

OptiFacts



Optimatics

Water Systems Optimization

Australia
New Zealand
United Kingdom
United States

www.optimatics.com

“It has been a pleasure working with Optimatics. Optimatics’ response to YVW’s tight timeframe and changing requirements was much appreciated.”

Client Reference:

James Goode
Yarra Valley Water
Telephone + 61 3 9872 2428

Northern Suburbs Sewerage Strategy (NSSS)

Options Optimization for Yarra Valley Water Melbourne, Victoria, Australia

HIGH LEVEL OPTIONS ANALYSIS of a waste water system in a high growth area of Melbourne. The transparency and optimization of the project allowed YVW to move ahead, confident that it had the best strategy.

KEY POINTS

- Major collection system strategy for Melbourne
- High level optimization for treatment, attenuation and transfer of sewerage.

The Background

Yarra Valley Water (YVW) engaged Optimatics to assess the best options to service the northern growth corridor of Melbourne. The system was required to function for the critical one in five rainfall event and 2031 system layout and inflow.

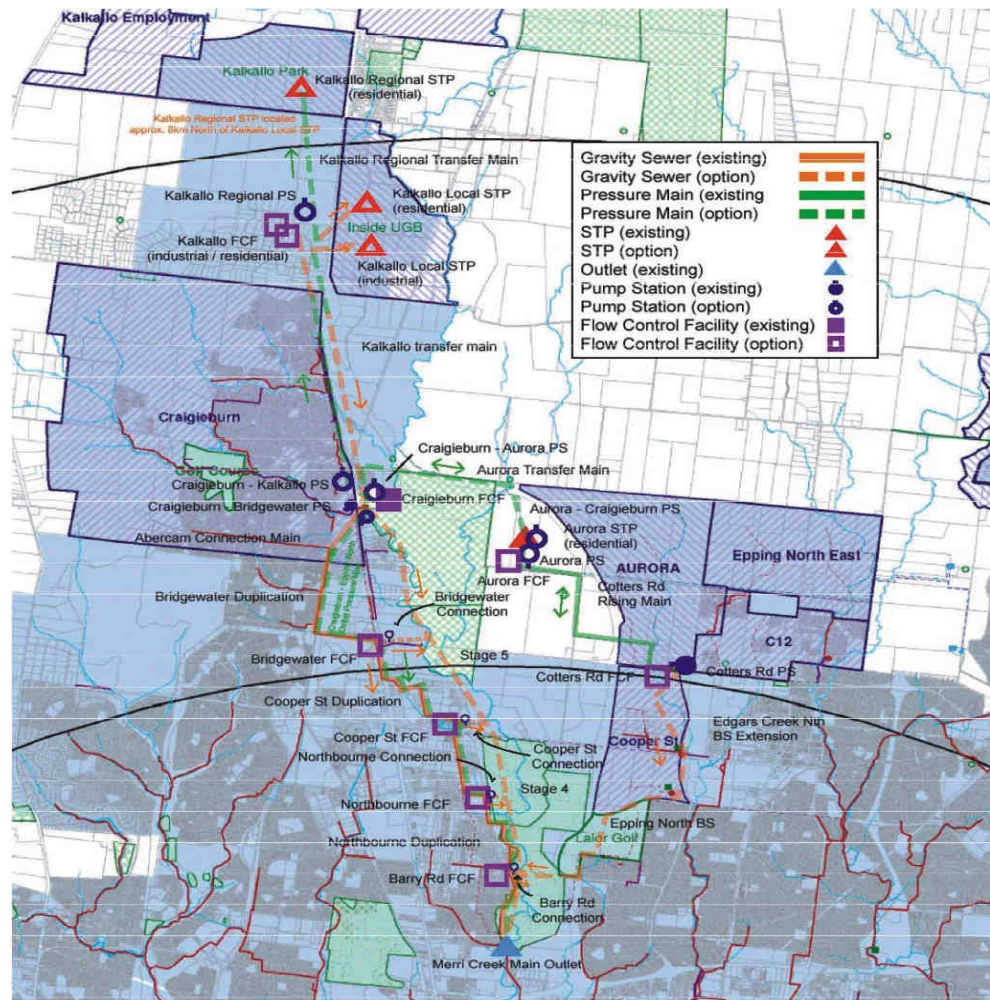
Key decisions were

- Whether to transfer, treat or attenuate significant flow events; and
- How best to transfer flow events (pumped, gravity or deep tunnel).

The Project

The optimization consider:

- 4 treatment plants
- 9 attenuation storages
- 8 pumping options
- Pumped sewer
- Deep tunnels
- Trunk gravity sewer
- Weirs and orifices
- Discharge costs.



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Working Relationships

YVW and Optimatics worked in parallel on this project to provide thorough options analysis outcomes in a short timeframe. YVW led on the costing and staging work, with Optimatics running the optimization and modelling. From this base, YVW and Optimatics assessed the options to come up with a recommended solution.

Key Outcomes and Benefits

The optimization process provided a clear analysis approach that provided a robust system backbone to transfer flows, but flexibility to defer high-cost decisions.

The recommended solution was considerably lower than previous servicing estimates. The final option used the existing treatment and attenuation capacity in the system and minimised transfer main construction in brown field locations.

Optimatics was also engaged by YVW to undertake some sensitivity analysis, assessing the impact of proposed inflow reduction measures.

Inflows and Outflows: Craigieburn

