



Caritas Plymouth Environment Case Study

ST JOSEPH'S PRIMARY SCHOOL, EXMOUTH

In 2018 a rainwater collection tank was installed at St Joseph's Primary School, Exmouth as part of a £4 million flood reduction scheme. The tank stores rainwater which is then used to flush the toilets. It halves the amount of tap water used on site and reduces the pressure on the sewerage network.

The installation is part of South West Water's (SWW) WaterShed Exmouth project, which aims to reduce the amount of storm water which overflows into the sensitive River Exe estuary as well as reducing flooding and pollution in the town.

The pioneering pilot project has the dual benefit of providing savings on the water bill, providing storm attenuation and helping the local area become more resilient to climate change. A 'smart' rainwater management system was also installed at the school to monitor fluid volumes and control the tank.

As part of the project, pupils at the school designed their own rainwater re-use features which are now installed outside their classrooms. These gather water from the roof, into the gutters and down to the classroom patios where one waters plants, another is shaped like a cloud which demonstrates the water as raindrops and another collates the amount of water so children can use it as part of their science data. The children enjoyed the workshops looking at issues of flooding and drought and have loved seeing the winning rainwater harvesting features designs in action.

The school has integrated the new system within the curriculum, particularly PSHE and Science, so the pupils can see first hand the benefits of rainwater harvesting and management and how small differences (such as using drainpipes to irrigate plants) can make a positive impact. The system also allows the pupils to monitor water usage and parents have been engaged. The system also highlights the benefits the school can bring to the wider community by being part of local flood management systems.

The school has also developed a Forest School which has enabled all the children to take part in outdoor learning. As well as developing key skills, Forest School has helped the children to explore issues building on Laudato Si' work carried out in class lessons, such as the importance of water recycling; how our use of water compares with the situation in developing countries and creating opportunities for insects and wildlife to flourish.

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The benefits include

- ◇ A wider benefit to the local community from reduced flood risk
- ◇ An increased awareness of environmental issues in the school and the impact that rainwater harvesting can have. This new system has continually reinforced messages about water conservation and recycling.
- ◇ There has been a reduced cost to the school in water bills
- ◇ The project has been of huge benefit to teaching PSHE and Science and has been used as a focus to reinforce the Laudato Si' work.

What were the challenges?

- ◇ The time needed to engage in the planning and building phases.
- ◇ The teething problems of the new system (including times when there was no water to flush the toilets and a sink hole appeared in the playground!). All these issues have since been resolved.
- ◇ There are additional administration requirements around changing filters and other administrative roles for the school.

Could this be easily replicated?

The cost of the tank (picture right) was borne by the local water company and would be expensive to install. However, the projects designed by the pupils around using water from the drainpipes are quite low cost and could be implemented whenever a drainpipe was being replaced

The underground tanks capture rainwater which is then used to flush the school's loos - the school has saved 33,600 litres of water in just seven weeks!



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