

Drumaroad Water Treatment Works

'Major Project' improving water supply for NI Water customers

£13m

/ Project value

May 2018

/ The project commenced

September 2021

/ The project was completed

Considered one of the largest improvement projects carried out for Northern Ireland Water (NI Water) in recent years, the Drumaroad Water Treatment Works scheme provides benefits for over a quarter of Northern Ireland's population. The project involved the design and delivery of a new Clear Water Basin (CWB), including a new interstage pump station, valve chamber and connection pipework. With a capacity of 36 million litres, the water storage tank is equivalent to 14 Olympic sized swimming pools and serves the existing Drumaroad and Chapel Hill water pumping stations.

The brief

Drumaroad Water Treatment Plant treats water from Silent Valley reservoir which delivers around 140 million litres of water every day to over 200,000 homes in Northern Ireland. This £13m NEC3 Option C water treatment facility was constructed to improve the security of water supplies to NI Water customers.



"We are thrilled to have helped deliver this vital improvement scheme for our long-standing client NI Water and to have supported the security of essential water supplies to the residents of County Down and Belfast. This improvement project was another example of our growing civil engineering portfolio in this sector and another successful collaboration."

PJ McCaffery
Contracts Director at GRAHAM

"I would like to thank the NI Water project team, including contractor GRAHAM and RPS, who provided project management and technical support. The team successfully completed the new tank, while ensuring our customer's water supply wasn't interrupted during construction. This major project will provide improved local water supply for many years to come."

Mark Richardson
NI Water Project Manager

The challenges

Planned shutdowns were carried out to allow the connection of new pipe work and electrical and communications networks to the existing systems prior to commissioning. This included a planned MCC shut down and pipe connection to be carried out to reduce the disruption to the NI Water network and use of NI Water resources. In addition, the earthworks for this project involved excavation for the structure and moving excavated material from the Drumaroad Water Treatment site to the neighbouring landowner's field. The delivery of this project also required considerable Temporary Works design, installation and management.

The solution

To ensure minimal disruption to NI Water customers, all shutdowns were planned with a minimum eight weeks' notice and followed up by two weeks' notice with the submission of Planned Works Notification. NI Water operational and customer requirements were achieved by ensuring the network was able to supply the customers from other water treatment works during the shutdowns. Early contractor involvement was carried out to maximise value in delivering the employers requirements. Following a land deal with a local landowner, all soil was kept on site and returned when works were completed. As less transport was required to remove and return the material this method helped reduce the site's carbon footprint. In the early design stages of the project an assessment of the temporary works requirements was carried out to determine how the existing services, access roads and Water Treatment Works could remain operational during the construction process.

Outputs & Benefits

- Cost Saving:** Reduced cost by retaining all excavated material on site, stored on adjacent landowner's field, allowing return of all material as backfill after construction.
- Stakeholder Liaison:** A Stakeholder Management Plan (SMP) was developed at the start of the project identifying key stakeholders and plans to consult each agency.
- Community Engagement:** Letter drops and community engagement with residents to make them aware of the increased number of HGV movements on the road.
- Economic Sustainability:** All suppliers for concrete, aggregate and building materials were local suppliers.
- Integration with Suppliers:** Early consultation with suppliers to confirm material conformance, availability and price to ensure an efficient procurement process.
- Efficiency:** Excavated and crushed 10,000T of rock on site that could be used for foundation fill and backfill purposes, reducing costs.



For more information on how we're delivering lasting impact:

+44 (0) 28 9268 9500

info@graham.co.uk

graham.co.uk

GRAHAM