2 Water and leachate management**

A sediment dam would be designed to manage sediment runoff from the outdoor sections of the C&D waste processing area, and the paved areas surrounding the building. Stormwater



detention basin(s) would be located on the site to collect water from the C&D processing shed roof (other than that collected by rainwater tanks) and any water that bypasses the sediment dam system serving the C&D area as well as excess roof water from the composting facility and materials recovery facility building(s) and from paved areas of the site.

Roof runoff water would be collected in rainwater collection tanks for re-use within each facility. Potential uses include the resource recovery park processes, dust suppression, flushing toilets, wash-down tap / facilities and watering of landscaped areas.

It is expected that any washdown water/leachate from within the composting facility / materials recovery facility building(s) would be collected in a tank(s) and recirculated into the composting process. Washdown water from within the C&D shed would also be collected and treated before discharge.

Details of the proposed water management and leachate management infrastructure would be provided in the EIS.

### **3.6 Utilities and services**

#### **Electricity**

Electricity is already supplied to the existing buildings on the proposal site, and is also being generated on the adjacent site from the landfill gas power plant. This Endeavour Energy (electricity provider) infrastructure would be utilised to supply electricity for the composting and material sorting equipment. The peak power supply requirements are likely to be of the order of 1.0 to 1.5 MW. The capacity of the existing supply wires and transformers, and of the district supply infrastructure is currently being verified. If necessary, required upgrades would be implemented.

#### **Communications**

The proposal site would be provided with telephone, computer and data cable access. Standard telephone cabling and two-way radio / mobile telephones would provide the required telecommunication services. Internet access would be provided via ADSL or Wi-Fi. These services are already available at the site.

#### **Water supply**

Water would be drawn from local reticulated main supplies, which is already available at the site. Apart from potable water, which would be used for showering and drinking purposes, water collected in large rainwater tanks would be used to clean equipment and floors, toilet flushing, and for other industrial purposes. It would also be used for watering landscaped areas.

#### **Wastewater management**

Wastewater from the proposal site from the amenities facilities would be managed separately to any wastewater arising from composting or other resource recovery park activities. Since Council's reticulated sewerage system does not currently service the site, an onsite sewage package treatment plant would be provided.

### **3.7 Hours of operation**

The proposal would operate from 8 am to 5 pm seven days a week, including Christmas Day and Good Friday.

### 3.8 Project cost (capital investment)

The capital investment cost of the proposal is estimated to be \$65 million. The final cost of the proposal would be determined by the technology selected and the final design of the facility.

### 3.9 Waste streams

#### Current incoming waste quantities

Quantities of wastes currently received at the West Nowra landfill are shown in Table 3.1.

**Table 3.1 2013/14 waste streams and quantities**

| Waste stream                      | Quantity (tonnes per year) | Likely classification                                                      |
|-----------------------------------|----------------------------|----------------------------------------------------------------------------|
| Asbestos                          | 1,244                      | Special waste                                                              |
| Steel                             | 611                        | General solid waste (non-putrescible)                                      |
| Construction and demolition waste | 4,922                      | General solid waste (non-putrescible)<br>General solid waste (putrescible) |
| Commercial waste                  | 24,951                     | General solid waste (putrescible)                                          |
| Kerbside collected waste          | 25,051                     | General solid waste (non-putrescible)                                      |
| Domestic drop off waste           | 7,513                      | General solid waste (putrescible)                                          |
| Municipal waste                   | 2,443                      | General solid waste (putrescible)                                          |
| Tyres                             | 17                         | Special waste                                                              |
| Green waste                       | 3,024                      | General solid waste (non-putrescible)                                      |
| E-waste                           | 59                         | General solid waste (non-putrescible)                                      |
| Mattresses                        | 76                         | General solid waste (non-putrescible)                                      |
| VENM                              | 3,017                      | General solid waste (non-putrescible)                                      |
| <b>Total</b>                      | <b>72,928</b>              |                                                                            |

#### Future waste incomings

Expected waste streams and quantities are shown in Table 3.2, along with expected waste classifications as per EPA (2015) *Waste Classification Guidelines*. Future waste incomings were modelled to increase in line with expected increases in population. This shows waste received is expected to increase to close to 125,000 tonnes per year by 2037.

**Table 3.2 Estimated future waste streams and quantities**

| Waste stream                      | Quantity (tonnes per year) |        |        | Likely classification                                                      |
|-----------------------------------|----------------------------|--------|--------|----------------------------------------------------------------------------|
| Year                              | 2017                       | 2027   | 2037   |                                                                            |
| Asbestos                          | 1,313                      | 1,515  | 1,730  | Special waste                                                              |
| Steel                             | 644                        | 733    | 835    | General solid waste (non-putrescible)                                      |
| Construction and demolition waste | 8,890                      | 10,259 | 11,715 | General solid waste (non-putrescible)<br>General solid waste (putrescible) |
| Commercial waste                  | 26,339                     | 30,393 | 34,707 | General solid waste (putrescible)                                          |
| Kerbside collected waste          | 26,444                     | 30,515 | 34,846 | General solid waste (non-putrescible)                                      |
| Kerbside collected recyclables    | 12,980                     | 14,785 | 16,840 | General solid waste (non-putrescible)                                      |
| Domestic drop off waste           | 7,931                      | 9,152  | 10,450 | General solid waste (putrescible)                                          |

|                 |               |                |                |                                       |
|-----------------|---------------|----------------|----------------|---------------------------------------|
| Municipal waste | 2,568         | 2,964          | 3,384          | General solid waste (putrescible)     |
| Tyres           | 18            | 21             | 24             | Special waste                         |
| Green waste     | 3,192         | 3,684          | 4,206          | General solid waste (putrescible)     |
| E-waste         | 62            | 71             | 81             | General solid waste (non-putrescible) |
| Mattresses      | 80            | 91             | 104            | General solid waste (non-putrescible) |
| VENM            | 3,185         | 3,675          | 4,197          | General solid waste (non-putrescible) |
| <b>TOTAL</b>    | <b>93,647</b> | <b>107,856</b> | <b>123,118</b> |                                       |

### 3.10 Construction

The proposal (Stages 1 and 2) is likely to take approximately 12-18 months to construct. This includes demolition of the existing Animal Shelter building, site clearance and preparation, construction of erosion and sediment control infrastructure, earthworks and of new buildings/sheds and installation of equipment.

The construction workforce is likely to range from 5 to 10 people during the earthworks phase and peak at 25 people, when major concrete pours are occurring. There would probably be on average 10 to 15 people on site for the duration of construction works.

Construction working hours would be undertaken during the periods specified in the Interim Construction Noise Guidelines (DECC, 2009). Those are:

- 7 am to 6 pm Monday to Friday
- 8 am to 1 pm Saturdays
- No work on Sundays or Public Holidays.

## 4. Permissibility and strategic planning

### 4.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) contains the core legislation relating to planning and development activities in NSW. It is the principal law overseeing the assessment and determination of development proposals. All development in NSW is assessed in accordance with the provisions of the EP&A Act.

#### 4.1.1 Part 4 of the EP&A Act

Part 4 of the EP&A Act provides for the control of development that requires development consent from a consent authority. Depending on the circumstances of the project, the consent authority may be the local Council or the Minister.

Part 4, Division 4.1 of the EP&A Act establishes an approval regime for development that is declared to be State Significant Development (SSD) by either a State Environmental Planning Policy (SEPP) or Ministerial Order. In accordance with Section 89E of the EP&A Act, the Minister is the consent authority for SSD. Pursuant to sub-section 78A(8A) of the EP&A Act, an environmental impact statement (EIS) is required to support a development application for SSD.

Council is seeking a staged development approval for the proposal in accordance with Section 83B of the EP&A Act. That is, the resource recovery park and master plan for the site would be approved in concept, but they would be developed in stages and each of these stages would be approved via separate development applications once sufficient information is available.

#### 4.1.2 Approval process

SSD to which Division 4.1 of the EP&A Act applies is identified in the *State Environmental Planning Policy (State and Regional Development) 2011* (State and Regional Development SEPP) and in declarations made by the Minister. The proposal is considered to be 'State significant development' as it is of a type listed in Schedule 1 of the State and Regional Development SEPP (refer to Section 4.2.1).

The Minister is therefore the consent authority for the proposal and a development application is required to be lodged with the NSW Department of Planning and Environment, accompanied by an EIS. The EIS would be placed on public exhibition for a period of at least 30 days to allow public and agency submissions to be lodged, after which the proponent may be requested to respond to issues raised in the submissions.

### 4.2 Environmental planning instruments

Environmental planning instruments (EPIs) are legal documents that are prepared under the EP&A Act to regulate land use and development. EPIs consist of SEPPs and local environmental plans (LEPs).

#### 4.2.1 State environmental planning policies

##### *State Environmental Planning Policy (State and Regional Development) 2011*

The State and Regional Development SEPP identifies development:

- To which the State significant development assessment and approval process under Division 4.1 of Part 4 of the EP&A Act
- That is State significant infrastructure and critical State significant infrastructure.

Development that is specified in Schedule 1 or Schedule 2 is declared to be State significant development. Clause 23 of Schedule 1 states that the following development is State significant development:

*(1) Development for the purpose of regional putrescible landfills or an extension to a regional putrescible landfill that:*

*(a) has a capacity to receive more than 75,000 tonnes per year of putrescible waste, or*

*(b) has a capacity to receive more than 650,000 tonnes of putrescible waste over the life of the site, or*

*(c) is located in an environmentally sensitive area of State significance.*

*(2) Development for the purpose of waste or resource transfer stations in metropolitan areas of the Sydney region that handle more than 100,000 tonnes per year of waste.*

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

*(4) Development for the purpose of waste incineration that handles more than 1,000 tonnes per year of waste.*

*(5) Development for the purpose of hazardous waste facilities that transfer, store or dispose of solid or liquid waste classified in the Australian Dangerous Goods Code or medical, cytotoxic or quarantine waste that handles more than 1,000 tonnes per year of waste.*

*(6) Development for the purpose of any other liquid waste depot that treats, stores or disposes of industrial liquid waste and:*

*(a) handles more than 10,000 tonnes per year of liquid food or grease trap waste, or*

*(b) handles more than 1,000 tonnes per year of other aqueous or non-aqueous liquid industrial waste.*

The proposal includes a resource recovery park with combined capacity to receive and process up to 130,000 tonnes of waste per year, comprising:

- A composting facility to process up to 65,000 tonnes of waste per year from both domestic and commercial waste sources.
- A materials recovery facility for sorting up to 40,000 tonnes of dry (non-putrescible) solid wastes per year from both domestic and commercial waste sources.
- A sorting and recovery facility for approximately 15,000 tonnes per year of construction and demolition (C&D) waste
- Other areas for processing and storing approximately 10,000 tonnes per year of other recyclable materials, such as green waste, scrap steel and concrete.

As the capacity of the proposed RRP is greater than 100,000 tonnes per year it is considered to be State Significant Development.

### **State Environmental Planning Policy (Infrastructure) 2007**

*The State Environmental Planning Policy (Infrastructure) 2007 (the Infrastructure SEPP) aims to facilitate the effective delivery of infrastructure across the State through increased regulatory certainty and improved efficiency and flexibility in the location of infrastructure and service facilities, while also providing for adequate stakeholder consultation.*

Clause 121 of the Infrastructure SEPP outlines waste or resource management facilities which are permissible with consent. Clause 121(1) states:

*Development for the purpose of waste or resource management facilities, other than development referred to in subclause (2), may be carried out by any person with consent on land in a prescribed zone.*

The proposal is considered to be for the purpose of a waste or resource management facility (but not a waste transfer station as per subclause (2)).

The site is located on land zoned SP2 – Infrastructure under the *Shoalhaven Local Environmental Plan 2014* which is a prescribed zone.

The proposal is therefore considered permissible with consent under Clause 121 of the Infrastructure SEPP.

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

*The State Environmental Planning Policy No. 33 – Hazardous and Offensive Development* (SEPP 33) requires developers and consent authorities to assess the hazards and risks associated with a proposed development before approval is given for construction and operation. The EIS will contain a hazard and risk report which will assess, among other matters, whether the proposed development amounts to a potentially hazardous industry and whether a preliminary hazard analysis is required under SEPP 33.

Under SEPP 33, a potentially hazardous industry means a development for the purposes 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. SEPP 33 requires developments that are potentially hazardous to have a preliminary hazard analysis (PHA) prepared to determine the risk to people, property and the biophysical environment at the proposed location and in the presence of controls.

A potentially offensive development means a development for the purposes of an industry which, if the development were to operate without employing any measures to reduce or minimise its impact, would emit a polluting discharge in a manner which would have a significant adverse impact. Development that requires an environment protection licence (EPL) NSW EPA is considered to be potentially offensive. However, by definition, the level of offence is generally not considered to be significant if the relevant EPLs can be obtained.

A new EPL would also be required for the operation of the RRP facility. As a result of the facility holding this licence it is considered to be a 'potentially offensive industry'.

It is therefore, considered to be a 'potentially offensive industry'. If the EPA considers that the proposal can be issued with the required EPL, under the guidelines that apply to SEPP 33, then the proposal is not likely to be considered to be an 'offensive industry'.

### **State Environmental Planning Policy No. 55 – Remediation of Land**

The aims and objectives of *State Environmental Planning Policy No. 55* (SEPP 55) are to provide a state-wide planning approach to contaminated land remediation and to promote the remediation of contaminated land to reduce risk of harm.

SEPP 55 restricts consent authorities from issuing development consent on land that may be contaminated, unless the consent authority is satisfied that the land in question is suitable for development, or would be suitable if the appropriate remediation was undertaken.

The aims and objectives of SEPP 55 would be considered in the EIS and the potential for the site to be contaminated and whether this presents any unacceptable risks to human health would be assessed.

## **Illawarra Regional Environmental Plan No. 1**

The *Illawarra Regional Environmental Plan No.1* (IREP) applies to all land within the Shoalhaven local government area and therefore it applies to the site.

Part 2 of the IREP relates to rural land within the Illawarra region. The proposal is not located on land which is zoned for rural purposes however it is currently used for rural purposes. Clause 11 of the REP states the following objectives relating to rural lands:

- (a) to retain the productive capacity of prime crop and pasture lands,*
- (b) to protect valuable natural environments, as identified on sheets 1–10, 14, 15 and 17 of the map,*
- (c) to provide for wildlife movement between major protected wildlife habitats,*
- (d) to effectively manage the development of rural lands having regard to flood potential, bushfire risks, salinisation, soil degradation, erosion and weed infestation,*
- (e) to allow for the development of small rural holdings in appropriate locations,*
- (f) to prevent uneconomic demand for State Government services,*
- (g) to allow for future urban expansion,*
- (h) to retain the scenic attributes of rural areas, and*
- (i) to provide for developments which by virtue of their character require siting away from urban areas.*

The proposal is considered to be consistent with the IREP as it would provide for a development (resource recovery park) which by virtue of their character require siting away from urban areas. The development of the proposal would also be a driver for the future urban expansion into the rural lands located to the east of the rail corridor. The proposal would not significantly impact upon the scenic attributes of the area as the existing waste facility already exists on land to the west of the proposal.

There are no specific provisions of the IREP which apply to the proposal.

## **NSW Biodiversity Offsets Policy for Major Projects**

The NSW biodiversity offsets policy for major projects (the policy) applies to State Significant Development and State Significant Infrastructure. Due to the capacity of this proposal being more than 100,000 tonnes per year it is considered State Significant Development and therefore this policy applies.

This policy attempts to standardise biodiversity impact assessment and offsetting for major project approvals across NSW. The aims and objectives of the policy are to improve outcomes for the environment and communities while providing a practical and achievable offset scheme for proponents. The policy refers to offsets and supplementary measures as ways of compensating for biodiversity losses.

The policy is currently in a transitional period during which the application of the policy will be compulsory but a more flexible approach will be permitted to appropriately deal with any technical issues, practical implementation issues or potential perverse outcomes that may arise.

The policy is underpinned by the Framework for Biodiversity Assessment (FBA) which commenced in October 2014. This provides the methodology for assessing impacts and determining biodiversity offsets for major projects. The FBA outlines the process of quantifying the impact assessment of a project and determining the appropriate offset or supplementary measures required.



## 4.2.2 Local environmental plans

### Shoalhaven Local Environmental Plan 2014

The proposal is located in the Shoalhaven local government area, and therefore is subject to the *Shoalhaven Local Environmental Plan 2014* (Shoalhaven LEP).

Under the Shoalhaven LEP the site is zoned SP2 – Infrastructure (Waste/Resource Management Facility).

The development of a resource recovery park is permissible with consent in the abovementioned zone.

The objectives of the applicable zone and the consistency of the proposal with these objectives are provided in Table 4.1.

**Table 4.1 Consistency with relevant zone objectives**

| Objective                                                                                                   | Consistency/ discussion                                                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SP2 – Infrastructure                                                                                        |                                                                                                                                                                                                                                                        |
| To provide for infrastructure and related uses                                                              | The proposal involves the construction and operation of a resource recovery park which is permitted under the zone. This use would also be consistent with the neighbouring zones to the west which are currently occupied by the West Nowra Landfill. |
| To prevent development that is not compatible with or that may detract from the provision of infrastructure | The proposal includes the provision of infrastructure which would benefit the Nowra and greater Shoalhaven area.                                                                                                                                       |

## 4.3 Other applicable NSW legislation

### 4.3.1 Protection of the Environment Operations Act 1997

The NSW *Protection of the Environment Operations Act 1997* (POEO Act) establishes, amongst other things, the procedures for issuing of licences for environmental protection on aspects such as waste, air, water and noise pollution control. The owner or occupier of premises engaged in scheduled activities is required to hold an EPL and comply with the conditions of that licence.

The proposed RRP facility would meet the definitions in Clause 34 of the POEO Act for the recovery of general waste as it would treat greater than 30,000 tonnes of general waste per year (up to 200,000 tonnes per year) and therefore an EPL would be required to be obtained for these works.

The existing West Nowra Recycling and Waste Facility, which is located on the land adjacent to the proposal currently holds an EPL (licence number 5877). Council would be required to determine whether it modifies the current licence to include the proposal or apply for a separate licence for the proposal.

### 4.3.2 Roads Act 1993

The NSW *Roads Act 1993* (Roads Act) provides the statutory framework for the management of public roads within NSW. The Roads Act is administered by NSW Roads and Maritime Services (RMS), local councils or the Department of Lands. RMS has jurisdiction over major roads, local councils over minor roads and the Department of Lands over road reserves or Crown roads.



Section 138 of the Roads Act requires that a person obtain the consent of the appropriate roads authority to erect a structure, or carry out a work in, on or over a public road, or dig up or disturb the surface of a public road.

All roads in the vicinity of the proposal are unclassified roads under the care and control of Shoalhaven City Council. Due to the application of Clause 5 of Schedule 2, Shoalhaven City Council does not require consent to disturb the surface of the roads.

#### **4.3.3 Threatened Species Conservation Act 1995**

The NSW *Threatened Species Conservation Act 1995* (TSC Act) requires that significance assessments be completed for all endangered ecological communities, threatened populations and species listed under the TSC Act that would be directly or indirectly affected by the proposal.

An ecological impact assessment would be undertaken as part of the EIS and would include any significance assessments for all required communities or species.

#### **4.3.4 National Parks and Wildlife Act 1974**

The NSW *National Parks and Wildlife Act 1974* (NPW Act) aims to protect native flora and fauna, and the integrity of any Aboriginal heritage items in NSW.

The NPW Act was amended in 2010 with the major changes relating to the Aboriginal heritage provisions and, in particular, due diligence and liability associated with impacts on items of Aboriginal heritage significance.

A Section 90 Aboriginal heritage impact permit under the NPW Act is not required for approved State Significant Development. An assessment of Aboriginal heritage would be included in the EIS.

#### **4.3.5 Contaminated Land Management Act 1997**

The general object of the *Contaminated Land Management Act 1997* (CLM Act) is to establish a process for investigating and, where appropriate, remediating land areas where contamination presents a significant risk of harm to human health or some other aspect of the environment.

Under the CLM Act, OEHL can issue investigation and remediation orders for sites that are considered to be contaminated. No such orders have been issued in relation to the proposal site.

#### **4.3.6 Approvals that do not apply or have to be applied consistently<sup>1</sup>**

Section 89J of the EP&A Act specifies certain authorisations which are not required for State Significant Development that is authorised under a development consent. These include the following authorisations, which may otherwise have been relevant to this proposal:

- NSW *Fisheries Management Act 1994* – permit for work or structures within a waterway
- NSW *Heritage Act 1977* – approval to disturb an item or an excavation permit
- NSW *National Parks and Wildlife Act 1974* – an Aboriginal heritage impact permit under Section 90
- NSW *Native Vegetation Act 2003* – consent to clear native vegetation
- NSW *Rural Fires Act 1997* – a bush fire safety authority under Section 100B

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<sup>1</sup> The EIS will assess the risks from fire its mitigation and heritage, flora and fauna and water issues.

- NSW *Water Management Act 2000* – water use approval, water management work approval or activity approval.

These approvals would not be required if the Minister grants development consent to carry out the proposal under Division 4.1 of Part 4 of the EP&A Act.

Under Section 89K of the EP&A Act, the following relevant approvals cannot be refused if necessary for the carrying out of an 'approved project' and are to be substantially consistent with an approval to carry out the project given under Part 5.1:

- an environment protection licence under Chapter 3 of the *Protection of the Environment Operations Act 1997*
- a consent under section 138 of the *Roads Act 1993*.

#### **4.4 Commonwealth legislation**

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), any 'actions' which are likely to have a significant impact on matters of national environmental significance ('NES matters'), or a significant impact on Commonwealth land, require approval from the Commonwealth Minister of the Environment.

A search of the EPBC Act protected matters online search tool was undertaken on 3 February 2015 for an area within a five kilometre radius of the site. The report indicated that:

- There are no world heritage properties in the vicinity of the study area.
- There are no national heritage places in the vicinity of the study area.
- The study area is within the catchment of no wetlands of international significance (Ramsar listed wetlands).
- There are no Commonwealth marine areas in the vicinity of the study area.
- There is the potential for one threatened ecological community to occur in the vicinity of the study area.
- There is the potential for 74 threatened species to occur in the vicinity of the study area.
- There is the potential for 107 migratory species to occur in the vicinity of the study area.

The report also indicated that there are three Commonwealth lands in the vicinity of the proposal. None of these properties are located within the proposal area or in close proximity and therefore no impacts are anticipated.

The proposal is not a nuclear action and nor does it involve a coal seam gas development or a large coal mining development. The proposal is not located within the Great Barrier Reef Marine Park.

Potential impacts on the Ramsar listed wetlands, endangered ecological community, threatened species and migratory species would be considered in the EIS. Based on preliminary assessment work, no impacts on any NES matters are predicted to occur in the vicinity of the proposal, therefore a referral would not be required. This would be confirmed in the EIS.

## 5. Preliminary Environmental Impact Assessment

This chapter provides the results of the identification and prioritisation of issues. The analysis was undertaken in the form of a preliminary, desktop level assessment, to broadly assess the potential environmental risks that may arise as a result of the project. The preliminary environmental assessment identifies potential project environmental impacts with the aim of identifying potential impacts for detailed assessment.

### 5.1 Preliminary risk assessment

Based on consultation with Council, information available about the proposal, technology and processing, environmental controls proposed and previous environmental assessments undertaken, the priority environmental issues for further assessment are considered to include:

- Air quality
- Flora and fauna
- Soil and water
- Hazards and bushfire risks
- Traffic
- Noise
- Greenhouse gas

These are discussed further in the following sections and the proposed assessment approach/scope for the EIS is also provided for each.

### 5.2 Air quality

#### 5.2.1 Potential impacts

The proposal has potential for air quality impacts both during construction and operation.

##### *Dust*

There is potential for dust emissions during the construction of the proposal. However the scale of construction and the comparatively small volumes of earth movement would mean dust emissions during construction could be managed via construction environmental management plans.

The operation of the proposal would be managed to avoid dust emission beyond the premises. The proposal is mostly contained within enclosed buildings, limiting the potential for dust impacts. Some activities (C&D processing) would occur outdoors.

Dust may be generated by movement of materials by front end loaders and delivery trucks. Such operations may need to be suspended on very windy days or occur during storage, mixing, screening and transport of feedstocks and products.

A number of mitigation measures are proposed which would minimise dust emissions during operation. With these measures the proposal would not have any significant dust impact.

## Odour

The main potential air quality impact during operation is odour from composting operations. As discussed in Section 3.5.1 a number of odour management measures would be incorporated into the resource recovery park design including enclosure of odorous activities and treatment of air via a biofilter.

Previous odour modelling undertaken for an alternative site showed that if RRP operations were located at the adjacent site (Lot 1 DP1104402) that odour criteria (5 OU) would be met at all nearby sensitive receivers. Given the similar location of the proposal site, the relative remoteness of the site from these sensitive receptors and the proposed odour management measures, the proposal would be unlikely to result in significant air quality impacts on these receivers during operation.

Further odour modelling would be undertaken to confirm this.

### 5.2.2 Proposed EIS scope

The EIS will include an assessment of air quality impacts in accordance with the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW* (DECC 2005) and the technical framework and notes for the *Assessment and Management of Odour from Stationary Sources in NSW* (DECC 2006).

The air quality assessment will include:

- Initial review of project information and odour emission data
- Site visit to ascertain the local terrain and the nearest sensitive receptors / residences
- Development of an inventory of source odour emission rates for the facility from Council data and from other organics processing facilities
- Selection of appropriate air quality model and suitable emission rates
- Synthesis of meteorological data for the site using Nowra Airport Automatic Weather Station
- Level 2 modelling assessment to predict odour and dust impacts at the nearest residences during operation
- Check compliance with the OEH/EPA odour criterion
- Identification of suitable mitigation measures, if required, in order to meet criterion.

## 5.3 Flora and fauna

### 5.3.1 Potential impacts

As described in section 2.3 the site is mostly cleared with some small paddocks and approximately 0.5 ha of relatively intact though degraded vegetation in the southern portion of the site and scattered remnant and regrowth Scribbly Gums and Red Bloodwood, small native shrubs and occasionally mown or slashed vegetation. Native vegetation is commensurate with Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest on coastal foothills, southern Sydney Basin (SR592).

Most of this vegetation would likely be removed during construction of the proposal. The total area of native vegetation to be removed is a minor proportion of the native vegetation in the locality.

The clearing of vegetation would remove potential habitat for a number of flora species and would remove foraging and shelter habitat for a range of fauna species. Foraging and shelter

habitat that would be lost represents a minor proportion of foraging habitat present in the locality.

A targeted survey of the site for the presence of the Leafless Tongue Orchid *Cryptostylis hunteriana* was undertaken on 12 December 2014. No individuals of the Leafless Tongue Orchid were detected on the site. Two non-threatened orchid species were detected on the site:

- *Cryptostylis subulata* (Cow Orchid)
- *Cryptostylis erecta* (Bonnet Orchid)

Further targeted surveys of the site are proposed to meet the requirements of the Framework for Biodiversity Assessment (FBA), as discussed in Section 5.3.2.

Potential indirect impacts of the proposal during construction include:

- Edge effects
- Introduction or spread of weeds
- Introduction of pathogens
- Generation of dust
- Sedimentation and erosion
- Soil and water pollution
- Noise and vibration

These indirect impacts could reduce habitat quality for flora and fauna in adjacent retained vegetation. However the above impacts are unlikely with implementation of proposed environmental controls.

Potential impacts that would occur as a result of the operation of the proposal include:

- Runoff
- Dust and rubbish
- Noise
- Weeds
- Fauna mortality

The operational impacts are unlikely or expected to be low due to controls incorporated into the proposal design or through implementation of mitigation measures.

A range of mitigation measures would be implemented to minimise impacts on biodiversity values as a result of the proposal. Furthermore, an offsets strategy would be prepared to compensate for residual impacts that cannot be mitigated.

### **5.3.2 Proposed EIS scope**

A significant amount of flora and fauna survey and assessment work has been undertaken at the adjacent site (Lot 1 DP1104402). These previous assessments included desktop literature and database review to identify threatened flora and fauna species, populations and ecological communities listed under the *Threatened Species Conservation Act 1995* (TSC Act) and *Fisheries Management Act 1994* (FM Act) and 'Matters of National Environmental Significance' listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that could be expected to occur in the locality based on previous records, known distributional ranges and habitats present. They also included field surveys and assessments of significance.

This information, along with additional surveys would be used to prepare the Biodiversity Assessment Report for the proposal. This would be completed in accordance with the FBA. The assessment would determine whether any threatened biota listed under the TSC Act, FM Act or MNES listed under the EPBC Act are likely to be affected by the proposal. A number of surveys are proposed during appropriate seasons including:

- Vegetation sampling using BioBanking plot/transects
- Threatened flora – targeted searches to be carried out in the appropriate flowering season
- Threatened birds – diurnal surveys and stag watching
- Threatened mammals (marsupials) – including nest tubes, camera traps, nocturnal surveys and tree mounted cage traps
- Threatened mammals (bats) – including active searches, Anabat searches
- Threatened amphibians – active searches after rain at dusk
- Reptiles – active searches.

A Biodiversity Assessment Report will be prepared to outline the values on site and the impact of the proposal. This will address the SEARs and will be in accordance with the structure and content specified in the FBA. The report will include methodology, description of the existing environment of the study area including the results of the desktop assessment and field surveys, identification of mitigation and management measures, and assessment of impacts.

The Biodiversity Assessment Report will include a draft biodiversity offset strategy that specifies the number and type of biodiversity credits required to offset the impacts of the project. The draft biodiversity offset strategy will also list options to secure the biodiversity credits or a suitable alternative and a timeframe for delivering the offsets after approval of the proposal.

## **5.4 Soil, water and leachate**

### **5.4.1 Potential impacts**

#### **Hydrology**

The proposal would have an increased area of roof and impervious pavement. Under these conditions, there would be less chance for stormwater to be intercepted and retained onsite with the majority of stormwater flowing off the proposal site.

The proposal would increase the impervious area of the site. A stormwater management network would be designed to manage the increase in runoff. This would include a conventional pit and pipe network modification of the sediment basins for the operational phase to serve as detention basins. A sediment forebay would be provided to capture eroded or disturbed soil that is washed off the C&D area during storm events.

#### **Stormwater quality**

The construction of the proposal has potential for erosion and sedimentation due to earthworks activities. A sediment basin would be provided on the proposal site during the construction phase to capture eroded or disturbed soil that is washed off during storm events and protect the water quality of downstream catchments. Other erosion and sediment control measures would also be implemented.

If required, a sub-surface wetland or other treatment system would be provided to treat stormwater prior to discharge off site and gross pollutant trap(s) would be installed to collect litter and coarse sediments.

### **Leachate**

During operation, leachate-generating activities would be confined to within the building(s) (with concrete slab floor) including delivery of putrescible waste and composting activities. Any leachate would be collected and managed within the building(s) and recirculated back into the composting process.

The composting process is a net user of water. No excess leachate requiring offsite disposal is expected to be produced.

### **Groundwater quality**

There are no existing groundwater extraction bores at the proposal site and no groundwater extraction would be required for the proposal. All leachate generating activities would take place on sealed concrete slabs so there is limited potential for contaminated water to enter the water table.

### **Contamination**

The proposal would be constructed on land with no history of contamination. Operation of the proposal would not result in contamination of the proposal site. Any chemicals used on site (such as disinfectants) would be used in very small quantities within buildings. There is little likelihood that soils beneath the site would become contaminated, as all buildings would be on concrete slabs and not in contact with the underlying soils.

As all stormwater from the site that falls on roads and paved areas would be collected, and directed to the stormwater management system, soils down gradient of the proposal site would be protected from potential contamination.

### **Acid sulphate soils**

According to the Australian Soil Resource Information System National Acid Sulphate Soils maps, the site is not located in an area of probable occurrence of acid sulphate soils. The proposal is therefore unlikely to have any acid sulphate soils impacts.

## **5.4.2 Proposed EIS scope**

The EIS will include an assessment of potential soil and water impacts including:

- Identifying water management principles and strategies
- Undertaking a detention assessment using XP-RAFTS (Ver 2009) to estimate the current peak runoff rates and the proposed impacts and mitigation requirements for the proposal.
- Undertaking a stormwater quality assessment for the operational phase utilising the MUSIC software (ver 5.1.16). MUSIC provides an annualised assessment of water quality performance for key urban pollutants including nutrients of nitrogen, phosphorus and Total Suspended Solids and Gross Pollutants.
- Preparing a soil and stormwater management plan

## **5.5 Hazards and fire risks**

### **5.5.1 Potential impacts**

The proposal would be subject to an elevated bushfire risk given its proximity to large tracts of native forest. The proposal would incorporate bushfire protection measures that comply with the *Aims and Objectives*, and the *Acceptable Solutions* of the performance criteria, identified in *Planning for Bush Fire Protection* (NSW RFS 2006a and 2010). This would include establishment of asset protection zones.



A number of hazard scenarios would be relevant to the proposal from the operation of heavy equipment, waste handling and general facility operation etc. A number of safeguards are proposed to manage the hazards.

### **5.5.2 Proposed EIS scope**

The EIS would include an assessment of hazards and fire risks comprising:

- A hazard analysis consistent with the requirements of SEPP 33 and the publications Hazardous Industry Planning Advisory Paper No. 6 'Guidelines for Hazard Analysis' (HIPAP 6) and HIPAP No. 4 'Risk Criteria for land Use Safety Planning'. The hazard analysis would also include a hazard identification.
- A bushfire assessment including
  - Identification of suggested boundaries of the APZ
  - Review of vegetation cover and flora and fauna habitat features using the results obtained from ecologist studies of the proposal site
  - Fire history of the immediate area
  - Site topography to indicate any potential constraints imposed by slope.

## **5.6 Traffic**

### **5.6.1 Potential impacts**

Access to the site would be from Flatrock Road, off Yalwal Road, West Nowra.

Flatrock Road is essentially a rural road servicing a small number (3) of rural-residential properties, the landfill, the OEH Nowra Area Office and Depot and the existing Council animal shelter (the site).

The proposed Resource Recovery Park is anticipated to result in some increases in traffic due to transfer off site of recovered resources from the site (compared to the current situation, where most material that enters the site is landfilled there). Additional recyclables may also be processed by the MRF.

A 40 space car park (30 staff plus 10 visitors) is proposed to be provided on the western side of the proposal site.

All access and parking would be designed to relevant standards.

### **5.6.2 Proposed EIS scope**

The EIS will include an assessment of traffic and transport impacts. This will include:

- Review of existing road features, adjacent developments, traffic volumes, sight distances and crash data
- Review of additional traffic generated as a result of the proposal
- An assessment of the performance of the existing intersections (queues, delays, level of service, safety).

## 5.7 Heritage

### 5.7.1 Potential impacts

#### *Aboriginal heritage*

A search of the OEH AHIMS register was undertaken on 11 February 2015. The search of approximately 200 m around the site identified no registered sites nearby.

Based on this, previous studies, levels of disturbance, site features, distance from permanent fresh water sources, the proposal site is expected to have low archaeological potential.

#### *Non-Aboriginal heritage*

A search of the following heritage databases or lists was undertaken on 16 January 2015:

- Australian heritage database (including the Commonwealth and National Heritage lists)
- State Heritage Register
- State agency Section 170 registers (searched via the State Heritage Inventory)
- *Shoalhaven Local Environmental Plan 2014*

No heritage items listed under the above databases were identified on the site or in the surrounding area.

### 5.7.2 Proposed EIS scope

The EIS will include a summary of the Due Diligence that was undertaken which identified that no further investigation is required.

## 5.8 Noise

### 5.8.1 Potential impacts

Noise activities associated with construction are expected to include earth compaction and grading, road works and general construction works. Construction would be limited to standard construction hours. Construction noise would be temporary and short-term in nature.

Previous construction noise modelling undertaken for an alternative site had shown that if the RRP were located at this site (Lot 1 DP1104402), construction noise management levels would be met at all but nearby adjacent animal shelter site. Now that the proposed site is now the animal shelter site, the shelter site is no longer a sensitive receptor. Due to the similar location and scale of construction, it is expected that noise impacts during construction would be minimal on other nearby sensitive receptors.

During operation a variety of equipment would be running at the composting facility and materials recovery facility, as well as the C&D facility. The composting facility and materials recovery facility operations would be located within building(s). Equipment at the C&D facility would be operated periodically on a campaign basis.

Given the relative remoteness of the proposal site from sensitive receptors and the proposed noise management measures, the proposal is unlikely to have a significant noise impact during operation. Previous noise modelling showed that if the RRP were located at the adjacent site (Lot 1 DP1104402) that the predicted increase in noise levels from operation would be minimal. Given the similar location and scale of operation, it is expected that noise impacts on other nearby sensitive receptors associated with operation of the proposal would also be minimal.

Further noise modelling would be carried out to confirm this as part of the EIS.

Road traffic noise due to the proposal is not anticipated to be perceptible in relation to ambient traffic noise.

### **5.8.2 Proposed EIS scope**

The EIS will include a noise assessment which will involve the following tasks:

- Identification of noise sensitive receivers
- Background noise monitoring at two locations considered to be representative of the existing ambient noise environment
- Attended noise monitoring to supplement background noise monitoring and assess existing noise levels
- Establishment of operational and construction noise criteria based on EPA guidelines and the results of noise monitoring
- Assessment of potential construction, operation and traffic noise impacts, by:
  - noise modelling to predict the potential for impacts at sensitive receivers
  - assessing predicted impacts against noise criteria
  - considering relevant EPA guidelines including the *'Interim Construction Noise Guideline'* (2009), *'Industrial Noise Policy'* (2000), and *'Environmental Criteria for Road Traffic Noise'* (1999).
- Development of mitigation and management measures to reduce potential impacts.

## **5.9 Greenhouse gas**

### **5.9.1 Potential impacts**

Composting emissions would be the main source of additional emissions for the proposal, followed by the transportation of material to and from the resource recovery park and the consumption of diesel in mobile equipment. These additional emission sources however would be partially offset by the avoided greenhouse gas emissions by diverting waste from landfill.

The difference in emissions is primarily dependent on the quantities of material being composted, the amount of waste being diverted from landfill or the collection efficiency of the landfill gas collection system.

It is unlikely that the proposal will have any substantial net impact on greenhouse gas emissions associated with waste treatment at the resource recovery park.

### **5.9.2 Proposed EIS scope**

The EIS will include a comparative greenhouse gas assessment to estimate the change in greenhouse gas emissions between the baseline (i.e. the current waste disposal activities) and the proposed resource recovery activities.

The greenhouse gas assessment will be prepared in accordance with the general principles of:

- *The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard, Revised Edition*, developed by the World Resource Institute and the World Business Council for Sustainable Development (GHG Protocol)
- *The Commonwealth National Greenhouse and Energy Reporting (Measurement) Determination 2008*

- The Commonwealth Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education (DIICCSRTE) *National Greenhouse Accounts (NGA) Factors*, July 2013 (DIICCSRTE, 2013).

## **6. Justification for the proposal**

### **6.1 Site selection**

The West Nowra Landfill is the only licensed general solid waste (putrescible and non-putrescible) landfill facility within the Shoalhaven local government area and is central to the main population and growth centre of Nowra as well as the Princes Highway. Placing the RRP at the other council waste facilities in the region would create major inefficiencies due to travelling distances required to access the landfill and for Shoalhaven residents to access and utilise the RRP.

It is therefore considered essential that the RRP be located immediately adjoining or close to the existing West Nowra Landfill to access the landfill and stockpile sites and take advantage of its central location and proximity to major transport routes (Princes Highway).

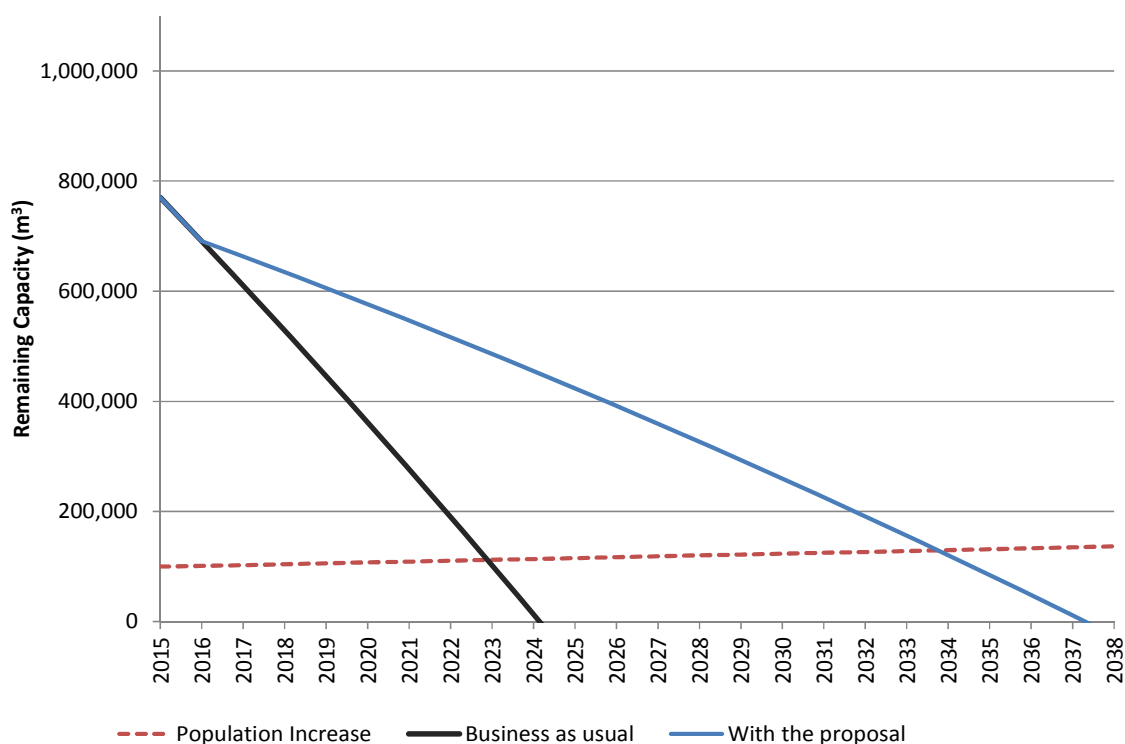
The other nearby Council owned land located adjacent (across the road) to the site (Lot 1 DP1104402) was previously identified and considered for the development of the RRP. This other land currently has more ecological constraints than the proposal site and would be more remote from existing recycling activities than the proposal site. Therefore Council is proposing to develop the RRP at the proposal site.

In addition, the other land is located adjacent to the existing landfill, so part of this land may be considered by Council at some time in the distant future for extending the West Nowra Landfill once the existing approved landfill reaches capacity.

### **6.2 Alternatives considered**

If the proposal does not proceed, the proposal site is likely to remain as its current use, as an Animal Shelter.

The demand for landfill capacity within the Shoalhaven is expected to grow as the population increases. As shown in Figure 6.1, under the business as usual / do-nothing approach to waste management, a new licenced landfill site will be required to be operational by 2024.



**Figure 6.1 Comparison of projected landfill life**

Based on data supplied by Council, GHD estimates that the life of the landfill could be extended by a further 13 years. This assumes the proposal is operational from 2017 and achieves a 75% overall recovery rate for waste coming to the site in the future<sup>2</sup>. The actual recovery rate would depend on the type of alternative waste technologies selected and higher diversion rates would extend the landfill life..

Not only would the business as usual / do nothing approach result in an increased need to develop new areas for landfill, other values and benefits of the proposal would also not be achieved, such as (Wright Corporation 2008):

- recovery of more resources which may in turn reduce greenhouse gas emissions both at the landfill and in the manufacture of replacement products
- promotion and leadership in non-metropolitan waste management initiatives
- reduction of the impact on the environment through the extraction of material that could otherwise be recovered
- increased employment opportunities.

Waste recycling and landfill diversion benchmarks as identified in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21* would also be difficult to achieve.

## 6.3 Strategic context

### 6.3.1 Objectives

Council is striving to become a leader in the recovery of recyclable materials from the waste stream, and minimise the quantities of waste disposed to landfill by re-using and processing waste types that would normally end up in landfill.

The objectives of the proposal are to:

<sup>2</sup> Accounting for projected population growth and based on recovery assumptions

- Reduce the amount of waste requiring landfill disposal, and thereby extend the life of the West Nowra landfill to allow it to continue to serve the local community's waste disposal needs further into the future
- Improve resource recovery rates in line with the objectives of the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*, which includes targets for diverting more waste from landfill and increasing recycling.

### **6.3.2 National Waste Policy**

In 2009 the Commonwealth Government released a National Waste Policy: *Less Waste More Resources* (Environment Protection and Heritage Council 2009). The policy, which was adopted on 5 November 2009, builds on the 1992 *National Strategy for Ecologically Sustainable Development* and attempts to reduce the environmental impact of waste disposal. The policy sets the direction for Australia over a 10 year period, aiming to produce less waste for disposal and manage waste as a resource to deliver economic, environmental and social benefits. The policy establishes a comprehensive program for national coordinated action on waste across six key areas, being to:

- Provide a coherent, comprehensive national framework for waste management, resource recovery and waste avoidance over the next decade
- Enable Australia to meet its international obligations in regards to the management of hazardous wastes and substances and persistent organic pollutants into the future and reduce the risk and legacy for future generations
- Address market impediments and streamline the regulatory frameworks so that national companies and small businesses can operate effectively and efficiently and manage products and materials responsibly during and at end of life
- Provide national leadership on waste and resource recovery where it is needed and facilitate collaboration between the states on national issues
- Contribute to climate change, sustainability, innovation and employment opportunities
- Be high impact and cost effective by setting clear national directions and through collaborative, carefully targeted action that incrementally builds on the existing efforts of governments over a ten year period.

The overall objectives of the National Waste Policy are that all wastes, including hazardous wastes, are managed in a way that is consistent with Australia's international obligations, to protect human health and the environment. The policy also seeks to ensure that risks associated with waste are understood and managed to minimise intergenerational legacy issues.

The proposal would:

- Manage waste as a resource
- Deliver economic, environmental and social benefits
- Contribute to sustainability, innovation and employment opportunities

The proposal is therefore consistent with the aims and objectives of the National Waste Policy.

### **6.3.3 NSW strategic planning drivers**

The NSW strategic policy framework for waste management incorporates policy to drive waste reduction and resource recovery. The framework has been strengthened with legislation to



streamline development of waste management infrastructure, and a strategy to provide for increasing resource recovery and reducing toxicity in products.

#### **NSW 2021 and the NSW Waste Avoidance and Resource Recovery Strategy 2014-21**

*NSW 2021: A plan to make NSW number one* is a 10 year plan for NSW. The plan identifies reducing waste generation and keeping materials circulating within the economy as priorities for NSW. A state-wide waste avoidance and resource recovery strategy is prepared every five years to address this priority. The latest strategy is the 'NSW Waste Avoidance and Resource Recovery Strategy 2014-21', which provides the framework for maximising conservation of natural resources and minimising environmental harm from waste management and disposal of solid waste. The strategy proposes long-term directions for waste in NSW and includes targets for:

- Avoiding and reducing waste generation
- Increasing recycling
- Diverting more waste from landfill
- Managing problem wastes better
- Reducing litter
- Combating illegal dumping

Relevant to the proposal are the following targets:

- By 2021-22, increase recycling rates for:
  - Municipal solid waste from 52% (in 2010-11) to 70%
  - Commercial and industrial waste from 57% (in 2010-11) to 70%
  - Construction and demolition waste from 75% (in 2010-11) to 80%
- By 2021-22, increase waste diverted from landfill from 63% (in 2010-11) to 75%

The proposal would assist Council in achieving the increased recycling rates and landfill diversion targets listed above. The proposal is consistent with the 'NSW Waste Avoidance and Resource Recovery Strategy 2014-21' as it is built around the diversion of kerbside collected waste, commercial waste and construction and demolition waste.

#### **6.3.4 Regional drivers**

##### **Current services**

Council currently provides a combination of collection and disposal services to residents including a weekly kerbside collection service for waste and a fortnightly service for recycling. There are 10 recycling and waste transfer depots throughout the local government area which provide convenient access for drop-off waste and recycling. Some separated recyclable materials can be delivered to these depots free of charge and there are reduced fees for other separated materials.

While there is no regular kerbside collection service for organics, there is an on-call kerbside service for green waste and/or bulky waste for a nominal charge, provided by a contractor. In addition, two no-charge tipping vouchers are provided to ratepayers each year.

##### **West Nowra landfill life**

There are two landfills in the local government area: the Huskisson landfill and West Nowra landfill. Huskisson landfill only accepts general solid waste (non-putrescible).

The West Nowra landfill is the only general solid waste (putrescible and non-putrescible) landfill in the Shoalhaven. Based on carrying on operations at the current rate of disposal and current landfill design, the landfill is projected to reach full capacity in 2024.

There is a need for additional capacity to manage and dispose of putrescible waste from the Shoalhaven beyond 2024. The proposal would help reduce waste to landfill and extend the life of the West Nowra landfill by approximately 13 years.

### **Section 88 waste and environment levy**

The NSW Government, under section 88 of the POEO Act, applies the waste and environment levy to every tonne of waste delivered to a licenced landfill facility. This levy increases every year. In 2014-2015, it is \$120.90/tonne in the extended regulated area. It is scheduled to rise by \$10/tonne plus CPI in 2015-16 and by CPI each year from thereafter. By this time the cost of the levy will exceed the underlying cost of landfill disposal.

The levy is designed to encourage resource recovery and recycling of waste. It is generally added to the disposal charges set by landfills. It provides businesses, councils and individuals an incentive to reduce the amount of waste generated, and encourages them to seek alternatives to landfill disposal.

Increased diversion of waste from landfill would assist Council to reduce future financial liabilities associated with the levy. The proposal would reduce the quantity (tonnes) of waste being disposed of to landfill and therefore reduce the future levy payments of Council.

## **6.4 Benefits**

Overall the proposal would:

- Divert valuable resources from landfill and remit recovery and recycling of resources from the waste stream
- Extend the life of the West Nowra landfill to allow it to continue to serve the local community's waste disposal needs further into the future
- Contribute to the achievement of the targets for increased recycling and landfill diversion in the *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*
- Provide benefits through development of a new industry and new employment opportunities in the Shoalhaven

# 7. Consultation

## 7.1 Statutory consultation

As part of the EIS process, Shoalhaven City Council proposes to undertake consultation with various statutory organisations including:

- Department of Planning and Environment
- Environment Protection Authority
- Heritage Branch, Office of Environment and Heritage
- Department of Primary Industries (Fisheries)
- Shoalhaven Local Area Command (Police)
- NSW Fire and Rescue
- NSW Rural Fire Service Shoalhaven
- Illawarra Shoalhaven Local Health District
- Department of Primary Industries (Agriculture)
- NSW Office of Water
- Transport for NSW
- Roads and Maritime Services

## 7.2 Stakeholder and community engagement

A community consultation plan would be implemented by Shoalhaven City Council in parallel with the EIS process. Community consultation is likely to include:

- Information session(s) for nearby landholders and local residents
- Aboriginal community consultation



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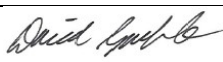
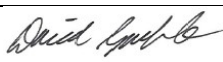
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