

Millmarsh Service Reservoir Nr Shepton Mallet, Somerset

Kier Services

BIG Challenge 2015 submission category: Community engagement

Project overview

Millmarsh Reservoir is a new 10.8 mega-litre potable water service reservoir constructed on an agricultural site on behalf of Bristol Water.

The reservoir was a cast in-situ reinforced concrete structure with dimensions approximately 40m x 70m x 5m high. Located on a sloping field the reservoir was founded between 1 and 2m below ground level with the excavated material used to form the embankment around the reservoir.

Attached to the reinforced concrete structure was a 16m x 10m valve house. The site works also included the construction of a stone faced communications building, installation of a 30m high communications mast, Truckpave access road and site drainage.

Two large soakaways were constructed; a deep crate type soakaway (540m²) to provide discharge capacity for the reservoir and underslab drainage and a larger shallow soakaway (580m²) for the site



Photo: Millmarsh bug hotel

drainage. The project value was £2.2m and was delivered on budget in 53 weeks.

What were the biodiversity conditions on site, prior to the enhancement?

The land had been previously used for cattle grazing and consisted of improved grassland of poor quality, with hedgerow along two of the four sides of the site.

Several mature trees were within the hedgerow. The site had very poor species diversity.

Were there any specific conditions that led to you carrying out this work?

Client requirements meant that additional hedgerow and trees were to be planted up completion of the project.

A planting guide was provided. There was also a requirement to grass the site with a standard easy maintenance grass seed.

What were the biodiversity measures taken?

With a surplus of wooden pallets during construction it was decided that building bug hotels on site would be beneficial to local wildlife and help reduce waste on site.

Rather than just stacking pallets and filling with left over bits, it was decided to build them in a three stage mound to make them more aesthetic and in-keeping with the final design of the site.

Site staff gave their time to help put hotels together and carefully saved any suitable materials that were damaged or left-over during the construction phase.

With permission from the client, Bristol Water, Kier made contact with the local school at Leigh-on-Mendip to see if they would like to visit the site post construction and help to complete the bug hotels.

The school were delighted to be invited and throughout the day all of the pupils visited the new reservoir. The children filled the stacks of wooden pallets with sticks, grass, leaves and left over construction materials such as damaged bricks.

This helped fulfil part of the schools environment week, learning about habitats and 'mini-beasts' as well as providing stakeholder engagement.

It is now hoped that the school will visit the site each year during environment week to see how the habitat



Photo: Millmarsh bug hotel

has developed and what creatures are using the homes they have created.

The client was extremely pleased with the inclusion of the bug hotels and with the strong links now made with the school. It is hoped that additional work may also be done with the school to support them with environmental initiatives.

How would you best describe the project?

An enhancement.

Further information

Early planning of the ecological enhancements was essential; permission had to be sought from the client for changing the scope of works and planned maintenance program.

It was a good opportunity for site staff to engage with the

environmental aspects of the project and many of them volunteered their own time to help complete the enhancement work.

Basic surveys of the site and camera traps have shown that several species of birds and butterflies as well as amphibians and small mammals are frequently using the site.

The client, Bristol Water, have a Biodiversity Rating Tool which allows them to give a value to each of their operational sites and helps them monitor levels of environmental improvements.

The tool showed that for this site an increase of 7.2 was provided, which equates to a significant increase in biodiversity and far exceeds their expectations.

Further monitoring of the site will take place by both the client and Kier to ensure the enhancements are still adding value and are being maintained.

What was your personal motivation for carrying out the enhancement?

The site team was well established and had worked together on many environmentally challenging projects, including in National Parks. Millmarsh provided few environmental challenges and the team felt that they could produce significant enhancements at very little cost, demonstrating what could be done to both the client and senior management.