

THE SOUTHERN STRATEGIC SUPPORT MAIN (SSSM) – ONE TREE PER CHILD NORTH SOMERSET/SEDGEMOOR KIER UTILITIES AND BRISTOL WATER

BIG Biodiversity Challenge Award Category: Community Engagement

Project overview

The Southern Strategic Support Main is a 31km water pipeline between Barrow and Cheddar reservoirs which will improve the water supply to 280,000 houses and support the growing local population. The pipeline passes through open countryside and towns and villages providing the opportunity for both biodiversity enhancement and community engagement.

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

The EIA surveys undertaken in 2016 found 25 protected areas, 5 priority/BAP habitats, 200 hedges, 400 standard trees (some TPO protected), 18 ponds with great crested newts, 17 badgers setts within 30m, 3 bat roosts, 1 barn owl roost, 1 kingfisher population, 24 locations of dormice, 400 bee orchids, small population of cave spiders, a small population of reptiles and 10 invasive species. The pipeline was designed to avoid as many of these as possible.

What were the reasons behind this project?

The SSSM is the largest single pipe line scheme ever undertaken by Bristol Water. There was a shared goal by client, contractor and local stake holders (district councils, local conservation groups) to leave a legacy by providing funding and staff time that were outside contract requirements. Local wildlife and habitats were protected as much as possible within the design and environmental management plan. It was our goal to achieve a biodiversity net gain using the biodiversity index calculator generated between Bristol Water and Ecosulis that would be beneficial.



Areas planted (in green) in relation to SSSM route (red line)

What were the biodiversity measures taken?

It is part of our planning conditions for SSSM to replant trees that we have removed. Kier and Bristol Water have worked with Bristol City Council to go above and beyond the compulsory replanting plan and turn it into a community engagement and wildlife conservation project. Bristol City Council has a scheme called One Tree per Child which organises children from inner city schools to come into the countryside and plant trees. The children benefit from a forestry session and getting their hands dirty in a natural environment they do not have easy access to within Bristol.

The planting design created an 8m woodland buffer between two fragmented woodland areas as well as a new woodland in a field, adjacent to the pipeline. The tree mix was native species including oak, hazel, hawthorn, blackthorn, field maple, elder, lime and dog rose. There is a larger proportion of hazel to benefit the local dormice. The woodland buffer will grow and merge with the existing hedge creating a larger habitat for the existing dormouse population recorded there.

Approximately 1060 trees (over 1000 more than required under planning) were planted over five site visits from 10 Bristolian city schools. Kier have facilitated the progress of this project by consulting with the landowner, providing welfare units, access and volunteers to help plant the trees with the students. The SSSM Kier team also provided the protective fencing and wood mulch to ensure successful establishment and has been monitoring the woodlands since their creation in November 2017. The One Tree per Child project aims to bring nature into inner city children's lives and build upon relationships of local organisations and the community they work with and around. It also aims to improve the quality and connectivity of habitats along the SSSM route for all wildlife.

Further information

The SSSM pipeline has been a unique project with many environmental constraints. It has been challenging to manage these constraints but the Kier team has worked alongside nature, moving where possible and protecting ecological features.



Environmental advisor, Grace Burdge helping some of the children plant their trees



Small woodland creation in unused field

Further information continued:

In addition to the challenges presented, the SSSM team has still managed to undertake enhancements and community engagement. The woodland plantation has taken species-poor agricultural land and provided a biodiversity net gain, according to the biodiversity index calculator developed by Bristol Water and Ecosulis, that will be long lasting and beneficial to the local wildlife identified at the EIA planning stage, including dormice and great crested newts. It also compliments the woodland creation action within Avon Biodiversity Action Plan. The involvement of children gave them a wonderful opportunity to explore and enjoy the outdoors, some of them never seeing farm animals before, and being inspired to look after the natural environment. The landowner was very happy to accept the woodland creation, it had been their intention to do something for the local wildlife but with Kiers direction and organisation of the project it came together quicker than imagined. The woodland creation will be maintained by Kier and the landowner until it reaches maturity. It is everyone's intention to make this a joint legacy between the local community and the SSSM team, many of which are local to the area as well.

Project Team

- Kier Utilities Environment team; Jamie Edmonds, Grace Burdge and Rozy Gray
- Bristol Water Environmental Manager; Natasha Clarke
- North Somerset Council, Bristol City Council
- The Woodland Trust , all schools and the landowner involved with the project

What was the motivation for carrying out the enhancement?

The motivation behind the one tree per child project was to create a permanent and valuable biodiversity net gain. The woodland habitat will provide shelter and breeding ground for many protected and common species and will reconnect woodlands where populations may have become isolated. The project was also created to give inner city children a chance to get closer to nature and learn the importance of conservation.



Environmental Manager, Jamie Edmonds adding tree guards to the newly planted saplings.



Last school visit planting tree saplings