

Kinmel Bay WwTW - Improving Waste Water Treatment Works capacity with a minimal build solution – saving cost and reducing carbon

The Kinmel Bay WwTW catchment is experiencing significant growth, requiring an increase in treatment capacity: upsizing the inlet works, bringing the offline PST and ASP lane back into service and additional final settlement capacity. The works also experiences a highly variable tourist load. The design was refined through enhanced modelling work and challenging existing specifications.



Carbon reduction in design:

- The piling mat was designed to be re-used permanently as part of the foundation for the new raised inlet works.
- The void under the screens channels was used as the MCC Room, negating the need for an additional kiosk – **saving £38k and 21t CO₂e.**
- The excavated soil from the new final settlement tank was re-used to provide sloped access around the inlet works, negating the need to provide handrailing.
- Reduced the size of the balance tank, which allowed it to be built in-line, without the need for inter-stage pumping or an up-sized back up generator – **a total saving of £247k and 61t CO₂e.**
- The inlet works structure design was refined using a physical hydraulic model which led to reduced channel lengths and smaller penstocks.

The ability to re-use existing assets resulted in reductions in carbon due to a minimal build solution. This project was an excellent example of 'Build less' and 'Build Clever'.