

Attachment A23

**Preliminary Waste Management Plan –
133-145 Castlereagh Street, Sydney**

Stockland Piccadilly Complex

Operational Waste Management Plan (concept)

This report is based on information provided by **Stockland** coupled with Foresight Environmental's knowledge of waste generated within the commercial/retail sector. To that extent this report relies on the accuracy of the information provided to the consultant. It has been compiled by Foresight Environmental on behalf of by **Stockland**.

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Document Information		
Client	Stockland	
Prepared by	Foresight Environmental	
Document name	Stockland Piccadilly Complex – Operational Waste Management Plan (concept)	
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Revision	Revision Date	Details/comments
1	30 July 2020	Draft report
2	11 August 2020	Final issue – updated with Stockland feedback

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1. Introduction

This Operational Waste Management Plan (OWMP) has been prepared by Foresight Environmental on behalf of Stockland. It accompanies a planning proposal seeking to initiate the preparation of a Local Environmental Plan amendment for the land known as 'Stockland Piccadilly Complex' located at 133-145 Castlereagh Street, Sydney (the site) legally described as Lot 10 in DP828419.

The planning proposal seeks to amend the floor space ratio development standard applicable to the site, under the *Sydney Local Environmental Plan 2012* (the LEP), in accordance with Section 3.33 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

In accordance with Clause 7.20 of the LEP, this planning proposal also seeks amendments to the *Sydney Development Control Plan 2012* (the DCP) to establish site specific provisions to guide the future development, including establishing a building envelope for the site as well as other key assessment criteria.

The intended outcome of the proposed amendments to the LEP and DCP is to facilitate the redevelopment of the site for a commercial office tower development above a retail podium, including Wesley Mission facilities at lower ground level, together with basement car parking and associated facilities. Such a proposal aligns with the draft Central Sydney Planning Strategy to facilitate additional commercial floor space capacity in Central Sydney while also delivering improved public domain outcomes. Such outcomes will include a northerly aligned direct through-site link between Pitt and Castlereagh Street and enhanced pedestrian amenity and activation at the ground plane.

The planning proposal is supported by a conceptual reference design, but the final details of the development will be subject to a future design excellence process and a future detailed development application.

The purpose of this Operational Waste Management Plan is to outline the high-level principles of the proposed waste management approach for the development and to detail the indicative design, spatial, operational and infrastructure requirements of the development based on the concept reference design and the proposed uses of the development.

2. Proposed Development

The proposed development outlined in the concept reference scheme, consists of the redevelopment of the existing site at 133-145 Castlereagh Street, Sydney for a commercial office tower above a retail podium, including Wesley Mission facilities at lower ground level and basement car parking and associated facilities. The indicative proposal consists of the following components:

- 93,000m² GFA commercial office
- 6,000m² GFA retail
- 4,000m² GFA Wesley Centre
- Loading dock on B1 and part of B3
- Carparking over four levels

3. Waste Generation Estimate

Waste generation estimates have been produced for each component of the proposed development using both the waste generation rates provided in the City of Sydney Guidelines for Waste Management in New Developments 2018 along with Foresight Environmental's benchmark¹ data from similar developments. Using the estimated waste generation profile, the indicative spatial and equipment requirements for the proposed development and can be confirmed in the following section.

The primary waste streams expected to be generated in the ongoing operation of the development would be:

- Paper/ Cardboard recycling
- Mixed Recycling
- Organics recycling
- General waste (including soft plastics and polystyrene)

Additional smaller waste streams may include toner cartridge recycling, fluoro tube/globe recycling and battery recycling – see section 3.1.

¹Foresight Environmental's data model draws on benchmark data from our extensive database of waste audits, onsite weighing systems and waste contractor collection data from commercial and retail assets throughout Australia. Foresight Environmental provide waste data reporting services to over 8 million square meters of real estate for the commercial, retail, accommodation, health and entertainment sectors.

3.1 Estimated Waste Generation

Table 1 details the total estimated operational waste generation profile for the proposed development.

Table 1: Waste generation estimate

Stream	kg/week	L/week	Tonnes/month
Paper/cardboard	4,166	59,512	18
Mixed recycling	2,080	46,229	9
Organics	5,818	23,271	25
General waste	8,824	110,294	38
Grand Total	20,888	239,306	91

4. Waste Management Systems

Table 2 details the indicative proposed systems and collection frequencies required to manage the estimated waste profile shown in the table 1.

Stream	Bin Type	Bin size	No. of Bins	Weekly Clearance Frequency	Weekly Capacity	Estimated volume / weight per week	Footprint per bin (m²)	Total Footprint (m²)
Paper/cardboard	Compactor	14-23m³	1	1 - 2	6 tonnes	4.1 tonnes	17	17
Mixed recycling	MGB	1100L	8	7	61,600 L	46,229 L	1.69	13.52
Organics	Pulpmaster	4000L tank and head unit	1	3	24,000 L	23,271 L	12	12
Cooking Oil	Silo	1000L	1	1	1000 L	TBC	1.2	1.2
General waste	Compactor	14-23 m³	1	2 - 3	9 tonnes	8.8 tonnes	17	17
Additional circulation bins	MGB	240L	20	N/A internal use only			0.47	9.4
Total bin footprint								70
Recommended room size including circulation space								105

4.1 Other Waste/Recycling

It is expected that other ad-hoc waste streams will be generated from the development such as: The following waste stream will be collected on call as needed:

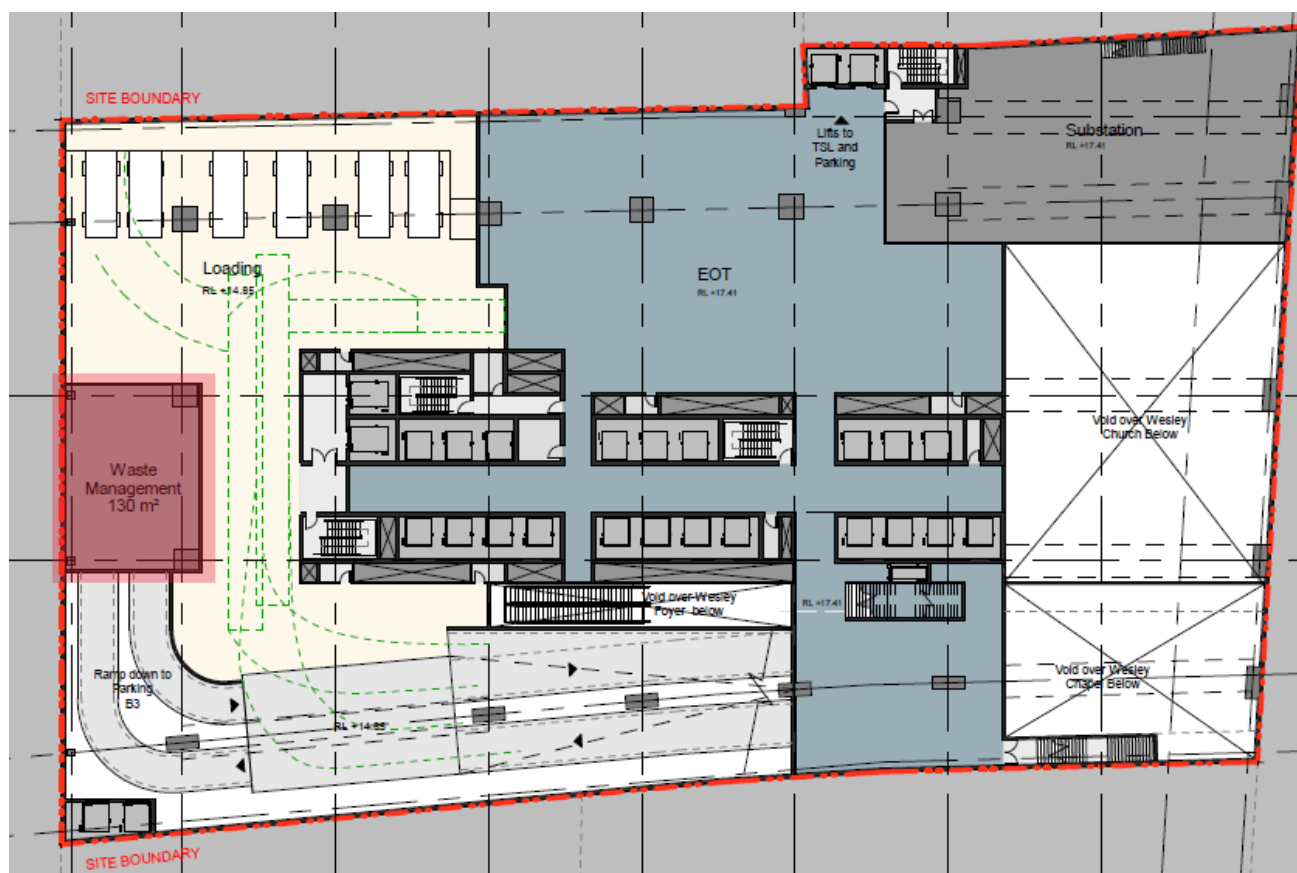
- Battery Recycling – Battery recycling boxes will be present where deemed necessary e.g. copy rooms, office/study common areas. These boxes will be collected when full by a dedicated contractor.
- Toner Cartridge Recycling – Used toners will be collected by administration staff and consolidated for collection by specialty cartridge recycler (usually provided by office supplier).
- Lamps and Globes – Spent lighting materials to be consolidated by staff/cleaners/maintenance staff and collected by specialty contractor for recycling (usually provided by the appointed waste contractor on an on-call basis).
- Secure paper recycling – typically managed by commercial tenants. This stream is managed in 240L MGBs that are stored on tenant floors and are collected directly from their location by the tenant's contractor – these bins do not need base building storage.

5. Waste and Recycling Storage Area

5.1 Waste Storage Area

It is proposed that the central waste management area will be located within the loading dock facilities on B1, with the final location and design to be detailed in a future DA. Figure 1 shows the location of the loading dock and proposed waste management area on B1.

Figure 1: Indicative B1 waste storage area location



5.2 Amenity

The main management area should deliver the following amenities:



- Ventilation: The bin storage rooms will be ventilated to external air or mechanically exhausted in accordance with AS 1668.2-2002
- Floor: Structural concrete slab with smooth epoxy topping finish with coved wall and floor junctions. Graded drains to approved sewer connections – fitted with an in-floor dry basket arrestor approved by Sydney Water
- Walls: Cement rendered to a smooth, even surface and coved at all intersections
- Fire: All walls, floors and ceilings of waste and recycling rooms and waste service compartments must be of a fire resistance level (FRL) in accordance with the requirements of the BCA
- Lighting: Base building lighting with switches inside and outside waste room (sensors may also be used)
- Water Supply: cold tap and hose connection with the outlet located in a position so that it cannot be damaged and a hose fitted with a nozzle being connected to the outlet
- Signage: clear signage identifying the various streams and appropriate use will be prominently displayed (see section on signage below)
- Odour: An automatic deodoriser can be installed
- Hygiene: Operational staff will ensure all bins are cleaned internally and externally on a regular basis (at least once every 3 months)

The ongoing maintenance and up-keep of the waste storage room will be the responsibility of operational staff. They will be tasked with ensuring bins are stored neatly and are cleaned as required.

5.3 Signage

All waste and recycling streams will be differentiated with clear signage on all bins and on walls within the waste storage area. Below are examples of appropriate signage incorporating textual information, pictures and colour-coding to communicate the message.

Figure 2: Stream appropriate signage



6. Onsite Management Protocols

6.1 Waste systems

It is anticipated that each component will be responsible for the internal management and disposal of waste into the systems provided within the central waste management area on B1. The following points provide high-level details on how each component would be managed:

- Commercial office: conventional bin hub set up throughout tenant floors – bin hubs are then serviced/emptied by base building cleaners each night and waste and recycling is transferred to waste management area for disposal in the systems provided
- Retail: retailers largely responsible for the internal management of their own waste and recycling within their immediate back of house area – retailers also responsible for transferring waste and recycling to the main waste management area as required throughout each day
- Wesley Centre: it is anticipated that the Wesley Centre will be responsible for the internal management of their facilities which will include the transfer of waste and recycling to the main waste management area on B1 as required (similar to the way commercial cleaners service the office tower)

It is highly recommended that a detailed operational guideline is prepared that outlines the expectations and best practice procedures for the internal management, transfer and disposal of waste for all stakeholders within the development to ensure operational consistency is delivered across the different components.

6.2 Waste Collection Practices

Utilising a commercial waste contractor affords the development sufficient flexibility regarding collection schedules and the appropriate final collection frequencies will be determined in consultation with the waste contractor once appointed – recommended collection frequencies have been detailed in 2 above based on the estimated waste profile however once operational, collection schedules may need to be adjusted accordingly depending on actual waste generation. The waste contractor engaged will be required to comply with all site safety requirements issued by centre management regarding safe access, onsite movement, traffic management etc.

7. Collection

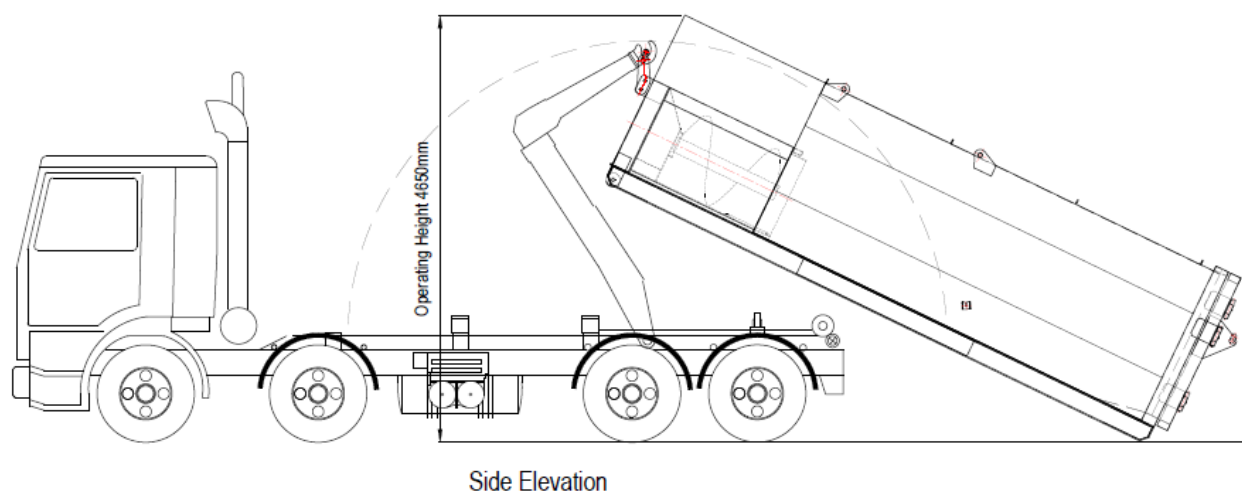
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All proposed equipment would be commissioned as part of the appointment of the waste contractor i.e. heavy equipment such as compactors would be leased through the waste contract and not purchased by the development.

7.1 Waste Collection Vehicle

Waste truck specifications will vary slightly between contractors however as a guide, the systems detailed in table 2 would be collected by a fixed hook lift truck for compactors and a MRV rear lift waste truck for MGBs. Figure 3 and 4 provide indicative specifications for both vehicles. It is noted that the Draft Traffic Impact Assessment proposes the maximum clearance height of 4.5m – this will be reviewed during detailed design in order to either accommodate a higher clearance height in specific areas of the loading dock, or working with the appointed waste contractor to provide a solution that conforms with the 4.5m clearance (i.e. through implementation of a smaller or customised compactor unit – Foresight Environmental can confirm that this approach is very common and presents no risks to the development in terms of securing adequate waste services to the site). It is recommended that the minimum clearance height of 4.5m is maintained throughout detailed design to ensure the waste collection options are not limited.

Figure 3 - Indicative hook lift truck specs for compactor collection




<div><div>PAKMOR</div><div></div><div><small>Pakmor Waste Equipment Aust. Pty Ltd</small></div></div>	<div><div>PAKMOR Waste Equipment Australia Pty Ltd</div><div><small>ABN 520685767</small></div><div><div><div>P.O. Box 8544</div><div>SOUTH WINGBOROUGH, N.S.W. 2756</div></div><div><div>Phone: 02 4577 3000</div><div>Fax: 02 4577 3022</div></div></div></div>	<div><div>ITEM</div><div>REVISIONS</div><div>DATE</div><div>APPRO</div></div>				<div><div>Project Title:</div><div>Hook Lift Operating Height - 16m Int 23m Stat</div></div>			
		<div><div>CONFIDENTIAL</div><div>This drawings & all information contained herein are the property of PAKMOR WASTE EQUIPMENT AUSTRALIA PTY LTD. All use is forbidden without written permission.</div></div>				<div><div>Customer Name:</div><div> </div></div>			
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		<div><div>Projection</div><div>Scale: N.T.S.</div><div>Date: Feb 2018</div></div>				<div><div>Checked By:</div><div> </div></div>			

Figure 4 - Indicative MRV rear-lift truck specs for bin collection

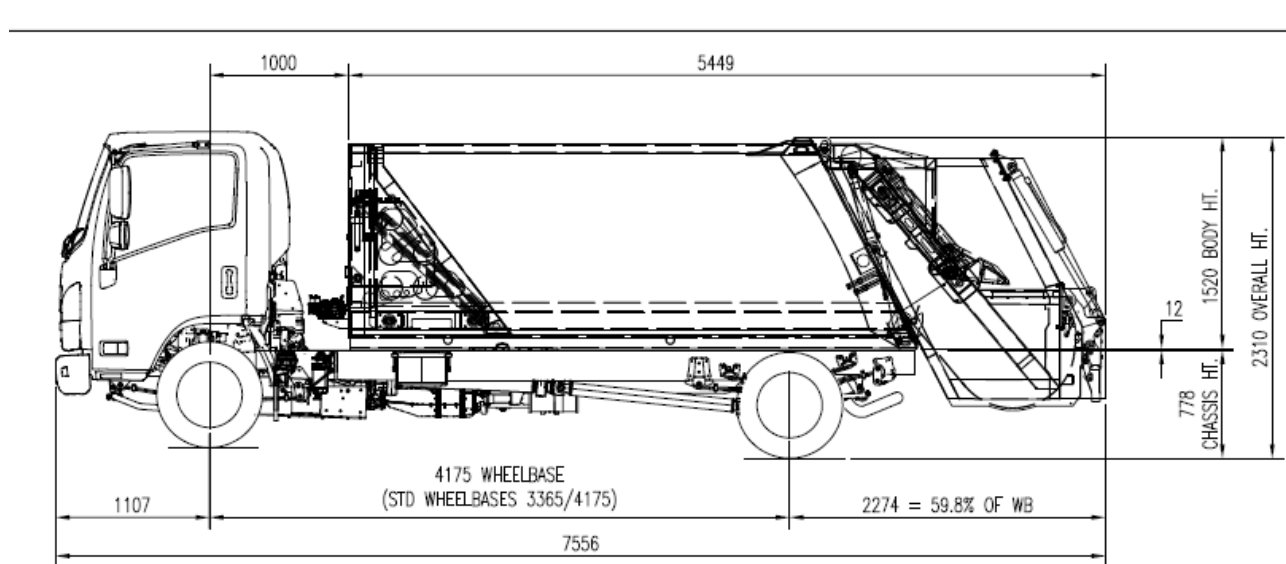
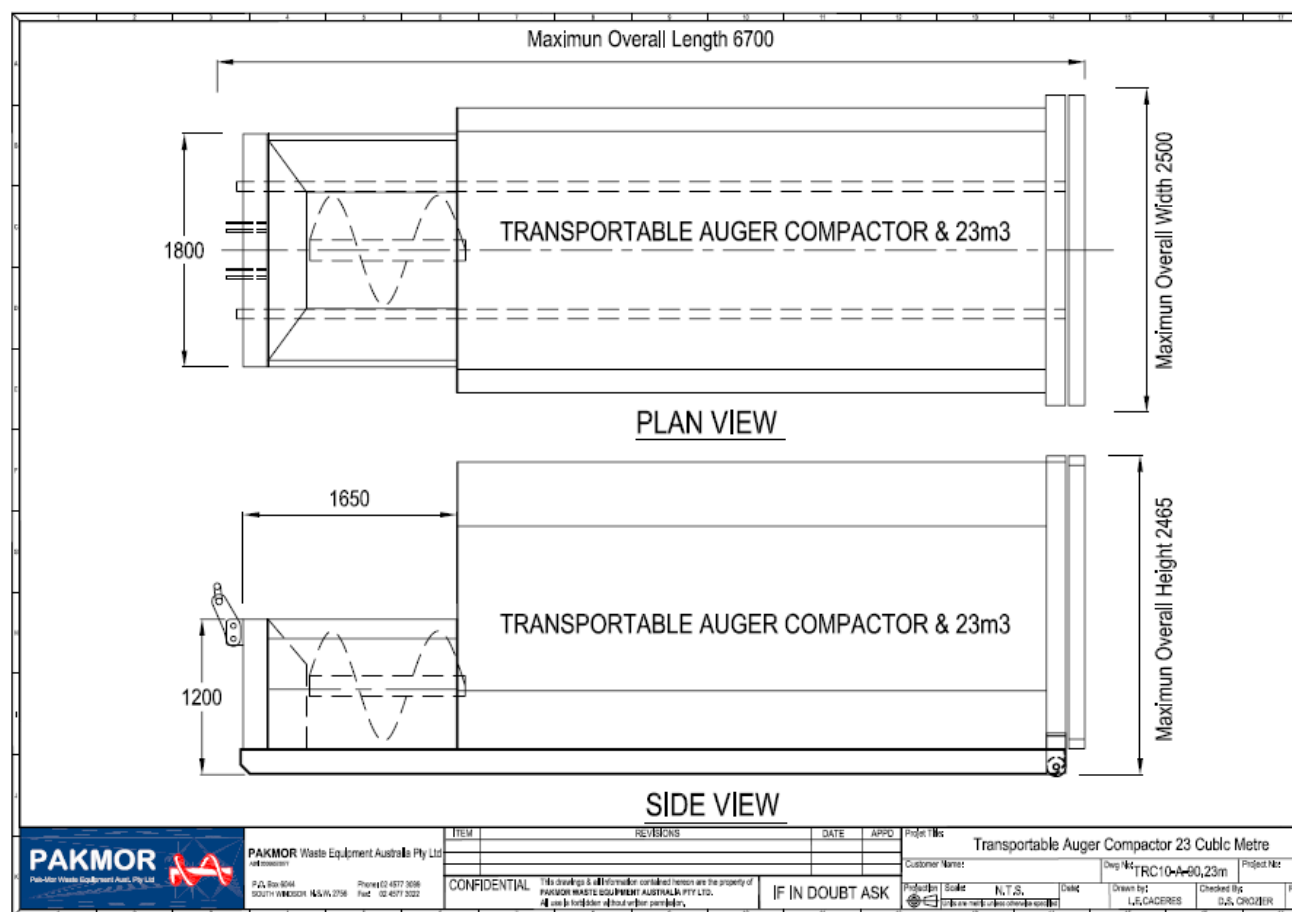


Figure 5 - Indicative specifications for 23m transportable auger compactor



8. Conclusion

The details of this waste management plan confirm that the proposed loading dock facilities can adequately accommodate the indicative required equipment for the effective management of waste from all components of the Stockland Piccadilly Complex development. It is anticipated that further detailed design will follow in future stages, including a detailed DA, to capture the detailed specifications of the required equipment and the associated detailed spatial design requirements of the waste management area within B1.