REMONDIS®

PRELIMINARY ENVIRONMENTAL ASSESSMENT

INTEGRATED RECYCLING PARK
GRAND AVENUE, CAMELLIA

REMONDIS PTY LTD

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PRELIMINARY ENVIRONMENTAL ASSESSMENT

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ABBREVIATIONS

ARI	Average Recurrence Interval
AWT	Alternative Waste Treatment
C&I	Commercial and Industrial
CLM Act	*Contaminated Land Management Act*
CMP	Contamination Management Plan
DA	Development Application
DECCW	Department of Environment, Climate Change and Water
EA	Environmental Assessment
EPA	Environment Protection Authority
EP&A Act	*Environmental Planning & Assessment Act*
EP&A Regulation	Environmental Planning & Assessment Regulation
EPBC Act	*Environment Protection and Biodiversity Conservation Act*
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
Ha	Hectare
FPL	Flood Plain Level
FRP	Flood Risk Precinct
IMS	Integrated Management System
JH	James Hardie
LEP	Local Environmental Plan
LGA	Local Government Area
m	Metres
PEA	Preliminary Environmental Assessment
RL	Relative Level
SEPP	State Environmental Planning Policy
SIT	Site Inspection Template

SREP	Sydney Regional Environmental Plan
SSOM	Source Separated Organic Materials
SWP	Safe Work Plan
tpa	Tonnes per Annum
VRA	Voluntary Remediation Agreement
WARR	Waste Avoidance and Resource Recovery

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1. INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

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

This document:

- Describes the background to the proposed development;
- Outlines the relevant legislative and planning instruments;
- Provides a description of the site;
- Describes the proposed development;
- Outlines the need and justification for the facility; and
- Provides a preliminary environmental assessment.

Remondis considers that the proposed development is a Major Project to which Part 3A of the *Environmental Planning and Assessment (EP&A) Act* applies.

The purpose of this document is to provide advice to accompany an application to the Minister for Planning to declare the proposed development to be a project to which Part 3A of the Act applies and to seek Director-General's Requirements for the preparation of an Environmental Assessment (EA) to accompany a development application.

1.2 THE PROPONENT

Remondis, previously named Rethmann, is a multi-national enterprise with diverse operations throughout Europe, Asia and Australia. The three main areas of business are waste recycling and disposal, biological and abattoir rendering and logistics.

Remondis commenced waste management operations in Australia in 1982. Since then it has developed its customer base competing across all sections of industry. Remondis services extend to local government, large regional shopping centres, international hotels, construction companies, major industrial enterprises and small and medium sized businesses.

The company currently operates a commercial and industrial (C&I) logistics business at St Marys, Brisbane, Perth, Melbourne, Adelaide and an Organic Resource Recovery Facility at Telegraph Point near Port Macquarie.

1.3 THE SITE

1.3.1 Regional and Local Context

The site of the proposed facility at 1 Grand Avenue, Camellia is located in the Parramatta City Local Government Area (LGA) off James Ruse Drive adjacent to Rosehill Racecourse. Its location is shown on Figure 1.1. It is 18km west of the Sydney CBD.

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

The site boundaries are vacant land adjacent to the Clyde-Carlingford Railway line to the west, a spur goods rail line to the south, industrial premises to the east and the Parramatta River to the north as shown on Figure 1.2.

1.3.2 Site Description

Entry to the site is off Grand Parade which at that location is a no-through road leading to the Camellia Railway Station and car parking area. A local crossing of the goods rail spur line is adjacent to the entry gate to the site.

The site 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 buildings on site.

1.3.3 Background

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. It 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 (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 EPA under Section 26 of the *Contaminated Land Management (CLM) Act 1997.*

below.

1.3.4 Site Rehabilitation

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. The following actions were implemented:

- Safe Work Plans (SWP) have been developed for the JH Site. A drainage easement exists near the Clyde-Carlingford railway line. A SWP must be followed in the event of the need to undertake any excavation to maintain the service or in response to a service failure;

JH - SW Bellbird

- Warning signs prohibiting un-authorised excavations and advising of buried hazardous material have been erected across the JH Site;
- Regular inspections are undertaken to monitor the condition of the surface cap;
- Regular monitoring of groundwater was undertaken in 2001, 2002 and 2003. This has confirmed that no significant levels of groundwater contaminants above natural background levels are migrating from the JH Site. The EPA determined that no further groundwater monitoring is required;
- A Contamination Management Plan (CMP) was developed in 2000 for the JH Site; and
- A Site Management Plan (EPA 2004) was developed in 2004 and replaced the former CMP to provide management of the contamination issues on the JH Site (Site Management Plan – Eastern Portion of Former James Hardie Site Grand Avenue Camellia March 2004).

After the completion of the capping and demolition works and a groundwater monitoring programme, the EPA re-assessed its "significant risk of harm" determination under the *CLM Act* in the light of the works undertaken as part of the VRA.

After inspecting the JH Site, the EPA determined (14 May 2003) that the VRA had been satisfactorily completed and that the 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 EPA determined that the terms of the VRA had been carried out.

The 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 SMP.

1.4 SUMMARY OF PROPOSED DEVELOPMENT

The proposed Remondis Integrated Recycling Park in Camellia will process 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)

- A C&I AWT facility with a capacity to process up to 100,000 tonnes per annum (tpa) of C&I waste; and
- A SSOM AWT facility with a capacity to process 50,000 tpa of food and green waste.

Source Separate Organic Materials

The Integrated Recycling Park will include ancillary facilities including a weighbridge, administrative offices, truck depot, parking and workshops. It will operate 24 hours per day, seven days per week.

2. LEGISLATIVE AND PLANNING CONSIDERATIONS

2.1 COMMONWEALTH LEGISLATION

The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*) established an assessment and approvals procedure for, among other criteria, actions that will have or are likely to have a significant impact on matters of national environmental significance. The proposed development has no impact on the matters defined in the Act as national environmental significance and there are no other grounds on which the legislation would apply.

2.2 STATE LEGISLATION

2.2.1 EP&A Act

It is considered that the proposed development is a project to which Part 3A of the *EP&A Act* applies.

Section 75A of Part 3A of the Act defines a "project" as:

> *"project means development that is declared under section 75B to be a project to which this Part applies"*

Sub-section 75B(1)(a) of the Act states:

> *"Projects to which Part applies*
>
> *(1) General*
>
> *This part applies to the carrying out of development that is declared under this section to be a project to which this part applies:*
>
> *(a) by a State environmental planning policy, or"*

Sub-clause 6(1) of State Environmental Planning Policy (Major Development) 2005 states:

> "*Identification of Part 3A projects*
>
> *(1) Development that, in the opinion of the Minister, is development of a kind:*
>
> *(a) that is described in Schedule 1 or 2, or*
> *(b) that is described in Schedule 3 as a project to which Part 3A of the Act applies, or*
> *(c) to the extent that it is not otherwise described in Schedules 1-3, that is described in Schedule 5.*
>
> *Is declared to be a project to which Part 3A of the Act applies."*

Schedule 1 of SEPP (Major Development) 2005 contains the following definition:

> *"Resource recovery or waste facilities*
>
> *(1) Development for the purpose of regional putrescible landfills or an extension to a regional putrescible landfill that:*

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

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

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

(2) *Development for the purpose of waste transfer stations in metropolitan areas of the Sydney region that handle more than 75,000 tonnes per year of waste.*

(3) *Development for the purpose of resource recovery or recycling facilities that handle more than 75,000 tonnes per year of waste or have a capital investment value of more than $30 million.*

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

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

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

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

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

The proposed development will handle more than 75,000 tpa of commercial and industrial waste and, as such, is considered to be a "Part 3A project" for the purposes of SEPP (Major Development) 2005.

Pursuant to Schedule 3 of the EP&A Regulation 2000 (the "Regulation"), of the proposed development is Designated Development being "Waste Management Facilities or Works".

2.2.2 POEO Act

The proposed operations on the Integrated Recycling Park will be the subject of an Environment Protection Licence (EPL) under the *POEO Act* issued by the Department of Environment, Climate Change and Water (DECCW) to Remondis.

2.3 PLANNING INSTRUMENTS

2.3.1 State Environmental Planning Policies (SEPPs)

The relevant SEPPs applicable to the site and the proposed development are:

- SEPP (Infrastructure) 2007;
- SEPP (Major Development) 2005; and
- SEPP No 33 – Hazardous & Offensive Development.

SEPP (Infrastructure)

The SEPP commenced on 1 January 2008.

Division 23 of the SEPP applies to "waste and resource management facilities". The types of facilities are defined in Clause 120 as follows:

- *Resource Recovery Facility means a facility for the recovery of resources from waste, including such works or activities as separating and sorting, processing or treating the waste, composting, temporary storage, transfer or sale of recovered resources, energy generation from waste gases and water treatment, but not including re-manufacture of materials or goods or disposal of the material by landfill or incineration;*

- *Waste Disposal Facility means a facility for the disposal of waste by landfill, incineration or other means, including associated works or activities such as recycling, resource recovery and other resource management activities, energy generation from waste gases, leachate management, odour control and the winning of extractive material to generate a void or disposal or to cover waste after its disposal;*

- *Waste or Resource Management Facility means a waste or resource transfer station, a resource recovery facility or a waste disposal facility; and*

- *Waste or Resource Transfer Station means a facility for the collection and transfer of waste material or resources, including the receipt, sorting, compacting, temporary storage and distribution of waste or resources and the loading or unloading of waste or resources onto or from road or rail transport.*

Clause 121 of the SEPP provides that development for the purpose of a waste or resource management facility may be carried out with consent. This section provides that development for the purpose of waste or resource management facilities other than development referred to in sub-clause (2) may be carried out by any person with consent on land in a prescribed zone. Sub-clause (2) refers to waste and resource transfer stations. This sub-clause is not applicable to the proposed integrated AWT facility.

Schedule 3 provides that:

> *Development for the purpose of the recycling of construction and demolition material, or the disposal of virgin excavated natural material (as defined by the Protection of the Environment Operations Act 1997) or clean fill, may be carried out by any person with consent on land on which development for the purpose of industries, extractive industries or mining may be carried out with consent under any environmental planning instrument.*

SEPP (Major Development) 2005

This SEPP was introduced in conjunction with the commencement of Part 3A of the *EP&A Act*.

Schedule 1 of the SEPP provided a list of the classes of development which can be considered major projects for the purposes of Part 3A of the Act. Clause 6(2) of the Policy specifies development that, in the opinion of the Minister, is a development of the kind described in the Schedules of the SEPP and is declared to be a Part 3A Project.

Resource and "waste related industries" is development that is described in Group 9 of Schedule 1 of the SEPP. Clause 27 (3) of Schedule 1 provides that:

Resource recovery or waste facilities

(3) Development for the purpose of resource recovery or recycling facilities that handle more then 75000 tonnes of waste per year or have a capital investment of more than $30 million.

The proposed integrated AWT facility meets the requirements of the SEPP as a "resource and waste related industry" in the terms of clause 27(3) of Schedule 1 of the Policy.

If the Minister forms the opinion that the current proposal is development of a kind described in Clause 27(1), then Part 3A of the *EP&A Act* applies.

SEPP No 33 Hazardous & Offensive Development

The aims of the policy include:

- To ensure that in determining whether a development is a hazardous or offensive industry, any measures proposed to be employed to reduce the impact of the development are taken into account;

- To ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact.

The information required to meet the aims of the Policy will be included in the EA.

2.3.2 Sydney Regional Environmental Plans (SREPs)

Two SREPs are or relevance to the site and the application:

- SREP No 28 – Parramatta; and

- SREP (Sydney Harbour Catchment).

SREP No 28

The SREP applies to the site as it is located within the Regional Enterprise Zone in the Camellia Precinct under the Plan. The area of the site along the bank of the Parramatta River is zoned Environment Protection.

Objectives of the zone are applicable to the development. The EP&A Regulation (Plan Making) Regulation 2009 came into force on 1 July 2009. Under the Regulation, REP planning instruments are deemed to be SEPPs as of that date. The Regulation includes saving provisions, so that a provision of the REP that becomes a deemed SEPP on 1 July 2009 does not have the same effect as a provision of a SEPP for the purposes of Part 3A of the Act, it would not have that affect before 1 July 2009.

Section 75(R) of the *EP&A Act* provides that planning instruments (other than SEPPs) do not apply to or in respect to an approved project to which Part 3A of the Act applies. On the basis of the saving provisions this SREP does not apply. However for the sake of completeness the SREP planning considerations are summarised in this section.

The objectives of the Regional Enterprise Zone are as follows:

(a) To achieve a prosperous and efficient regional eco-industrial estate the continues to capitalise on Camellia's strategic location and accessibility;

(b) To allow a wide range of industrial and heavy industrial uses in Camellia serving the Greater Metropolitan Area of Sydney and beyond;

(c) To ensure that development is carried out in a manner that does not detract from the amenity enjoyed by residents in neighbouring localities, the conservation of identified views, the commercial viability of the Parramatta City Centre or the efficient operation of the road system;

(d) To ensure that development applies current environmental management best practice;

(e) To maintain long-term opportunities for the future investment in development of Camellia as an eco-industrial precinct;

(f) To ensure that the scale, design and materials of construction, and the nature of development, contribute positively to the visual quality of the locality;

(g) To allow for and improve public access along the waterways, where natural values will not be diminished;

(h) In the case of contaminated land that is currently not suitable for public access, to ensure that opportunities are not lost for future potential foreshore access;

(i) To comply with the controls for Special Areas as set out in this Part.

The objectives of the Environmental Protection Zone are:

(a) To conserve, manage and enhance biodiversity, vulnerable and threatened species and ecological communities, remnant habitat and the ecological viability of the land;

(b) To protect and restore environmentally sensitive remnant habitats and communities;

(c) To increase the community's awareness and appreciation of remnant habitats and biodiversity;

(d) To protect and restore aesthetic, heritage, recreational, educational and scientific values of the bushland;

(e) To allow uses for scientific and educational purposes.

No development work is proposed within the area defined by this zone. Ecological restoration works and maintenance will be undertaken as required by the consent.

A small area on the northern portion of the site is zoned Open Space. This area is excluded from the development site. Included within this area is a heritage site listed on Schedule 1 of the Parramatta Local Environmental Plan (LEP) 1996 (Heritage and Conservation) (refer Section 2.3.3).

The SREP imposes controls on the height of buildings in the Camellia Precinct aimed at ensuring that buildings do not overshadow the vegetated riparian areas and do contribute to the appearance of the foreshore. A building height limitation of 9 metres (m) applies to part of the site with a 12 m limitation for the remainder of the site.

SREP (Sydney Harbour Catchment)

The site is located on land within the Sydney Harbour Catchment Foreshores & Waterways Area.

The planning principles for land within the Foreshores and Waterways Area are as follows:

(a) Development should protect, maintain and enhance the natural assets and unique environmental qualities of Sydney Harbour and its islands and foreshores;

(b) Public access to and along the foreshore should be increased, maintained and improved, while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation;

(c) Access to and from the waterways should be increased, maintained and improved for public recreational purposes (such as swimming, fishing and boating), while minimising its impact on watercourses, wetlands, riparian lands and remnant vegetation;

(d) Development along the foreshore and waterways should maintain, protect and enhance the unique visual qualities of Sydney Harbour and its islands and foreshores;

(e) Adequate provision should be made for the retention of foreshore land to meet existing and future demand for working harbour uses;

(f) Public access along foreshore land should be provided on land used for industrial or commercial maritime purposes where such access does not interfere with the use of the land for those purposes;

(g) The use of foreshore land adjacent to land used for industrial or commercial maritime purposes should be compatible with those purposes;

(h) Water based public transport (such as ferries) should be encouraged to link with land based public transport (such as buses and trains) as appropriate public spaces along the waterfront;

(i) The provision and use of public boating facilities along the waterfront should be encouraged.

2.3.3 Parramatta LEP and DCP

The Planning Certificate issued under Section 149 of the *EP&A Act (*No 2009/4487) states that the land is affected by Parramatta LEP 1996 (Heritage & Conservation).

The objectives of this plan in relation to heritage are:

(a) To conserve the environmental heritage of the City of Parramatta; and

(b) To retain the cultural significance of the City of Parramatta; and

(c) To conserve existing significant fabric, settings, relics and views associated with the heritage significance of heritage items and heritage conservation areas; and

(d) To ensure that any development does not adversely affect the heritage significance of heritage items and heritage conservation areas and their settings; and

(e) To ensure that known or potential archaeological sites and places of Aboriginal significance are conserved; and

(f) To ensure that the heritage conservation areas throughout the City of Parramatta retain their heritage significance.

The property is listed in Schedule 1 of the LEP in respect of a grave of Eliner Magee and Child. This grave is located adjacent to the railway line and will not be affected by the proposed development.

3. PROPOSED DEVELOPMENT

3.1 INTRODUCTION

Remondis is seeking approval for the construction and operation of an integrated AWT facility, which is able to process up to 100,000 tpa of C&I waste and 50,000 tpa of food and greenwaste.

The Integrated Recycling Park in Camellia would process C&I waste and SSOM kerbside collected in the Metropolitan Sydney area with the objective of maximising resource recovery and minimising landfill disposal.

Approval is sought for the development including ancillary facilities such as a weighbridge, administration offices, truck depot and parking, workshops and associated facilities.

The AWT facility comprises the following main areas:

- C&I AWT Treatment Facility; and
- SSOM AWT Treatment Facility

Figure 3.1 shows the proposed layout of the Integrated Recycling Park site and Figure 3.2 shows the layout on the site at 1 Grand Avenue Camellia. An area to the west of the site, as shown on Figure 3.2 will not be used for the proposed development and will be reserved for future use. Figure 3.2 shows the areas of the site zoned Environment Protection zone. No development is proposed within this area.

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

3.2 PROCESS DESCRIPTION

3.2.1 C&I Process

The C&I AWT facility will utilise a combination of a mechanical separation, front-end sorting using both automated and manual processes together with tunnel composting. These processes use proven technologies and process equipment with several reference plants in Australia and overseas.

The plant will recover recyclable materials from the C&I waste stream, convert the putrescible waste into a biologically stable product (*stabilate)* which will be further refined in order to maximise recovery and minimise the volume that needs to be landfilled. Possible product applications are the use as rehabilitation material and/or alternative daily cover.

Only material without any further use will be disposed off at an inert landfill.

Figure 3.3 provides a flow chart of the C&I process.

3.2.2 SSOM Process

The SSOM AWT facility will process source separated organic materials which have been collected at kerbside from metropolitan Council areas and produce high grade organic fertilisers and compost products for marketing and sale.

The process integrates a front-end mechanical pre-treatment system to remove contamination from the material prior to the tunnel composting process.

Figure 3.4 provides a flow chart of the SSOM process.

3.2.3 Waste Receival and Mechanical Treatment

C&I AWT Facility

Commercial waste will be received and treated in a fully enclosed and air controlled portal steel framed building, which provides sufficient under cover space for delivery and pretreatment areas for all processes and waste streams .

All C&I waste will be delivered within the reception area and segregated into the different categories for processing. Waste loads which predominately contain recycling materials ('dry waste') will be kept separate from deliveries which contain a significant putrescible component ('wet-waste). Co-mingled truck loads will be segregated on the floor by means of a loader within the building into the two categories for processing.

The 'wet waste' will be processed through a crusher and then discharged into the tunnel raw material bay for tunnel processing.

Following the tunnel composting process, the biologically stabilised material will be screened to produce various grades and to remove physical contamination such as metals and plastic. The integrated refinement stage may further include a glass removal facility in order to produce the required product grades.

Residuals which cannot be recycled or otherwise beneficially used will be discharged into trucks and sent to landfill.

A wheel loader feeds the 'dry waste' into a hopper which will convey the material via an inclined conveyor to a pre-sort station where bulky items (nuisance and recyclables) will be manually removed and dropped into bins underneath.

A subsequent screening plant removes small items before the main material stream passes a sorting station. The recovery of recyclables will be both manual and automatic using magnets, eddy current separators and optical separation. The main recyclables are paper/cardboard, timber, high grade plastic (HDPE, {PET etc.) and metals (ferrous, non-ferrous).

The recycling material will be collected in roll on/off containers and/or baled for recycling.

The screen underflow will pass a magnet to recover metals and then be discharged into bins for inert landfill disposal.

SSOM AWT Facility

A separate area within the main building complex will be utilised for the receival and mechanical treatment of the source separated organic waste. Delivery bays will provide an interim storage for the kerbside truck unloading. A wheel loader will feed the material preparation line.

A Decompactor will open the material agglomerations and bags before the material is screened off for subsequent decontamination processing via a picking belt station.

The oversize materials will pass through a crusher and stockpiled as raw material for the tunnel composting process.

Within the main building an area will be reserved for the refinement of the raw compost from the tunnel composting process. The refinement plant will be configured to meet the requirements for the final product qualities and grades and involve screening, metal recovery and windsifting.

Tunnel Composting

The tunnel composting plant will comprise two areas for the SSOM and C&I waste streams with parallel tunnel modules. Each tunnel will be self-operating and comprise an air ducting system, blowers, process water collection and recycling systems, and various process control features (temperature, pressure, etc.). Trenches in the slab will run parallel over the full length of the slab and will be covered with purpose designed panels. Access to each tunnel will be via the front door, which can be lifted through an electrical winch. During the composting process, the door will be locked hermetically to contain any odour and leachate. The raw material mix is then placed into each tunnel individually and removed after the desired composting time by means of a front end loader.

Each tunnel will be equipped with a fan which blows a mixture of fresh air and recycled air through the trenches into the tunnel. At the same time surplus exhaust air will be discharged to the deodorisation stage. The mixture of fresh and recycled air can be automatically controlled via the central process control for each tunnel. Surplus air from the tunnel facility will be discharged to the humidifier.

Deodorisation Stage

All surplus air from the tunnels will be discharged into the deodorisation stage for treatment and dispersion. The deodorisation stage will include a pit mounted biofilter fan, humidifier pit and a biofilter. The purpose of this stage is to eliminate odours and deodorise the exhaust air from the tunnel-composting units before being discharged into the atmosphere.

Air volume, moisture, temperature and biofilter pressure drop will be controlled via central process control. The biofilter structure will comprise a segmented sub-ground concrete basement with perimeter walls, a grate floor ('false floor') at ground level with a layer of filter medium on top. The filter medium will comprise a 1-1.5m thick layer of compost, bark or other mature organic matter.

Exhaust process air from the tunnel collection duct will be drawn via the biofilter fan through the humidifier into the biofilter. A make-up water pump will establish a water curtain at the humidifier outlet, which adsorbs odorous compounds from the exhaust air stream and conditions air moisture and temperature.

The air distribution system at the biofilter inlet side will ensure consistent loading onto the filter. The segmentation of the filter structure will ensure that maintenance and material replacement works can be done on one segment while operating with no shut down required. Depending on the type of biofilter material, replacement will be required every one to two years.

Process Water Collection and Recirculation

Leachate from the tunnels will drain through the duct and piping system via siphons into a sealed process water tank, which will also be connected to the biofilter / humidifier unit as drainage facility. The process water will then be collected and recycled back into the composting process to establish and/or maintain the desired material moisture content.

Pumps will be used to recirculate water in the humidifier and also to recycle process water from the tank back into the process through a spraying system. For that purpose, each tunnel will be equipped with a solenoid valve controlled spray line, which is connected to an array of nozzles, mounted onto the tunnel ceiling in a way to cover the entire tunnel surface area.

During the dry/hot period of the year, fresh water may be required to supplement the water demand for the tunnel system, otherwise make-up water can be drawn from the storm water pond on site.

3.3 ENVIRONMENTAL MANAGEMENT

3.3.1 Odour Management

The main building including the 'dry' and 'wet' waste delivery and mechanical treatment as well as the tunnel hallway will be fully enclosed and air controlled areas (slightly negative pressure). This will be achieved through collection hoods mounted over the high emission areas (material unloading, storage, handling). Two dampers will control the air exchange rate in the various parts of the building, which can be locally and temporarily increased (eg higher rates in reception area during waste receival). A fan will deliver the air to a manifold along the rear of the tunnel complex, which connects to all tunnels. The balance of the air demand into the tunnels will be automatically drawn from outside (damper regulation). This concept minimises total air volumes from the plant and guarantees high performance of the deodorisation unit.

Rapid roller doors for waste delivery will only open during delivery times thus maintaining negative pressure and containing emissions within the building.

The fresh air demand for each tunnel will be automatically restricted to a minimum through the recycling of odorous air back into the tunnel. Exchange of exhaust air between the tunnels will be controlled through a one-way valve in the discharge duct.

The entire tunnel composting process, recycling rates and discharge volumes will be automatically controlled via process control and given process parameters.

High specific aeration rates applied in the tunnel composting processes will maintain aerobic conditions at all times during the process and across the material batch in the tunnel.

The biofilter design is based on proven technology and provides the most efficient solution for biological processes. Low operating costs and operational consistency are further design features of the system. Emissions from the deodorisation unit are basically free of offensive odour, bio aerosols and dust. Biofilter performance indicators are monitored via the central process control computer.

The front end loaders will be equipped with air conditioning and carbon filters. During tunnel filling and emptying, the tunnels will be ventilated with fresh air to maintain the necessary working environment.

3.3.2 Dust and Litter Management

All processing areas will be sealed to minimise dust emissions. Perimeter walls around the waste reception area contain any potential litter from contaminated green waste within this area.

Any contamination removed on the floor or in the sorting cabins will be contained in covered bins.

Fresh and climatised air will be provided to the picking and sorting stations.

Material discharge areas outside the building will be fully covered by a hood to prevent litter.

The moisture in the various organic materials (raw material, compost etc) will be controlled in order to minimise dust emissions.

3.3.3 Leachate and Process Water Management

The reception and pretreatment areas will be bunded and any potential leachate generated from these areas would be contained. The tunnel composting plant has its individual process water and

condensate collection system, which drains into the main process water tank. This tank will also collect any condensate or leachate from the humidifier and biofilter facility.

The tank will provide the water to the tunnel irrigation system, operated via a cavity pump and topped up with make up water as required. It is expected that the composting plant may have a slight net water surplus over the year.

Separate to the process water system, rainwater tanks will be provided to collect rainfall from the building roof areas for utilisation as either make-up water or other purposes.

Leachate collection and drainage system skirting all outdoor curing and storage areas will keep process water separate from stormwater. Stormwater on site will be collected and discharged into the storm water collection and retention system.

4. NEED AND JUSTIFICATION

4.1 THE *WASTE AVOIDANCE AND RESOURCE RECOVERY ACT* (WARR ACT)

The *Waste Avoidance and Resource Recovery Act (WARR Act) 2001* establishes the strategic direction for waste management and resource recovery in NSW. The objectives of the *WARR Act* stated in Part 1, Section 3 of the Act include:

(a) To encourage the most efficient use of resources and to reduce environmental harm in accordance with the principles of ecologically sustainable development;

(b) To ensure that resource management options are considered against a hierarchy of the following order:

i) Avoidance of unnecessary resource consumption;

ii) Resource recovery (including reuse, reprocessing, recycling and energy recovery);

iii) Disposal.

(c) To provide for the continual reduction in waste generation;

(d) To minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste;

(e) To ensure that industry shares with the community the responsibility for reducing and dealing with waste;

(f) To ensure the efficient funding of waste and resource management planning, programs and service delivery;

(g) To achieve integrated waste and resource management planning programs and service delivery on a state wide basis;

(h) To assist in the achievement of the objectives of the Protection of the Environment Operations Act 1997.

4.2 WASTE AVOIDANCE AND RESOURCE RECOVERY STRATEGY 2007

Resource NSW (now part of DECCW) 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. It was updated in 2006 through the release of the Waste Avoidance and Resource recovery Strategy and Performance Report 2006.

The key result areas and targets identified in Waste Strategy 2003 were retained in the Waste Avoidance and Resource Recovery Strategy 2007. The four key outcome areas and their targets are shown in Table 4.1.

Table 4.1
Broad Targets for each Outcome Area in the WARRS 2007

OUTCOME AREA	TARGET
Preventing and avoiding waste	To hold level the total waste generated for the next 5 years.
Increasing recovery and use of secondary resources	By 2014, to: • Increase recovery and utilisation of materials from municipal sector from the current 26% to 66%; • Increase recovery and utilisation of materials from the commercial & industrial sector from the current 28% to 63%; and • Increase recovery and utilisation of materials from the construction & demolition sector from the current 65% to 76%.
Reducing toxic substances in products and materials	By 2014 or earlier: • To phase out priority substances in identified products as a first choice or if not possible to achieve maximum recovery for re-use; and • Where identified products containing these priority substances require disposal as a last resort, the permitted "leachability" of the substances will be reduced to the levels that are permitted for inert waste.
Reducing litter and illegal dumping	• Reduce total volume and tonnages of litter reported annually; and • Reduce the total tonnages of illegally dumped material reported by regulatory agencies and RID squads annually.

4.3 REMONDIS PROPOSAL

The proposed integrated AWT facility at Camellia 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 SSOM AWT Facility will process separated organic materials which have been collected at the Kerbside from metropolitan LGAs. This will 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.

4.4 ALTERNATIVES

Remondis has evaluated a number of alternative locations for the proposed development. The Camellia site offers 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 Integrated Recycling Park. 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 SSMO waste streams and reducing landfill demand.

5. PRELIMINARY ENVIRONMENTAL ASSESSMENT

5.1 Topography, Geology and Soil

The site is generally level having been filled and capped with hardstand as described in Section 1.3.4. Under the capping the site is contaminated with buried asbestos waste including asbestos cement waste and friable asbestos. Further background is provided in Sections 1.3.3 and 1.3.4 and the SMP.

Construction of the proposed facilities and the associated infrastructure will require minor disturbance to the capping and the material below it. This will principally involve construction of footings and the leachate collection system including the process water tank.

All excavation operations will be undertaken in accordance with the SMP through the implementation of a SWP.

The objectives of the SMP are to:

- Ensure an adequate seal is maintained over the areas of fill known to contain asbestos waste to ensure physical isolation of the waste from casual human contact, restrict infiltration of rainwater and prevent erosion or movement of the waste; and

- To provide a detailed site management plan which addresses all human health and environmental issues related to the ongoing presence of contaminated soils at the site. In particular, procedures that will control any future intrusive activities that could result in exposure to, or disturbance of, the buried contaminated waste on site.

An ongoing system of management has been developed which attempts to mitigate the potential impacts associated with the site on human health and the environment. Management of the key issues involves the following components:

- Development of safeguards considered necessary to protect on-site workers when undertaking routine and emergency maintenance of infrastructure located on the site, through implementation of a SWP;

- Establishing a requirement for obtaining approval from the EPA for any other form of excavation; and

- Development of an ongoing site monitoring program to assess the effectiveness of measures taken to manage and reduce the impacts of identified contamination on the surrounding environment, including provision to the EPA of an annual report in accordance with the SMP.

To assess the effectiveness of the SMP a system of review has been established which ensures the management steps adopted are being undertaken and are meeting the SMP objectives. This review establishes protocols for any follow-up action based on the findings of the review phase.

The components of the review phase include:

- Utilising the results from the monitoring program to revise the aims and objectives and, if necessary, reassess potential hazards as more information is gathered regarding associated risks;

- Auditing of maintenance works at the site to assess the effectiveness of safeguards established during the management phase; and

- Forms for reporting on land use, excavation, monitoring of surface cover, incidents and complaints.

As described in Section 5.7 a specific Safe Work Plan will be developed for the construction of the proposed facilities. A draft will be attached to the EA.

In the EA, Consulting Earth Scientists (CES) will review the site conditions, the requirements of the SMP and the draft SWP in the context of the management of the contamination on the site.

5.2 WATER MANAGEMENT

There are two aspects of water management relevant to the proposed development: flooding and process water.

5.2.1 Flooding

The Parramatta Local Floodplain Risk Management Policy 2006 supports the NSW Government's Policy in providing for the development of sustainable strategies for managing the use of the floodplain through the Flood Plain Development Manual (FDM) 2006. The Policy applies to three types of responses to flood risk issues: flood mitigation, land use planning and flood education.

Land within each of the floodplains in the Parramatta City LGA are divided into flood categories based on the different levels of potential flood risk. A property may be subject to more than one Flood Risk Precinct (FRP). Figure 5.1 shows the location of areas affected by the 1 in 20 and 1 in 100 year flood levels.

The JH Site at 1 Grand Avenue Camellia is affected by two FRPs. The main area of the JH Site is in a Low Flood Risk Precinct and is not directly impacted by the 1 in 100 year flood level. There is an area on the western half of the site which is at lower elevation than the main site area which is affected by the 1 in 20 year flood level and is similarly categorised as a Low FRP. An area alongside the Clyde-Carlingford Railway line and two small areas associated with the lower area are affected by the 1 in 100 year flood level and could be classified as Low-Medium Flood Risk.

The Flood Plain Level (FPL) adopted by Parramatta City Council is the level below which restrictions are placed on development due to hazard of flooding. The adopted FPL is derived from a combination of the 100 year Average Recurrence Interval flood event plus a freeboard of 500mm."

The Policy provides principles for the development on Flood Liable Land applicable to difference land uses. Materials Recycling Depots and Resource Recovery facilities are classified in the Commercial/Industrial land use category. Under this category:

- Flood levels must be equal to or greater than the 1 in 100 year flood level plus freeboard;
- All structures to have flood compatible building components below the 1 in 100 year level (applicable to Medium Flood Risk only);
- Structures to withstand the force of floodwaters below the 100 year level (applicable to Medium Flood Risk only);
- The impact of the development of flooding off the site to be assessed;
- Open space areas and parking areas to meet specific elevation requirements;
- Reliable access and vehicles; and

- Within areas of Medium Flood Risk specific requirements in relation to Site Emergency Response Flood Plans and the storage of goods on site.

The requirements of the Policy will be taken into account in the design of the proposed facilities. CES will undertake an assessment of the site and the proposed development in relation to flooding in the EA.

5.2.2 Process Water

As described in Section 3.3.3 all areas within which water may come into contact with waste will be limited and all leachate generated from these areas would be contained.

Process water will be kept separate from stormwater and rainwater tanks will collect water from building roof areas.

Leachate will drain to the main process water tank which will be used in the tunnel composting plant. Stormwater other than roof water will be collected and discharged into the stormwater collection and retention system. It will be used as make-up water for the facilities.

There will be no discharge of contaminated water off the site.

CES will review the proposed water management system and assess any potential impacts in the EA.

5.3 AIR QUALITY

Section 3.3.1 outlines the proposed odour management measures. Air from within the facilities will be discharged through a biofilter. Negative air pressure will be maintained within the facility through the use of rapid roller doors for waste delivery.

In relation to dust emissions, all processing areas will be sealed and all contamination removed from the floor or in the sorting area will be contained in covered bins. The material discharge area outside the building will be fully covered by a hood to control litter.

PAE Holmes will undertake odour and dust assessments of the proposed facility for the EA. Greenhouse gas emissions from the operation of the facilities will also be assessed.

5.4 NOISE

As described in Section 3 all components of the facilities are enclosed or shielded. This will minimise noise emissions from the operations.

There will be traffic noise associated with deliveries of waste to the site and removal of materials from the facilities. In the context of the traffic movements on James Ruse Drive the additional noise will be minor.

Heggies will undertake operational and traffic noise assessments of the proposal for the EA.

5.5 TRAFFIC

All vehicles entering the site will enter from James Ruse Drive onto Grand Avenue at a signalised intersection with turning lanes. Traffic will turn left off Grand Avenue to the site entrance.

Vehicles leaving the site will have to turn right into Grand Avenue and then through the signalised James Ruse Drive intersection.

Approximately 37 trucks will access the site daily spread over 24 hours. Approximately 17 vehicles will be involved in the deliveries from the site daily.

Thirty-three personnel will be employed at the facility most accessing the site by car.

Traffix will undertake a traffic impact assessment for the EA.

5.6 VISUAL ASSESSMENT

Due to the significance of the foreshore area and its Environmental Protection zone, attention will be paid to the appearance of the facility when viewed from the Parramatta River. Ecological restoration and maintenance work may be required within this zone.

The foreshore building height limit is incorporated in the design of the facility to help minimise visual impact.

The other areas of the site visible from points external to the site are the entrance area off Grand Parade and along the Clyde-Carlingford Railway Line. Landscaping will be undertaken in these areas.

Context Landscape design will develop a site Landscape Master Plan and undertake the visual impact assessment for the EA.

5.7 HAZARD ANALYSIS

A hazard assessment will be undertaken for the proposed development in the context of SEPP No 33 Hazard and Offensive Development.

In addition a hazard assessment will be undertaken in relation to the contamination on site.

The on site hazards associated with the contamination will be primarily related to the potential disturbance of the existing cap materials and the exposure of the underlying contaminated fill. Exposure of site workers to fill contaminated by asbestos is considered the most significant on-site risk. In accordance with the requirements of the SMP a SWP will be prepared. The purpose of the SWP is to ensure that protocols are established for site safety and infrastructure maintenance requirements taking into consideration the likely tasks of maintenance crews working at the site. As well, protocols will be established for the protection of the environment during these works through the SWP.

Other on-site issues include potential effects of known contaminants on existing flora and fauna at the site.

Ongoing management of the existing soft and hard surface coverings will be achieved by regular maintenance inspections to identify any deterioration of the surface cover. This will be followed by appropriate repair/maintenance of the surface. To assist with the management of site contamination issues and reporting to DECCW, a Site Management Checklist and Site Inspection Template (SIT) have been provided in the SMP. There are reporting requirements in relation to notifying the DECCW of disturbance or likely disturbance of the asbestos waste at the site. New works can only be carried out if the written approval of DECCW has been obtained.
CES will review the SWP in relation to any potential impacts on the environment.

5.8 HERITAGE

The Section 149 Planning Certificate for the site notes that in terms of Aboriginal Heritage the site is of low sensitivity due to previous disturbance and capping. However in terms of an area of Aboriginal Association, the site does have social/historical association. Initially information will be obtained from Council and based on this an assessment undertaken of the potential impact of the proposed development.

As described in Section 2.3.3 there is a historic grave on the JH Site. The location of this grave will be confirmed and action taken to ensure no disturbance is caused to it and its surrounds.

5.9 SOCIO-ECONOMICS

The proposed development will employ 33 personnel. It will service the waste disposal needs of a proportion of the Sydney region and generate products suitable for sale and/or use. Some residual material will require disposal at an inert landfill.

Improvements in waste utilisation and resource recycling and a reduction in landfilling will result in improved ESD outcomes.

The social and economic and ESD consequences of the development will be assessed for the EA.

5.10 STUDY TEAM

As described above a study team has been drawn together in relation to the following study components to assist in the preparation of the EA:

- Water Management and Contamination– CES;
- Air Quality – PAE Holmes;
- Noise – Heggies;
- Traffic – Traffic; and
- Visual/Landscaping – Context.

National Environmental Consulting Services will prepare the EA based on the findings of the specialist studies and other investigations.

Additional studies may be convened as required following receipt of the Director-General's Requirements for the EA.

6. PRELIMINARY ENVIRONEMNTAL RISK ASSESSMENT

The environmental risks associated with the proposed Integrated Waste Facility at Camellia will have been addressed in the environmental assessment programme documented in Section 5.

Potential areas of environmental risk include:

- Impact of disturbance of contaminated materials on site on personnel and the environment;
- Impact of disturbance and facility operation of the Parramatta River and its foreshore;
- Impact of site flooding and the effect of the development on flooding and adjoining areas;
- Management of leachate and process water on site and the potential impact of any release of this water;
- Management of odour and dust on site and the potential impact on adjoining land uses;
- Management of noise on site and the potential impact on adjoining land uses;
- Impact of increased traffic in relation to the Grand Avenue intersection; and
- The effect on the visual amenity from the Parramatta River and Grand Avenue including the Sydney Turf Club.

These maters will be addressed in the EA and based on the findings measures incorporated in Construction/Operational Environmental Management Plans to minimise and control impacts and risks including the provisions of the site SMP and SWP.

7. COMMUNITY AND STAKEHOLDER CONSULTATION

Remondis is in the process of consulting with the various stakeholders in relation to the proposed development. Consultation will be continued during the preparation of the EA.

Bodies being and/or to be consulted include:

- DECCW;
- Parramatta City Council;
- Roads and Traffic Authority;
- Service/infrastructure providers;
- Adjoining businesses; and
- Sydney Turf Club.

8. ENVIRONMENTAL MANAGEMENT

Remondis has adopted an Integrated Management System as its principle method of delivering company policy. This encompasses a Quality Assurance System and Occupational Health and Safety System, along with other supporting management policies that cover Environment, Human Resource and Operations Management streams.

The Business Management Systems principle is "Working for a Clean and Healthy Environment" focussing on:

- Customers, through listening, consulting and communicating;
- Maintaining quality system certification to ISO 9001:2000; and
- Maintaining service standards, regulatory obligations, management responsibility and increased efficiencies in service provision.

The Occupational Health and Safety System aims to:

- Provide safety equipment and safe systems of work;
- Ensure compliance with legislative requirements and current industry standards;
- Provide information, training, instruction and supervision to all employees and contractors to ensure their health and safety;
- Provide support and assistance for all employees;
- Provide a consultative framework for all employees in the provision of a safe work place; and
- Provide for best practice and continuous improvement in health and safety at all work sites.

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

- A Construction Environmental Management Plan including a Soil and Water Management Plan and a SWP in accordance with the DECCW approved SMP; and
- An Operational Environmental Management Plan implementing the Conditions of Consent and the conditions of the EPL.

FIGURES

Figure 1.1 **Site Location**

Figure 1.2 **Proposed Site**

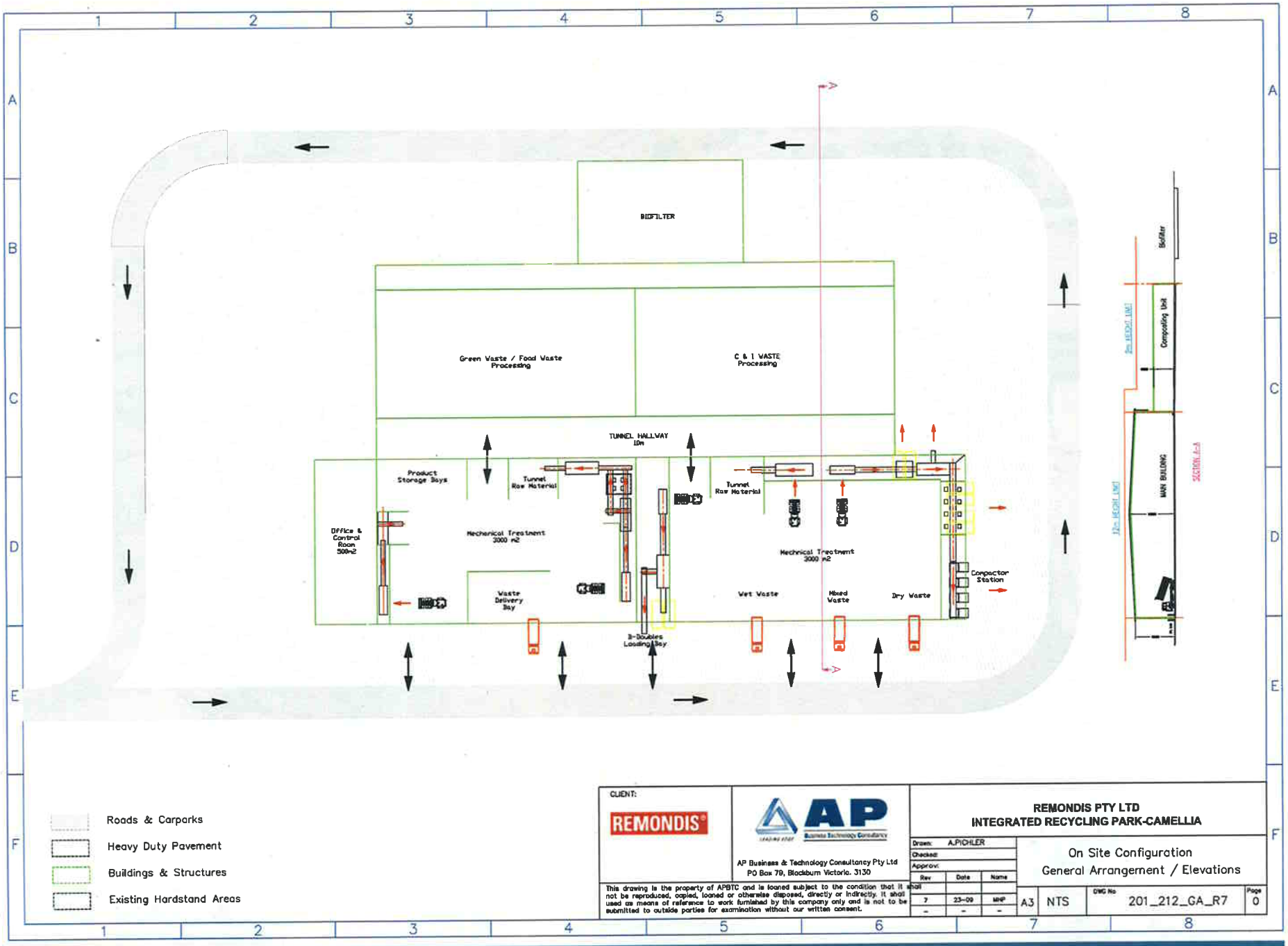

Figure 3.1 **Site Layout**

Figure 3.2 **Facility Located on Site**

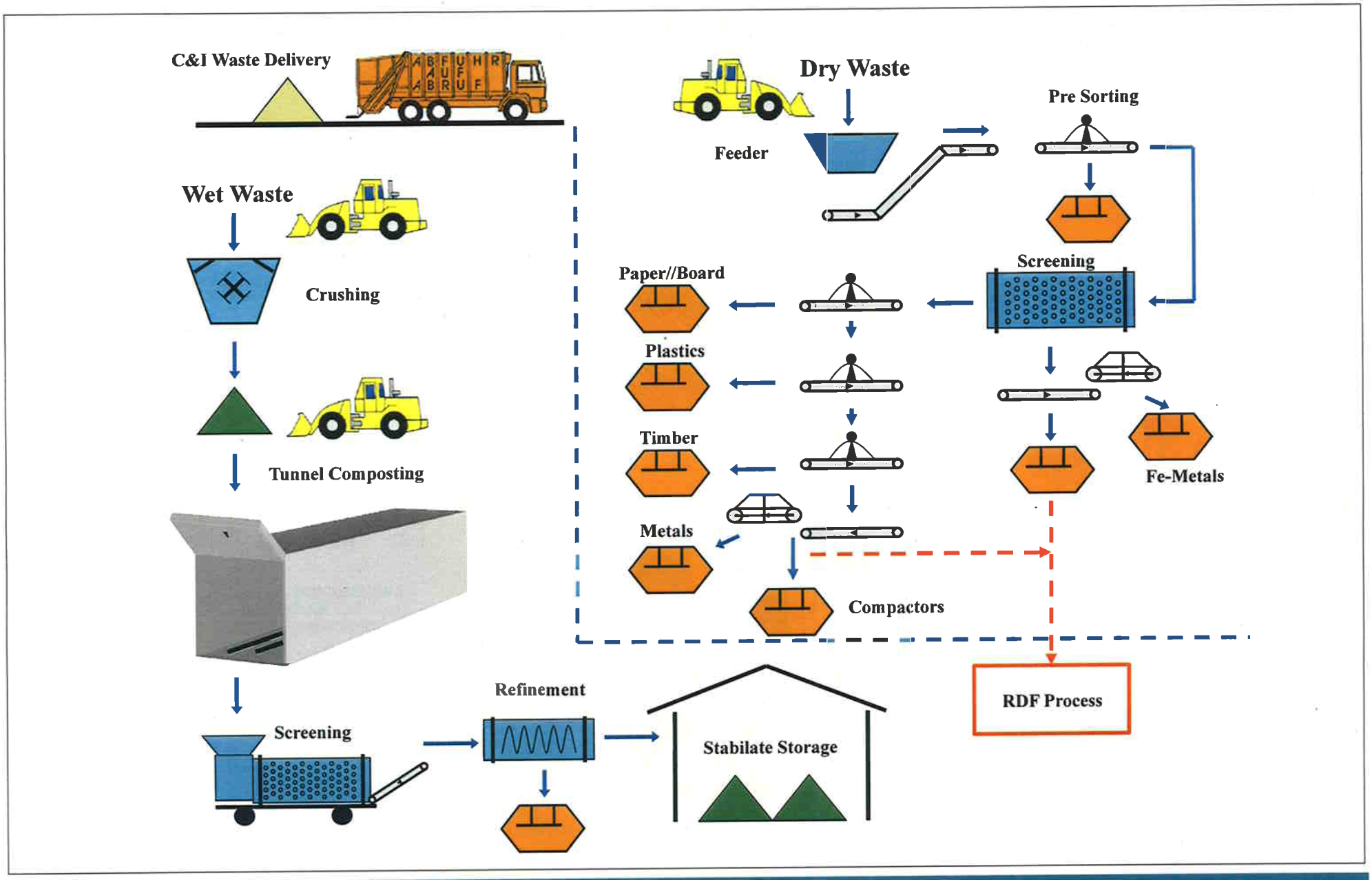

Figure 3.3 C&I Process

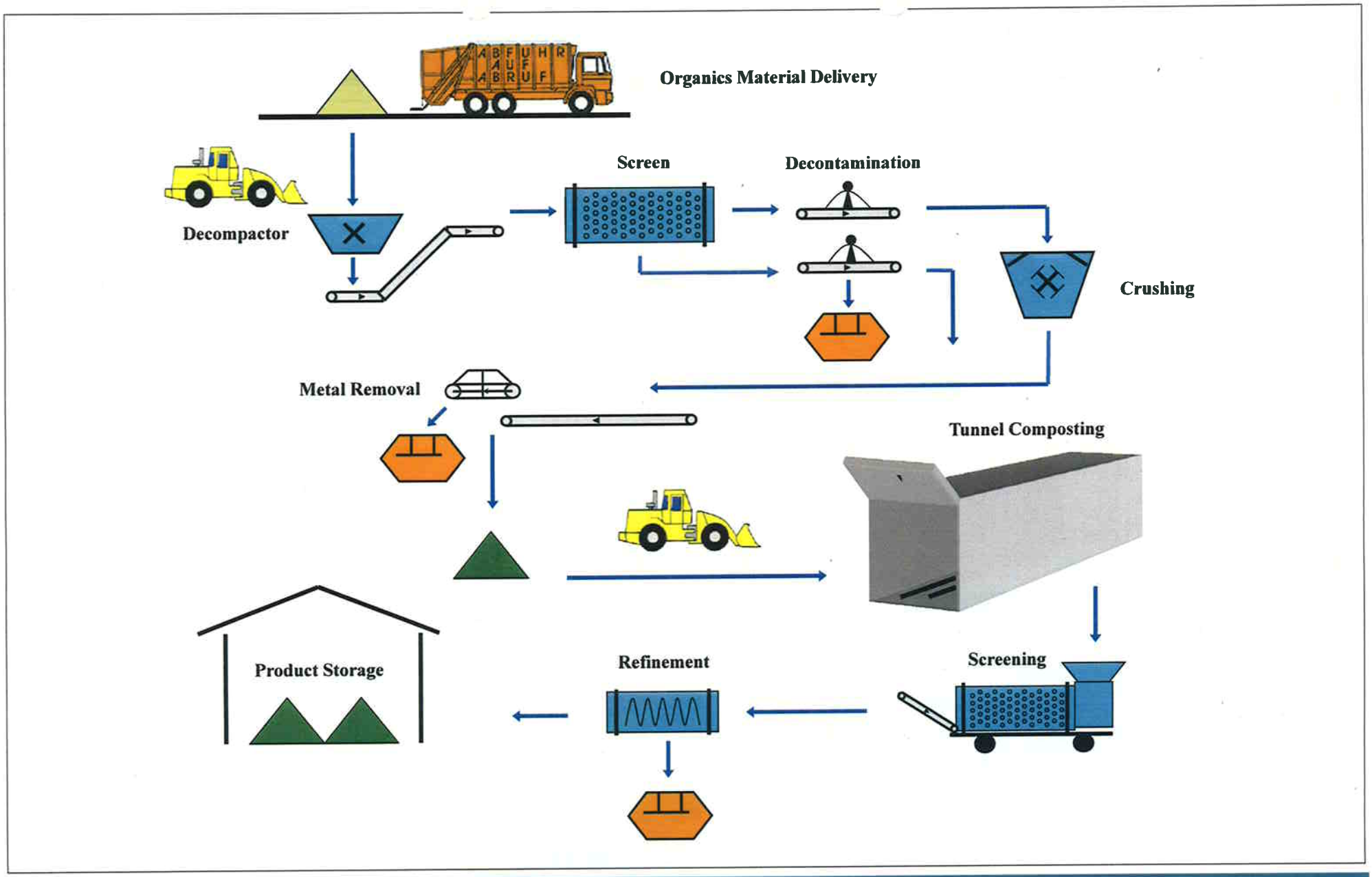

Figure 3.4 SSOM Process

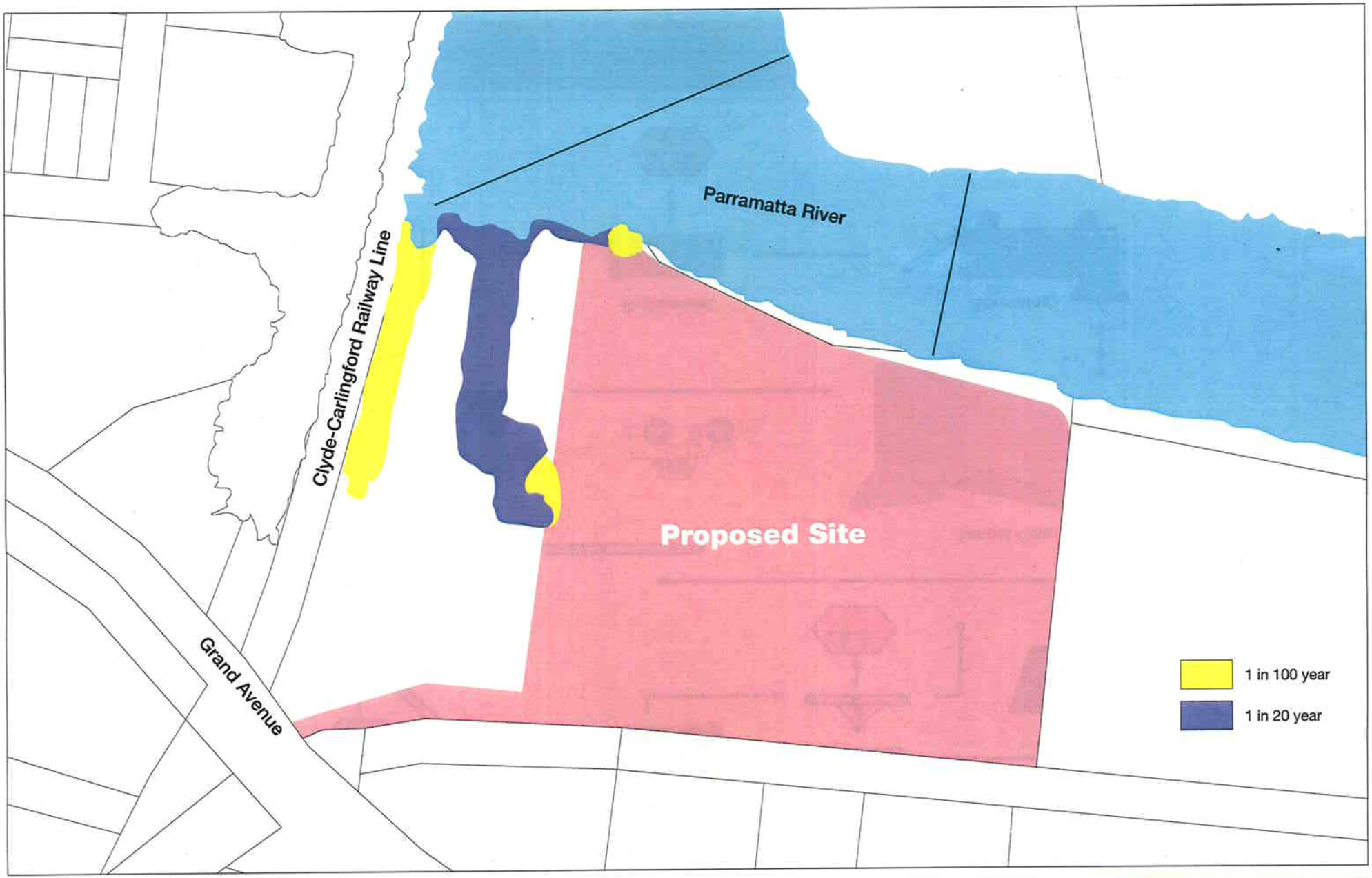

Figure 5.1 **Potentially Flood Affected Areas**