



## CASE STUDY – IMPROVING RESOURCE RECOVERY CENTRES

### Orbest Transfer Station

#### Overview

The Orbest Transfer Station, is a resource recovery facility located approximately four kilometres north of the regional and remote town of Orbest. The transfer station is owned and operated by East Gippsland Shire Council and services a low population density region. Originally operating as a landfill for close to 45 years, in 2015 the site was the subject of an upgrade to rehabilitate the landfill, provide a safer and more efficient layout, allow for source-separation and drop-off of more recoverable material streams and provide the opportunity to buy and sell re-useable items. Today, the improved layout of the site gives customers more clarity about where items should be placed and hosts infrastructure for more recycling streams to be accepted in the future, with the nearest operating landfill being approximately a one-hour drive from the site.

#### Waste and recycling items accepted

The transfer station provides the Orbest district with a central point to dispose of most types of recycling and some waste items in an easy and effective manner. The Table below outlines the recycling material streams accepted at the site.

#### Recyclable items accepted

- › commingled recycling (including paper, steel cans, plastic containers and glass bottles)
- › batteries
- › cardboard
- › concrete
- › e-waste (TVs/computers)
- › gas bottles
- › glass
- › green organics
- › mattresses
- › oil
- › steel and other metal
- › tiles and bricks
- › tyres
- › white goods.

#### Continuous upgrades towards best practice

The Orbest Transfer Station recently underwent a number of substantial upgrades, which have significantly improved the effectiveness and efficiency of the site. The council and its contractors commenced construction of these upgrades in March 2015 and completed the works in the December of the same year. The original scope of the upgrade project was budgeted at \$675,000, which included a contribution of \$150,000 from Sustainability Victoria. Additional upgrades then carried out by council resulted in a total cost of approximately \$900,000.

#### SNAPSHOT

##### VOLUME PROCESSED

Approximately 15 bins (30 cubic metres) of waste for landfill disposal, up to two bins (30 cubic metres) of commingled recycling and up to two bins of cardboard are processed per month. This includes kerbside collected waste and recyclables from the surrounding district.

##### NUMBER OF STREAMS RECYCLED 14

##### TYPE

Transfer station with a platform drop-off arrangement and stillages and a re-sale area within main shed.

##### NUMBER OF OPERATORS REQUIRED

Two

##### FUTURE OPPORTUNITIES

- › gradually increase the site's capacity to cater for landfill closures
- › streamline operation and operational procedures at the site
- › improve customer service and provide consistent information to customers across all sites
- › introduce silage wrap and polystyrene plastic recycling services
- › construction of a weighbridge.

## CASE STUDY **Orbost Transfer Station**

The total scope of works included:

- › rehabilitating part of the existing landfill site and improving site amenity and beautification
- › sealing the site's main access roads and the transfer bay areas
- › constructing retaining walls for six waste and recycling drop-off bays
- › constructing a new shed to store batteries, tyres, e-waste and waste oil dropped-off
- › repurposing an existing shed into a resale shop to sell reusable items back to the community
- › improving the hardstand areas for green waste, C&D waste and metals
- › upgrading of the existing bays and improving the railings to comply with OHS (additional works)
- › installing fencing, safety steps and signage, line marking (additional works)
- › installing provisions for a future weighbridge.

The objectives of this upgrade were to:

- › increase the re-use and recycling material pathways from the site
- › close the site's existing unlicensed landfill, as well as a number of smaller landfills in the region
- › enable the site to operate with a lower impact on the surrounding environment
- › improve infrastructure to cater to future growth.

As is the case for most regional resource recovery centres/transfer stations, remoteness posed a number of significant challenges when upgrading the facility and were addressed during the design and construction phases. These have included difficulties sourcing contractors to carry out construction and landfill rehabilitation works and sourcing recycling/processing facilities within appropriate travel distances.

A number of other unique challenges were also encountered during the upgrade, which included:

- › restrictions caused by the small footprint of the previous landfill at the site, which made it necessary for sections of the new infrastructure to be built on old landfill cells
- › rehabilitation and stabilisation required for sections of the landfill
- › relocation required for some old landfilled waste
- › significant extra costs required for rehabilitation and stabilisation of the landfill to meet current standards
- › provision of landfill and transfer station services throughout the upgrade
- › extensive periods of inclement unpleasant weather that caused a number of delays and difficulties.

Since the upgrade, a number of positive outcomes have been realised, including:

- › the site is now more user friendly for both the staff and public
- › the site now provides more recycling options than previously offered
- › OH&S for both staff and the general public has significantly improved at the site.

### **Management of the facility**

Being council-owned and operated, the transfer station is run by four council employees, who are rostered on a "one-week-on, one-week-off" basis, with two staff working per shift.

The following are key management principles that contribute to the transfer station's success:

- › The transfer station strives to comply with Sustainability Victoria's Best Practice Guidelines for Resource Recovery Centres (2009).
- › The restructure of its layout makes the site easier to navigate and has given customers more clarity about where items should be placed, reducing contamination and increasing recycling volumes.
- › The separation of customer drop-off platforms and the skip bin collection area has:
  - reduced the risk of accidents or near misses and increases health and safety at the site for both customers and transfer station workers
  - allowed for the collection of skip bins to take place without the need to close all of the drop-off bays.
- › The processing of green waste on-site provides valuable material for the continual rehabilitation of the landfill, as well as site beautification activities.
- › All materials entering the site are recorded electronically and a monthly report produced.

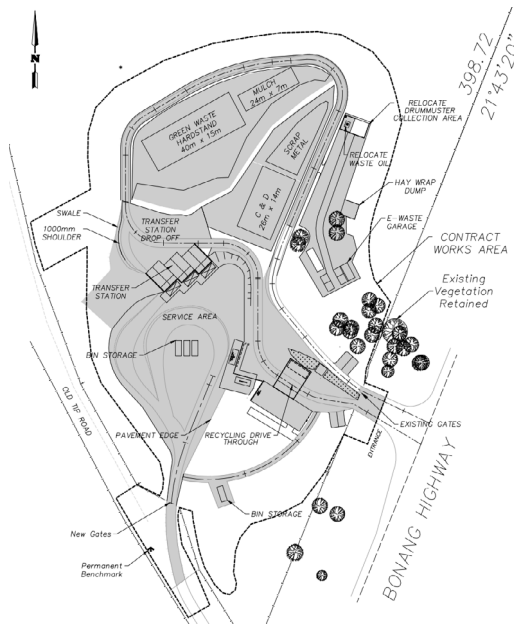


Orbost Landfill before recent upgrades



Orbost Transfer Station after upgrades





### Site layout

The transfer station layout enables effective source separation and drop-off for the customers, with the following process occurring:

- 1 Customers enter the site through the undercover gatehouse.
- 2 Customers and staff are able to identify reusable items suitable for resale in the resale shop, while at the gatehouse.
- 3 The fee for the load is determined by gatehouse staff and is based on the:
  - vehicle or trailer volume and contamination rate of the load
  - type of load (e.g. general waste load, furniture)
  - amount of recyclable material able to be separated within the load (e.g. mixed recyclables, metals).
- 4 Customers drive through the transfer station and drop-off waste and recyclables into the designated stillages, bins and areas.
- 5 Kerbside collected waste and recyclables from the surrounding district are also deposited into the bins at the site.
- 6 Waste received at the site is then sent to landfill and recyclables are transported to the Bairnsdale Materials Recovery Facility (MRF) for processing.

### Equipment

The main equipment utilised by the transfer station is a large front-end loader with an attached backhoe. This is utilised to assist in manoeuvring material at the site, as well as compacting waste and recycling within bins/areas (i.e. general waste).

### Future opportunities

The recent upgrades to the site provide the transfer station with the capabilities to separate received waste into a number of streams to enable the recycling and reuse of as much material as possible. With the Lakes Entrance and Cann River landfills to close by 2018 and 2020 respectively, there will be more pressure on waste logistics and demand to increase recycling across the regions. The focus for the transfer station over the coming years is to:

- › gradually increase the site's capacity to cater for these landfill closures
- › streamline site operations
- › accept silage wrap and polystyrene for recycling in the near-future
- › construct a weighbridge.

### Key learnings for similar upgrades

Key learnings from certain components of the upgrades were as follows:

#### › Constructing on top of old landfill cells

Building structures on the existing landfilled waste was an effective way to minimise the footprint of the upgrade. However, doing so created a number of challenges, including unexpected costs and prolonged time-frames due to the additional stabilisation and rehabilitation work that was required.

#### › Operating the facility while undertaking upgrades

Keeping the site open during upgrades was an effective way for transfer station operators to maintain a relationship with customers and residents and also educate them on the importance of separating recyclable material from waste within loads. A lengthy planning phase was one of the most important elements in mitigating the challenge of keeping the facility operational during this period.

### Further information

For more information contact Sustainability Victoria on 03 8626 8700 or visit [www.sustainability.vic.gov.au](http://www.sustainability.vic.gov.au)