



# CASE STUDY

BUOYANCY CONTROL

Saving  
**96%**  
Embodied  
Carbon

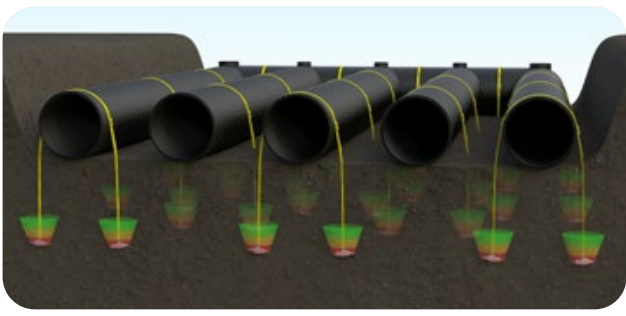


LOW CARBON ANCHORING SOLUTION **LCAS**

Howden Storage Tank, Goole, Yorkshire - UK

## OVERVIEW

Due to increasing volumes of storm and wastewater impacting Yorkshire Water’s existing assets, a new storage tank was required to increase capacity at the wastewater treatment works. Aligning with commitments to reducing Embodied Carbon, constructing the tank entirely from concrete was not the preferred option, and HDPE pipes were chosen which also served to increase capacity. The 4,300m<sup>3</sup> tank was designed using 2.7m diameter pipes arranged in 8 parallel rows, within a footprint of 25m by 108m. Soil investigations identified potential groundwater at 4m below ground level, matching the tanks base. Although a concrete slab above the pipes had originally been suggested to counteract uplift, following calculations Platipus was chosen as a Low Carbon Anchoring Solution (LCAS®).



PDEA®, LCAS®, ARGS® and ARVS® are Registered Trademarks of Platipus Anchors. Platipus Anchors technology is protected by International Patents, Trademarks and Registered Copyright.

# SOLUTION

The site was prepared by excavating to a depth of 4m and installing a 150mm unreinforced blinding layer, through which the anchors were subsequently driven. The Platipus Pipe Kit was positioned at 4m intervals, with a 2m offset applied to each of the 8 rows of the tank. A total of 444 anchors were installed, all of which were proof tested to a load of 60kN to ensure stability. Once the anchor installation was complete, the pipes were delivered, positioned in place, and immediately secured using Platipus Webbing Strap to prevent potential uplift. Following

this the site was backfilled to finalise the installation process.

By using the **Platipus Solution only 4.2 tonnes of Embodied Carbon** were emitted. Comparatively, the originally proposed concrete slab would have emitted 107.3 tonnes of Embodied Carbon. An overall **saving of 103.2 tonnes of CO<sub>2</sub>e, or 96%**, was achieved using the Platipus Low Carbon Anchoring Solution (LCAS®).



PDEA®, LCAS®, ARGS® and ARVS® are Registered Trademarks of Platipus Anchors. Platipus Anchors technology is protected by International Patents, Trademarks and Registered Copyright.