Comments by HR Wallingford

We have referred to the *Smallfield flood alleviation scheme options and appraisal report* as ‘the report’ in these comments.

The report considers the whole of Smallfield. These comments refer to a site known as Park Chesterfield on Chapel Road, Smallfield, where residential development is proposed.

HR Wallingford has been involved assessing flood risk at Park Chesterfield and has carried out hydraulic flood modelling in order to estimate flood extents and depths at the site. The flood extents predicted by the HR Wallingford modelling are very similar to those shown in the report for the Park Chesterfield site: in both cases the western part of the site is shown as flooded and the eastern part is shown as not flooded.

The flood depths on the Park Chesterfield site predicted by the HR Wallingford modelling are less than 0.2 metres for all floods modelled (up to a 100-year flood with climate change and a 1,000 year flood without climate change). No flood depths are given in the report but the information will be available from the modelling by Atkins.

The modelling by HR Wallingford shows more flow passing from the Weatherhill Stream across the fields to the east of the village (i.e. to the east of Meadow View and Field Walk). This flow joins the flow that comes from the east and flows into Smallfield near Plough Lane.

The proposed flood storage area on Weatherhill Stream (Option 2) would reduce flood risk to any residential development on the Park Chesterfield site. The benefits in the report are based on existing development but there would be additional benefit to the village for new developments.

Property flood resilience (PFR) is considered as a possible method for protecting properties that cannot be protected by the flood alleviation scheme. In the case of new development at Park Chesterfield, it would be possible to including flood resilience in the design of any new residential properties.

As the depth of flooding is less than 200 mm, raising the floor levels to 300 mm above the ground surface would prevent flood damage to the properties even if the flood alleviation scheme is not built. However, if the flood alleviation scheme is built the floors could be lower and the risk of properties being surrounded by shallow flood water would reduce.