

**FAIRFORD
NEIGHBOURHOOD
PLAN
HYDROLOGICAL
STUDY**

Why?

The previous Plan was rejected by the Examiner for lack of “hard evidence” of flood risk.

So ...

**We engaged independent
consultants, WRA,
to provide this “evidence”.**

What?

WRA drilled two boreholes and monitored them and old wells in Fairford. They analysed the results against 50

**years of groundwater
levels at Ampney Crucis.**

Results

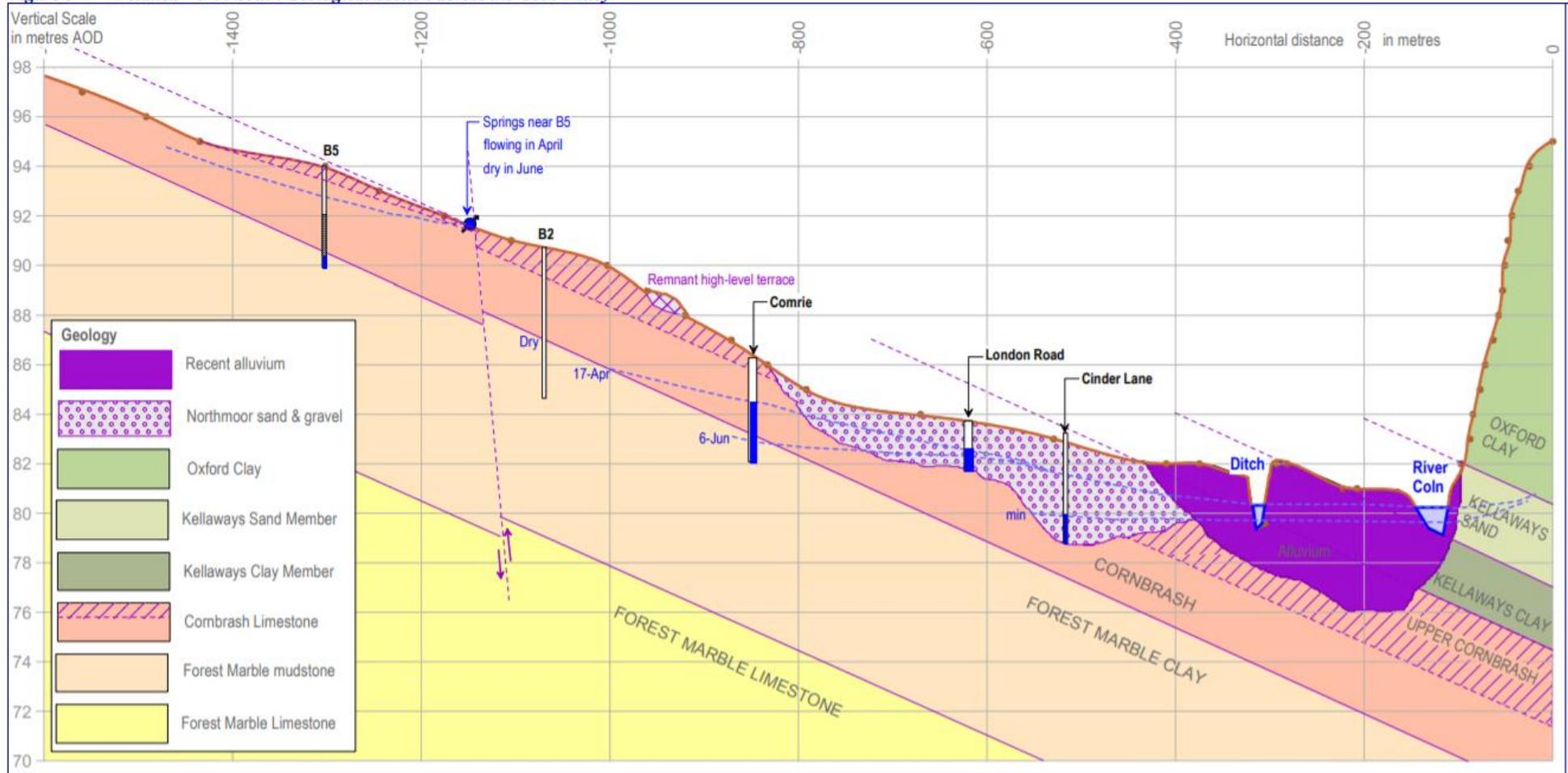
**A report detailing where it
is safe to build in Fairford
and where it is too risky.**

Drilling the borehole at Lovers' Lane

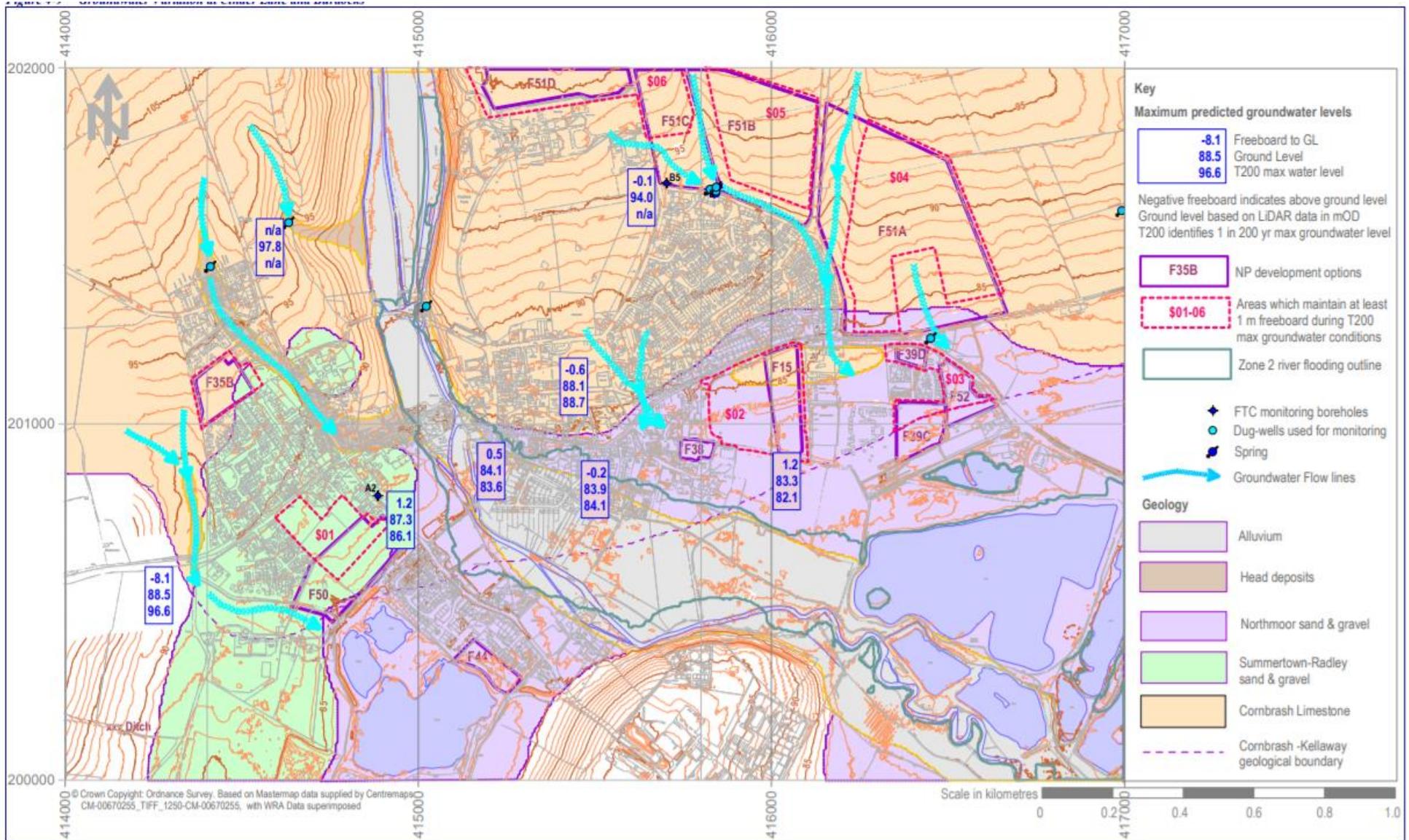


THE GEOLOGY OF FAIRFORD

Figure 3-1 Detailed North-South Geological Section across the Coln Valley



GROUNDWATER FLOOD RISK



What to look for

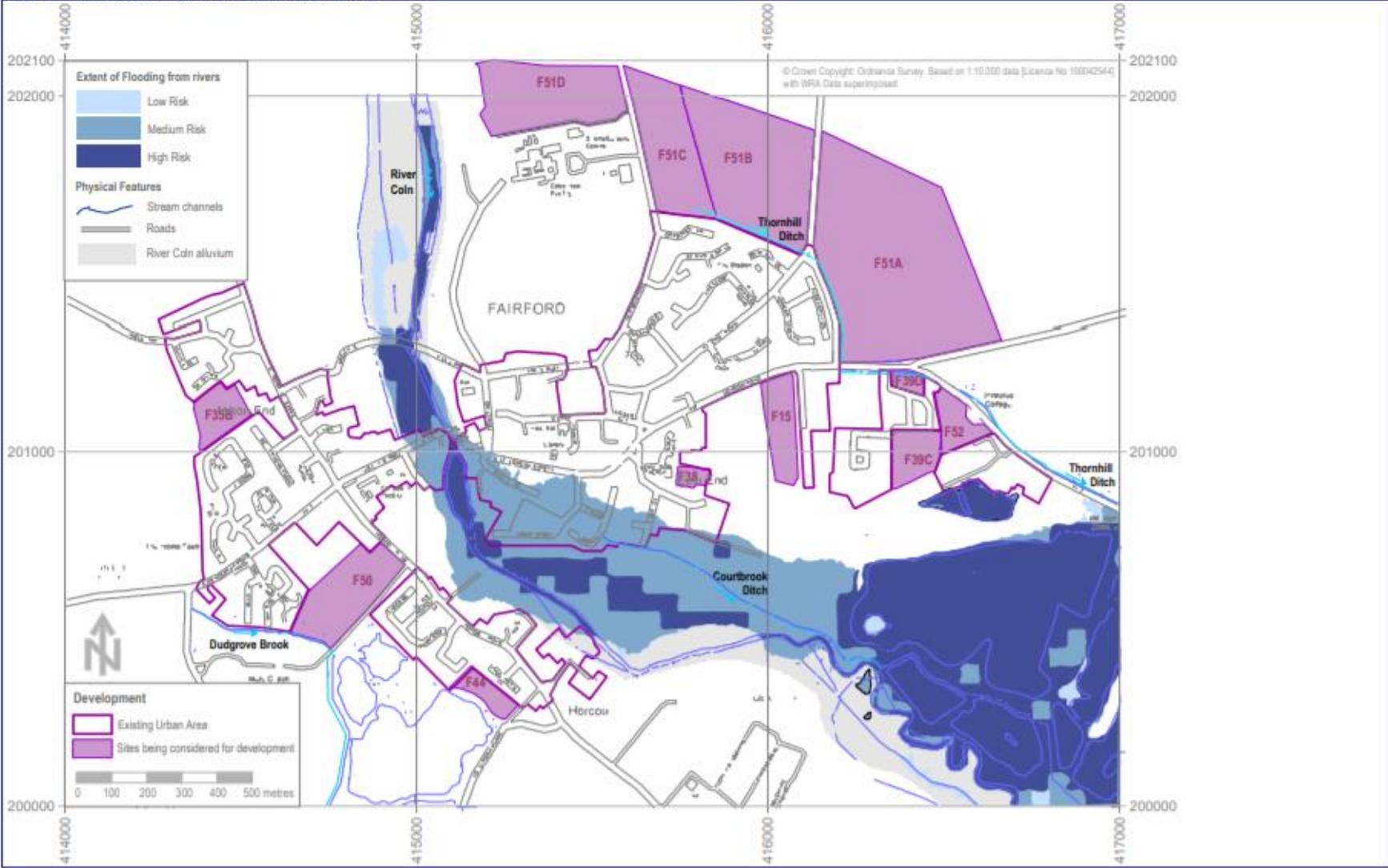
Red outline areas low risk.

**South of Cornbrash-Kellaway
boundary is high risk.**

**Groundwater Flow Lines also
high risk.**

SURFACE WATER FLOOD RISK

Figure 5-1 Extent of Flood Risk from Rivers in Fairford Town Area



What to look for

Dark blue is high risk.

**Court Brook and River Coln
are main risk.**

**Thornhill Ditch and Dudgrove
Brook are also a risk.**

Work done to reduce risk ...

**Environment Agency work on
River Coln after 2007 flood.**

**Thames Water work on
highways flood risk by
clearing drains in East End.**

HYDROLOGICAL STUDY CONCLUSIONS

- 1. Fairford has experienced significant fluvial flooding from the River Coln and Court Brook on a number of occasions and with a changing climate it is likely that such events will become more common. There have also been floods from surface runoff and from an overwhelmed sewer system.**
- 2. As part of future planning, developers would fund independent studies to ascertain what additional sewerage works would be required to support proposed new development. This would take the form of scoping studies to identify the work required and cost of improvement which would then be undertaken by Thames Water.**
- 3. There is no scope for SuDS drainage using infiltration in low-lying areas associated with the Coln alluvial corridor due to frequent high**

groundwater levels. In such conditions, attenuation storage ponds provided as a SuDS solution can only take the form of shallow depressions which would require significant land.

- 4. Ideally development would be directed away from the Coln and Court Brook corridor.**
- 5. CIRIA guidelines emphasise that effective SuDS infiltration schemes would ensure that groundwater levels are at least 1 m below the bottom of soakaways. For sensitive sites at the preliminary planning stage, developers would provide a flood risk assessment with infiltration tests to confirm the suitability or otherwise of that site.**