Waste Management Plan

36-52 Wellington Street

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Waste Management Report

Client: HINES 36 WELLINGTON PROPERTY PTY LTD
ABN: 94 631 997 914

Prepared by

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Quality Information

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Date: 15-Aug-2019

Prepared by: Sian Willmott
Reviewed by: David Mahony

Revision History

<table>
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<th>Rev</th>
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<th>Name/Position</th>
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<td>Town Planning – Draft</td>
<td>Nigel Burdon</td>
<td>Associate Director Building Structures</td>
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Executive Summary

As per the Yarra City Council planning scheme, the proposed development at 36 Wellington St requires a Waste Management Plan to be submitted and approved by a responsible authority. 36 Wellington St is being benchmarked against a minimum 5-star Green Star Design and As-Built v1.2 rating for the base building. Therefore, the Green Star framework has been used to guide the implementation of environmentally sustainable design (ESD) principles into the project, including operational waste management.

In preparation for planning approval, a waste management plan has been developed, based on best practice principles related to waste management in the following key areas;

1. Separation of waste streams
2. Dedicated waste storage area
3. Access to waste storage area.

To achieve best practice waste management outcomes and meet requirements under the benchmarked Green Star rating, the following waste management strategies are proposed in Table 1.

Table 1: Waste management provisions for 36 Wellington St

<table>
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<tr>
<th>Criteria</th>
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1.0 Introduction

AECOM has been engaged to prepare a Waste Management Plan for the new development at 36 Wellington St, Collingwood. The plan ensures there will be facilities in place to collect and separate distinct waste streams during operation and that these facilities meet best practice requirements for collection by the relevant contractor.

The Wellington St development is a 15-storey office building containing food and beverage tenancies and café on ground floor. The building also contains car parking in a two-level basement of 4,226m² gross floor area (GFA). The total GFA of the development is 30,192m². The building sits within the City of Yarra municipal boundary, with the project led by developer Hines.

1.1 Approach to waste management and minimisation

As per Clause 19.03-5S of the Victorian Planning Scheme, the new development requires a Waste Management Plan to be submitted and approved by the City of Yarra.

1.1.1 Approach

The following guidelines and inputs have been used to implement best practice operational waste management for 36 Wellington St, Collingwood:

- Green Star – Design & As Built v1.2 Submission Guidelines, Green Building Council of Australia
- Guidelines for Preparing a Waste Management Plan 2017, City of Melbourne
- Statewide Waste and Resource Recovery Infrastructure Plan (Sustainability Victoria, 2018)
- Metropolitan Waste and Resource Recovery Implementation Plan (Metropolitan Waste and Resource Recovery Group, 2016)
- Waste Management Policy (Siting, Design and Management of Landfills) (Environment Protection Authority, 2004)
- Best Practice Environmental Management Guideline (Siting, Design, Operation and Rehabilitation of Landfills) (Environment Protection Authority, 2001)
- Victorian Organics Resource Recovery Strategy (Sustainability Victoria, 2015)
- Designing, Constructing and Operating Composting Facilities (Environment Protection Authority, 2015)
- Policy for Waste Minimisation in New Developments, City of Sydney

The guidelines and policies issued by the City of Melbourne and City of Sydney listed above are considered best practice in waste management and minimisation and form part of the strategies included within this plan. They are also recommended as guiding principles in the formulation of waste management plans in-line with the Green Building Council of Australia’s guidelines for buildings.

1.2 Green Star Credit 8 – Operational Waste

36 Wellington St is being benchmarked against a minimum 5 Star Green Star Design and As-Built rating for the base building. The Green Star framework will be used to guide the implementation of environmentally sustainable design principles into the project.

The report is intended to confirm the necessary features to comply with the requirements outlined in Credit 8 Operational Waste in the Green Star Design and As-Built v1.2 rating tool.

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1 “Green Star – Design & As Built v1.2 Submission Guidelines” Green Building Council of Australia, June 2017
Under the Prescriptive Pathway, one point is awarded where the following requirements are met:

- Separation of waste streams
- Dedicated waste storage area
- Access to waste storage area.
2.0 Waste management plan

2.1 Waste streams

It is proposed that as a minimum, the following waste streams will be accommodated for in the new building.

- General waste
- Co-mingled recyclables
- Organic waste

To allow for separation of the applicable waste streams, bins and containers will be clearly marked for each stream, based on the Sustainability Victoria guidelines.²

2.2 Dedicated waste storage area

The dedicated waste storage area is to be located on ground floor and is to be sized to accommodate all bins and containers, for all applicable waste streams, for at least one collection cycle.

2.2.1 Waste generation rates

The following waste generation rates have been based on the City of Sydney’s Guidelines for Waste Management in New Developments, updated in 2018. These guidelines are considered best practice for developments across Australia under the Green Star Design and As-Built V1.2 tool.

Table 2: Approximate daily waste generation rates

<table>
<thead>
<tr>
<th>Building Area Type</th>
<th>Garbage</th>
<th>Commingled Recycling</th>
<th>Organic Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurant (eating space)</td>
<td>1L/m² floor area/day</td>
<td>5L/m² floor area/day</td>
<td>1L/m² floor area/day</td>
</tr>
<tr>
<td>Office</td>
<td>0.15L/m² floor area/day</td>
<td>0.25L/m² floor area/day</td>
<td>0.05L/m² floor area/day</td>
</tr>
</tbody>
</table>

The table below shows the anticipated total daily waste generation of 36 Wellington St, Collingwood and the associated floor area of each building type in consideration of Table 2. These generation volumes will be accommodated for in the dedicated waste storage room.

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² “Waste signage guidelines” Sustainability Victoria, 2011
³ “Signage Library” Sustainability Victoria
Table 3: 36 Wellington St daily waste output

<table>
<thead>
<tr>
<th>Building Area Type</th>
<th>Floor Area (m²)</th>
<th>Garbage (L/week)</th>
<th>Recycling (L/week)</th>
<th>Organic (L/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurant (eating space)</td>
<td>616</td>
<td>4,312</td>
<td>21,560</td>
<td>4,312</td>
</tr>
<tr>
<td>Office</td>
<td>18,308</td>
<td>13,731</td>
<td>22,885</td>
<td>4,577</td>
</tr>
<tr>
<td>Total</td>
<td>18,924</td>
<td>18,043</td>
<td>44,445</td>
<td>8,889</td>
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</table>

2.2.2 E-waste

To enable the collection of various e-waste items such as mobile phones and laptops, a 240 litre e-waste bin (or equivalent, as deemed appropriate by building management) will be provided in the bin store room at ground level.

E-waste collections will be arranged by building management (or equivalent) via a private contractor as required.

2.2.3 Bin types

2.2.3.1 Waste storage area

The size of bins within the waste storage area have been determined based on efficiency and mobility. Organic bins and e-waste have been selected at 240L and general waste and commingled recycling at 1100L each.

![Common mobile garbage bin sizes](image)
2.3 Required bin storage

Based on the above generation rates, the development will require approximately 4 general waste bins, 9 co-mingled recycling bins and 8 organic waste bins to accommodate for the daily waste generation.

2.3.1.1 Throughout building

Bins or containers will be evenly distributed throughout the building. The locations will be determined based on a discussion with the future building tenants.

2.3.2 Collection frequency

It is proposed that waste collection of all streams except for e-waste will occur 5 times per week. Collection will be performed out of business hours. Both the time of collection and collection frequency will be confirmed once a waste contractor is appointed.

2.3.3 Waste storage area

It is proposed that a waste storage area of minimum 59m² be included in the new building, sized to accommodate 5 collections per week as detailed in this section of the report.

Waste will be transported from each level to the ground floor waste storage area daily by the waste/cleaning contractor via the services lift and ground floor corridor.

The waste storage area will accommodate all general, comingled recycling and organic waste streams, per Section 2.1. Ventilation will be in accordance with AS1668.2.2012; and a tap and drainage are provided to facilitate washdown.

Figure 3: Bin allocation in waste storage area
2.4 Access to waste storage area

General waste, recycling and organic bins will be stored on-site in the waste storage area between collections.

The waste contractor will transport bins to and from the bin store during collection time. Facilities management will ensure that the waste contractor has unrestricted access to the bin store during this time.

The waste vehicle swept path analysis is provided in Figure 4 below. It demonstrates the proposed vehicular access to the waste collection area off Northumberland street, accommodating a rear-lift small-rigid waste collection vehicle, as described in the following section.

Figure 4: Waste Collection Swept Path Analysis

2.4.1 Collection vehicle type

Typical waste collection is performed using a rear-lift, small rigid vehicle (SRV), per that shown in Figure 5. Generally, the truck dimensions are:

- Minimum height 3.5 meters
- Minimum width 2.3 meters
- Minimum length 6.4 meters

Figure 5: Typical SRV rear-lift waste collection vehicle

These type of waste vehicles are best suited to sites with limited access and space, the rear lift truck lifts manually collected bins and transports them to the rear of the truck to be automatically emptied and compacted. On-board safety features include a reversing camera, reversing lights and beepers, hydraulic lift valves and heated external mirrors.

These vehicles can collect containers of sizes 120, 240, 660 and 1100 litres in capacity.
3.0 Summary

To meet industry wide best practice guidelines, the 36 Wellington St development will implement the strategies outlined in Table 4.

Table 4: Operational Waste Management Strategy Summary

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