



Transcend

# **Automating Aqua Consultants conceptual design process for a mid sized WWTP**



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## The Challenge

- A regional water utility was exploring options at a series of existing and proposed STWs to cope with future growth and existing known problems.
- At the optioneering phase, a series of high-level concept designs needed to be generated quickly to allow for comparison.
- On highly congested sites, where footprint was at a premium, accurate concept designs were essential.
- While quality was the main driver, all options also required costing.

## How Aqua Consultants Used TDG

- Aqua Consultants modeled a series of different process options on a site, each with very different flow and loading considerations, in order to see the design and cost at different phases of future work.
- Working with the Transcend Design Generator (TDG), Aqua was able to model individual process elements and entire process streams with a quick turnaround (days vs. months).
- Aqua was able to easily use the output material and equipment takeoffs to automatically generate costing for each of the scenarios evaluated.

## Results of Using TDG

- TDG was instrumental in achieving a comprehensive optioneering process within a very short process for a number of large and complex sites.
- The fast turnaround allowed Aqua Consultants to investigate far more options and model interim stages to make the final recommendations far more feasible.
- The automatically generated material and equipment take offs made the pricing scope incredibly easy, removing the bulk of the work from engineers.
- TDG allowed Aqua Consultants to generate a whole concept site from just a few inputs.
- The BIM models were instrumental in how Aqua Consultants both modeled the special restrictions on site and presented the final outputs to the client.
- On average, Aqua Consultants estimates using TDG saved them 80% of the cost for generating designs and cost estimations.



“The Transcend Design Generator represents the future of capital planning and master planning efforts for WWRFs. We’re looking forward to working more closely with the Transcend team on subsequent projects.”

**- Phillip Dand, Sr. Engineer  
Aqua Consultants**



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