Costco Distribution Centre

Costco Wholesale (Australia) Pty Ltd

Waste and Recycling Management Plan

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Document history and status

Revision	Date	Description	By	Review	Approved
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Contents

1. Purpose of this Plan

This Waste Management Plan (WMP) has been prepared by Jacobs commissioned by Costco Wholesale (Australia) Pty Ltd (Costco Wholesale) to address the Secretary Environmental Assessment Requirements (SEARs) and Council's Requirements as they relate to waste management, and to inform the preparation of the EIS for the development.

The benefits of implementing an effective WMP include:

- minimised risk of environmental pollution, occupational health and safety incident, litter, odour and pests;
- reduced costs associated with staff resource time, waste servicing and waste disposal; and
- improved amenity, environmental, and social outcomes.

Waste management provisions for the construction and operational phases of the development have been outlined in separate sections of this Plan.

1.1 Scope

This WMP addresses Stage 2 construction and operational development application works. Stage 1 has been addressed via a separate development application. The Operational WMP makes allowances for both stages.

1.2 Secretary's Environmental Assessment Requirements

SEARs for the State Significant Development (SSD 8209) for the Stage 2 development application for the Oakdale Wholesale Facility were issued by the NSW Department of Planning and Environment on 27 February 2017. Table 1 below identifies the section/s of this WMP which address the SEARs as they relate to waste management.

Table 1 SEARs for the Development (SSD 8209)

SEARs (of relevance to the Waste Assessment)		Relevant Section/s of the Plan
Key Issues: Waste	Details of the quantities and classification of all waste streams to be generated onsite.	Sections 4.1 Section 5.1 Appendix B and C
	Details of waste storage, handling and disposal.	Sections 4.4 and 4.6 Sections 5.4 and 5.6
	Details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.	Section 3 Section 4.1 to 4.3, 4.7 to 4.12 Section 5.1 to 5.3, 5.7 to 5.9
Key Documents:	• Waste Avoidance and Resource Recovery Strategy 2014-2021 • Waste Avoidance and Resource Recovery Performance Report 2006 (DEC) • EPA's Waste Classification Guidelines • Protection of the Environmental Operations (Waste) Regulations 2005 • Resource Recovery Exemption	Section 3 Section 4.1, to 4.3, 4.8 to 4.12 Section 5.1 to 5.3, 5.7 to 5.9
Penrith City Council Requirements:	The EIS will address the applicable environmental planning instruments and other statutory requirements including: • Penrith Development Control Plan 2014 (in particular, Part C – City-wide Controls and Part D, Chapter D4 – Industrial Development • Building Code of Australia, Australian Standards	Section 3 Whole of Document

2. Overview of the Development

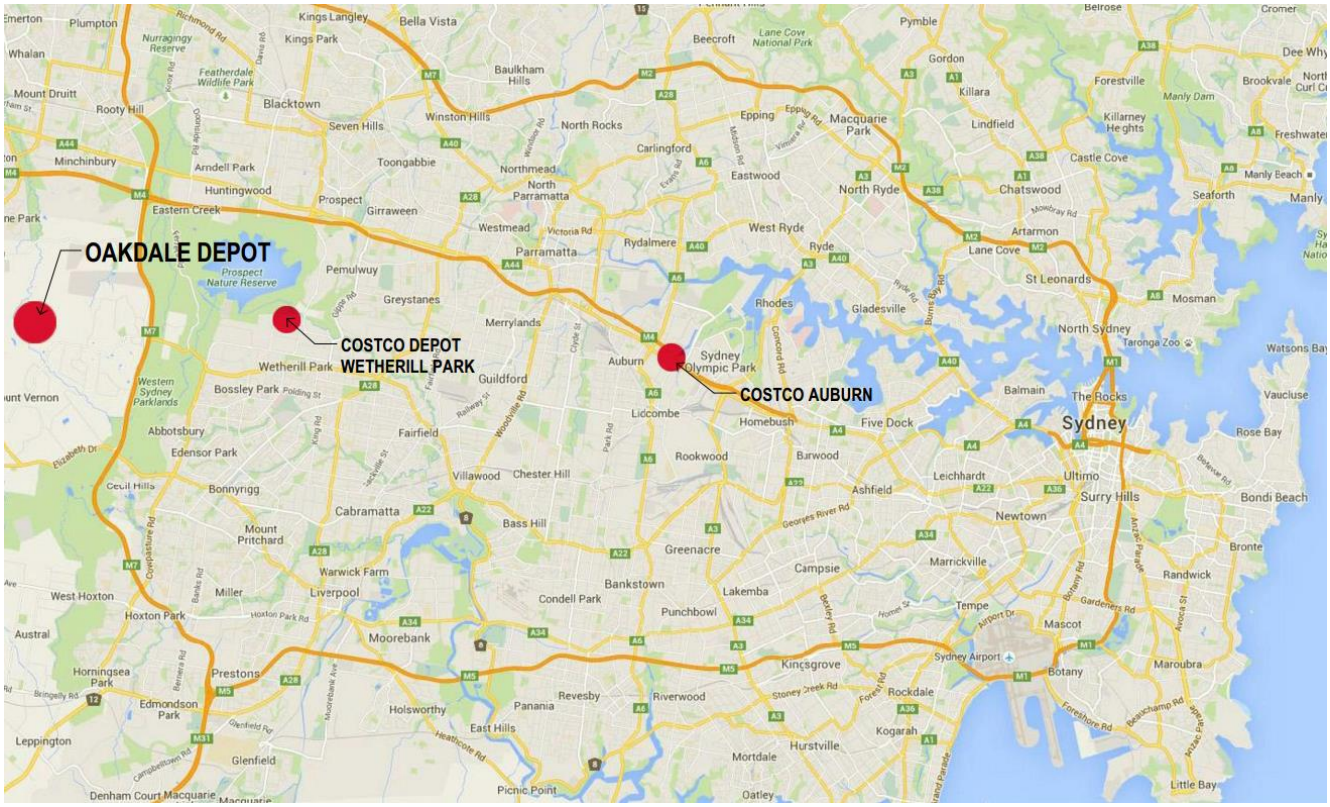
2.1 Site Locality

The proposed Oakdale Wholesale Facility will be located on Development Site 4A within Precinct 4 of the Oakdale South Estate (OSE). The subject site is bound by Estate Road to the north-west, the estate boundary to the east and riparian corridor to the north.

The OSE site is located on Old Wallgrove Road in Eastern Creek with in the Local Government Area (LGA) of Penrith City Council (Council).

The regional map below illustrates the locations of the existing Wetherill Park and Auburn Costco Wholesale facilities, in context to the proposed new Costco facility at Oakdale.

Figure 1 Regional Map



2.2 Project Description

The project comprises the construction, fit out and use of a warehouse and distribution facility to be used for the storage and distribution of goods for Costco Wholesale. The facility would represent Costco Wholesale's primary distribution facility in Australia, with the closure of its existing facility at Wetherill Park.

Goodman Limited (Goodman) is developing the estate and will be undertaking estate-wide infrastructure work and earthworks including preparation of the building pad. Costco will then undertake construction of the depot buildings, pavement and landscaping. No demolition of existing structures will be undertaken at the site, hence this element has been excluded from the WMP.

An overview of the building schedule and breakdown by main operational activity areas is provided below in Table 3 and Table 4.

Table 2 Building Area Schedule – Stage 1 & 2

Site and Building Area Schedule	Area (m²)
Stage 1 Site Area	**103,240**
Stage 1 Depot and Storage Areas	**20,523**
Dry Depot & Storage Area	12,081
Wet Depot & Storage Area	8,442
Stage 1 Building	**1,946**
Guard House	72
Office	1,689
Plant Room	40
Switch Room	145
Stage 1 Depot and Building Area Total	**22,469**
Hardstand	120,410
Total Number of Staff Parking	236
Total Number of Docks	139
Stage 2 Site Area	**26,457**
Stage 2 Building / Depot Area	**13,065**
Stage 2 Future Development	9,949
Stage 2 Depot	3,116
Hardstand	120,410
Total Number of Staff Parking	92
Total Number of Docks	30
Total Stage 1 & 2 Site Area	**129,697**
Total Stage 1 & 2 Depot & Building Area	**35,534**
Total Dry Depot & Storage Area	12,081
Total Wet Depot & Storage Area	8,442
Total Number of Staff Parking	236
Total Number of Docks	139

Table 3 Breakdown by Main Operational Activity Type

Activity Type	Stage 1	Stage 2	Area (m^2)
Office	1,761	-	1,761
Warehouse	20,523	13,065	33,588
TOTAL (m^2)			**35,349**

Costco Wholesale warehouse provide a large and diverse range of product category selections to the market. They currently operate two facilities in Sydney, located at Auburn and Wetherill Park. It is proposed that both facilities are moved and consolidated into the one site in Oakdale.

No expansion of the current warehouse activities are currently proposed for the relocation of operation.

3. Relevant Legislative and Guidance

Waste legislation and guidance applicable to the development is outlined below in Table 5.

Table 4 Waste Legislation and Guidance

Name of Legislation / Guidance	Authority	Notes
Waste Avoidance and Resource Recovery (WARR) Act 2001	NSW Environment Protection Authority (EPA)	The WARR Act promotes extended producer responsibility of waste and resources through minimised consumption of natural resources, efficient use of natural resources, and minimised disposal of waste through waste avoidance, reuse and recycling. It promotes industry and community participation and responsibility for reducing and managing waste.
Protection of the Environment Operations (POEO) Act 1997 & Amendment Act 2011	NSW EPA	The POEO Act enables the Government to establish legislative instruments and waste regulation for setting environmental standards, goals, protocols and guidelines.
POEO (Waste) Regulation 2014	NSW EPA	The Waste Regulation sets out legislation relating to the waste levy in NSW, waste tracking requirements and management requirements for dangerous goods and hazardous wastes.
Waste Classification Guidelines (Part 1) 2014	NSW EPA	The Guidelines provide information on how to classify, manage, treat and dispose of different classifications of waste to ensure risks to the environment and human health due to inappropriate management of waste are minimised.
Waste Avoidance and Resource Recovery (WARR) Strategy 2014-21	NSW EPA	The WARR Strategy outlines the State Government's long term targets for waste avoidance, resource recovery, and litter and illegal dumping for the domestic, construction and demolition, and commercial and industrial sectors which are necessary for the environmental and economic future of the State of NSW. Development projects contribute to these targets.
Penrith Development Control Plan (DCP) 2014	Penrith City Council	Section C5 of Council's DCP requires that proponents submit a WMP when lodging a development application. The WMP must include: • The types and volumes of wastes and recyclables likely to be generated • How waste and recyclables will be stored and treated on site • How the residual non-reusable or non-recyclable wastes and recyclables are to be disposed of • How ongoing waste management will operate once the development is complete (for the life of the development)
Better Practice Guideline for Waste Management in Commercial and Industrial (C&I) Facilities 2012	NSW EPA	The Guidelines have been generated as a handy reference and resource for contractors, architects, designers, consultants, developers, building owners and managers. They contain minimum provisions for waste management in commercial and industrial facilities.
Building Code of Australia (BCA)	Australian Building Codes Board	The BCA have the aim of achieving nationally consistent and minimum standards of relevant health and safety, amenity and sustainability objectives. The BCA is a set of technical provisions for the design and construction of buildings and other structures.
Relevant Australian Standards (AS)	Standards Australia	The Standards are specifications, procedures and guidelines which ensure products, services and systems are safe, reliable and consistent. Australian Standards which apply to waste management include AS 2890.2 (parking facilities for off-street commercial vehicles), AS1319 (safety signs) and AS4123.7-2006 (mobile waste containers and colour coding requirements).

3.1 Costco Wholesale's Sustainability Commitment

The Costco Wholesale Corporation's Sustainability Commitment is communicated to all offices. It comprises of a Mission Statement, a Code of Ethics, a list of Sustainability Principles and Sustainability Responsibilities.

Sustainability Principles:

1. *For Costco to thrive, the world needs to thrive. We are committed to doing our part to help.*
2. *We focus on issues related to our business and to where we can contribute to real, results-driven positive impact.*
3. *We do not have all of the answers, are learning as we go and seek continuous improvement.*

Sustainability Responsibilities:

1. *Take care of our employees.*
2. *Support the communities where our employees and members live and work.*
3. *Operate efficiently and in an environmentally responsible manner.*
4. *Strategically source our merchandise in a sustainable manner.*

The Sustainability Commitment is available here: https://www.costco.com/sustainability-introduction.html

Recycling programs have been implemented in all Australian warehouses. Broader waste minimisation efforts have been implemented to reduce energy consumption and greenhouse gas emissions associated with operations and logistics for all warehouses.

3.2 Costco Wholesale's Waste Minimisation Action Plan 2012-16

In Australia, Costco Wholesale is a signatory to the Australian Packaging Covenant (APC) Program. The 2012-2016 Action Plan outlines Costco Wholesale's commitment to achieving APC objectives of smarter packaging, less waste and a cleaner Australian environment through implementation of waste mitigation measures around design, recycling and product stewardship.

Mitigation measures for waste avoidance and diversion of resources from landfill that were employed by Costco Wholesale are outlined below:

- Liaison with suppliers in collaboration with the US head office and separately to determine what actions they can take or have taken to reduce packaging waste
- Selling of larger, bulk pack sizes which in turn decrease the amount of packaging required (per measurement unit of product on sale)
- Review of on-site waste management and recovery programs to ensure recyclable packaging materials are recovered where practical and feasible
- Compliance with all applicable environmental regulations and other related requirements
- On-going investigation into product stewardship
- Education and training of warehousing staff

As part of Costco Wholesale's review of on-site waste management and recovery programs, recycling programs were implemented for cardboard, paper, plastic film, toner cartridges, e-waste and tyres, including tyre accessories. The implementation measures include a range of direct recycling programs arranged through private contractor agreements (e.g. cardboard and plastic film), and in-direct recycling programs arranged through return-to-supplier agreements (e.g. e-waste, printer toner cartridges and tyres).

As part of APC's requirements, signatories must complete an Annual Report each year. Costco Wholesale's Annual Report 2016 is available online and covers the reporting period 1 January 2015 to 31 December 2015.

4. Construction Waste Management Plan

4.1 Waste Streams, Classifications and Quantities

Appendix A provides a template Construction WMP. The Building Contractor will complete this table (see Section 4.11) for all construction waste generated at the site.

The classifications and estimated volumes of waste materials generated by construction activities have been provided for guidance and are presented in Table 6. Volumes of waste materials have been calculated using waste generation rates and conservative assumptions outlined in Appendix B.

Table 5 Estimated Waste Generation (Tonnes) – Stage 2 Future Development Building Area - Construction

Waste Type	Waste Classification[1]	Estimated % Recycling / Resource Recovery	Reuse	Recycling	Disposal	Potential Reuse / Recycling Method[3]
Brick	General solid (non-putrescible)	90%	0	19.4	2.2	Cleaned for reuse or crushed for reuse on-site in landscaping and driveways.
Concrete	General solid (non-putrescible)	80%	0	21.9	5.5	Reused on-site for filling, levelling or road base where possible. Or recycled offsite.
Timber	General solid (non-putrescible)	-	1.6	0	1.6	Untreated timber reused or mulched for reuse in landscaping on-site. Treated timber reused as formwork, bridging, blocking or propping (and then sent to landfill).
Plasterboard	General solid (non-putrescible)	95%	0	5.6	0.3	Plasterboard with low levels of contamination (e.g. nails, screws, wall coverings) removed for recycling off-site. Contaminated plasterboard removed off-site for disposal.
Metal	General solid (non-putrescible)	-	62.7	0	0	Steel recycled off-site by an appropriately licensed facility. Any other metals will be recycled where economically viable.
Sand/soil	General solid (non-putrescible)	95%	0	7.4	0.4	Sand/soil reused on site unless contaminated.
Other	Mix of general solid (non-putrescible and putrescible)	50%	0	3.3	3.3	Removed for recycling or disposal off-site at a licensed facility. Glass sent offsite for reuse or recycling as glazing or an aggregate for concrete production. Synthetic rubber (carpet underlay) reused on site or reprocessed offsite for use in safety devices and speed humps. Carpet sent to recyclers or reused in landscaping. Fluorescent tubes and light bulbs recycled off-site. Fire alarms disposed of as hazardous waste.
Total		**90%**	**64.3**	**57.6**	**13.2**	

Table Note: Figures have been rounded for reporting purposes.

[1] Waste Classification Guidelines (Part 1) 2014

It is estimated that approximately 135 tonnes of construction waste will be generated by the construction of the Stage 2 development. An estimated 90% of this can be reused or recycled and therefore diverted from landfill.

It is considered that the construction of the hardstand areas will generate some additional concrete and steel waste (i.e. from the use of steel mesh), however the majority of these waste materials will also be diverted from landfill.

Additional waste streams that will be generated during construction activities are listed in Table 7 along with their proposed management method.

Table 6 Additional Waste Streams – Construction Activities

Waste Type	Waste Classification	Potential Reuse / Recycling Method
Packaging materials		
Plastic wrap / stretch wrap	General solid (non-putrescible)	Off-site recycling
Cardboard	General solid (non-putrescible)	Off-site recycling
Metal ties	General solid (non-putrescible)	Off-site recycling
Plastic ties	General solid (non-putrescible)	Investigate recycling opportunities.
Wooden crates	General solid (non-putrescible)	Return to suppliers. Investigate reuse and recycling opportunities.
Plant Maintenance		
Tyres	General solid (non-putrescible)	Off-site recycling or disposal.
Empty oil drums and other drums (e.g. fuel, chemicals, paints, spill clean ups)	Hazardous if containers used to store Dangerous Goods and have not been washed or vacuumed to remove residues. Otherwise, general solid (non- putrescible).	Transport of Dangerous Goods to comply with the Dangerous Goods Code. Off-site recycling or disposal by an appropriately licensed facility.
Batteries	Hazardous	Off-site recycling.
Site Staff Compound		
Office paper	General solid (non-putrescible)	Off-site recycling.
Cardboard	General solid (non-putrescible)	Off-site recycling.
Recyclable drink containers	General solid (non-putrescible)	Off-site recycling.
Garbage	General solid (non-putrescible)	Investigate energy recovery opportunities.

4.2 NSW Resource Recovery Target – Construction and Demolition Projects

Developments in NSW should look to contribute to overall NSW State resource recovery targets. For the construction and demolition (C&D) sector, the resource recovery target is 80% by 2021. A growing body of research has demonstrated that construction and demolition projects are achieving resource recovery rates of over 80%, with up to 25% in waste reductions, and between 20% and 66% in cost savings due to avoided disposal costs[2].

When choosing between waste management options, the following hierarchy is preferred:

- waste avoidance/reduction
- reuse
- recycling
- energy recovery
- treatment
- disposal to landfill

The objective of this hierarchy is to show a preference for waste management options in order of their environmental impacts. State targets and the landfill levy have been established to support this hierarchy and to stimulate reuse and recycling markets for the benefit of the wider community.

Further to this, landfill space in the Greater Sydney Area is rapidly approaching capacity with population growth throughout the region[3].

Construction and demolition project managers should pursue this hierarchy and seek out waste reduction opportunities to realise cost savings and improved economic, social and environmental outcomes.

[2] Fletcher Construction Australia, Building Construction case study (available at http://infohouse.p2ric.org/ref/04/03124.htm), Lendlease Barangaroo case study (Jacobs tour attended late 2015), Sustainability Victoria, *Burbank Target Zero Waste Home* Building and Construction case study (available at www.ecorecycle.vic.go.au), WRAP UK, Plasterboard case study / Demolition Recovery Rates case study / (available at www.wrap.org.uk via search case studies), Waste Management, Campus Construction case study (2012, available at www.wm.com/construction),

[3] Hyder Consulting (now Arcadis), *Australian Landfill Capacities into the Future* report (2009, Commissioned by the Department of Environment, Heritage, Water and the Arts), Wright Corporate, *Strategic Review – Putrescible landfill Demand and Capacity for the Sydney Region* (2010, Commissioned by the NSW Government).

4.3 Mitigation Measures

The following measures will be investigated and implemented (where economically feasible) to work towards achieving the State resource recovery target of 80% waste materials reused or recycled:

- Site disturbance will be minimised to limit unnecessary excavation and any excavated material will be reused on site where possible.
- Green waste (i.e. garden organics) will be mulched and reused in landscaping.
- Construction materials will be selected taking into consideration their long lifespan and potential for reuse.
- Pre-cut and prefabricated materials will be carefully ordered to size, and prefabricated components will be used for internal fit-outs where possible.
- Formwork (temporary or permanent moulds) will be reused from other demolition sites where appropriate.
- Materials will be delivered on an ‘as needed’ basis to prevent degradation of materials through weathering and moisture damage.
- Sorting and segregation of wastes will be undertaken to ensure efficient reuse and recycling of materials throughout construction activities.
- Materials, including reuse and recycling materials, will be stored and kept in good condition.
- Trade work on site will be coordinated and appropriately sequenced to increase efficiency and reduce waste materials.
- Packaging waste will be reduced by return of packaging to suppliers where possible, use of returnable bulk packaging, through bulk purchasing and requesting cardboard or metal drums, and metal straps, in place of plastics that can’t be recycled.
- Staff/contractors/subcontractors will be informed of waste and resource management procedures and resource recovery targets and made aware of the legal requirements for disposing of waste in NSW.
- Contracts will include measures which reinforce the requirement to sort wastes effectively for reuse and recycling.

4.4 Management of Wastes

4.4.1 Reuse, Recycling and Disposal

The materials and procedures for reuse and/or recycling as identified in Sections 4.1 to 4.3 will be implemented where economically feasible.

Only project wastes that cannot be cost effectively reused or recycled will be taken to an appropriately licensed facility for treatment to recover further resources or for disposal to landfill in an approved manner.

4.4.2 Segregation of Materials

Effective source separation is required to achieve reuse and recycling targets. The following measures will be followed for this purpose:

- A dedicated area will be nominated for the storage of materials for reuse, recycling and disposal allowing for access and handling arrangements.
- Dedicated areas for the placement of reusable or recyclable wastes will be provided and clearly signposted.
- Tarps, lids or other measures will be provided to prevent damage by the elements and to prevent windblown litter and dust.
- Separate recycling skips/bins will be utilised for bricks, concrete, plasterboard, timber and metal during the construction phase to facilitate the separation of materials that will be reused on-site or sent for recycling.
- Recycling contractors will be consulted to determine quality criteria for collections.
- Separate receptacles shall be provided for the safe disposal of hazardous waste types including batteries.
- Separate receptacles will be required for drink containers and paper/cardboard recycling at staff compound facilities and site offices during temporary installation of these facilities.
- Specialised cigarette butt bins will also be provided (i.e. at minimum, a small metal container with sand for butting out cigarette butts).

4.4.3 Contaminated / Hazardous Wastes

Handling, transport and disposal of asbestos or other contaminated and/or hazardous material must meet the requirements of the NSW EPA's POEO (Waste) Regulation 2014 and updated provisions (as at March, July and August 2015) and Occupational Health and Safety legislation (Work Cover NSW).

4.4.4 Liquid Wastes

Liquid waste can include wash down waters, fuel, hydraulic or engine oil, paints and solvents. Liquid waste is typically generated during washing of plant or as a result of spillages. Any liquid wastes or dangerous goods wastes generated must be disposed of by a suitably qualified contractor to a licensed facility.

If a spill occurs, immediately identify the spilled material, notify the Site Manager and contain the spill as soon as possible. Containment measures will be provided at appropriate locations and spill kits will be located in close proximity to dangerous goods storage areas and active project work areas. Material Safety Data Sheets (MSDS) will be located on the site and nearby spill kits.

4.5 Measures for Good Practice Waste Storage

The waste storage area on site will be nominated by the Building Contractor prior to commencing construction activities.

The area will be accessible by workers and collection vehicles (typically heavy rigid vehicles), and allow sufficient space for storage of segregated waste and recycling. Waste storage area will be flexible to the changing waste volumes throughout the construction phase of the development.

The waste storage location must consider the health and safety of the workers, and amenity impacts (e.g. odour, windblown litter) on the surrounding area. Screening will be provided to keep waste storage areas out of view from the public and to provide a barrier to capture windblown dust and litter.

Any stockpile locations must take into account slope and drainage factors to avoid contamination of storm water drains during rain events. Storm water control measures preventing sand, soil and waste from entering drains will be implemented and inspected prior to large rain events.

All bins, skips or stockpiles of waste materials will have covers available (i.e. secured lids and/or tarpaulins). Lids/covers will be secured over waste storage areas on windy or rainy days to mitigate windblown effects and potential contamination of storm water drains.

The Building Contractor will ensure waste storage areas are kept clean, and skips and/or stockpiles are inspected on a regular (daily) basis to prevent overflow of waste materials. The site will be inspected and cleaned at the end of each day for litter to prevent this from becoming a source of windblown litter.

4.6 Collection of Waste from the Site

The estimated frequency of waste removal will be specified by the Building Contractor prior to commencing construction activities.

Bins/skips nearing 80% to 85% capacity will be removed and replaced within 24 hours.

All bins/skips/waste materials leaving the site will be covered with a suitable tarpaulin or lid to ensure that the spillage of wastes during transit is eliminated.

All collection of waste and resources for construction works will be conducted during approved hours as per Council requirements.

All waste collected from the site will be deposited at an approved and appropriately licensed recycling centre, transfer station or landfill site. Refer to Section 4.8 for record-keeping requirements.

At the end of the construction phase works, all waste materials (including plastic ties and other litter items) will be removed off site for disposal prior to hand over of the site to the operational site manager.

4.7 Communication to Site Workers and Visitors

4.7.1 Inductions

All personnel employed for construction activities at the site will undergo induction training in relation to waste and resource management at the site. The following minimum requirements will be covered:

- Legal obligations (including fines for littering of waste items and cigarette butts, illegal dumping, and environmental incidents)
- Emergency response procedures
- Locations and correct use of spill kits
- Waste storage locations and sorting of waste and resources
- Responsibilities and reporting requirements

All personnel using vehicles should be made aware that any member of the public can now report 'littering from a vehicle' via the EPA's online reporting phone app.

More information is available here: www.epa.vic.gov.au/get-involved

4.7.2 Tool Box Talk Reminders

All staff will be reminded of their legal obligations with regard to littering, waste management and daily site inspection responsibilities, and encouraged to save materials.

4.7.3 Signage

Standard signage is available and will be used to clearly signpost waste and resource bins/skips/receptacles. This signage uses images and colour coding to facilitate sorting of waste and resources on site. Examples are provided below in Figure 2.

Figure 2 Standard Signage for Construction Sites

These are available for printing at: www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm

4.8 Monitoring Measures

4.8.1 Record-keeping

Records of waste volumes reused, recycled and disposed of are to be maintained. Records of waste volumes removed by contractors are to be maintained.

Evidence for waste disposal and recycling services will be retained. This includes weighbridge dockets, invoices, receipts and a log book recording waste classifications and containing the site validation certificate. All entries must include:

- Time and date
- Description and size of waste
- Waste facility used
- Vehicle registration and company name

The log book and associated receipts must be made available for inspection by Council/EPA officers at any time during site works.

4.8.2 Inspections

Daily inspections will be undertaken prior to leaving the site to ensure all waste items are appropriately contained and covered so as not to become a source of windblown litter and to ensure storm water controls are in place in case of rain to prevent waste contamination of storm water drains.

The contents of bins/skips will be regularly inspected by the Site Manager, or dedicated and appropriately trained personnel (i.e. training in these measures can be demonstrated), to ensure effective sorting of waste and resources is being undertaken on site. Personnel training and signage will be reviewed where procedures are not being complied with.

4.9 Incident Response Procedure

- All environmental incidents must be responded to in a prompt manner.
- An incident register must be maintained on site at all times.
- The contact details of the EPA 24 hour Pollution hotline should be placed in a visible location and must be easy for personnel to read.

EPA 24 hour Pollution Hotline:

Environment Line: **131 555 (NSW only)**
Environment Email: **info@environment.nsw.gov.au**

4.10 Key Roles and Responsibilities

All personnel have a legal responsibility for their own environmental performance and compliance with waste legislation. Roles and responsibilities are outlined below.

Table 7 Roles and Responsibilities Table

Site Manager (some responsibilities may be dedicated to an appropriately trained officer)	• Implementation of this WMP or equivalent measures to those contained within this WMP • Training of personnel • Ensuring plant and equipment are well maintained • Ordering materials on an 'as required' basis • Ensuring waste and resources are appropriately sorted to maximise resource recovery • Monitoring and tracking of performance against State resource recovery targets • Record-keeping • Daily inspections of bins/skips/stockpiles, litter and storm water controls • Investigating and establishing local reuse opportunities where reuse of materials on-site cannot be undertaken • Approval of off-site recycling and disposal locations • Checking of off-site disposal site licensing requirements • Ensuring the site is cleaned of waste materials before moving off the site and handing over to the operational site manager
Employees / Contractors / Subcontractors / Visitors	• Compliance with site procedures and the measures contained within this WMP (or equivalent document) • Compliance with legal requirements in relation to litter and illegal dumping, and reporting of environmental incidents • Compliance with OHS requirements

4.11 Submission Requirements Prior to Construction Works Commencing

At this stage of the development, a Building Contractor has not been decided upon for detailed planning of construction waste and resource management. Council will be notified prior to construction works commencing.

Appendix B provides a template WMP. The Building Contractor will complete this table for all construction waste arising at the site.

Detail and drawings will also be supplied to Council at this time identifying the nominated locations and methods for the sorting, storage and collection of waste materials on site during the construction phase for:

- Excavation materials
- Landfill waste (garbage)
- Recyclable waste
- Reusable materials

Planet Ark's 'Recycling Near You' directory will be referred to where possible to locate sites that can reuse and recycle construction materials. This organisation provides a list of local reuse and recycling options for a wide number of construction materials. The following website can be used as the resource: www.recyclingnearyou.com.au/demolition/SydneyNSW

The measures in this WMP will be complied with and incorporated into the Building Contractors' documentation where equivalent measures are not available.

5. Operational Waste Management Plan

5.1 Waste Streams, Classifications and Quantities

The classifications and estimated volumes of waste materials generated by the operation of Stage 1 and Stage 2 of the proposed Costco Warehouse building have been based on a site audit undertaken to the Wetherill Park Warehouse Facility and other information obtained from the Facilities/Operations Manager, for comparison to standard industry waste generation rates. Further details of waste generation calculations and conservative assumptions are outlined in Appendix C.

The estimated volumes of waste and recycling generated on a daily basis, applying standard industry waste generation rates[4], are presented in Table 8.

Table 8 Estimated Waste Generation (Standard Industry Waste Generation Rates) – Oakdale Operational

Waste Type	Waste Classification	Stage 1 Waste Generation (L/day)	Stage 2 Waste Generation (L/day)	Stage 1 and 2 Waste Generation (L/day)
Garbage	General solid (mix of putrescible and non-putrescible)	6,439	3,920	10,358
Co-mingled Recycling (including plastic wrap and cardboard)	General solid (non-putrescible)	6,368	3,920	10,288
Estimated Total Waste (L per day)		**12,807**	**7,839**	**20,646**

According to the above estimates, a total waste volume of 20,646 L per day will be generated by the Oakdale distribution warehouse and associated offices (total Stage 1 and 2) with approximately 50% of this waste being recyclable. Stage 1 works (office and warehouse) are estimated to contribute approximately 62% of waste generation volumes, while Stage 2 works (warehouse extension) are estimated to contribute the remaining 38% of waste generation volumes.

The estimated volumes of waste and recycling generated on a daily basis, applying waste generation rates based on scaling of floor areas between Wetherill Park warehouse site and the proposed Oakdale site[4], are presented in Table 9.

Table 9 Estimated Waste Generation (Audit-based Waste Generation Rates) – Oakdale Operational

Waste Type	Waste Classification	Stage 1 Waste Generation (L/day)	Stage 2 Waste Generation (L/day)	Stage 1 and 2 Waste Generation (L/day)
Garbage	General solid (mix of putrescible and non-putrescible)	6,396	3,750	10,145
Plastic Wrap / Cardboard	General solid (non-putrescible)	90	57	148
Estimated Total Waste (L per day)		**6,486**	**3,807**	**10,293**

[4] See Appendix C for details

According to the above estimates, a total waste volume of 10,293 L per day will be generated by the Oakdale distribution warehouse and associated offices (total Stage 1 and 2) with only a small proportion of this waste being recycled. It is also estimated that the proposed Oakdale distribution warehouse will generate approximately 111 L of quarantine waste and approximately 4 x wooden waste pallets per day (or 18 pallets per week).

For comparison, the Wetherill Park warehouse is estimated to be generating approximately 7,200 L per day of garbage, 100 L per day of plastic wrap and cardboard, 75 L per day of quarantine waste, and about 3 wooden waste pallets per day.

5.2 NSW Resource Recovery Target – Commercial and Industrial Projects

Developments in NSW should look to contribute to overall NSW State resource recovery targets. For the commercial and industrial (C&I) sector, the resource recovery target is 70% by 2021. A growing number of case studies have shown that commercial offices can achieve resource recovery rates of over 70[5]. NSW EPA case studies are not currently available for 'Distribution Warehouses', however audits undertaken for 'Business Parks' demonstrate that 75% of waste generated can be recycled rather than going to landfill.

When choosing between waste minimisation options, the following hierarchy for waste management is preferred:

- waste avoidance/reduction
- reuse
- recycling
- energy recovery
- treatment
- disposal to landfill

The objective of this hierarchy is to show a preference for waste management options in order of their environmental impacts. State targets and the landfill levy have been established to support this hierarchy and to stimulate reuse and recycling markets for the benefit of the wider community.

Further to this, landfill space in the Greater Sydney Area is rapidly approaching capacity with population growth throughout the region[6].

Facility management should continue to pursue this hierarchy and seek out further waste reduction opportunities through learnings from case studies available via the Australian Packaging Covenant website and through consultation with recycling contractors.

[5] NSW EPA Industry Fact Sheets for Reducing Business Waste - Commercial Offices and Business Parks (available at www.epa.nsw.gov.au/managewaste/reduce-bus-waste.htm)

[6] Hyder Consulting (now Arcadis), *Australian Landfill Capacities into the Future* report (2009, Commissioned by the Department of Environment, Heritage, Water and the Arts), Wright Corporate, *Strategic Review – Putrescible landfill Demand and Capacity for the Sydney Region* (2010, Commissioned by the NSW Government).

5.3 Mitigation Measures

5.3.1 Current Measures

As discussed in Section 3.2, Costco Wholesale's Annual Report 2016 to APC covers the reporting period 1 January 2015 to 31 December 2015. The reported outcomes of waste minimisation actions implemented during this reporting period were:

- 25% of existing packaging and 40% of new packaging were reviewed in accordance with the Sustainable Packaging Guidelines (SPG) provided by APC to determine opportunities for reuse and resource recovery.
- Use of LED lighting in new warehouse building developments
- Ongoing improvements in pallet and master carton utilisation to reduce use of outer packaging and logistic resources
- Use of LED lighting in new warehouse developments and electricity optimisers to reduce over supply

The opportunities identified for further development are:

- Align and adapt Private Label products packaging and development with other supply-chain branded products to comply with Costco's sustainability goals
- Implement Costco US Recycled Plastics Guidelines to achieve similar targets
- Provide ongoing staff training in relation to on-site resource recovery systems
- Improve Food Court (staff kitchen / common area) recycling in line with US program being rolled out
- Development of a formal policy approach for the company on use of recyclable materials, reduction of the amount of materials used in packaging and further efficiencies in logistics through improved packaging design (to be coordinated by the US parent company for consistency of approach)

Costco Wholesale has set up an APC committee including staff from a cross section of departments. The committee will be responsible for developing the new APC Action Plan and roll out to company departments.

Jacobs' site inspection of the Wetherill Park warehouse also identified the following measures were currently implemented:

- Plastic wrapping and cardboard is collected and transported off-site by a private contractor for recycling.
- Pallets are collected and transported off-site by a private contractor for recycling.
- Spoiled product and goods are segregated with unspoiled items repackaged and/or recycled where possible.
- Electronic waste (or e-waste) is returned to suppliers for recycling.
- Fork-lift waste tyres are returned to fork-lift suppliers for recycling.
- Existing furniture at the Wetherill Park warehouse will be reused at the new Oakdale site where possible.

Costco Wholesale plans to carry across the above measures to the new development as appropriate.

5.3.2 Proposed Additional Measures

The following additional measures should also be investigated and implemented where appropriate and not currently in place:

- Office paper, drink containers and other containers recycled via a co-mingled recycling service.
- Double-sided printing and other office paper use minimisation measures to reduce waste paper generation rates.
- Removal of under desk bins and replacement with centralised recycling stations throughout office areas. Smaller bins can be made available for placement on top of desks for staff for personal use.
- Provision of small receptacles for collection of hazardous wastes such as small batteries and mobile phones through available schemes (e.g. planet ark).
- Recycling of laboratory-generated waste.
- Recycling of coffee pods in kitchen areas (free return to supplier arrangements available) or alternatives provided to pod coffee machines.
- Provision of dedicated cigarette butt bins at outdoor dedicated smoking areas to prevent cigarette butts ending up in stormwater drains.
- Development of policy aimed at reducing single use plastic kitchenware within staff common areas and at water dispensers.
- Review and update of signage provided in relation to waste management.
- Review and update of staff induction training packages and general training provision in relation to waste management.
- Staff surveys undertaken to determine awareness of reuse and recycling measures, and to pin point any confusing messaging around recyclable items.
- Compositional waste audits undertaken within 6 months of the new distribution warehouse becoming operational to track progress against resource recovery targets, and determine further areas for improvement / additional recyclable items to be targeted for diversion from landfill.

Further areas for improvement to current practices were identified during the Wetherill Park site with recommendations provided to Costco Wholesale for consideration.

A Note on Takeaway Coffee Cups

At the time of reporting, takeaway coffee cups (including those which claim to be made of recyclable or biodegradable materials) are not recyclable.

All coffee cups currently incorporate an amount of plastic that is too difficult to separate from paper fibres and as such these are treated as contamination within the recycling stream and are disposed of to landfill.

The packaging of these coffee cups often provides confusing and conflicting information. Some coffee cups are compostable however the rate at which coffee cups are generated may lead to a poorer quality of composting mixtures.

Reference can be made to Australian Packaging Covenant (www.packagingcovenant.org.au) for additional details and work on takeaway coffee cups[7].

[7] Australian Packaging Covenant case study (available at www.packagingcovenant.org.au/news.php/57/coffee-cup-recycling-project). At the time of reporting, a working group has been established to determine a way forward on this issue.

Figure 3 Example Multi-Sort Bins for Office and Food Court Areas (Source Separation Systems)

5.4 Management of Wastes

5.4.1 Reuse, Recycling and Disposal

The control measures and initiatives for reuse and/or recycling as identified in Sections 5.2 to 5.3 will be implemented where economically feasible. Only wastes that cannot legally or cost effectively be reused or recycled will be removed for treatment (and potential resource recovery) at appropriately licensed facilities, or for disposal to landfill in an approved manner.

Similar bin/skip types to those provided at the Wetherill Park and Auburn warehouses should be used during Stage 1 and 2 works at Oakdale with increased collection frequencies as practical and feasible, until total waste volumes are known and collection efficiencies can be achieved. Additional recyclable materials should be segregated from the garbage stream where possible before investing in larger storage skips/compactors.

5.4.2 Segregation of Materials

Effective source separation is required to achieve reuse and recycling targets. The following measures will be followed for this purpose:

- Waste disposal and segregation points will allow for appropriate access and waste handling arrangements.
- Dedicated bins/receptacles will be provided for the placement of reusable or recyclable wastes with clear colour-coding and signage.
- Recycling contractors will be consulted to determine quality criteria for collections of recyclable materials.
- Methods for source segregation of laboratory waste types will be included in all relevant laboratory protocols and procedures.

5.4.3 Quarantine Waste

Appropriate containment of waste and record-keeping must comply with the provisions of the POEO Act and associated POEO (Waste) Regulation, and WorkCover requirements as relevant. Careful segregation of quarantine waste will be undertaken. Quarantine bins must be appropriately signposted with damaged receptacles and signage promptly repaired or replaced.

5.5 Waste Storage Areas and Waste Transfer

Internal waste handling and holding rooms will be identified on final floor plans.

All waste generated by the Costco Facility will be transferred to designated areas within the warehouse and loading dock area for storage prior to collection. Wheeled MGBs and trolleys will be utilised where possible to transfer wastes to reduce the incidence of spillages and the risk of health and safety incidence. Transfer pathways for bins will be free of steps, kerbs and steep ramp gradients (see Table 10).

The NSW EPA's Better Practice Guidelines (2012) specify the following OHS requirements for bin transfer pathways:

Table 10 Restrictions on Bin Transfer Gradients and Transfer Distances

Mobile Garbage Bin (MGB) Size	Gradient Restrictions	Transfer Distances
240L bins	no steep ramps	ideally no more than 75m to collection point
360L bins	no more than 1:14	no more than 75m to collection point
360L or larger bins	no more than 1:14	no more than 75m to collection point
660L bins	no more than 1:14	no more than 75m to collection point
660L to 1.5m^3 bulk bins / skips	no more than 1:30	no more than 5m
1.5 m^3 skips	no more than 1:30	no more than 3m

5.6 Waste Servicing

A separate truck entry/exit point will be provided from Estate Road 1.

5.7 Roles and Responsibilities

All personnel have a legal responsibility for their own environmental performance and compliance with waste legislation. Proposed roles and responsibilities are outlined below.

Table 11 Roles and Responsibilities Table

Facilities Manager (duties may be delegated to appropriate Environmental Coordinator / Committee position as required)	• Roll out of compliant and consistent waste management systems • Implementation of this WMP (or equivalent measures to those contained within this WMP) for general office and staff common areas, as well as outdoor areas as required (i.e. smoking areas) • Review of record-keeping and environmental performance reporting • Inspection of waste bins/receptacles and waste storage areas to check compliance with WMP provisions
Facilities Manager (or delegation to appropriate Environmental Coordinator / Committee position as required)	• Consultation with recycling contractors • Training of personnel • Ensuring plant and equipment, and signage are well maintained • Ensuring building wastes are appropriately segregated to maximise resource recovery • Preparation of laboratory waste and recycling management procedures • Monitoring and tracking of performance against Costco, APC and State recycling targets • Checking and approval off-site recycling and disposal sites • Record-keeping and inspection of waste bins/receptacles and waste storage areas • Investigating and establishing further waste avoidance, and local reuse and recycling opportunities
Employees / Visitors	• Compliance with site waste management procedures and signage • Compliance with legal requirements in relation to litter and illegal dumping, and reporting of environmental incidents • Compliance with OHS requirements – untrained staff are not to handle quarantine / hazardous wastes

5.8 Submission Requirements Prior to Occupation Certificate

Prior to occupation of the new Oakdale warehouse site, arrangements will be made to provide additional bins/receptacles, and establish appropriate waste storage and collection arrangements, as well as contingency measures in case greater than anticipated waste volumes are generated.

Training and awareness of new waste transfer and collection arrangements for the Oakdale site will commence within the first week of occupation.

Appendix A. Template WMP

MATERIALS				
Type of waste generated	**REUSE**	**RECYCLING**	**DISPOSAL**	**Specify method of on-site or off-site reuse, contractor and recycling outlets and/or waste depot to be used**
	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	Estimate Volume (^{m3}) or Weight (t)	
Excavation Material				
Timber (specify)				
Concrete				
Bricks / Pavers				
Tiles				
Metal (specify)				
Glass				
Plasterboard				
Furniture / Fixtures				
Floor coverings				
Packaging (used pallets, pallet wrap)				
Garden Organics				
Containers (cans, plastic, glass)				
Paper / cardboard				
Hazardous / special waste e.g. asbestos (specify)				
Residual garbage				
Other (specify)				

Appendix B. Waste Generation Calculations - Construction

Construction Waste Arisings

Waste Type	Waste Generation Rates (t/1000m² factory)	Total Waste Generated (t)	% Reused	% Recycled	Total Reused (t)	Total Recycled (t)	Total Disposed (t)
Bricks	1.65	21.6	-	90%	19.4	2.2	1.65
Concrete	2.1	27.4	-	80%	21.9	5.5	2.1
Timber	0.25	3.3	50%	-	0	1.6	0.25
Plasterboard	0.45	5.9	-	95%	5.6	0.3	0.45
Sand/soil	4.8	62.7	100%	-	0	0	4.8
Metal	0.6	7.8	-	95%	7.4	0.4	0.6
Other	0.5	6.5	-	50%	3.3	3.3	0.5
		135.2			64.3	57.6	13.2

Assumptions list:

- Waste generation rates for the construction of a factory have been sourced from The Hills Shire Council Development Control Plan (DCP) 2012, Appendix A Waste Management Plan document.
- The assumed reuse and recycling rates have been proposed based on research undertaken in Melbourne sourced from Philip Crowther's *Building Deconstruction in Australia* prepared on behalf of the Queensland University of Technology's (QUT) (2000) (accessed 2017 and available at http://eprints.qut.edu.au/2883/1/Crowther-TG39-2000.PDF). Original source Tucker, S.N. et al, *The Environmental Impact of Energy Embodied in Construction*. Main report for the Research Institute of Innovative Technology for the Earth, Kyoto, 1993.

Appendix C. Waste Generation Calculations - Operational

Costco Wholesale Wetherill Park Warehouse

Waste Stream	Type of Bin	Collection Frequency	Estimated Waste Generation (L per week)
Garbage	2 x 4.5m^3 skip	4 times a week each	36,000
Plastic Wrap / Cardboard	2m^3 skip	Once a month	500
Quarantine Waste	1500L MGB	On call (on average, once a month)	375
Total			**36,875**
Pallets	10-12 pallets stacked	Weekly	12

Estimated New Facility Warehouse and Office Waste Generation

Waste Stream	Wetherill Park	Wetherill Park	Wetherill Park	Oakdale Stage 1	Oakdale Stage 2	Oakdale Stage 1 & 2 (Total)
Office Area (m^2)			22,740	1,761	-	1,761
Warehouse Area (m^2)			824	20,523	13,065	33,588
Total			**1,523**	**22,284**	**13,065**	**35,349**
Waste Generation	**Bin/Skip Type**	**Assumed Frequency of Collection**	**(L per day)**	**(L per day)**	**(L per day)**	**(L per day)**
Garbage	2 x 4.5m^3 (2 x 4000L)	4 times weekly	7,200	6,396	3,750	10,145
Plastic Wrap / Cardboard	1 x 2m^3 (1 x 2000L)	Once monthly	100	90	57	148
Quarantine Waste	1500 L MGB	Once monthly	75	68	43	111
Pallets	Packed	10 – 12 collected once weekly	3	2	1	4

Assumptions List:

- Waste generation rates have been based on information provided from the Wetherill Park warehouse audit conducted by Jacobs, and scaled according to differences in floor area between this site and the Oakdale site. To keep estimates conservative, it has been assumed that 100% of each bin/receptacle's capacity is utilised at collection at the Wetherill Park site.

Appendix D. Wetherill Park Warehouse - Site Audit Outcomes

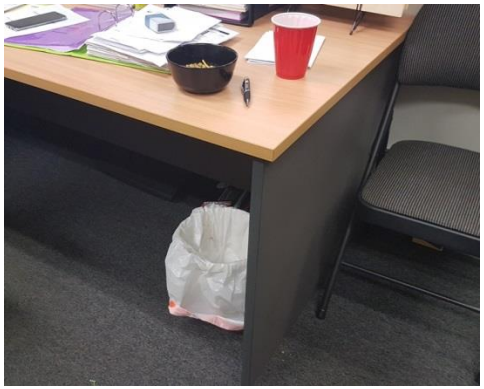
Costco Wholesale Wetherill Park Warehouse

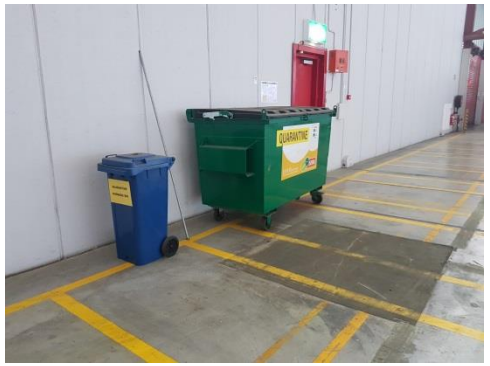
Site Inspection and Observational Waste Audit

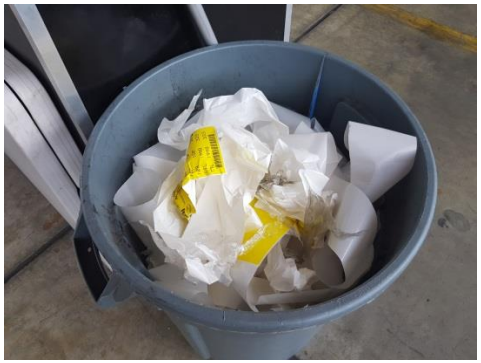
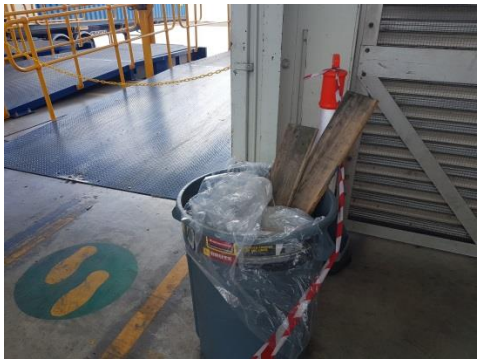
Date: 7 March 2017, 1 – 2pm

Waste Management Activities	Site Photos
Laboratory	
• 5 cylinders of white plastic finings powder are disposed of per week. **Observations:** • A white plastic (polycarbonate) finings powder is collected in flexible rubber moulds from laboratory processes and are currently disposed of to landfill. The moulds and finings powder could be separated. • Plastic wrapping and plastic container boxes for lenses are currently disposed of landfill. • Garbage bins only are provided in laboratory areas beside laboratory work desk areas for convenience. • Clean cardboard boxes are separated for recycling. • Tissue boxes are purchased in bulk for use in the laboratory. **Improvement areas identified:** • Liaise with recycling contractors to determine if recycling options exist for the white plastic finings powder and flexible rubber moulds. • Liaise with recycling contractors to determine the feasibility of recycling plastic wrap and plastic lenses containers. • Consider implementing garbage and recycling bin stations for central areas within the laboratory to segregate out recyclable materials. • Consider options for storage of bulk cardboard boxes for ease of transfer (e.g. cages placed on trolleys). • Consider purchase of paper items (e.g. tissues, office paper) incorporating recycled content.	 

Waste Management Activities	Site Photos
Food Court / Staff Common Areas	
Observations: • Garbage bins only are provided in Food Court (kitchen and staff common areas). • Plastic kitchenware is supplied. • A vending machine (drinks and snacks) is provided for use by staff. • A coffee machine with coffee pods is provided for use by staff. • Water bubblers with plastic cups are provided for staff. • Staff otherwise bring their own food to work. **Improvement areas identified:** • Investigate options for co-mingled recycling in Food Court areas to separate out recyclable drink containers, aluminium and recyclable paper materials. Bin stations should be located centrally, and comprise of a garbage bin and a co-mingled recycling bin placed alongside each other to provide easy choices for segregation at each disposal point. • Investigate closed loop recycling options for coffee pods, or investigate alternatives to using coffee pods to minimise this waste type. • Consider removing single-use plastic cups from near bubbles and provide signage requesting that staff use their own, refillable bottles / cups, which could be provided or organised by the company as a one off. • Develop a policy restricting the use of single-use kitchenware such as plastic cups, plates and cutlery, and polystyrene cups. Provide reusable, washable alternatives. • Develop educational material and signage to create awareness the environmental benefits of waste minimisation and recycling. **Important Note:** A Container Deposit Scheme (CDS) has been announced for NSW and will be introduced in December 2017. Compliant drink containers will be redeemable at a value of 10 cents each. Consider a collection point for redeemable drink bottles in support of a charity or for recycling.	 

Waste Management Activities	Site Photos
Office	
Only minor waste amounts are generated in office areas. All electronic waste (e-waste) is returned to supplier under contract for e-waste recycling. **Observations:** • Garbage bins only are provided under office desks. **Improvement areas identified:** • Ensure up-to-date e-waste recycling certificates are provided by suppliers. • Consider use of smaller bags which will fit the internal volume of the bin to reduce the amount of plastic bag waste being disposed of. • Consider implementing an office bin station comprising of a garbage bin, co-mingled recycling and paper recycling bin placed alongside each other in a location which is central to all desks and is conveniently located along pathways to encourage source separation of recyclable materials (particularly clean office paper and drink bottles). • Provide Australian Standard colour coding on bin lids and on associated signage showing what waste types can be accepted by each bin. • Small on-desk bins should be provided for disposal of personal waste items, with staff required to empty these bins at the end of the day into the larger bins provided. (Examples of bins encouraging source segregation of recyclables are provided in the Operational WMP.)	
Warehouse	
Cardboard and Plastic Wrap • Cardboard and plastic wrap is collected for recycling by Cleanaway. • Cardboard and plastic wrap is collected in a $2m^3$ skip and is collected once a month. **Observations:** • Materials being transferred to recycling area at loading dock were clean, with little to no contamination observed. **Improvement areas identified:** • Consider liaising with recycling contractors to determine how these materials are being recycled and what products these materials are being recycled back into for educational / due diligence purposes.	

Waste Management Activities	Site Photos
Waste Volume Reduction Equipment Baler press units are used to compact cardboard to realise storage and transport efficiencies. Two sizes of Hydraulic Bale Press units are in use at the warehouse.	
Quarantine Wastes • Quarantine wastes are separated for collection in bulk bins (transfer by 240L bins as required). • Quarantine waste is collected on an on call basis as needed.	
Wooden Pallets • Wooden pallets are collected for recycling by Cleanaway. • Approximately 10 – 12 wooden pallets are generated per week. **Notes on waste minimisation efforts to date:** • Measures for reduction or reuse of pallet waste have already been investigated. US pallets are being utilised which are a different size to those typically used in Australia. Pallets need to be of a high standard to meet with presentation, quality and safety requirements. **Improvement areas identified:** • Continue to investigate supply-chain improvements and reuse / recycling opportunities for waste pallets.	

Waste Management Activities	Site Photos
Smaller Garbage Bins • Smaller garbage bins are provided at warehouse labelling and quality assurance check points. **Observations:** • Some warehouse bins were filled with plastic backing from sticker rolls and some paper. • Some warehouse bins nearby loading dock areas contained plastic wrap and wood waste. **Improvement areas identified:** • Consider providing paper recycling trays where applicable to capture recyclable paper. • Continue to investigate alternatives to the use of plastic labels. • Provide ongoing training to staff to ensure recyclable items are separated from garbage prior to disposal.	  

Waste Management Activities	Site Photos
Bulk Garbage Bins / Skips: • Garbage (putrescible) waste is collected for disposal by REMONDIS. • Garbage is collected in a 4m^3 skip and is collected 4 times a week. **Observations:** • Waste types identified included plastic packaging straps, pieces of wood, some plastic wrapping tape, one cardboard box, general litter and rubbish cleaned from warehouse floors, a white garbage bag with majority paper waste included within, two black plastic bags (most likely containing waste from office, laboratory and food court areas) **Notes on waste minimisation measures to date:** • Spoil wastes due to spills and damage to goods were reported to be infrequent and therefore associated spoil waste volumes generated are low. Food recovery / salvage processes were investigated initially however the quantities salvaged are too low to be feasible given the additional logistic requirements. Staff are trained to separate out dry, unspoiled goods for re-packaging where appropriate and in compliance with quality assurance procedures. **Improvement areas identified:** • Consider investigating the feasibility of separating out waste wood items and shavings for recycling. • Consider investigating alternatives to use of plastic wrapping tape. • Re-visit staff training on existing recycling programs to ensure appropriate segregation of recyclable items is undertaken. • Continue to provide training around segregation of damaged and spoiled goods materials for improved salvage efforts. • See previous audit outcomes for further recommendations.