



## CALSTOCK FLOOD DEFENCE & HABITAT CREATION SCHEME

The Environment Agency instructed Land & Water to carry out a range of flood defence works including the construction of three new flood embankments and topping up existing flood defences. Secondary works also included improving of an existing outfall, new culvert and ditch works and additional drainage. In order to increase biodiversity in the area, Land & Water also constructed a new intertidal habitat area.

### Project Delivery

- Due to heavy rainfall pausing the commencement of works, Land & Water was able to reconsider the geotechnical design of the flood bunds and its heavy carbon footprint and associated costs to negate the need for using cement to stabilise existing material on site. This provided a significant environmental benefit to the project including 7,350 tonnes of carbon being saved and a 72% reduction in whole life carbon.
- A risk based approach was used to manage a new design. The methodology required a significant amount of low cost and rapid, in-situ soil testing to establish soil types on site. A soil management plan was designed with the design cycle being closed by a daily testing regime.
- Works included 50m of drainage pipe being laid, 601m of walkways and paths being laid for the local public, a 451m dry stone wall being laid and 25,000m of earthworks modelling.
- Land & Water will be revisiting the site in 2021/22 to see the breach created within the flood defence to complete the intertidal habitat. This is part of the Environment Agency's phase two target.



### Project Particulars

- Client: Environment Agency
- September 2019 - September 2020



PROJECT  
VALUE:

**£1.3 million**

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[www.land-water.co.uk](http://www.land-water.co.uk)

Contact us on 0844 225 1958