NSW GOVERNMENT | Planning & Environment

STATE SIGNIFICANT DEVELOPMENT ASSESSMENT:
Mayfield West Resource Recovery Facility
SSD 7698

Environmental Assessment Report
Section 4.40 of the
Environmental Planning and Assessment Act 1979

March 2018

Cover photo: taken from Environmental Impact Statement titled *Environmental Impact Statement, Mayfield West Recycling Facility* prepared by EMM dated 11 October 2016

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ABBREVIATIONS AND DEFINITIONS

AHD	Australian Height Datum
Applicant	Benedict Recycling Pty Ltd
Amended Application	*Mayfield West Recycling Facility SSD 7698 - development application amendment letter*, dated 24 August 2017, prepared by EMM
AS	Australian Standard
BCA	Building Code of Australia
CEMP	Construction Environmental Management Plan
C&D	Construction and Demolition waste
C&I	Commercial and Industrial waste
CIV	Capital Investment Value
Construction	The carrying out of works, including sealing the site, construction of the 40,000 L diesel tank and wheel wash
Council	Newcastle City Council
DA	Development Application
Demolition	The removal of buildings, sheds and other structures on the site
Department	Department of Planning and Environment
Development	The development as described in the EIS, RTS and Amended Application as approved by this Development consent for the construction and operation of the Mayfield West Resource Recovery Facility
DPI	Department of Primary Industries
EIS	Environmental Impact Statement titled *Environmental Impact Statement, Mayfield West Recycling Facility* prepared by EMM dated 11 October 2016
ENM	Excavated Natural Material
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPA	Environment Protection Authority
EPI	Environmental Planning Instrument
EPL	Environment Protection Licence
Expanded operations	The point at which throughput exceeds 90,000 tonnes per annum of waste
FRNSW	Fire and Rescue NSW
Minister	Minister for Planning (or delegate)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
POEO Act	*Protection of the Environment Operations Act 1997*
RoC	Right of Carriageway
RMS	Roads and Maritime Services
RRF	Resource Recovery Facility
RTS	Response to Submissions titled *Mayfield West Recycling Facility Response to Submissions*, prepared by EMM, dated 20 July 2017
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the Department of Planning and Environment, or nominee
Segregated Heavy Waste Processing and Stockpile Area	External Waste Processing Area
SEPP	State Environmental Planning Policy
Sensitive receiver	Residence, education institution, health care facility, religious facility and child care facility
Site Auditor	*As defined in the Contaminated Land Management Act 1997*
Site Audit Report	*As defined in the Contaminated Land Management Act 1997*
Site Audit Statement	*As defined in the Contaminated Land Management Act 1997*
SMP	Site Management Plan for Subsurface Disturbance Activities, McIntosh Drive Mayfield West, prepared by AECOM Pty Ltd, dated 2 October 2009
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SSD	State significant development
VENM	Virgin Excavated Natural Material as defined in the POEO Act
Waste	As defined in the *Protection of the Environment Operations Act 1997*

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EXECUTIVE SUMMARY

Benedict Recycling Pty Ltd (the Applicant) has lodged a Development Application (DA) and accompanying Environmental Impact Statement (EIS) seeking consent to expand the processing capacity of their existing resource recovery facility (RRF) from 90,000 tonnes per annum (tpa) to 315,000 tpa of waste. The site is located at 1a McIntosh Road, at Mayfield West in the Newcastle local government area (LGA).

The site is approximately 8.9 hectares (ha) in area and is located within a large industrial estate, referred to as the Steel River Industrial Estate. The site is surrounded by industrial land uses to the south, east and west. The south arm of the Hunter River is located immediately north of the site. The nearest sensitive receiver is located 500 metres (m) south of the site.

The Applicant is seeking development consent to expand their existing operations to process 315,000 tpa of inert pre-classified general solid (non-putrescible) waste comprising construction and demolition (C&D) wastes and commercial and industrial (C&I) wastes from businesses and members of the public.

The proposed development has a capital investment value of $393,869 and is expected to generate an additional four full-time operational jobs.

The Applicant's current RRF at the site operates under a development consent granted by Newcastle City Council (Council) in March 2016. The proposed development would utilise the existing site infrastructure including weighbridges, demountable site office, amenities, main processing building, stockpiling area, truck wash, perimeter drain, hardstand, internal roads and vehicle entry points. The proposed hours of operation would be slightly reduced under the proposal. Prior to the RRF operating, the site was remediated and a site audit statement issued in 2009 by an Environment Protection Authority (EPA) accredited site auditor state's the site is suitable for its intended use.

The Applicant's broader business activities, which has been operating since 1966, specialises in quarrying, resources and recycling to supply a range of recycled construction products to customers in Sydney and greater NSW.

The proposed development is classified as State significant development (SSD) under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as it meets the criteria in Clauses 23(3) of Schedule 1 in State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) because it involves the development for the purposes of a RRF that handles more than 100,000 tpa of waste. Consequently, the Minister for Planning is the consent authority for the application. As there were less than 25 public submissions in the nature of objections, Council did not object, and no political donations were made within the last 2 years, the Executive Director, Key Sites and Industry Assessments, can determine the application under delegation.

The Department of Planning and Environment (the Department) exhibited the EIS from Friday 27 October 2016 to Friday 25 November 2016. A total of 12 submissions were received, including seven from public authorities, two from State owned corporations and three from the general public. Of the 12 submissions received, four objected to the proposed development.

The key concerns raised in public submissions related to potential surface water, traffic, air quality and noise impacts. The Applicant submitted a Response to Submissions (RTS) in July 2017 which included an updated site water balance, survey plans and floor plans, swept path diagrams and revised air quality assessment. A number of management and mitigation measures from the EIS were also updated at this time. The RTS also included the details of the ancillary activities area in which the Applicant proposed to construct and operate nine storage compounds to be rented to third parties. However, the Department raised concern that the proposed compounds were not sufficiently related to the proposed RRF to warrant inclusion in the DA. Consequently, the Applicant withdrew the ancillary activities area from the DA.

The RTS did not address the EPA's concerns in relation to surface water management and water quality. To address the EPA's concerns, the Applicant submitted further information in relation to surface water monitoring, the potential contaminants of concern from the waste material and proposed further management measures. The Department and the EPA are satisfied that revised mitigation measures can be installed to address the potential water quality issues at the site.

The proposed development is consistent with the NSW Government's direction in achieving the targets in the Waste and Avoidance and Resource Recovery Strategy 2014-2021, notably it would assist in the recovery of C&D and C&I wastes. The proposed development is also in accordance with the Premier's Priorities as well as current strategic planning policies including the *Hunter Regional Plan 2036*.

The Department's assessment of the application has fully considered all relevant matters under Section 4.15 of the EP&A Act, the objects of the EP&A Act and the principles of ecologically sustainable development. The Department has identified the following key issues for assessment:

- water including groundwater and surface water
- traffic
- air quality.

The Department's assessment determined that the impacts of the development can be mitigated and/or managed to ensure an acceptable level of environmental performance, subject to the recommended conditions of consent. In summary, the development:

- would positively contribute to the State's Waste Avoidance and Resource Recovery Strategy performance for both C&I and C&D waste
- enables the productive use of a site that is only suitable to a small range of uses, due to its previous contamination
- would meet the relevant air quality and noise criteria at sensitive receivers
- would generate traffic which could be accommodated on the local and regional road network without any significant impacts on its safety, capacity or efficiency
- would provide a range of environmental and economic benefits for the region, through resource recovery and the provision of four new operational jobs.

The Department's assessment concluded the development contributes to the strategic direction for waste management in NSW, and would appropriately handle and recycle C&I and C&D waste materials. The development's impacts can be mitigated and/or managed to ensure an acceptable level of environmental performance, subject to the recommended conditions of consent.

Consequently, the Department considers the development is in the public interest and is recommended for approval, subject to conditions.

1. BACKGROUND

1.1. The Department's Assessment

This report details the Department of Planning and Environment's (the Department) assessment of the State significant development application (SSD 7698) for the Mayfield West Resource Recovery Facility (RRF). The development involves a resource recovery facility capable of processing up to 315,000 tonnes per annum (tpa) of construction and demolition waste (C&D) and commercial and industrial waste (C&I). The Department's assessment considers all documentation submitted by the Benedict Recycling Pty Ltd (the Applicant), including the Environmental Impact Statement (EIS) and Response to Submissions (RTS), supplementary information and submissions received from government authorities, stakeholders and the public. The Department's assessment also considers the legislation and planning instruments relevant to the site and the development.

This report describes the proposed development, surrounding environment, relevant strategic and statutory planning provisions and the issues raised in submissions. The report evaluates the key issues associated with the development and provides recommendations for managing any impacts during operation. The Department's assessment of the RRF has concluded that the development is in the public interest and should be approved, subject to conditions.

1.2. Development Background

The Applicant is seeking development consent to operate a RRF at 1a McIntosh Road, Mayfield West in the Newcastle Local Government Area (LGA) (see **Figure 1**). The Applicant currently has approval from Newcastle City Council (Council) to process up to 90,000 tpa of general solid waste (non-putrescible) and is seeking to increase the processing capacity of the facility to 315,000 tpa.

The Applicant currently owns and operates the site. The facility processes C&D and C&I waste to primarily produce recycled products such as aggregates, road base, soils and mulches. Residual materials such as ferrous and non-ferrous metals, dry paper/cardboard and plastics received at the facility are sold to other recycling facilities for further processing or disposed of at a licenced landfill facility.

Benedict Recycling is part of Benedict Industries which was established in 1966 and is a NSW based group specialising in quarrying, resources and recycling. Benedict supplies a range of sands, soils, sandstone, aggregates and recycled products to customers in the greater Sydney region and throughout NSW. Currently, the Applicant owns and operates similar recycling facilities in Chipping Norton and Belrose. The Applicant's key customers include Roads and Maritime Services (RMS), Sydney Water, Holcim, Boral Concrete and Fulton Hogan and local Councils.

Figure 1: *Site Location*

1.3. Site Description

The site comprises 8.9 hectares (ha) within an industrial zoned precinct at 1a McIntosh Drive, Mayfield West (see **Figure 2**) and is legally known as Lot 1 in DP 874109.

The site and the surrounding area were originally reclaimed using steel works waste from the former Newcastle Steel works and sand dredged from the Hunter River. The site was formerly a chemical manufacturing plant operated by Delta EMD to produce electrolytic manganese dioxide. The site was remediated in 2009 and a site audit statement was issued by an Environment Protection Authority (EPA) accredited site auditor in November 2009 under the *NSW Contaminated Land Management Act 1997*. The audit determined the site was suitable for commercial and industrial uses provided continued compliance with a site management plan for subsurface disturbance activities.

In March 2016, the Applicant was granted development consent from Council to operate a RRF with a processing capacity of up to 90,000 tpa. The facility is currently operating and processes inert pre-classified general solid waste (non-putrescible), such as C&D and C&I waste to produce saleable recycled materials. The proposed development would utilise the existing site infrastructure including weighbridges, demountable site office, amenities, main processing shed (150 metre (m) by 30 m), stockpiling area, truck wash, perimeter drain, hardstand, internal roads and vehicle entry points. The proposed hours of operation are detailed in **Table 1** and are consistent with the existing facility.

The site is flat with an elevation of approximately 10 m Australian Height Datum (AHD). The site is largely cleared of vegetation with the exception of trees and shrubs around the boundary of the site and near the office buildings. The site is located adjacent to the south arm of the Hunter River. A bitumen-lined drain surrounds the site (referred to as the perimeter drain) and drains to a sediment basin which discharges directly to the Hunter River.

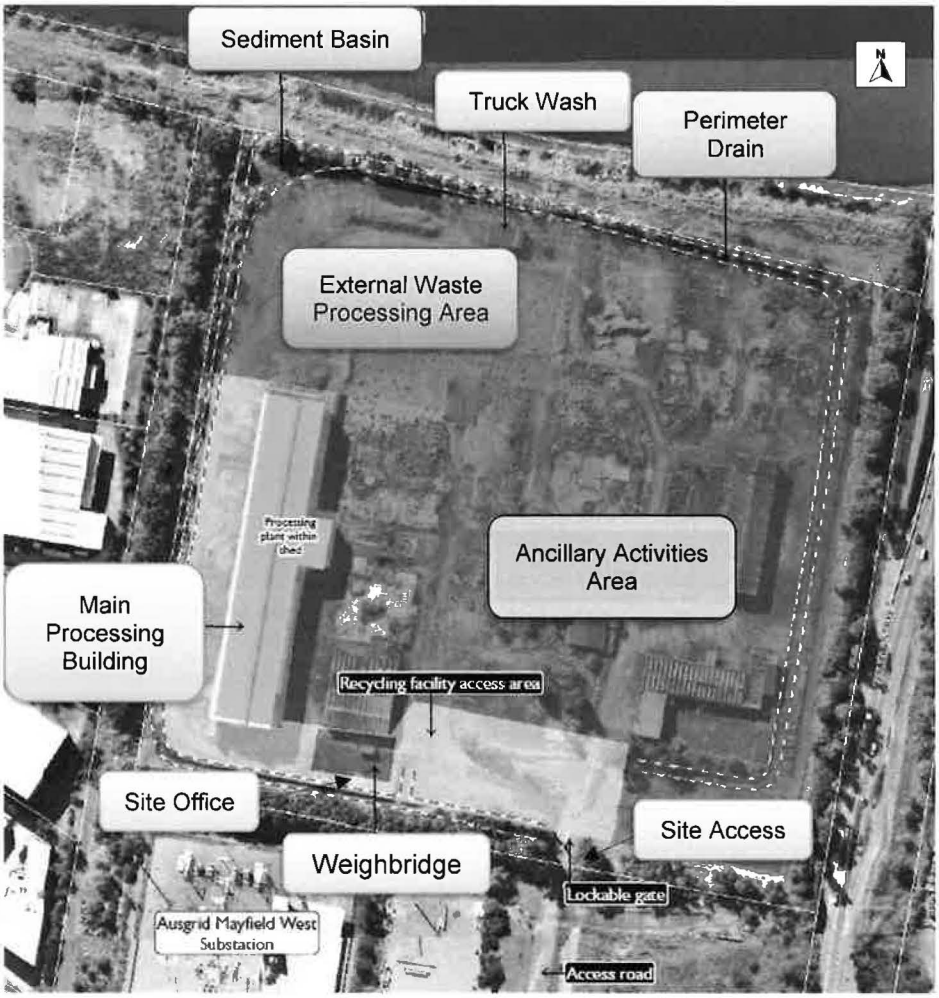

Figure 2: *Existing Site Layout*

1.4. Surrounding Land Uses

The site is located within an existing industrial precinct known as the Steel River Industrial Estate (see **Figure 1**) which comprises some 90 ha in overall area. The site is located on the south arm of the Hunter River opposite Kooragang Island. The surrounding area has been dominated by heavy industry since the early 1900s for the purpose of coal mining, milling and steel works.

The Steel River Industrial Estate is primarily zoned IN1 General Industrial under the Newcastle Local Environmental Plan 2012. The surrounding land uses are industrial in nature and include manufacturing facilities, warehouses, commercial services, research facilities, vehicle repairs and logistics services (see **Figure 3**). Adjacent to the site to the north is the Hunter River. Immediately east of the site is the Tourle Street Bridge and Mayfield Industrial Estate which is zoned SP1 Special Activities under the State Environmental Planning Policy (Three Ports) 2013. To the south is an Ausgrid owned and operated substation and access to the site is obtained via Ausgrid's land. Immediately west of the site are a number of warehouses and commercial uses.

The nearest sensitive receivers are located south of the site as shown in green in **Figure 3** and include the following:

- a CSIRO research facility, located approximately 200 m south
- residential receivers on Groongal Street approximately 500 m south
- the Mayfield Scout Hall approximately 550 m south-west
- the Mayfield Church of Christ approximately 600 m south-west
- the Mayfield West Public School approximately 700 m south.

1.5. Surrounding Road Network

Vehicular access to the site is gained via a right of carriageway (RoC) through a private access road owned by Ausgrid from McIntosh Drive (see **Figure 3**). McIntosh Drive is a sealed road which services part of the Steel River Industrial Estate. McIntosh Drive connects to Steel River Boulevard and then to Industrial Drive which is a major heavy vehicle route which connects to the Pacific Highway and Tourle Street. The site does not have direct access to Tourle Street Bridge.

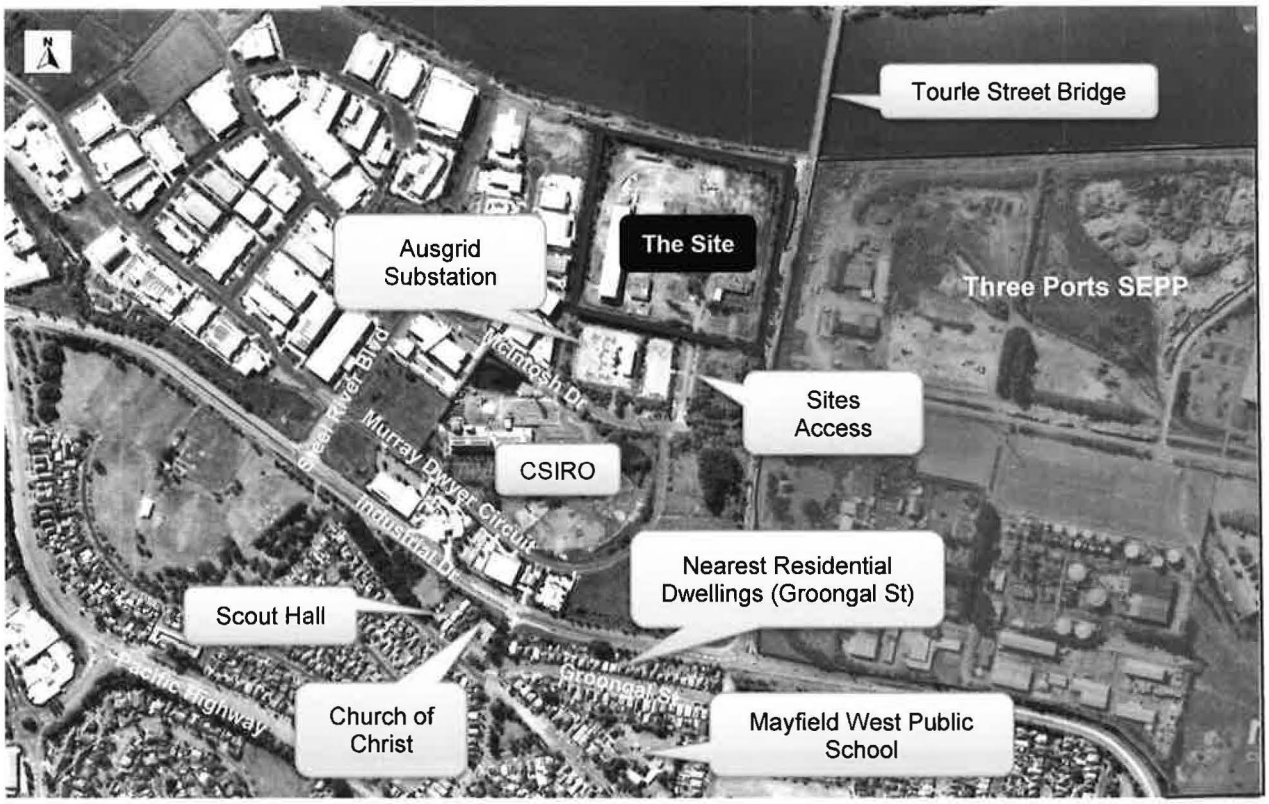

Figure 3: *Surrounding Land uses and Sensitive Receivers*

1.6. Other Development Approvals

Development consent (DA 2015/0291) was granted by Council in March 2016 for a recycling facility at the site with a processing capacity of up to 90,000 tpa of waste. The recycling facility imports inert pre-classified general solid waste (non-putrescible), such as C&D and C&I, for processing (eg sorting, crushing and shredding) to

produce saleable recycled materials. The development consent also includes approval for the temporary storage of light and heavy vehicles, bins and containers, construction and demolition plant and equipment, general machinery storage and temporary demountable office and sheds within the ancillary activities area.

The site has previously been remediated and a site audit statement has been issued by an EPA accredited site auditor which states the site is suitable for its intended use.

2. PROPOSED DEVELOPMENT

2.1. Description of the Development

The Applicant is seeking to increase the processing capacity of the RRF from 90,000 tpa to up to 315,000 tpa and increase the size of the external waste processing area (known as the segregated heavy waste processing and stockpiling area). The physical changes to the RRF are relatively minor in nature and the operating processes at the facility will essentially remain the same. The changes to the proposed development are summarised in **Table 1**, shown in **Figure 4**, and described in full in the Environmental Impact Statement (EIS), included in **Appendix D**.

Table 1: *Existing and Proposed Operations*

Aspect	Existing Operations	Proposed Operations
Development Summary	• ***RRF with a processing capacity of up to 90,000 tpa***	• ***increase the processing capacity at the site to 315,000 tpa, changes to the site layout to include an additional 1.2 ha stockpile area***
Waste Materials	• general solid waste (non-putrescible) as defined by the *Waste Classification Guidelines – Part 1 Classification of Waste* (EPA, 2014). • no hazardous restricted solid waste (including asbestos) are accepted at the site.	• no change.
Finished Products	• the finished product includes materials that are used for the construction and landscaping market and including recycled topsoil, bedding sands, aggregates, mulch and metals.	• no change.
Site area	• the site and development footprint is approximately 8.9 ha which includes the recycling facility and ancillary activities area.	• the site area remains unchanged and the proposed development footprint of the RRF is 4.3 ha (as per the amended application).
Site infrastructure and Construction	• the following infrastructure has already been constructed and is operational: - an incoming and outgoing weighbridge - a main processing building - external waste processing area - vehicle repair and maintenance facilities located in a former bag house - access and internal roads. • a truck wash, wheel wash and 40,000 L diesel tank which have all been approved but not constructed.	• as the facility is already operating, limited construction works are required. Construction works include: - sealing the processing area, perimeter drain and sediment basin with concrete or asphalt - construction of a wheel wash near the outgoing weighbridge - construction of a 40,000 litre (L) diesel tank and associated awning within the centre of the site - construction and operation of a truck and wheel wash - re-establishment of an awning to the north of the main processing area.
Traffic	• in total, the existing facility generates: - 264 light vehicle movements per day (132 in total) - 210 heavy vehicle movements per day (105 in total)	• the expansion would result in an additional 6 light vehicle movements per day and 66 heavy vehicle movements per day. • in total, the proposed facility would generate:

Aspect	Existing Operations	Proposed Operations
		- 270 light vehicle movements per day (135 in total) - 276 heavy vehicle movements per day (138 in total).
Car Parking	• 25 car spaces (including two disabled car spaces).	• no change.
Stockpile Area and Heights	• total stockpile area: 1.3 ha. • stockpiles would have a maximum height of 7 m above ground level.	• proposed stockpile area: 2.5 ha (+1.2 ha) • no change to stockpile heights.
Waste Storage	• the amount of waste stored on site at any one time must not exceed 53,733 tonnes (as per the Environment Protection Licence).	• no change.
Plant and Equipment	• equipment currently used at the facility includes a front-end loader, generator, excavator, waste sorter, picking lines, crusher and wood shredder.	• the proposed development would require an additional front-end loader, mobile screen, crusher and wood shredder.
Surface Water Infrastructure	• the existing RRF surface water infrastructure includes a perimeter drain and sediment basin which has a capacity of 4,480 m^3. • surface water is discharged to the Hunter River via licensed discharge point.	• construction of seven sediment basins within the perimeter drain, using sand bags • no change to the discharge point.
Hours of Operation including 24-hour infrastructure campaigns	• waste deliveries and dispatch materials: - Monday to Friday, 6 am to 6 pm - Saturday, 6 am to 5 pm - Sunday, 7 am to 3 pm. • waste processing: - Monday to Saturday, 7 am to 6 pm - Sunday, no processing permitted.	• no change, apart from reducing dispatch and processing hours. The following operating hours are proposed: • waste deliveries: - Monday to Friday, 6 am to 6 pm - Saturday, 6 am to 5 pm - Sunday, 7 am to 3 pm • waste processing: - Monday to Friday, 7 am to 6 pm - Saturday, 7 am to 5 pm* - Sunday, none • waste dispatch: - Monday to Friday, 6 am to 6 pm - Saturday, 6 am to 5 pm - Sunday, none* * reduced from current consent (DA 15-291).
	• in order to facilitate large infrastructure projects, the facility currently has approval to accept waste (not process) on a 24-hour basis, no greater than six times per year and only for a period of up to two weeks in length for each occasion.	• no change.
Ancillary Activities Area	• storage of ancillary waste equipment within the ancillary activities area	• in its revised RTS the Applicant proposed to construct and operate nine storage compounds to be rented to third parties. This component has now been removed from the application. Refer to **Section 2.2**.
Capital Investment Value	• N/A	$ 393,869
Employment	• 10 full time employees.	• 14 full time employees (+4 full time employees).

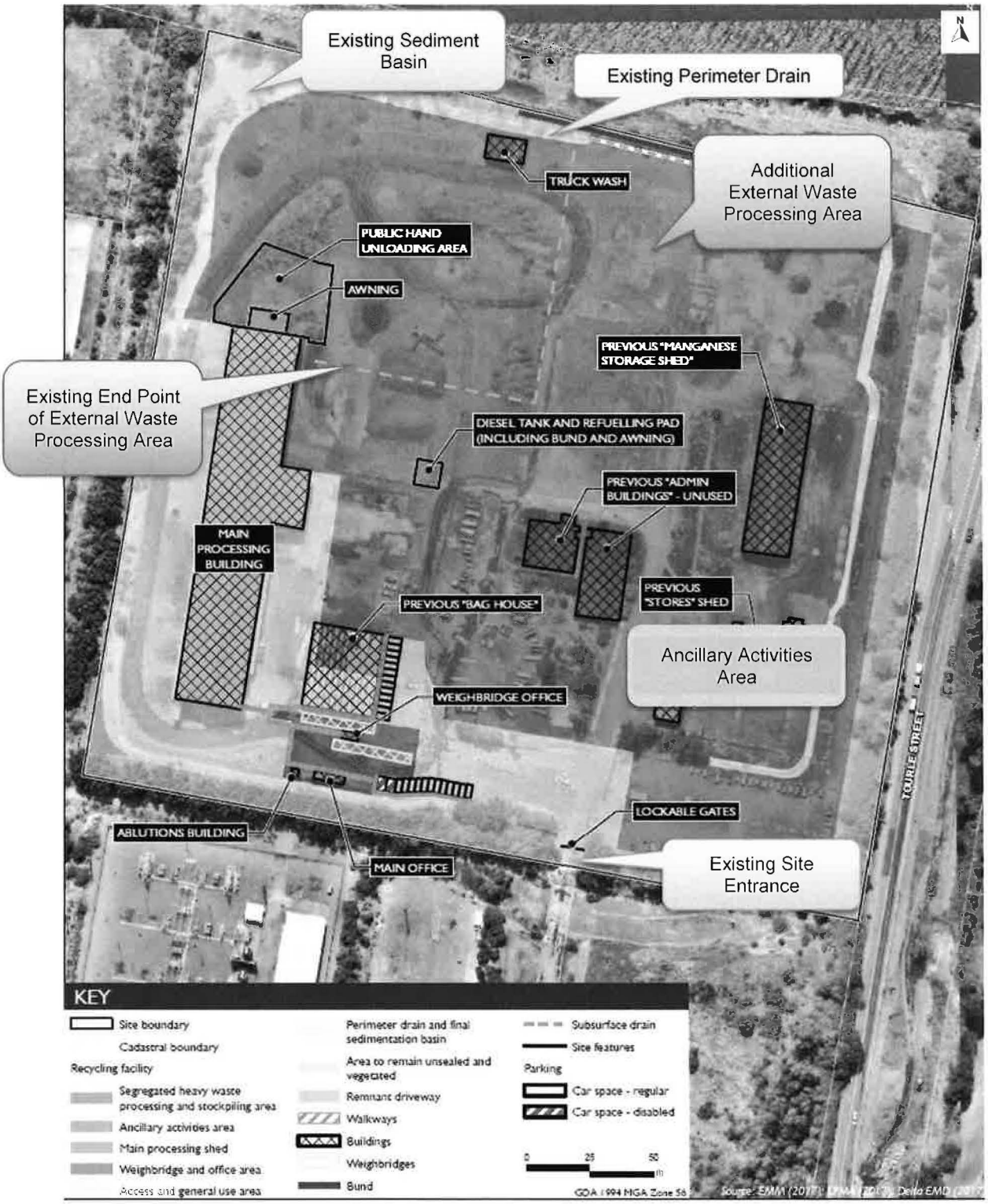

Figure 4: *Proposed Development*

2.2. Amended Application

Following the receipt of the RTS, the application has been formally amended by the Applicant to remove the ancillary activities area from the proposed development (SSD 7698). Under Council's development consent DA 2015/0291, the Applicant has approval to store ancillary recycling plant and equipment within the ancillary activities area (see **Figure 4**).

The Applicant provided limited details regarding the operation of the ancillary activities area in its EIS. Further details were provided in the revised RTS in which the Applicant stated it sought to construct and operate nine storage compounds. The storage compounds were proposed to be rented to third parties to store skip bins, excavators, loaders, sweepers, rollers, trucks, trailers, dozers, compactors, generators and demountable

buildings from various construction and demolition projects. Customers using the storage compounds would not be permitted to access the RRF and access to the storage compounds would be separate from the RRF.

In accordance with Clause 8(2) of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP), should a proposed development consist of development that is only partly SSD, the whole development is considered to be SSD unless the Secretary determines that the remainder of the development is not sufficiently related to the SSD.

The Department raised concern the proposed storage compounds which were proposed to be rented to third parties were not ancillary as the Applicant proposed to store and handle equipment which was not related to the RRF. As such, the Department did not consider the storage compounds to be sufficiently related to the RRF. Consequently, on 24 August 2017, the Applicant requested the ancillary activities area and its operations be excluded from SSD 7698. The area to which SSD 7698 now applies is shown red outline in **Figure 5** below. The development footprint of SSD 7698 as amended is 4.3 ha.

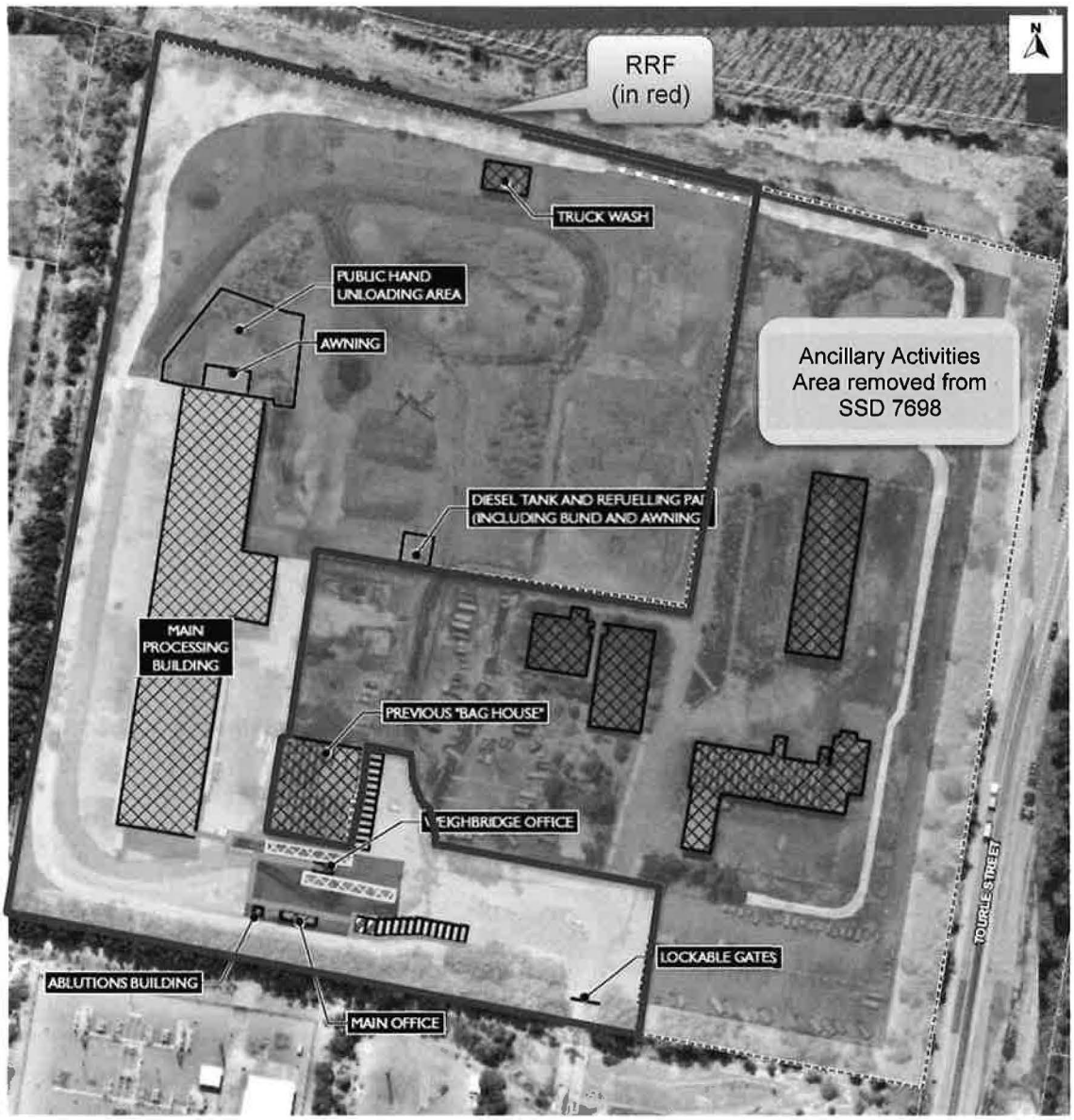

Figure 5: *Amended Application*

2.3. Waste Materials and Quantities

The RRF would only accept pre-classified general solid waste (non-putrescible) as defined by the Waste Classification Guidelines – Part 1 Classification of Waste (EPA, 2014) which is consistent with the current operations.

The facility would have two processing streams which include:

- C&D waste which would be processed externally
- co-mingled C&I and C&D waste which would be processed within the main processing shed.

No food wastes would be accepted at the facility. C&D waste such as soils, clays, sands, gravel, masonry and non-treated timber would be processed within the external waste processing area and would constitute approximately 80% (252,000 tpa) of waste deliveries at the site (see **Figure 6**).

Co-mingled C&D and C&I waste such as soils, bricks, concrete, paper, cardboard, plastics, cloths, pasteboard, ceramics, metal and wood would be processed within the main processing building and would constitute approximately 20% (63,000 tpa) of waste delivered to the facility (see **Figure 6**).

2.4. Waste Receivals

The majority of waste accepted at the site would be from businesses and the general public which is consistent with the existing operations. Waste would be delivered to the site in a range of vehicles including:

- light vehicles such as utes with box trailers
- single or dual axle heavy vehicles such as skip bin trucks and semi-trailers
- multiple axle combination heavy vehicles such as truck and dog combinations.

Vehicles entering the RRF would be weighed on the incoming weighbridge where the load would be visually inspected for potential contaminants (see **Figure 6**). Any non-compliant loads (i.e waste which is not permitted at the site including asbestos) would be rejected and removed from the site. A ticket would be issued at the weighbridge instructing the driver where to deliver the waste. Drivers would not be permitted to leave their vehicles at any point other than in the designated unloading areas.

At the designated unloading area, the driver would tip the waste on the tipping floor either within the external processing area or within the main processing shed, depending on the type of waste. The waste would be inspected for contaminants prior to the vehicle being directed back to the outgoing weighbridge. If contaminants are found, the waste would be reloaded onto the vehicle and the driver would be required to remove the load from the RRF. Further details on the two processing streams occurring at the site are detailed in **Section 2.4.1** and **Section 2.4.2** and **Figure 6**.

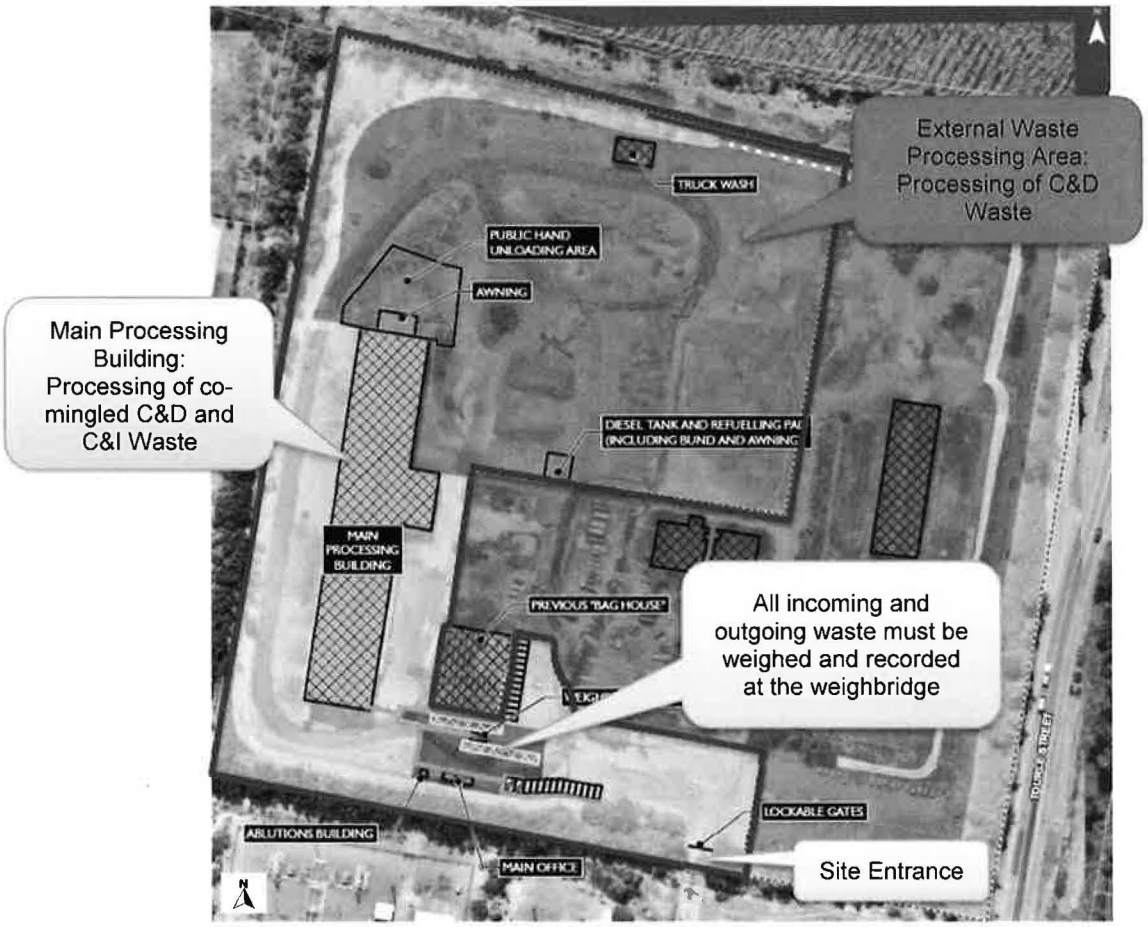

Figure 6: *Waste Processing Areas*

2.4.1. Recycling and Dispatch Process - External Waste Processing Area

The majority of C&D waste delivered to the facility would be from construction and demolition contactors. Materials such as soils, concrete, bricks, tiles, rail blast, slag and concrete batching waste would be stockpiled (see **Figure 7**), sorted and crushed externally to produce building aggregates which can be used as construction materials (see **Figure 8**). Materials such as timber would be shredded to produce mulch. The location of stockpiles in the external waste processing area would vary according to the amounts of waste and product being delivered and processed. The Applicant proposes to crush 71,000 tpa of masonry and shred approximately 5,400 tpa of timber. The remaining material (separated soils, clays and gravel) that do not require crushing would be sorted via screens into either fine or coarse aggregates and blended to make saleable construction products. Each crushing/shredding campaign would last approximately two weeks and would only occur during normal processing hours.

Processed C&D waste would be stockpiled in the external processing area (see **Figure 8**). Products would be dispatched to customers in the Lower Hunter Region including Newcastle and would include the following ready-to-use products:

- building aggregates such as soils, clays, sand, gravel, fines
- crushed masonry
- mulches and soil substitutes.

To ensure quality control is maintained, products must be tested in accordance with the relevant EPA resource recovery order prior to dispatch. The facilities processes are further shown in **Figure 11.**

Figure 7: *Existing Unprocessed Waste Stockpiled in the External Waste Processing Area*

Figure 8: *Existing Processed Waste Stockpiled in the External Waste* Processing Area

2.4.2. Recycling and Dispatch Process - Main Processing Building

Co-mingled C&I and C&D waste would be unloaded at the northern part of the main processing building consistent with the existing operations. The waste would then be sorted using an excavator and placed into stockpiles (see **Figure 9** and **10**). A range of mobile plant such as excavators, front-end loaders, a flip-flow screen and two picking lines would be used to sort the waste products where they would then be stockpiled towards the southern part of the site for dispatching. Separated masonry and soils from the main processing shed would be transported to the external waste processing area for crushing, screening and blending. The facilities processes are further shown in **Figure 11.**

Processed co-mingled waste would be stored in stockpiles, bins and/or bales within the southern part of the main processing building and would require further processing off-site. This waste would include:

- clean, dry paper and cardboard from packaging
- ferrous and non-ferrous metals from pipes and office fittings
- various plastics from packaging and fittings.

However, if the co-mingled waste is not acceptable for recycling, it will be disposed of at a licenced landfill facility. Approximately 5 % of the waste received at the RRF would not be able to be recycled and would be disposed of at a licensed landfill facility. This residual waste would be stored in the main processing shed prior to disposal.

Figure 9: *Existing Waste Stockpiles within the Main Processing Building*

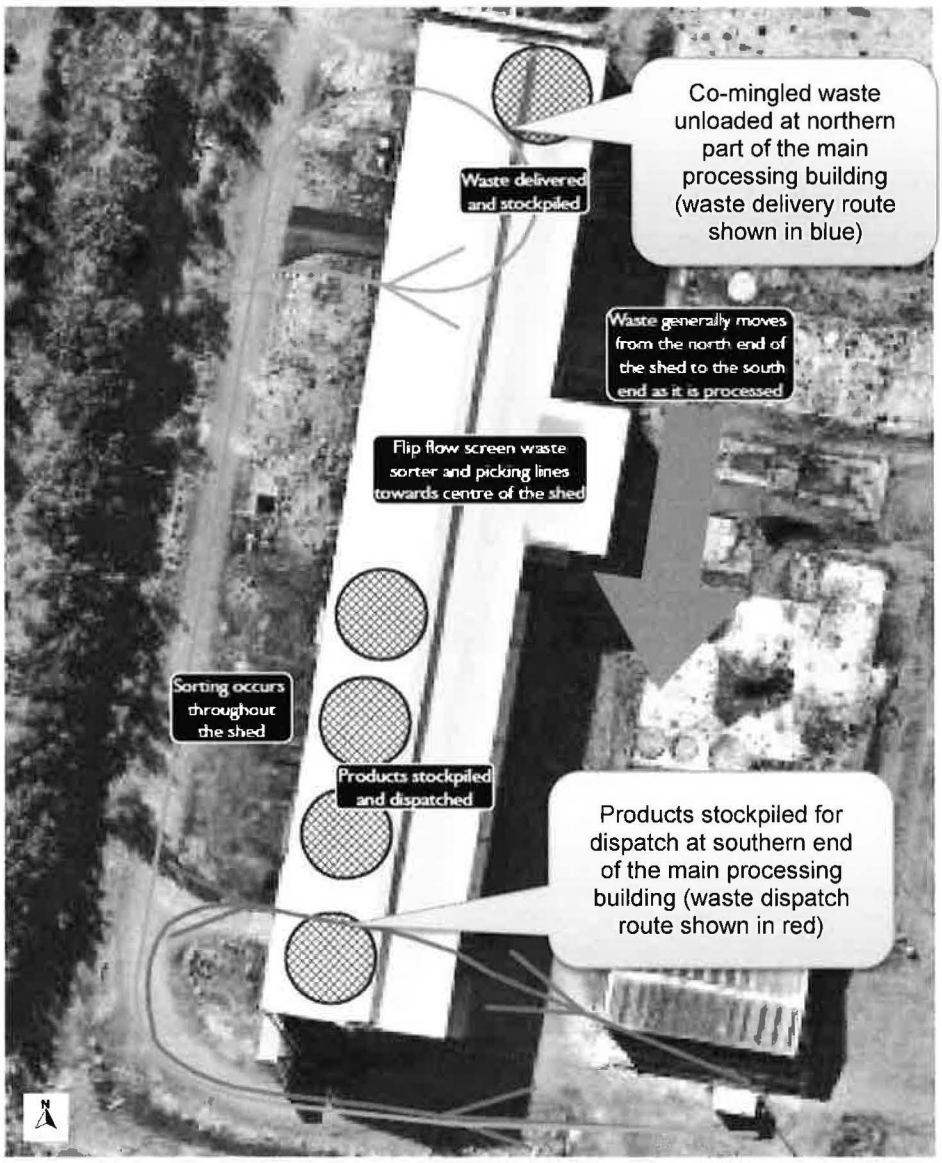

Figure 10: *Waste Delivery and Processing Movements within the Main Processing Building*

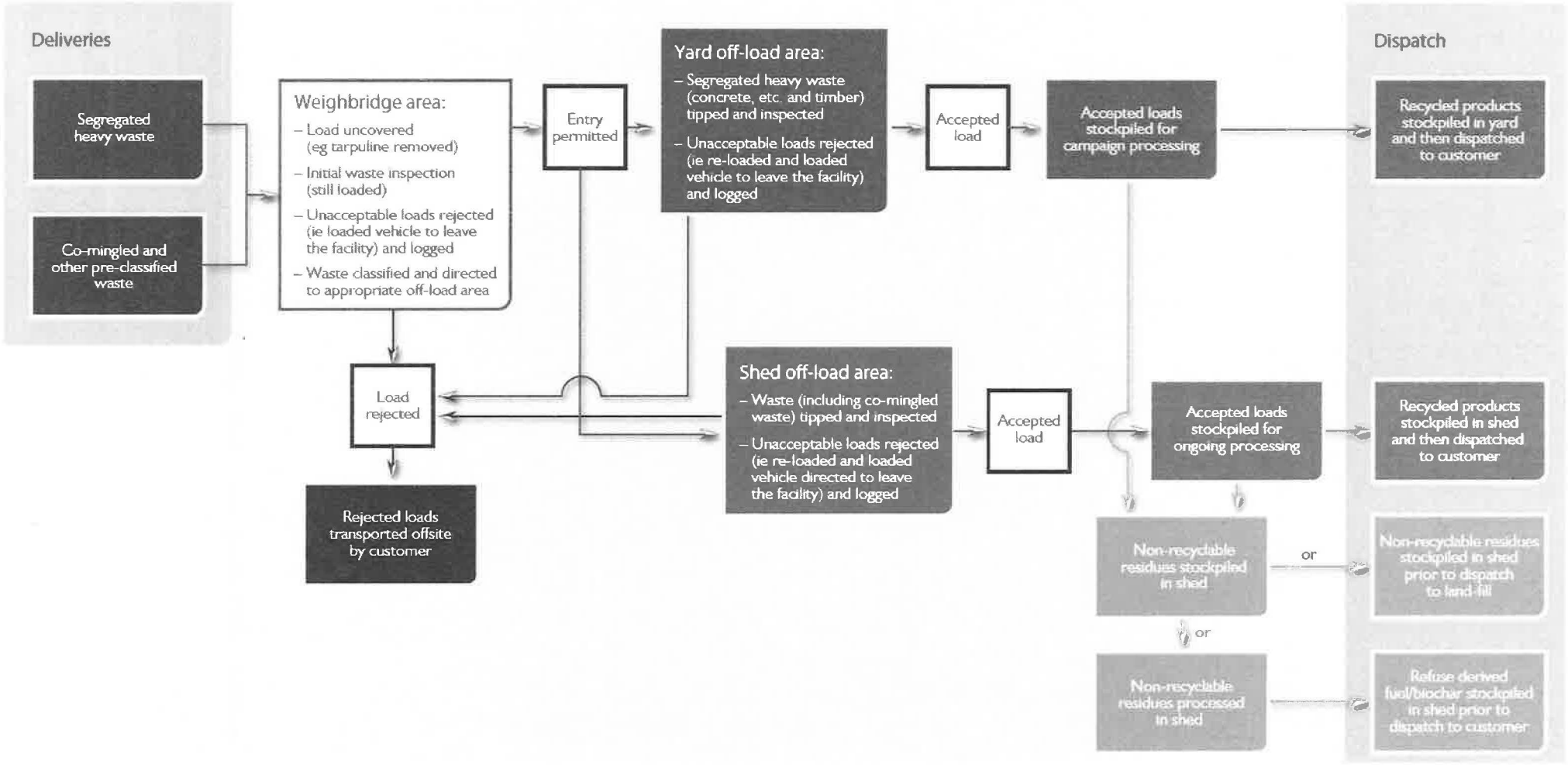

***Figure 11**: Flow Chart of Facilities Operations*

2.5. Applicant's Need and Justification for the Development

The Applicant operates a well-established recycling business in NSW and is therefore supportive of the positive environmental benefits the operation would bring when compared to disposal of waste materials to landfill and the contribution it would make towards reducing waste and increasing recycling rates as promoted by the current NSW Government waste strategies (see **Section 3.1**).

The Applicant suggests that the proposed RRF would contribute to the State's recovery performance in both C&I and C&D waste and preserve the life of the local landfill by reducing the amount of waste sent there.

The Applicant has identified population growth within the Hunter region is also likely to result in an increased demand for processing of general solid waste (non-putrescible). The Applicant suggests the proposed development would have the following economic, social and environmental benefits:

- diverting recyclable and reusable wastes away from landfill thereby preserving space for less recyclable materials
- extending the life of the landfill operations by reducing the pressure for new landfill sites to be developed
- providing a depository for co-mingled waste for which there is limited recycling alternatives
- producing recycled soil materials which would be used by the construction industry
- segregating recycled materials for further processing including ferrous and non-ferrous metals
- creating four additional operational jobs.

In addition, the existing site was preferred by the Applicant as:

- the site is owned by the Applicant
- the site is centrally located in Newcastle with good connections to well established roads
- it is accessible from the Lower Hunter Region from roads suitable for heavy vehicle use
- it is located in an existing industrial precinct and the closest residential receivers are approximately 500 m south of the site
- the activities performed on site are generally not visible from publicly accessible locations
- it enables the productive land use of a site that is only suitable to a small range of uses, due to previous contamination.

3. STRATEGIC AND STATUTORY CONTEXT

3.1. Strategic Context

The NSW Government has announced the Premier's Priorities which cover 12 key areas including economic growth, provision of infrastructure, protection of vulnerable communities, improving education and environmental protection. One of the Premier's key priorities is 'Creating Jobs'. The NSW Government aims to provide 150,000 new jobs over the next four years.

The development would contribute toward 'Creating Jobs' by providing four additional full-time operational jobs (in addition to the 10 employees already employed at the facility) in the Newcastle LGA. The development also represents a capital investment of $393,869 in the local and regional economy.

WARR Strategy

The strategy for 2014-2021 sets waste recovery targets for C&D and C&I. By 2021–2022, the strategy aims to increase recycling rates for:

- C&D from 75% (in 2010–11) to 80%
- C&I from 57% (in 2010–11) to 70%
- increase the waste diverted from landfill from 63% (in 2010-11) to 75%.

As such, the proposed development would contribute to the State's recovery performance in C&D and C&I.

Hunter Region Waste Avoidance and Recovery Strategy

In order to meet NSW recycling targets, nine Councils in the Hunter region developed the Hunter Region Waste Avoidance and Recovery Strategy (HRWARS) which sets out a regional vision, objectives and targets for waste avoidance and recovery across the Region. The development is consistent with objective 2.2 of the HRWARS which aims to optimise C&D and C&I recycling in the region.

Hunter Regional Plan 2036
The Hunter Regional Plan (the Plan) sets out the NSW Government's vision for Newcastle, Lake Macquarie, Port Stephens, Maitland and Cessnock LGAs until 2036. The Plan anticipates the population of the Hunter Region will grow by 25% between now and 2036, resulting in an increased demand for dwellings and jobs.

A key priority of the Plan is to is strengthen the region's economy, manage natural resources, provide greater housing choices and employment and deliver infrastructure to support growth and communities. The proposed development supports the strategic aims of the Plan by reducing waste and keeping materials circulating within the economy, providing construction materials for use in the Hunter region and providing additional employment opportunities in close proximity to existing residential developments.

3.2. State Significant Development
The proposed development is classified as State significant development under Clause 23(3) of Schedule 1 in the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP) because it involves the development for the purposes of a RRF that handles more than 100,000 tpa of waste. Consequently, the Minister for Planning is the consent authority for the development.

3.3. Permissibility
The site is zoned IN1 General Industrial under the Newcastle Local Environmental Plan 2012. The RRF is not considered development permitted with consent in the IN1 General Industrial zone. However, as per clause 121 of the State Environmental Planning Policy (Infrastructure 2007) (Infrastructure SEPP), the IN1 General Industrial zone is considered to be a prescribed zone and therefore, the proposed development is permissible with consent. Therefore, the Minister or a delegate may determine the carrying out of the development.

3.4. Consent Authority
On 11 October 2017, the Minister delegated the functions to determine SSD applications to the Executive Director, Key Sites and Industry Assessments where:
- the relevant local council has not made an objection
- there are less than 25 public submissions in the nature of objections
- a political disclosure statement has not been made.

Of the 12 submissions received, four objected to the proposed development. Council did not object to the development. No reportable political donations were made by the Applicant in the last two years and no reportable political donations were made by any persons who lodged a submission.

Accordingly, the application can be determined by the Executive Director, Key Sites and Industry Assessments under delegation.

3.5. Other Approvals
Section 4.42 of the EP&A Act requires further approvals to be obtained, considered or determined in a manner that is consistent with any Part 4 approval for SSD projects under the EP&A Act. In the case of the proposed development, the Environment Protection Licence (EPL) for the premises (EPL 20771) would need to be varied by the Environment Protection Authority (EPA) under the *Protection of the Environment Operations Act 1997*.

3.6. Considerations under Section 4.15 of the EP&A Act
Section 4.15 of the EP&A Act sets out the matters to be considered by a consent authority when determining a DA. The Department's consideration of these matters is set out in **Section 5** and **Appendix B**. In summary, the Department is satisfied the proposed development is consistent with these requirements.

3.7. Environmental Planning Instruments
Under Section 4.15 of the EP&A Act, the consent authority, when determining a DA, must take into consideration the provisions of any environmental planning instrument (EPI) and draft EPI (that has been subject to public consultation and notified under the EP&A Act) that apply to the development.

The Department has considered the development against the relevant provisions of several key environmental planning instruments including:
- State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)
- State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)
- State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)
- State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55)
- State Environmental Planning Policy No. 71 – Coastal Protection

- Newcastle Local Environmental Plan 2012.

Development Control Plans (DCPs) do not apply to SSD under Clause 11 of the SRD SEPP. However, the Department has considered the relevant provisions of the Newcastle DCP 2012 in its assessment of the development in **Section 5** of this report. Detailed consideration of the provisions of all EPIs that apply to the development is provided in **Appendix C**. The Department is satisfied the development generally complies with the relevant provisions of these EPIs.

3.8. Public Exhibition and Notification

Under Schedule 1 clause 9 of the EP&A Act, the Secretary is required to make the SSD application and any accompanying information publicly available for at least 30 days. The application was on public exhibition from 27 October 2016 until 25 November 2016. Details of the exhibition process and notifications are provided in **Section 4.1**.

3.9. Objects of the EP&A Act

In determining the application, the consent authority should consider whether the development is consistent with the relevant objects of the EP&A Act. These objects are detailed in Section 1.3 of the Act. The objects of relevance to the merit assessment of this application include:

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment
(c) to promote the orderly and economic use and development of land
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats
(i) *to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State*
(j) to provide increased opportunity for community participation in environmental planning and assessment.

The Department has fully considered the objects of the EP&A Act, including the encouragement of Ecologically Sustainable Development (ESD), in its assessment of the application (see **Table 2**)

Table 2: *Objects of the EP&A Act and Relevance to the Proposed Development*

Object	Consideration
1.3 (a)	The proposed development would promote social and economic welfare and a better environment by: • diverting recyclable and reusable wastes away from landfill thereby preserving space for less recyclable materials • extending the life of the landfill operations by reducing the pressure for new landfill sites to be developed • producing recycled soil materials which would be used by the construction industry • enabling the productive land use of a site that is only suitable to a small range of uses, due to previous contamination.
1.3 (b)	The Department has considered the encouragement of ecologically sustainable development (ESD) in its assessment of the proposal. This assessment integrates all socio-economic and environmental considerations and seeks to avoid potentially serious or irreversible environmental damage based on appraisal of risk weighted consequences. The Department is satisfied that the proposal can be carried out in a manner that is consistent with the principles of ESD.
1.3 (c)	The proposed Development is a permissible use which would promote the orderly and economic development of land and would provide employment for four operational employees and promote economic growth in the Hunter Region.
1.3 (e)	The Department's assessment in **Section 5** of this report demonstrates that with the implementation of the recommended conditions of consent, the impacts of the Development can be mitigated and/or managed to ensure the environment is protected.
1.3 (i)	The Department has assessed the Development in consultation with, and giving due consideration to, the technical expertise and comments provided by other Government authorities. This is consistent with the object of sharing the responsibility for environmental planning between the different levels of government in the State.

Object	Consideration
1.3 (j)	The application was exhibited in accordance with Schedule 1 clause 9 of the EP&A Act to provide public involvement and participation in the environmental planning and assessment of this application.

3.10. Ecologically Sustainable Development

The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

(a) the precautionary principle;
(b) inter-generational equity;
(c) conservation of biological diversity and ecological integrity; and
(d) improved valuation, pricing and incentive mechanisms.

The potential environmental impacts of the development have been assessed and, where potential impacts have been identified, mitigation measures and environmental safeguards have been recommended.

As demonstrated by the Department's assessment in **Section 5** of this report, the development is not anticipated to have any adverse impacts on native flora or fauna, including threatened species, populations and ecological communities, and their habitats. The development does not require the removal of threatened species or ecological communities. As such, the Department considers that the development would not adversely impact on the environment and is consistent with the objectives of the EP&A Act and the principles of ESD.

3.11. *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

Under the EPBC Act, assessment and approval is required from the Commonwealth Government if a development is likely to impact on a matter of national environmental significance (MNES), as it is considered to be a 'controlled action'. The EIS for the development included a preliminary assessment of the MNES in relation to the development and concluded the development would not impact on any of these matters, and is therefore not a 'controlled action'. As such, the Applicant determined a referral to the Commonwealth Government was not required.

4. CONSULTATION AND SUBMISSIONS

4.1. Consultation

The Applicant, as required by the Secretary's Environmental Assessment Requirements (SEARs), undertook consultation with relevant local and State authorities as well as the community and affected landowners. The Department undertook further consultation with these stakeholders during the exhibition of the EIS and throughout the assessment of the application. These consultation activities are described in detail in the following sections.

4.1.1. Consultation by the Applicant

The Applicant undertook a range of consultation activities throughout preparation of the EIS including:

- a mail out and discussions with key agencies
- an email fact sheet was sent out to key stakeholders in the Steel River Industrial Estate and meetings were subsequently held.

4.1.2. Consultation by the Department

The Department undertook a range of consultation activities throughout the preparation of the SEARs including consultation with relevant public authorities.

After accepting the DA and EIS for the application, the Department:

- made it publicly available from **Friday 27 October 2016** until **Friday 25 November 2016**:
  - on the Department's website
  - at the Department's Information Centre (Pitt Street, Sydney)
  - at the Department's regional office (Honeysuckle Drive, Newcastle)
  - at Newcastle City Council (City Administration Centre).
- notified landowners in the vicinity of the site about the exhibition period by letter
- notified relevant State government authorities and Newcastle City Council by letter
- advertised the exhibition in the Newcastle Herald.

A total of 12 submissions were received during the exhibition period, including seven from public authorities, two from State owned corporations and three from the general public (including one submission from a special interest group). Of the 12 submissions received, four objected to the development. A summary of the issues raised in submissions is provided below and a copy of each submission is included in **Appendix E**.

On Tuesday 22 November 2016 (during the exhibition period), the Department visited the site with the Applicant and the Applicant's consultant to discuss the proposed development.

4.2. Submissions

4.2.1. Public Authorities

Newcastle City Council (Council) raised no objection to the proposed development however, raised the following concerns:

- the number of car spaces proposed (19 car spaces) is less than the existing facility (25 car spaces)
- the proposed pedestrian access and interaction with vehicles is not considered adequate
- Council's Section 7.12 Development Contributions applies to the site
- the location of the 40,000 L above ground diesel tank has not been identified
- the development must be connected to Hunter Water's sewer network.

The **Environment Protection Authority** (EPA) raised no objection to the proposed development however, the EPA raised a number of concerns in relation to potential air quality and surface water impacts, in particular:

- the stockpiling of glass and potential odour impacts
- the air quality assessment did not model the impacts based off the maximum daily throughput and wind erosion from stockpiles and contained inconsistent conclusions in relation to PM_{10} 24-hour average concentrations
- that not all potential pollutants of concern associated with surface water run-off from the facility were assessed
- the Applicant did not identify adequate mitigation measures to reduce surface water pollutants discharging from the site into the Hunter River.

Ausgrid objected to the proposal and opposed the intensification of the site's access which is owned by Ausgrid and subject to an existing Right of Carriageway (RoC). Ausgrid raised concern that the intensification of use could damage Ausgrid's property and infrastructure and requested the Applicant agree to an amended RoC to ensure the access way was adequately maintained by the Applicant.

Fire and Rescue NSW (FRNSW) raised no objection to the proposed development however, recommended that particular attention be given to identify and provide measures to secure adequate water pressure in the event of fire at the facility. Further, it was recommended that the site's surface management systems be designed to provide FRNSW with the ability to contain contaminated fire-water runoff.

Department of Primary Industries (DPI) raised no objection to the proposed development however, raised concern with pollutants leaching into groundwater from unsealed surfaces and requested clarification on whether there would be any impact on Crown Land from the surface water discharge point.

NSW Health raised no objection to the proposed development however, raised concern with:

- the air quality assessment criteria used
- the surface water management system in particular to the collection, retention, treatment, use and offsite discharge of surface water
- the risk of groundwater contamination.

NSW Roads and Maritime Services (RMS) raised no objection to the proposed development and stated the proposal would not have a significant impact on the classified State road network.

Hunter Water raised no objection to the proposed development however, stated a hydraulic assessment and trade waste application would need to be submitted before connection to the Hunter Water network can be provided.

Office of Environment and Heritage (OEH) did not object to the proposal and stated that their concerns had been adequately addressed.

4.2.2. General Public

Three submissions (including one from the Correct Planning and Consultation for Mayfield Group) were received from the general public, all of which objected to the proposal. The following concerns were raised:

- insufficient detail regarding the activities which would occur in the 'ancillary activities area'
- the cumulative air quality impacts in particular dust from stockpiles
- the potential for the facility to increase vermin and pest numbers in the area
- the impacts the proposal would have on the CSRIO research facility
- noise impacts from heavy vehicles
- traffic impacts from delivery and transfer vehicles and sediment tracking from the lack of wheel wash facilities
- the need for financial assurance should the site be abandoned.

4.3. Response to Submissions

In January 2017, the Applicant provided a Response to Submissions report (RTS) to address the issues raised in the submissions received during public exhibition. The RTS did not adequately address the agencies concerns particularly in relation to surface water management, air quality, storage of items in the ancillary activities area, pedestrian access, right of carriageway access and fire safety. A revised RTS was requested that would address all outstanding matters.

In July 2017, the Applicant provided its final RTS (see **Appendix F**). The final RTS was accompanied by a surface water management strategy, an updated site water balance, survey plans, floor plans, swept path diagrams, a current fire safety certificate, a revised air quality assessment and confirmation the site was now connected to Hunter Water's sewer system. The Applicant also made the following changes to the proposal:

- up to nine fenced storage compounds were proposed to be constructed in the ancillary activities area (this component has been removed from the DA, see **Section 2.2**)
- glass would no longer be crushed or processed at the facility
- LPG tanks would not be installed at the facility
- a public loading area would be established outside under an awning at the northern end of the main processing shed
- poorly graded rock (50–150 mm diameter) would replace sand bags to form seven sediment basin dams across the perimeter drain
- sealing the site with asphalt or concrete to prevent surface water and groundwater impacts, in particular this would involve:
  - removal of vegetation from the sediment basin and perimeter drain and sealing any cracks in the surface water infrastructure
  - resealing cracks within the main processing shed to ensure any spills do not infiltrate groundwater
  - sealing the entire external waste processing area.

A summary of the agencies responses to the RTS is provided below:

FRNSW stated that the RTS did not adequately address FRNSW concerns and requested a condition be imposed in relation to stockpile size and separation, the capacity of the fire hydrant system and the containment of contaminated fire water.

DPI recommended that the water quality monitoring program be developed in consultation with DPI.

NSW Health stated the issues raised in their submission had been adequately addressed.

Ausgrid withdrew its objection to the proposed development following a full resolution in relation to the revised terms of the RoC and the Applicant's mitigation measures which included the Applicant maintaining the access road.

EPA stated their concerns in relation to the management of surface water at the site had not been adequately addressed. The EPA stated the RTS had not demonstrated the sizing of the sediment basin and perimeter drain was adequate to manage controlled discharges. The EPA requested more information regarding the viability of the proposed surface water contingency measures that could be implemented post approval. The EPA stated the ANZECC (2000) guidelines must apply to surface water monitoring until such time that an agreed reference site(s) is finalised. The EPA agreed a Traffic Noise Management Strategy was no longer required as the traffic noise impacts are expected to be negligible. The EPA recommended a number of conditions relating to the management of dust.

Council stated the storage activities approved under DA 2015/0291 within the ancillary activities area were not considered ancillary to the RRF and directly related to the RRF. Council does not consider DA 2015/0291 gives approval for the construction and operation of nine storage compounds to be leased to third parties. Council stated they prefer the RRF and storage premise to operate under one development consent. The Council recommended conditions relating to:

- surface water storage and maintenance
- traffic and public unloading areas being separated.

In light of the EPA's concerns the Applicant provided further information on the contingency measures that would implemented to manage the surface water impacts which include bunding potentially contaminating waste and capturing any surface water from this area and testing it prior to discharge. The additional contingency measures addressed the EPA's concerns.

The Department has considered the issues raised in submissions, the RTS and the supplementary information, in its assessment of the development. The Department notes the amended application removed the ancillary activities area and associated storage compounds from the DA.

5. ASSESSMENT

The Department has considered the EIS, the issues raised in the submissions, the Applicant's RTS and supplementary information in its assessment of the development. The Department considers the key assessment issues are:

- water including groundwater and surface water
- traffic
- air quality

A number of other issues have also been considered. These issues are considered to be minor and are addressed in **Table 4** under **Section 5.4**.

5.1. Water

The proposed development has the potential to increase surface water flows due to a proposed increase in impervious area of approximately 1.2 ha and introduce additional pollutants to the surface water. The development has the potential to impact on downstream catchments through the discharge of contaminated water if not controlled by an adequate surface water management system (SWMS). In addition, the development has the potential to impact on groundwater if the surface water infiltration to groundwater is not adequately managed.

The EIS included a Soil and Water Management Report (SWMR) prepared by NPC. The SWMR assessed the potential surface water and flooding impacts of the development. In its RTS, the Applicant provided a Surface Water Monitoring Program, a revised water balance and proposed to seal the site to reduce surface water to groundwater infiltration.

Groundwater and surface water impacts are considered key assessment issues due to their potential to impact on water quality if not adequately managed. The Department raised concern regarding the management of groundwater given the site's contamination history, the amount of unsealed surfaces proposed and the integrity of the existing surface water infrastructure. Previous investigations of other similar RRFs and surface water impacts have indicated that contaminants (such as heavy metals and organics) can be mobilised from waste stockpiles during rainfall events which need to be adequately managed. As such, the Department and the EPA had concerns about the proposed developments surface water quality impacts, the size of the sediment basin and the proposed contingency measures.

The Department's assessment of groundwater and surface water is provided in more detail below.

Groundwater

The site and the surrounding area were originally reclaimed using steel works waste and sand dredged from the Hunter River. Once formed, the initial use of the site was for chemical manufacturing to process electrolytic manganese dioxide by Delta EMD. Due to the materials used to form the site and the previous heavy industrial use, there are elevated concentrations of manganese, lead, petroleum hydrocarbons and polyaromatic hydrocarbons in the soil and groundwater. The site was remediated in 2009 and a site audit statement was issued by an EPA accredited site auditor under the *NSW Contaminated Land Management Act 1997.* The audit determined the site was suitable for commercial and industrial uses provided compliance with the Site

Management Plan (SMP) for subsurface disturbance activities was implemented. The site audit statement recommended the surfaces (sealed, gravel, grass) across the site be retained and maintained to prevent the generation of dust and direct exposure to underlying soil and groundwater and to reduce the volume of surface water infiltration to groundwater.

The EIS provided limited information on groundwater and stated that groundwater has been encountered 1 m below the ground level, and flows north towards the Hunter River. The EIS concluded the proposed development would not intercept groundwater or have impacts on groundwater as no excavation is proposed. The Applicant committed to implementing the SMP should excavation be required. Initially the Applicant did not propose to seal the external waste processing area.

The Department and DPI raised concern with pollutants leaching into groundwater from unsealed surfaces from the waste stockpiles. In addition, on the Department's site visit, it was noted that vegetation had grown through sections of the perimeter drain and the sediment basin (see **Figure 12**). The Department raised concern the vegetation could lead to cracks in the asphalt liner and possible infiltration to groundwater which could increase groundwater contamination.

***Figure 12**: Sediment Basin on 22 November 2016*

In its RTS, the Applicant stated groundwater impacts would be managed by:

- removing vegetation from the sediment basin and perimeter drain and sealing the infrastructure to ensure infiltration from surface water to groundwater is minimised
- inspecting the sediment basin and perimeter drain monthly to ensure vegetation is removed and any cracks repaired
- sealing the external waste processing area
- applying concrete to the floor of the main processing building to seal any cracks
- conducting groundwater monitoring if the surface water monitoring demonstrates exceedances, to verify if impacts to groundwater are occurring.

DPI stated they were satisfied their issues had been addressed subject to a water quality monitoring program being implemented. The Department has recommended water quality monitoring be conducted and this issue is discussed further below.

The Department considers the above measures, in particular sealing the external waste processing area and the sediment basin and perimeter drain, would reduce the likelihood of surface water infiltration to groundwater. Consequently, the Department has recommended the external waste processing area be sealed prior to the commencement of the expanded operations. The Department has also recommended the Applicant regularly monitor and inspect the surface water infrastructure and maintain it so that infiltration to groundwater is minimised. As per the recommendations of the site auditor, the Department considers the SMP must continue to be implemented and adhered to for any subsurface disturbance activities. With the recommended conditions in place the Department is satisfied that groundwater impacts at the site would be minimised and adequately managed.

Surface Water

Previous investigations conducted by the Department and the EPA at similar RRF's which store C&D waste externally in an uncovered environment have identified that contaminants in the waste stockpiles can be mobilised during rainfall and result in contaminated surface water being discharged from the site. The proposed development would increase the impervious surfaces and increase the stockpile area by 1.2 ha. As such, the proposed development has the potential to increase surface water flows and introduce contaminants to the surface water. The site discharges directly to the Hunter River and therefore an adequate SWMS is required.

The site has an existing SWMS which consists of a sediment basin and a perimeter drain which surrounds the site (see **Figure 13**). Both the sediment basin and the perimeter drain are lined with asphalt. The site is graded so that both dirty and clean surface water drains from the centre of the site to the perimeter drain. There is no separation of clean and dirty water at the site.

***Figure 13**: Existing Asphalt Perimeter Drain*

To manage surface water at the site, the Applicant has committed to the following mitigation measures:

- implementing a surface water monitoring program
- re-using of surface water for dust suppression (would reduce run-off by approximately 17%)
- using flocculants to settle total suspended solids
- placing sock filters along the rim of the perimeter drain to remove suspended solids from surface water
- removing vegetation from the sediment basin and perimeter drain to ensure storage capacity at the site is maintained
- removing sediment from the sediment drain approximately two to four times a year
- sealing the external waste processing area
- locating the 40,000 L diesel tank towards the centre of the site, constructing an awning over the tank and self-bunding the tank
- containing spills through the deployment of spill kits
- constructing an awning over the public unloading area.

Currently, prior to any discharges from the site, the Applicant is required to undertake water quality monitoring for pH, TSS, turbidity and oil and meet the discharge requirements in the site's EPL. The EIS did not include baseline surface water quality data and the quality of the water being discharged from the existing operations is unknown. As the Applicant is proposing to stockpile waste outdoors, the Department and the EPA requested the potential contaminants of concern that may be mobilised during rain events be identified along with possible contingency measures to manage contaminants. To address this issue, the Applicant provided a surface water monitoring program in its RTS which included:

- identification of the potential contaminants of concern (major ions, nutrients, heavy metals, organics i.e hydrocarbons, fluoride and cyanide) that may be mobilised from run-off by storing waste externally
- a commitment to develop site-specific surface water trigger values
- validation monitoring which would be conducted 12 weeks after the expansion
- contingency measures should exceedances of the site-specific trigger values be identified.

The EPA remained concerned that the proposed management measures in the RTS did not sufficiently reduce the risk of contaminants being discharged to the Hunter River. To address the EPA's concerns, the Applicant provided further information and committed to providing additional surface water management measures which include bunding potentially contaminating wastes, collecting surface water that has been in contact with

potentially contaminating wastes, testing the surface water via a three-stage pit/holding tank system and either discharging it to the existing perimeter drain or to the sewer as trade waste depending on its quality. The proposed water management system is shown in **Figure 14** below.

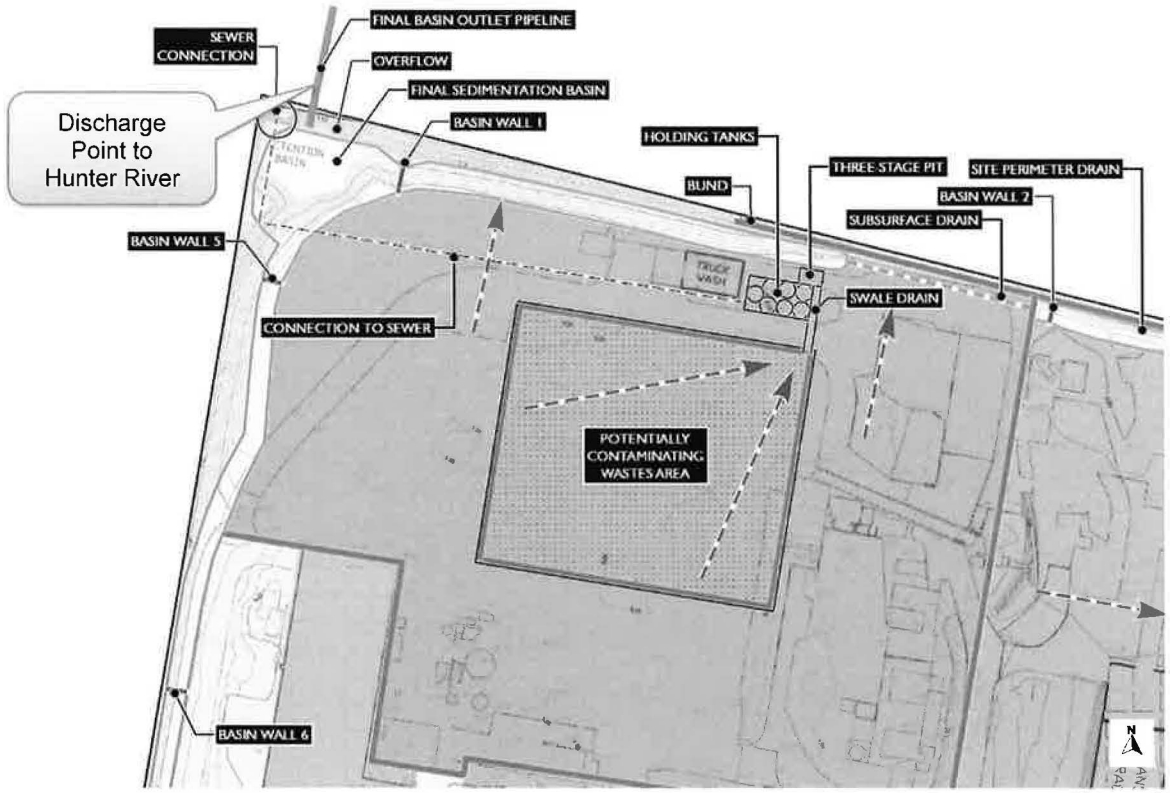

***Figure 14**: Proposed Water Management System*

To ensure the proposed system is implemented, the Department has recommended a condition which requires the potentially contaminated waste to be bunded and any surface water leaving the area must be directed to the three-stage pit and holding tank for testing prior to being discharged to the perimeter drain or sewer, depending on whether it satisfies the site's specific trigger levels.

The Department has also recommended the Applicant prepare a Surface Water Characterisation and Mitigation Plan (SWCMP) prior to the facility expanding under this current SSD application. The SWCMP requires baseline data to be collected, site specific trigger levels to be developed and the identification of additional mitigation measures that would be deployed if the trigger values are not able to be met. The site-specific trigger levels will be used to determine whether the surface water from the potentially contaminated waste area is discharged to the perimeter drain or to the sewer via trade waste.

Surface water outside of the potentially contaminated waste area is considered to have a low surface water contamination risk and the surface water from this area is considered suitable to be discharged directly to the perimeter drain. Notwithstanding, the Department has recommended surface water monitoring be conducted from within the sediment basin.

As the concentration of the contaminants would not be fully known until the expanded operations commence, the Department and EPA consider it appropriate the facility also be subject to a validation period and if required implement further mitigation measures to ensure the site-specific trigger levels can be achieved. The Department considers there to be sufficient space on the site to install additional mitigation measures (such as further expanding the sediment basin, installing at source pollution reduction controls or a tertiary water treatment plant) if required.

This tiered surface water management approach is considered adequate by the Department and the EPA to manage the surface water quality issues and ensure contaminants leaving the site are not impacting the Hunter River.

The soil and water management strategy for the site is based on *Managing Urban Stormwater: Soils & Construction* (Landcom 2004) (the Blue Book). The Blue Book defines the required storage volume based off a

five day rainfall event at the 90th percentile in order to minimise overflows during storm events (this is known as the 90th percentile, 5-day rainfall event).

Insufficient on-site surface water storage can result in increased overflows and poor surface water quality (which is high in suspended solids) being discharged from the site. In order to provide additional surface water storage to meet the Blue Book requirements, the Applicant proposes to install poorly graded rock (50–150 mm diameter) in 100 m intervals along the perimeter drain to form bund walls. As per the existing development, surface water would continue to be discharged to the Hunter River via the licenced discharged point.

Overflows from the sediment basin to the Hunter River are expected to occur approximately two to four times a year which is consistent with the Blue Book. Currently, the sediment basin has a capacity of 1,400 m^3, and the perimeter drain has a capacity of 3,080m^3. The total volume of surface water storage available at the site 4,480 m^3. The water balance concluded during high rainfall events, there would be a shortfall of surface water storage capacity of approximately 96 m^3 (approximately 2 % of the overall storage capacity). The Applicant stated that this shortfall would be provided when the sediment basin is refurbished and removed of vegetation.

To ensure the shortfall is accounted for, the Department has recommended a condition which requires the Applicant to provide adequate storage to meet the 90th percentile, 5-day rain fall event. The Department also considers that the removal of vegetation from the sediment basin and perimeter drain is necessary to ensure adequate storage capacity is maintained.

Overall, the Department and the EPA are satisfied that the surface water quality impacts can be managed subject to the recommended conditions of consent and the surface water from the proposed development would be suitable to be discharged to the Hunter River.

Conclusion
The Department has reviewed all the information provided and concludes the groundwater and surface water impacts at the site could be appropriately managed.

The Department considers sealing the external waste processing area along with re-sealing the perimeter drain and sediment basin would greatly assist in minimising infiltration of surface water to groundwater and is consistent with the recommendations of the site auditor. The Department has recommended the continued implementation of the SMP for any sub-surface disturbance activities which is also consistent with the recommendations of the site auditor. The Department recommends the surface water infrastructure be inspected monthly for vegetation growth and that it be maintained to prevent any surface water to groundwater infiltration. With these measures in place, the Department considers that the groundwater impacts at the facility can be adequately managed.

The Department has recommended that waste unloaded within the public unloading area must only be unloaded underneath the awning, to ensure waste does not come in contact with surface water.

The Department and the EPA raised concern with the lack of baseline surface water data provided in the EIS and the potential for contaminants to be mobilised from waste stockpiles during rainfall and discharged to the Hunter River. The Department has therefore recommended that baseline data be collected prior to the facility expanding and if required additional mitigation measures be installed. The Department has recommended the Applicant bund the potentially contaminating waste and any surface water leaving the area must be directed to the three-stage pit and holding tank for testing prior to being discharged to the perimeter drain or sewer. Once the facility is operational, the Department has recommended the surface water impacts of the site be validated to ensure the mitigation measures are working effectively.

To ensure satisfactory surface water storage capacity is provided prior to the facility expanding, the Department has recommended the SWMS system be designed to meet the 90th percentile, 5-day rainfall event and sediment and vegetation be removed from the sediment basin. The Department notes the site is large enough to accommodate additional mitigation measures such as further increasing the sediment basin, installing at source pollution reduction controls or a tertiary water treatment plant should it be necessary. With these stringent recommended conditions in place, the Department concludes that the surface water quality impacts at the site can be adequately managed.

5.2. Traffic

The proposed increase in production capacity would generate additional traffic movements to and from the site through the delivery and dispatch of waste which has the potential to impact on the safety and efficiency of the surrounding road network.

Waste would be delivered to the facility from businesses and the general public by light vehicles such as utes with box trailers, heavy vehicles and skip bins (from building sites and households). Waste would be dispatched from the site via heavy vehicles including semi-trailers, truck-and-dog combinations and B-Doubles. In addition, employees would access the site via light vehicles.

The EIS included a traffic impact assessment (TIA) prepared by EMM, with additional information and clarification regarding the makeup of heavy vehicles provided in the RTS. The TIA analysed existing intersection performance and predicted impacts from the increase in vehicle movements from the proposed development.

To manage the traffic impacts, the Applicant has committed to:

- ensuring vehicles continue to use McIntosh Drive when travelling within the Steel River Industrial Estate
- maintaining the right of carriageway (RoC) at no cost to Ausgrid
- prohibiting queuing along the access road between the RRF and McIntosh Drive
- providing separate unloading areas for the public and contractors
- clearly marking pedestrian paths
- providing 25 car spaces (including two disabled spaces).

Traffic Generation

The site has good access to:

- Tourle Street which is a major arterial road which provides access to Kooragang Island, Stockton, Williamtown, Nelson Bay, Port Stephens and surrounds
- Industrial Drive which is a four to six lane dual carriageway arterial road which provides access to the Pacific Highway and also services a number of industrial sites.

The proposed development would receive waste and deliver recycled products throughout the Newcastle and Lower Hunter Region of NSW. The flow of traffic from the site consists of:

- approximately 60% of the development's traffic would travel to and from the site from the east along Industrial Drive which also connects north and south via Tourle Street and Werribi Street (see **Figure 15**)
- approximately 40% of the development's traffic would travel to and from the site from the west along Industrial Drive which connects to the Pacific Highway (see **Figure 15**).

***Figure 15**: Proposed Haulage Routes*

The original approval (DA2015/0291) permits approximately 132 light vehicles to deliver waste to the site each day and approximately 105 heavy vehicles to deliver or dispatch waste each day. Under the proposed operations, light vehicles delivering waste is expected to increase by 3 vehicles per day (6 movements) and heavy vehicles delivering or dispatching waste is expected to increase by 33 vehicles per day (66 movements). Estimates of peak hour and daily traffic volumes resulting from the development are shown in **Table 3**.

Table 3: *Traffic Generation*

Period	Existing Traffic Movements (Council's DA)			Future Traffic Movements		
	In	Out	Total	In	Out	Total
AM Peak Hour	33	33	66	38	38	76 (+10)
PM Peak Hour	9	9	18	11	11	22 (+4)
Daily Light Vehicles	132	132	264	135	135	270 (+6)
Daily Heavy Vehicles	105	105	210	138	138	276 (+66)

Note: Traffic movements were based on an average and as such have been rounded to the nearest number, the estimates are for the entire site including the cumulative impacts from the ancillary activities area (which no longer forms part of the application).

Whilst the TIA predicts an increase in heavy and light vehicles, the predicted volumes are considered low in comparison to the existing traffic on the road network which currently experiences high traffic volumes due to the area's industrial nature. The increase in heavy and light vehicles would consist of 0.9 % of the total daily traffic volumes along Steel River Boulevard and 0.2 % of total daily traffic volumes along Industrial Drive which is considered negligible.

The Applicant proposes to continue waste acceptance on a 24-hour basis on limited occasions to facilitate the receipt of waste from large infrastructure projects. In addition to the traffic predictions in **Table 3**, the 24-hour infrastructure waste acceptance campaigns would generate approximately two to four heavy vehicle movements per hour (one to two heavy vehicles) during night-time periods (6 pm to 6 am) which is less than 0.03 % of the hourly heavy vehicle traffic during this time on Industrial Drive.

The TIA included an assessment of the capacity of the Industrial Drive and Steel River Boulevard intersection using SIDRA (a software program used to model intersection and network capacity). The Department understands this intersection is considered a key intersection along the proposed transport route. The SIDRA analysis showed the intersection to be performing to a satisfactory standard. Based on the predicted increase in vehicle movements caused by development, the SIDRA analysis concluded the level of service (LoS) of the intersection would not be negatively impacted allowing a satisfactory LoS to be maintained. Council and RMS did not raise any concerns with the operating capacity of the surrounding road network.

The Department questioned the Applicant's truck movement predictions, as the development represents a 300 % increase in the waste processing of the current facility, whereas the number of predicted truck movements only equates to an 31 % increase. In its RTS, the Applicant provided further justification for the predicted truck movements. The Applicant stated the reasons for the discrepancies are as follows:

- the heavy vehicle predictions in Council's DA overestimated the number of heavy vehicles accessing the site for waste dispatch to landfill, therefore the actual number of heavy vehicles currently accessing the site is considered to be lower than those predicted in **Table 3**
- the majority of waste being brought onto the site from the increase in processing capacity is expected to be mainly from commercial customers (heavy vehicles) not the general public (light vehicles). The commercial customers would use larger capacity trucks such as multiple-axle combination heavy vehicles to transport excavated materials to and from the site, thereby reducing the amount of trucks accessing the site. One truck and dog delivers the equivalent tonnage as 40 small loads
- the truck movements associated with the ancillary activities area are included in Table 5, the number of truck movements from these operations are not expected to be as high as originally predicted. Notwithstanding, the ancillary activities area no longer forms part of the proposed development, so the above traffic movements are based off a worst-case scenario.

The Department is satisfied with the rationale used by the Applicant to predict truck movements for the intended processing capacity, as it is based on trends evident at other facilities and the waste industry in general. The Department has assessed the impact that the additional traffic would have on the safety, function and efficiency of the road network surrounding the site and found it to be negligible as the key intersections on the haulage route would continue to perform to good standards and the road network's capacity is sufficient to cater for the development. However, the Department does not consider it necessary for Werribi Street (which runs through a predominantly residential area) to be utilised by heavy vehicles accessing or leaving the site as there is a satisfactory connection between Industrial Drive and the Pacific Highway further to the west. As such, the

Department has recommended a condition of consent which prohibits heavy vehicles utilising Werribi Street to access or leave the site.

The Department also notes the facility currently has approval to accept waste from infrastructure projects (not process) on a 24-hour basis, no greater than six times per year and only for a period of up to two weeks in length for each occasion. The Applicant has predicted the 24-hour infrastructure campaigns will result in one to two heavy vehicles accessing the site per hour (two to four heavy vehicle movements). To ensure the amount of traffic accessing the facility during the 24-hour infrastructure campaigns is not greater than predicted, the Department has recommended the Applicant's traffic predictions be formalised by a condition of consent, as such only 12 heavy vehicles are permitted to access the facility from 6 pm to 6 am.

With these measure in place the Department is satisfied the impacts from the additional traffic movements can be adequately managed.

Access Arrangements

Site Access

The site is accessed via an existing access road off McIntosh Drive which is a cul-de-sac road servicing the Steel River Industrial Estate. The site's access runs through a portion of land owned by Ausgrid. As such, access to the site is facilitated through a RoC which connects to McIntosh Drive. The access and driveway configuration was previously assessed as being appropriate for the use of the site as an RRF during the determination of the existing consent by Council. As the type and size of vehicles proposed to access the site under this DA have not altered, the Applicant has not proposed any amendments to the accessway. Neither Council or the RMS raised any concerns with the existing site access arrangements.

Ausgrid objected to the proposed development citing concerns the use of the existing RoC which benefits Lot 1 in DP874109 (the access to the proposed development) would be intensified. Ausgrid suggested this intensification was not adequately reflected in the terms of the existing RoC. Ausgrid also requested that vehicles do not queue along the sites access road. Following receipt of the objection, the Applicant commenced discussions with Ausgrid to negotiate new terms for the RoC. Following these negotiations, Ausgrid withdrew their objection to the proposed development as the two parties agreed on the revised terms of the RoC.

The Department is satisfied that the Applicant is able to manage additional vehicle movements wholly within the site as there is sufficient space for heavy vehicles to queue on-site without causing congestion on the access road or McIntosh Road. Notwithstanding, the Department has recommended the Applicant implement all reasonable and feasible measures to minimise the impact on the site's access and Ausgrid's land. The Department has recommended a condition of consent prohibiting the queuing of vehicles within Ausgrid's site.

Internal Vehicular Movement

The site would be accessed by the general public via light vehicles and trailer and commercial contractors via heavy vehicles. Council and the Department raised concern with the interaction between contractors and the public when unloading waste and requested that designated pedestrian access and unloading areas be provided to ensure public safety is maintained.

In its RTS, the Applicant committed to providing a dedicated public unloading area, to separate contractor and public unloading areas. Only light vehicles and trailers would be permitted to unload waste in this area. Customers using the site, including the public and contractors, would not be permitted to leave their vehicles unless within the designated unloading area (see **Figure 16**). The Applicant also provided further details on the pedestrian access ways between the car park and the site office.

The Department considers there is sufficient space for heavy vehicles and light vehicles to safely manoeuvre around the site. The Department notes the increase in traffic would primarily be from commercial customers using heavy vehicles rather than deliveries from the general public. Notwithstanding, the publics safety is a key priority for the Department. To ensure public safety on the site is adequately managed by the Applicant, the Department has recommended:

- public and contractor unloading and loading areas be separated via physical barriers and be clearly marked
- customers are not permitted to leave their vehicles unless within the public unloading area
- only light vehicles and trailers would be permitted within the public unloading area
- all vehicles at the site do not exceed a speed of 20 km/h
- the Applicant implement an Operational Traffic and Pedestrian Management Plan (OTPM) to manage traffic and pedestrian impacts at the site
- a driver code of conduct be implemented for contractors.

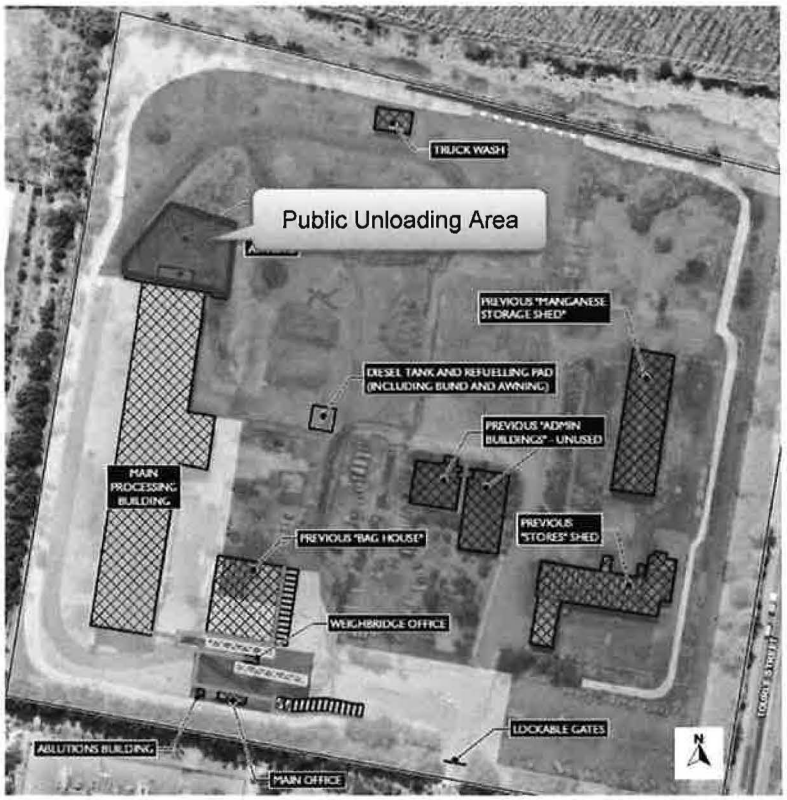

***Figure 16**: Public Unloading Area*

Conclusion

The Department considers the extra operational traffic generated by the proposal can be accommodated within the local road network without comprising safety or efficiency. The Department has restricted the haulage routes of the proposed development to the Pacific Highway and Industrial Drive as the use of Werribi Street, through a predominantly residential area, is not warranted. Although the Applicant proposes to deliver waste to the site at night during infrastructure campaigns, the amount of truck movements is low (12 per night) and this practice is not expected to impact the amenity of the locality through road noise.

The Department has also closely assessed the suitability of the site's access arrangements and use of Ausgrid's site through an RoC. The Department considers these arrangements are appropriate as the access road design, size and construction is suitable for the intended use and Ausgrid has confirmed its support for the proposed development. However, the Department has recommended a condition of consent prohibiting any queuing within the access road and on Ausgrid's land. Finally, the Department has recommended further conditions of consent directed at limiting the interactions between commercial and public deliveries of waste including the installation of physical barriers to separate unloading areas and the preparation of an OTPM. With these measures in place, the Department considers the operation of the site would not create adverse traffic impacts.

5.3. Air quality

The proposal has the potential to generate dust from resealing surfaces, haulage of materials, loading and unloading materials, stockpiling, crushing, shredding, screening and wind erosion of stockpiles. The proposed development would increase the stockpiling area by approximately 1.2 ha.

To address the potential air quality impacts, the EIS included an Air Quality and Greenhouse Gas Assessment (AQGGA) prepared by Ramboll Environ Australia Pty Ltd in accordance with the EPA's *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* (Approved Methods) (EPA, 2005)[1]. The AQGGA predicted the operational impacts of total suspended particulates (TSP), dust deposition, particulate matter (PM) PM_{10} and

[1] *The EPA and the Department refer to the August 2005 version of the Approved Methods for the Modelling and Assessment of Air pollutants in NSW when evaluating air quality impact assessments submitted as part of any planning application submitted before 20 January 2017 which is when the updated Approved Methods (2016 version) was gazetted.*

$PM_{2.5}$ and odour and compared the results against the EPA's impact assessment criteria stipulated in the Approved Methods[2]. The Applicant has included the following management measures to mitigate dust impacts:

- disturbance of unsealed areas by plant or vehicle movements would be prevented by surfacing areas with concrete or asphalt
- water sprays and sprinklers would be used for dust suppression
- all vehicle movements would be restricted to designated routes and access to unsealed areas would be prevented
- a wheel wash would be installed near the weighbridge to ensure truck tyres are clean prior to leaving the site
- where possible existing sheds would be utilised to undertake particulate generating activities.

The EPA raised concern with:

- the AQGGA and requested the modelling be revised to include more realistic assumptions and include wind erosion from stockpiles as an air emission source
- the stockpiling of glass and its potential to generate odour impacts.

The community also raised concern regarding dust impacts and requested a wheel wash be installed at the facility.

To address the EPA's concerns, the Applicant provided a revised AQGGA in its RTS. The Applicant also committed to limiting stockpiling to 53,733 tonnes stored on site at any one time to decrease the potential for dust generation as per the existing EPL. In its RTS, the Applicant stated it would no longer be processing or crushing glass. The Department considers with this component removed from the application and given the nearest receiver is 500 m away, the likely generation of odour from the facility is negligible.

The revised AQGGA modelling results were compared against the EPA's applicable air criteria for the primary pollutants that would be emitted from the proposed development being dust deposition and particulate matter. **Table 3** below indicates the performance of the RRF for each type of pollutant against the corresponding criteria for the most affected industrial receiver (known as R10) and closest residential receiver (known as R5) as shown on **Figure 17** below. The nearest industrial receiver (R10) is located approximately 20 m to the west of the site on Laurio Place. The nearest residential receiver (R5) is located approximately 500 m to the south of the site on Groongal Street.

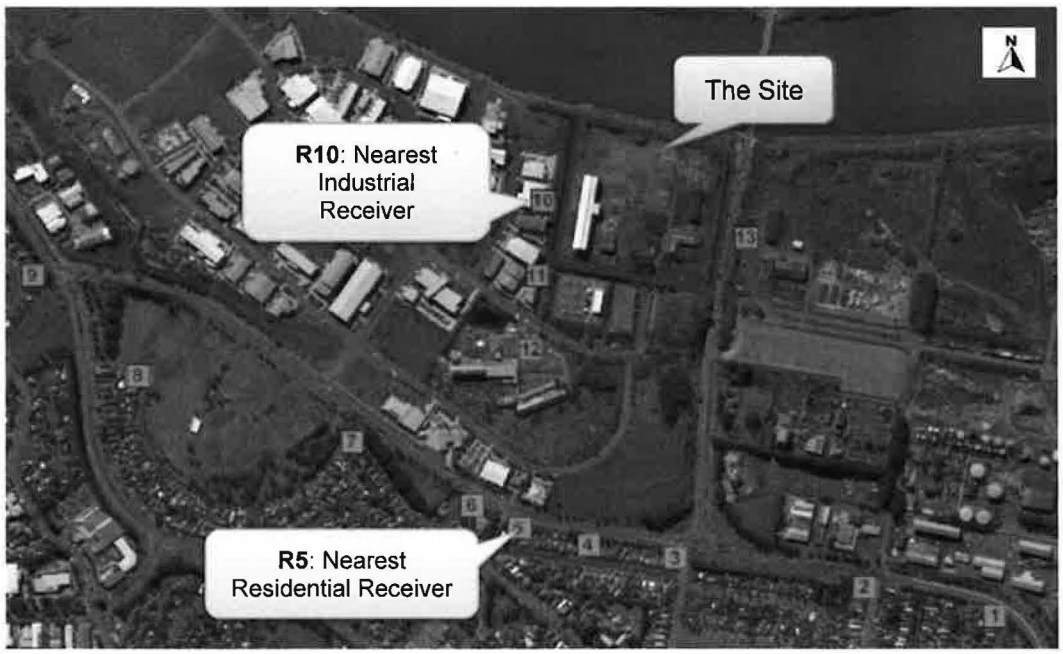

***Figure 17**: Sensitive Air Quality Receivers*

[2] *Prior to the gazettal of the updated Approved Methods in January 2017, there were no air quality goals for particulate matter ≤ PM 2.5 µm ($PM_{2.5}$) for NSW. The Australian Government's, National Environment Protection Measures (NEPM) for Ambient Air Quality (1998) provides a maximum exceedance value for $PM_{2.5}$. This goal was adopted in the AQIA but is advisory only.*

The Department notes the site is located within an area dominated by heavy industry and port related users, as such existing ambient background air quality is already elevated with dust and PM.

Notwithstanding, the results of the modelling in **Table 3** demonstrates that all potential pollutants from the proposal are below the EPA's impact assessment criteria for annual TSP and PM at all receivers and the contribution from the proposal is predicted to be minimal.

***Table 3**: Air Quality Modelling Results at the Most Affected Industrial and Residential Receiver*

Type	EPA Criteria	Incremental concentration from the expanded RRF at the most affected industrial and residential receiver	Cumulative impact at most affected industrial and residential receiver (includes the RRF)
Total Suspended Particulates (Annual Average)	**90** $\mu g/m^3$	R10: 2.9 $\mu g/m^3$	R10: 46.8 $\mu g/m^3$
		R5: 0.1 $\mu g/m^3$	R5: 44 $\mu g/m^3$
Dust deposition	**4** g/m^2/month	R10: 0.3 g/m^2/month	R10: 1.8 g/m^2/month
		R5: <0.1 g/m^2/month	R5: 1.5 g/m^2/month
PM_{10} Annual mean	**30** $\mu g/m^3$	R10: 1.3 $\mu g/m^3$	R10: 21.8 $\mu g/m^3$
		R5: 0.1 $\mu g/m^3$	R5: 20.6 $\mu g/m^3$
PM_{10} 24-hour	**50** $\mu g/m^3$	R10: 5.6 $\mu g/m^3$	Discussed Below[1]
		R5: 1.3 $\mu g/m^3$	Discussed Below[1]
$PM_{2.5}$ Annual mean	**8** $\mu g/m^3$	R10: 0.7 $\mu g/m^3$	R10: 7.4 $\mu g/m^3$
		R5: <0.1$\mu g/m^3$	R5: 6.7 $\mu g/m^3$
$PM_{2.5}$ 24-hour	**25** $\mu g/m^3$	R10: 3.5 $\mu g/m^3$	Discussed Below[1]
		R5: 0.8 $\mu g/m^3$	Discussed Below[1]

Note: [1] As existing background PM levels are elevated a Level 2 Assessment - Contemporaneous Impact and Background Approach has been adopted in accordance with the Approved Methods.

Given the existing port/industrial context where the site is located, maximum background levels have in the past reached levels above the 24-hour average PM_{10} and $PM_{2.5}$ criteria levels. As such, the screening Level 1 NSW EPA approach of adding the predicted project contribution to the existing background levels would show levels above the criteria.

Where background levels are currently above the criteria, the EPA requires a 'Level 2 Assessment - Contemporaneous Impact and Background Approach' (Level 2 assessment) in accordance with the Approved Methods be undertaken. The Level 2 assessment is a more thorough assessment method whereby PM background levels on a given day are added alongside the corresponding predicted proposal levels using the same days weather data to determine whether there are any additional days where the criteria would be exceeded.

The Applicant applied the Level 2 assessment method to examine the potential maximum total (cumulative) 24-hour average PM_{10} and $PM_{2.5}$ impacts arising from the proposed development at nearby receivers. The results demonstrated that no additional exceedance days would occur at any receiver as a result of the proposal. On this basis, it was concluded that the proposed development would not cause short-term cumulative exceedances at any surrounding receivers. The EPA reviewed the cumulative analysis and was satisfied it met the requirements of the Approved Methods.

The Department acknowledges that the annual predictions for TSP, PM_{10}, $PM_{2.5}$ are all expected to meet the EPA's criteria and the further cumulative analysis conducted for 24-hour PM_{10} and $PM_{2.5}$ demonstrated the proposal would not cause any additional exceedance days at any receivers. Consequently, the Department considers the contribution of dust and PM from the proposed development would be minimal in the context of this industrial area and there would be no adverse health and amenity impacts at any surrounding receivers.

The modelling undertaken in the AQGGA was based on a worst-case scenario and took into account the impacts associated with crushing, shredding, diesel emissions when refuelling, night time deliveries (during the 24-hour infrastructure campaign), routine day time operations and wind erosion from stockpiles. These activities would not occur at the same time and the Applicant has stated the mobile screen and crusher/shredder would not be operated simultaneously. The Department is satisfied the air modelling undertaken was conservative (i.e may overestimate the air quality impacts at the majority of sensitive receivers) such that the actual air quality impacts would probably be lower than predicted in the assessment.

Following the submission of the RTS, the EPA recommended the Applicant prepare an Air Quality Management Plan, limit crushing activities to 46 days per year and implement a number of mitigation measures to manage dust impacts at the site such as sealing unloading and loading areas and using water sprinklers during crushing. These have been incorporated into the proposal by the Applicant.

To address the community's concerns and verify the air quality impacts on-site are as predicted, the Department has recommended the actual level of air emissions be validated through a monitoring program. As crushing has the greatest potential to generate dust, the Department recommends the validation be conducted during the first three crushing events. The monitoring program would evaluate and report on the management actions to be taken to address any exceedances and contingency measures that would be implemented in the event management actions are not effective in reducing air emissions to an acceptable level.

The Department notes the AQGGA was based off 71,000 tonnes of masonry being crushed per year and 5,400 tonnes of timber being shredded each year. As well as restricting processing capacity and stockpile volumes on site, the Department considers it appropriate that a condition be included which limits the amount of crushing and shredding each year to the assumptions that were adopted in the AQGGA to ensure the air quality impacts are not more significant than predicted.

The Department has recommended the Applicant prepare and implement an Air Quality Management Plan (AQMP) which would be developed in consultation with the EPA and approved by the Department. The AQMP would be a subset of the Operational Environmental Management Plan (OEMP) for the development and describe how the air quality impacts of the proposed development would be minimised during any adverse meteorological conditions or extraordinary events and identify high emission generating operational activities and mitigation measures to minimise adverse impacts from these activities.

In addition, the Department has recommended a suite of air quality related conditions, which would also be incorporated in the AQMP and require the Applicant to:

- install an outbound wheel wash
- seal the external waste processing area
- install a meteorological station to monitor adverse weather conditions at the site
- use water sprinklers when crushing and screening plant are in operation
- use dust suppressants on stockpiles
- cover all loads except during loading and unloading
- not operate the mobile screen and crusher/shredder simultaneously
- limit crushing activities to 46 days per year (as requested by the EPA) and report the number of days crushing has occurred within the annual report
- maintain the development in a manner that minimise particulate emissions.

The Department's assessment concludes that with the implementation of these conditions, air quality impacts from the proposed development would be adequately managed and any future issues could be identified and remedied. As such, it is unlikely the proposed development would result in adverse health and amenity impacts at any surrounding receivers.

5.4. Other Issues

The Department's assessment of other issues is provided in **Table 4**.

Table 4: *Assessment of Other Issues*

Consideration	Recommended Conditions
Construction Impacts	
• The Applicant did not provide an assessment of the potential construction impacts of the development.	Require the Applicant to: • prepare and implement a CEMP

Consideration	Recommended Conditions
• As the facility is already operating, limited construction works are required. Construction works associated with the expansion include: - sealing the main processing building, external waste processing area, perimeter drain and sediment basin with concrete or asphalt - construction of a wheel wash near the outgoing weighbridge - construction of a 40,000 L diesel tank and associated awning within the center of the site - re-establishment of an awning to the north of the main processing building. • The construction impacts associated with the construction works are anticipated to be negligible in comparison to the operational impacts. Notwithstanding, the Department has recommended the Applicant prepare a Construction Environmental Management Plan (CEMP) to manage any traffic, dust or noise impacts associated with the above works. • The Department has also recommended conditions of consent requiring the 40,000 L diesel tank to be self-bunded and installed and operated to relevant Australian Standards.	• install a self-bunded 40,000 L diesel tanks and operate it in accordance with Australian Standards.
Noise	
• The development has the potential to generate noise from loading and unloading materials, haulage of waste products, delivery and dispatch of waste, stockpiling, sorting, crushing and shredding. • No change to the operating hours is proposed, apart from reducing dispatch and processing hours. The proposed operating hours are detailed in **Table 1**. • The Applicant proposes to continue waste acceptance on a 24-hour basis on limited occasions (six times per year for up to two weeks on each occasion) to facilitate large infrastructure projects such as the Newcastle Light Rail, the Williamstown RAAF base expansion, Newcastle Port related developments and the Broadmeadow Sports & Entertainment Precinct Development. • The EIS included a Noise Impact Assessment (NIA) prepared by EMM in accordance with the NSW Industrial Noise Policy (INP). The NIA modelled noise under a worst-case scenario and assumed the mobile screen, crusher and shredder would all be operating at the same time under adverse weather conditions. • Nearby receivers include the industrial receptors adjacent to the site and residential receivers approximately 500 m to the south. • The three public submissions received during exhibition raised concern about potential noise impacts. • The NIA predicted the proposed development would comply with the operational noise criteria (including sleep disturbance) for all receivers. • The NIA predicted the noise levels under a worst-case and found that at the most affected residential receiver (R5), the impacts during the daytime would meet the 50 dB(A) criteria and at night the predicted noise levels would be 53 dB(A), 3dB(A) below the night time criteria (56 dB(A)). It should be noted that no processing is proposed to be conducted at night. • The NIA concluded the increase in traffic volume would lead to a negligible increase (<0.5 dB) in road traffic noise from Industrial Drive. • Council requested the 24-hour waste receival infrastructure campaigns be limited to six times a year for a period of less than two weeks in length on each occasion, as per the current operations. The Department agrees with Council's request and has limited the number of times the 24-hour waste receival operations can occur. • The EPA recommended the predicted noise levels be applied as the development's noise limits. • The Department notes the NIA modelled noise levels based off a worst-case scenario with all equipment operating simultaneously under adverse weather conditions and predicted the noise levels would comply with the criteria at all locations. Notwithstanding, the Applicant has committed to operating noisy machinery in the centre of the site and not operating the mobile screen and crusher/shredder simultaneously to further reduce the noise impacts. • The Department considers noise impacts from the development are expected to be low as the existing background noise levels are already elevated due to the industrial estate and road traffic along Industrial Drive and the nearest residential receiver is located 500 m away on the opposite side of Industrial Drive. In addition, the proposed operating hours will be slightly reduced from the current operations. • The Department acknowledges the Applicant proposes to continue to have limited operations for 24-hour periods to facilitate the receipt of material from	Require the Applicant to: • limit the number of times the 24-hour waste receival operations can occur • comply with project specific noise limits and operating hours • locate noise machinery towards the centre of the site and not operate it simultaneously • limit the number of heavy vehicles accessing the site at night • notify Council and adjacent landowners 48 hours prior to 24-hour infrastructure campaigns commencing • implement a range of standard noise mitigation measures.

Consideration	Recommended Conditions
infrastructure projects. To ensure noise is effectively managed during these times, the Department has recommended conditions of consent which: include project specific noise limits, limit the hours of operation as per Council's request, limit the number of heavy vehicles that can access the site at night, restrict the operations to receivals only during the night time, require notification requirements and require the preparation of a driver code of conduct. • The Department has also recommended a range of standard noise mitigation measures such as maintaining equipment, implementing all reasonable and feasible noise management measures and minimising the noise impacts during adverse meteorological conditions. • The Department notes the concerns raised in public submissions. However, the NIA demonstrates the proposal would comply with the relevant noise criteria and the Department has recommended a number of mitigation measures to ensure noise impacts on residential receivers is managed. • The Department's assessment concludes the noise impacts can be managed at the site subject to the recommended conditions.	
Waste	
• Inadequate management of C&I and C&D waste material entering and leaving the RRF has the potential to cause adverse impacts on the environment. • A description of the waste types and how they would be received, handled, separated and dispatched is contained in **Section 2.3** and **2.4**. • The RRF would continue to recycle C&D and C&I waste and would generate up to 15,750 tpa (5 %) of non-recyclable residue which would be sent to landfill. • The total amount of waste stored on-site at any one time is not proposed to change, however the external waste processing area would increase by 1.2 ha, which is considered sufficient for the proposed development. • Council and the EPA did not raise any concerns with regards to waste management. • To ensure waste inputs and outputs at the site are monitored, the Department has recommended the Applicant prepare and implement a Waste Monitoring Program and Waste Management Plan. • The public submissions raised concern that the facility would attract pests and vermin. The Department has included a condition requiring the Applicant to manage pests, vermin and declared noxious weeds on the site. • The Department has also recommended a condition with the aim of limiting the amount of waste disposed to landfill each year, consistent with the WARR strategy. • The Department has recommended a conceptual decommissioning plan be provided to ensure waste is adequately managed during decommissioning to avoid waste being left on the site. • The Department's assessment concludes the site is suitable for the proposed use and can accommodate the volume of waste proposed to be processed. In addition to meeting all statutory requirements, specific conditions are recommended to ensure waste is received, handled and dispatched in an appropriate and responsible manner.	Require the Applicant to: • prepare a waste monitoring program • limit the amount of non-recyclables at the site to 5 % • manage pests, vermin and declared noxious weeds • prepare a conceptual decommissioning plan.
Visual	
• The EIS included a Visual Assessment (VA) prepared by EMM which concluded the proposed development will have an overall negligible visual impact on surrounding sensitive receivers, including residential dwellings and public open spaces as it is located within an industrial estate. • In addition, Council's development consent (DA 2015/0291) required a landscape practical completion report to be submitted to the Principal Certifying Authority to certify the landscaping works had been adequately completed. The Department requested a copy of the report. • Following the RTS, the Applicant provided the report and verified landscaping at the site had been completed. • Council did not raise any concerns in relation to visual impacts of the proposed development. • The visual appearance of the proposed development is considered to be consistent with the surrounding industrial estate. • The Department considers the potential visual impacts of the RRF have already been adequately mitigated through the planting of vegetation as part of DA 2015/0291 and as such, only maintenance of the landscaping is required.	Require the Applicant to: • maintain landscaping at the site.

Consideration	Recommended Conditions
Fire and Hazards	
• The Applicant provided limited information regarding the adequacy of the existing fire safety measures to cope with an increased processing capacity at the site. • FRNSW considers the storage of C&D and C&I waste processed at the facility represents a high fire load and fire hazard with firefighting operations being potentially prolonged and problematic should a fire at the site occur. • The Department notes that recently there has been an increase in fire incidents associated with waste facilities which places increased demands upon the FRNSW resources. • As such, prior to the expansion, the FRNSW requested conditions of consent requiring the Applicant to: - comply with the National Construction Code (NCC) and meet the operational requirements of FRNSW - demonstrate stockpiles can be adequately separated to permit FRNSW vehicle access between stockpiles - install a fire hydrant system capable of extinguishing the sites largest fire load stockpile - install a smoke hazard system in the main processing building which stores recyclable material - if required install a fire suppression system. • The Department has recommended conditions to ensure these fire safety measures are implemented prior to the expanded operations which are supported by FRNSW. • The Department's assessment concludes that once these conditions have been implemented, the fire prevention measures at the facility would be significantly improved to those currently in place and are sufficient to cater for the expanded operations.	Require the Applicant to: • submit the final design of the fire safety measures to the Secretary for approval in consultation with FRNSW • comply with the NCC • separate stockpiles to accommodate FRNSW vehicles • install a fire hydrant system • install a smoke hazard alarm in buildings which store waste • if required, install a fire suppression system • store dangerous goods in accordance with the Australian Standards
Firewater	
• In the event of a fire on the site, potentially contaminated fire wastewater (fire water) could enter the surface water network and impact on water quality downstream. In its RTS, the Applicant stated that firewater would be contained within the existing surface water infrastructure. • However, FRNSW stated that the surface water infrastructure on-site did not have adequate storage capacity to contain fire water and recommended the final design of the facility be approved by Secretary prior to the facility expanding. • To address FRNSW concerns, the Department has recommended a condition requiring the Applicant to contain firewater on-site and the final design of fire containment measures be approved by Secretary in consultation with FRNSW prior to the development expanding.	Require the Applicant to: • address the containment of firewater on-site • submit the final design of the fire safety measures to the Secretary for approval in consultation with FRNSW.
Car Parking	
• Council raised concern with the number of car spaces proposed (19 car spaces) which was less than current operations. The DCP requires one car space per two staff members which would be the equivalent of 8 car spaces assuming 14 employees and three visitors access the site. • To address Council's concerns, the Applicant agreed in its RTS to provide 25 car spaces (including two disabled car spaces) as per the current operations. • The Department considers 25 car spaces is more than adequate as it is double the requirements in the DCP.	Require the Applicant to: • provide 25 car spaces.
Contributions	
• The Department notes Council's *Section 94A Development Contributions Plan 2011* applies to the expanded operations. As such, a 1% contribution of the Capital Investment Value applies to the proposed development. This is the mechanism by which local transport infrastructure and services contributions are collected. • The Department has recommended a condition requiring the Applicant to pay $3,938.69 Section 7.12 (previously known as Section 94A) Development Contribution.	Require the Applicant to: • pay the Section 7.12 Development Contribution.
Modification of Council's Development Consent	
• The Applicant currently has approval from Council (DA 2015/0291) for a recycling facility to process up to 90,000 tpa of waste and the operation of an ancillary activities area to allow for the temporary storage of plant, equipment, machinery, commercial vehicles, bins and containers. • In its EIS, the Applicant also sought approval for an ancillary activities area which	Require the Applicant to: • modify Council's development consent DA 2015/0291 to remove the "recycling facility" from Council's DA.

Consideration	Recommended Conditions
would include the temporary storage of light and heavy vehicles, C&D plant and equipment, temporary demountable office and sheds. • As the details of the storage premise were not clear in the EIS, the Department requested further information regarding the type of equipment to be stored and the associated environmental impacts. • The revised RTS provided further details on the operations occurring in the ancillary activities area. The Applicant proposed to construct and operate nine storage compounds in this area. The storage compounds would be rented by tenants (third parties) to store skip bins, excavators, loaders, sweepers, rollers, trucks, trailers, dozers, compactors, generators and demountable used in construction and demolition projects. Customers using the storage compounds would not be permitted to access the RRF and access to the storage compounds would be separate from the RRF. • In accordance with Clause 8(2) of the SRD SEPP, should a proposal consist of development that is only partly SSD, the whole development is considered to be SSD unless the Secretary determines that the remainder of the development is not sufficiently related to the development. • The Department raised concern the proposed storage compounds which were proposed to be rented to third parties were not ancillary as the Applicant proposed to store and handle equipment which was not related to the RRF. • Due to these concerns, the Applicant requested the ancillary activities area and its operations be excluded from SSD 7698. It is the Applicant's view that an approval is in place from Council for the storage premise. • The Applicant proposes to continue to operate the ancillary activities area under Council's consent. • In order for the development of land to proceed in a coordinated and orderly manner and to avoid potential conflicts with SSD 7698, the Department considers it appropriate to recommend a condition of consent which requires the modification of DA 2015/0291 to exclude the lands and operations to which this development application relates (see **Figure 5** – in red). • Such a condition would be legally enforceable as Section 4.17 of the EP&A Act provides that a condition may by imposed by a consent authority to modify another consent. • The Department is satisfied that such a condition is appropriate as: - it relates to a planning purpose being the orderly development of land - it fairly and reasonably relates to the proposed development - it is not unreasonable as it would clarify how the RRF will operate within the scheme of the EP&A Act.	

6. CONCLUSION

The Department's assessment of the application has fully considered all relevant matters under Section 4.15 of the EP&A Act, the objects of the EP&A Act and the principles of ecologically sustainable development.

The proposed development would focus on the conversion of waste into reusable products via recycling. It would also assist in diverting C&D and C&I material from landfill and as a result would help to extend the life of existing landfill facilities and minimise their environmental impacts. In economic terms, recycling also reduces waste disposal costs for both government and industry.

Through its assessment of the application and in response to issues raised by the EPA, the Department has required the Applicant to make changes to the proposal in relation to surface water management. The Department has also worked closely with the EPA and the Applicant to ensure the surface water impacts associated with storing waste outdoors are adequately managed. To this end, the Department has recommended a number of rigorous surface water conditions.

A stringent set of conditions has been recommended which the Department is confident can ensure the facility would have negligible impact on the locality in general and sensitive receivers in proximity to the site. Such conditions include:

- the air quality impacts be validated during crushing through air quality monitoring and if necessary further mitigation measures be installed
- project specific noise limits, hours of operation and requiring noisy machinery to be located in the centre of the site and not operate simultaneously

- public and contractor unloading and loading areas be separated via a physical barrier and clearly marked
- the implementation of an Operational Traffic and Pedestrian Management Plan
- restrict the use of Werribi Street to encourage heavy vehicles to stick to main roads
- a Waste Monitoring Program to ensure waste entering and leaving the site is adequately managed
- implementing a number of fire safety measures in consultation with FRNSW to meet the NCC
- maintaining landscaping at the site
- the payment of contributions to Council for local transport infrastructure.

The Department's assessment concluded that the impacts of the development can be mitigated and/or managed to ensure an acceptable level of environmental performance, subject to the recommended conditions of consent. In summary, the development:

- would positively contribute to the State's *Waste Avoidance and Resource Recovery Strategy* performance for both C&I and C&D waste
- enables the productive land use of a site that is only suitable to a small range of uses, due to its previous contamination
- is centrally located with good connections to well established roads
- would meet the relevant air quality and noise criteria at sensitive receivers
- would generate traffic which could be accommodated on the local and regional road network without any significant impacts on its safety, capacity or efficiency
- would provide a range of environmental and economic benefits for the region, through resource recovery and the provision of four new operational jobs.

The Department concludes the impacts of the development can be appropriately managed through the implementation of the recommended conditions of consent. Consequently, the Department considers the development is in the public interest and should be approved, subject to conditions.

7. RECOMMENDATION

For the purpose of Section 4.38 of the *Environmental Planning and Assessment Act 1979*, it is recommended that the Executive Director, Key Sites and Industry Assessments, as delegate of the Minister for Planning:

- consider the findings and recommendations of this report
- approve the application in respect of State significant development SSD 7698
- sign the attached development consent (**Appendix A**).

Prepared by:
Kate Masters, Industry Assessments

Recommended by:

1/3/18

Kelly McNicol
Team Leader
Industry Assessments

Recommended by:

1/3/18

Chris Ritchie
Director
Industry Assessments

8. DECISION

The recommendation is Approved by:

13/3/18

Anthea Sargeant
Executive Director
Key Sites & Industry Assessments
as delegate of the Minister for Planning

APPENDIX A: DEVELOPMENT CONSENT

Development Consent

Section 4.38 of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning under delegation executed on 11 October 2017, I approve the Development Application referred to in Schedule 1, subject to the conditions specified in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts
- set standards and performance measures for acceptable environmental performance
- require regular monitoring and reporting
- provide for the ongoing environmental management of the Development.

Sargeant

Anthea Sargeant
Executive Director
Key Sites and Industry Assessments

Sydney 13 March, 2018

SCHEDULE 1

Application No:	SSD 7698
Applicant:	Benedict Recycling Pty Ltd
Consent Authority:	Minister for Planning
Land:	Lot 1 DP 874109 1a McIntosh Drive, Mayfield West
Development:	Increase in processing capacity of an existing resource recovery facility to 315,000 tonnes per year of general solid waste (non-putrescible) including construction and demolition waste and commercial and industrial waste.

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DEFINITIONS

Applicant	Benedict Recycling Pty Ltd or any other person carrying out any development to which this consent applies
Amended Application	Mayfield West Recycling Facility SSD 7698 - Development Application Amendment letter, dated 24 August 2017, prepared by EMM
ANZECC (2000)	Australian and New Zealand Guidelines for Fresh and Marine Water Quality, prepared by Australian and New Zealand Environment and Conservation Council 2000
AS	Australian Standard
BCA	Building Code of Australia
CEMP	Construction Environmental Management Plan
Certifying Authority	A person who is authorised by or under Section 6.17 of the EP&A Act to issue Part 4A certificates
Conditions of this consent	The conditions contained in Schedule 2 of this document
Construction	The demolition and removal of buildings or works, the carrying out of works for the purpose of the Development, including earthworks, and erection of buildings and other infrastructure permitted by this consent (including sealing the site and installation of the 40,000 L diesel tank)
Council	Newcastle City Council
Day	The period from 7 am to 6 pm on Monday to Saturday, and 8 am to 6 pm on Sundays and Public Holidays
Decommissioning	The controlled process of safely retiring a facility from service, including decontamination, dismantling and disposal after the cessation of operations
Department	Department of Planning and Environment
Development	The development as described in the EIS and RTS and Amended Application and as generally depicted in Appendix A including the works and activities comprising resource recovery of waste, as modified by the conditions of this consent
DPI	NSW Department of Primary Industries
Earthworks	Bulk earthworks, site levelling, import and compaction of fill material, excavation for installation of drainage and services, to prepare the site for construction
EIS	The Environmental Impact Statement titled Environmental Impact Statement, Mayfield West Recycling Facility, prepared by EMM, dated 11 October 2016 submitted with the application for consent for the development, including any additional information provided by the Applicant in support of the application
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence issued by the EPA under the POEO Act
Evening	The period from 6 pm to 10 pm
Feasible	Relates to engineering considerations and what is practical to build
FRNSW	Fire and Rescue NSW
General solid waste (non-putrescible)	As defined in Part 3 Schedule 1 of the POEO Act
Heavy vehicle	Any vehicle with a gross vehicle mass of five tonnes or more
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement
Heritage Item	An item as defined under the Heritage Act 1977, and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the National Parks and Wildlife Act 1974
Incident	A set of circumstances causing or threatening material harm to the environment, and/or an exceedance of the limits or performance criteria in this consent
kL	Kilolitre
Land	In general, the definition of land is consistent with the definition in the EP&A Act
Limited Occasions	No greater than six times per year and only for a period of less than two weeks in length for each occasion
Management & Mitigation Measures	The management and mitigation measures set out in Appendix B
Material harm	Is harm that:

	• involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).
Minister	Minister for Planning (or delegate)
Mitigation	Activities associated with reducing the impacts of the Development prior to or during those impacts occurring
NCC	National Construction Code
Night	The period from 10 pm to 7 am on Monday to Saturday, and 10 pm to 8 am on Sundays and Public Holidays
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
Operation	The receipt, removal or processing of waste, upon the completion of construction
PCA	Principal Certifying Authority authorised under Section 6.17 of the EP&A Act
POEO Act	*Protection of the Environment Operations Act 1997*
POEO (Waste) Regulation	*Protection of the Environment Operations (Waste) Regulation 2014*
Rehabilitation	The restoration of land disturbed by the development to a good condition, to ensure it is safe, stable and non-polluting
Reasonable	Relates to the application of judgment in arriving at a decision, taking into account: mitigation benefits, costs of mitigation versus benefits provided, community views, and the nature and extent of potential improvements
RRF	Resource Recovery Facility
Registered Aboriginal Parties	Means the Aboriginal persons identified in accordance with the document entitled "Aboriginal cultural heritage consultation requirements for proponents 2010" (DECCW)
RTS	The Applicant's response to issues raised in submissions received in relation to the application for consent for the development under the EP&A Act, titled Mayfield West Recycling Facility Response to Submissions, prepared by EMM, dated 20 July 2017
Secretary	Secretary of the Department, or nominee
Sensitive Receivers	A location where people are likely to work, occupy or reside, including a dwelling, school, hospital, office or public recreational are
Site	The land listed in Schedule 1
SSD 7698	The Development as described in Schedule 1, the EIS and the RTS and the Amended Application
Waste	Has the same meaning as the definition of the term in the dictionary to the POEO Act
Year	A period of 12 consecutive months

SCHEDULE 2

PART A: ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

A1. In In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.

TERMS OF CONSENT

A2. The Development may only be carried out:
- (a) in compliance with the conditions of this consent;
- (b) in accordance with the directions of the Secretary;
- (c) in accordance with the EIS, RTS and Amended Application;
- (d) in accordance with development layout plans and drawings in the RTS and Amended Application (see Appendix A); and
- (e) in accordance with the management and mitigation measures (see Appendix B).

A3. Consistent with the requirements in this consent, the Secretary may make written directions to the Applicant in relation to:
- (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Secretary; and
- (b) the implementation of any actions or measures contained in any such document referred to in (a) above.

A4. The conditions of this consent and directions of the Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in condition A2(c), A2(d) and A2(e). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in condition A2(c), A2(d) and A2(e) the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.

Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of consent or direction of the Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

LIMITS OF CONSENT

A5. This consent lapses five years after the date from which it operates, unless the Development has physically commenced on the land to which the consent applies before that date.

A6. The Applicant must not receive or process on site more than 315,000 tonnes per year of general solid waste (non-putrescible).

A7. The Applicant must not:
- (a) crush more than 71,000 tonnes per year of waste; and
- (b) shred more than 5,400 tonnes per year of timber.

A8. The amount of waste stored on site at any one time must not exceed 53,733 tonnes.

A9. This consent does not permit any areas of the site to be leased to third parties for storage purposes or approval of any portion of the site as a storage premises.

A10. The Applicant shall aim to achieve a recycling rate of 95% of all waste and a disposal rate of not more than 5% to landfill.

A11. Stockpiles of waste and recycled product on-site must not be more than seven (7) metres in height when measured from the finished ground level of the site.

A12. Heavy vehicles are not permitted to access Werribi Street.

NOTIFICATION OF COMMENCEMENT

A13. The date of commencement of each of the following phases of the Development must be notified to the Department in writing, at least one month before that date:
- (a) construction;

(b) operation;
(c) cessation of operations; and
(d) decommissioning.

A14. If the construction or operation or decommissioning of the Development is to be staged, the Department must be notified in writing at least one month before the commencement of each stage, of the date of commencement and the Development to be carried out in that stage.

STAGING, COMBINING AND UPDATING STRATERGIES, PLANS OR PROGRAMS

A15. With the approval of the Secretary, the Applicant may:
(a) prepare and submit any strategy, plan or program required by this consent on a staged basis (if a clear description is provided as to the specific stage and scope of the Development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program);
(b) combine any strategy, plan or program required by this consent (if a clear relationship is demonstrated between the strategies, plans or programs that are proposed to be combined); and
(c) update any strategy, plan or program required by this consent (to ensure the strategies, plans and programs required under this consent are updated on a regular basis and incorporate additional measures or amendments to improve the environmental performance of the Development).

A16. If the Secretary agrees, a strategy, plan or program may be staged or updated without consultation being undertaken with all parties required to be consulted in the relevant condition in this consent.

A17. If approved by the Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.

REQUEST FOR INFORMATION

A18. The Applicant must retain all weighbridge records as required by the POEO (Waste) Regulation and for the life of the Development. The weighbridge records must be made immediately available on request by the Secretary and/or the EPA.

A19. The Applicant must retain waste classification records for all wastes received on the site and waste disposed from the site for the life of the Development. The waste classification records must be made immediately available on request by the EPA and/or the Secretary.

EVIDENCE OF CONSULTATION

A20. Where conditions of this consent require consultation with an identified party, the Applicant must:
(a) consult with the relevant party prior to submitting the subject document to the Secretary for approval; and
(b) provide details of the consultation undertaken including:
(i) a description of how matters raised by those consulted have been resolved to the satisfaction of both the Applicant and the party consulted; and
(ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.

STATUTORY REQUIREMENTS

A21. The Applicant must ensure that all licences, permits and approval/consents are obtained as required by law and maintained as required throughout the life of the Development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approval/consents.

STRUCTURAL ADEQUACY

A22. All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the Development, must be constructed in accordance with the relevant requirements of the BCA.

A23. Prior to the commencement of the operations, the Applicant must obtain a Building Information Certificate from Council in accordance with Division 6.7 of the *Environmental Planning and Assessment Act 1979*.

Note:
- *Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.*
- *Part 8 of the EP&A Regulation sets out the requirements for the certification of the Development.*

UTILITIES AND SERVICES

A24. Prior to the construction of any utility works associated with the Development, the Applicant must obtain relevant approvals from service providers.

PROTECTION OF PUBLIC INFRASTRUCTURE

A25. Before the commencement of construction, the Applicant must:
(a) consult with the relevant owner and provider of services that are likely to be affected by the Development to make suitable arrangements for access to, diversion, protection and support of the affected infrastructure;
(b) prepare a dilapidation report identifying the condition of all public infrastructure in the vicinity of the site (including roads, gutters and footpaths); and
(c) submit a copy of the dilapidation report to the Secretary and Council.

A26. Unless the Applicant and the applicable authority agree otherwise, the Applicant must:
(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by carrying out the Development; and
(b) relocate, or pay the full costs associated with relocating any infrastructure that needs to be relocated as a result of the Development.

COMPLIANCE

A27. The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the Development.

SECTION 7.12 CONTRIBUTIONS TO COUNCIL

A28. Prior to the commencement of the operations, a contribution must be paid to Council in accordance with Section 7.12 of the EP&A Act, in particular the *City of Newcastle Section 94A Development Contributions Plan 2009 (Updated July 2017)* (adjusted on a quarterly basis (from the date of this consent), to account for movements in the Australian Bureau of Statistics Consumer Price Index – Building Construction (NSW)). A receipt for the payment to Council of the Section 7.12 Levy Contributions must be submitted to the Secretary prior to the commencement of the operations.

Note: *The Section 7.12 Levy as determined at the date of this consent is $3938.69*

OPERATION OF PLANT AND EQUIPMENT

A29. All plant and equipment used on site, or to monitor the performance of the development must be:
(a) maintained in a proper and efficient condition; and
(b) operated in a proper and efficient manner.

MODIFICATION OF CONSENT

A30. Prior to the commencement of operations and in order for the development of land to proceed in a coordinated and orderly manner and to avoid potential conflicts with this consent, the Applicant must modify DA2015/0291 (described in **Table 1**) pursuant to Section 4.17(1)(b) of the *Environmental Planning and Assessment Act 1979* and Clause 97 of the *Environmental Planning and Assessment Regulation 2000* such that the recycling facility including acceptance of up to 90,000 tonnes per annum of waste (pre-classified general solid wastes (non-putrescible waste)) is removed from the development consent.

Table 1: Consent to be Modified

Determination Date	DA Number	Details
8 March 2016	DA2015/0291	Recycling facility involving: • acceptance of up to 90,000 tonnes per annum of waste (pre-classified general solid wastes (non-putrescible waste)) such as construction and demolition wastes • ancillary waste activities • construction of truck wash facilities • associated site works.

PART B: ENVIRONMENTAL PERFORMANCE AND MANAGEMENT

WASTE MANAGEMENT

Statutory Requirements

B1. All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials.

B2. Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal, except as expressly permitted by an EPL.

B3. The Applicant must record the amount of waste (in tonnes) received at the site on a daily basis.

B4. The Applicant must retain all sampling and waste classification data for the life of the Development in accordance with the requirements of the EPA.

B5. No biochar production or storage is approved under the terms of this consent.

Receipt, Storage & Handling of Waste

B6. The Applicant must only receive waste on site that is authorised for receipt by an EPL.

B7. The Applicant must ensure any waste generated on the site during construction and from general office activities is classified in accordance with the EPA's *Waste Classification Guidelines, 2014* or its latest version, and disposed of to a facility that may lawfully accept the waste.

B8. Loads predominantly containing glass are not permitted to be crushed at the site.

B9. The Applicant must:
- (a) implement auditable procedures to:
  - (i) ensure the site does not accept wastes that are prohibited; and
  - (ii) screen incoming waste loads.
- (b) ensure that:
  - (i) all waste types that are controlled under a tracking system have the appropriate documentation prior to acceptance at the site;
  - (ii) all waste received at the site must be recorded in accordance with clause 27 of the POEO (Waste) Regulation;
  - (iii) details of the quantity, type and source of wastes received on the site must be provided to the EPA and the Secretary when requested; and
  - (iv) staff receive adequate training in order to be able to recognise and handle any hazardous or other prohibited waste including asbestos.

B10. The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the EPA's *Waste Classification Guidelines Part 1: Classifying Waste, November 2014*, or its latest version and dispose of all wastes to a facility that may lawfully accept the waste.

B11. All waste must be:
- (a) stored wholly within the designated waste stockpile areas.
- (b) loaded and unloaded within the designated loading and unloading areas.

Waste Monitoring Program

B12. From the commencement of operations, the Applicant must implement a Waste Monitoring Program for the Development. The program must:
- (a) be prepared by a suitably qualified and experienced person(s) prior to the commencement of operations;
- (b) include suitable provision to monitor the:
  - (i) quantity, type and source of waste received on site;
  - (ii) type of waste and the material crushed and shredded on site;
  - (iii) quantity, type and quality of the outputs produced on site; and
  - (iv) number of days crushing has occurred per calendar year.
- (c) ensure that:
  - (i) all waste that is controlled under a tracking system has the appropriate documentation prior to acceptance at the site; and
  - (ii) staff receive adequate training to be able to recognise and handle any hazardous or other prohibited waste including asbestos.

Waste Management Plan

B13. Prior to the commencement of operations, the Applicant must prepare a Waste Management Plan (WMP) for the Development to the satisfaction of the Secretary. The WMP must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The WMP must:
(a) detail the type and quantity of waste to be received during operation of the Development;
(b) include details of stockpile limits in the incoming waste receival area and waste storage areas;
(c) include procedures for ensuring no build-up of waste will occur in the incoming waste receival area during unexpected machinery breakdown and 24-hour waste receival for major infrastructure projects; and
(d) details the requirements for non-conforming waste handling and removal.

B14. The Applicant must:
(a) not commence the operations until the Waste Management Plan required by Condition B13 is approved by the Secretary; and
(b) implement the most recent version of the Waste Management Plan approved by the Secretary.

Pests, Vermin and Noxious Weed Management

B15. The Applicant must:
(a) implement suitable measures to manage pests, vermin and declared noxious weeds on the site; and
(b) inspect the site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.

Note: For the purposes of this condition, noxious weeds are those species subject to an order declared under the *Noxious Weed Act 1993*.

SOILS, WATER QUALITY AND HYDROLOGY

Erosion and Sediment Control

B16. Prior to the commencement of construction, the Applicant must install and maintain suitable erosion and sediment control measures on-site, in accordance with the relevant requirements in the latest version of the *Managing Urban Stormwater: Soils and Construction Guideline* and the Erosion and Sediment Control Plan included in the CEMP required by Condition C1.

Pollution of Waters

B17. The Development must comply with Section 120 of the *POEO Act*, which prohibits the pollution of waters, except as expressly provided in an EPL.

B18. Any discharge or water quality criteria specified under the EPL must be complied with.

B19. Surface water must only be discharged from the location specified in the EPL.

B20. Overland flow from the Development must be contained within the sealed areas of the site.

B21. Any spills must be contained and disposed of at a licenced facility.

B22. Any servicing or repair work on motor vehicles or mobile plant is to be carried out within a sealed area that has environmental controls appropriate for servicing or repair work. This must include bunding where there this work could result in liquids being spilled.

Truck and Wheel Wash

B23. The floor of the truck wash is to be suitably graded and or bunded across the external door openings to prevent the escape of stored materials, process water or spilt liquids.

B24. All excess water from the truck wash and wheel wash is to be discharged into suitable holding tanks and removed from the facility for treatment at an appropriately licensed facility or via trade waste.

Surface Water Management System

B25. Prior to the commencement of operations, the Applicant must design, install and operate a surface water management system for the Development. The system must:
(a) be designed and constructed by a suitably qualified and experienced person(s) endorsed by the Secretary;

(b) be generally in accordance with the conceptual design in the RTS, the letter titled Mayfield West Recycling Facility (SSD 7698) – Water Assessment, dated 8 September 2017 prepared by EMM and applicable Australian Standards;
(c) ensure that the system capacity has been designed in accordance with Australian Rainfall and Runoff (Engineers Australia, 2016) and Managing Urban Stormwater: Council Handbook (EPA, 1997);
(d) include detention basins with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5 day period in accordance with *Managing Urban Stormwater - Soils and Construction Vol. 2B: Waste landfills* (Department of Environment and Climate Change NSW, 2008). The wet weather capture capacity requirements of the sediment basins and water treatment system may be modified by the EPL subject to the required surface water characterisation (Condition B33);
(e) ensure vegetation within the sediment basin and perimeter drain has been removed and the surface water infrastructure has been sealed to prevent surface water infiltration to groundwater; and
(f) bund any potentially contaminating waste, any surface water leaving this area must be directed to the three-stage pit or equivalent for treatment, the water must then be directed to holding tanks for testing and depending on its quality either discharged to the perimeter drain or sewer as trade waste see Appendix A.

B26. The Applicant must provide a Compliance Certificate to the Secretary prior to the commencement of operations, that confirms the surface water management system has been designed and installed as per the requirements of Condition B25 and the alterations will not impede or divert natural surface water runoff so as to cause a nuisance to adjoining properties.

B27. Prior to the commencement of operations, works-as-executed drawings signed by a registered surveyor must be submitted to the certifying authority demonstrating that the stormwater drainage and finished ground levels have been constructed as approved.

B28. The surface water management system must be operated and maintained for the duration of the Development.

B29. The Applicant must maintain the surface water management system to minimise the infiltration of surface water to groundwater. This includes inspecting the infrastructure monthly for cracking and vegetation break through, removing the vegetation and sealing the infrastructure. Any maintenance on the surface water management system must be undertaken by a suitably qualified and experienced person(s), a record of these works must be kept for the life of the Development.

B30. The Applicant must maintain the surface water detention basins on site with a minimum capacity to contain the 90th percentile rainfall over any consecutive 5-day period in accordance with *Managing Urban Stormwater - Soils and Construction Vol.* 2B: Waste landfills. The *Managing Urban Stormwater* series of document relate to clean sediment and therefore the wet weather capture and storage capacity requirements of the sediment basins and treatment systems may be modified by the EPL based on the required surface water characterisation (Condition B33).

B31. The Applicant must ensure that a visible marker is installed in the sediment detention basin in a position that shows the freeboard in the basin that equates to the volume required to contain all rainfall and runoff in the catchment from a 90th percentile rainfall event over any consecutive 5-day period.

B32. All waste unloaded at the public hand unloading area must be unloaded and stockpiled underneath the public unloading awning or within the main processing building.

Surface Water Characterisation and Mitigation Plan

B33. Prior to the commencement of operations, the Applicant must prepare a Surface Water Characterisation and Mitigation Plan (SWCMP) to the satisfaction of the Secretary to characterise the surface water and implement a mitigation plan, the SWCMP must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The SWCMP must:
(a) be carried out by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Secretary;
(b) be prepared in consultation with the EPA;
(c) detail the triggers of when the pump which transfers surface water from the three-stage pit to the holding tanks would be activated;
(d) detail the type and size of the bunding around the potentially contaminating waste area;
(e) detail the frequency of overflows from the three-stage pit and sediment basin;
(f) collect representative samples, including a minimum of four surface water samples from the sediment basin and the three-stage pit. The surface water samples must be analysed for the analytical suite identified in Table 3.16 of the RTS;
(g) characterise the surface water for the entire development and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria;

(h) be based on the results of the surface water characterisation, investigate all practical alternatives to discharge and whether sediment basin sizing, at-source pollution controls, tertiary water treatment, water treatment plants and other treatment and reuse options are appropriate;
(i) provide the Secretary with a timeframe for and implement the measures identified in sub-clause (h);
(j) consider the human health risks associated with the surface water reuse process at the site;
(k) include details of the maintenance procedures of the sediment basins and surface water infrastructure;
(l) describe the procedures for maintaining vegetation along the perimeter drain and sediment basin;
(m) establish an ongoing surface water monitoring program to validate the proposed mitigation measures. The surface water monitoring program must provide monitoring details of surface water flows, quality, storage and discharge limits;
(n) identify measures for managing pollutant exceedances; and
(o) identify contingency options to account for any mitigation measures that do not adequately address the site water pollution risks.

B34. The Applicant must:
(a) not commence the operations until the SWCMP required by Condition B33 is approved by the Secretary: and
(b) implement the most recent version of the SWCMP approved by the Secretary for the duration of the development.

Water Quality Validation

B35. Within six months of the commencement of operations and following the management measures being implemented as per SWCMP (Condition B33), the Applicant must provide a Surface Water Validation Report (SWVR) to the satisfaction of the Secretary. The SWVR must:
(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;
(b) be prepared in consultation with the EPA;
(c) collect a minimum of four surface water samples from the sediment basin and four from the three-stage pit system;
(d) characterise the surface water data (samples) and detail the potential impact of discharges on receiving surface waters with reference to ANZECC (2000) assessment criteria;
(e) compare the results with the surface water characterisation in the SWCMP (Condition B33);
(f) ensure surface water is being managed in accordance the EPL;
(g) provide an assessment of the effectiveness of implemented mitigation measures;
(h) if necessary, provide additional mitigation measures to control and/or treat all pollutants to ensure the ANZECC (2000) assessment criteria can be met including further storage or the installation of a water treatment plant; and
(i) update the SWCMP to reflect any changes to the surface water management system.

B36. Any alterations to the surface water management system identified in the SWVR must be implemented prior to any further controlled discharges occurring to the satisfaction of the Secretary.

B37. The Applicant must comply with any amended surface water quality criteria and discharge limits identified in the EPL.

Surface Water Audit

B38. Within 18 months of the commencement of operations, the Applicant must commission an independent Surface Water Audit of the Development to the satisfaction of the Secretary. The audit must:
(a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;
(b) be conducted in consultation with the EPA;
(c) audit the Development whilst it is in operation;
(d) validate the development against the SWCMP required by Condition B33;
(e) include a summary of any EPL water quality exceedances;
(f) review the design and management practices of the Development against industry best practice for surface water;
(g) include an action plan that identifies and prioritises additional surface water mitigation measures and/or treatment options that may be necessary to reduce surface water impacts; and
(h) provide a further program of monitoring to address water quality issues that may emerge over time.

B39. Within three months of commissioning this audit, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report. The Applicant must comply with any reasonable requirement(s) of the Secretary arising from the Surface Water Audit.

Groundwater

B40. Within 12 months of the commencement of operations the Applicant must conduct a Groundwater Monitoring Program to the satisfaction of the Secretary. The program must:
(a) be carried out by a suitably qualified and experienced expert in consultation with the EPA;
(b) ascertain the potential for leakage of the sediment basin and perimeter drain to groundwater;
(c) detail baseline data, groundwater levels and groundwater quality against the relevant criteria;
(d) provide mitigation and contingency measures to prevent the sediment basins from leaking; and
(e) identify a program for ongoing groundwater monitoring and reporting.

B41. Within three months of the completion of the Groundwater Monitoring Program, the Applicant must submit a copy of the Groundwater Monitoring Program as identified in Condition B40 to the Secretary and the EPA.

Diesel Tank Management

B42. As a minimum, the Applicant must ensure the 40,000 litre self-bunded diesel tank is managed as follows:
(a) the tank must be installed in the centre of the site in accordance with Figure 3.1 of the RTS;
(b) the tank must be installed in accordance with the relevant Australian Standards, must be above ground and be protected against impact from heavy vehicles;
(c) the refuelling area must be covered with an awning to minimise dirty water run-off;
(d) overfilling of the tank must be prevented through gauging and monitoring of the tank's contents;
(e) hoses used for transfer of diesel must be inspected weekly;
(f) in an emergency, flow of liquid from the storage tank to a consuming device must be immediately shut off;
(g) the shut off valve must comply with the relevant Australian Standard and be fire resistant;
(h) the diesel tank and re-fuelling area must be bunded within an area of impervious hardstand; and
(i) a diesel spill kit must be stored in the refuelling area and deployed in the event of a spill.

Chemical Spills and Fire Water Containment

B43. To ensure that chemical spills and fire-water are contained on-site, prior to the commencement of operations and to the satisfaction of FRNSW, the Applicant must ensure:
(a) a stormwater isolation valve is installed, the stormwater isolation valve must be closed at all times unless stormwater is being discharged and its closure must be monitored weekly;
(b) during an incident, the stormwater isolation valve must remain in the closed position until manually opened upon confirmation that stormwater isolation is no longer required or once any contaminated water is disposed via trade waste or at a site that can lawfully receive the waste; and
(c) the location of the stormwater isolation valve and any associated controls must be clearly identified on the site's fire hydrant block plan, fire sprinkler block plan and the site plan located within the site's Emergency Response Plan prepared as part of the OEMP as required by Condition C7.

TRAFFIC AND ACCESS

Traffic and Access

B44. The Applicant must implement all reasonable and feasible measures to minimise the impact on the site's access road and any impacts on 1 McIntosh Drive, Mayfield West (Lot 16 in DP 270249).

B45. Prior to the commencement of operations, the vehicular entrance and exit driveways and the direction of traffic movement within the site are to be permanently marked on the pavement surface.

B46. All customers are not permitted to leave their vehicles anywhere on the site other than the public unloading area and to access the pedestrian walkways between marked car parking spaces and the weighbridge and office area.

Parking

B47. Prior to the commencement of operations, the Applicant must provide and mark 25 on-site parking spaces (including two accessible spaces) for staff and visitors to ensure that traffic associated with the Development does not utilise public and residential streets or public parking facilities. Parking areas are to be constructed in accordance with the latest version of Australian Standard 2890. All parking associated with the Development must be contained on site.

B48. Parking is only permitted within the designated parking spaces.

Operating Conditions

B49. The Applicant must ensure:
- (a) all vehicular movement to and from the site must be in a forward direction;
- (b) internal roads, driveways and parking (including grades, turn paths, sight distance requirements, aisle widths, aisle lengths and parking bay dimensions) associated with the Development are maintained in accordance with the latest version of Australian Standard 2890.1 and Australian Standard 2890.2;
- (c) the swept path of the longest vehicle entering and exiting the site, as well as manoeuvrability through the site, is in accordance with the relevant AUSTROADS guidelines;
- (d) the Development does not result in any vehicles queuing on the public road network or along the sites access road owned known as 1 McIntosh Drive, Mayfield West (Lot 16 in DP 270249) which is subject to a right of carriageway;
- (e) heavy vehicles and bins associated with the Development are not to be parked on local roads or footpaths in the vicinity of the site;
- (f) only light vehicles and trailers are permitted within the public unloading area, no heavy vehicles are permitted within the public unloading area;
- (g) all vehicles are wholly contained on site before being required to stop;
- (h) all loading and unloading of materials is carried out on-site in designated areas;
- (i) the different activities such as unloading (public and contractor), processing and stockpiling areas at the site are clearly marked and separated by physical barriers to ensure safety is maintained;
- (j) signage must be erected to direct the public and contractors to the designated unloading and loading areas;
- (k) public and contractor unloading areas are kept separate;
- (l) pedestrian access paths are clearly marked and interactions between pedestrians and vehicles must be minimised;
- (m) an outbound wheel wash must be installed behind the exit weighbridge as per Figure 3.9 of the RTS;
- (n) signage is erected and vehicles at the site do not exceed a speed of 20 km/h;
- (o) vehicle manoeuvring areas must always be kept clear of any obstacles, including parked cars; and
- (p) the turning areas in the car park are kept clear of any obstacles, including parked cars, at all times.

Operational Traffic and Pedestrian Management Plan

B50. Prior to the commencement of operations, the Applicant must prepare an Operational Traffic and Pedestrian Management Plan (OTPMP) for the Development to the satisfaction of the Secretary. The plan must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The OTPMP must:
- (a) be prepared by a suitably qualified and experienced person(s);
- (b) be prepared in consultation with Council;
- (c) detail the measures that would be implemented to ensure road safety and network efficiency during operation;
- (d) detail measures to ensure public safety is maintained at all times including marking pedestrian access ways and signage to direct the public to the public unloading area;
- (e) detail how the public unloading area will be barricaded from the contractor unloading areas and processing areas to ensure safety is maintained;
- (f) detail how traffic exiting the main processing building will give way to traffic exiting the segregated heavy waste processing and stockpiling area to ensure vehicles safely exit the site;
- (g) detail heavy vehicle routes, access and parking arrangements;
- (h) include a Driver Code of Conduct to:
  - (i) minimise the impact on the local and regional road network;
  - (ii) minimise conflicts with other road users;
  - (iii) minimise road traffic noise; and
  - (iv) ensure truck drivers use Steel River Boulevard and McIntosh Drive (the use of Murray Dwyer Circuit is not permitted);
  - (v) ensure truck drivers use specified routes
- (i) include a program to monitor the effectiveness of these measures; and
- (j) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.

B51. The Applicant must:
- (a) not commence the operations until the OTPMP required by Condition B50 is approved by the Secretary; and
- (b) implement the most recent version of the OTPMP approved by the Secretary for the duration of the development.

AIR QUALITY

Meteorological Station

B52. Before the commencement of the operations, the Applicant must install a suitable meteorological station on the site that complies with the requirements in the EPA's *Approved Methods for Sampling of Air Pollutants in New South Wales*.

B53. The Applicant must maintain the meteorological station to the satisfaction of the EPA for the life of the development.

Dust Minimisation

B54. All reasonable steps must be taken to minimise dust generated during all works authorised by this consent.

B55. The Applicant must ensure that:
(a) all on-site roads and car parking areas are sealed with concrete or asphalt;
(b) all operating, storage, unloading and loading areas must be sealed with concrete, asphalt or other impervious barrier(s) of the same or greater quality;
(c) water sprinklers at the crushing and screening plant must be utilised at all time when the plant is operational;
(d) dust suppressants must be used to prevent particulate emissions from stockpiles and other dust generating sources;
(e) trucks and vehicles entering and leaving the Development that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading;
(f) crushing occurs for no more than 46 days per year in total;
(g) crushing does not occur during adverse meteorological conditions;
(h) all operations and activities occurring at the Development must be carried out in a manner that minimises the emissions of air pollutants from the Development;
(i) trucks associated with the Development do not track dirt onto the public road network;
(j) public roads used by these trucks are kept clean; and
(k) any works are carried out progressively on site to minimise exposed surfaces.

Air Quality Discharges

B56. Equipment must be installed and operated in accordance with best practice to ensure that the development complies with all load limits, air quality criteria, air emission limits and air quality monitoring requirements as specified in the EPL applicable to the site.

Air Quality Management Plan

B57. Prior to the commencement of operations, the Applicant must prepare an Air Quality Management Plan (AQMP) to the satisfaction of the Secretary. The AQMP must form part of the OEMP required by Condition C4 and be prepared in accordance with Condition C7. The AQMP must:
(a) be prepared by a suitably qualified and experienced person(s);
(b) be prepared in consultation with the EPA;
(c) detail and rank all emissions from all sources of the Development, including particulate emissions and odour;
(d) describe the measures that will be implemented to minimise the potential risks to adverse air quality in the area including:
    (i) the management and mitigation measures to be employed at the site;
    (ii) plant and equipment being maintained to ensure that it is in good order;
    (iii) how the air quality impacts of the development will be minimised during adverse meteorological conditions or extraordinary events;
    (iv) identification of high emission generating operational activities, including proposed times when these works will be carried out (including respite periods if required) and mitigation measures to minimise adverse impacts from these activities;
    (v) compliance with the relevant conditions of this consent;
(e) identify the control measures that will be implemented for each emission source; and
(f) define what constitutes an air quality incident and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents.

B58. The Applicant must:
(a) not commence the operations until the AQMP required by Condition B57 is approved by the Secretary: and
(b) implement the most recent version of the AQMP approved by the Secretary for the duration of the development.

Air Quality Monitoring and Reporting

B59. The Applicant must carry out Air Quality Monitoring and Reporting of the Development for the first three crushing events following the commencement of the operations to the satisfaction of the Secretary. The monitoring and reporting must:

(a) be carried out by a suitably qualified and experienced person(s) whose appointment has been endorsed by the Secretary;
(b) monitor the dust emissions whilst the Development is in operation and crushing (as described section 3.5 of the RTS) is occurring;
(c) include a summary of air emission related complaints and any actions that were carried out to address the complaints;
(d) validate the Development against air quality predictions in the RTS;
(e) review design and management practices of the Development against industry best practice for dust emissions; and
(f) include an action plan that identifies and prioritises additional dust mitigation measures that may be necessary to reduce emissions.

B60. Within three months of each monitoring event, the Applicant must submit a copy of the Air Quality Monitoring Report (Condition B59) to the Secretary, together with its response to any recommendations.

Odour

B61. The Applicant must ensure the Development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).

NOISE

Hours of Work

B62. The Applicant must comply with the hours detailed in **Table 2**.

Table 2: Hours of Work

Activity	Day	Time
Construction	Monday to Friday Saturday Sunday and Public Holidays	7 am to 6 pm 8 am to 1 pm Not Permitted
Waste Receival	Monday to Friday Saturday Sundays and Public Holidays	6 am to 6 pm 6 am to 5 pm 7 am to 3 pm
Waste Processing	Monday to Friday Saturday Sundays and Public Holidays	6 am to 6 pm 6 am to 5 pm Not Permitted
Waste Dispatch	Monday to Friday Saturday Sunday and Public Holidays	6 am to 6 pm 6 am to 5 pm Not Permitted

B63. Works outside of the hours identified in Condition B62 may be undertaken in the following circumstances:

(a) the works are inaudible at the nearest sensitive receivers;
(b) for the delivery or dispatch of materials as requested by the NSW Police Force or other public authorities for safety reasons; or
(c) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

B64. Waste receival is permitted on a 24-hour per day basis on limited occasions to facilitate major infrastructure projects. Limited occasions is defined as:

(a) no greater than six times per year; and
(b) only for a period of less than two weeks in length for each occasion.

B65. The Secretary, Council and all adjacent landowners must be notified no later than 48 hours prior to each of the 24-hour waste receival periods referred to in Condition B64 along with a description of the major infrastructure projects which necessitate the 24-hour operations.

B66. During the 24-hour waste receival period (as stipulated in Condition B64), the number of heavy vehicles accessing the site from 6 pm to 6 am must not exceed 12.

Noise Management

B67. The crusher and shredder are only permitted to be operated in the segregated heavy waste processing and stockpiling area, no further south than 130 m from the northern site boundary (see Appendix A).

B68. The mobile screens in the segregated heavy waste processing and stockpiling area must not be operated simultaneously with the crusher or shredder.

B69. The Applicant must:
(a) implement best practice, including all reasonable and feasible noise management and mitigation measures to minimise operational, low frequency and traffic noise generated by the Development;
(b) minimise the noise impacts of the Development during adverse meteorological conditions;
(c) maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and
(d) regularly assess noise emissions and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.

Operational Noise Limits

B70. The Applicant must ensure that noise generated by operation of the Development does not exceed the noise limits in **Table 3.**

Table 3: Noise Limits dB(A)

Location	Day $L_{Aeq(15\ minute)}$	Evening $L_{Aeq(15\ minute)}$	Night $L_{Aeq(15\ minute)}$	Night L_{AMax}
R1	48	40	40	51
R2	49	41	41	52
R3	47	39	39	51
R4	47	39	39	50
R5	50	42	42	53
R6	48	41	41	51
R7	48	41	41	52
R8	48	40	40	52
R9	49	42	42	52
R10	49	41	41	51
R11	49	42	42	52
R12	42	41	41	48
R13	40	36	36	47
Mayfield West Primary School	Internal 35 dB(A) – Noisiest 1 hr period (when in use)			
Church of Christ	Internal 40 dB(A) LAeq, period (when in use)			
Scout Hall	External 55 dB(A) Leq, period (when in use)			

Note: *Noise generated by the Development is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy. Refer to the plan in Appendix A for the location of residential sensitive receivers.*

VIBRATION

Vibration Criteria

B71. Vibration caused by construction at any residence or structure outside the site must be limited to:
(a) for structural damage, German Standard DIN 4150 Part 3 Structural Vibration in Buildings. Effects on Structures; and
(b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006).

FIRE MANAGEMENT

B72. Prior to the commencement of operations, the final design of the development must be finalised in consultation with and to the satisfaction of the Secretary and include suitable additional provisions for special hazards by specifically addressing Clauses E1.10 and E2.3 of Volume One of the *National Construction Code (NCC) Series*. In particular, the following matters must be addressed:

(a) Clauses E1.10 and E2.3 of Volume One of the NCC be complied with to the meet the operational requirements of FRNSW;
(b) the stockpile storage within any building and/or open yard storage on the allotment be limited in size and volume and arranged to minimise fire spread;
(c) the arrangement of stockpiles of combustible material, stored externally, on the allotment be sufficiently separated to permit FRNSW vehicle access between stockpiles;
(d) the site must be serviced by a fire hydrant system that has a minimum water supply capable to extinguishing the sites largest fire load stockpile;
(e) buildings which store recyclable material must include a smoke hazard system that facilitates FRNSW firefighting operations;
(f) if deemed necessary by the Secretary, by virtue of applying Clauses E1.10 and E2.3 to the Development, that any significant building used to process recyclable material is provided with an appropriate fire suppression system; and
(g) the containment on-site of fire water run-off.

ABORIGINAL HERITAGE

Unexpected Finds Protocol

B73. If Aboriginal objects are uncovered during construction work in the immediate area, work must stop and the Regional Operations Group of the OEH, Council and the Registered Aboriginal Parties are to be consulted.

HAZARDS AND RISK

Dangerous Goods

B74. The quantities of dangerous goods stored and handled at the site must be below the threshold quantities listed in the Department of Planning's *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* at all times.

B75. Dangerous goods, as defined by the *Australian Dangerous Goods Code*, must be stored and handled strictly in accordance with:

(a) all relevant Australian Standards;
(b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
(c) the Environment Protection Manual for Authorised Officers: Bunding and Spill Management, technical bulletin (EPA,1997).

In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement must prevail to the extent of the inconsistency.

Bunding

B76. The Applicant must store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and EPA's *Storing and Handling of Liquids: Environmental Protection – Participants Manual* (DECC, 2007) (as may be updated or replaced from time to time).

CONTAMINATION

B77. Any works carried out on the site that involve the disturbance of (or contact with) soil or groundwater are to be carried out in accordance with the requirements of the report titled *Site Management Plan for Subsurface Disturbance Activities, McIntosh Drive Mayfield NSW. Ref: N4113204_SMP_Rev4_2Oct09*, prepared by AECOM Pty Ltd, dated 2 October 2009.

B78. Prior to the commencement of operations, the main processing building and segregated heavy waste processing and stockpiling area must be sealed with either asphalt or concrete to minimise infiltration of surface water to groundwater.

B79. Prior to the commencement of construction, the Applicant must prepare an unexpected finds protocol to ensure that potentially contaminated material is appropriately managed. The protocol must form part of the CEMP

required by Condition C1 and must ensure any material identified as contaminated must be disposed off-site, with the disposal location and results of testing submitted to Council, prior to its removal from the site.

VISUAL AMENITY

Landscaping

B80. The Applicant must maintain the landscaping and vegetation on the site in accordance with the approved Landscape Plan prepared by Terras Landscape Architects dated 9 September 2015 in Appendix A.

Lighting

B81. The Applicant must ensure the lighting associated with the Development:
(a) complies with the latest version of *AS 4282 (INT) - Control of Obtrusive Effects of Outdoor Lighting;*
(b) is mounted, screened and directed in such a manner that it does not create a nuisance to surrounding properties or the public road network including at night; and
(c) is not installed on the exterior of the Development and does not flash, chase or scintillate or contain promotional material of a visually intrusive nature.

SITE SECURITY

B82. The Applicant must:
(a) maintain the 1.8 m perimeter fence and security gates on the site in accordance with Council's requirements; and
(b) ensure the security gates are locked whenever the site is not in operation or unattended.

COMMUNITY ENGAGEMENT

B83. The Applicant must consult with the community regularly throughout the Development, including consultation with the nearby, adjacent landowners, sensitive receivers, relevant regulatory authorities, Registered Aboriginal Parties and other interested stakeholders.

CONCEPTUAL DECOMISSIONING PLAN

B84. Prior to the commencement of operations, the Applicant must prepare a Conceptual Decommissioning Management Plan (CDMP) for the Development to the satisfaction of the Secretary. The plan must form part of the OEMP required by Condition C4. The CDMP must:
(a) include a schedule for the decommissioning of the Development;
(b) detail how the following would be achieved:
  (i) ensure the site is left in a safe, stable and non-polluting manner;
  (ii) removal of all waste from the site in a lawful manner;
  (iii) restoration of the site so that the contamination status is no worse than that described in the Site Audit Report -Former EMD Facility Mayfield West, prepared for Delta EMD, prepared by Environ Australia Pty Ltd, November 2009; and
  (iv) ensure public safety is maintained.
(c) include procedures for notification of the surrounding landowners;
(d) include procedures for safe removal of any machinery and structures;
(e) include measures to mitigate any environmental impacts associated with the removal of the Development;
(f) include details of monitoring that would be undertaken during the decommissioning of the Development; and
(g) be reviewed 12 months prior to the closure of the site to the satisfaction of the Secretary.

PART C: ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

C1. The Applicant must prepare a Construction Environmental Management Plan (CEMP) to the satisfaction of the Secretary. The CEMP must:
- (a) be approved by the Secretary prior to the commencement of construction;
- (b) identify the statutory approvals that apply to the Development;
- (c) describe all activities to be undertaken on the site during construction of the Development, including a clear indication of construction stages in particular how the sealing works will be staged and any associated impacts on operation, construction of surface water infrastructure must also be addressed;
- (d) outline all environmental management practices and procedures to be followed during construction works associated with the Development;
- (e) detail how unexpected finds, traffic, erosion and sedimentation and noise will be managed;
- (f) include a complaints handling procedure;
- (g) detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts; and
- (h) describe the roles and responsibilities for all relevant employees involved in construction works associated with the Development.

C2. As part of the CEMP required under Condition C1 of this consent, the Applicant must include the following:
- (a) Erosion and Sediment Control Plan (see Condition B16);
- (b) Unexpected Finds Protocol (see Condition B79).

C3. The Applicant must carry out the construction of the Development in accordance with the CEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

C4. The Applicant must prepare an Operational Environmental Management Plan (OEMP) to the satisfaction of the Secretary. The OEMP must:
- (a) be approved by the Secretary prior to the commencement of operations;
- (b) be prepared by a suitably qualified and experienced expert;
- (c) provide the strategic framework for environmental management of the Development;
- (d) identify the statutory approvals that apply to the Development;
- (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Development;
- (f) describe the procedures that would be implemented to:
  - (i) keep the local community and relevant agencies informed about the operation and environmental performance of the Development;
  - (ii) receive, handle, respond to, and record complaints;
  - (iii) resolve any disputes that may arise;
  - (iv) respond to any non-compliance; and
  - (v) respond to emergencies and provide an Emergency Response Plan;
- (g) include the following environmental management plans:
  - (i) Waste Management Plan (see Condition B13);
  - (ii) Surface Water Characterisation and Mitigation Plan (see Condition B33);
  - (iii) Operational Traffic and Pedestrian Management Plan (see Condition B50);
  - (iv) Air Quality Management Plan (see Condition B57); and
  - (v) Conceptual Decommissioning Management Plan (see Condition B84).

C5. The Applicant must carry out the construction of the Development in accordance with the OEMP approved by the Secretary (and as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

COMPLIANCE REGISTER TABLE

C6. The Applicant must submit a Compliance Register Table to the Secretary with any Environmental Management Plans, which details where the relevant conditions have been addressed within the Environmental Management Plan.

MANAGEMENT PLAN REQUIREMENTS

C7. The Applicant must ensure that the environmental management plans required under Condition C4 of this consent are prepared by a suitably qualified person or persons in accordance with best practice and include:
- (a) detailed baseline data;

(b) a description of:
  (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
  (ii) any relevant limits or performance measures/criteria; and
  (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures;
(c) a description of the management measures that would be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria;
(d) a program to monitor and report on the:
  (i) impacts and environmental performance of the Development; and
  (ii) effectiveness of any management measures (see (c) above)
(e) a contingency plan to manage any unpredicted impacts and their consequences;
(f) a program to investigate and implement ways to improve the environmental performance of the Development over time;
(g) a protocol for managing and reporting any:
  (i) incidents;
  (ii) complaints;
  (iii) non-compliances with statutory requirements; and
  (iv) exceedances of the impact assessment criteria and/or performance criteria; and
(h) a protocol for periodic review of the plan.

Revision of Strategies, Plans and Programs

C8. Within three months of:
(a) approval of a modification;
(b) approval of an annual review under Condition C9;
(c) submissions of an incident report under Condition C11; or
(d) completion of an audit under Condition C13.

the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

Note: *This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.*

ANNUAL REVIEW

C9. Each year, the Applicant must review the environmental performance of the Development to the satisfaction of the Secretary. This review must:
(a) describe the development that was carried out in the previous calendar year, and the Development that is proposed to be carried out over the next year;
(b) provide a conditions compliance report which tracks the compliance of the development with the conditions of this approval;
(c) include a comprehensive review of the monitoring results and complaints records of the Development over the previous calendar year, which includes a comparison of these results against the:
  (i) the relevant statutory requirements, limits or performance measures/criteria;
  (ii) requirements of any plan or program required under this consent;
  (iii) the monitoring results of previous years; and
  (iv) the relevant predictions in the EIS;
(d) detail and provide evidence for the number of days crushing and the 24-hour waste receival operations has occurred;
(e) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
(f) identify any trends in the monitoring data over the life of the Development;
(g) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and
(h) describe what measures will be implemented over the next year to improve the environmental performance of the Development.

REPORTING

Incident Reporting

C10. The Applicant must notify the Secretary and any other relevant agencies of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment associated with the Development immediately after the Applicant becomes aware of the incident.

C11. Within seven days of the date of this incident, the Proponent must provide the Secretary and any relevant agencies with a detailed report on the incident.

Regular Reporting

C12. The Applicant must provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

AUDITING

Independent Environmental Audit

C13. Within one year of the commencement of operations, and every three years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the Development. This audit must:
(a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
(b) include consultation with the relevant agencies;
(c) assess the environmental performance of the Development and assess whether it is complying with the requirements in this consent, and any other relevant approvals, relevant EPL(s) (including any assessment, plan or program required under these approvals);
(d) review the adequacy of any approved strategy, plan or program required under the abovementioned consents; and
(e) recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under these consents.

Note: *This audit team must be led by a suitably qualified auditor, and include relevant experts in any other fields specified by the Secretary.*

C14. Within three months of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

C15. The Applicant must:
(a) make copies of the following publicly available on its website:
(i) the documents referred to in Condition A2;
(ii) all current statutory approvals for the Development;
(iii) all approved strategies, plans and programs required under the conditions of this consent;
(iv) a comprehensive summary of the monitoring results of the Development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
(v) a complaints register updated on a monthly basis;
(vi) the annual reviews of the Development;
(vii) any independent environmental audit of the Development and the Applicant's response to the recommendations in any audit; and
(viii) any other matter required by the Secretary
(b) keep this information up to date, to the satisfaction of the Secretary

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Planning

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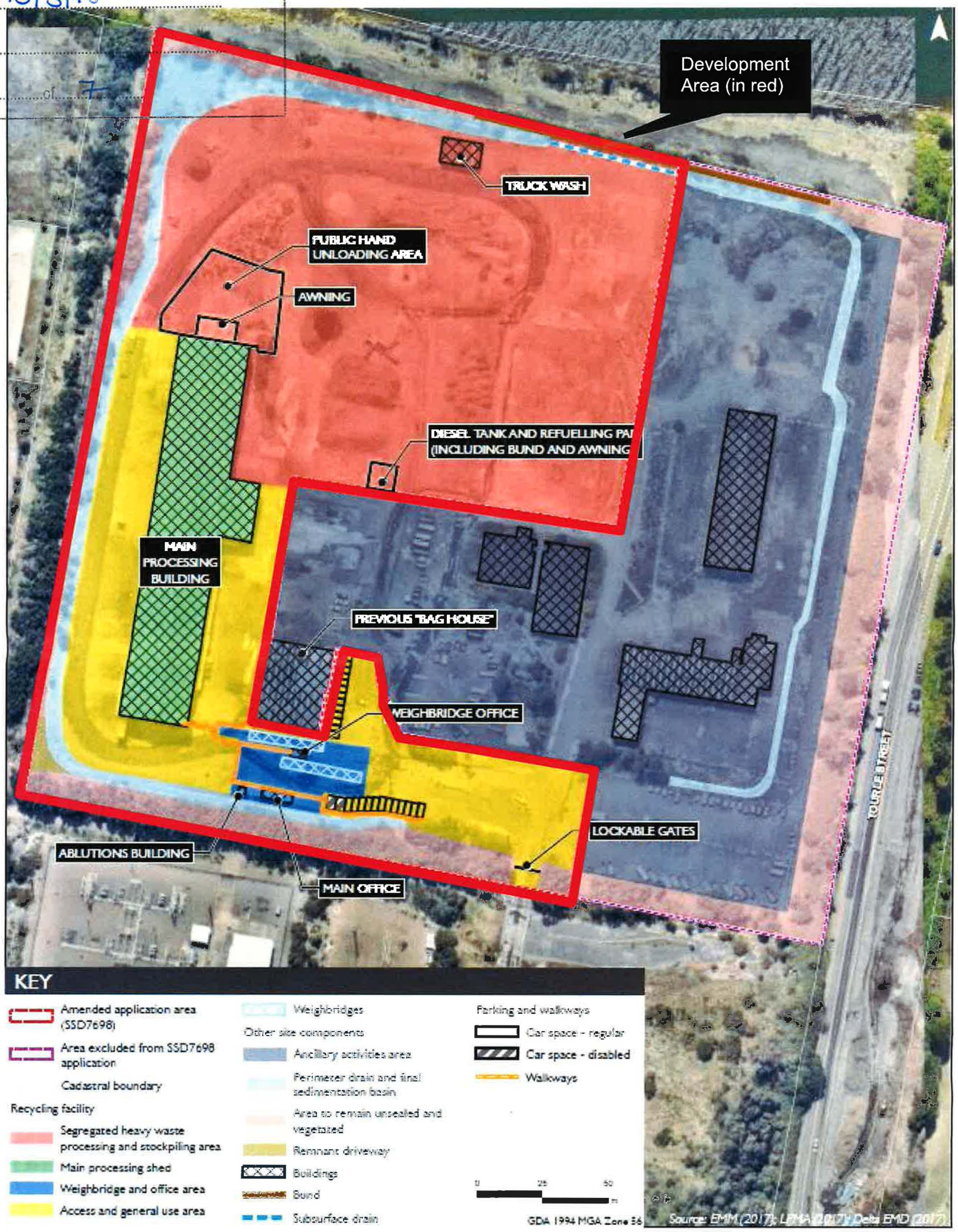
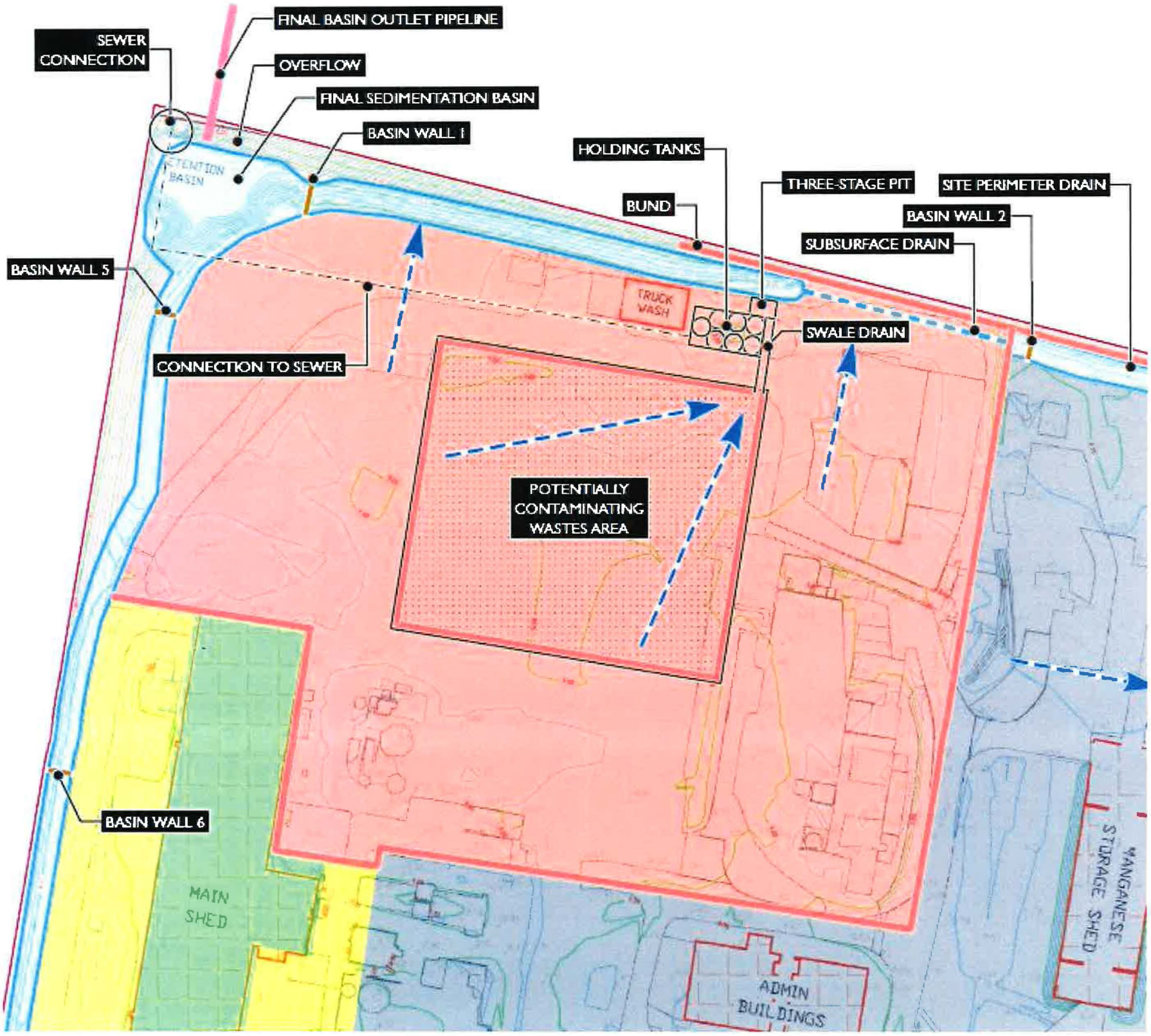
Sheet No. 1 of 7

APPENDIX A PLANS

Development Layout Plan



Location of Surface Water Management Infrastructure



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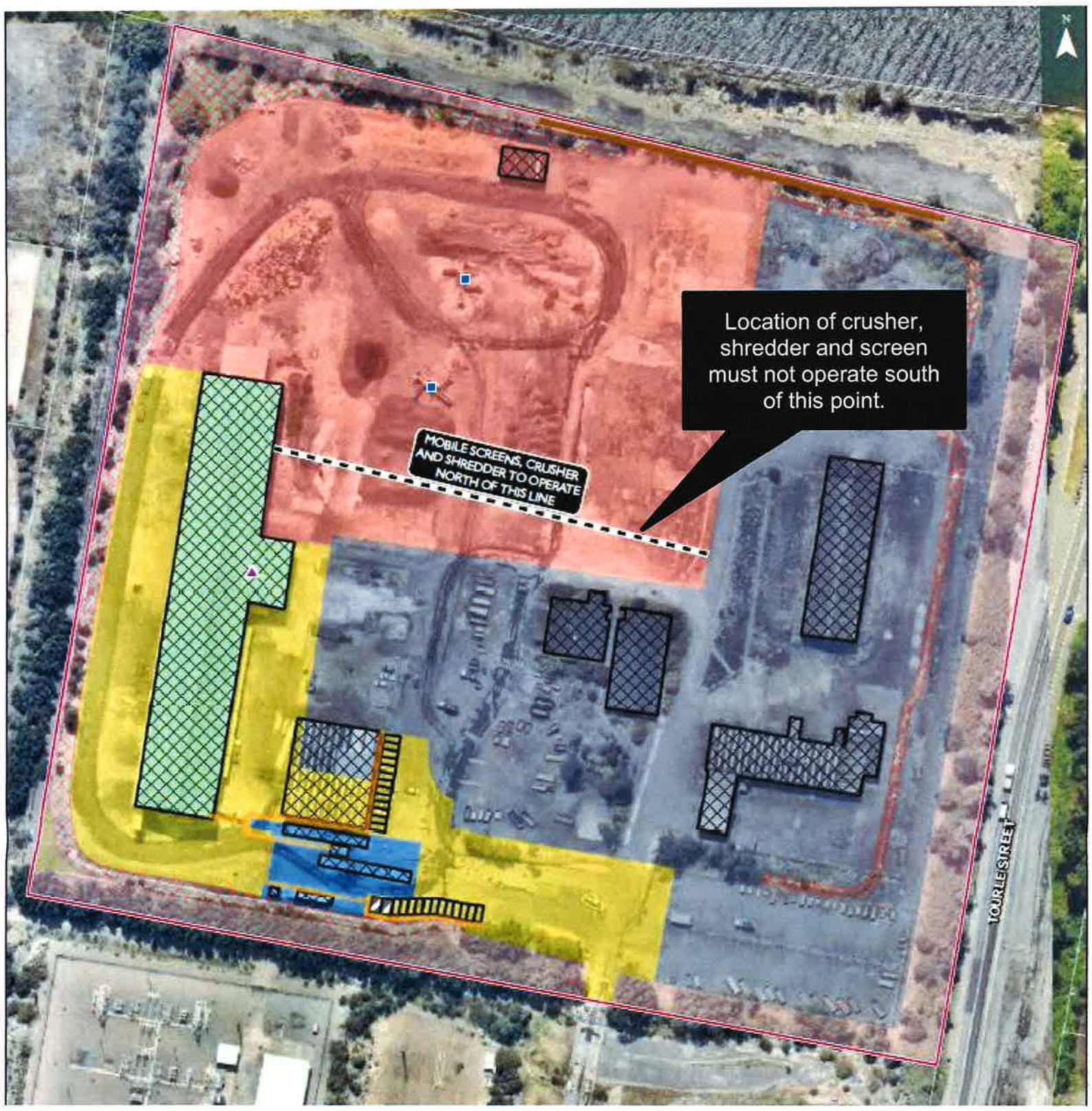
Location of Crusher, Shredder and Screens



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Sensitive Receiver Locations

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Landscape Plan

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7698

LEGEND

- Z1 — ZONE 1 - NORTHERN BOUNDARY SUPPLEMENTARY PLANTING
- Z2 — ZONE 2 - BUND PLANTING
- Z3 — ZONE 3 - EASEMENT PLANTING CLIENT TO SEEK PERMISSION FROM LANDOWNER TO AUGMENT EXISTING VEGETATION
- Z4 — ZONE 2 - BUND PLANTING TO BE PROVIDED IF VEGETATION ON ADJACENT RMS LAND IS REMOVED

VEGETATION MANAGEMENT

STRONGLY RECOMMEND SOIL TESTING DUE TO THE POOR CONDITION OF EXISTING TREES AND TO ENSURE ADEQUATE ESTABLISHMENT OF PROPOSED SPECIES

REFER TO SPECIFICATIONS FOR FURTHER DETAIL

ZONE 1 - NORTHERN BOUNDARY - SUPPLEMENTARY PLANTING

EXISTING CONDITION:
- EXISTING TREES WITH SOME IN POOR CONDITION
- LOW GROUND COVERS PRESENT
- WEED SPECIES PRESENT

PROPOSED WORKS:
- REMOVE WEED SPECIES
- MONITOR EXISTING TREES AND WHERE HEALTH DOES NOT IMPROVE DURING FIRST 3 MONTHS OF MAINTENANCE PERIOD REMOVE AND REPLACE WITH ADDITIONAL *Casuarina* TREES
- PROVIDE 30% GREEN SHADE CLOTH TO CHAIN WIRE FENCE TO PROVIDE ADDITIONAL SCREENING AND ALLOW LIGHT FOR PLANT GROWTH.
- PROVIDE JUTE MATTING TO STEEP AREAS OF WEED REMOVAL
- PROVIDE *Casuarina* TREES AND LOW MAINTENANCE GRASSES TO STABILISE AND PROVIDE SCREENING
- MAXIMISE TREE RETENTION
- PROVIDE SUPPLEMENTARY TREES AND GROUND COVERS

ZONE 2 - PLANTING OVER EXISTING HARDSTAND (WESTERN BOUNDARY)

EXISTING CONDITION:
- EXISTING STORMWATER DRAIN LOCATED ON BOUNDARY
- A/C STRIP BETWEEN STORMWATER DRAIN AND BOUNDARY
- EASEMENT CURRENTLY PROVIDES SCREENING TO A MAJORITY OF THE WESTERN BOUNDARY

PROPOSED WORKS:
- RIP A/C BETWEEN STORMWATER DRAIN AND BOUNDARY TO 150mm AND REMOVE WHERE REQUIRED
- PROVIDE ADDITIONAL TOPSOIL WHERE REQUIRED
- PROVIDE MASONRY EDGE TO STORMWATER DRAIN AND ROAD TO CONTAIN IMPORTED TOPSOIL
- PIN JUTE MATTING TO PREVENT EROSION AND RETAIN MOISTURE
- PROVIDE *Casuarina* TREES AND LOW MAINTENANCE GRASSES TO STABILISE AND PROVIDE SCREENING
- OPTION TO EXTEND LANDSCAPE TREATMENT FOR ENTIRE WESTERN BOUNDARY IF REQUIRED.

ZONE 3 - EXISTING VEGETATED EASEMENT

CLIENT TO SEEK LANDOWNER PERMISSION TO AUGMENT VEGETATION WITHIN EASEMENT

EXISTING CONDITION:
- EXISTING EASEMENT BETWEEN SUBJECT SITE AND OTHER INDUSTRIAL PREMESIS
- SIGNIFICANT VEGETATION PRESENT WHICH PROVIDES SCREENING FOR A MAJORITY OF THE WESTERN BOUNDARY
- SMALL AREA CONTAINING SPARSE TREES ALLOWING FILTERED VIEWS INTO THE SITE [IDENTIFIED ON PLAN]

PROPOSED WORKS:
- REMOVE WEED SPECIES
- PROVIDE MASS PLANTING TO STABILISE SOIL
- PROVIDE JUTE MATTING TO STEEP AREAS OF WEED REMOVAL
- MAXIMISE TREE RETENTION
- PROVIDE SUPPLEMENTARY TREES AND GROUND COVERS

ZONE 4 - PLANTING OVER EXISTING HARDSTAND (EASTERN BOUNDARY)

EXISTING CONDITION:
- RMS VEGETATION CURRENTLY PROVIDES SCREENING TO ALL OF THE EASTERN BOUNDARY
- 1.8M CHAIN WIRE FENCE ALONG PROPERTY BOUNDARY
- A/C SURFACE WITHIN PROPERTY BOUNDARY

PROPOSED WORKS (SHOULD EXISTING VEGETATION ON RMS LAND BE REMOVED):
- RIP A/C WITHIN BOUNDARY TO 150mm AND REMOVE WHERE REQUIRED
- PROVIDE ADDITIONAL TOPSOIL WHERE REQUIRED
- PROVIDE MASONRY EDGE TO CONTAIN IMPORTED TOPSOIL
- PIN JUTE MATTING TO PREVENT EROSION AND RETAIN MOISTURE
- PROVIDE *Syzygium* 'Resilience' AND LOW MAINTENANCE GRASSES TO STABILISE AND PROVIDE SCREENING
- PROVIDE 30% GREEN SHADE CLOTH TO CHAIN WIRE FENCE TO PROVIDE ADDITIONAL SCREENING AND ALLOW LIGHT FOR PLANT GROWTH.

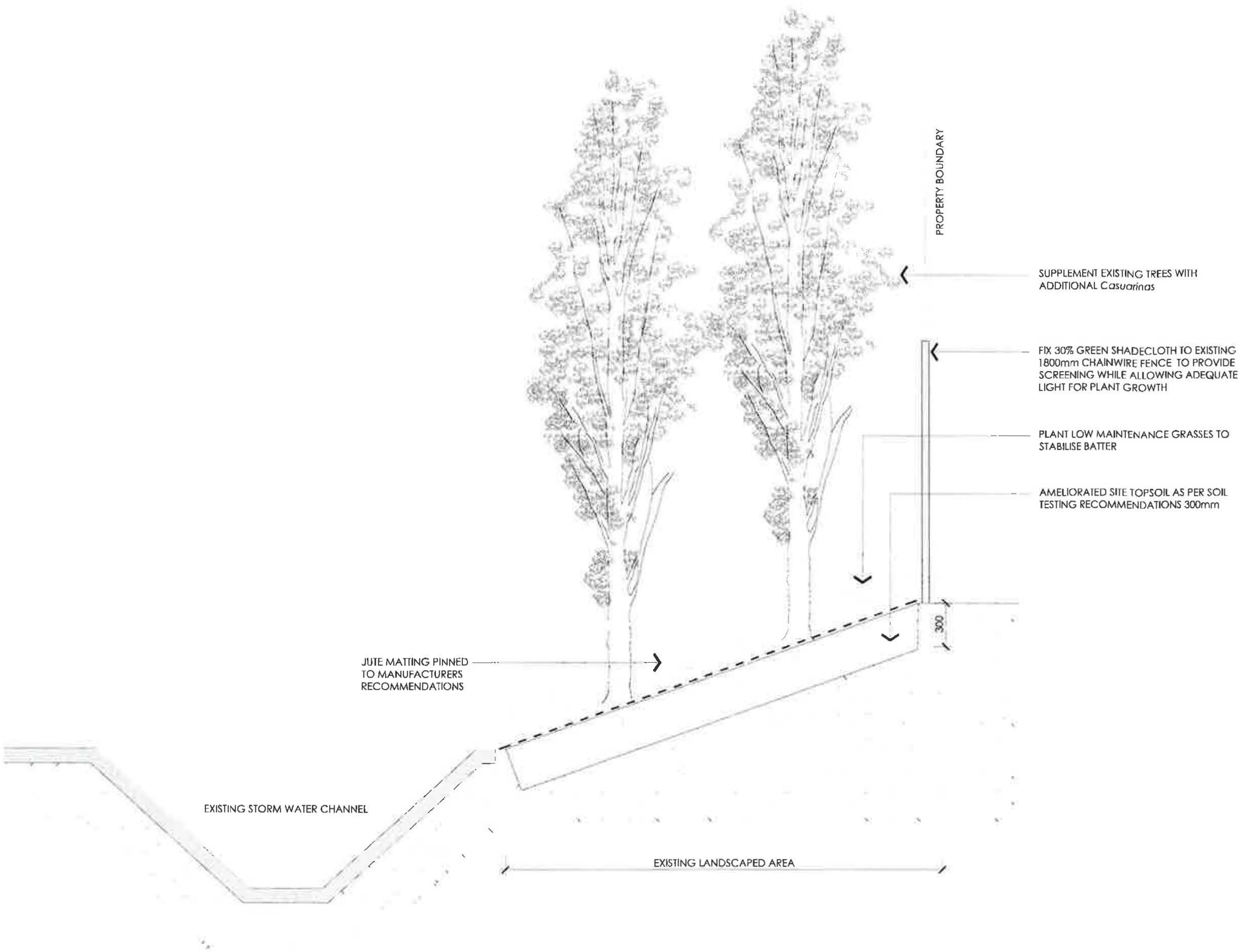
rev no:	date:	comments:	by:	verified:
D	09.09.15	CC	GF	PW
C	31.07.15	DRAFT	GF	PW
B	31.07.15	DRAFT	GF	PW
A	24.07.15	DRAFT	GF	PW

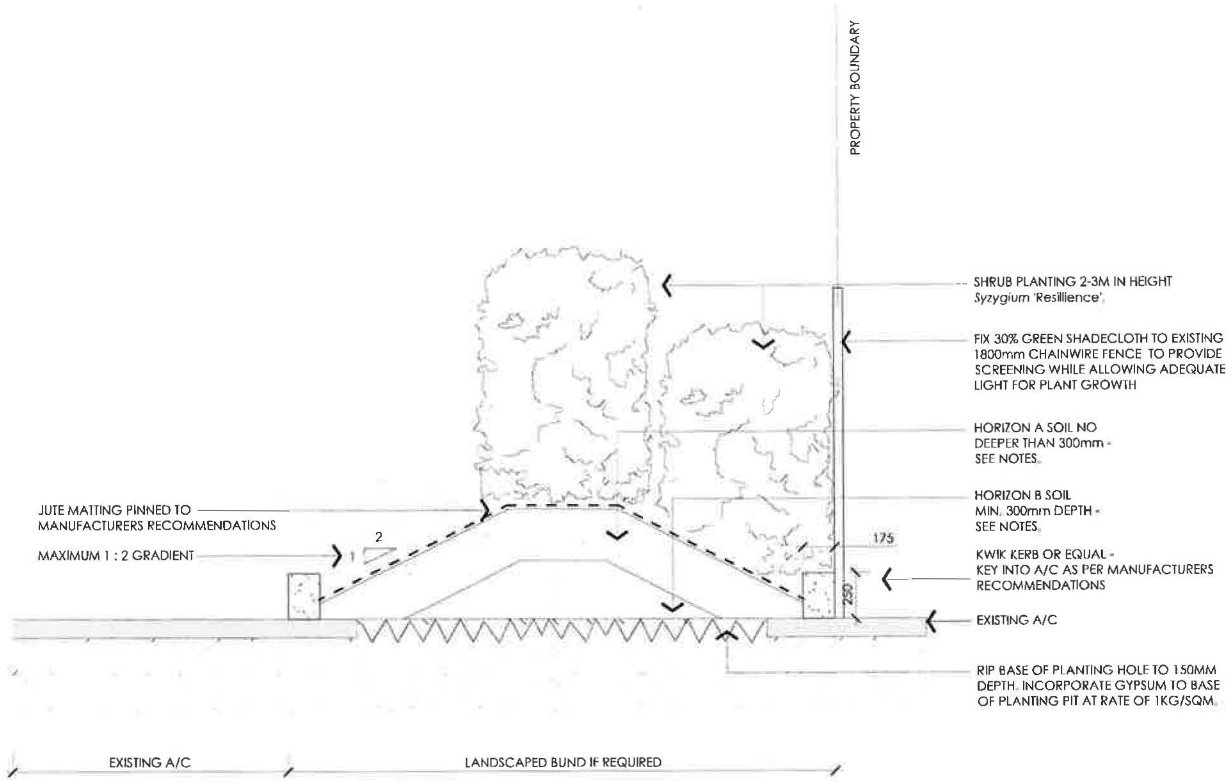
PROJECT: MAYFIELD WEST RECYCLING FACILITY
SITE: 80 TOURLE STREET MAYFIELD WEST
CLIENT: BENEDICT
DRAWING: LANDSCAPE PLAN

terras landscape architects
address: 412 king street newcastle nsw 2300 ph: 49 294 926 fax: 49 263 069 www.terras.com.au

WORK TO FIGURED DIMENSIONS IN PREFERENCE TO SCALE. CHECK DIMENSIONS, LEVELS ON SITE PRIOR TO ORDERING MATERIALS OR COMPLETION OF WORKSHOP DRAWINGS.

drawn:	scale:	no in set:	date:
GF	1:750@A1	1/3	09.09.15
phase:	project no:	DWG no:	revision no:
CC	10944.5	L01	D





01 - NORTHERN BOUNDARY PLANTING

Section A-A
Scale 1:20

02 - EASTERN BOUNDARY PLANTING

Section B-B
Scale 1:20

PLANT SCHEDULE

All trees supplied are to comply with NATSPEC's "Specifying Trees a guide to assessment of tree quality"

ABV	BOTANICAL NAME	COMMON NAME	HEIGHT	POT SIZE	SPACING
	TREES				
At	*Allocasuarina torulosa*	Forest She-Oak	10-20m	45L	2m cts
Cg	*Casuarina glauca*	Swamp She-Oak	15m	45L	2m cts
	SHRUBS				
Sr	*Syzygium 'Resilience'*	Resilience	2-3m	25L	1m cts
	SUPPLEMENTARY PLANTING				
Ca	*Carex appressa*	Tall Sedge	0.8m	2.5 Litre	6/m²
Fn	*Ficinia nodosa*	Knobby Blub-Rush	0.5-1m	2.5 Litre	6/m²
Lf	*Lomandra longifolia*	Mat Rush	1m	2.5 Litre	3/m²
Pa	*Pennisetum alopecuroides*	Swamp Foxtail	0.8m	2.5 Litre	4/m²

This schedule shall be read in conjunction with the landscape plans. Refer to the written specification for further information. The contractor shall check the schedule with the quantities shown on the drawing. Quantities shown in the plant schedule shall take precedence over quantities shown on the drawing. Refer all discrepancies, should they exist, to the superintendent before planting works commences. Order plants as soon as the head contract for the works has been let. Do not make substitutions unless approved in writing.

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D	09.09.15	CC	GF	PW
C	31.07.15	DRAFT	GF	PW
B	31.07.15	DRAFT	GF	PW
A	24.07.15	DRAFT	GF	PW

300mm ON ORIGINAL A1

PROJECT: MAYFIELD WEST RECYCLING FACILITY

SITE: 80 TOURLE STREET MAYFIELD WEST

CLIENT: BENEDICT

DRAWING: LANDSCAPE DETAILS

address: 412 king street newcastle nsw 2300 ph: 49 294 926 fax: 49 263 069 www.terras.com.au

terras landscape architects

WORK TO FIGURED DIMENSIONS IN PREFERENCE TO SCALE. CHECK DIMENSIONS, LEVELS ON SITE PRIOR TO ORDERING MATERIALS OR COMPLETION OF WORKSHOP DRAWINGS.

drawn:	scale:	no in set:	date:
GF	1:20@A1	2/3	09.09.15
phase:	**project no:**	**DWG no:**	**revision no:**
CC	10944.5	L02	D

GENERALLY

L1.0 GENERAL
All landscape works shall be carried out by a person or business eligible for membership with the Landscape Contracter Assosiation of NSW or comparable trade organisation. The Contractor shall allow for all restriction to his operations caused as a result of other contractors, likely damage to existing structures, fences, retaining walls, pavements, services or other improvements either within or outside the site. The Contractor shall be responsible for ensuring that full and adequate protection from damage shall be provided to all finished surfaces and material subject to staining or other disfigurement, and shall be responsible for making good all damages and disfigurement.
Check with engineers drawings when available to see extent of earthwork, drainage, changes in and location of services, coordinated works as required.

L2.0 ORDERING - LANDSCAPE
REQUIREMENT: Within 14 days of the date of acceptance of tender, furnish proof of ordering the required materials, and advise immediately if any supply difficulties are encountered. Ensure Substitutions shall not be approved unless accepted in writing by the supervisor. The plant schedule shall be the accepted document for plant quantities and sizes to be used for the project. Where discrepancies arise between the drawings and the plant schedule seek clarification from the supervisor as soon as practicable.

L3.0 WORK NEAR TREES - GROUNDWORKS
PROTECTION: Protect trees to be retained from damage. Take necessary precautions. Do not store or otherwise place bulk materials and harmful materials under or near trees. Do not place spoil from excavations against tree trunks, even for short periods. Prevent damage to tree bark. Do not attach stays, guys and the like to trees. Avoid compaction of the ground under trees.
WORK UNDER TREES: Do not add or remove topsoil within the drip line, use hand methods such that root systems are preserved intact and undamaged. Open up excavations under tree canopies for as short a period as possible.
ROOTS: Where it is necessary to cut tree roots, use means such that the cutting does not unduly disturb the remaining root system.
DAMAGES: Any damage to trees to be retained will be attended to by a qualified arborist who will prepare a report covering rectification works. Submit report to supervisor for approval. Conduct remedial works as required including removal and replacement if so recommended. All costs to be borne by the contractor.

L4.0 INSPECTION - LANDSCAPE
NOTICE: Give minimum two (2) days notice unless otherwise indicated so that inspection may be made of the following, as applicable:
- •Plants available on site for natspec compliance inspection prior to planting.
- •Subgrades cultivated and/or prepared prior to placing topsoil.
- •Plant material set out before planting.
- •Completion of planting establishment work.

L5.0 STANDARDS - LANDSCAPING
REFERENCED DOCUMENTS:
- •AS 4419 Soils for landscaping and garden use. - 1998
- •AS 4454 Composts, soil conditioners and mulches - 1997
- •AS 4373 Pruning of amenity trees - 1996
- •AS 2303 Tree stock for landscape use - 2015.

L6.0 SAMPLES - LANDSCAPE
PLANTS: All plants shall be made available for inspection on site or at local nursery. The entire material represented may be rejected, except of plants with a correctable defect subject to satisfactory treatment.
TREES SHALL COMPLY WITH AS 2303:2015 Tree stock for landscape use.
BULK MATERIALS: 2 kg sample of each type specified. Submit bulk material samples, not less than 2 working days before bulk deliveries.
INSPECTION OF TREES:
Timing: Trees may be inspected before shipment.
Partial sampling: Expose a small section of the rootball, by washing, sufficient to permit inspection of root development from the stem to the outer extremity. After inspection, carefully replace soil.
Root systems: Root systems may be inspected using partial sampling at the following rates:
- <20 trees: 1 tree sampled
- 21 - 50 trees: 2 trees sampled
- >51 trees: 4%.
Forward order contracts: Submit regular reports in writing to the contract administrator. Include checks against specification requirements, and current photographs.
-Inspection frequency: 3 months
-Report frequency: 3 months.
Compliance
General: Non-compliance may lead to rejection of the entire batch.
Substitution: If non-complying trees are proposed, submit proposal in writing to the contract administrator. Only written approvals of substitution are recognised. Submit a copy of the written approval of substitution with the non-complying trees.
Holding proposals
General: Submit proposals in writing to the contract administrator for proposed methods for holding trees beyond specified dates so that trees will continue to comply.
Shipment
Responsibility: Landscape Contractor.

L7.0 WEEDS:
Eradicate weeds by environmentally acceptable methods using a non-residual glyphosate herbicide at the manufacturer's recommended rates. Regularly remove, by hand, rubbish and weed growth that may occur or recur throughout grassed, planted and mulched areas. Continue eradication throughout the course of the works and during the Planting Establishment Period so that a weed free area is established at completion of the establishment period,.

L8.0 EXISTING SERVICES - LANDSCAPING
Existing services on site may include but not limited to storm water drainage, water, and associated power service conduits. Locations of all services should be established prior to excavation and cultivation of planting beds and installation of trees etc. Do not excavate by machine within 1m of existing underground services without prior approval or identification of service locations. Services locations where shown are approximate only. The true location of actual in ground services must be determined by the contractor on site.

L9.0 SETOUT AND DIMENSIONS
Critical design dimensions shall be obtained by the landscape contractor by survey before commencing work. Check engineers drawings where available to determine extent of earthworks, structures,

SOILS

L10.0 SOIL TESTING

Sampling: As recommended in AS 4419 (2003) Appendix A

Sampling technique: The following sampling technique should be used in conjunction with the guidelines recommended in AS 4419 (2003). Where discrepancies arise, refer to the Superintendent for clarification prior to proceeding with any works.
The Contractor shall arrange for the following soil tests to be carried out for any proposed ameliorated site soil;
Soil testing shall be done in accordance with SESL specifications.

- For each test, take six samples of each soil type. These should be taken from various locations. Each sample should be approximately one spade full in quantity.
- For each soil type, thoroughly mix the six samples together to obtain an 'average' sample. Ensure that mixing is carried out in a clean mixing container, with no impurities such as cement residue or imported soil etc present. Extract 1kg (approximately a 2L ice-cream container) final samples from each of the three mixed batches.
- Package and forward to the soil laboratory for testing, together with a site plan locating sources of soil samples and a record of any relevant details about the site and source locations.
- Type of Soil Test Required: Soil testing shall be undertaken in accordance with SESL specifications, for the purpose of analysing the characteristics and recommendations for use as a landscaping topsoil for a mixture of native species, exotic species, and turfing.
- Lead time: Allow a minimum of five full working days for completion of soil testing, and check with laboratory to ensure testing will not delay landscaping works. Supply soil tests to Company Representative once available.

Soil testing is to be done as per SESL specifications. Testing to include:

- USGA PSA Sieve & Hydrometer
- HC3 Hydraulic Conductivity @ 3 pts (8,16,32 drops)
- LP_4419 Large Particles by 4419
- TOC_DC Total Organic Carbon (Dumas C)
- Wett_4419 Wettability by 4419
- Disp_4419 Dispersibility by 4419
- ECEC_NH4Cl Exchangable Cations & Soluble correction (was CECACSOL)
- EC_Sol Electrical Conductivity 1:5 Ratio
- P_M3 Phosphorus in M3 by ICP 1
- NO3_Sol Soluble Nitrate

L11.0 SUBSOIL PREPARATION - LANDSCAPE
CULTIVATION: Cultivate bases of planting holes and beds 150mm, do not use augers unless followed with cultivation of sides and base. Do not disturb services or tree roots; if necessary cultivate these areas by hand. Cultivate manually within 300 mm of paths or structures. Remove stones exceeding 25 mm, clods of earth exceeding 50 mm, and any weeds, rubbish or other deleterious material brought to the surface during cultivation. Trim the surface to the required design levels after cultivation.

L12.0 SUBSOIL ADDITIVES - LANDSCAPE
ADDITIVES: Apply required additives to stockpiled site topsoil as required by soil tests.
Topsoil:
Where topsoil is to be stockpiled for reuse, incorporate additives as recommended in soil testing by cultivating through the topsoil. For excavated garden beds or backfill to planting holes, incorporate additives into stockpiled topsoil prior to placement.
Subsoil:
incorporate additives as recommended in soil testing by cultivating through the subsoil.

L13.0 SOIL - LANDSCAPE
DEFINITIONS: [From AS 4419 - 1998, Soils for landscaping and garden use]
- •TYPE 01 General purpose soil: A soil which is suitable for the growing of domestic plants.
- •TYPE 02 Premium garden soil: A general purpose soil that contains additional organic matter [min 10% OM]
- •TYPE 03 Topsoil: The original surface layer of soil from grassland, bushland or cultivated land.

Soil for the landscape works shall be free from weeds including but not limited to, onion weed, nut grass, clover, wandering jew, bindii and oxalis. The landscape contractor shall obtain a certificate from the soil supplier that the soil provided for the project is weed free and be made available to the client if requested. Soil shall be assumed to be placed to all mass planting bed areas and individual tree planting locations. The landscape contractor is responsible for the removal and or disposal of all spoil or excess soil excavated in the process of implementing the landscape works. Soils shall comply with the texture classification 'Medium - (sandy Loam)' or 'Coarse - (sandy soil)'

L14.0 SOIL LEVELS:
Finished soil levels shall allow turf or mulch to be finished level to the top of timber edging, paving or concrete footpaths or as otherwise shown on drawings.

L15.0 PLACING SOIL - LANDSCAPE
PLACING: Place the approved soil on the prepared subsoil. Spread and grade evenly, making the necessary allowances so that the required finished levels and contours may be achieved after light compaction. Prevent areas of excess compaction being caused by construcllional plant. Avoid differential subsidence and produce a finished soil surface which is:
at design levels;
- •smooth and free from stones or lumps of soil;
- •graded to drain freely, without ponding, to catchment points;
- •graded evenly into adjoining ground surfaces; and
- •ready for planting.

L16.0 COMPOST - LANDSCAPE
GENERALLY
DESCRIPTION: Well rotted vegetative material or animal manure, or other approved material, free from harmful chemicals, grass and weed growth, and with a neutral Ph value.

L17.0 FERTILISER - LANDSCAPE
REQUIREMENT: Provide proprietary fertilisers, delivered to the site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, N:P:K ratio, recommended uses and application rates. Use in accordance with the manufacturer's recommendations.

SOFT LANDSCAPE WORKS

L18.0 PLANTS - LANDSCAPE
Supply plants to the following quality:
- • are vigorous, well established, free from disease and pests, of good foliage, have large healthy root systems, with no evidence of root curl, restriction or damage;
- • are hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site.
- • do not require staking to stand upright other than staking to control damage from strong winds or local conditions.
- • Staking should then be as detailed on the drawings and provide free movement with support only to protect from excessive movement.

SUBSTITUTIONS: Make no substitutions.
LABELLING: Label at least one plant of each species or variety in a batch with a readable tag.
REPLACEMENTS:. Using plants of the same type, quality and size, replace any plants which are damaged whilst being transported to the site or during the work under the Contract, or which fail or are rejected. Trees which are vandalised are to be replaced using the same type, quality and size.
STORAGE: Deliver plant material to the site on a day to day basis, and plant immediately after delivery. If this is not possible, keep the plants in good condition on the site, adequately protected from frost, wind, sun and vermin by appropriate storage methods, including an on-site nursery of sufficient size, with provision for watering the stock.
POTTING-ON: Do not carry out potting-on unless authorised.

L19.0 PLANTING ESTABLISHMENT - LANDSCAPE
PERIOD: The Planting Establishment Period commences at the date of issue of a written certificate of practical completion from the superintendent.
PROGRAM: Furnish a proposed planting maintenance program with the tender
LOG BOOK: Keep a log book recording when and what maintenance work has been done and what materials, including toxic materials, have been used. Make the log book available for inspection on request.
RECURRENT WORKS: Throughout the Planting Establishment Period, continue to carry out recurrent works of a maintenance nature including, but not limited to, watering, mowing, weeding, rubbish removal, fertilising, pest and disease control, staking and tying, replanting, cultivating, pruning and keeping the site neat and tidy.
REPLACEMENTS: Continue to replace failed, damaged or stolen plants for the extent of the Planting Establishment Period.
MULCHED SURFACES: Maintain the surface in a clean and tidy condition and reinstate the mulch as necessary.
SITE WATER: The contractor shall be responsible for sourcing, checking availability and if required importing water to maintain the plants during the plant establishment period as required under this specification.

L20.0 MULCH - LANDSCAPE
GENERALLY: Use mulch as scheduled which is free of deleterious and extraneous matter such as soil, weeds and sticks. Use organic mulches which are free of stones AND COMPLY WITH AUSTRALIAN STANDARDS SPECIFYING LESS THAN 5% FINES.. Use first well rotted mulch chipped on site, chip to match ANL 'Forest Blend' 20-40mm mulch. Additional mulch ANL 'Forest Blend' or equivilent.
APPLICATION: Place mulch to the required depth, clear of plant stems, and rake to an even surface flush with the surrounding finished levels.

SCHEDULE OF MATERIALS AND FINISHES

NOTE: Use proprietary items as specified below or similar item equal in workmanship, materials and design if approved by the Superintendent.

L21.0 SOIL SCHEDULE
If requested by the superintendent a basic soil test shall be carried out at the contractors expense to ascertain the physical and chemical properties of the proposed imported soil where no certificate of soil type is provided.

LOCATION	DEPTH	SOIL TYPE
Tree / Mass Planting	Top 300mm	Imported premium garden soil [10% Compost] Or site topsoil ameliorated as per soil test recommendations.
Tree / Mass Planting	Below 300mm	General purpose soil - sandy loam Or site topsoil ameliorated as per soil test recommendations.

NOTE:
WHERE TREES ARE PROPOSED A MINIMUM OF 600mm SOIL IS TO BE PROVIDED

L22.0 HOLD POINTS - CHECKS REQUIRED.
Landscape contractor shall provide superintendent notification of Checks on progress of the works required and obtain approval to proceed following checking at hold points below.

STAGE OF WORKS	REQUIRED WORK TO BE COMPLETED	NOTICE
Plant stock	All plants to be made available on site or at local nursery or holding area prior to planting	2 days
Subgrades	Excavated and cultivated with sub soil drainage lines installed prior to placing soil.	1 day
Planting works	Placement of planting and planting techniques	1 day
Completion	Completion of all hard and soft landscape works as documented on the drawings.	2 days
Maintenance period	Completion of plant establishment activities	2 days

L23.0 FERTILISER SCHEDULE

LOCATION	TYPE	N:P:K RATIO
Tree / Mass Planting	6 month slow release	18:2.6:10-Natives

L24.0 MULCH SCHEDULE

LOCATION	TYPE	DEPTH
Tree / Mass Planting	Equal to ANL 'Forest Blend' (COARSE 20-40mm)	75mm

L25.0 JUTE MESH / TREE PROTECTION SCHEDULE

LOCATION	TYPE	EQUAL TO
Tree / Mass Planting	MaxJute Thick	Treemax - MaxJute Thick.

L26.0 PLANT ESTABLISHMENT SCHEDULE

AREA	PERIOD	NOTES
Tree / Mass Planting	52 weeks	from date of written acceptance of practical completion for landscape works

NOTE:
Landscape inspection to be undertaken 3 months after practical completion to determine the retention of existing trees within ZONE 1. should these trees require removal additional *Casuarinas* are to be planted as replacement.

Sheet No. 7 of 7

rev no:	date:	comments:	by:	verified:	rev no:	date:	comments:	by:	verified:
D	09.09.15	CC	GF	PW					
C	31.07.15	DRAFT	GF	PW					
B	31.07.15	DRAFT	GF	PW					
A	24.07.15	DRAFT	GF	PW					

PROJECT: MAYFIELD WEST RECYCLING FACILITY
SITE: 80 TOURLE STREET MAYFIELD WEST
CLIENT: BENEDICT
DRAWING: LANDSCAPE SPECIFICATIONS

address: 412 king street newcastle nsw 2300 ph: 49 294 926 fax: 49 263 069 www.terras.com.au

terras landscape architects

WORK TO FIGURED DIMENSIONS IN PREFERENCE TO SCALE. CHECK DIMENSIONS, LEVELS ON SITE PRIOR TO ORDERING MATERIALS OR COMPLETION OF WORKSHOP DRAWINGS.

drawn:	scale:	no in set:	date:
GF	1:20@A1	3/3	09.09.15
phase:	project no:	DWG no:	revision no:
CC	10944.5	L03	D

APPENDIX B

APPLICANT'S MANAGEMENT AND MITIGATION MEASURES

Key issue	Management measure
General	A public hand unloading area has been established outside of the northern end of the main processing shed to separate contactor and public tipping for safety reasons. Only light vehicles and trailers are permitted in the public hand unloading area. No heavy vehicles are permitted in this area. Currently unsealed areas within the site that are not part of the 'Area to remain unsealed and vegetated' will be progressively sealed with concrete or asphalt. Trucks delivering or picking up stored items will access the storage compounds on sealed access roads. Lighting in the southern car park will be designed to comply with AS 1158.
Rubbish and light waste	All light waste (including light waste within co-mingled waste) will be tipped inside the main processing shed. The access road between McIntosh Drive and the recycling facility site will be inspected daily to ensure that there is no rubbish is left along the access road (most likely food and beverage waste from drivers). The site boundary fences will be inspected daily and any wind-blown light waste within the site will be removed and sent to the main processing shed. Any rubbish found along the access road between McIntosh Drive and the recycling facility site will be removed promptly.
Security	The site's security measures will continue to be implemented, including deployment of guards when the site is not operating (including at night), use of remotely accessed security cameras and maintenance of fences and gates.
Air quality	The following management measures will continue to be implemented to minimise air quality impacts: • all existing sealed/hardstand areas will be retained; • water sprays will be used over any other bare or unsealed surfaces that have not yet been sealed and have the potential to generate unacceptable amounts of dust; • all vehicle movements will be restricted to designated routes marked out by appropriate signage and fencing using sealed internal roads; • access to unsealed areas will be prevented; • water sprays will be used at stockpiles, crushing and screening plants and during material handling as necessary; • a wheel wash in the weighbridge area will be used if required to clean truck tyres to prevent mud or sediment being carried to and deposited on the access road (and public roads); and • existing sheds will be used to undertake particulate generating activities where possible. Irrigation sprays will only used when the surface of a stockpile is dry and irrigation will be ceased when the surface is wet. Dust and odour control procedures, including current monitoring requirements, are detailed in the EMP (see EIS Appendix D).
Greenhouse gases	The following management measures will continue to be implemented to minimise greenhouse gases emissions: • on-site equipment will be regularly maintained and serviced to maximise fuel efficiency; • vehicle kilometres travelled on-site will be minimised; • energy efficiency will be progressively reviewed and, where necessary, changes will continue to be implemented throughout the life of the operations.
Noise	The following management measures will continue to be implemented to minimise noise emissions: • operations will be limited to the hours and types of operation approved; and • machinery will be correctly operated and maintained. Regular noise monitoring is conducted by the Site Leading Hand/Supervisor and any noise complaints received are referred to the Site Leading Hand/Supervisor and to the Site Manager. The two mobile screens in the segregated heavy waste processing and stockpiling area, the crusher/screen and the shredder will be operated no further south than 130 m from the northern site boundary. The two mobile screens in the segregated heavy waste processing and stockpiling area will not be operated simultaneously with the crusher/screen and shredder.

Key issue	Management measure
Traffic	Site generated traffic will continue to be formally directed to continue to travel only via Steel River Boulevard and McIntosh Drive when travelling within the Steel River estate. Benedict Recycling will continue to maintain the access road between McIntosh Drive and the Recycling Facility site in a fit and proper condition and to a suitable standard, repairing it when required at no cost to Ausgrid. This will include repairing any minor areas of surface rutting using 50 mm hot mix asphalt. Trucks will not be allowed to queue on the access road between McIntosh Drive and the Recycling Facility site.
Water	The perimeter drain, installed prior to Benedict Recycling occupying the site, captures runoff from all active areas of the site. The site soil and water management system includes: • prevention of runoff from external areas discharging across the site; • a perimeter drain with seven sedimentation basins; • a final sedimentation basin with outlet controls; • sock filters treating runoff prior to discharge into the perimeter drain; • flocculation of stored water in the basins as necessary; and • pumping water in the final sedimentation basin, after testing, to the discharge chamber to reduce water levels in the basin prior to forecast rain if required. Only commercially available non-toxic flocculants will be used at the site. Actions that will continue to be implemented to prevent impacts to water include: • water is used for dust suppression but is not used for product processing; • there are no significant excavations within the site; • regularly maintaining sock filters; • removal of sediment from the sedimentation basins when the sediment depth is greater than 200 mm; • recycling of sediment if of appropriate quality or disposal to a facility approved to accept contaminated sediment; • water in the final sedimentation basin is tested before a controlled discharge and, unless it overflows, is only be discharged if it meets water quality trigger values; and • water in the sedimentation basins is used for dust suppression to minimise the mains water required; • groundwater is not used. The following actions will be taken as part of the proposal: • the trees will be removed from the perimeter drain and the perimeter drain will be sealed; • the final sedimentation basin will be sealed; • additional storage volume will be provided as part of the works to seal the drain and final sedimentation basin volume; • the sedimentation basins in the perimeter drain will be upgraded. Poorly graded rock (50–150 mm diameter) will be used to form the sedimentation basin dams in the perimeter drain. The top of each dam will be approximately 0.5 to 1.0 m wide with the crest level approximately 0.3 m below the top of the perimeter drain to allow overflow into the next basin when the storage capacity is exceeded; • the sealed perimeter drain and final sedimentation basin will be inspected monthly to ensure that vegetation is not growing through the seal. If vegetation is found to be growing through the sides of the drain or basin, it will be removed and the seal repaired; • the segregated heavy waste processing and stockpiling area will be sealed with concrete or asphalt with the sealed area extending to the perimeter drain; • a bund will be erected around the segregated heavy waste processing and stockpiling area directing all runoff from the area to the perimeter drain; • any material in the sealed segregated heavy waste processing and stockpiling area that is not in a stockpile will be removed using a front end loader bucket; • the sealed segregated heavy waste processing and stockpiling area will be routinely swept using a sweeper; • bunds will be erected to direct surface runoff away from unsealed areas; and • concrete will be applied to the floor of the main processing shed where liquids may infiltrate to groundwater, eg through cracks.

Key issue	Management measure
	The following actions will be taken in respect to water discharge: • If water levels are between about 2 m and 3 m from the base of the sedimentation basin and meets water quality trigger values, water will be manually discharged from the final sedimentation basin using the outlet valve to maintain a freeboard in the final sedimentation basin. • Water in the final sedimentation basin will be tested before a controlled discharge and unless it overflows, it will only be discharged if it meets water quality trigger values. • When the basin is discharging, daily samples of the discharging water will be collected from the final basin outlet pipe and will be analysed in accordance with the discharge monitoring program. • A water level gauge will be installed in the final sedimentation basin. A Surface Water Monitoring and Mitigation Plan will be prepared that details: • meteorological monitoring; • water level monitoring; • validation monitoring; • routine monitoring; and • sediment monitoring. It will provide trigger values and responses, including treatment of site runoff prior to discharge and contingency measures.
Soils and contamination	No further ground excavation is anticipated so contaminated soil will not be disturbed. However, should excavation be required, the SMP for Subsurface Disturbance Activities (EIS Appendix E) will be implemented. The following measures will be implemented to prevent site activities exacerbating contamination of the site: • plant and equipment will be maintained to prevent hydrocarbon leaks; • plant maintenance will only occur in sealed areas where spills, should they occur, will be contained and cleaned up immediately using a spill response kit; • a spill response kit will be deployed next to maintenance activities; • vehicles parked in the storage compounds will be parked on sealed areas; and • maintenance activities that may result in the loss of fluids will be conducted within a shed with a sealed floor and at least 5 m from the nearest open doorway. The diesel tank will be installed in accordance with Australian Standards and will incorporate the following measures: • Prevention: – overfilling of tanks will be prevented through gauging or monitoring of the tank's contents; – hoses used for transfer of diesel will be regularly inspected; – tanks, vents and fittings will be inspected regularly and valves will be regularly overhauled (at periods not exceeding 10 years); and – there will be regular inspections of the tank and surrounds and any liquid inside the bunded areas will be removed as soon as practicable following established procedures. • Protection: – the diesel tank will be self-bunded (with a capacity of 10% more than the tank's capacity); – the bund will be large enough to contain a spillage in accordance with the requirement of AS1940 para 5.8; – the bund drain valve will be kept closed and locked except during supervised drainage, and a sign will be placed to display the need to keep the drain valve closed and locked; – the tank will be enclosed by colourbond (or similar) walls to prevent leaks in the site of the tank spraying outside of the bund; – diesel pumps will be designed such that the discharge pressure cannot exceed design limit of pump or piping in the case of dead heading (shut-off at the pump discharge); – an emergency shut-off device will be provided on each pump;

Key issue	Management measure
	– provision will be made to quickly shut off the flow of liquid from the storage tank to a consuming device in an emergency. The shut off valve will comply with para 6.3.3 in AS1940, including resistance in a fire; and – diesel pumps will be designed such that the discharge pressure cannot exceed design limit of pump or piping in the case of dead heading (shut-off at the pump discharge). • Refuelling: – mobile plant will be refuelling within a bunded area with runoff from within the bund reporting to a oil-water separator; – the refuelling area will be covered by an awning so that rainwater does not enter the refuelling area; – there will be a diesel spill kit stored at the bowser; and – in the case of a spill, used absorbent material will be disposed at an appropriately licensed waste facility.
Visual	As part of the construction of the recycling facility, the following management measures were implemented to minimise potential visual impacts to the surrounding area: • *Casuarina sp.* were planted along the northern boundary and the northern section of the western boundary of the site to mitigate visual impacts from viewpoints to the north, north-east and west; and • rubbish from around the site boundaries was removed. • Litter is removed from the site on a regular basis and a number of litter control measures are listed within the EMP (EIS Appendix D). • Irrigation pipes have been installed and screening vegetation will be watered if required to maintain healthy growth. • Screening vegetation will be visually inspected and additional trees will be planted to ensure effective screening if required.

APPENDIX B: CONSIDERATIONS UNDER SECTION 4.15

Section 4.15 of the EP&A Act requires that the consent authority, when determining a development application, must take into consideration the following matters:

(a) the provisions of: (i) any environmental planning instrument, and (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and (iii) any development control plan, and (iiia) any planning agreement that has been entered into under Section 7.4, or any draft planning agreement that a developer has offered to enter into under Section 7.4, and (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and (v) any coastal zone management plan (within the meaning of the *Coastal Protection Act 1979* (CP Act) that apply to the land to which the development application relates,	Detailed consideration of the provisions of all environmental planning instruments (including draft instruments subject to public consultation under this Act) that apply to the proposed development is provided in **Appendix C** of this report. The Applicant has not entered into any planning agreement under Section 7.4. The Department has undertaken its assessment of the proposed development in accordance with all relevant matters as prescribed by the regulations, the findings of which are contained within this report. The site is located within the coastal zone. In its EIS the Applicant conducted an assessment of the proposed development against Clause 9 of the CP Act. The assessment concluded that: • the proposal would not impact on any areas of coastal foreshore • the site is located within an existing industrial area and therefore the proposal is considered suitable • the proposal would not impact on the conservation of threatened species or their habitat • the proposal would not impact on coastal processes or hazards. Sea level rise attributed to climate change is not expected to affect the site. The Department has recommended a number of stringent conditions in relation to surface water quality to ensure any impacts from the site are adequately managed and impacts on the Hunter River are minimized
(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,	The Department has considered the likely impacts of the development in detail in **Section 5** of this report. The Department concludes that all environmental impacts can be appropriately managed and mitigated through the recommended conditions of consent.
(c) the suitability of the site for the development,	The development is a Resource Recovery Facility located on IN1 General Industrial zoned land which is permissible with development consent.
(d) any submissions made in accordance with this Act or the regulations,	All matters raised in submissions have been summarised in **Section 4** of this report and given due consideration as part of the assessment of the proposed development in **Section 5** of this report.
(e) the public interest.	The development would generate up to 14 operational jobs. The development is a considerable capital investment in the Newcastle area that would contribute to the provision of local jobs. The environmental impacts of the development would be appropriately managed via the recommended conditions. On balance, the Department considers the development is in the public interest.

APPENDIX C: CONSIDERATION OF ENVIRONMENTAL PLANNING INSTRUMENTS

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)
The proposal is State significant development pursuant to Section 4.36 of *Environmental Planning and Assessment Act 1979* (EP&A Act) because it meets the criteria in Clauses 23(3) of Schedule 1 in State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)
The ISEPP aims to facilitate the effective delivery of infrastructure across the State and lists the type of development defined as Traffic Generating Development.

The development constitutes traffic generating development in accordance with the ISEPP as it involves a waste recycling facility with access to a road. Consequently, it requires referral to RMS for comment and consideration of accessibility and traffic impacts.

The development was referred to RMS for consideration. RMS advised it had no objections to the development and as such did not recommend any conditions of consent.

The proposed site layout and design is considered to allow the efficient movement of people and waste to and from the site, and is not anticipated to result in any traffic safety, road congestion or parking issues. The proposal is therefore considered consistent with the ISEPP.

State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33)
SEPP 33 outlines the items that a consent authority must consider when screening whether a development is hazardous or offensive.

The Applicant reviewed the development in accordance with SEPP 33 and advised that the development would not store dangerous goods above the threshold limits specified in SEPP 33, and the nature of the facility is such that it would not be considered potentially hazardous or offensive development.

State Environmental Planning Policy 55 – Remediation of Land (SEPP 55)
SEPP 55 aims to ensure that potential contamination issues are considered in the determination of a development application.

A site audit statement was issued in 2009 which determined that the site is suitable for commercial and industrial use provided that there is compliance with the Site Management Plan (SMP) for subsurface disturbance activities. The site audit statement also recommended the retention of sealed surfaces to minimise the generation of dust, prevent contact with underlying soil and reduce the amount of surface water infiltration to groundwater.

No excavation is proposed as part of the SSD, however, the Department considers it necessary that the SMP continued to be implemented for any subsurface disturbance activities. In addition, to ensure surface water to groundwater infiltration is minimised the Department has recommended the perimeter drain, sediment pain, external waste processing area and the main processing shed be sealed prior to the expanded operations commencing.

State Environmental Planning Policy 71 – Coastal Protection (SEPP 71)
SEPP 71 aims to ensure development in coastal areas is appropriate for coastal planning management. Clause 8 of SEPP 71 includes the matters for consideration by consent authorities when determining an application to carry out development in a coastal zone.

The site is located within the coastal zone as defined under the CP Act. In its EIS the Applicant conducted an assessment of the proposed development against Clause 9 of the CP Act. The assessment concluded that:

- the proposal would not impact on any areas of coastal foreshore
- the site is located within an existing industrial area and therefore the proposal is considered suitable
- the proposal would not impact on the conservation of threatened species or their habitat
- the proposal would not impact on coastal processes or hazards. Sea level rise attributed to climate change is not expected to affect the site.

The Department has recommended a number of stringent conditions in relation to surface water quality to ensure any impacts from the site are adequately managed and impacts on the Hunter River are minimized.

Newcastle Local Environmental Plan (Newcastle LEP)
The Newcastle LEP aims to encourage the development of housing, employment, infrastructure and community services to meet the needs of the existing and future residents of the Newcastle LGA. The Newcastle LEP also aims to conserve and protect natural resources and foster economic, environmental and social well-being.

The development is located on IN1 General Industrial zoned land. The Department has consulted with Newcastle City Council throughout the assessment process and has considered all relevant provisions of the Newcastle LEP and those matters raised by Council in its assessment of the development (see **Section 5** of this report). The Department concludes that the development is consistent with the relevant provisions of Newcastle LEP.

Newcastle Development Control Plan 2012 (Newcastle DCP)
The DCP includes specific development controls for the Newcastle LGA. The relevant provisions for the development include Chapter 3.13 Industrial Development. The development is generally consistent with the provisions of the DCP. The proposal does not require the construction of any buildings on the site, only minor construction works are required.

The proposed landscaping, parking, access and building design of the development are compatible with the character of existing industrial development in the surrounding area and the development is consistent with the relevant provisions of the DCP.

The Department has consulted with Newcastle City Council throughout the assessment process and has considered all relevant provisions of the DCP and those matters raised by Council in its assessment of the development (see **Section 5** of this report).

APPENDIX D: ENVIRONMENTAL IMPACT STATEMENT

See link: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7698

APPENDIX E: SUBMISSIONS

See link: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7698

APPENDIX F: RESPONSE TO SUBMISSIONS AND SUPPLEMENTARY INFORMATION

See link: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7698