

IPS Composting System: Mindarie, Australia

Challenge

In the early 2000's, the Mindarie Regional Council (MRC) was faced with reaching the State Government's Waste 2020 "Toward Zero Waste" Vision. They began the process of establishing a Resource Recovery Facility (RRF) and initiated an extensive community engagement process. Unfavorable feedback from the community led the MRC to modify the original concept of using combustion and incineration in favor of a biological process (aerobic composting) to recover and treat the wastes as well as relocating the facility to an industrial area.

The MRC established a Community Engagement Advisory Group and formed a Community Partnership Agreement that identified 20 specific objectives and 66 associated outcomes the facility would need to deliver to secure broad community support.

Solution

Following an extensive and coordinated community planning effort, the MRC unveiled the BioVision Mindarie RRF in August 2009, and are now one step closer to reaching the State's "Toward Zero Waste" Vision. Reducing the volume of waste sent to the landfill by 20 percent, the initial phase of the planned three-stage RRF is treating up to 100,000 tonnes of household waste and producing about 40,000 tonnes of marketable compost annually for residents in the Perth Metropolitan area. The MRC was praised by the Environmental Protection Agency for setting new standards for keeping the public involved in the decision-making process.



Results

The facility was designed and built by the BioVision 2020 Pty Ltd consortium (owned by WA-based superannuation fund Westscheme and SembSITA Australia Pty). It serves over half a million residents in the seven member council areas that make up MRC, including the Cities of Joondalup, Perth, Stirling and Wanneroo and the Towns of Cambridge, Victoria Park and Vincent. BioVision 2020, who was awarded the \$80 million contract to build, own and operate the facility, engaged waste management specialists, SITA Environmental Services, to operate the plant for a period of 20 years. Located on a 10-hectare site in the Neerabup Industrial Area, the facility is comprised of several structures that house the following components:

- Enclosed MSW receiving area
- Two Conprorec rotating bioreactors with 72 hour detention capacity
- Primary refining and sorting area
- IPS Composting System with 28 days processing time for maturation
- Advanced secondary refining system

Case Study

Mindarie Resource Recovery Facility

Owner	BioVision 2020 (SITA Environmental Solutions/ Westscheme Consortium) (20 year BOO contract through Mindarie Regional Council)
Enclosed Facility Site	32 bays, each 45 m long x 2.8 m high x 3 m wide; 1,200 m ² receiving area and pit; 2,110 m ² primary refining and sorting area; 6,338 m ² secondary refining system; 1,327 m ² storage

On Line	May 2009
General Contractor	Kerman Contracting Ltd.
Operator	SITA Environmental Services
IPS Capacity	200 wet tonnes per day
RRF Capacity	100,000 tonnes per year
Processing	Municipal Solid Waste (mainly household waste)
Odor Control	2,000 m ² biofilter

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