



Transcend

**Automating Stanley
Consultants conceptual
design process for a
1MGD WRRF**

The Challenge

- The Pinewood Sanitary District (PSD) suffers from high volumes of Inflow and Infiltration (I&I) at their 1MGD wastewater resource recovery facility. Additionally, there were concerns about the performance of their Influent Screens and Aerobic Digester.
- The intermittent I&I issues caused periodic violations of the facilities existing NPDES Permit.
- Working with the Transcend Design Generator (TDG), Stanley Consultants was able to automatically ascertain the appropriate sizing requirements for a new Flow Equalization Basin and an expansion to the existing Aerobic Digester.
- Additionally, Stanley Consultants was able to confirm that other treatment process units were adequately designed and sized.

How Stanley Consultants Used TDG

- Stanley Consultants ran TDG to automatically assess three process scenarios:
 - 250,000 GPD (Current Average Day Operation)
 - 600,000 GPD (Plant Permitted Capacity)
 - 1,200,000 GPD (High I&I Flow Condition)
- Ultimately, the Plant Permitted Capacity is what was required to meet current Arizona regulatory requirements.
- It was determined that the high I&I flow had to be neutralized using a Flow Equalization Basin (Bolted Steel, Glass Lined Tank) adequately sized to mitigate the periodic plant process upsets.

Results of Using TDG

- Using TDG compressed the timeframe to run three separate process calculations from 5 days to 1 day, thereby saving the client money and completing the project on time.
- Because of the success of using TDG on this project, Stanley Consultants is currently using the software on additional projects for other clients.
- The TDG outputs supported Stanley Consultants rigorous standards for high quality engineering documentation and yielded a branded and formatted professional design package.



“The Transcend Team has been a pleasure to work with throughout the life of this project. I see several more opportunities to utilize this software to meet the needs of our important clients and continue to complete projects within our promised timeframes and within the budgets that our clients have to work with.”

- Dave Prinzhorn, Sr. Engineer - Stanley Consultants

