C&D Waste Recycling Resource Kit

Pilot Trial

Prepared for Town of East Fremantle
April 2014
Project Number TW13022
### DOCUMENT CONTROL

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Acknowledgements

Talis would like to acknowledge the project representatives of each of the sites for their assistance and significant contribution to this study.

This project was funded by the Waste Authority through the Waste Avoidance and Resource Recovery Account.
1 Introduction

The Western Australian Waste Strategy: Creating the Right Environment (2012) (the Waste Strategy) contains targets for the diversion of Construction and Demolition (C&D) waste from landfill of 60% by 2015 and 75% by 2020. In 2009/10, 29% of C&D waste was diverted from landfill statewide. To meet the Waste Strategy targets, and to work towards the vision of sustainable waste management, significant improvement in the recovery of C&D waste is required.

The Town of East Fremantle’s (the Town) Waste Minimisation Policy (1992) documents the Town’s longstanding commitment to reduce waste to landfill. The Town is also a member council of the Southern Metropolitan Regional Council and is therefore working towards its vision “to lead in sustainable recycling and climate change solutions.” The Waste Hierarchy (Diagram 1) is an internationally recognised principle which lists waste management options in order of preference according to their sustainability and environmental impact, to guide its waste management practices. The Waste Hierarchy is presented in the Waste Authority’s position statement Waste Authority Communication on the Waste Hierarchy, and has been endorsed by the Town.

Diagram 1: Waste Management Hierarchy

The Town wishes to increase the proportion of C&D waste generated within its jurisdiction that is recycled. The Town has obtained funding from the Waste Authority to undertake a Pilot Trial of a Resource Kit for Recycling C&D Waste at domestic demolition projects. The Resource Kit contains information on recycling facilities for common C&D waste materials in the vicinity of the Town and is intended to assist owner/builders and/or project managers to recycle as much as possible.

1.1 Objectives

The objectives of the Pilot Trial were to:

- Identify current barriers to recycling C&D waste generated from domestic demolition projects; and
- Determine whether the use of a Resource Kit for C&D waste materials will improve recycling rates.
1.2 Scope of the Report

To achieve the objectives of the Pilot Trial, this report consists of:

- Chapter 2: Pilot Trial Methodology;
- Chapter 3: Results; and
- Chapter 4: Conclusions and Recommendations.
2 Pilot Trial Methodology

The Pilot Trial involved the completion of the following tasks:

- Preparation of the Resource Kit;
- Preparation of a Data Collection Sheet;
- Identification of suitable projects; and
- Implementation of the Pilot Trial.

The methodology adopted to undertake these tasks is described in the following sections.

2.1 Resource Kit

The Resource Kit contains a directory of recycling facilities for the following C&D materials:

- Building Rubble;
- Greenwaste;
- Metals;
- Paper and Cardboard;
- Plasterboard;
- Plastic;
- Reusable Items (household goods and furniture); and
- Timber.

For each material, facilities were identified as close to the Town as possible based on the Commercial and Industrial Waste Recycling Directory (Waste Management Association of Australia and Waste Authority). The information provided on each facility included:

- Name;
- Location;
- Contact Details;
- Fees;
- Method for transportation of materials (Collection or Drop-off); and
- Other materials accepted at the facility.

The Resource Kit is contained within Appendix A.

2.2 Data Collection Sheet

To gather information on the waste generated during the Pilot Trial, a Data Collection Sheet was prepared. Information gathered within the Data Collection Sheet included:

- Project;
- Data collection start and end date;
- Material;
- Treatment method (Reuse on-site, recycle or disposed);
- Quantity generated;
- On-site storage method (eg. skip bin, stockpile);
- Treatment facility;
- Cost of treatment;
Method for transportation of materials (Collection or Drop-off); and
Barriers to recycling.

The Data Collection Sheet also included a comments section for participants to provide any further comments, ideas or suggestions in relation to increasing recycling at demolition projects.

2.3 Project Identification

The key focus of the Pilot Trial was domestic demolition projects undertaken within the Town. However, due to the time constraints to undertake the project, some difficulty was encountered in identifying suitable projects. The following two projects participated in the Pilot Trial:

- House renovation, Glyde Street; and
- House renovation, East Street.

The Glyde Street project involved renovation of a brick house including excavation of underground rooms and staircase and landscaping of the garden. The works were being undertaken by a building contractor. Demolition works at the site had already been completed prior to the development of the Resource Kit and the project was in the construction phase during the Pilot Trial.

The East Street site involved the renovation of a 1850s brick house including demolition of a room, bathroom, laundry and outdoor paving. The works were being undertaken primarily by the owners with some assistance from sub-contractors.

2.4 Trial Implementation

Site visits were undertaken at each site to meet with the project representative(s), provide the Resource Kit and Data Collection Sheet and to obtain an understanding of the works. As the demolition works at the Glyde Street site had already occurred, the Data Collection Sheet was completed retrospectively for the waste generated during the demolition works. Data on waste generation and management using the Resource Kit was also provided for the construction waste generated between 19 November and 16 December 2013. A Data Collection Sheet was completed using the Resource Kit for demolition waste generated at the East Street between 13 December and 17 December 2013.
3 Results

The key information obtained from each site is presented in the following sections. This includes:

- Waste generation broken down by material;
- Waste treatment methods; and
- Barriers to recycling.

3.1 Glyde Street

3.1.1 Waste Generation

A total of approximately 151 m$^3$ was generated from the demolition works at the Glyde Street site. The breakdown of waste generation by material is shown in Figure 1.

![Figure 1: Breakdown of Waste Generation at Glyde Street site](image1)

As shown in Figure 1, the majority of C&D waste generated was building rubble, with small quantities of glass, reusable items and timber.

3.1.2 Waste Treatment

The breakdown of waste generation by treatment method is shown in Figure 2.

![Figure 2: Treatment Methods at Glyde Street site](image2)
As shown in Figure 2, half of the C&D waste generated was reused at the site which included limestone, timber and sand. Equal proportions (25%) of waste materials were recycled and disposed. Within the Data Collection Sheet, a greater proportion of materials were reported by the project representative as being disposed. However, following discussions with the skip bin provider (Melville Bin Hire), the following materials were deemed more likely to have been recycled:

- Roof tiles;
- Concrete;
- Brickwork; and
- Sand.

The overall recovery rate for the project was therefore 75%. The materials separated for reuse included timber and limestone rocks, as shown in Plates 1 and 2 and Appendix B.

The completed Data Collection Sheet for the Glyde Street site is provided within Appendix C.

As mentioned previously, the demolition works at the Glyde Street site had already been completed prior to this project and therefore the Resource Kit was not utilised for the demolition waste generated. The Resource Kit was available for the management of waste during the construction works, however as the quantities of construction waste generated were very small, recycling was not considered feasible.

3.1.3 Barriers to Recycling

The project representative for the Glyde Street site identified the following barriers to recycling C&D waste:

- Materials not sufficient quality for recycling or non-recyclable such as:
  - Roof tiles damaged through prolonged exposure to salty air;
  - Carpet and vinyl flooring not recyclable;
- Low quantities of material were generated and therefore separate collection and management was not considered efficient.

3.2 East Street

3.2.1 Waste Generation

A total of 39.75m³ was generated from the demolition works at the East Street site. The breakdown of waste generation by material is shown in Figure 3.
As shown in Figure 4, the majority of demolition waste generated at the East Street site was building rubble. The building rubble generated is illustrated in Plate 3. Timber and small quantities of glass and metals were also generated from the demolition works.

3.2.2 Waste Treatment

The breakdown of waste generation by treatment method is shown in Figure 4.

Source separation of materials such as timber, glass, metals and plaster board was able to be achieved while the owner/builder was undertaking the demolition works and more time was available. However, when contractors were utilised to provide demolition services, demolition occurred much more quickly resulting in the generation of mixed waste streams on this site.

As within the Data Collection Sheet for the Glyde Street site, all building rubble was identified by the project representative as being disposed. Some of this material was potentially contaminated with asbestos and therefore was disposed. However, from Talis’ knowledge of the treatment facility utilised to process the remaining material, it is highly likely that these materials were sorted and recycled.

The overall recovery rate achieved at the East Street site was 55%. The only material not able to be recovered was building rubble due to potential asbestos contamination.
While the Resource Kit was found to be a useful resource in identifying a contractor to provide skip bins for building rubble, the Kit was not highly utilised to provide information on drop-off sites for source separated materials. Time limitations for owner/builders resulted in collection services being preferable to drop-off services.

3.2.3 Barriers to Recycling

The project representatives for the East Street site identified the following barriers to recycling C&D waste:

- Asbestos was identified beneath the external concrete paving. Therefore, the building rubble generated was required to be disposed of to landfill due to risk that material contained asbestos.
- On this occasion, source separation was more easily achieved while the owner/builder was undertaking the demolition works. Once contractors had taken over demolition, works were undertaken much faster and generated mixed waste streams.

The completed Data Collection Sheet for the East Street site is contained within Appendix D.
4  Conclusions and Recommendations

4.1  Conclusions

The implementation of the Pilot Trial identified the following conclusions in relation to C&D waste recycling and use of the Resource Kit:

- At both sites, building rubble represented the largest proportion of the waste generated (between 71% and 89%), followed by timber (between 9% and 13%).
- Mixed waste streams were often stored on-site in skips, while separated streams were stockpiled. As this requires less area, sites with limited space available are more likely to utilise one skip for C&D waste and generate a mixed stream than source separate.
- Cost was not cited by any of the trial participants as a barrier to recycling.
- Barriers to recycling of C&D waste generated from domestic demolition projects include:
  - Materials generated are not of sufficient quality for recycling or are non-recyclable;
  - Only low quantities of materials are generated which results in separate collection and management not being efficient; and
  - Potential presence of asbestos.
- Projects, or particular periods during larger projects, which generate only small quantities of waste can result in the source separation and recycling of different materials at different facilities being unfeasible. The use of facilities which accept mixed loads and separate materials for recycling is more appropriate in these cases.
- Source separation of C&D waste is more achievable for owner/builders with more time available to undertake the demolition works than contractors.
- Asbestos is a major barrier to recycling C&D waste, in particular building rubble. Asbestos or Asbestos Containing Material (such as contaminated soil) is likely to be present in a large proportion of houses constructed prior to 1990. Strict regulations on disposal of waste contaminated with asbestos limit the quantity of C&D waste able to be recycled.
- At the Glyde Street site, potential impact of the Resource Kit on recovery rate was not able to be assessed as the demolition works had already been completed and the quantity of construction was generated was minimal.
- At the East Street site, the Resource Kit may have had a positive impact on recovery rate by providing contact details for recyclers of building rubble. Materials were only disposed due to the potential for asbestos contamination.

4.2  Recommendations

Based on the findings of the Pilot Trial, Talis recommends that the Town:

1. Consider the implementation of a wider trial of the Resource Kit at domestic demolition sites to determine the potential improvements to recovery rate. This may involve engaging with a larger number of domestic demolition projects and comparing the recovery rates achieved at those using the Resource Kit to those at which it was not used. Pending the success of the larger trial, the Town may wish to provide the Resource Kit to all successful Building Licence applicants and make the Resource Kit available to the community.
2. Include information on the safe disposal of asbestos within the Resource Kit.
Appendix A: Resource Kit
Resource Kit

Recycling Construction and Demolition Waste

April 2014
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Diagrams

Diagram 1: Waste Management Hierarchy
1 Introduction

The Western Australian Waste Strategy: Creating the Right Environment (2012) (the Waste Strategy) contains targets for the diversion of Construction and Demolition (C&D) waste from landfill of 60% by 2015 and 75% by 2020. In 2009/10, 29% of C&D waste was diverted from landfill statewide. To meet the Waste Strategy targets, and to work towards the vision of sustainable waste management, significant improvement in the recovery of C&D waste is required.

The Town of East Fremantle’s (the Town) Waste Minimisation Policy (1992) documents the Town’s longstanding commitment to reduce waste to landfill. The Town is also a member council of the Southern Metropolitan Regional Council and is therefore working towards its vision “to lead in sustainable recycling and climate change solutions.” The Waste Hierarchy (Diagram 1) is an internationally recognised principle which lists waste management options in order of preference according to their sustainability and environmental impact, to guide its waste management practices. The Waste Hierarchy is presented in the Waste Authority’s position statement Waste Authority Communication on the Waste Hierarchy, and has been endorsed by the Town.

![Diagram 1: Waste Management Hierarchy](image)

To increase the diversion from landfill of C&D waste generated within the Town, the Town has developed this Resource Kit. The Resource Kit contains a directory of the most conveniently located recycling facilities for commonly generated C&D waste materials.

While focusing on demolition projects, this Resource Kit may also be used during construction, refurbishment and demolition projects to maximise the quantity of C&D waste diverted from landfill.
2 Recycling Facility Directory

The following sections contain details of recycling facilities for commonly generated C&D waste materials including:

- Building Rubble;
- Greenwaste;
- Metals;
- Paper and Cardboard;
- Plasterboard;
- Plastic;
- Reusable Items; and
- Timber.

Hazardous materials, such as asbestos, paint and e-waste, have not been included within this Resource Kit. If generated, these materials should be separated for appropriate recycling or disposal. The Waste Authority refunds the landfill levy for asbestos that has been correctly wrapped, although fees may still apply for collection and disposal. Glass has also been excluded due to lack of facilities that can currently recycle this material.

Three different fee structures were identified for C&D waste materials including:

- Fee – generator pays the facility for treatment at a set rate;
- Free of charge; and
- Payment per kg – generator receives payment from the facility for the material.

Where applicable, a list of other C&D waste materials accepted at the facilities is provided to allow for more efficient transportation of loads.

2.1 Building Rubble

Building rubble includes mixed and separated inert wastes such as concrete, bricks, tiles and sand.

Table 1: Building Rubble Recyclers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection / Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perth Bin Hire</td>
<td>11-13 Duffy Street Bayswater WA 6053</td>
<td>9378 4411 <a href="mailto:sales@perthbinhire.com.au">sales@perthbinhire.com.au</a></td>
<td>Skip bins (2m$^3$-12m$^3$) $185-$595</td>
<td>Collection</td>
<td>• All C&amp;D waste material accepted in skips</td>
</tr>
<tr>
<td>Eco-Tough Skips</td>
<td>0418 30 576 <a href="mailto:scott@visionwestconstruction.com.au">scott@visionwestconstruction.com.au</a></td>
<td>Skip bin (2m$^3$) $149</td>
<td>Collection</td>
<td>• All C&amp;D waste material accepted in skips</td>
<td></td>
</tr>
<tr>
<td>All Earth Group</td>
<td>42 Kelvin Rd, Maddington</td>
<td>9459 9122 <a href="mailto:admin@allearth.com.au">admin@allearth.com.au</a> <a href="http://www.allearth.com.au">www.allearth.com.au</a></td>
<td>Skip bin (3m$^3$ – 10m$^3$) $230 – $540. 3-7 day hire.</td>
<td>Collection</td>
<td>• Greenwaste • Metals • Paper and cardboard • Plasterboard</td>
</tr>
<tr>
<td>Midland Brick</td>
<td>4 Armadale Rd, Jandakot</td>
<td>131 540 <a href="mailto:mbc.switch@boral.com.au">mbc.switch@boral.com.au</a> <a href="http://www.midlandbrick.com.au">www.midlandbrick.com.au</a></td>
<td>Free of charge (clay bricks and pavers only, broken or unbroken)</td>
<td>Drop-off</td>
<td>• NA</td>
</tr>
<tr>
<td>Red Sand Supplies</td>
<td>192 Hope Valley Rd, Hope Valley</td>
<td>0418 896 655 <a href="mailto:redsand289@bigpond.com">redsand289@bigpond.com</a></td>
<td>Clean concrete $14/m$^3$ Small quantities of separated bricks, limestone, bitumen or tiles $7/m^3$</td>
<td>Drop-off</td>
<td>• NA</td>
</tr>
</tbody>
</table>

*Fees Subject to Change - Please contact the facility in order to determine fees for services
2.2 Greenwaste

Greenwaste includes branches, leaves, stumps and grass clippings and other organic waste and must be free from contamination by other materials for recycling.

Table 2: Greenwaste Recyclers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection/Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collier Park Waste Transfer Station</td>
<td>Cnr Hayman Rd and Thelma St, Como</td>
<td>9474 0777 <a href="http://www.southperth.wa.gov.au/Services/Collier-Park-Waste-Transfer-Station">http://www.southperth.wa.gov.au/Services/Collier-Park-Waste-Transfer-Station</a></td>
<td>Free of charge</td>
<td>Drop-off</td>
<td>Paper and cardboard, Metal</td>
</tr>
<tr>
<td>Regional Resource Recovery Centre</td>
<td>350 Bannister Rd, Canning Vale</td>
<td>9256 9555 <a href="mailto:smrc@smrc.com.au">smrc@smrc.com.au</a> <a href="http://www.smrc.com.au">www.smrc.com.au</a></td>
<td>$30 (&lt;1.5m³)</td>
<td>Drop-off</td>
<td>NA</td>
</tr>
<tr>
<td>Henderson Waste Recovery Park</td>
<td>920 Rockingham Rd, Henderson</td>
<td>9411 3866 <a href="http://www.corkburn.wa.gov.au/Council_Services/Waste/Henderson_Waste_Recovery_Park/">http://www.corkburn.wa.gov.au/Council_Services/Waste/Henderson_Waste_Recovery_Park/</a></td>
<td>$45 (&lt;1m³) $90 (1-2.5 m³) $135 (&gt;2.5m³)</td>
<td>Drop-off</td>
<td>Paper and cardboard, Metal, Timber, Reusable items</td>
</tr>
</tbody>
</table>

*Fees Subject to Change - Please contact the facility in order to determine fees for services.

2.3 Metals

Scrap metals, including steel, aluminium, tin and copper are commonly used in building works for roofing, fencing and piping.

Table 3: Metal Recyclers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection/Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Armadale Drop'n'Shop Reuse Centre</td>
<td>Armadale Landfill and Recycling Facility, Hopkinson Rd, Hilbert</td>
<td>9399 6462 (during opening hours) <a href="http://www.armadale.wa.gov.au/Home/Services_and_Facilities/Waste_and_Recycling/Armadale_Landfill_and_Recycling_Facility#dropshop">http://www.armadale.wa.gov.au/Home/Services_and_Facilities/Waste_and_Recycling/Armadale_Landfill_and_Recycling_Facility#dropshop</a></td>
<td>Free of charge (can refuse items if unsellable)</td>
<td>Drop-off</td>
<td>Paper and cardboard, Reusable items</td>
</tr>
<tr>
<td>City of Fremantle Recycling Centre</td>
<td>Cnr Montreal St and Knutsford St, Fremantle</td>
<td>9432 9666 <a href="mailto:info@fremantle.wa.gov.au">info@fremantle.wa.gov.au</a> Open Saturday and Sunday only</td>
<td>Free of charge</td>
<td>Drop-off</td>
<td>Plastic (polystyrene)</td>
</tr>
<tr>
<td>Collier Park Waste Transfer Station</td>
<td>Cnr Hayman Rd and Thelma St, Como</td>
<td>9474 0777 <a href="http://www.southperth.wa.gov.au/Services/Collier-Park-Waste-Transfer-Station">http://www.southperth.wa.gov.au/Services/Collier-Park-Waste-Transfer-Station</a></td>
<td>Free of charge</td>
<td>Drop-off</td>
<td>Greenwaste, Paper and cardboard</td>
</tr>
<tr>
<td>Henderson Waste</td>
<td>920 Rockingham</td>
<td>9411 3866</td>
<td>$45 (&lt;1m³)</td>
<td>Drop-off</td>
<td>Paper and</td>
</tr>
</tbody>
</table>
## 2.4 Paper and Cardboard

Paper and cardboard are used as packaging materials for some equipment and materials and, if clean, are easily recycled.

### Table 4: Paper and Cardboard Recyclers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection/ Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amcor Recycling</td>
<td>3 Madison St, Cannington</td>
<td>9256 6100</td>
<td>Free of charge</td>
<td>Drop-off</td>
<td>Plastic (cling wrap)</td>
</tr>
<tr>
<td>City of Armadale Drop'n'Shop Reuse Centre</td>
<td>Armadale Landfill and Recycling Facility, Hopkinson Rd, Hilbert</td>
<td>9399 6462 (during opening hours)</td>
<td>Free of charge (can refuse items if unsellable)</td>
<td>Drop-off</td>
<td>Metal, Reusable Items</td>
</tr>
<tr>
<td>Collier Park Waste Transfer Station</td>
<td>Cnr Hayman Rd and Thelma St, Como</td>
<td>9474 0777</td>
<td>Free of charge</td>
<td>Drop-off</td>
<td>Greenwaste, Metal</td>
</tr>
<tr>
<td>Henderson Waste Recovery Park</td>
<td>920 Rockingham Rd, Henderson</td>
<td>9411 3866</td>
<td>Free of charge (polystyrene only)</td>
<td>Drop-off</td>
<td>Greenwaste, Reusable Items, Metal, Timber</td>
</tr>
</tbody>
</table>

*Fees Subject to Change - Please contact the facility in order to determine fees for services*
2.5 Plasterboard

Plasterboard (also referred to as gypsum board or gyprock) used in the construction of interior walls and ceilings. Broken plasterboard is not acceptable for recycling.

Table 5: Plasterboard Recyclers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection/ Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
</table>
| All Earth Group   | 42 Kelvin Rd, Maddington| 9459 9122 admin@allearth.com.au www.allearth.com.au | Skip bin (3m³ – 10m³) $230 – $540. 3-7 day hire. | Collection | • Building rubble  
• Greenwaste  
• Metals  
• Paper and cardboard |

*Fees Subject to Change - Please contact the facility in order to determine fees for services

2.6 Plastic

Different types of plastic are identified using a Plastics Identification Code (number from one to seven) which is displayed within a triangle of chasing arrows. Examples of each type of plastic are shown below:

- PET (1) – soft drink bottles;
- HDPE (2) – milk bottles;
- PVC (3) – cling wrap;
- LDPE (4) – plastic bags;
- PP (5) – microwavable take-away containers, ice cream containers;
- Polystyrene (6) – foam trays and packaging; coffee cup lids, yoghurt containers; and
- Other (7) – all other plastics.

Table 6: Plastic Recyclers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection/ Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amcor Recycling</td>
<td>3 Madison St, Canning Vale</td>
<td>9256 6100 <a href="http://www.amcor.com">www.amcor.com</a></td>
<td>Free of charge (cling wrap only)</td>
<td>Drop-off</td>
<td>• Paper and cardboard</td>
</tr>
</tbody>
</table>
• Metal  
• Paper and cardboard |

*Fees Subject to Change - Please contact the facility in order to determine fees for services
2.7 Reusable Items

Goods such as furniture, whitegoods, kitchenware, household fixtures and fittings (taps, baths etc) and garden items in good condition are accepted at some facilities at offered to the community for reuse.

Table 7: Reusable Items Facilities

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection/ Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
</table>
• Paper and cardboard  
• Metal  
• Timber |
• Paper and cardboard |

*Fees Subject to Change - Please contact the facility in order to determine fees for services

2.8 Timber

Timber products and off-cuts, such as beams, flooring, cladding and fencing, are reusable or recyclable.

Table 8: Timber Recyclers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contact</th>
<th>Fees*</th>
<th>Collection/ Drop-off</th>
<th>Other Materials</th>
</tr>
</thead>
</table>
| Fremantle Timber Traders       | 41 Wood St, Fremantle   | 9335 2653  
0412 912 039  
ftt@iinet.net.au  
www.fremantletimbertraders.com.au | Free of charge of payment per kg (depending on material) | Collection (above minimum quantity) | • NA |
| West Coast Pallets             | 193 Barrington St, Bibra Lake | 9434 3935 | Free of charge (reusable pallets only) | Drop-off | • NA |
$90 (1-2.5 m³)  
$135 (>2.5m³) | Drop-off (will only accept uncontaminated commercial timber) | • Paper and cardboard  
• Greenwaste  
• Metal  
• Reusable items |

*Fees Subject to Change - Please contact the facility in order to determine fees for services
Appendix B: Plates

Plate 1: Glyde Street Site – Timber Separated for Reuse

Plate 2: Glyde Street Site – Limestone Separated for Reuse
Plate 3: East Street Site – Building Rubble
Appendix C: Data Collection Sheet – Glyde Street
## DATA COLLECTION SHEET

**Project:** GLYDE STREET  
**Data Collection Start Date:** SEPT 2013  
**End Date:** DEC 2013

<table>
<thead>
<tr>
<th>Material</th>
<th>Treatment</th>
<th>Quantity (m³/m²/tonnes)</th>
<th>Storage</th>
<th>Facility</th>
<th>Cost</th>
<th>Collection/drop-off</th>
<th>Barriers to Recycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpets/Vinyl</td>
<td>Dispose</td>
<td>6m³</td>
<td>Melville Bin Hire</td>
<td>$560 per 12m³ bin</td>
<td>Collection/Drop-off</td>
<td>Old and in poor condition</td>
<td></td>
</tr>
<tr>
<td>Windows</td>
<td>Dispose</td>
<td>12m³</td>
<td>Melville Bin Hire</td>
<td>$560 per 12m³ bin</td>
<td>Collection/Drop-off</td>
<td>Frames in poor condition, timber painted, glass not to codes.</td>
<td></td>
</tr>
<tr>
<td>Roof Tiles</td>
<td>Dispose</td>
<td>8m³</td>
<td>Melville Bin Hire</td>
<td>$560 per 12m³ bin</td>
<td>Collection/Drop-off</td>
<td>Terracotta, affected by years of exposure to salt –brittle.</td>
<td></td>
</tr>
<tr>
<td>Roof timbers</td>
<td>Reuse (on-site)</td>
<td>20m³</td>
<td>On site, for use in fences, decking etc</td>
<td>Collection/Drop-off</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceilings</td>
<td>Dispose</td>
<td>6m³</td>
<td>Melville Bin Hire</td>
<td>$560 per 12m³ bin</td>
<td>Collection/Drop-off</td>
<td>Cannot be recycled</td>
<td></td>
</tr>
<tr>
<td>Concrete</td>
<td>Dispose</td>
<td>12m³</td>
<td>95% of concrete retained (not demolished)</td>
<td>Melville Bin Hire</td>
<td>Collection/Drop-off</td>
<td>Small project, expensive to recycle</td>
<td></td>
</tr>
<tr>
<td>Brickwork</td>
<td>Dispose</td>
<td>6m³</td>
<td>85% of walls retained (not demolished)</td>
<td>Melville Bin Hire</td>
<td>Collection/Drop-off</td>
<td>Small project, expensive to recycle</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Treatment</td>
<td>Quantity (m³/m²/tonnes)</td>
<td>Storage</td>
<td>Facility</td>
<td>Cost</td>
<td>Collection/drop-off</td>
<td>Barriers to Recycling</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------------------------</td>
<td>------------------</td>
<td>--------------------------</td>
<td>----------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Light Fittings</td>
<td>Reuse (on-site)</td>
<td>m³</td>
<td>Future use within home, sold to seconds store</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tapware, sanitary ware</td>
<td>Dispose</td>
<td>6m³</td>
<td></td>
<td>Melville Bin Hire</td>
<td>$560 per 12m³ bin</td>
<td>Collection</td>
<td>Old and damaged</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Drop-off</td>
<td></td>
</tr>
<tr>
<td>Limestone</td>
<td>Reuse (on-site)</td>
<td>40m³</td>
<td>For use in gabion walls to garden etc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand</td>
<td>Reuse (on-site)</td>
<td>15m³ 20m³</td>
<td>On site</td>
<td>Melville Bin Hire</td>
<td>$560 per 12m³ bin</td>
<td>Collection</td>
<td>Not clean, small quantity</td>
</tr>
<tr>
<td></td>
<td>Dispose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Drop-off</td>
<td></td>
</tr>
</tbody>
</table>

**Comments**

If you have any comment, ideas or suggestions in relation to increasing recycling at demolition projects please describe these below.
Appendix D: Data Collection Sheet
– East Street
# DATA COLLECTION SHEET

**Project:** East Street  
**Data Collection Start Date:** 13/12/2013  
**End Date:** 17/12/2013

<table>
<thead>
<tr>
<th>Material</th>
<th>Treatment</th>
<th>Quantity (m³/m²/tonnes)</th>
<th>Storage</th>
<th>Facility</th>
<th>Cost</th>
<th>Collection/drop-off</th>
<th>Barriers to Recycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plaster board</td>
<td>Reuse (on-site)</td>
<td>1.5 m³</td>
<td>Skip</td>
<td>All Earth Group</td>
<td>$110 (total skip)</td>
<td>Collection ✓</td>
<td></td>
</tr>
<tr>
<td>Painted timber</td>
<td>Reuse (on-site)</td>
<td>1.5 m³</td>
<td>Skip</td>
<td>All Earth Group</td>
<td>$110 (total skip)</td>
<td>Collection ✓</td>
<td></td>
</tr>
<tr>
<td>Glass</td>
<td>Reuse (on-site)</td>
<td>0.5 m³</td>
<td>Skip</td>
<td>All Earth Group</td>
<td>$110 (total skip)</td>
<td>Collection ✓</td>
<td></td>
</tr>
<tr>
<td>Building rubble</td>
<td>Reuse (on-site)</td>
<td>16 m³</td>
<td>Skip</td>
<td>All Earth Group</td>
<td>$880</td>
<td>Collection ✓</td>
<td></td>
</tr>
<tr>
<td>Building rubble</td>
<td>Reuse (on-site)</td>
<td>18 m³</td>
<td>Stockpiled</td>
<td>All Earth Group</td>
<td>$1040</td>
<td>Collection ✓</td>
<td>Potential asbestos contamination</td>
</tr>
<tr>
<td>Timber</td>
<td>Reuse (on-site)</td>
<td>2 m³</td>
<td>Stockpiled</td>
<td>NA</td>
<td></td>
<td>Collection</td>
<td></td>
</tr>
<tr>
<td>Metals</td>
<td>Reuse (on-site)</td>
<td>0.25 m³</td>
<td>Stockpiled</td>
<td>Unknown</td>
<td>Unknown</td>
<td>Collection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reuse (on-site)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Collection</td>
<td></td>
</tr>
</tbody>
</table>