



NOTTINGHAM ROAD

CASE STUDY

Project

Nottingham Road

Location

Derby

Contractor

Whitehouse Construction

Products

- ArborRaft

Polypipe Civils & Green Urbanisation [Polypipe CGU] has provided product for a series of new tree pits in Chaddesden, Derby.

With an initial design provided by Derby City Council and their nominated contractor, Whitehouse Construction, the Polypipe CGU team were able to review the design considerations and address the tree pit functionality, blending urban landscape architecture and urban design considerations.

Matt Bradley, Specification Sales Manager at Polypipe CGU, said “we initially reviewed the existing site conditions, including the utilities and drainage parameters, and Derby City Council advised us of the tree species they wanted to use, so we then reviewed the urban constraints, considering the root space growth, canopy spread and pedestrian and vehicle clearance.

“Building on this preparatory work, we were able to provide a full system design solution, utilising Permavoid ArborRaft structural soil cells suspended below the pavement structure, protecting the tree roots from compressive loads. This allows the tree roots to grow in a well irrigated, aerated environment, with the added benefit of allowing the pavement structure to be built directly above the ArborRaft system.”

“There were some existing services within the tree pit evacuations on this project which opens a world of potential challenges, emphasising the need for no disruption,” Daniel Athey, Whitehouse Construction’s

Contract Manager, said, "but, because the product allowed us to undertake the excavation, backfill and lay the crate system over the top, we didn't have to worry about these too much, and that was fundamentally the reason that we chose to use this product. It certainly proved to be the correct decision and everything from the initial order placing all the way through to delivery was great.

"We had a good half day on site with the Polypipe CGU team, who came along to give us a toolbox talk and explain the products and how it works, so before we even started installing it, we were confident and happy knowing what we were going to do.

"In terms of the installation itself, it was so quick and easy to the point where you're thinking 'this should be harder than this' but it's not – it clicks together and does exactly what it's supposed to do which, in this case, was particularly useful because the tree pits were being installed in a small district centre car park, which has an effect on the local businesses. The speed of installation was a game-changer, because parking spaces are a premium; we had to reduce access while we were carrying out the work, but we were able to give the public the car parking spaces back quickly and ended up making some time up on what we expected so it was very effective.

"At Whitehouse, we're also aiming to half our carbon emissions by 2030 and be entirely net zero by 2050 so we're always striving to use sustainable materials where possible. The fact we've been able to do that by using the Polypipe CGU cells to plant trees efficiently and give back to the environment adds huge value," Daniel concluded.

"This was a great project to be involved with because tree pits bring a whole host of benefits for both the environment and the local community. Not only can they help to reduce urban flooding and pollution in waterways but, through urban cooling, they can help provide shade and transpire water, lowering surrounding air temperatures and helping to combat the heat island effect," Matt said.

"With biodiversity support, the tree pits can host pollinator-friendly plants and microhabitats for urban wildlife. Plus, the trees will capture pollutants like nitrogen dioxide from vehicles and produce oxygen improving air quality for residents, therefore increasing urban and social well-being."

