EXECUTIVE SUMMARY

SALT has been engaged by Chapter Group to prepare a Waste Management Plan (WMP) for a proposed commercial development located at 196–206 High Street, Windsor.

SALT understands that the development will provide 6,458m² offices across 6 levels, 378m² shop space and 569m² food and beverage spaces.

Waste would be stored on-site in the waste room located in the basement level 1.

Commercial waste would be collected by private contractor, with:
- 8 x 1,100L garbage bins collected three times per week;
- 6 x 1,100L commingled recycling bins collected three times per week; and
- 12 x 660L organic bins collected three times per week.

It should be noted that the large number of bins proposed is conservative as it assumes the food and beverage tenancies are used as restaurant and the shop generates waste up to similar volume of a supermarket.

Waste vehicles would prop safely at the loading bay located at the basement level 1 to perform collection. Vehicle operators would ferry waste bins from the waste room to the collection vehicle and return upon emptying.

In the opinion of SALT, the enclosed Waste Management Plan would provide efficient waste management for the proposed development. This report must be read in detail prior to implementation of the waste management strategy.
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1 INTRODUCTION
SALT has been requested by Chapter Group to prepare a Waste Management Plan for a proposed commercial development located at 196–206 High Street, Windsor.

This Waste Management Plan (WMP) has been prepared based on industry best practice and the Sustainability Victoria Better Practice Guide for Waste Management and Recycling in Multi-unit Developments (2019), the waste rates are enclosed therein.

In the circumstance that the development plans are amended or new legal requirements are introduced, a revision of the enclosed WMP may be required by the Responsible Authority. The developer would be responsible in engaging with a waste consultant or engineer to prepare the updated report accordingly.

2 INCLUDED IN THIS REPORT
Enclosed is the Waste Management Plan for the proposed development at 196–206 High Street, Windsor. Included are details regarding:

- Land use;
- Waste generation;
- Waste systems;
- Bin quantity, size and colour;
- Collection frequency;
- Bin storage area;
- Signage;
- Waste collection;
- Responsibilities;
- Ventilation, washing and vermin-prevention;
- Noise reduction;
- DDA compliance;
- Supplier contact information; and
- Scaled waste management drawings.

3 LAND USE
Planning application number: To be allocated
Land Zone: Activity Centre Zone (ACZ1)
Land use type: Commercial
Number of levels: 6 (plus 2 basement levels)

Commercial Space:

- 6,458m² office spaces;
- 378m² shop space; and
- 569m² food & beverage spaces;
4 COMMERCIAL WASTE MANAGEMENT PLAN

4.1 WASTE GENERATION

Generation rates have been adopted based on commercial waste generation rates enclosed in the Sustainability Victoria Better Practice Guide for Waste Management and Recycling in Multiunit Developments 2019. These rates are considered appropriate for a commercial development located within the City of Stonnington.

This waste generation assessment is considering the worst-case scenario as requested by K2LD Architects which assumes that the food and beverage (F&B) spaces be used as restaurants and the shop space will be used as a supermarket.

Commercial waste generation rates are shown in Table 1. This waste generation assessment was conducted using supermarket waste rates for shop space and restaurant waste rates for F&B spaces. Calculations have been conducted based on 7 operational days for supermarket and restaurants and 5 operational days for office spaces.

Waste generation rates for food organics have been calculated based on data obtained from the State of Victoria, Department of Health and Human Services Victorian Food Organics Recycling Guide for small-medium food services organisations (2016). The guide details that waste generated by food and drink premises within Victoria has a general composition of 50% food waste. Therefore, it would be appropriate to apply 50% of the garbage generation rate as an estimate for the organic waste generated by the F&B and shop tenancy within this development. As 50% of garbage waste generated is expected to be organic, this generation rate would apply to both the garbage and organics waste generations for the tenancy. This has therefore been applied accordingly within the provided waste generation assessment.

<table>
<thead>
<tr>
<th>Use</th>
<th>Garbage (L/100m²/week)</th>
<th>Commingled Recycling (L/100m²/week)</th>
<th>Organics (L/100m²/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>50</td>
<td>50</td>
<td>N/A</td>
</tr>
<tr>
<td>Shop*</td>
<td>2,310</td>
<td>1,680</td>
<td>2,310</td>
</tr>
<tr>
<td>Food and Drink Premises*</td>
<td>2,310</td>
<td>1,400</td>
<td>2,310</td>
</tr>
</tbody>
</table>

*Supermarket waste generation rates have been adopted for shop tenancy and restaurants for Food and Beverage tenancies to consider worst-case scenario.

A commercial waste generation assessment is provided in Table 2.

<table>
<thead>
<tr>
<th>Use</th>
<th>Area</th>
<th>Waste Per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Garbage</td>
<td>Recycling</td>
</tr>
<tr>
<td>Office</td>
<td>6,458m²</td>
<td>3,229L</td>
</tr>
<tr>
<td>Shop</td>
<td>378m²</td>
<td>8,732L</td>
</tr>
<tr>
<td>Food and Drink Premises</td>
<td>569m²</td>
<td>13,144L</td>
</tr>
<tr>
<td>Total Waste Generated per Week</td>
<td>25,105L</td>
<td>17,546L</td>
</tr>
</tbody>
</table>

4.2 WASTE SYSTEMS

Waste would be sorted on-site by staff and cleaners as appropriate into the following streams:

- Garbage (General Waste);
- Commingled Recycling;
- Food Organics.
4.2.1 BIN STATIONS
Based on Method Westpac NZ Case Study, the use of bin stations throughout their office spaces have reduced waste to landfill by 40%. The case study discusses the significance of accountability in ensuring diversion of waste from landfill. It is therefore recommended that bin stations are provided throughout office spaces.

Each bin station should be equipped with one bin for each waste stream. This would encourage the user to make a conscious decision before depositing their waste product into a specific bin and encourage appropriate segregation especially when bins are placed within an area open to public view.

An example bin station with vertical signage is shown in Figure 1. The vertical signage is recommended to be implemented at each bin station to educate the users on the appropriate separation methods. This would allow for maximum diversion of waste from landfill and recovery of the respective waste streams to be achieved.

![Figure 1 Example of Bin Station with Vertical Signage](image)

4.2.2 GARBAGE (GENERAL WASTE)
The commercial spaces would be furnished with plastic lined bins for the temporary holding of garbage waste. These bins would have the following minimum cumulative capacities:

- Office – 645L
- Shop – 1,250L
- Food and Drink Premises – 1,880L

These capacities are based on the transfer of waste to the bin room occurring at least once per day.

Staff/cleaners would dispose of waste from these bins directly into the appropriate 1,100L bin provided within the waste room located at the basement level 1, accessed via lift (refer to APPENDIX 1).

Garbage is to be disposed of bagged.

4.2.3 COMMINGLED RECYCLING
The commercial spaces would be furnished with unlined bins for the temporary holding of recyclable waste. These bins would have the following minimum cumulative capacities:

- Office – 645L
- Shop – 910L
- Food and Drink Premises – 1,140L

These capacities are based on the transfer of waste to the waste room occurring at least once per day.
Staff/cleaners would dispose of waste from these bins directly into the appropriate 1,100L bin provided within the waste room located at the basement level 1, accessed via lift (refer to APPENDIX 1).

Commingled recycling would be disposed of loosely.

4.2.4 FOOD ORGANICS
The commercial spaces would be furnished with unlined bins for the temporary holding of food organics, these bins would have the following minimum cumulative capacities:

Shop (supermarket) – 1,250L; and

F&B (Restaurant) – 1,880L

These capacities are based on the transfer of waste to the waste room occurring at least once per day.

Staff/cleaners would dispose of waste from these bins directly into the appropriate 660L bin provided within the waste room located at the basement level 1, accessed via lift (refer to APPENDIX 1).

Commingled recycling would be disposed of loosely.

4.3 BIN QUANTITY, SIZE AND COLLECTION FREQUENCY
The bin quantity, size and the frequency of collection are shown below in Table 3 and Table 4.

Note, a large number of bins have been calculated due to the applied worst-case scenario. The waste generation volumes presented below therefore represent the maximum waste volumes that could be generated by the site.

### Table 3 Bin Size and Collection Frequency

<table>
<thead>
<tr>
<th>Waste Stream</th>
<th>Collections per Week</th>
<th>Bin Size</th>
<th>No. Bins</th>
<th>Weekly Capacity</th>
<th>Weekly Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garbage</td>
<td>3</td>
<td>1,100L</td>
<td>8</td>
<td>26,400L</td>
<td>25,105L</td>
</tr>
<tr>
<td>Commingled Recycling</td>
<td>3</td>
<td>1,100L</td>
<td>6</td>
<td>19,800L</td>
<td>17,546L</td>
</tr>
<tr>
<td>Organics</td>
<td>3</td>
<td>660L</td>
<td>12</td>
<td>23,760L</td>
<td>21,876L</td>
</tr>
</tbody>
</table>

### Table 4 Typical Waste Bin Dimensions

<table>
<thead>
<tr>
<th>Capacity (L)</th>
<th>Width (mm)</th>
<th>Depth (mm)</th>
<th>Height (mm)</th>
<th>Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,100</td>
<td>1240</td>
<td>1070</td>
<td>1330</td>
<td>1.33</td>
</tr>
<tr>
<td>660</td>
<td>1260</td>
<td>780</td>
<td>1330</td>
<td>0.98</td>
</tr>
</tbody>
</table>

4.4 BIN COLOUR AND SUPPLIER
All bins would be provided by private supplier. The below bin colours are specified by Australian Standard AS4123.7-2006, however due to the private nature of the collection, these are only recommendations and are not mandatory:

- Garbage [general waste] shall have red lids with dark green or black body, and
- Recycle shall have yellow lids with dark green or black body.
- Organic shall have green lids with dark green body.

Note, private contractors often supply bins for collection.
4.5 Waste Storage Area

Table 5 demonstrates the cumulative space requirements and provision of waste areas in the of the proposed development.

Table 5 Waste Area Space Requirements

<table>
<thead>
<tr>
<th>Stream</th>
<th>Space Required (excluding circulation)</th>
<th>Space Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Waste</td>
<td>10.64m²</td>
<td>78.00m²</td>
</tr>
<tr>
<td>Commingled Recycling</td>
<td>7.98m²</td>
<td></td>
</tr>
<tr>
<td>Organics</td>
<td>11.76m²</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>30.38m²</strong></td>
<td><strong>78.00m²</strong></td>
</tr>
</tbody>
</table>

Waste management would be overseen by building management.

4.6 Waste Collection

Commercial waste would be collected by private contractor as follows:

- 8 x 1100L garbage bin collected three times per week;
- 6 x 1100L commingled recycling bin collected three times per week; and
- 12 x 66L organic bin collected three times per week.

All waste bins would be stored on-site in the waste room provided at the basement level 1 (refer to APPENDIX 1).

In accordance with Stonnington City Council requirements (Clause 901[12]), waste collections are to occur between 7:00 a.m and 10:00 p.m on Mondays to Saturdays or between 9:00 a.m to 10:00 p.m on Sundays and public holidays.

General waste collections would occur via a 6.35m low profile waste collection vehicle with an operating height clearance of less than 2100mm. There is sufficient headroom in basement level 1, and access way to the basement level 1, to allow passage of a 6.35m waste collection vehicles (refer to APPENDIX 2).

Waste collection vehicles would enter the subject site via a forward motion from Victoria Street.

Waste collection vehicles would prop safely at the basement level 1 loading bay.

Vehicle operators would ferry waste bins from the waste room and return upon emptying.

Waste collection vehicles would exit the loading bay in a forwards direction, exiting the subject site onto Victoria Street.

Building management would ensure that waste vehicle operators are able to access the waste room.

Commercial waste bins would not be presented to street kerb at any point.

5 Responsibilities

Building management would be responsible for overseeing waste management within the development. Responsibilities would include:

- Provide commercial tenants with a waste management handbook which would include information on bin storage areas, transfer paths and waste management methods onsite;
- Inspecting waste stores;
- Reviewing contamination within bins; and
- Investigating incidents of inappropriate waste storage (or aggregation).

Building management would ensure anyone found responsible for inappropriate waste disposal would be appropriately educated and made aware of correct waste disposal techniques.

It is recommended that building management conducts a waste audit if waste is found to be inappropriately deposited by users or if the bin capacities need to be reviewed.
6 SIGNAGE
Waste storage areas and bins would be clearly marked and signed with the industry standard signage approved by Sustainability Victoria or equivalent. The typical Sustainability Victoria signage is illustrated in Figure 2.

Figure 2 Sustainability Victoria Signage

7 SUSTAINABILITY ACTION PLAN AND INITIATIVES
The importance of restructuring the institutional waste management methods in developments is becoming more apparent as we experience the adverse impacts of increasing waste volumes and declining recycling rates. Developments such as the proposed subject site can contribute towards the prevention and reduction of nationwide waste generation volumes as well as to promote a local circular economy system.

Building management should encourage users by demonstrating a commitment towards waste avoidance and minimisation initiatives. The waste hierarchy as detailed in the Environmental Protection Act 1970 should be observed in order of preference (refer to Figure 3).

Figure 3 Waste Hierarchy

In addition to the waste management strategy detailed in the enclosed report, building management can establish landfill diversion and recycling targets and conduct periodic waste audits to monitor contamination levels in recycling and organics bins. The results of the audit could be shared with commercial tenants to encourage them to continue or to improve their waste separation efforts. The audit may also be beneficial from a cost perspective as it would inform building management of opportunities to reduce bin numbers or collection frequencies.

Commercial tenants should be inducted on on-site waste management practices and on the development’s sustainability action plan via the provision of a handbook or in-person training, as deemed necessary. Commercial tenancies should be encouraged to minimise single use packaging and promote re-use by providing opportunities to consumers to utilise their own reusable containers or bags.
8 WASTE AREA REQUIREMENTS

8.1 VENTILATION
Ventilation would be provided in accordance with Australian Standard AS1668.

The waste room will be equipped with tight fitting doors and impervious flooring. Any openings within the waste room will be fitted with vermin-proof mesh.

8.2 LITTER MANAGEMENT, WASHING AND STORMWATER POLLUTION PREVENTION
An appropriately drained wash down area would be provided within the bin room in which each bin is to be washed regularly by building management. Bin washing areas or bin wash bags must discharge to a litter trap. Bin wash areas should not discharge into stormwater drainage.

Alternatively, a third-party bin washing service can be engaged to perform this service. Bin washing suppliers must retain all waste water to within their washing apparatus so as to not impact on the drainage provisions of the site.

Building management and cleaners would be responsible in ensuring the following to prevent or minimise the dispersion of litter throughout the site:

- Prevent overfilling of bins by ensuring bin lids are closed at all times;
- Require waste contractor to remove any spillage that may occur during waste collections; and
- Ensure anyone found responsible for inappropriate waste disposal or dumping would be appropriately educated and made aware of correct waste disposal techniques.

8.3 NOISE REDUCTION
All waste areas would meet EPA, BCA and AS2107 acoustic requirements as appropriate within operational hours assigned to minimise acoustic impact on surrounding premises.

Waste collection timings in accordance with Stonnington City Council requirements (Clause 901(12)) have been stipulated in the waste collection section above.

Waste contractors should also abide by the following regulations to ensure minimal noise impacts to the neighboring properties:

- Compaction only to be carried while on the move;
- Bottles should not be broken up at the point of collection;
- Routes that service entirely residential areas should be altered to reduce early morning disturbances; and
- Noisy verbal communication between operators should be avoided where possible.

8.4 DDA COMPLIANCE
All waste areas to be accessed by commercial staff/residents would comply with AS1428.1:2009.

9 SUPPLIER CONTACT INFORMATION
Table 6 provides a list of equipment specified by this waste management plan.

Below is a complimentary listing of contractors and equipment suppliers. You are not obligated to procure goods/services from these companies. This is not, nor is it intended to be a complete list of available suppliers.
SALT does not warrant (or make representations for) the goods/services provided by these suppliers.

Table 6  High Level Purchasing Schedule

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Supplier</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,100L Bins</td>
<td>14</td>
<td>Private Supplier*</td>
<td>6 x 1,100L bins for commingled recycling</td>
</tr>
<tr>
<td>660L Bins</td>
<td>12</td>
<td></td>
<td>8 x 1,100L bins for garbage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12 x 660L bins for organics</td>
</tr>
</tbody>
</table>

*Private waste collection contractors often supply their own bins for collection.

9.1  WASTE COLLECTORS

9.1.1  GARBAGE, RECYCLING AND ORGANICS

- Budget Waste – 1800 292 783
- Citywide Waste – 03 9261 5000
- CSC Waste – 1300 499 927
- iDump – 1300 443 867
- VISY Waste Management – 03 9369 7447

9.2  BIN WASHING SERVICES

- The Bin Butler – 1300 788 123
- Calcorp Services – 1888 225 267
- WBCM Environmental – 1300 800 621
APPENDIX 1  WASTE ROOM DRAWING
APPENDIX 2  SWEPT PATH ANALYSIS

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