ENVIRONMENTAL ASSESSMENT
PROPOSED REMONDIS INTEGRATED RECYCLING PARK
GRAND AVENUE, CAMELLIA
REMONDIS PTY LTD

EXECUTIVE SUMMARY

1. BACKGROUND

REMONDIS Pty Ltd (REMONDIS) and Billbergia Pty Ltd (Billbergia) are jointly seeking approval for the construction and operation of an integrated Alternative Waste Treatment (AWT) facility to be known as the REMONDIS Integrated Recycling Park (RIRP) on a site at 1 Grand Avenue, Camellia.

The proposed development is a project to which the former Part 3A of the Environmental Planning and Assessment Act (EP&A Act) 1979 applied. The Department of Planning (now Department of Planning and Infrastructure) issued Director-General's Requirements on 28 April 2010 (reissued 5 August 2010) for the Environmental Assessment (EA) for the proposed development. This EA has been prepared in accordance with the Director General's Requirements.

The NSW Parliament has passed legislation to repeal Part 3A. State Environmental Planning Policy (SEPP) (Major Development) Amendment 2011 and the legislation set out transitional arrangements for the assessment of applications made under Part 3A. The proposed RIRP will be assessed in accordance with these provisions.

REMONDIS proposes to construct and operate the facility which comprises the RIRP. The RIRP will be located on land leased to REMONDIS by Billbergia the land owner. Billbergia proposes to provide the necessary utility services to the boundary of the facility comprising potable water, sewerage, electricity and telephone services and an extension of the existing stormwater system. The provision of these services will require site works including excavation, removal of excavated material, installation of drainage and service components and the replacement of site capping.

2. THE SITE

The site of the proposed facility at 1 Grand Avenue, Camellia is located in the Parramatta City Local Government Area (LGA). It is 18km west of the Sydney CBD. Rosehill Racecourse is located to the south of the site, on the southern side of Grand Avenue (refer Figure 1).

Access to the site of the proposed RIRP is through a signalised intersection on James Ruse Drive and across an overpass crossing the Clyde-Carlingford Railway line.

The site is bounded by the Clyde-Carlingford Railway line to the west, a spur goods rail line (Clyde-Sandown Line) to the south, industrial premises to the east and the Parramatta River to the north.

Entry to the site is off Grand Avenue which at that location is a no-through road known as Grand Avenue North. Grand Avenue North also provides access to the Camellia Railway Station and associated car parking area. A local crossing of the goods rail spur line is adjacent to the entry gate to the site.

There are industrial developments beyond the northern bank of the Parramatta River. The University of Western Sydney, Parramatta Campus is located adjacent to the River and James Ruse Drive to the west of the Clyde-Carlingford Railway line.

Rosehill Racecourse and Rosehill Gardens Event Centre are located on the opposite side of Grand Avenue to the south of the site.

There is a single residence approximately 100m to the west of the site. The nearest residential area is to the south west on James Ruse Drive about 285m from the site boundary. A number of commercial land uses are located adjacent to James Ruse Drive.

On the southern edge of the site between the goods rail line and Grand Avenue there are recently established commercial premises within the Tilrox/Aldi building occupied by a child care centre, an international college, café and a number of offices. There is a supermarket and car park adjacent to this building.

The site for the proposed RIRP consists of an area of approximately 4.5 hectares (ha) zoned Regional Enterprise under the Sydney Regional Environmental Plan (SREP) No 28 – Parramatta. It is level with approximately 95% of the area covered with "hard" surfaces of concrete and bitumen. All other areas are grassed. There are no permanent buildings on site.

The proposed site is located on land owned by Billbergia.

The site is part of a larger area of land which prior to 1996 was occupied by James Hardie (JH) for the manufacture of fibrous cement and related products and chemical manufacturing. The JH Site consisted mainly of warehouse buildings which have been demolished down to slab level. The site was acquired by Sydney Water in 1996.

Large quantities of fill have been used to level the various parts of the JH Site. Asbestos cement waste and friable asbestos are within this fill. On this basis all of the fill material on the JH Site was assumed to be contaminated with asbestos. In 2000, the NSW Environment Protection Authority (NSW EPA) declared that the JH Site represented a significant risk of harm. A Voluntary Remediation Agreement (VRA) (Agreement No 26012) was entered into between Sydney Water and the NSW EPA under Section 26 of the Contaminated Land Management (CLM) Act 1997. During 2001 and 2002, Sydney Water undertook works for the VRA for the JH Site. The buried asbestos waste was well covered with hardstand providing an effective barrier to human contact and no further remedial work was considered necessary under the VRA.

After inspecting the JH Site, the NSW EPA determined (14 May 2003) that the VRA had been satisfactorily completed and that the NSW EPA considered that contamination no longer presented a significant risk of harm to human health or the environment. In accordance with a Section 26 (5) of the CLM Act the NSW EPA determined that the terms of the VRA had been carried out.

The NSW EPA registered a public positive covenant on the titles of the JH Site under Section 29 of the CLM Act and Section 88E of the Conveyancing Act 1919. The terms of the covenant require the site owner(s) to maintain remediation of the properties in line with the terms of the Site Management Plan (SMP).

3. DESCRIPTION OF PROPOSED REMONDIS INTEGTRATED RECYCLING PARK

The proposed RIRP will process Commercial and Industrial (C&I) waste and Source Separated Organic Materials (SSOM) kerbside collected in the Metropolitan Sydney area with the objective of maximising resource recovery and minimising landfill disposal.

The facility will comprise:

- *Commercial & Industrial Resource Recovery Facility (CIRRF) with a capacity to process up to 100,000 tonnes per annum (tpa) of C&I waste; and*
- *Source Separated Organic Resource Recovery Facility (SSORRF) facility with a capacity to process 50,000 tpa of food and green waste.*

Figure 1 **Site Location**

The RIRP will include ancillary facilities including a weighbridge, administrative offices, car parking and workshops. It will operate 24 hours per day, seven days per week.

The facility will require connections to the electricity, water, sewerage and telephone services currently located adjacent to the site boundary and on Grand Avenue North. Billbergia will install these connections to the boundary of the facility. Billbergia has installed a surface water drainage system on the overall site. Billbergia will install a connection to this system for the proposed facility. A Works Method Statement has been prepared by Billbergia for these works in accordance with the SMP which includes Office of Environment and Heritage (OEH) requirements.

The RIRP comprises the following main areas:

- *Weighbridge;*
- *Internal Access Road;*
- *Administration Office;*
- *Car Parking;*
- *Commercial and Industrial Resource Recovery Facility (CIRRF) and*
- *Source Separated Organic Resource Recovery Facility (SSORRF).*

On the boundary of the site adjacent to the Parramatta River there is a 30m wide Environment Protection Zone. This area will not be impacted by the development (refer Figure 2). Native trees in movable concrete containers will be located in the 30m wide Environmental Protection Zone to provide filtered screening from the Parramatta River and also to enhance the aesthetic value of the site.

It is proposed that the RIRP would operate 24 hours per day, seven days per week.

There would be three shifts per day with 40 staff working on the morning shift (6am to 2pm), 20 staff working on the 2nd shift (2pm to 10pm) and 5 staff working on the night shift (10pm to 6am). The waste streams will be sourced from within the Greater Sydney Metropolitan Area and delivered by collection contractors.

There is incoming and outgoing traffic for the proposed RIRP throughout the 24 hours with a total of 184 truck movements (92 in and 92 out) per day.

The traffic to the CIRRF facility is almost 24 hours/day starting at 1am and ending around 8pm in the evening with the peak hours expected between 8am – 4pm which is when the garbage collection trucks finish the morning and afternoon collections.

The trucks for the SSORRF are expected to come in between 6am until 4pm with 2 peak hours estimated around 7am - 9am and 2pm - 4pm.

Construction of the proposed RIRP facility will involve:

- *Provision of site services including stormwater;*
- *Construction of a platform on which the facility will be located; and*
- *Construction of the facility.*

Construction hours will be restricted to 7am to 6pm Monday to Friday, 8am to 1pm Saturdays with no construction work on Sundays or Public Holidays.

REMONDIS will be responsible for the construction of the facility including a platform on which the facility will be located. The purpose of the platform is to restrict disturbance of the existing site cap to works associated with connection of services.

The proposed RIRP will receive both C&I and food/greenwaste. All vehicles will enter the site through the existing gates on Grand Avenue North before proceeding along the site access road to the weighbridge. A gatehouse is located at the weighbridge which will be staffed at all times. Having passed through the weighbridge vehicles will then proceed in a clockwise direction along the site ring road. The site administration office and car parking are located adjacent to the site entrance. Additional car parking is provided adjacent to the Environment Protection Zone on the northern boundary of the site. Trucks will proceed to either the CIRRF or the SSORRF depending on the load being delivered or collected. The CIRFF is located on the eastern side of the site while the SSORRF is located on the western side of the site closer to the site entrance and adjacent to the site offices.

The main building complex includes the waste delivery and pre treatment facilities for the CIRRF and SSORRF plants, all equipment, compost tunnels and associated hallway and product storage and handling areas. The building complex is fully enclosed and equipped with an integrated air and water management system. A Process Water Tank is provided for each facility as part of the leachate management system and a biofilter is provided for each facility as part of the air management system. Rain water tanks are located adjacent to the north eastern side of the SSORRF.

The facilities have been designed so that entry to the buildings for waste delivery is on the southern side of the site. The composting tunnels and bioflilters are located on the northern side of the site. Vehicle entry to both plants is via rapid shutting roller doors. All trucks will reverse into the facility allowing departure in a forward direction.

The site boundaries on the southern, eastern and western sides will be enclosed by a fence. The northern boundary of the site along the Parramatta River is bounded by a concrete wall and chain mesh fence.

A Site Landscape Master Plan has been prepared for the site based on the following landscape design principles:

- *Retain and protect significant existing trees where possible along the site boundaries;*
- *Reduce the volume of site runoff by minimising hard surface areas and maximising planted surface area. Raised mounded areas with groves of Cumberland Plain Woodland/Sydney Coastal River Flat Forest tree and shrub species over the existing capping slab;*
- *Tree and shrub screen planting of Cumberland Plain Woodland/Sydney Coastal River Flat Forest species where appropriate along the site boundaries to reinforce existing boundary planting as required;*
- *Extensive planting of native trees, shrubs and groundcovers along the southern boundary extending from the site access point to the south eastern corner of the site;*
- *Native trees in movable concrete containers in the 30m wide Environmental Protection Zone to provide a filtered screen from the Parramatta River and also to enhance the aesthetic value of the site;*
- *Native low water-use groundcover and shrub feature planting to the site entrance and around proposed carpark margins to enhance aesthetic value and a more human scale arrival area for visitors;*

Legend

Existing Features

- Railway Tracks
- Passenger Ferry Route - Parramatta to Circular Quay
- Existing Site Boundary
- Existing and Proposed Shared Site Accessway
- Tilrox/Aldi building

Proposed Features

- Proposed Buildings
- Proposed Circulation Road
- Proposed Hard Surface Areas
- Proposed Landscape Areas
- Non-Leased Area
- E.P.Z. Environmental Protection Zone

1. Admin/Office Building
2. Car Parking
3. SSORRF Biofilter
4. CIRRF Biofilter
5. Storage and Handling
6. Organic Waste Composting
7. CIRRF Waste Stabilisation
8. SSORRF Treatment and Sorting
9. CIRRF Treatment and Sorting
10. Weighbridge and Gate House

○ Rainwater Storage Tank

Figure 2 **Layout of Proposed Development**

- *Reduce the hard surface area and heat island effect, balance the visible mass of proposed buildings with surrounding groupings of native tree and shrub planting; and*

- *Provide outdoor amenity for staff and visitors by providing raised informal outdoor decking areas with seating, screening vegetation to provide shade and privacy from Site activities and operations.*

4. NEED AND JUSTIFICATION

Australia's environment ministers agreed to a new national policy on waste and resource recovery in November 2009. The National Waste Policy: Less Waste, More Resources sets the agenda for waste and resource recovery in Australia over the next 10 years and includes strategies to monitor and address organic waste.

The aims of the National Waste Policy are to:

- *Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal;*

- *Manage waste as a resource;*

- *Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner; and*

- *Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land.*

Resource NSW released the Waste Avoidance and Resource Recovery Strategy in February 2003. This strategy sets out waste reduction, resource recovery and diversion of waste from landfills for the State.

The proposed RIRP is in accordance with the intent of the WARRS 2007 in that it will increase the recovery of materials from both the municipal and commercial/industrial sectors. As a result it will decrease the amount of waste going to landfill.

The Camellia site is central to the supply of C&I materials and will result in reduced transport distances and associated costs and improved environmental performance. The facility will recover recyclable materials and convert the putrescible fraction into a biologically stable product. Only material without any use will be disposed of at an inert landfill.

The proposed SSORRF will process separated organic materials which have been collected at the Kerbside from metropolitan LGAs. This will ultimately produce organic fertilisers and compost products and reduce the amount of material going to putrescible landfills in Sydney. There is strong demand in NSW for organic fertilisers and composts in the domestic and agricultural sectors.

5. ALTERNATIVES

REMONDIS has evaluated a number of alternative locations for the proposed RIRP. The process involved identifying potential sites within Western Sydney based on criteria which included appropriate size, distance from the market, zoning, cost and potential environmental constraints. Sites were identified at Bankstown, Chullora, Greenacre and Camellia. The Camellia site offered a number of significant operational and environmental benefits based on its location, access to the major road transport networks, size and suitability for construction and operations of the RIRP. Environmental management controls can be readily accommodated on the site.

The "do nothing" option would result in a lost opportunity to contribute to meeting the targets in the WARRS 2007 by not recovering and utilising materials from the C&I and SSOM waste streams and reducing landfill demand.

6. CONSULTATION

A consultation programme has been undertaken during the course of preparation of this EA. Bodies consulted included government departments and authorities, neighbouring landholders and representatives of the local community.

Twyford Consulting were engaged by REMONDIS to develop the consultation programme for the project and to facilitate its implementation. The key objective was to engage the community and stakeholders proactively, so that they find out early and directly what is being considered before exhibition of the EA and the assessment of the development application by the Department of Planning and Infrastructure.

Research identified the most likely affected stakeholders as neighbouring businesses, including tenants in an adjacent office building (the Tilrox/Aldi building Grand Avenue, Camellia), other businesses located along Grand Avenue and the Australian Turf Club (previously Sydney Turf Club) at Rosehill Racecourse. Others potentially interested or affected were businesses along James Ruse Drive, and residents to the west of James Ruse Drive and businesses and residents to the north across the Parramatta River. The Camellia Business Group - a group representing the major businesses in Camellia industrial area - was also identified as potentially interested. This group has been active previously on major issues like traffic flow, but had not been active during 2010 and were not able to be used as an information conduit. The broader Parramatta community were also identified as likely to be interested in the project.

A letter was initially hand delivered to all the neighbouring businesses along Grand Avenue (approx 500m radius, including all tenants in the adjacent Tilrox/Aldi building), outlining the project, providing an opportunity for input and questions by meeting, email, phone or fax, as well as an invitation to participate in a study group process. A couple of the Tilrox building tenants, as well as the building owner, accepted the invitation to participate. There were no responses from any of the other neighbouring businesses.

To broaden the representation to include residents' views, invitations were sent to a group of residents representing the closest areas to the site. This tapped into Parramatta Councils community panel – i.e. residents who had expressed interest in assisting Council consider issues that might impact the area. Two residents accepted the invitation and were able to contribute to the process.

The group identified and discussed a range of key issues, which they considered needed to be addressed as part of the assessment and approvals process. The key issues raised and discussed by the group included:

- *Traffic impact on the local roads and access to the Tilrox/Aldi building. This involved both traffic congestion and safety issues around truck access to the proposed site;*
- *Reduction in air quality due to emissions from the plant – i.e. the likelihood of odour affecting local businesses and residents;*
- *The use of the site which had been previously contaminated by asbestos. There was a good understanding about the contamination and the concerns centred on how construction at the site could be managed to eliminate any health concerns;*
- *The visual impact of the proposed facility as changing the current landscape;*

- *The potential for plant breakdown or accident during operation impacting on the neighbours and broader community;*

- *The noise impact of plant operation and truck movements, especially on the tenants of the Tilrox/Aldi building, particularly the children attending the Child Care Centre;*

- *Health concerns associated with waste operations - e.g. vermin, birds, rubbish overspill, poor air quality, etc;*

- *Adverse impact on the commercial viability of the neighbouring businesses, as well as potential impact on residential land values; and*

- *The location of a waste recycling facility in close proximity to commercial premises and shops.*

The engagement process to date has been focused on involving the adjacent and neighbouring businesses during the preparation of the EA, in identifying the issues they see associated with the proposed development, to provide an opportunity to input, and to build understanding of the proposal and the proposed actions to mitigate any impact on the local businesses.

7. ENVIRONMENTAL MANAGEMENT

REMONDIS will implement an Environmental Management System specific to the Camellia site. The company has recently achieved certification under AS/NZS ISO 14001:2004 standard for the Port Macquarie Organic Resource Recovery Facility. The system ensures the organisation's structure, responsibilities, practices, procedures, processes and resources for environmental management are clearly defined and monitored so as to ensure compliance with legislative requirements, the International Standard and with the organisation's policies, objectives and targets.

Compliance to the Environment Protection Licence (EPL) and safe operation of the facility at Camellia would be supported and embedded into the overall REMONDIS Environmental Management System. The EMS at Camellia would comprise the company's Environmental Policy as well as Standard Operational Procedures (SOP's) specifically developed to ensure the safe operation of the RIRP and its equipment.

Based on the company's environmental management policies, the findings of the EA, conditions of approval, EPL conditions and other approvals REMONDIS will prepare and implement:

- *A Construction Environmental Management Plan; and*

- *An Operational Environmental Management Plan.*

8. ENVIRONMENTAL ASSESSMENT

Topography, Geology and Soils

The site which is located on the southern bank of the Parramatta River is part of a larger area of land which prior to 1996 was occupied by James Hardie (JH) for the manufacture of fibrous cement and related products and chemical manufacturing. The JH Site consisted mainly of warehouse buildings which have been demolished down to slab level. Large quantities of fill have been used to level the various parts of the JH Site. Asbestos cement waste and friable asbestos are within this fill. The site and surrounding land is relatively flat.

CES prepared a Contamination Summary Report as input to the EA. This report provided a background to the history of the site and its current condition.

All construction activities would be undertaken in accordance with the requirements of a Construction EMP. Silt fences will be maintained for the duration of construction activities. Daily inspections will be undertaken to ensure the integrity of the fencing is maintained and any maintenance is undertaken immediately.

During the installation of services which involves breaching the site seal and disturbance of the underlying fill material, there will be an increase in the risk of exposure to the identified contamination. The management procedures outlined in the existing Site Management Plan and the Site Work Plan would be adequate in minimising the exposure of site occupants and the environment. With the exception of the repair of underground services (where required), there is unlikely to be the need to excavate into and expose the underlying contaminated materials during operation of the proposed RIRP.

A geotechnical assessment prepared by CES reviewed the design of the facility and considered the potential for differential settlement resulting from the presence of variable fill materials across the site. Consequently a geophysical survey of the site has been undertaken to identify and locate any existing voids and areas that are susceptible to ground subsidence. Identified voids will be treated using localised grouting prior to construction of the platform in accordance with the requirements of the Site Management Plan and a Site Work Plan. Targeted grouting would allow contaminated fill to remain insitu and minimise disturbance to the site capping.

Construction of the platform means that much of the site will be raised between 0.5 to 2m. Works will involve receival and temporary stockpiling of material. The stockpiles will be temporary and measures will be implemented to ensure no movement of sediment off site. The platform will be sealed with heavy duty concrete.

Surface Water

The principles of the water management system are:

- *No contaminated water will be discharged or allowed to flow from the site;*
- *Surface stormwater will be contained and directed to a first-flush system;*
- *Diversion drains will be installed around the perimeter to protect the site from external run-off water;*
- *Provision of a separate and enclosed system for leachate and process water collection and storage, to ensure no contaminated water can enter the stormwater or groundwater systems; and*
- *All roof water will be collected into rainwater tanks and used for various purposes.*

The site is substantially sealed at the surface with concrete and bituminous concrete pavements and as such, precipitation falling on the site runs off, ultimately to the Parramatta River to the north of the site. There is an existing stormwater system on the site with a drainage channel located to the west of the REMONDIS site boundary. This drainage channel has an outlet on the outer surface of the retaining wall which runs parallel with the northern boundary of the site along the Parramatta River. Billbergia is to install a connection from the REMONDIS Lease area to this drainage channel. The stormwater system for the RIRP has been designed to collect all surface run-off excluding roof water and direct it to a collection and retention system which will incorporate a first flush unit with an oil interceptor and gross pollutant trap. During construction a temporary sediment trap arrangement will be installed including a silt fence around the site boundary. This will be cleared and maintained as necessary during the construction works.

A flood study concluded that the proposed RIRP would have nil effect on the assessed 100 yr ARI and PMF flood levels and velocities in the Parramatta River and on any adjacent properties.

Groundwater

The site (fill, soil and groundwater) is contaminated by asbestos, hydrocarbons (TPH, BTEX and PAH) and metals associated with the filling of the site with asbestos wastes, storage and/or usage of hydrocarbons, the historical operation of facilities such as the oil press, power house, boiler house and wash down areas and regional contamination issues present within the Camellia peninsula. The proposed RIRP and associated structures will be constructed on a raised engineered platform above the existing site seal. The management procedures outlined in the existing Site Management Plan and the Work Methods Statement are considered adequate in minimising the exposure during the construction of the proposed facility on the site. Once constructed the site would be sealed hence there is no potential for further impacts on existing groundwater conditions as a result of the proposed operations.

Flora and Fauna

Biosis Research has undertaken a Flora and Fauna Assessment for the EA.

Most of study area consists of sealed surfaces (mostly concrete) with disturbed areas dominated by weeds and exotics along with native tree plantings. Based on the highly altered soil conditions and subsequent lack of natural vegetation, the study area was considered to constitute an Unnatural Landscape.

Small patches of riparian vegetation represented by Mangrove Forest occurred on the Parramatta River foreshore to the north east and north west of the study area. These areas have undergone substantial disturbance due to previous land uses and ongoing erosion largely resulting from turbulence (e.g. from the Rivercat) within the boat wash and tidal zone. The narrow patches of Mangrove Forest ranged between one and four metres in width along the river foreshore with some Mangroves actively collapsing into the river. Large stretches of the foreshore no longer included a vegetated riparian zone with the river being in direct contact with the constructed wall located along the northern boundary of the site adjoining the Parramatta River.

Based on the nature of the proposed RIRP, database interrogation, literature review regarding the ecology of each species, and information gathered during the current and previous field surveys within the study area, no threatened or migratory species are considered likely to be subject to negative impacts resulting from the proposed RIRP.

No known occurrences of threatened fish species have been recorded within a 10km radius of the study area. Small patches of Mangrove Forest were recorded on the northern perimeter of the study area, which are protected as marine vegetation under the Fisheries Management Act. No adverse impacts are likely to occur on the Mangrove Forest patches as a result of the proposed RIRP.

Air Quality

PAE Holmes has prepared an air quality assessment in relation to the construction and operation of the proposed RIRP.

Dust

Activities during the construction stage have the potential to temporarily generate dust. The development on-site will involve construction of buildings and related infrastructure. The total amount of dust generated from the construction of the proposed RIRP was predicted to be minor without any significant off-site impacts.

Dust emissions from activities taking place when the facility is at full operating capacity will be minor. All trafficked areas are sealed and dust generating activities such as sorting, loading and unloading will take place under enclosed conditions (within the buildings). The potential of generating off-site dust impacts due to the operational activities are minimal.

Odour

The main objectives of the air management system within the main building complex are to:

- *Retain odorous air inside the buildings;*
- *Remove odorous air from the various building areas to the tunnel composting system;*
- *Provide heated/cooled fresh air and extraction to the sorting cabins;*
- *Provide heated fresh air and extraction to the amenities areas; and*
- *Provide heat pump air conditioning and fresh air to the office areas and the control rooms.*

With the proposed air management system, the main buildings will maintain a negative pressure and high speed roller doors will operate in truck delivery and pickup areas to retain the odorous air inside the buildings. Therefore the main source of odour from the proposed operation will be the two biofilters located at the rear of the proposed buildings.

Dispersion modelling has been used to predict off-site odour levels due to the activities of the proposed RIRP. The dispersion modelling took account of meteorological conditions and terrain information and used odour emission estimates to predict the odour impacts at surrounding sensitive receptors.

Iterative dispersion modelling was conducted to find the optimal design parameters for the biofilters. Based on the iterative dispersion modelling results, each biofilter was redesigned to comply with OEH odour criterion at surrounding sensitive receptor locations. Results from the dispersion modelling show that odour levels at nearby residences comply with the OEH odour criterion and the predicted maximum offsite odour levels will be less than 0.6 OU. Appropriate mitigation measures and management practices will be applied to minimise fugitive odour emissions. Based on the modelling results, it was concluded that with the fully enclosed biofilter facility the proposed RIRP will comply with OEH odour criterion at all locations.

Noise

SLR Consulting Australia was commissioned to undertake a noise assessment for the construction and operation (including traffic noise) for the proposed RIRP.

To minimise the noise emissions from the proposed RIRP, the on-site management measures comprise a combination of:

- *Fitting and maintenance of appropriate mufflers on mobile equipment;*
- *Installation of noise hoods on engines and enclosure of noisy equipment;*
- *No operation of shredders after 10 PM on weekdays or on the weekend.; and*
- *If necessary, noise generating activities will be restricted when wind and weather conditions are unfavourable.*

Environmental noise monitoring was conducted at the potentially most affected (representative) noise-sensitive locations in order to characterise the existing noise environment in the vicinity of the proposed RIRP and to establish the noise levels upon which to base the operation noise emission objectives.

The attended noise monitoring confirmed that the measured background noise levels were influenced by traffic noise. Also no other significant industrial noise sources were audible at any of the monitoring locations during the attended noise measurements.

The results of the study were:

- *An ambient noise survey was conducted and design criteria for operational noise developed in accordance with the OEH's INP. For residences a daytime goal of 51 dBA to 55 dBA, evening goal of 51 dBA and night-time goal of 39 dBA to 50 dBA were set. Goals were also set for the nearby childcare centre, the University of Western Sydney and commercial and industrial receivers;*

- *Predicted operational daytime evening and night-time noise levels comply with the design goals at existing residences, and also the childcare centre, the University of Western Sydney and commercial and industrial receivers;*

- *Changes to traffic noise levels as a result of the project comply with the NSW OEH's Environmental Criteria for Road Traffic Noise; and*

- *Noise levels predicted for construction activities comply with design criteria developed in accordance with the NSW OEH's Interim Construction Guideline.*

Visual Analysis

Context has prepared a visual assessment for the proposed RIRP. A Site Landscape Master Plan was also prepared.

The proposed RIRP will introduce several new industrial buildings and additional regular heavy vehicle movements to the site and areas along Grand Avenue.

The surrounding region has an extensive history and ongoing development of a wide range of industrial and commercial facilities. The land on which the proposed development is located is a predominantly cleared and contaminated site, covered extensively by an existing hardstand capping and weed growth.

There is a moderate to high level of existing modification and industrial development visible from all of the key receptors and viewpoints identified. The area around the site is bisected by major transport corridors with significant existing heavy vehicle traffic and rail activity. The existing visual character of the site is poor due to its recent use as an industrial and freight vehicle storage facility.

Most of the key receptors would have a low to moderate sensitivity to the proposed development. Its scale, form and layout will be in keeping with the existing industrial character of the surrounding area. The key receptors will generally experience a negligible to low magnitude of change from the proposed development and some will experience minor to moderate negative visual impacts in the short term. The Child Care Centre off Grand Avenue would potentially experience the most visible change due to its close proximity and elevated position. Due to this receptors moderate sensitivity and the existing poor visual condition and use of the site the overall visual impact is anticipated to be a minor positive effect from this location as proposed vegetation becomes established.

Long distance views to and from the site are very limited due to enclosure by existing built form, vegetation and the relatively flat topography of the immediate area.

Long term minor negative visual impacts would be experienced by some key receptors located to the south and west of the site. These key receptors include the residential dwelling and grassed area to the southwest of the site, people accessing Camellia Railway Station on foot or by train and pedestrians crossing the Grand Avenue overbridge. These impacts would be mainly related to regular heavy vehicle movements to and from the site during normal operation of the facility. There is opportunity for most anticipated negative visual impacts to be partially mitigated through retention of existing vegetation and proposed screen planting. Extensive proposed native planting will visually enhance the site from most key viewpoints and provide some additional habitat and foraging value for the area.

Traffic

An assessment of road traffic associated with the construction and operation of the proposed RIRP has been undertaken by Traffix. The study found that:

- *The surrounding road network, particularly James Ruse Drive in the vicinity of the site, currently exceeds capacity resulting in significant delays for road users during peak periods. It should be noted that the proposed RIRP is a highly specialised and automated operation which results in a comparatively low traffic generation when considering other potential (and historic) uses of the site;*

- *The development will generate in the order of 288 vehicle movements per day with a peak hourly traffic generation of up to 70 vehicles per hour which does not coincide with on-street peak periods. Peak site related traffic is a result of shift changeover times which generally occur prior to on-street peak periods;*

- *Delays at surrounding intersections will remain relatively unchanged by the proposed RIRP during the peak site traffic and morning on-street periods. Increased delays at the intersection of James Ruse Drive and Grand Avenue are not considered to warrant works to this intersection on behalf of REMONDIS as there is the ability to redistribute site traffic to less congested intersections during these times;*

- *Traffic generation during on-street peak periods will be up to 18 vehicles per hour and 12 vehicles per hour during the morning and afternoon peak periods, respectively. These are moderate increases in traffic and are not considered to warrant improvements to the surrounding road deficiencies;*

- *A total of 44 parking spaces will be provided on-site for use by staff and visitors. This provides an allowance for some spare capacity to accommodate overflow parking that may occur during shift changeover periods; and*

- *The access and internal design are considered supportable 'in principle' subject to subsequent construction design.*

It was therefore concluded that the proposed RIRP is supportable on traffic planning grounds and will operate satisfactorily.

Social and Economic

Elton Consulting were commissioned to undertake a Social Impact Assessment for the proposed RIRP. Based upon demographic analysis, strategic planning documents and consultation undertaken with Parramatta City Council, this study examined a variety of social factors associated with the proposed construction and operation of the RIRP. The development is expected to generate a number of positive benefits for the local community and wider inner west area. These include:

- *Support for commercial and municipal recycling and waste management;*

- *Consistency with planning and sustainability policies across all levels of government;*
- *Support for markets for waste and recycled waste products; and*
- *Direct and indirect employment benefits.*

Key social issues that may adversely impact on the surrounding area include:

- *Concerns about risks from operation of the processes such as odours, noise, traffic and contamination;*
- *Additional traffic delays due to heavy vehicles and staff accessing the site;*
- *Potential for pedestrian, vehicle and train conflicts in Grand Avenue North; and*
- *Construction impacts.*

It was considered that there are several measures which would assist in minimising potentially adverse impacts identified for local tenants, visitors and commuters.

It was recommended that:

- *An on-going community liaison group be established to encourage open dialogue with potentially affected local stakeholders, provide a channel through which concerns can be voiced directly to facilitate the integration and acceptance of this development into the local area;*
- *Procedures should be developed to monitor and report on odour and other impacts, in the event of emissions occurring;*
- *Traffic generated by this development be considered in any studies undertaken by the RTA for this industrial area;*
- *Employees of the site be required to park on-site;*
- *Drivers of heavy vehicles and others accessing the site be trained or receive specific briefings to avoid conflicts with pedestrians, other drivers and rail carriages; and*
- *The Construction Management Plan for the project note the potential risks of social impact identified and include a consultation plan and company contact details, so that local concerns can be raised if necessary.*

These requirements have been included in the Draft Statement of Commitments.

Strategic Economic Solutions has undertaken an economic impact assessment study for the proposed RIRP.

The value of construction the proposed RIRP is expected to be around $21million. Using an averaged multiplier for construction of 1.81 (ie every dollar of construction output requires another 81c of output from other parts of the economy), the total value of the development, including flow-on effects will be in the order of $38million.

The wages provided directly by the proposed RIRP are expected to total over $2.2 million per annum – with over one-third to be paid to skilled full-time staff. If it is assumed that 60% of these wages will be spent on goods and services in Parramatta, then the facility would inject another

$1.3 million into the city's economy through its staff. With a retail multiplier of 1.9 estimated by the ABS (Cat 5209.0) then this additional expenditure will induce another $1.2 million in flow on retail activity, equivalent to around three more local jobs supported in retail.

There are no competing operations in the region that replicate the processing of the organic fraction from C&I and source separated green and food waste collections.

The annual value of these contracted deliveries and dispatches is expected to be in order of $ 1.1 million, and much of this can be expected to go to local transport companies. With a multiplier of 1.84 the total impact of the transport contracts is expected to be over $2 million directly to transport businesses and indirectly to the enterprises that supply goods and services to these businesses.

The operation of the proposed RIRP is expected to also require over $0.5 million of expenditure on other services including, for example, security, electrical repairs, plant and equipment, and general repairs and maintenance. With an average multiplier across these service industries of 1.54 the total impact of these contracts is expected to be over $790,000 per annum.

Heritage

An Aboriginal Archaeological and Non-Aboriginal Cultural Heritage Impact Assessment has been prepared by Dominic Steele Consulting Archaeology.

The background Aboriginal archaeological and cultural heritage research, site inspection, analysis and assessment of the site indicate that:

- *No previously documented Aboriginal archaeological sites or 'objects' were known to occur within the boundaries of the site. However, the entire proposed RIRP re-development footprint is currently covered by hard surfaces and no natural soil profiles are presently visible;*

- *It is unclear at present whether deposits associated with the 'Parramatta Sand Sheet' either occur or survive beneath the currently sealed footprint of the subject site. A number of significant Aboriginal archaeological sites have been identified to occur in association with this geomorphic formation some 1.8km to the west of the site in recent years; and*

- *Due to the considerable alterations to the pre-Contact landscape of the site that followed the initial occupation and subsequent industrial development and use of the former JH site between c.1916 to 1996, and the limited scope of subsurface impacts associated with the RIRP proposal, it is expected that any as yet undetected evidence for past Aboriginal visitation and use of the site that may be exposed by future works will consist of materials most likely encountered in largely disturbed recovery contexts.*

It was concluded that in terms of Aboriginal archaeological heritage, the study area appears to be potentially of relatively low sensitivity due to previous historic uses and disturbances with the likelihood that future works will extend to minimal depths below the current capping surfaces that seal the site.

The background European archaeological and cultural heritage research, site inspection, analysis and assessment of the site indicate that:

- *No previously documented European archaeological sites, features or deposits relative to the historically recorded use and occupation of the proposed RIRP site have been identified;*

- *The site is listed on the Parramatta 1996 LEP in respect to the proximity of the historic grave of Eleanor Magee and child that dates to c.1793. The grave location and its curtilage will not be affected by the proposed RIRP;*

- *No additional areas of potential European archaeological heritage sensitivity have been identified in any other areas of the proposed RIRP site during the course of the research, site inspection, and assessment program documented here; and*

- *The potential for as yet undocumented European archaeological features or deposits of significance to be present on the property relative to the scale of works associated with the RIRP proposal is assessed to be low.*

It was concluded that the proposed RIRP is unlikely to have a significant adverse impact upon the non-Aboriginal archaeological heritage values of the place and that no identified constraints are apparent for the proposal proceeding as planned.

Potential Hazards

SEPP No 33 requires a risk screening procedure to be conducted to determine if any industry is potentially hazardous or offensive under the SEPP. The SEPP applies to developments such as the proposed RIRP. If the proposed use is considered potentially hazardous or offensive then SEPP No 33 applies. A screening assessment has been undertaken in relation to hazardous materials stored at the proposed RIRP in accordance with the guidelines. The materials held on site comprise diesel (10 x 205 L drums) and grease (1 x 205 L drums). These quantities do not exceed the on-site storage thresholds for dangerous goods. In addition as a consequence of small quantities of hazardous materials that would be used and stored on site, there would be no more than one truck delivery per week which is well below the screening threshold of 60 vehicles per week. Consequently the development was not assessed as potentially hazardous using the screening thresholds for SEPP No 33 and the conduct of a preliminary hazard analysis is not required.

In addition, in order to determine if the proposed RIRP would be potentially offensive, an assessment has been made as to whether the proposed RIRP would emit a polluting discharge which would cause a significant level of offence. The environmental constraints indicate that there would be the potential to emit polluting discharges from the proposed RIRP in terms of water, air and noise emissions. The assessments show that the measures proposed to be incorporated in the operation and design of the facility would ensure that there would not be polluted water discharges from the site, that dust and odour emissions would be at acceptable levels and that noise levels in areas adjacent to the site and within the local area will comply with the OEH goals at the nearest sensitive receivers. On this basis it was considered that the proposed RIRP is not potentially offensive having regard to the sensitivity of the receiving environment.

RailCorp requested that a rail risk assessment be undertaken in relation to the proposed RIRP and the interface with the Camellia Level Crossing. The potential impact of the proposed REMONDIS operations on the safety of road and rail traffic movements at the Camellia Level Crossing location have been reviewed in accordance with procedures in the RailCorp Safety Management System (SMS). The risk assessment was undertaken by Minciv Management Services.

The scope of the rail risk assessment for this EA is for the REMONDIS operation only, noting that Billbergia has committed to upgrade works in accordance with the conditions of the application for a container operation which has not proceeded. At present the Sandown Yard is unattended, and although the line is currently not being used, the accredited operators include Pacific National, Shell, Patrick Rail Services (Seaton's), RailCorp and other accredited operators who access the Yard as sub-contracted to RailCorp.

The study found that the rail level crossing does not require flashing lights and warning bells to safely manage the increase in road traffic; in addition, manual train driver operated push button barriers have also been discounted as they would cause delays to freight rail operations.

Greenhouse Gas Assessment

On an annual basis it has been estimated that the proposed RIRP would release approximately 0.002 Mt/y of additional CO2-e (Scope 1 (excluding composting) and 2 emissions). The annual greenhouse emissions in NSW for 2008 were 164.7 Mt CO2-e (DCC, 2010). Therefore the facility represents approximately 0.001% of the total NSW greenhouse emissions. Australia's total greenhouse gas emissions were estimated at 581.9 Mt CO2-e (DCC, 2010). Comparing the annual emissions for the proposed facility, the predicted increase is approximately 0.0003% of the total Australian emissions in 2008.

Cumulative Impact

Cumulative impacts can result from a number of different existing and proposed developments which have interacting local and/or regional impacts.

The site of the proposed RIRP is currently used for the temporary storage of shipping containers. As such it contributes to the cumulative impact of all activities in the local area chiefly in relation to road traffic but to some extent in relation to noise, visual impact and surface water drainage. It is not known if this use will continue on the portion of the site not occupied by the proposed RIRP and or how long this use may continue. On this basis the impacts have been assessed taking into account the impacts from this use.

On-going operations of commercial and industrial development will continue in the Camellia area to the south and east of the site and to the north on the opposite side of the Parramatta River. In the EA the impacts of the proposed RIRP have been assessed taking into account contributions from these operations. Where appropriate, the assessment identifies the presence and location of uses which may be sensitive to impacts resulting from construction and operation of the proposed RIRP and specifically assesses the impact on these areas.

The assessment undertaken for the EA demonstrates that, with the exception of road traffic and visual aspects, all impacts will be contained within the property taking into account the level of existing environmental conditions. In relation to traffic the assessment found that the additional trucks would result in minimal change to intersection performance. There will be increased truck and other vehicle movements in and out of Grand Avenue North over the Sandown Branch Line which may impact on commuters and occupants and visitors to the Tilrox/Aldi building on Grand Avenue. Work and management measures recommended as a result of the Rail Risk Assessment would ameliorate current conflicts in this area and mitigate future impacts resulting from construction and operation of the proposed RIRP.

The visual assessment undertaken found that in the context of views of the site from adjacent locations, the industrial appearance of the proposed RIRP building will be mitigated by the maintenance of existing vegetation and tree and shrub plantings on site. This would be in contrast to the current appearance of the site which comprises areas of bare concrete and rubble, weeds and unmaintained vegetation and stacked storage containers.

There may be cumulative impacts in the future with local projects which are in various stages of planning. Three specific projects have been identified:

- *Upgrade of Rosehill Racecourse as a result of the merger of the Australian Jockey Club and Sydney Turf Club;*
- *A proposal for an adjacent site on the other side of the Clyde-Carlingford Rail line for bulky goods, large floor plate retailing, a supermarket and other retail outlets; and*
- *A proposal under investigation for an innovation and sustainability centre of excellence involving the University of Western Sydney in the Brodie Street precinct of the Rydalmere Industrial Estate.*

The Rosehill Racecourse upgrade would involve internal construction to improve facilities and the construction of new access bridges over the railway line from and over James Ruse Drive. While these measures may result in improved local traffic conditions in the longer term there is the potential for cumulative impacts from heavy vehicle traffic during construction. Details of traffic volumes, timing and access are not available. However, it can be assumed that access would be off James Ruse Drive and Grand Avenue and that traffic impacts may be cumulative if the two construction periods coincided. There is unlikely to be any other cumulative impacts as the impacts associated with both developments would otherwise be contained within the respective sites.

The proposed development of the adjacent land would not be expected to have impacts that would interact with impacts from the proposed RIRP and its construction. Access to the adjacent site is off James Ruse Drive to the north of Grand Avenue intersection and would not impact on the intersection or Grand Avenue traffic. The visual impact of both would be commensurate with the appearance of commercial/industrial buildings and would be in keeping with local land uses.

The mooted University development, possibly involving mixed residential/industrial development is subject to a market feasibility study and no specific details are available. While the specific site is not known, the only potential cumulative impact would be in relation to visual impact. Traffic access to the site would be off Victoria Road. In relation to visual impact, the appearance of the RIRP building will be similar to adjoining commercial /industrial buildings and in accordance with land zoning. The proposed landscaping measures will "soften" the appearance of the appearance of the structure and screening from the northern bank of the river by the extensive vegetation will obscure direct views.

9. STATEMENT OF COMMITMENTS

Section 75 F (6) of the EP&A Act states that the Director-General may require the Proponent to include in an EA a Statement of Commitments for environmental management and mitigation measures. The DGRs issued by the Department of Planning require inclusion of a Statement of Commitments in the EA. REMONDIS will undertake the construction and operation of the RIRP so as to control and minimise environmental impacts. The draft Statement of Commitments includes the mitigative measures recommended to minimise environmental impacts and specific commitments in relation to design and operation of the facility.

10. CONCLUSION

This EA presents an assessment of the potential environmental impacts associated with the proposed RIRP at 1 Grand Avenue, Camellia.

The EA has been prepared in accordance with the provisions of Part 3A of the EP&A Act and the Director-General's Requirements issued by the Department of Planning. Specific environmental investigations were undertaken to assess the potential environmental impacts. The results of these are documented in the EA and the Technical Reports.

The proposed RIRP will result in less waste material being disposed of in landfills serving the Sydney region and improved recycling and resource recovery.

The environmental assessment undertaken concludes that the environmental impacts associated with construction and operation of the proposed RIRP are minor and can be effectively managed through REMONDIS commitments to the RIRP management measures described in the EA.

The operation of the proposed RIRP is in accordance with the principles of ESD, the National Waste Policy and the NSW State Waste Avoidance and Resource Recovery Strategy.