

The Carrot Company Pty Ltd

Market segment

Fruit & Vegetable packing

Commission date

August 1998

Customer problem

This customer operates a carrot washing plant whose washing process typically consumed around 500-750 kL/day and discharged contaminated water to a settling pond (for settling of solids and ultimate disposal) which, particularly in the summer months, produced considerable odour problems.

In addition, water discharged to drain (from the pond) was exceeding the water quality limits set by the local water authority, SA Water.

Customer objective

To generally improve its wastewater management by meeting SA Water discharge water quality standards and eliminate odour issues associated with its settling pond.

Conventional options available to the Customer

Coarse screening (>2mm) for removal of vegetable matter (eg. carrot tops and carrot pieces) using a compacting screw auger.

In-line sand trap and de-watering device (sand only at >0.2mm and 99% efficiency).

Trial(s) over a 12-month period with the above equipment were ineffective in removing readily biodegradable organics (<2mm) and exceptionally high inorganic sand and silt loads (<0.2mm). After treatment with this equipment the solids loading was reduced to a final suspended solids (SS) around 5,000 - 7,500 mg/L. As a result, regulatory compliance (SS to 500 mg/L) and effective odour management still needed to be met.

Various filter and separation technologies were trialed to achieve this objective but none were successful until BALEEN was introduced.

Outcomes achieved with BALEEN

- SA Water regulations satisfied.
- 100% water recycle attained with only 10% make-up water required attributing to water savings of up to 450-675 kL/day.
- Successful outcome re: odour management and disposal requirements.
- Recovered waste materials realised as by-products (free collection by local council and nurseries).
- Requirement for settling pond eliminated with recovered land used for more productive use (presently utilised for expansion of customer's operation).