

Transfer Station Best Practice Guidelines

Final report

prepared for

Cradle Coast WMG & Northern Tasmanian WMG

June 2014

Transfer Station Best Practice Guidelines

Final report: P432
June 2014

Disclaimer

This report has been prepared for Cradle Coast WMG & Northern Tasmanian WMG in accordance with the terms and conditions of appointment dated October 2013, and is based on the assumptions and exclusions set out in our scope of work. Information in this document is current as of June 2014. This report has been compiled based on secondary information and data provided by other parties; as such it relies on the accuracy of the provided material. Although the data has been reviewed, the information provided was assumed to be correct unless otherwise stated.

While all professional care has been undertaken in preparing this report, Blue Environment Pty Ltd cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

© Cradle Coast WMG & Northern Tasmanian WMG

Blue Environment prints on 100% recycled content paper

Author
C Wardle

Reviewer
J Pickin

Blue Environment Pty Ltd
ABN 78 118 663 997
Suite 212B, 757 Bourke Street, Docklands Vic 3008
email: blue@blueenvironment.com.au
web: www.blueenvironment.com.au
Phone +61 3 8102 9372
+61 3 5426 3536

CONTENTS

| | | |
|-----------|------------------------------------|-----------|
| 1. | Introduction..... | 1 |
| 2. | Planning..... | 3 |
| 2.1 | Assessment of requirements | 3 |
| 2.2 | Site selection..... | 4 |
| 2.3 | Consultation..... | 5 |
| 2.4 | Planning approval | 5 |
| 3. | Design..... | 6 |
| 3.1 | Risk control | 6 |
| 3.2 | Sustainability..... | 6 |
| 3.3 | Site layout | 6 |
| 3.4 | Resource recovery | 7 |
| 3.5 | Infrastructure and equipment | 8 |
| 3.6 | Environmental protection..... | 10 |
| 3.7 | Access and traffic control | 12 |
| 3.8 | Signage..... | 12 |
| 3.9 | Aesthetics..... | 13 |
| 4. | Operation | 14 |
| 4.1 | Risk control | 14 |
| 4.2 | Sustainability..... | 15 |
| 4.3 | Resource recovery | 15 |
| 4.4 | Hazardous waste..... | 18 |
| 4.5 | Environmental management | 20 |
| 4.6 | Plant & equipment..... | 21 |
| 4.7 | Traffic management..... | 21 |
| 4.8 | Data recording | 21 |
| 4.9 | Management systems..... | 22 |
| 4.10 | Community consultation | 25 |
| 5. | Closure..... | 26 |
| 6. | Further information | 27 |

Appendices

Appendix A Site checklist

Tables

| | | |
|----------|---------------------------------------------------|----|
| Table 1: | Standard materials for recovery | 3 |
| Table 2: | Types of equipment | 10 |
| Table 3: | Design measures for environmental protection..... | 11 |
| Table 4: | Signage..... | 13 |
| Table 5: | Management of recovered materials..... | 16 |
| Table 6: | Environmental management practices..... | 20 |
| Table 7: | Data categories | 22 |

Figures

Figure 1: Schematic of site layout.....7

1. Introduction

These guidelines were prepared on behalf of Cradle Coast Waste Management Group and Northern Tasmanian Waste Management Group for the benefit of their member councils operating or planning to operate a transfer station. The guidelines are not intended to be prescriptive and compliance is not mandatory; rather, they offer guidance on preferred standards of planning, developing and operating a transfer station in Tasmania.

The primary role of a transfer station is to receive waste, separate and/or recover resources suitable for reuse or recycling, and transfer any residual waste to another facility (generally a landfill) for ultimate disposal. Additional activities may be carried out at some transfer stations, such as repair and/or resale, processing of recovered materials and compaction or other treatment of waste. While this guide uses the term 'transfer station', the terminology for such facilities is gradually changing (e.g. to resource recovery centre) to reflect a greater emphasis on their role in resource recovery.

Best practice represents the current 'state of the art' and aims to produce sustainable outcomes consistent with the community's expectations. Facilities that do not achieve best practice may increase the risk of exposure to environmental, health, safety, insurance and community acceptance problems. Continuous improvement is an important component of best practice; while these guidelines outline existing best practice, future upgrades will be necessary to reflect changing standards.

These guidelines refer to two different categories of transfer stations in order to tailor guidance to different needs according to facility size. The categories reflect the following annual throughput of waste and recyclable materials as follows:

- Category 1: less than 1,000 tonnes/year
- Category 2: 1,000 tonnes/year and over.

A checklist is provided as an attachment to these guidelines and can be used for self-assessment purposes.

Statutory framework

Transfer station operations should be consistent with all planning, environmental and health and safety regulations. While transfer station operations are not specifically regulated by the Tasmanian Environment Protection Authority (EPA), there are a number of relevant statutory obligations incorporated in the following legislation (and their subordinate regulations and policies):

- *Environmental Management and Pollution Control Act 1994*
- *Land Use Planning and Approvals Act 1993*
- *Litter Act 2007*
- *Work Health and Safety Act 2012.*

Additional statutes and planning restrictions may also apply in some circumstances. For example, where additional processing of waste occurs and a new product is produced, the facility may be classified as a waste depot and be subject to relevant regulations. Operators of facilities where such processing occurs should liaise with the EPA to establish the necessity for meeting specific requirements additional to those outlined in these guidelines. Reprocessing or 'value-adding' may also be limited in specific zones under planning requirements; this may require additional approvals under planning regulations.

Legislative requirements are referred to as “must do” activities in the guidelines where applicable. Non-regulatory requirements are referred to as “should do” activities in order to meet best practice.

2. Planning

This chapter provides guidance on planning and locating a site for a new transfer station; some sections may also be relevant to extensions or modifications to existing facilities.

2.1 Assessment of requirements

An assessment of the need for the proposed transfer station and the likely material pathways should be undertaken. The scope of the needs analysis will differ according to circumstance but is likely to need consideration of:

- state and/or regional waste and resource recovery objectives
- existing and planned waste management facilities in the region (including integration with the wider network and opportunities for regional cooperative arrangements)
- the level of service expected by the local community
- the likely catchment area and user population (now and for the future life of the facility)
- potential economic outcomes.

Additional analysis is required to establish the material pathways for the proposed facility; this will provide the framework for siting and design decisions. The material pathway analysis should consider:

- the customer base (e.g. residential, municipal and/or commercial sectors)
- the types of material to be accepted (e.g. domestic waste, commercial and industrial waste, kerbside-collected garbage)
- expected annual throughput for the term of the life of the facility (generally at least 20 years)
- materials to be separated for recovery and the estimated quantity of each material
- markets and/or processing options for recovered materials (including the feasibility of resale on site)
- disposal outlets for residual waste.

Where feasible, materials should be separated for recovery. Table 1 outlines the standard materials that should be recovered at Category 1 and 2 facilities; additional materials should be recovered where deemed feasible.

Table 1: Standard materials for recovery

| Standard materials – Category 1 & 2 facilities | Additional standard materials – Category 2 facilities only |
|---------------------------------------------------------------|-----------------------------------------------------------------------|
| Glass bottles and jars | Lead acid batteries |
| Plastic containers (types 1 – 7) | Gas cylinders |
| Liquid paperboard cartons | Motor oil |
| Paper and cardboard | e-waste (computers, televisions & electronic goods) |
| Aluminium and steel cans | Garden organics |
| Scrap metal | Timber (uncontaminated) |
| Clean soil | |

The needs analysis should demonstrate that development of the transfer station is justified on environmental, sustainability, safety and/or financial grounds, and that the proposed material pathways are feasible.

2.2 Site selection

Selection of a site for a new transfer station should give consideration to a range of issues.

Site context

Proponents should consider the current and previous context of potential sites. Consideration should be given to any issues arising from the site history, such as aboriginal or cultural heritage, or soil contamination. Previous use for waste management purposes may be an advantage for planning and community acceptance purposes, although construction may be more complex and costs higher if the transfer station is built on filled land.

Surrounding land uses should also be considered, including any potential impacts on community amenity. Siting transfer stations adjacent to sensitive land uses should be avoided. There may be advantages in siting facilities within complementary precincts, such as in resource recovery parks or close to recyclers and material processors.

An appropriate buffer distance should be provided between the site and surrounding land users in order to preserve their amenity. The buffer distance should conform to any threshold distances outlined in planning controls or environmental protection measures.

Proponents should investigate planning controls to identify any restrictions placed on site functions and activities. The siting of facilities must conform to the requirements of the local planning scheme relevant to the area.

A range of natural and environmental conditions should also be considered:

- Ecology: Sites containing undisturbed or remnant vegetation should be avoided; where this is not possible, a flora and fauna study should be undertaken and development should proceed only where unique, endangered or threatened species are not impacted.
- Climate: Prevailing wind direction and local climate conditions should be considered, as these can affect litter generation, stormwater management, local amenity impacts and infrastructure requirements.
- Topography: A sloping site may prove useful for transfer stations where a difference in levels is required.
- Hydrology and hydrogeology: Sites with a high water table, in a groundwater recharge area or close to surface water systems should be avoided.

Consideration should also be given to the utilities available at the site, including power, water, sewer and telephone/data communications. Where possible, Category 2 sites should have access to all of these utilities.

Access & transport distances

The site should be readily accessible to users and waste handlers. Consideration should therefore be given to any issues that might impact on access, such as:

- all-weather access, including any potential of seasonal flooding
- suitable access roads to the site (including slip-roads off main highways and heavy vehicle access).

Potential sites should be considered in the light of transport distances from facility catchment populations, and to receiving landfills, material processors and/or markets. The distance that local communities are willing to travel to use the facility should be understood (e.g. through community surveys) and the transfer station located appropriately within the waste catchment area.

Transport distances to receiving landfills and recovered resource markets should be minimised for financial and environmental reasons. Compaction of waste at the transfer station may extend the economically viable transport distance.

Area required

The potential site should have sufficient area taking into consideration:

- current and projected needs for managing waste and recyclables
- activities to be carried out on site, including any sorting, processing, resale or education activities
- necessary infrastructure and equipment, including areas for equipment storage and maintenance
- access and traffic movement on site (including traffic queuing areas, parking for resale shops, access for machinery and trucks)
- area for all segregated or processed materials, including stockpiles where relevant
- whether internal buffer areas are required
- future expansion requirements.

2.3 Consultation

Consultation with the local community should be undertaken as early in the planning process as possible for new facilities in order to identify local expectations and address any concerns. The extent of consultation will differ according to the type, size and location of the planned transfer station; proponents should consider what level of consultation is appropriate to the local community and develop a suitable consultation plan. This could incorporate community surveys, press releases and advertisements, information packs and/or public forums. For large or potentially controversial facilities, establishment of a community reference group for both the planning and operational stages may be appropriate.

The community should also be consulted regarding any extensions or modifications to existing transfer stations.

2.4 Planning approval

Planning requirements will differ according to the proposed location and the breadth of activities to be undertaken at the transfer station. The need for any planning permits must be established, the necessary protocols followed and relevant planning controls complied with.

If processing of materials is proposed, proponents should establish through discussion with the EPA whether additional regulatory requirements apply.

3. Design

A transfer station that is well-designed and well-maintained will deliver better outcomes in terms of community acceptance, recycling behaviour, safety and environmental protection. This chapter provides guidance on the principles of good design for transfer stations.

3.1 Risk control

The design of transfer stations should seek to minimise potential risks to health, safety and the environment. Draft designs should undergo a risk assessment process to eliminate or minimise any risks identified prior to finalisation.

Risk control measures will differ according to the design of each transfer station and the feasibility of implementation, however examples of such measures include:

- designing out drops of more than 1 m in public areas; where this is not possible, incorporating safety barriers to protect against falls
- reducing the need for manual handling of waste and recyclable materials
- separating pedestrian, car and truck movements and incorporating traffic control devices where necessary
- separating processing areas from public drop-off areas.

3.2 Sustainability

Developers of new or upgraded transfer stations should consider incorporating elements of sustainable design including:

- orientation of buildings to incorporate passive solar design features (e.g. maximising light, heating and cooling efficiency)
- using building materials that are sourced locally, have a recycled content, low embodied energy and/or small eco-footprint
- minimising the use of water and energy (e.g. inclusion of swales and other water sensitive urban design features, use of rainwater tanks and solar panels, landscaping with native vegetation)
- minimising greenhouse emissions (e.g. processing of organic waste, minimise transport distances)
- utilising existing natural vegetation (including protection of areas of ecological significance).

3.3 Site layout

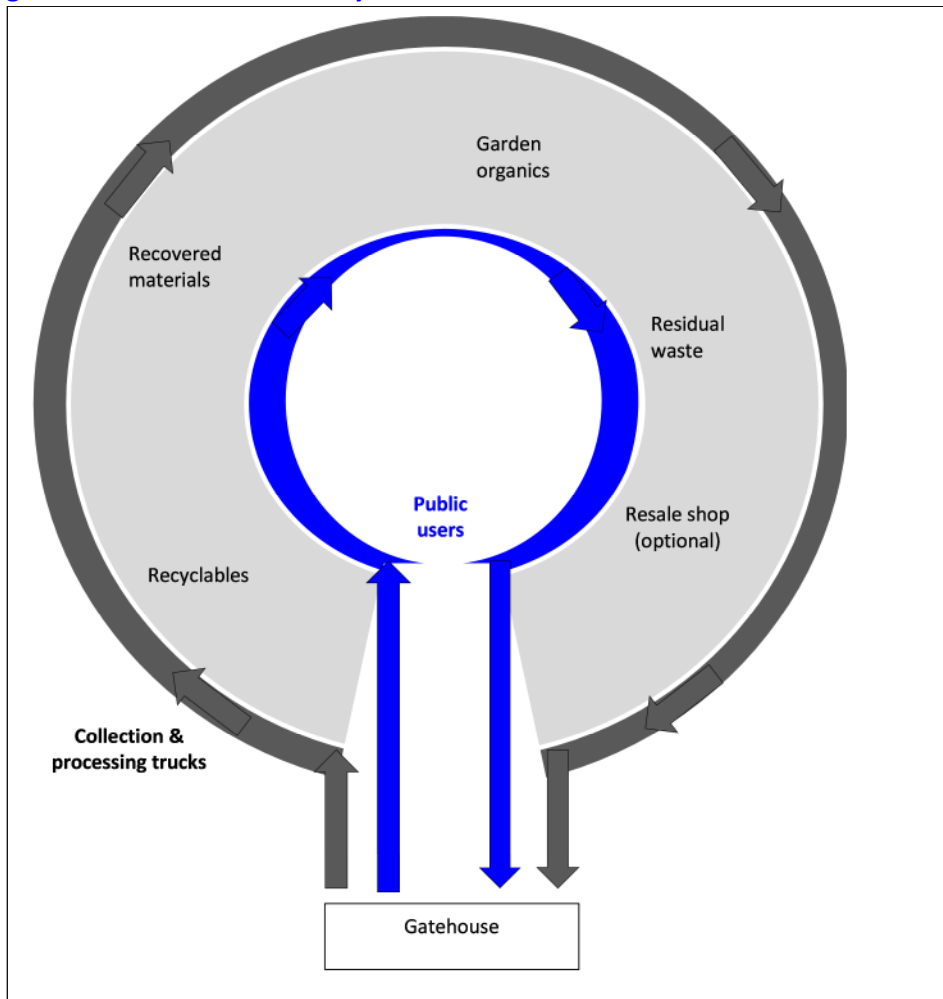
Each transfer station layout will differ according to the site characteristics, however key design principles that should be incorporated (and are shown schematically in Figure 1 below) include:

- establish an efficient unidirectional flow of movement around the site's different areas
- encourage recycling by placing recycling drop-off areas before residual waste drop-off areas
- allow sufficient space and dedicated areas for materials to be recovered
- if a resale shop is included, locate this after users have dropped off all waste and recyclables
- for safety reasons, keep car, truck and pedestrian movements separate
- where feasible, locate processing activities away from public areas

- where possible, use natural site features (e.g. sloping sites) to minimise site development works (and costs).

Consideration should also be given to incorporating some flexibility in the design to cater for future requirements, e.g. recovery of additional materials. This should be balanced against the supervision and management advantages of sites with a small footprint.

Figure 1: Schematic of site layout



3.4 Resource recovery

Transfer stations should be designed to maximise resource recovery and minimise contamination through the provision of dedicated drop-off areas and clear signage.

Recovered materials requiring specific design elements are outlined below. Separate operational measures for these materials are outlined in Chapter 4.

Garden organics

Garden organics should be separated at Category 2 facilities, and where feasible at Category 1 facilities. Garden organics collection areas should:

- be located on hardstand areas

- have sufficient space for stockpiles
- have dedicated fire control measures
- be separated from other flammable materials
- have stormwater run-off diverted to appropriate leachate management systems.

Construction and demolition waste

If stockpiling of construction and demolition waste is planned, provision should be made for a hardstand area with adequate drainage to divert and manage run-off. Dust control measures may be needed.

Used motor oil

Used motor oil should be collected at Category 2 facilities, and at Category 1 facilities where feasible.

Used oil tanks should comply with Australian Standard AS1692 *Steel tanks for flammable and combustible liquids*, have full rust protection and be hot-dip galvanised after fabrication. Tanks should be located within a concrete bund and have a measuring device which allows operators to readily assess the amount of oil in the tank. The bunded area should be roofed. Additional space should be allowed for undercover storage of empty containers.

Units should be lockable and located as far as possible away from stormwater drains, batteries, gas cylinders or other potential sources of acid leaks or sparks.

Batteries

Lead acid batteries should be collected at Category 2 facilities, and at Category 1 facilities where feasible. The type of batteries collected should be extended where feasible.

All batteries collected should be stored undercover in a concrete bunded area located away from used motor oil, gas cylinders or other potential sources of acid leaks or sparks.

Resale shops

Resale shops should be readily accessible, provide separate access to pedestrians and vehicles, and incorporate sufficient space for customers to safely move between material displays. They should be operated from a roofed and enclosed building, be lockable and have adequate fire control measures in place.

3.5 Infrastructure and equipment

Site structures and utilities

All site structures must comply with relevant building codes, building and planning regulations.

Design of transfer stations should include:

- a water supply to meet requirements for fire control, drinking, washing, cleaning and dust suppression
- suitable fire-fighting facilities
- adequate lighting to allow work to be performed safely, including on dull days (in accordance with Australian Standard AS1680.1 *Interior and Workplace Lighting*)

- staff amenities in accordance with work health and safety requirements, including toilets, drinking water, washing and eating facilities
- a method of communication in the event of an emergency.

Category 2 facilities should have a power source, provided either through the electricity grid, solar panels, on-site generators or other sources; this should also apply to Category 1 facilities where feasible.

Both Category 1 and 2 facilities should have a site office or gatehouse to allow inspection and recording of incoming waste, management of traffic, collection of fees and direction of users to appropriate areas of the site. The building may incorporate staff amenities, office and administration areas and other relevant site-specific uses (e.g. storage of equipment).

Where feasible, Category 2 facilities should have a weighbridge to allow for accurate recording of waste entering the site.

Roofing and enclosure of drop-off areas can reduce health and safety risks, litter, dust, leachate generation and transport costs, and improve user amenity, vermin control, environment protection and the value of recovered resources. Category 2 facilities should include a roofed area for residual waste drop-off; where feasible this should also be enclosed. Category 2 facilities should also, where feasible, provide for undercover drop-off of domestic recyclables.

Where facilities are fully enclosed (i.e. with roof and walls on four sides), adequate ventilation should be incorporated in the building design.

Where drop-off areas are not roofed, skip bins and containers for residual waste and domestic recyclables should have lids to prevent the entry of water and vermin, and reduce litter and odour.

Both Category 1 and 2 facilities should have a lockable gate and a perimeter fence at least 2m high to prevent unauthorised access and other infringements on site security.

Equipment

All plant and equipment must comply with Australian Standard AS4024.1 *Safety of Machinery*. Controls for all equipment must:

- be clearly labelled
- where applicable, be operable only from inside the cabin or control room
- be protected from accidental operation by shielding or by location
- incorporate an emergency stop button (for stationery equipment this must be clearly sign-posted).

The type of equipment for the transfer station should be selected with consideration of the material type and quantity to be accepted, capital and operating costs, health and safety features, resource recovery opportunities and other relevant factors. Common types currently in use across Australia are described in Table 2. Note the type of equipment available will change with industry development; new types are likely to be available in the future.

Table 2: Types of equipment

| Equipment type | Description |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skips, bins, cages & other containers | Recovered materials or residual waste may be deposited in different container types; these may range in size from 240 L mobile garbage bins to 35 m ³ skips depending on requirements. Containers may be transported directly to material outlets or landfill, or emptied into vehicles for transport. The type of truck needed for transport (e.g. hook-lift, front-lift, compactor, etc.) will depend on the type of container used. Note the use of large skips may entail a risk of falls that will need to be addressed. |
| Push-pits | Waste deposited into a wide, shallow pit is pushed into a container, truck or compactor. Some separation of large materials may take place; there may also be some compaction of materials by the machinery used for pushing. |
| Moving floors | Waste deposited on to a conveyor or walking floor system allows operators to oversee waste materials and recover items as applicable. After recovery, the moving floor conveys waste away from the drop-off area to either a transport vehicle or compactor. |
| Mechanical rams | Waste deposited into a deep pit incorporating a mechanical ram allows compaction of waste directly into a transport vehicle. Note the potential fall into a deep pit represents a safety risk that will need to be addressed. |
| Compactors | Compactors can be stationary or mobile, accept a range of different waste and recyclable materials, and range in size and configuration. Compaction can markedly improve transport efficiencies. |

Note that all types of equipment can result in risks to the health and safety of public users and facility staff. Appropriate safety measures must be put in place to address identified hazards; this may include the use of safety barriers and wheel stops.

3.6 Environmental protection

Design of the transfer station should incorporate measures for protection of the surrounding environment. Potential design measures are outlined in Table 3.

Table 3: Design measures for environmental protection

| Impact | Design measures |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Litter | <ul style="list-style-type: none"> • Residual waste drop-off areas at Category 2 facilities should be undercover; domestic recyclables drop-off areas at Category 2 facilities should also be undercover where feasible. • Where drop-off areas are not roofed, provide lids to skips, bins and other containers • Locate structure entrances facing away from the prevailing wind direction • Install litter traps to protect the stormwater drainage system • Establish trees and shrubs around the site as windbreaks • Where necessary, install litter screens within and around the site |
| Odour | <ul style="list-style-type: none"> • Locate potential odour sources away from and downwind of sensitive receptors • Minimise on-site storage of putrescible and organic waste (in accordance with site-specific requirements for storage time) • Where feasible, pave unloading and waste storage areas for ease of cleaning • Ensure enclosed facilities are well-ventilated • Provide a roof (for Category 2 facilities) or lid to waste skips (for Category 1 facilities) to prevent water ingress • Design any leachate ponds to maintain aerobic conditions |
| Dust | <ul style="list-style-type: none"> • Where feasible, pave all operating, storage, unloading and loading areas • Seal roads where dust may be an issue • Minimise areas of exposed earth through suitable landscaping |
| Noise | <ul style="list-style-type: none"> • Locate noisier operations away from on- and off-site receptors • Design access and internal roads to minimise noise • Where feasible, enclose noisy operations • Minimise off-site noise by suitable landscaping (including embankments) |
| Vermin | <ul style="list-style-type: none"> • Provide covers to skips • Minimise opportunities for nesting sites |
| Stormwater | <ul style="list-style-type: none"> • Inclusion of water sensitive urban design features (e.g. swales, rain gardens) • Divert stormwater around the site and away from waste disposal and material storage areas • Design structures to minimise water ingress; provide a roof (for Category 2 facilities) or lid to waste skips (for Category 1 facilities) • Incorporate appropriate infrastructure to manage peak rainfall events • Where feasible, install stormwater pre-treatment systems (e.g. drain covers, interceptors) • Bund and cover hazardous waste storage areas • Where feasible, install tanks for rainwater collection and use • Manage all run-off collected from receipt, storage, unloading and processing areas as leachate and manage accordingly • Ensure leachate does not leave the site untreated |
| Ecology | <ul style="list-style-type: none"> • Design operations to minimise disturbance of existing vegetation • If relevant, implement any requirements arising from flora and fauna study |

3.7 Access and traffic control

While most access to a transfer station will be by vehicle, design of facilities which include a resale shop may also need to provide pedestrian or bicycle access. Traffic flow around the site should be designed to separate pedestrian, vehicle and truck movements as much as feasible.

Design should also consider the following:

- peak traffic requirements, including during occasional events (e.g. household hazardous waste collections)
- provision of sufficient queuing area for vehicles entering the facility so that external traffic flows are not interrupted
- incorporation of one-way traffic flow around the site as much as possible
- provision of preferential access to recycling areas
- access for emergency vehicles (possibly through a separate entrance)
- traffic pathways for emergency evacuation of the site
- where appropriate, provision for separate access from the public road network (including the provision of a turn-off lane if necessary)
- minimising the use of intersections or roundabouts
- line-marking of sealed roads to guide traffic flow
- where relevant, installation of prominent traffic information signs and effective traffic control devices (e.g. directional lines, speed humps, etc)
- minimising the requirement for reversing of vehicles as much as practicable; where reversing is necessary, provision of sufficient space for drivers inexperienced in reversing trailers
- where relevant, installation of wheel stops at unloading areas to prevent vehicles rolling into skips or pits.

All roads and traffic management devices should comply with relevant Australian Standards.

3.8 Signage

Sufficient signage should be provided to allow users unfamiliar with the transfer station to follow requirements. Signage should comply with relevant Australian Standards and provide clear, consistent information; images should be used where further clarity is needed (e.g. communities with low English language or literacy skills).

Signage contents at different locations are outlined in Table 4; note some references may not be relevant to all transfer stations.

Table 4: Signage

| Location | Content |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| On approach roads to transfer station | <ul style="list-style-type: none"> • Directions to transfer station • Penalties for uncovered loads |
| At site entrance | <ul style="list-style-type: none"> • Opening hours • Materials accepted and materials not acceptable • Disposal fees and charges for relevant materials • Name and contact details of site operator • After hours contact details • Where relevant, the presence of specific hazardous chemicals |
| Within the transfer station | <ul style="list-style-type: none"> • Directions to unloading areas for waste/material types and resale shop • Traffic control purposes • Health and safety requirements (including user behaviour) • Location of fire control equipment and emergency exits (including evacuation assembly areas) • Identification and location of potential hazards • Educational purposes |

3.9 Aesthetics

The aesthetics of a transfer station can affect community acceptance and behaviour, and contribute to improved waste and recycling outcomes. Where appropriate, the design of the transfer station should include architectural features, building materials and landscaping that contribute to an aesthetically pleasing facility.

4. Operation

This chapter provides guidance on operation and management issues for optimum performance of the transfer station.

4.1 Risk control

A formal risk management system should be established to identify, analyse and address risks to health and safety, the environment and other contingencies (such as the breakdown of equipment). The risk management process should be documented, communicated throughout the organisation and regularly reviewed. All regulatory requirements addressing health and safety, environmental and other risks must be complied with.

Health and safety risks

Transfer station operators have a regulatory responsibility to provide and maintain as far as reasonably practicable a facility that is safe and without risk to health for both employees and users. The *Work Health and Safety Regulations 2012* outline the approach that must be taken to manage risk:

- identify reasonably foreseeable hazards that could give rise to risks to health and safety
- eliminate risks to health and safety so far as is reasonably practicable
- if it is not reasonably practicable to eliminate risks to health and safety, minimise those risks so far as is reasonably practicable by implementing risk control measures according to the hierarchy of control (see below)
- ensure the control measure is effective and is maintained so that it remains effective
- review and as necessary revise control measures to maintain so far as is reasonably practicable a work environment that is without risks to health or safety.

The **hierarchy of risk control** involves:

1. Eliminating the risk by discontinuing the activity
2. Minimising the risk by substituting the hazard giving rise to the risk with something that has a lesser risk, isolating the hazard from any person exposed to it, or implementing engineering controls
3. If the risk remains, minimising it by implementing administrative controls
4. If the risk remains, minimising it through the provision and use of personal protective equipment.

Hazards can be identified in a number of ways such as regular workplace inspections, consultation with employees about any hazards they have experienced or identified (e.g. through 'toolbox' meetings), job safety analysis and analysis of workplace injury, incidents and illness records.

A job safety analysis or safe work method investigation should be conducted for all tasks that occur at the transfer station. Employees who perform the work and organisational health and safety representatives (where relevant) should be involved in the analysis.

All employees should undergo induction training, incorporating health and safety issues. When introducing a new risk control measure, additional training must be provided.

Other risks

Other risks should be periodically assessed and relevant controls put in place. This may include risks to the surrounding environment, equipment and operational risks, financial and other management risks.

4.2 Sustainability

Sustainability measures which should be considered during operation of the transfer station include the following:

- procurement practices should consider the environmental footprint of competing products, and preference should be given where possible to materials which have a recycled content or low embodied energy and which do not deplete non-renewable resources
- water and energy saving measures should be implemented, including the use of energy-efficient equipment, reductions in energy demand (e.g. switching off equipment when not in use), water-conservation devices and native landscaping.

Operators of large facilities should also consider measuring their carbon footprint and identifying opportunities to become carbon neutral.

4.3 Resource recovery

Resource recovery operations should be easy to use and well-maintained in order to encourage community recycling activities. All deposition areas should be:

- well sign-posted (including hazard and safety signs where applicable)
- kept neat, tidy and free of contamination from other materials
- regularly monitored and actively managed where necessary.

At Category 2 facilities, supervision should be provided where material is unloaded. Only material which is free of contaminants should be accepted for recovery.

All material stockpiles should be monitored and processed as soon as practicable. Material should not be stockpiled indefinitely.

Decisions on which materials to segregate for recycling at each transfer station should be based on an analysis of markets, transport costs for processing, savings in disposal and the environmental benefits. While not all transfer stations will recover all materials, management practices for materials commonly separated for recovery are outlined in Table 5. Note separate infrastructure and equipment requirements may apply for some materials (refer Section 3.5).

Scavenging of materials by facility users should not be permitted. Diversion of items by operating staff should only be carried out in accordance with approved management practices for the site; this should be limited to diversion of items before they enter the facility's residual waste management system. Neither staff nor facility users should enter waste equipment (such as skips, balers or compactors) or material stockpiles in order to scavenge items.

All processing activities carried out on site should undergo a risk assessment prior to commencement. Any processing at the transfer station should be undertaken as far away as practicable from facility users and public areas with relevant controls for health, safety and environment risks put in place.

Table 5: Management of recovered materials

| Material type | Management practices |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agricultural chemical containers (drumMUSTER) | <ul style="list-style-type: none"> • Only containers eligible for the drumMUSTER program for collection of agricultural chemical containers should be accepted • Containers should be checked to ensure they conform to drumMUSTER requirements (e.g. clean, empty, participating manufacturer) • Containers should be stored neatly in drumMUSTER compound pending collection by accredited processors |
| Batteries - household | <ul style="list-style-type: none"> • Batteries should be stored in bin with lid pending collection; where possible, this should be undercover |
| Batteries – lead acid | <ul style="list-style-type: none"> • Batteries should be stored in a secure and bunded undercover area • Batteries should be stored as far away as possible from gas cylinders, motor oil and other materials or equipment that may pose a risk of explosion or fire • A spill kit should be available to manage any acid spills |
| Bricks, concrete, tiles | <ul style="list-style-type: none"> • Stockpiles should be regularly monitored for any environmental impacts (e.g. dust, vermin) and appropriate control measures implemented |
| Clean soil | <ul style="list-style-type: none"> • Soil stockpiles should be easily accessible and loadable for re-sale or on-site use |
| Clothing & textiles | <ul style="list-style-type: none"> • Clothing & textiles should be stored in a bin with lid; where possible, this should be undercover • Bins should be monitored to ensure vermin infestation does not occur |
| Cooking oil | <ul style="list-style-type: none"> • Cooking oil should be drained into a tank which is stored in a bunded undercover area • The bunded, undercover area should be sufficient to allow storage of emptied containers • A spill kit should be available to manage any spills for health and safety reasons (e.g. slipping) |
| Domestic comingled recyclables (i.e. plastic containers 1-7, glass bottles & jars, liquid paperboard cartons, aluminium & steel cans) | <ul style="list-style-type: none"> • Domestic recyclables may be comingled or collected separately (subject to collection arrangements) • Recyclables should be stored in skips, bins or containers, preferably with lids or stored in undercover area |
| e-waste (computers, printers & cables) | <ul style="list-style-type: none"> • E-waste should be stored in dedicated bins or containers with lids; where possible these should be undercover. Refer to Australian Standard <i>AS5377 Collection, Storage, Transport and Treatment of End-of-life Electrical and Electronic Equipment</i> for further information. |

| Material type | Management practices |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Garden organics | <ul style="list-style-type: none"> • Garden organics stockpiles should not exceed 1,000m³, should be at least 5m apart and no more than 2m in height • Garden organics should not be burnt and should be kept clear of flammable materials • Stockpiles should be regularly monitored and turned when necessary to maintain aerobic conditions • Stockpiles should be protected by adequate, well-maintained fire control and dust suppression systems • Stormwater should be diverted around the stockpiles and control measures put in place to ensure the pile does not become waterlogged and odorous |
| Gas cylinders | <ul style="list-style-type: none"> • Gas cylinders should be stored in a secure area with adequate ventilation and safety signs (e.g. no smoking), in accordance with Australian Standard <i>AS1596 The storage and handling of LP gas</i> • The storage area should be away from direct sunlight, other hazardous wastes, materials or equipment which may pose a risk of explosion or fire (e.g. batteries, motor oil) |
| Light globes | <ul style="list-style-type: none"> • Light globes should be stored in a bin or skip with lid; where possible, this should be undercover |
| Mattresses | <ul style="list-style-type: none"> • Mattresses should be stored undercover |
| Metals | <ul style="list-style-type: none"> • Ferrous and non-ferrous items should be separated for optimum value • Items that are bulky and/or hard to handle (e.g. fencing wire, car bodies) may need to be stored in separate piles • Actively manage stockpiles to ensure they do not pose a potential health and safety risk (e.g. through risk of collapse) • Do not allow public tampering with the stockpiled materials |
| Mobile phones | <ul style="list-style-type: none"> • Mobile phones should be stored in a bin with lid; where possible this should be undercover |
| Motor oil | <ul style="list-style-type: none"> • Motor oil should be collected in a suitable tank in a bunded and roofed area (refer Section 3.4) • Storage systems should be sufficient for emptied containers • A spill kit should be available to manage any spills |
| Paint | <ul style="list-style-type: none"> • Paint cans should be sealed and stored in a plastic-lined bin or skip in a concreted, undercover storage area • A spill kit should be available to manage any spills |
| Paper & cardboard | <ul style="list-style-type: none"> • Paper and cardboard may be collected separately subject to processing requirements • Paper and cardboard should be stored in a skip or container with lid; where possible this should be undercover |

| Material type | Management practices |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Plasterboard | <ul style="list-style-type: none"> Plasterboard may need to be separated by type (e.g. gypsum, horsehair) subject to processing requirements Plasterboard should be stored in a skip with lid or undercover |
| Plastics - rigid | <ul style="list-style-type: none"> Plastics should be stored in a skip or container with lid The storage area should be away from direct sunlight |
| Timber | <ul style="list-style-type: none"> Where timber is recovered, treated timber should be segregated into a different stockpile for disposal as residual waste (e.g. to landfill) Timber may be segregated into different types (e.g. tree stumps, doors & window frames) subject to processing requirements |
| Toner cartridges | <ul style="list-style-type: none"> Toner cartridges should be stored in a bin with lid; where possible this should be undercover |
| Tyres | <ul style="list-style-type: none"> Where possible, tyres should be stored undercover for disease prevention purposes (rainwater pools can provide a breeding place for mosquitoes and other disease-carrying insects) Tyres should be stored as far away as possible from potential flammable sources The number of tyres stockpiled on site should be limited in line with any regulatory guidance |

Resale shop

Resale shops should be established in a secure roofed area, supervised at all times and well-presented and maintained. Stock should be monitored and a management process established to address regular turnover of items.

An inspection and testing program should be established for all second-hand items sold; the program should follow relevant Australian Standards where applicable (e.g. *AS5761 In Service Safety Inspection and Testing – Second-hand Electrical Equipment Prior to Sale* and *AS5762 In Service Safety Inspection and Testing – Repaired Electrical Equipment*).

Legal advice should be sought (and regularly updated) regarding the obligations of the resale shop arising from sale of goods, especially items for which safety standards apply.

4.4 Hazardous waste

Incoming loads should be inspected to ensure that only acceptable materials are deposited at the transfer station. Procedures for safe handling, storage and management of potentially hazardous wastes likely to be received at the facility should be documented in the site operations manual (refer Section 4.9); this should include:

- training of staff in identification, handling and emergency procedures
- use of appropriate storage receptacles, signage and personal protective equipment
- provision and placement of spill kits

- provision of a safety shower and/or eyewash facility as necessary
- transfer of hazardous materials to appropriate disposal or recycling facilities as soon as possible
- licensing, waste tracking and documentation requirements
- provision of a regularly updated list of licensed transporters.

Material Safety Data Sheets should be held for any hazardous substances or dangerous goods commonly received, stored or used on site. Care should be taken to ensure that potentially reactive materials are not stored together or in close proximity.

Any loading or unloading of hazardous materials should only occur in the presence of trained staff or contractors.

If the site is approved by Agsafe as a collection point for Agsafe's *ChemClear* program for collection of unwanted agricultural and veterinary chemicals, handling and management practices should conform to Agsafe protocols as well as relevant regulatory requirements.

Refer to Sections 3.4 and 4.3 for guidance on infrastructure and operational practices for the management of batteries, gas cylinders, motor oil and paint.

Unacceptable waste

Transfer station staff sometimes discover unacceptable waste in incoming loads or recently deposited waste. Staff should be trained to identify risk loads, recognise unacceptable materials and follow relevant procedures. Staff should also be able to inform users of approved disposal points for hazardous wastes not accepted at the transfer station, as well as penalties where appropriate.

Asbestos

Asbestos can pose health risks and it is important that appropriate management protocols are followed. If asbestos is accepted at the transfer station, it should be managed in accordance with Worksafe Tasmania's *How to Manage and Control Asbestos in the Workplace Code of Practice* (Worksafe Tasmania, December 2012) and *How to Safely Remove Asbestos Code of Practice* (Worksafe Tasmania, December 2012). These documents outline regulated responsibilities in the *Work Health and Safety Act 2012*, including areas such as:

- controlling exposure risks
- health monitoring
- training and use of equipment
- identifying asbestos
- establishment of an asbestos register
- preparation of an asbestos management plan
- waste handling requirements
- personal protective equipment
- signage.

Any asbestos accepted at the transfer station should be removed from the site as soon as possible by a licensed transporter and disposed of at a licensed disposal site.

4.5 Environmental management

Operations at the transfer station should ensure the local environment is protected. Relevant management practices are outlined in Table 6.

Table 6: Environmental management practices

| Impact | Management practices |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Litter | <ul style="list-style-type: none"> • Enforce covering of loads by transfer station users • Lids or covers on bins should be well-maintained and closed when not in use • Sites should be inspected daily for litter and cleaned as necessary (this should include off-site areas which may be impacted by litter) • Install litter screens around high litter risk areas • Consider specific protocols for waste handling on windy days |
| Odour | <ul style="list-style-type: none"> • Category 2 facilities should clear putrescible waste within 24 hours of receipt in order to reduce odour generation • Skips, bins or pits which receive putrescible waste should be regularly cleaned (wastewater arising from this cleaning should be treated as leachate) • If the transfer station has a leachate pond, this should be actively managed to avoid odour generation and maintain aerobic conditions |
| Dust | <ul style="list-style-type: none"> • Enforce site speed limits • Dust suppressants should be used when necessary • Consider specific protocols for windy days (e.g. stopping processing) • Suction sweeping of surfaces may be appropriate at some facilities |
| Noise | <ul style="list-style-type: none"> • Consider noise potential of plant and machinery during purchasing process • Maintain all plant and machinery in good working order • Undertake noisy operations only during normal working hours • Consider potential noise impact on site users and staff • Provide noise screens and natural barriers where operations prove particularly noisy • Provide staff with personal protective equipment to protect hearing |
| Vermin | <ul style="list-style-type: none"> • Regularly inspect bins, storage areas and stockpiles for vermin infestation and clean as necessary • Maintain good housekeeping standards at the transfer station • Cover waste bins when not in use • Implement a pest control program if vermin problems persist |
| Stormwater | <ul style="list-style-type: none"> • Maintain stormwater management system and waste bunds in good order • Inspect diversion drains and litter entrapment devices prior to and after major rainfall events • Utilise spill kits as necessary • Avoid activities which generate sediment |

4.6 Plant & equipment

Appropriate plant and equipment should be provided to enable transfer station staff to carry out their responsibilities safely and effectively. Equipment should comply with relevant Australian Standards and legislation, and be regularly inspected and maintained in accordance with manufacturers' guidelines. Records of maintenance program and faulty equipment reports must be maintained, and where feasible a maintenance history for each item of plant and equipment should be kept.

Only licensed and trained personnel should operate equipment. Training records should be maintained, and risk assessments and safe operating procedures for all plant and equipment documented.

Back-up equipment or contingency arrangements should be in place to enable the continued operation of the transfer station.

4.7 Traffic management

Management procedures for vehicles entering or leaving the site should be developed, implemented and monitored. These should include:

- fitting of site vehicles with audible warning devices, flashing roof-mounted lights, flashing rear lamps and safety signs as appropriate
- drivers' use of warning devices and lights as required (e.g. unloading, reversing)
- site speed limits
- wearing of high visibility vests by staff and contractors when working in areas where vehicle movement occurs
- induction of employees and contractors in traffic management procedures
- staff supervision of unloading areas at Category 2 facilities
- prohibition on children or pets leaving the vehicle at unloading areas.

4.8 Data recording

Data on transfer station patronage, waste and recyclable materials, and financial information should be recorded for management and monitoring purposes. Categories of data which should be collected are detailed in Table 7.

Data on waste/material types and sources should conform with the Tasmanian Solid Waste Classification System.

Table 7: Data categories

| Incoming waste/material | Outgoing waste/material |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Site • Staff name • Date and time • Customer name and postcode • Vehicle type (e.g. car, trailer, ute, truck) • Vehicle size (e.g. large trailer, 3t truck) • Vehicle registration number • Waste/material source (e.g. commercial, domestic) • Waste/material type <ul style="list-style-type: none"> - if mixed, estimated percentage of each waste type • Waste/material amount <ul style="list-style-type: none"> - by weight (tonnes) at weighbridge - if no weighbridge, by estimated volume (m³) or size of container, vehicle, trailer, etc. - by number (e.g. tyres) • Fee charged • Payment method (e.g. cash, account) | <ul style="list-style-type: none"> • Site • Staff name • Date and time • Contractor name • Destination • Waste/material type • Waste/material amount <ul style="list-style-type: none"> - by weight (tonnes) at weighbridge - if in bins, bin size and estimated volume (m³) or fill rate (%) - if processed on site, estimated volume (m³) of finished material - other numeric or estimate depending on material type (e.g. numbers of tyres, litres of motor and cooking oil) <p>Note: Contractors should provide weight-based amounts of material processed with invoice information</p> |

A hard copy receipt should be provided for every incoming load, regardless of whether there is a charge for accepting the material.

An annual stocktake of material held at the transfer station should be undertaken by Category 2 facilities. This should be reconciled with information in data management systems, allowing for shrinkage and compaction rates where applicable.

4.9 Management systems

Transfer stations should operate according to normal business and accounting management frameworks. Additional management systems specific to transfer stations are outlined in the following section.

Oversight of the transfer station operations can be evaluated against best practice using the checklist in Appendix A.

Operational procedures

Procedures for the safe operation and effective management of the transfer station should be documented in a site operations manual. For Category 2 facilities, a site operations manual should be developed for each site; for Category 1 facilities, the operations manual may cover a number of facilities. The manual should be available at every transfer station and outline all procedures staff must undertake at the transfer station to carry out their responsibilities.

The manual should include:

- safe operating procedures for all aspects of the site operation
- health, safety and environment risk assessments and control measures (including use and maintenance of personal protective equipment)
- any external obligations such as regulatory requirements and planning conditions
- staff roles and responsibilities
- procedures for site induction and on-going training (including contractors where applicable)
- environmental protection and management procedures
- procedures for use of plant and equipment (including repair and maintenance programs)
- emergency response procedures (including a program for emergency drills)
- procedures for customer service and complaint response
- procedures for collecting and maintaining relevant workplace records (such as workplace inspection records, training records, incident and hazard report forms)
- monitoring and reporting procedures and timetable
- blank forms for completion as relevant
- date of preparation of the site operations manual and a timetable for regular review (at least every three years).

Supervision

Transfer stations should be supervised at all times when open. Category 2 facilities should provide at least one staff member dedicated solely to the unloading area to supervise facility users.

Facility users must not be permitted to enter a skip, push-pit or compactor or traverse a walking floor area under any circumstances. Children and pets should not be permitted out of the vehicle they are travelling in.

Staff should be supervised to ensure correct procedures and safe work instructions are adhered to.

Fire control and emergency response

Transfer stations must have adequate fire-fighting facilities in place and staff trained in actions to take in the event of a fire. Where facilities stockpile garden organics, the area should have dedicated fire-fighting equipment additional to other fire control measures at the site.

Transfer stations should have a spill kit to manage spills for oil, paint or other materials.

Transfer station staff should have telephone access to allow communication in the event of an emergency.

An emergency management plan must be developed, incorporating procedures to respond to accidents, injuries, fires, spills, explosions and similar potential incidents; the plan must be developed in accordance with requirements outlined in the *Work Health and Safety Regulations 2012* and conform with regional, municipal or other emergency plans prepared in accordance with the *Emergency Management Act 2006*. The procedures should be documented in the site operations manual, and

include evacuation procedures, relevant authorities that must be contacted, emergency contact details and other relevant matters.

Emergency procedures should be practiced at least once per year at Category 1 facilities and twice per year at Category 2 facilities in order to maintain readiness. Where appropriate, trials with local emergency services should be undertaken.

Transfer stations may agree to temporarily store unacceptable waste. Procedures must be in place to ensure this is done only with the approval of the EPA and other relevant authorities, and that correct safety and environmental measures are followed.

Staff facilities & training

Staff should have access to amenities including toilets, drinking water, washing and eating facilities as outlined in the *Managing the Work Environment and Facilities Code of Practice* (Worksafe Tasmania, December 2012). Subject to the activities carried out, some transfer stations may also need to provide access to change rooms and shower facilities. Adequate lighting, ventilation, cooling and heating must be provided so that staff can carry out their work without risk to health or safety.

Staff should be equipped with all necessary personal protective equipment required to safely undertake their duties. Staff should also have telephone access to allow communication in the event of an emergency.

Staff should be inducted into the transfer station operating procedures and receive regular training that enables them to do their job safely and effectively. Training should include:

- identification of material types (including hazardous wastes)
- site hazards and risk control measures
- safe manual handling and operational procedures (including use of personal protective equipment)
- methods for supervision of facility users and customer management (including customer complaints)
- emergency response procedures (including use of first aid, spill kits and fire-fighting equipment).

Staff should have ready access to the site operations manual for reference purposes.

Each transfer station must have access to first aid equipment and assistance as outlined in the *First Aid in the Workplace Code of Practice* (Worksafe Tasmania, December 2012). This includes:

- at least one person trained in first aid (with regular training updates)
- at least one first aid kit for the site and kits in the cabins of each plant/machine used on site
- appropriate first aid signage.

Site security

Transfer station security fencing should be regularly inspected and maintained. Additional security measures may be appropriate at some facilities, including the use of closed circuit television, security patrols and alarms.

Cash should not be left on-site overnight. Where feasible, transfer stations should reduce the need for acceptance of cash by encouraging alternative payment options such as electronic transfer.

Consideration should also be given to the security of recovered materials. Where considered necessary, high value items may be stored in a secure area or stockpiles regularly cleared.

4.10 Community consultation

Transfer station operators should engage with the local community to encourage the proper use of the facility. Engagement techniques may include provision of a dedicated education area, holding facility open days, providing signs, guidance and supervision, or consulting with a community reference group.

Community consultation may include:

- helping users understand how the transfer station operates (including optimum loading techniques)
- the community's role in recycling through encouraging separation, eliminating contamination and providing feedback on recycling efforts
- providing mechanisms for suggestions and complaints
- regular reporting and information-sharing on transfer station operations.

5. Closure

A closure and rehabilitation plan should be developed prior to closure of a transfer station. Subject to the proposed future use of the site, the plan may include measures to address the following:

- notification of the local community prior to closure (including nomination of alternative waste and recycling facilities)
- removal of all waste and other materials
- removal of infrastructure and equipment (including weighbridge where relevant)
- turning off or removing site utilities as appropriate
- earthworks or landscaping as required (e.g. to make safe any differences in ground levels and address future site drainage)
- assessment of any site contamination (in line with regulatory requirements)
- rehabilitation of the site as necessary
- removal of signage at site entrance (consideration may be given to installing new signage nominating alternate disposal facilities)
- changing access to the site (e.g. remodel access roads or replace entrance gate)
- a monitoring program for illegal dumping at the closed site.

Note if the transfer station was established at a previous landfill site, the site owner must liaise with the EPA to ensure closure and rehabilitation conforms to regulatory requirements.

The future use of the site should be determined in consultation with the local community, planning authorities and other relevant stakeholders.

If the site is to be sold, site owners should obtain an independent audit to confirm that the site has been adequately rehabilitated and there will be no ongoing impacts arising from the site's use as a transfer station.

6. Further information

For more detailed information, refer to the following documents.

Statutory regulations and policies

Emergency Management Act 2006
Environment Protection Policy (Air Quality)
Environment Protection Policy (Noise)
Environmental Management and Pollution Control Act 1994
Land Use Planning and Approvals Act 1993
Litter Act 2007
State Coastal Policy 1996
State Policy on the Protection of Agricultural Land 2009
State Policy on Water Quality Management 1997
Work Health and Safety Act 2012
Work Health and Safety Regulations 2012

Codes of Practice

Worksafe Tasmania (December 2012) *First Aid in the Workplace Code of Practice*
 Worksafe Tasmania (December 2012) *Hazardous Manual Tasks Code of Practice*
 Worksafe Tasmania (December 2012) *How to Manage and Control Asbestos in the Workplace Code of Practice*
 Worksafe Tasmania (December 2012) *How to Manage Health and Safety Risks Code of Practice*
 Worksafe Tasmania (December 2012) *Managing Electrical Risks in the Workplace Code of Practice*
 Worksafe Tasmania (December 2012) *Managing Noise and Preventing Hearing Loss at Work Code of Practice*
 Worksafe Tasmania (December 2012) *Managing Risks of Hazardous Chemicals in the Workplace Code of Practice*
 Worksafe Tasmania (December 2012) *Managing the Risks of Falls at Workplaces Code of Practice*
 Worksafe Tasmania (December 2012) *Managing the Risks of Plant in the Workplace Code of Practice*
 Worksafe Tasmania (December 2012) *Managing the Work Environment and Facilities Code of Practice*
 Worksafe Tasmania (December 2012) *Safe Design of Structures Code of Practice*
 Worksafe Tasmania (December 2012) *Work Health and Safety Consultation, Cooperation and Coordination Code of Practice*

Australian Standards

AS1319 Safety signs for the occupational environment
 AS1596 The storage and handling of LP gas
 AS1680.1 Interior and workplace lighting – general principles and recommendations
 AS1692 Steel tanks for flammable and combustible liquids
 AS1742 Manual of uniform traffic control devices
 AS1743 Road signs – specifications
 AS1744 Forms of letters and numerals for road signs
 AS1906 Retroreflective materials and devices for road traffic control purposes
 AS2293.3 Emergency escape lighting and exit signs for buildings – emergency escape luminaries and exit signs
 AS3760 In service safety inspection and testing of electrical equipment
 AS3845 Road safety barrier systems

AS4024.1 Safety of machinery
AS4419 Soils for landscaping and garden use
AS4454 Composts, soil conditioners and mulches
AS4801 Occupational health and safety management systems – specification with guidance for use
AS5377 Collection, storage, transport and treatment of end-of-life electrical and electronic equipment
AS5761 In service safety inspection and testing – second-hand electrical equipment prior to sale
AS5762 In service safety inspection and testing – repaired electrical equipment
AS/ISO 19001 Quality management systems – requirements
AS/ISO 14001 Environmental management systems – requirements with guidance for use
AS/ISO 14021 Environmental labels and declarations – self-declared environmental claims
AS/ISO 31000 Risk management

Other

Planning directives
Planning schemes
Regional waste management plans

Appendix A

Assessment checklist

SITE ASSESSMENT CHECKLIST

Complete Planning/Design/Operation/Closure section as relevant

| GENERAL INFORMATION | | | |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------|
| Site | | | |
| Date of inspection | | | |
| Annual throughput (tonnes/year) | | | |
| Category | | | |
| REF. | PLANNING | DETAILS | BP MET? |
| 2.1 | Has needs assessment been completed & development justified? | | Yes/No |
| 2.1 | Have material pathways been established? | | Yes/No |
| 2.1 | What materials will be separated for recovery? <ul style="list-style-type: none"> • Glass bottles & jars • Plastic containers (types 1-7) • Liquid paperboard cartons • Paper & cardboard • Aluminium & steel cans • Scrap metal • Clean soil • Lead acid batteries • Gas cylinders • Motor oil • E-waste • Garden organics • Timber • • | | Yes/No |
| 2.2 | Does the site contain indigenous or cultural heritage? | | Yes/No |
| 2.2 | Is the site contaminated from previous use? | | Yes/No |
| 2.2 | How far away is the nearest <ul style="list-style-type: none"> • sensitive use • surface water • other receptor? Does this conform to planning and regulatory requirements? | | Yes/No |
| 2.2 | Does site use conform to local planning scheme? | | Yes/No |
| 2.2 | Does the site contain areas of ecological significance? If yes, has a flora & fauna study been completed which permits development to proceed? | | Yes/No Yes/No |

| REF. | PLANNING | DETAILS | BP MET? |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------|
| 2.2 | Is the prevailing wind direction known? | | Yes/No |
| 2.2 | Does the site have a high water table or is it in a region of groundwater recharge or discharge? | | Yes/No |
| 2.2 | What utilities are available at the site? | | Yes/No |
| 2.2 | Does the site have suitable access roads? | | Yes/No |
| 2.2 | Is the facility at an acceptable travel distance from users? | | Yes/No |
| 2.2 | Is the facility at an economically viable transport distance from <ul style="list-style-type: none"> • receiving landfill • resource markets? | | Yes/No |
| 2.2 | What is the site area? Does this provide sufficient area for all current & future activities? | | Yes/No |
| 2.3 | Has the community been consulted? | | Yes/No |
| 2.4 | Does development incorporate relevant planning conditions? | | Yes/No |
| 2.4 | Do any other regulatory conditions apply (e.g. EPA)? | | Yes/No |
| REF. | DESIGN | DETAILS | BP MET? |
| 3.1 | Has a risk assessment been completed & the design incorporate relevant risk control measures? | | Yes/No |
| 3.2 | Does the design incorporate sustainability principles? | | Yes/No |
| 3.3 | Is the site layout consistent with the guide? | | Yes/No |
| 3.4 | Has a separate area for garden organics been provided? Does it incorporate required management measures? | | Yes/No Yes/No |
| 3.4 | If construction & demolition waste is recovered, are management controls included? | | Yes/No |
| 3.4 | Is motor oil recovered? | | Yes/No |
| 3.4 | Is the oil recovery facility designed in accordance with the guide? | | Yes/No |

| REF. | DESIGN | DETAILS | BP MET? |
|------|--------------------------------------------------------------------------------------------------------|---------|-------------|
| 3.4 | Are lead acid batteries recovered? | | Yes/No |
| 3.4 | Is the battery storage area designed in accordance with the guide? | | Yes/No |
| 3.4 | If a resale shop is incorporated, is it designed in accordance with the guide? | | Yes/No |
| 3.5 | Do site structures comply with building codes, building & planning regulations? | | Yes/No |
| 3.5 | Does plant & equipment design meet the requirements of the guide? | | Yes/No |
| 3.5 | Do site utilities comply with the guide? | | Yes/No |
| 3.5 | Does the site gatehouse meet the requirements of the guide? | | Yes/No |
| 3.5 | Is a weighbridge incorporated? | | - |
| 3.5 | Are drop-off areas designed in accordance with the guide? | | Yes/No |
| 3.5 | Does site security meet the requirements of the guide? | | Yes/No |
| 3.5 | What type of equipment does the facility incorporate? Are appropriate safety measures incorporated? | | - Yes/No |
| 3.6 | Is the facility designed to minimise litter in accordance with the guide? | | Yes/No |
| 3.6 | Is the facility designed to minimise odour in accordance with the guide? | | Yes/No |
| 3.6 | Is the facility designed to minimise dust in accordance with the guide? | | Yes/No |
| 3.6 | Is the facility designed to minimise noise in accordance with the guide? | | Yes/No |
| 3.6 | Is the facility designed to minimise vermin in accordance with the guide? | | Yes/No |
| 3.6 | Is the facility designed to manage stormwater and leachate in accordance with the guide? | | Yes/No |
| 3.6 | Is the facility designed to minimise ecological impacts in accordance with the guide? | | Yes/No |

| REF. | DESIGN | DETAILS | BP MET? |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|
| 3.7 | Is the site access designed in accordance with the guide? | | Yes/No |
| 3.7 | Are roads & traffic management devices designed in accordance with Australian Standards? | | Yes/No |
| 3.8 | Does the signage meet the requirements of the guide? | | Yes/No |
| 3.8 | Is signage designed in accordance with Australian Standards? | | Yes/No |
| 3.9 | Does the design incorporate aesthetic considerations? | | Yes/No |
| REF. | OPERATION | DETAILS | BP MET? |
| 4.1 | Has a formal risk management system and control process been established & implemented? | | Yes/No |
| 4.1 | Have health & safety hazards been identified & appropriate control measures implemented? | | Yes/No |
| 4.2 | Have sustainability initiatives been implemented? | | Yes/No |
| 4.3 | Are resource recovery areas well-maintained in accordance with the guide? | | Yes/No |
| 4.3 | Are drop-off areas supervised? | | Yes/No |
| 4.3 | Are stockpiles regularly monitored & processed? | | Yes/No |
| 4.3 | If on-site processing occurs, does it comply with the guide? | | Yes/No |
| 4.3 | Are recovered resources managed in accordance with the guide? <ul style="list-style-type: none"> • drumMUSTER • Batteries – household • Batteries – lead acid • Bricks, concrete, tiles • Clean soil • Clothing & textiles • Cooking oil • Domestic recyclables • E-waste • Garden organics • Gas cylinders | | Yes/No |

| REF. | OPERATION | DETAILS | BP MET? |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|
| 4.3 | <ul style="list-style-type: none"> • Light globes • Mattresses • Metals • Mobile phones • Motor oil • Paint • Paper & cardboard • Plasterboard • Plastics – rigid • Timber • Toner cartridges • Tyres • • • | | Yes/No |
| 4.3 | Is resale shop operated in accordance with the guide? | | Yes/No |
| 4.4 | Are materials inspected as they enter the facility? | | Yes/No |
| 4.4 | Does hazardous waste management comply with the guide? | | Yes/No |
| 4.4 | If asbestos is accepted at the facility, is it managed in accordance with Code of Practice? | | Yes/No |
| 4.5 | Is litter managed in accordance with the guide? | | Yes/No |
| 4.5 | Is odour managed in accordance with the guide? | | Yes/No |
| 4.5 | Is dust managed in accordance with the guide? | | Yes/No |
| 4.5 | Is noise managed in accordance with the guide? | | Yes/No |
| 4.5 | Does vermin control comply with the guide? | | Yes/No |
| 4.5 | Is stormwater & leachate managed in accordance with the guide? | | Yes/No |
| 4.6 | Is plant & equipment operated in accordance with the guide, manufacturer's guidelines & Australian Standards? | | Yes/No |
| 4.7 | Are traffic management procedures in place? | | Yes/No |
| 4.8 | Is data collected in accordance with the guide? | | Yes/No |

| REF. | OPERATION | DETAILS | BP MET? |
|-------------|-----------------------------------------------------------------------------------------|----------------|----------------|
| 4.8 | Category 2 facilities: are material stocktakes undertaken yearly? | | Yes/No |
| 4.9 | Has a site operations manual been prepared & made available to site staff? | | Yes/No |
| 4.9 | Is the facility supervised when open? | | Yes/No |
| 4.9 | Does the site have adequate fire-fighting devices & staff trained in their use? | | Yes/No |
| 4.9 | Are spill kits provided? | | Yes/No |
| 4.9 | Do staff have telephone communications? | | Yes/No |
| 4.9 | Has an emergency response plan been developed? | | Yes/No |
| 4.9 | Are emergency drills held regularly in accordance with the guide? | | Yes/No |
| 4.9 | Are staff amenities provided in accordance with Worksafe requirements? | | Yes/No |
| 4.9 | Have staff been issued with adequate PPE? | | Yes/No |
| 4.9 | Has a staff induction & training program been established in accordance with the guide? | | Yes/No |
| 4.9 | Is first aid assistance available in accordance with Worksafe requirements? | | Yes/No |
| 4.9 | Do site security measures comply with the guide? | | Yes/No |
| 4.10 | Are community engagement & education programs in place? | | Yes/No |
| REF. | CLOSURE | DETAILS | BP MET? |
| 5 | Has a closure & rehabilitation plan been developed? | | Yes/No |
| 5 | If relevant, has EPA been consulted? | | Yes/No |
| 5 | If relevant, has independent audit been carried out? | | Yes/No |
| 5 | Has future use of site been determined in accordance with the guide? | | Yes/No |