

Resource Recovery – ALL WASTE TYPES – Collection and Transportation

This guide provides good-practice advice to maximise recovery rates for all types of waste materials from construction and demolition (C&D) sites.

The aim is to assist the resource recovery industry to provide collection and transportation services that:

- maximise the amount of C&D waste material diverted from landfill and cleanfill waste stream
- minimise contamination and damage of the material
- meet the requirements of both the construction or demolition client and the recycling operator.

This guideline covers:

- finding good markets for C&D waste
- collection and transportation services
- residual waste disposal
- health and safety hurdles
- a word on licensing
- resources and contacts
- other guidelines in this series

Read the other REBRI guides for material-specific collection and transportation practices.



Waste Management provided segregated waste services to Fletcher Construction, Christchurch.

Finding good markets for C&D waste

Most wastes from a construction or demolition site can be recycled or reused. The options depend on current facilities and market demand in your area and may change over time. In general, materials that can be recycled or reused are:

- treated and/or untreated timber – native, hardwood, particle board, MDF, softwood, off-cuts, framing, cladding, demolition
- concrete and rubble
- plasterboard
- metal – roofing iron, reinforcing bar, electrical wire, drums, paint cans, etc.
- plastics (expanded polystyrene, numbers 1, 2, 4, 5) – packaging, pipe off-cuts, expanded polystyrene block off-cuts, buckets
- quality building components – fittings, structural materials, cladding, etc.
- left-over paint
- insulation – off-cuts, demolition
- garden waste – vegetation, trees for relocation
- soil.

Know your markets

You won't be in business long without securing a sustainable market for your C&D waste. Waste markets are constantly changing in New Zealand, so it pays to do your homework. Here are a few suggestions for starting your search.

- Use local waste-recycling directories (www.branz.co.nz/REBRI_Recycling_Directory), Yellow Pages (www.yellowpages.co.nz), the Waste Exchange (www.nothrow.nz) and buy recycled directories (www.zerowaste.org.nz) to know what materials have markets for reuse or recycling. These change often, so it pays to keep checking.
- Do business with sorting facilities, transport operators and other agencies that follow the REBRI Guide to C&D Resource Recovery or are accredited to a nationally recognised environmental management programme such as ISO14001 or Enviro-Mark® NZ. This way, you can have greater assurance that they are working to good environmental standards and are 'doing what they say they do'.

Understand the requirements of your clients

Each market will have its own feedstock specifications – it's best to confirm these before you start. Getting it wrong can cost you.

- Obtain specifications from recycling operators and operate according to the specifications. Things to check include:
 - material type, source of material, particle size
 - acceptable and unacceptable types and percentages of contamination or damage
 - minimum or maximum quantities accepted, including suitable containers or transportation requirements
 - documentation required, including waste-tracking forms.
- Use the REBRI Waste Transfer Form to confirm to clients the source and nature of the C&D waste provided.

Collection and transportation services

Provide your C&D clients with good information to maximise the quality of materials

To maximise the quality of materials you collect and transport, your C&D clients need to understand your specifications. If you provide good information and an efficient collection system, clients should be able to give you a quality product.

- Provide clear instructions to your C&D clients on your specifications. Many companies have a contract with their client in which the specifications are clearly stated along with any unacceptable materials.
- Visit the site or discuss with the contractor prior to construction or demolition to identify waste suitable for reuse or recycling.
- Separating waste on site increases the recovery for reuse compared to off-site sorting facilities because there is less likelihood of damage and contamination. However, staff need to be trained well to prevent contamination from poor sorting.
- Contamination should be avoided or removed prior to transportation.
- Provide a list of unacceptable wastes. Be specific, for example, instead of "No hazardous waste", state "No paint, glues, thinners, acids, batteries or other corrosive products".
- Have a written contractual agreement with your clients that specifies:
 - what bin types will be provided for what materials
 - what types of vehicles will be required for the types of bins
 - collection arrangements, including site access locations (and any associated traffic issues), site access times, on-call or routine services
 - any materials that will not be accepted (for example, hazardous materials) – be as specific as possible
 - fees, including any fines for non-compliance with waste sorting
 - the destination of each material
 - how the REBRI Waste Transfer Form will be used, if relevant.

Example of good signage – Christchurch City Council developed magnetic signs that can be used on metal skips, and whiteboard markers can be used to list the waste types acceptable in the skip.



- Provide signage for all waste bins (single waste and mixed waste). These need to be durable, removable and clearly understood. Use the RONZ recycling symbols for easy recognition (downloadable from www.wasteminz.org.nz/pubs/ronz-symbols).

Provide incentives for recycling and recovery

- Provide customers with information on cost options for source separation or single waste collection rounds where there is a difference between recycling or reuse and disposal.
- Provide incentives to clients to keep loads contaminant-free.



Minimise contamination and maximise recovery

- Reduce the potential for contamination of waste types by providing single-waste services (for metal, timber, concrete, etc). Single-waste services may also reduce transportation and handling costs, particularly if you can avoid using a sorting facility and can transport directly to the recycling operator. Two ways you can do this are to:
 - operate single-waste collection rounds using front-loading bins or tipper trucks (for example, for cardboard or plasterboard)
 - provide gantry bins, wheelie bins and other containers for contractors to fill with single waste types on the construction or demolition site.
- As an alternative, provide recycling skips and landfill skips. This reduces the amount of off-site sorting required.
- In all other situations, provide a collection service for mixed-waste loads that will be sorted for recycling and reuse at a designated facility.



Example of good waste separation – Envirowaste provides a 'yellow bag' system for hazardous materials or materials that cannot be accepted at cleanfills.

Provide services that tackle the problems with waste management on building sites

- Provide prompt collection services for cluttered sites – most building projects are limited for space and have time constraints and so require quick bin turnaround.
- In most cases, restrictions on site access and space for bins mean that materials are directly loaded into trucks and transported off site. This is particularly true for demolition sites.
- Provide bins or other containers that are suited to the purpose, for example:
 - use wheelie bins for small timber off-cuts, lunchroom rubbish, can and bottle recycling
 - half-size gantry bins are best for concrete and rubble, because contractors can't exceed the weight restrictions
 - provide split bins for easy segregation of wastes on smaller sites
 - trailers are useful for smaller waste volumes because they can be moved easily around a site by a contractor (compared to a gantry bin, which requires specialised equipment to move it).
- Help clients to set up a single waste-sorting area on site (this is tidy and safe, but also reduces cross-contamination of mixed wastes).

Example of suitable waste containers – Mastagard provided trailers to Hawkins Construction to collect clean soft plastic during the fit-out phase of a supermarket construction.



Transport materials safely and efficiently

- Prepare a vehicle movement plan and risk assessment for the safe movement of heavy vehicles into and out of the site, including selection of route.
- Transport materials in suitable secure containers or bins to avoid littering and to prevent leakage or traffic accidents. The driver of the vehicle should ensure the load is within the safe working legal limit before leaving the site.
- Vehicles should be registered and currently certified as roadworthy.
- The longer the transport distance, the more costly the service but also the more potential environmental impact because of fossil fuel use and traffic congestion. Try to:
 - use local destinations for recycling
 - use destinations that provide a paying backload such as aggregate, mulch or building supplies.

Get endorsement from your peers and give your clients confidence

- Use the audit sheet at the end of this guide to show clients that you are operating in accordance with the REBRI Guide to Resource Efficiency.
- Use the REBRI Waste Transfer Form to validate the source and destination of waste to your building and recycling clients.
- Join the Enviro-Mark® NZ programme for external accreditation of your environmental management.
- Consider Environmental Choice certification for your product.
- Check with your local council that you meet any licensing requirements under the Local Government Act 2002 for the handling of waste.
- Be site safe – many construction sites require regular visitors to have a Site Safe passport to help comply with OSH regulations (see www.sitesafe.org.nz for details).
- Join waste industry organisations such as the Waste Management Institute of New Zealand to network with peers. (see Links, resources and contacts.)

Residual waste disposal

Dispose of residual waste responsibly

- Only use disposal facilities that are consented by the regional council or have met the permitted activity status in regional plans. These records should be available from the disposal facilities or regional councils for you to view. Otherwise, you risk fines or prosecution under the Resource Management Act 1991.
- Obtain waste acceptance criteria from disposal facilities and operate according to these criteria.
- Treated timber not separated for reuse should be disposed of to a municipal solid waste landfill.

Health and safety hurdles

Good practice wouldn't be complete without considering the effects of your operation on the health and safety of you and your workers. This is not a comprehensive guide but should give you enough information to start talking with your OSH adviser.

Health and safety plan

- Write a plan that has procedures for the safe handling of vehicles and waste skips for you and your staff to follow. Consider addressing
 - minimum driver licence requirements
 - maximum number of hours driving between breaks
 - procedures for handling waste on and off vehicles
 - personal protective equipment
 - unacceptable hazardous waste (for example, asbestos).
- Have the plan checked by WorkSafe New Zealand, your lawyer or a consultant to ensure you comply with the Health and Safety in Employment Act 1992.
- All staff and subcontractors should be regularly trained in the procedures.

Follow the health and safety requirements of your clients

- Most large construction companies now require contractors to have been trained through Site Safe prior to conducting work on site.
- Where required, get yourself and staff trained through Site Safe to comply with your clients' health and safety programmes.

A word on licensing

Licensing of waste collection and transportation contractors

Under the Local Government Act 2002, city and district councils have the power to pass bylaws that require all contractors collecting and transporting waste to be licensed by the council. Check the licensing requirements of your council because they may affect the way you do business.

- Unlicensed operators may not be able to operate in the city or district and could be fined for doing so.
- There can be a licence fee to cover administration costs.
- Licences can have conditions requiring such things as keeping records of waste volumes and the source and destination of waste consignments.
- Licensees can be responsible for collecting waste levies from the waste producers on behalf of the council.

Resources and contacts

Relevant legislation and regulations:

- Health and Safety in Employment Act 1992
- Local Government Act 2002
- Transport Act 1962
- Transport Amendment Act 1997
- Hazardous Substances and New Organisms Act 1996

- Resource Management Act 1991
- Regional and district plans
- District bylaws.

Links, resources and contacts:

- Resource Recovery in the Building and Related Industries (REBRI) www.rebri.org.nz
- Yellow Pages www.yellowpages.co.nz
- The Waste Exchange www.nothrow.co.nz
- Sustainable Business Network www.sustainable.org.nz
- Waste Management Institute of New Zealand (WasteMINZ) www.wasteminz.org.nz
- Enviro-Mark® NZ www.enviro-mark.co.nz
- Site Safe www.sitesafe.org.nz

Other guidelines in this series

All Waste Types

- **Collection and Transportation**
- Centralised Sorting and Storage

Timber

- Collection and Transportation
- Processing into Mulch and Chip

Plasterboard

- Collection and Transportation
- On-site Sorting, Storage and Processing
- Centralised Sorting, Storage and Processing

Concrete

- Collection and Transportation
- Processing and Storage

Metal

- Collection and Transportation

ALL WASTE TYPES – Collection and Transportation – Audit Sheet

Use this sheet to check the practice of your service provider against the good practice guidelines in this guide. If you are a waste transporter, you can use this sheet to do your own checks of your performance against the guide. Just consider each point and put a tick for compliance, cross for non-compliance or NA for not applicable. Put any comments at the bottom of the sheet, then sign and date it. Keep these sheets for your records and any discussions between you and your clients or suppliers.

Collection and transportation

1. A list of specifications is provided to C&D clients, which includes such things as:
 - material type and sizes
 - contamination tolerances
 - minimum and maximum quantities
 - material handling requirements on site to maximise recovery
 - sorting or grading requirements.
2. A detailed list of unacceptable wastes is provided (for example, “No paint, glues, thinners, acids, batteries or other corrosive products”).
3. The REBRI Waste Transfer Form is used to trace the sources and destinations for each material to confirm that mixed waste will be sorted for recycling and reuse.
4. A segregated waste collection service is offered to clients.
5. The RONZ recycling symbols or some other type of clear signage have been used for all waste bins (including segregated waste and mixed waste). A list of unacceptable wastes is included.
6. A range of containers are provided that are suitable for the types of waste and the type of building site (for example, bins, trailers, trucks or drums).
7. Collection staff visually inspect each load prior to removing it from the site. Where possible, any pieces of contamination are removed.

Internal procedures and compliance

In addition to the procedures above, consider whether the following apply to the operation:

8. Documented emergency procedures, including spill responses.
9. Documented health and safety procedures.
10. Documented quality and environmental monitoring.

- 11. Current resource consents or other approvals for land use and discharges to the environment.
- 12. External accreditation (for example, Enviro-Mark® NZ).
- 13. Prefer clients and suppliers that work to good environmental standards by using the REBRI guides and/or have external accreditation.
- 14. Licensed under district bylaw.

Comments

.....

.....

.....

Signed.....

Person, company and responsibility

Date

Signed

Person, company and responsibility

Date