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OPERATIONAL WASTE MANAGEMENT PLAN (OWMP)

NEW PRIMARY SCHOOL AT GREGORY HILLS

Revision Number:	VERSION 1
Report Date:	4/10/2022
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TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

DISCLAIMER
This report is based on information provided by Jacobs. To that extent, this report relies on the accuracy of the information provided to the consultant. This report is not a substitute for legal advice on the relevant environmental related legislation, which applies to businesses, contractors or other bodies. Accordingly, EcCell Environmental will not be liable for any loss or damage that may arise out of this project.

DOCUMENT CONTROL				
ISSUE NUMBER	DATE	COMMENTS	AUTHOR	REVIEW
DRAFT 1	1/06/2022	Issue for comment	Simon Lunn	Joshua Romeo
DRAFT 2	30/06/2022	Update as per comment	Simon Lunn	Joshua Romeo
DRAFT 3	5/08/2022	Update Pre-Amble	Simon Lunn	Joshua Romeo
VERSION 1	4/10/2022	Issue	Simon Lunn	Joshua Romeo

1 INTRODUCTION

This Operational Waste Management Plan (OWMP) accompanies an Environmental Impact Statement (EIS) pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act), in support of a State Significant Development Application (SSDA) for the construction and operation of a new primary school at Gregory Hills (SSD-41306367).

This report addresses the relevant Secretary's Environmental Assessment Requirements (SEARs) issued for the project, specifically *Section 17 Waste Management* as outlined in Table 1.

Table 1 - SEARs 17. Waste Management

SEARs Requirement	Response
• Identify, quantify and classify the likely waste streams to be generated during operation.	Table 4
• Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	WASTE MANAGEMENT Page 12
• Identify appropriate servicing arrangements for the site.	WASTE COLLECTION Page 15 Appendix A
• If buildings are proposed to be demolished or altered, provide a hazardous materials survey.	NA – no buildings are proposed to be demolished

1.1 PROPOSAL

The proposal is for a new primary school at Gregory Hills that generally comprises the following:

- 44 General Learning Spaces.
- 4 Support Learning Spaces.
- Administration, staff hub, amenity and building service areas.
- Library, communal hall and canteen.
- Outside School Hours Care (OSHC) services.
- Sport courts, outdoor play space, a Covered Outdoor Learning Area (COLA) and site landscaping.
- Dedicated bicycle and scooter parking.
- Three (3) kiss and drop spaces for Supported Learning Students (SLS) located on Wallarah Circuit.
- On-site car parking.
- Signage.
- Footpath widening on Wallarah Circuit.

Figure 1 – Site plan (source Bennett and Trimble)

1.2 SITE DESCRIPTION AND LOCATION

The site is located in Dharawal Country at 28 Wallarah Circuit, Gregory Hills NSW 2557, and is legally described as Lot 3257 DP1243285.

The site is located within the Camden Local Government Area and is within the Turner Road Precinct of the South-West Growth Centre.

The site has an area of approximately 2.926ha (by Deposited Plan). This will be reduced to 2.907ha under approved DA2022/742/1 once Long Reef Circuit has been widened.

Topography is minimal with a fall from the south-east corner (RL116.5) to the north- west corner (RL113).

The site has three (3) street frontages:

- Wallarah Circuit (southern boundary)
- Gregory Hills Drive (northern boundary)
- Long Reef Circuit (eastern Boundary)

The site is primarily vacant land, with the exception of an existing group of trees in the southwest corner of the site that pre-date the subdivision and development of the precinct. There is also an existing electrical substation located on the south-eastern boundary.

There are easements of varying widths located to the northern boundary identified for drainage.

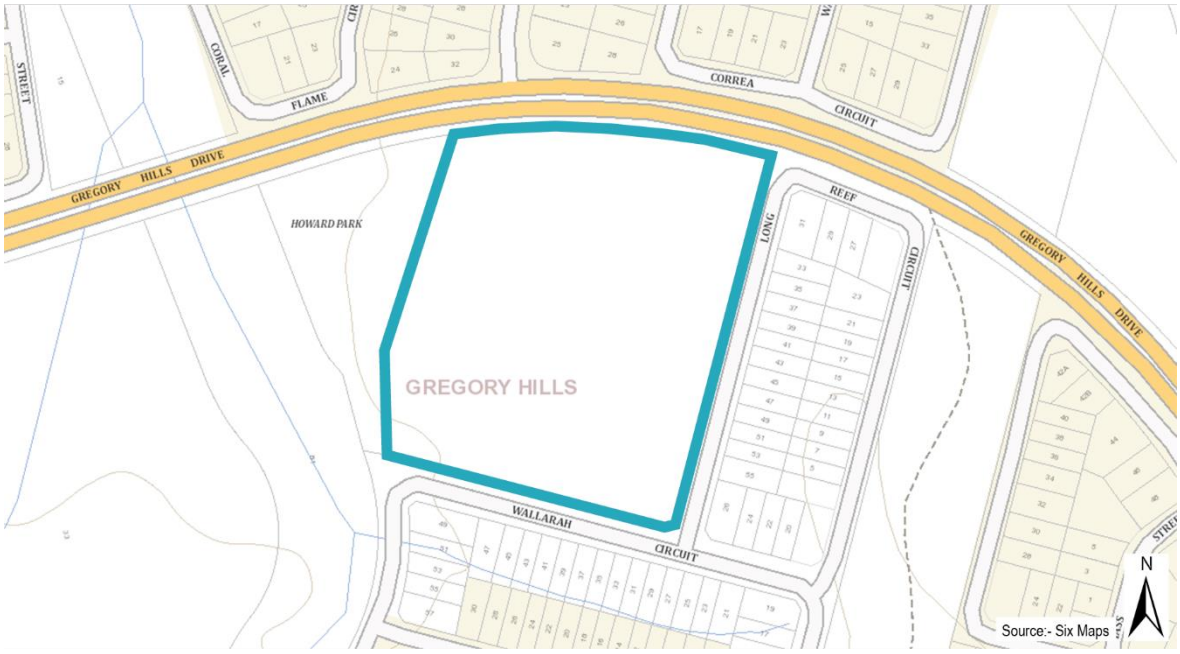


Figure 2 – Locality Map (Six Maps)

Figure 3 – Site Aerial Map, (Source Bennet and Trimble)

1.3 SURROUNDING DEVELOPMENT

To the north, east and south of the site is emerging and recently completed residential development.

To the east of the residential area fronting Long Reef Circuit are high voltage power lines within an easement which include pedestrian paths and cycleways.

To the west of the site, beyond Sykes Creek and Howard Park, is the Gregory Hills town centre. A pedestrian bridge links Wallarah Circuit with the town centre across Sykes Creek.

Figure 4 – Surrounding Development (Nearmap)

1.4 PURPOSE

This purpose of this OWMP is to:

- Detail the type and quantity of waste to be generated during operation of the school;
- Advise the appropriate waste storage, source separation and collection facilities to maximise recovery of recyclables;
- Ensure waste management facilities are:
  - safely and easily accessible to occupants and service providers; and
  - appropriately sized for storage of the expected waste.
- Describe the handling, storage and disposal of all waste streams generated on site;
- Discourage illegal dumping and prevent large quantities of waste piling up by describing appropriate onsite storage and removal services; and
- Help facilitate diversion from landfill targets of 80% of all waste generated as per the requirements of *NSW Waste and Sustainable Materials Strategy 2021-2027*, with scope to reach an aspirational target of 85% in anticipation of future mandatory targets as indicated in the *Cleaning Up Our Act: The Future for Waste and Resource Recovery in NSW. Issues Paper 2020.*

2 LEGISLATIVE REQUIREMENTS AND GUIDELINES

2.1 LEGISLATION AND REGULATIONS

Guidance documents and policies considered in the preparation of this OWMP are included below:

- NSW Environment Protection Authority (EPA) Waste Classification Guidelines 2014;

- NSW EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012;
- NSW EPA's NSW Waste and Sustainable Materials Strategy 2041 Stage 1: 2021–2027 (Published June 2021);
- 5 Green Star Design & As Built Credit Criteria;
- Secretary's Environmental Assessment Requirements (SEARs);
- Educational Facilities Standards & Guidelines (EFSG) NSW Updated 2020;
- Turner Road Growth Centre Precincts Development Control Plan, January 2018;
- Camden Council Development Control Plan 2019 (DCP 2019); and
- Camden Council Waste Management Guideline August 2019 (WMG 2019).

2.2 CAMDEN COUNCIL DCP REQUIREMENTS

In the absence of council guidelines specifically developed for schools, this OWMP adopts the council guidelines required for design and on-going waste management for Commercial Developments as listed in Table 2.

Table 2 - Camden Council Waste Management Guidelines OWMP Requirements, *Section 4.7 Ongoing Waste Management - Commercial Developments.*

Process Description	Requirement
1. Waste Generation	a. An estimation of waste generation for garbage, recycling, and any other relevant waste type. Estimates should be provided as a volume of waste per week (in litres); b. Number of each type of bin (garbage, recycling and any other relevant type) required by the development;
2. Handling & Storage	c. Number of waste collection/s for each type of waste per week; d. Whether collection will be conducted by Council or private contractor. e. Details of waste storage areas including dimensions, floor area (m^2) and location; f. Details of any waste management equipment included in the development. g. Details of dedicated waste collection point including dimensions, floor area (m^2) and location;
3. On-going Management	h. Proposed arrangements for management and collection of waste including contact details of relevant stakeholders; i. Proposed arrangements for the management, maintenance and cleaning of all waste/recycling management areas; j. Proposed management of litter within the property boundaries (the area of public footpath or public area adjacent to the premises is to be maintained in a clean and tidy condition); k. Proposed method to educate tenants/owners about waste and recycling.

2.3 TURNER ROAD GROWTH CENTRE PRECINCTS DCP REQUIREMENTS

This report addresses the Turner Road Growth Centre Precincts Development Control Plan, January 2018; Guideline *Section 8.3 Waste Management*

Objectives:

a. To avoid the generation of waste through design, material selection and building practices.
b. To encourage waste minimisation, including source separation, reuse and recycling.
c. To ensure efficient storage and collection of waste and quality design of facilities.

Controls:

A Waste Management Plan is to be submitted with all DAs with the exception of single dwelling housing or superlot subdivision applications. The Plan is to address:

- The method and location for the collection and disposal of waste.
- All business and industrial operations are to provide adequate on-site waste storage facilities that are readily accessible and appropriately screened from view.
- Development must demonstrate that the design takes into account refuse storage and collection without reducing the amenity of a dwelling or neighbouring lots.
- Storage areas for rubbish bins are to be located away from the front of development where they have a significant negative impact on the streetscape, the visual presentation of the building entry and on the amenity of residents, building users and pedestrians.
- In instances where the location of a bin collection area is not able to be achieved in front of the dwelling, Council may request the provision of waste bin pads. If required, waste bin pads are to be located on either side of the road and installed adjacent to the back of the kerb. They are to be installed by the developer during construction of the subdivision with a maximum of 3 lots permitted per bin pad. The pads are to be clear of any obstructions up to a height of 3.9m above ground.
- Subdivisions shall be designed to ensure garbage collection is not required to be undertaken from 4 lane sub-arterial roads. Subdivision design should only anticipate garbage collection from 2 lane sub-arterial roads where direct access to individual lots is proposed.

2.4 EDUCATIONAL FACILITIES STANDARDS AND GUIDELINES (EFSG)

The EFSG requires new and refurbished schools to establish operational waste targets as per section *DG02 Ecologically Sustainable Development 2.7.2 Operational Waste*. The minimum recycling targets adopted for this school reflects those from EPA's NSW Waste and Sustainable Materials Strategy 2041 Stage 1: 2021–2027, released in June 2021 which are to:

1. increase recycling rates to 80% for municipal solid waste; and
2. reduce total waste generated by 10% per person by 2030.

By setting realistic achievable goals, targets and performance, the OWMP is more likely to succeed, and the school can report on waste diversion and reduction targets in line with the Department of Education's waste reporting requirements. Examples of key performance indicators that may be relevant include:

2.5 GREEN STAR RATING– DESIGN & AS BUILT V1.3

Green Star is a voluntary sustainability rating system for buildings in Australia. The green star rating system aims to recognise projects that implement waste management plans that facilitate the re-use, recycling, conversion of waste to energy and stewardship of items to reduce the quantity of outgoing waste to landfill.

One (1) point is awarded where a qualified waste auditor prepares an Operational Waste Management Plan (OWMP) for the development in accordance with best practice approaches. The Operational Waste Credit - *8A PERFORMANCE PATHWAY: SPECIALIST PLAN* requires projects to implement waste management plans which address the measures presented in Table 3.

Table 3 - Summary of Green Star requirements and measures addressed in this OWMP

8A PERFORMANCE PATHWAY		
	GREEN STAR REQUIREMENTS	**MEASURES ADDRESSED**
Separation of waste streams	The following waste streams must be provided with separate bins or containers: • general waste; • paper and cardboard; • glass; • plastic; and • at least one other waste stream. Advice from the Green Building Council of Australia GBCA indicates that where the waste collection service collects recyclables as a comingled stream, the requirement to provide separated waste streams for these recyclables is removed. This is permissible to the extent of comingling accepted by the waste collection service. For example, if glass and plastic are collected as comingled, then paper and cardboard is still required to have a separated waste stream.	This OWMP outlines provision for the management and collection of the following waste streams: • general waste; • paper and cardboard; • soft plastics; • comingled recycling (incl. glass); • Container Deposit Scheme (Return & Earn); and • food / organics; Separate bins will be provided for each waste stream stored in an external waste pad area and bins will be clearly marked.
Dedicated Waste Storage Area	Two dedicated and sufficiently sized areas for the storage and collection of the applicable waste streams shall be provided.	Calculations for the waste storage area for the school have been carried out based on: • school areas and number of students attending the school; • collection method and materials handling requirements of each stream; • collection frequency for each waste stream; and The waste generation estimates are summarised in Table 7.

8A PERFORMANCE PATHWAY		
	GREEN STAR REQUIREMENTS	MEASURES ADDRESSED
Access to Waste Storage Area	Access requirements for waste collection areas must adhere to best practices. These access arrangements must be as outlined within third-party Best Practice Guidelines. Best Practice Guidelines outline the following requirements: • The access pathway for wheeling bins between a central waste storage point and the collection point must be level and free of steps or kerbs. • The maximum manual handling distance between the storage point and the collection point for mobile garbage bins is 20 meters.	The waste & recycling storage area is located within the school boundary as shown in Appendix A. Vehicle swept paths are also shown in Appendix D. Further detail regarding vehicle access is described in the traffic management plan. The pathway for transporting waste from the waste & recycling storage enclosure to the collection point is level and free of steps.

3 WASTE GENERATION

3.1 WASTE TYPES

The NSW EPA Waste Classification Guidelines (NSW EPA, 2014a) groups wastes that pose similar risks to the environment and human health, as defined in the Protection of the Environment Operations Act 1997. The primary waste streams expected to be generated and corresponding EPA classifications for the ongoing operation of the development are summarised in Table 4.

Table 4 - Potential Waste Types and Classifications & AS 4123.7

EPA Classification	Waste Stream	Waste Type	Bin Colour	Waste Management
General solid waste (putrescible)	Organics	Food Organics	Lime Green	Food waste bin
		Garden Organics	N/A	Composted on site or removed as required by greenskeeper/arborist
General solid waste (non-putrescible)	Recycling	Metals (steel, aluminium, stainless)	Yellow	Comingled recycling bins
		Hard Plastics (recyclables)		
		Glass (bottles, containers, jars)		
		Soft Plastic (plastic bags, bread bags, bubble wrap, plastic wrappers, etc.)	Any Colour	Plastic recycling bins
		Return & Earn Plastic Bottles (ONLY containers with the 10c refund label)	White	Container Deposit Scheme
		Paper (excluding paper towels, toilet paper & tissues)	Blue	Paper & Cardboard recycling bins

EPA Classification	Waste Stream	Waste Type	Bin Colour	Waste Management
		Cardboard (excluding waxed cardboard)		
	General	Non-recyclable Plastics (Dirty/contaminated plastic)	Red	General waste bins
		General refuse		
Potentially hazardous waste	Other	Chemical liquid & solid waste	N/A	Science department to manage storage, collection and Material Safety Data Sheets (MSDS)
		Garden chemicals		To be managed and disposed of by the landscaping / gardening contractor
		Nespresso pods and capsules		Fill your Nespresso Australia Post satchel with used capsules and return to Nespresso Boutique via Australia Post
		Sanitary waste (including feminine hygiene products, nappy waste)		Collected by an appropriate contractor or sub-contractor on an as required basis
		Lead-acid or nickel-cadmium batteries		
		secure destruction (of sensitive documents)		
		Used printer cartridges		
		e-waste		

Designers must refer to EFSG - AS 4123.7 for colours, markings, and designation requirements for further guidance on bin colour, waste stream and waste type.

3.2 WASTE HIERARCHY

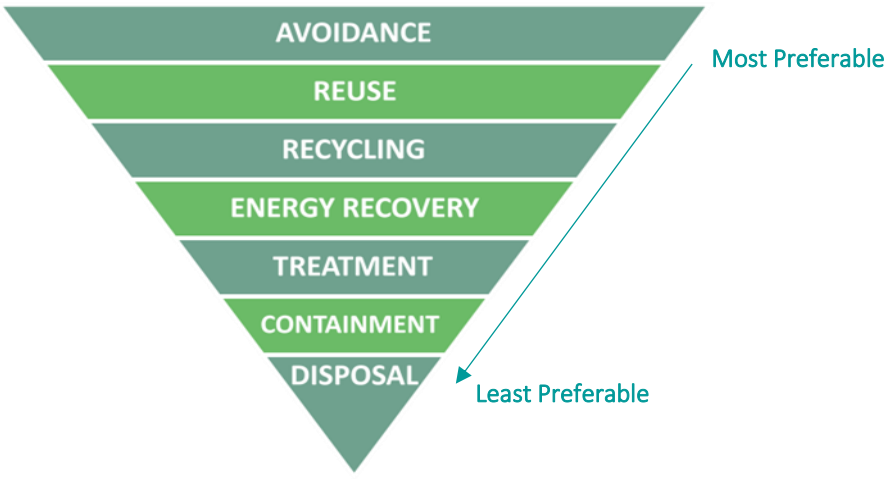


Figure 1 - Order of the Waste Hierarchy

The EFSG requires new and refurbished schools to identify opportunities for reuse and recycling in the operation of the facilities. Table 5 indicates waste management practices that should be adopted in accordance with the *Waste Avoidance and Resource Recovery Act* 2001 (NSW EPA, 2014).

Table 5- Implementing the Waste Hierarchy

Implementing the Waste Hierarchy
Avoid / Reduce
Reduce general waste at the source by identifying returnable delivery systems including packaging and purchasing.
Require suppliers to use stackable/returnable/reusable boxes instead of disposable cardboard boxes.
Reduce consumption of resources that have the potential to become waste through strategies such as green purchasing - purchasing items with reusable, recyclable, have no packaging or are biodegradable.
Examine all processes to determine where wastes are produced and devise measures for waste prevention or reduction.
Devise ways of reducing waste with students so they too can share in the savings (i.e. rewards for students who reduce waste).
Keep track of changes and improvement.
Reuse
Promote the reuse of waste food through school composting program
Set up a reuse area for excess materials. Donate old (useable) computer/electrical equipment, furniture and fittings to staff, charities, or sell at auction.
Reusing storage drums, cartridges and containers where possible.
Selling or donating usable waste materials such as clothes to other organisations.
Recycle
Introduce recycling systems for major waste streams generated onsite including: • Paper and cardboard; • Food / Organics; • Soft Plastics; • Bottles and cans; and • Packaging and plastics.
Modify or refresh signage on recycling bins or in recycling areas to promote correct recycling practice.
Provide regular information and education to staff on appropriate usage and recycling bins.
Investigating alternative uses for organic waste that cannot be reduced or reused (i.e. composting).
Provision recycling stations within the school with clear waste signage to ensure source separation.
Explore opportunities for recycling waste types not included in the mandatory stream separation (i.e. batteries, coffee cups, e-waste, etc.)
Monitoring and assessment
Request waste contractor to provide monthly data and reporting on recycled and materials sent to landfill.

4 WASTE ESTIMATES

4.1 ESTIMATE OF QUANTITIES

The Camden Council Development Control Plan DCP 2019 has been referred to in the development of the waste estimates in combination with a desktop assessment of waste generated from similarly structured schools. Indicative waste volumes from other schools across NSW are presented in Table 6 .

Table 6 - Weekly waste generation (Litres/week) across different schools

School	# Students	General	Recyclable
Parramatta Public School	600	6000	2400
Pendle Hill High School	450	4500	Not Determined
Mainsbridge School	130	1980	1920
Erskine Park High School	1011	6000	1500

Erskine Park High School

In addition, an in-depth review of waste composition has been estimated based on the results of the Erskine Park High School Waste Audit 2019 conducted by APC Waste Consultants in collaboration with the Department of Education. The waste composition results from this audit were considered representative of waste that will be generated at the new primary school at Gregory Hills. This review informs the waste generation rates broken down into the 6 required streams as per the EFSG requirements.

4.2 ESTIMATE OF QUANTITIES

The waste stream composition assessed through the Erskine Park High School audit was adopted along with the estimated quantities from Table 6 to form the basis for the waste generation estimates provided in Table 7. The following assumptions have also been applied:

- The occupancy rate = 5 days per week (with students present during the NSW DoE designated active term dates);
- Number of students proposed = 1012;
- Mobile garbage bins (MGBs) for waste streams and separation will be used for the storage of waste on the waste pad – Bin Size in Table 7 is referring to the size of MGB;
- Reference was made to the waste generated from comparable schools listed in Table 6; and
- Weekly collection has been assumed for each waste stream; however, the frequency of waste collection will be made once final waste contractor agreements are in place.

Table 7 - Waste Generation Estimates

Material Type	Vol. (L) per collection	Bin Size (L)	# Bins	Bin Area (sqm)
Paper Cardboard	1501	1100	2	3.4
Comingled	1682	1100	2	3.4
Soft Plastic	1622	1100	2	3.4

Material Type	Vol. (L) per collection	Bin Size (L)	# Bins	Bin Area (sqm)
Organics	300	120	3	0.81
Return & Earn	180	240	1	0.43
General	2125	1100	2	3.4

4.3 WASTE STORAGE AREA

An approximately 4.4m x 9.1m rectangular sealed waste pad area will be provided for the storage of Mobile Garbage Bins (MGBs) to contain the applicable waste streams. It will be located to the North of the main school building, as shown in Appendix A.

The waste storage pad area is ~40m^2 which is sized to accommodate all bins or containers, for all applicable waste streams, for at least one collection cycle. A detailed drawing of the waste storage pad showing the proposed location of each bin is presented in Appendix B. The area is sufficiently sized to accommodate waste storage requirements of the school with weekly collections. The waste storage pad is positioned appropriately to allow access for waste collection vehicles turning requirements.

The waste storage pad will be suitably screened from public view using materials such as fencing, natural shrubs or a hedge row.

4.4 WASTE FACILITIES MAINTENANCE

Responsibility for cleaning of waste storage pad and service compartments will be designated to the cleaning staff. The basic requirements for waste storage area are as follows:

- To be of adequate size;
- Integrated with building design and site landscaping;
- Suitably screened from public areas and to conceal bins from view from the street;
- Area to be level, with appropriate access for collection;
- Assurance that OH&S requirements for waste contractors are met;
- Access to waste storage pad, convenient to all users and to meet WorkCover NSW Occupational Health and Safety guidelines;
- Bin lids to be closed while unattended to prevent against birds and vermin.

5 WASTE MANAGEMENT

5.1 SEGREGATING WASTE

Recycling stations will be strategically placed across all areas of the school yard, canteen, offices, school halls to allow for separation at the source. The recycling station should have the following five categories:

1. Soft plastic & packaging recycling – separate all soft plastics and packaging.
2. Commingled Recycling – only recyclable plastics (code 1-7), aluminium and steel cans and glass. NO RETURN & EARN CONTAINERS.
3. Return & Earn (10c containers) – ONLY containers with the 10c refund label.

4. Organics – all food waste, small amounts of garden vegetation.
5. Paper & Cardboard – Only paper and cardboard.

Figure 2 –Example of an school recycling station used to promote separation at the source *(Source ABC News - Recycling Station at Canberra's Maribyrnong Primary School)*

Effective segregation is best achieved through:

- Education and training to all staff, contractors, visitors and students who generate waste, such as the waste wise schools' program;
- Ensuring identifiable colour coding and labelling of bins for each waste stream is implemented and maintained;
- Ordering and provision of suitable containers at appropriate locations; and
- Include appropriate bins for the dominant waste type of the area such as in food preparation and administrative areas.

Small quantities of hazardous wastes may be generated through the ongoing operation and maintenance of the school (e.g. light bulbs, e-waste, batteries, oil, chemicals or paint). These materials will be collected as they are generated by an appropriate contractor or sub-contractor and as such will not require their own designated storage location.

5.2 COMPOSTING

Initially all of the schools food organic waste will be processed offsite, through the collection of this material from a waste contractor. The final usage of this material will be determined by the waste contractor, however it is likely that this material will be used for either generating energy (biogas), compost and/or liquid fertilisers.

For any composting to occur within the school grounds, an on-site compost recycling program will be required. This will result in the food / organic waste material getting re-directed from the organics bin

to a locally managed reuse program where it can be either composted in a school's composting bay, fed to chickens (if present) or a school worm farm or similar. The school should look to implement this once a designated team / community is set up to do so.

5.3 RETURN & EARN

These containers have the potential to generate a revenue in the order of thousands of dollars per year for the school. The Return & earn containers can be refunded in several ways including:

1. A teacher or responsible school person / staff would manage to take the bottles to an Automated Depot. These depots deal best with 500+ containers as multiple can be put in at a time;
2. Arrange for companies such as red frog recycling that can collect the bottles for a 10% fee of the total value of the containers; and
3. Alternatively, the chosen waste contractor can provide a Container Deposit Scheme pick up in 240L bins with a reduced rebate per eligible container.

In either case, return and earn containers will be stored in the waste storage pad, next to the other waste streams.

5.4 SOFT PLASTIC & PACKAGE RECYCLING

Currently most major waste collection companies (Cleanaway / Bingo etc) do not service a dedicated soft plastics collection route for MGBs. There are some types of plastic they do collect, but these are usually from commercial operations with homogenous and often compacted plastic types (think factory wrapping etc.). Ultimately the Educational Facilities Standards and Guidelines (EFSG) guidelines state schools should separate soft plastics, so at this point need a plan for separate collection / disposal is required.

Soft plastics could get disposed of via the Redcycle collection system via Coles or Woolworths Soft Plastic Recycling bins. At this point the school staff will need to collect all soft plastics and drop them at a Coles or Woolworth collection point. The closest is at Woolworths Gregory Hills, Cnr of Village Circuit & Gregory Hills Dr, Gregory Hills NSW 2557. Ideally there will be enough demand for soft plastics to have their own collection route via an approved waste contractor at some point in the future.

5.5 WASTE MOVEMENT WITHIN SCHOOL GROUNDS

It is anticipated that staff and visitors will dispose of waste at small waste and recycling stations located throughout the school at areas such as outdoor playground, canteen, classrooms and administration areas. These small recycling stations will have separate general waste and recycling bins and relevant signage for each. The small bins will be then transported by cleaning contractors via the nominated egress corridors to the waste storage pad and placed in the correct waste stream MGBs.

Figure 3 – School Waste Pathway

6 WASTE COLLECTION

6.1 COLLECTION POINT

The area adjacent to the waste storage pad has been nominated as the waste collection point as shown in Appendix C. The appointed waste contractors will wheel the MGBs for each waste stream from their resting position to the back of the truck for collection and then wheel the MGBs back at nominated times in accordance with the relevant waste contract. The access pathway to the waste collection point is sufficiently sized to accommodate waste contractor vehicles in accordance with the specifications in the *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (EPA 2012).* The nominated waste collection point is within the boundary of the site and not within a public place.

6.2 BIN SIZES

Waste will be stored and collected from the following standard MGB types.

Table 8 – Standard Mobile Garbage Bin (MGB) Dimensions (in mm)

Dimensions	120L	240L	660L	1100L
Height	940	1080	1250	1470
Width	485	580	1370	1370
Depth	560	735	850	1245

6.3 VEHICLE MOVEMENTS

Waste collection vehicles shall enter and exit the site, through the access point along Long Reef Circuit (Appendix D). The location of the waste pad and access is shown in XXX

Waste vehicle access will occur in the designated on-site waste collection area located in the northeast corner of the School site, accessible along Long Reef Circuit.

This will be done in such a manner as to minimise risk of damage to the roadway, footpath or services under the ground. Waste collection vehicles will not obstruct access to adjacent premises, roadways,

the footpath or the primary pedestrian entrances to the school. In addition, waste collection will be carried out with due care for public safety including other road users, cyclists and pedestrians.

The loading area has been designed in accordance with AS 2890.2:2018 and can accommodate up to one 12.5m heavy rigid vehicle (HRV). This accounts for the most common type of waste collection vehicles required to service this school. The truck will enter the School in a forward direction, before reversing into the loading bay from within the turnaround area on-site. Trucks can exit in a forward direction.

Other points to note include:

- The different waste types (General, comingled, food waste etc) are likely to be collected by separate trucks at separate times/days;
- Swept path diagrams are shown in Appendix D. More details are provided by traffic consultant;
- The concrete slab and driveway should be able to support the weight of a loaded truck and bins/skips (max 23 tonnes); and

6.4 COLLECTION HOURS

Collections should be scheduled outside of peak school hours to reduce risk from the truck and bin movements affecting the school children.

The waste collection company in consultation with school management will determine the collection schedule based on school location and logistical access. These collection days and times are subject to change based on the school and waste contractor agreement.

6.5 CONTRACTORS

A contract with a licensed waste contractor for the removal of all waste, will be arranged prior to an occupation certificate or commencement of use (earlier of the two). The contract will also include specific provisions for the times and manor of collections and the verification of recycling and/or disposal of all the facility's aforementioned waste streams and potential intermittent streams including but not exclusively: batteries, electronics, light bulbs, smoke detectors and any other fixtures or fittings that are generated as recyclable waste.

Upon engagement, a precondition is written evidence of a valid and current contract under the Schools Contract 9698 with a licensed collector for waste and recycling collection will be provided to School NSW. The contract will, as stated above, include specific details on the method, timing and location of both the licensed recycling facilities used and/or licensed landfill(s) used for the disposal of non-recyclable waste.

Waste management service contract

Schools must use buy.NSW Contract 9698 agreement for waste collection services. This contract is mandatory and covers waste management services (bins, collection, transport, processing, treatment and disposal). Waste streams include general waste, organic, grease trap, recycling, secure destruction and clinical.

7 ONGOING MANAGEMENT

This OWMP forms the basis of operational waste management on site for the school. It is a living document which will be regularly revised to ensure waste management practises are in accordance with current and future regulations. Compliance by the school's administrative manager, staff, cleaning contractors and waste collection contractor is essential to ensure the efficiency of the system. As such, all stakeholders engaging with the OWMP will need to maintain awareness of any new relevant guidelines and regulations that come into effect during the operational phase of the development.

7.1 SIGNAGE

Signage will be provided in all waste disposal, storage and collection areas demonstrating how to use the waste management system and include what materials are acceptable in each bin. All waste streams will be stored in clearly labelled; colour coded bins as appropriate to ensure that waste streams are not inadvertently mixed. Signage will be prepared and located on site in accordance with the Australian Standard (AS 1319) for safety signs, and the NSW EPA and Australian Standard for recycling signage. Examples of signage are shown in APPENDIX E.

Designers for signs must refer to AS 4123.7 Mobile waste containers - Colours, markings, and designation requirements for further guidance on bin colour, waste stream and waste type.

Table 9 - AS 4123.7 Waste Storage Requirements

Bin Colour	Waste Stream	Waste type
Lime Green	Organics	Food Organics and Garden Organics
Yellow	Recycling	Comingled Containers
Blue	Recycling	Paper and Cardboard
White	Recycling	Container Deposit Scheme
Any colour	Recycling	Soft Plastic
Red	General	General Waste

7.2 EDUCATION & TRAINING

It is vital that all students, staff, parents, P&C and other stakeholders such as cleaning staff, waste service providers are informed about the school's waste management initiatives and that the goals and targets are clearly communicated.

The school will aim to build a strong culture of waste reduction and recycling through regular waste management updates at assemblies, student gatherings, Parents and Citizens (P&C) meetings, staff inductions and meetings, ideally within an effective framework such as the waste wise schools' program. The following strategies could be implemented to increase recycling rates:

- Promote the use of Recycling Stations and associated recycling bins
- Introduce packaging free days, weeks etc.
- Ban single use plastic items from school canteen (e.g. straws, cups, plastic cutlery etc.)
- Replace paper towels with either hand dryers or reusable towels

- Educated students, school staff, parents and other stakeholders every step of the way

7.3 ROLES & RESPONSIBILITIES

It is expected that all personnel will commit to the OWMP and be responsible for their own actions in adhering to the waste management objectives.

Table 10 - Roles and Responsibilities

Responsibility	Activity	Monitoring
School Facility Manager	• Ensuring staff (and students) are inducted into the OWMP and other applicable management plans. • Responsible for undertaking procurement of operational materials in accordance with the waste management hierarchy. • Segregation of waste streams where required to ensure appropriate use, treatment and/or disposal. • Compliance with applicable environmental legislation and project conditions. • Undertake inspections to ensure compliance. • Maintenance of waste-related signage, colour coding and MGBs. • Security of waste storage during day-to-day business. • Ensure no waste is placed on the public way. • Promoting and enabling compliance with the OWMP by other stakeholders (cleaners, staff, students etc.) through delivery of positive waste management culture at the school.	Monitor contractors and cleaners for compliance to the OWMP.
Cleaners Removing Material	• Responsible for acting in accordance with the OWMP. • Transfer of waste within the school. • Transfer of MGBs to the nominated waste storage pad and return of MGBs to waste school areas. • Clean areas around waste storage pad. • Ensure no waste is placed on the public way.	Ensure there is no contamination in segregated bins.
Staff	• Adherence to the OWMP. • Placement of waste/recycling within correct bins. • Notify manager/cleaning contractor when bins are overfull and require transport to the MGBs. • Informing the Administrative Manager of any waste management incidences. • Reinforcing positive waste management culture as defined by administrative manager amongst colleagues and students.	Ensure there is no contamination in segregated bins.
Students	• Responsible use of waste facilities and appropriate disposal of waste. • Encourage BYO for the following items: water bottles, containers, straws, reusable utensil sets, washable hand towel, carry bag and coffee cups. • Engaging with positive waste management culture as delivered by teachers.	Confirm they are aware of responsibility. Set recycling targets with teachers / staff where required.
Waste Contractors	• Acknowledge and comply with waste targets. • Use reasonable endeavours to assist reaching the waste targets. • Provide feedback on actual volumes of waste and recycling collected to enable waste volume evaluation by Administrative Manager.	Quantify the amount and types of waste. Assess for contamination.

8 REVIEW PROCESS

School Management will undertake regular reviews of the Operational Waste Management Plan including the following indices:

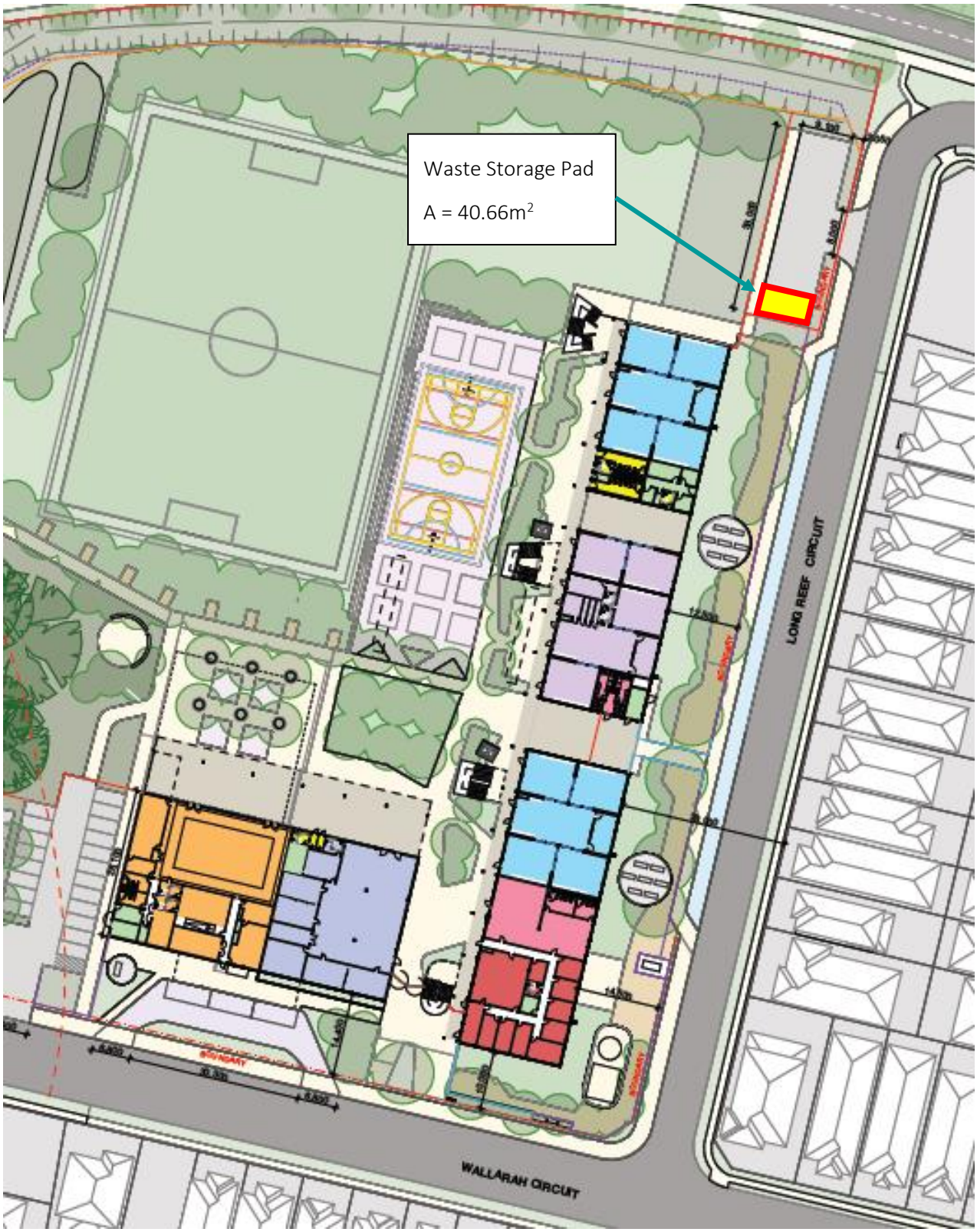
- Waste Management Contract
- Effectiveness of onsite Waste and Recycling Systems
- On Site Signage and Education
- Waste Contractor Performance & Licences
- Data on Recycling Rates
- Overall Recycling Goals and Targets

9 LIMITATIONS

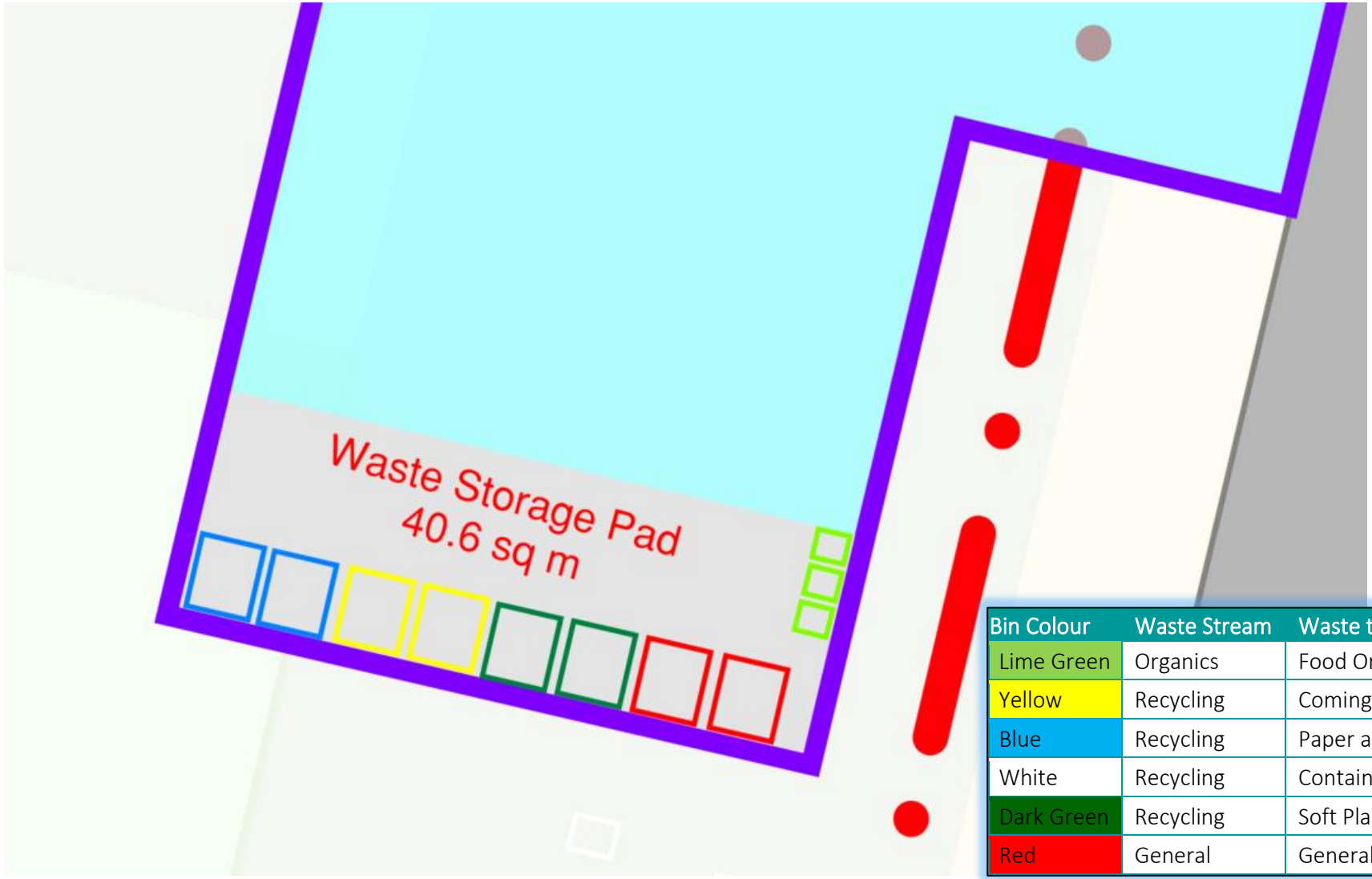
This report documents an Operational Waste Management Plan (OWMP) as part of the SSDA with the following limitations:

- Estimates and details contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by the client, and third parties including Council and government information;
- The figures presented in the report are an estimate only – the actual amount of waste generated will be dependent on the occupancy rate and waste generation intensity as well as the approach to educating visitors, staff and students regarding waste management operations and responsibilities;
- The School Facility Manager will make adjustments as required based on actual waste volumes (if waste is greater than estimated) and increase the number of bins and collections accordingly;
- The report will not be used to determine or forecast operational costs or prepare any feasibility study or to document any safety or operational procedures;
- This OWMP has been prepared with reference to applicable legislation, regulations and guidelines in effect at the time of writing and no guarantee can be made that the recommendations provided will remain compliant with future mandatory requirements during the operational lifespan of the development;
- The report has been prepared with all due care, however, no assurance or representation is made that the OWMP reflects the actual outcome and EcCell will not be liable for plans or outcomes that are not suitable for the purpose of the project, whether as a result of incorrect or unsuitable information or otherwise; and
- EcCell offer no warranty or representation of accuracy or reliability of the OWMP unless specifically stated.

APPENDIX A – LOCATION OF WASTE STORAGE PAD (YELLOW)



APPENDIX B – PROPOSED BIN LAYOUT WITHIN THE WASTE STORAGE PAD



Bin Colour	Waste Stream	Waste type
Lime Green	Organics	Food Organics and Garden Organics
Yellow	Recycling	Comingled Containers
Blue	Recycling	Paper and Cardboard
White	Recycling	Container Deposit Scheme
Dark Green	Recycling	Soft Plastic
Red	General	General Waste

APPENDIX C – LOCATION OF THE WASTE COLLECTION POINT

APPENDIX D – SWEPT PATHS

APPENDIX E – EXAMPLES OF APPROPRIATE WASTE SIGNAGE