

Reducing flood risk in Wendlebury

January 2019

Project background

We have been investigating options to mitigate the risk of flooding from the Wendlebury Brook in Wendlebury.

The local community are very aware of flood risk in the village and have experienced 8 flood events in the last 17 years. Accounting for the estimated effects of climate change, there are 34 properties at risk in a 1% annual exceedance probability (AEP) event:

- 13 properties in very significant risk (>5% AEP);
- 12 properties in significant risk (>1.33%AEP);
- 9 properties in moderate risk (>0.5%AEP).

The project area is about 2 miles southwest of Bicester, within the authority Cherwell District Council. The Lead Local Flood Authority is Oxfordshire County Council.

Project results

Excluding the possibility for Property Level Resilience (PLR), our investigations demonstrated that there is no scheme for Wendlebury that is viable according to the current cost-benefit rules that we have to work within.

Option	Analysis
1. Divert Wendlebury Brook New culvert and 1km bypass channel (not viable)	A site visit found that diverting Wendlebury Brook to the east, around the village, is not viable as the land behind properties at 'North End' of the village is considerably higher (2-3m) than the watercourse, and a large cut would be required to create a bypass channel.
2. Upstream Flood Storage 25,000m3 of storage upstream of A41 with 350m bund (not viable)	Two locations had potential: immediately upstream of the A41, or further upstream to the south of Little Chesterton. However, in our initial assessment the costs presented were for an embankment, which it later became clear required a more complex design. The increased cost made this option unviable.
3. Offline Flood Storage Within fields to the north of Rectory Close (not viable)	This option proposed storage to the north of Rectory Close. It offered less flood storage volume than Option 2, and is more complicated as an existing pond in the location is groundwater fed. It is therefore not viable.
4. Property Level Resilience (PLR)	PLR includes a number of mitigation measures which can be installed to a home or business, such as flood gates and air brick covers. It has merit as a reduced scope option, and it may be possible to include local flood defence measures as part of it, e.g. a garden flood wall to protect No.1-4 Waterside Cottages. This is the only cost beneficial option we identified for Wendlebury.
5. Removal of pinch points in watercourse (not viable)	This is considered unviable as there are too many structures across the watercourse, including numerous access points to properties.

customer service line
03708 506 506

incident hotline
0800 80 70 60

floodline
03459 88 11 88

Maps

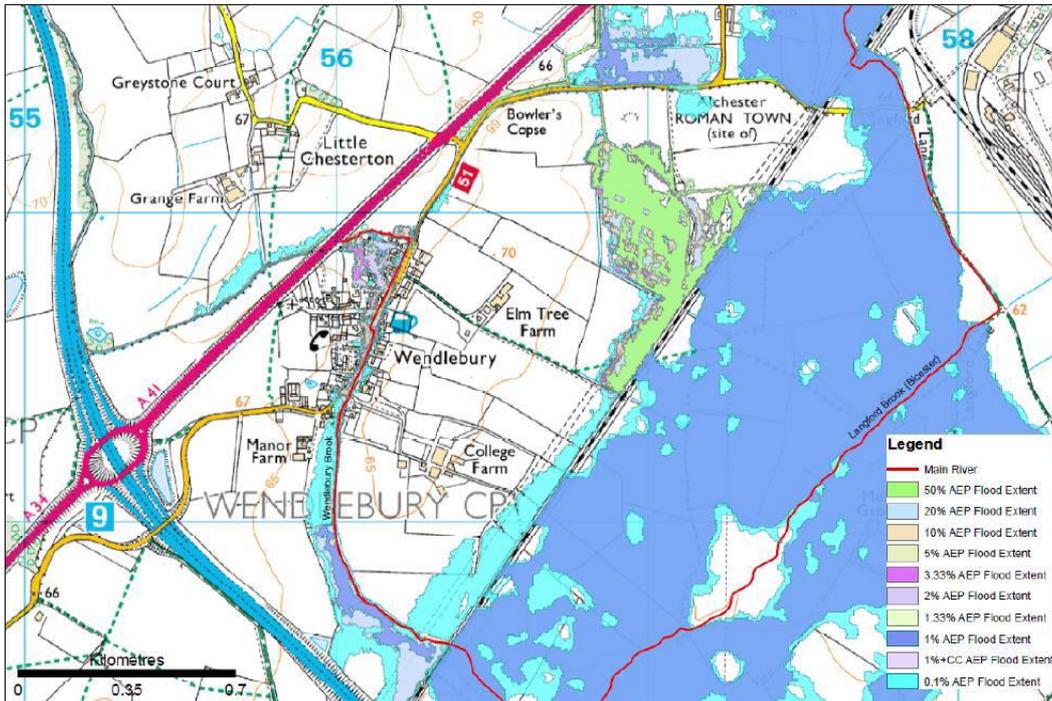


Figure 1 - Wendlebury Flood Map Contains OS data © Crown copyright and database right (2015)

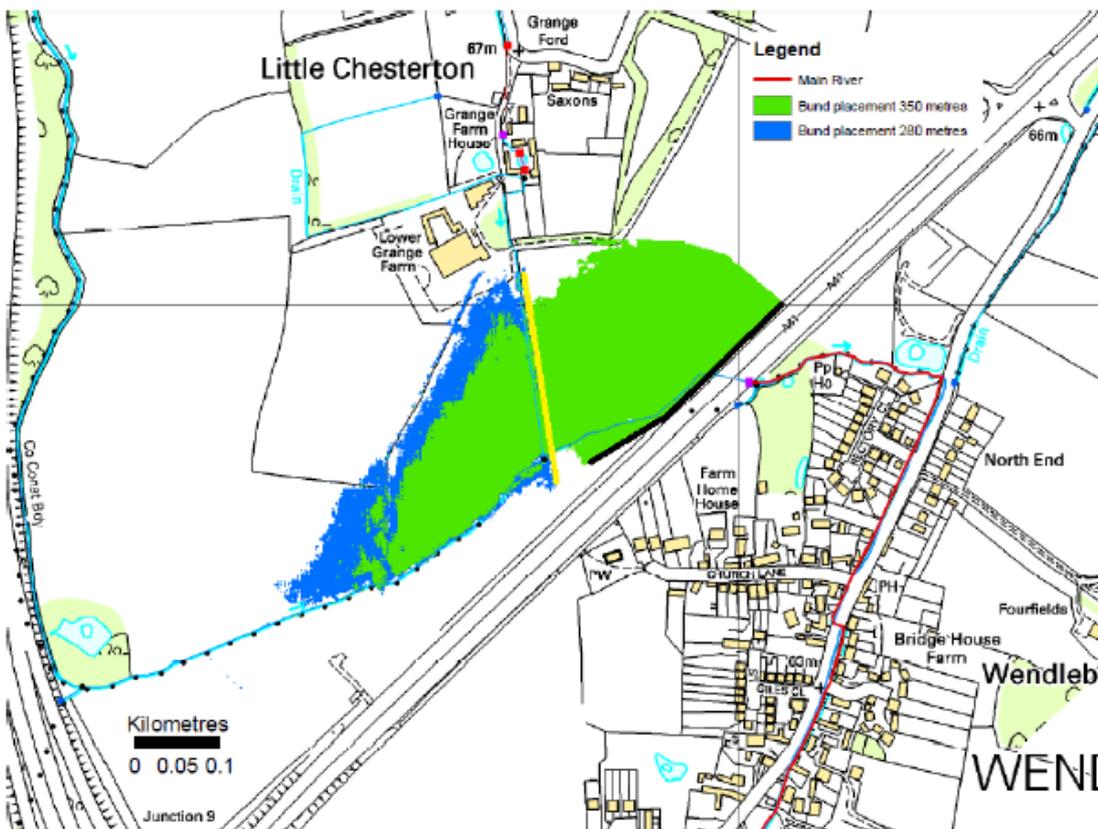


Figure 2 – Wendlebury proposed Flood Storage Area location

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