



CASE STUDY

Water, Drainage and Flood Risk Management

Project

Flood Alleviation Scheme - Business Case and Detailed Design

Client

West Berkshire Council (WBC)

Location

Winterbourne, West Berkshire

Ardent's in-house experts created a full feasibility study, detailed hydraulic modelling and the preliminary design of a flood alleviation scheme for this village, which had a significant history of flooding over several years from a combination of surface water, fluvial and groundwater sources.

Our insights supported a successful funding application to the Environment Agency (EA) for detailed design and construction. The scheme obtained funding with the support of residents and the local MP. It comprised the realignment of 380m of the Winterbourne main river, combined with the construction of a 300m flood defence bund and associated control structure. This bund formed a flood storage reservoir with a capacity of circa 22,000m³.

We took the scheme through planning, undertook the detailed design, and worked with and managed other members of the planning and design teams. Despite significant rainfall over several winters, there has been no property flooding within Winterbourne since construction was completed in 2016.

Our Role

- Undertook consultations about the scheme with key stakeholders, including WBC, local residents (via public exhibitions), the EA, Natural England, England Heritage and landowners
- Designed a cost-effective scheme to achieve funding from the EA
- Identified engineering options with the utility company to avoiding significant diversion costs
- Sourced suitable material on-site from a borrow pit to construct the bund
- Delivered a flood scheme in an ecologically sensitive chalk stream area and secured EA approvals
- Ensured the scheme met its social, economic and environmental aims, as well as achieving a net environmental gain

Client Benefits

- Designed and delivered a flood scheme which has continued to protect 20 residential properties in the village
- Reduced costs through the early identification of risks and adapted the design accordingly
- Achieved full funding from the Department for Environment, Food & Rural Affairs for the design and construction costs
- Owned the project, from commencement of design to completion on-site, providing valuable continuity for the client and key stakeholders
- Ensured the availability of the same specialist team throughout the lifecycle of project to deliver a professional and consistent approach