



CASE STUDY

Salad Fresh Wastewater Recycling Feasibility Study

1. Company profile

Salad Fresh is located in Broadmeadows and manufactures pre-washed, cut and assembled salads and vegetable mixes. Fresh produce is delivered to the factory directly from growers. It is then sorted, chopped if necessary, washed and packaged and delivered to all Australian states. Salad Fresh produces fresh-cut products under its own 'Salad Fresh' label, as well as 'home brands' for leading supermarkets.

Salad Fresh is currently involved in the Victorian Government's water management action plan (waterMAP) program. As part of the program users of > 10 ML of drinking water per year are required to:

- Assess their current water use
- Identify inefficiencies and opportunities for water savings
- Prepare an action plan to implement water conservation activities
- Annually report on implementation of water conservation activities

2. waterMAP Assist

The Australian Industry Group (Ai Group) is committed to working with member companies to encourage continuous improvement, resource efficiency, use of recycled water where possible, and reduced usage of drinking water. Ai Group's waterMAP Assist program has provided resources and funding to member companies to assist them implement initiatives contained in waterMAPs and deliver water savings in industry.

3. Project summary

Ai Group's waterMAP Assist program provided funding to enable Salad Fresh determine the feasibility of using

wastewater from Salad Fresh's produce washing process for irrigation of the neighbouring 'The Meadows' greyhound racing track. The Meadows is located within 200 metres of the Salad Fresh site. The Meadows requires 10 ML water annually of fit for purpose water (Class B recycled water) for dust suppression and to maintain the appropriate moisture conditions in the racing track.

The key objectives of the study were:

- To determine whether Salad Fresh's process generates a sufficient amount of waste water to meet The Meadows' demand for irrigation
- To ascertain whether waste water treatment is required prior to use by The Meadows
- If necessary, to identify a suitable treatment process to meet The Meadows and EPA Victoria requirements
- To prepare a budget costing for the proposed treatment

4. Key findings

This feasibility study found that there was sufficient quantity of waste water generated by Salad Fresh to meet the demand for track irrigation water at The Meadows.

However, the waste water from Salad Fresh's process contains contaminants which require treatment to meet Class B criteria if the water is to be used for the watering of the greyhound track. The treatment process requires approval by EPA Victoria.

A suitable treatment process (to be located at Salad Fresh) was identified to ensure that the wastewater meets Class B requirements. According to testing, conductivity and E. coli levels will present no problem in meeting the Class B requirements. Also, pH adjustment is relatively straightforward as there is an existing pH dosing plant on-site. The proposed





treatment therefore focuses mainly on Biological Oxygen Demand (BOD) and Suspended Solid (SS) removal.

The treatment would consist of:

- PH adjustment
- Sand filtration
- Aeration
- Compact water treatment involving biological treatment and membrane filters
- Disinfection before storage

The feasibility study also identified the estimated capital and operating costs for the treatment plant, as well as the potential water and trade waste savings. As displayed in Table 1, the cost of treated water is substantially higher than the price of drinking water and therefore could be prohibitive in continuing with the project. However, considerations such as security of water supply may provide an incentive to proceed with the project.

Tentative payback periods ranging from 3 to 12 years have been put forward as part of this project; however, the payback period for the project will only be accurate once both parties have come to an agreement with regard to the allocation of project costs.

TABLE 1 COSTS OF PROPOSED TREATMENT PLANT

Recommendation	Summer Demand (of The Meadows)	Winter Demand (of The Meadows)
Plant capacity	20,000 KL/yr	5,000 KL/yr
Total Capital Costs	\$510,600 + GST	\$345,000 + GST
Trade Waste Savings (Salad Fresh)	\$16,790/yr	\$4,197/yr
Potable Water Savings (The Meadows)	\$22,750/yr	\$5,690/yr

5. Project benefits

The project identified costings that will assist Salad Fresh in reaching a decision on whether to advance the recycled water proposal further. The project highlighted the regulatory requirements, as well as the various roles and responsibilities associated with the proposal. The project also drew attention to potential risks involved with this proposal, which can eventuate from:

- The operation of the plant
- Storage of the treated water
- Use of the treated water, including risks associated with the quality of the water such as health risks
- Uncertainty of the roles and responsibilities of the parties involved
- Plant break down and emergency situations

An agreement on cost sharing and risk management would also need to be negotiated between Salad Fresh and The Meadows to ensure appropriate allocation of costs and risk for proceeding with the project. The project has the potential to save between 5,000 and 20,000 kL of drinking water per year.

Further information

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Ai Group's waterMAP Assist program, supported by the Department of Sustainability and Environment (DSE) has enabled Ai Group to work with large industrial water users to identify and implement water savings.