Dear Susan Halliwell

Application Oxfordshire MW.0028/18: Construction of two-stage channel etc from Land from North of Botley Road to Kennington

Thank you for consulting on the above application. My letter of 11 July 2017 re- pre-app PRE.047/17 raised fifteen planning related issues, many still current. Active discussion with the applicant has therefore continued, including a draft of this letter, with the welcome involvement of Roger Bettes, hydraulic engineer. At this stage issues relevant to South Oxford include the following:

Average values for proposed flood heights
By averaging the ‘difference’ columns in the Hydraulic Modelling Report (Section 5, Tables 32–3) it is possible to get an average value of -8.5cm for flood levels as proposed across the Oxford flood plain, i.e. a drop of slightly under 3½ inches. Locally at Weirs Lane estate the drop is similar, -8.7cm average over the range of return periods quoted. For the Hinksey Park area the average varies, at Node 13 average -9.3cm; Node EW1.013 average -29.5cm.

Area of SOFAG Flood Plan (2012) - Proposed flood heights relative to ground floors
We are grateful to the Scheme for providing additional flood level information closest to sensitive neighbourhoods, one which is proposed for embanked protection, the other not, allowing the spectrum of risk to be compared. Weirs Lane estate has suffered ‘sewage flooding’ with as yet no internal domestic flooding (confirmed 2016, R Price). At Vicarage Lane and Vicarage Road homes have suffered repeated internal flooding which has been controlled since 2009 by a diesel pump running continuously through flood events. In attached Charts 1 and 2 the proposed 20-year return level has been highlighted with a wide continuous purple line for the purpose of comparison, the 20-year return representing a slightly worse flood than the five experienced this century.

Land east of Abingdon Road
Linking with the proposed embanking at Weirs Lane, embanking of a further 10 ha of flood plain east of Abingdon Road is confirmed in the application. While the volume of flood storage removed by this embanking is not separately quantified, I am grateful for a written estimate of 100,000 cubic metres from the Environment Agency (IM, 22/09/2017 15:27), being 28.4% of the overall Scheme displacement of 352,575 cubic metres.

Compensatory flood storage in this application
The Flood Risk Assessment notes that compensatory storage ‘is usually expected on a level for level basis (gold standard), however if this is not achievable then a volume for volume check is undertaken (silver). If this is not feasible to achieve then a flood mapping review can be used (bronze) (FRA 6.3.3, the ‘metallic’ metaphors coming from the Environment Agency
(VJ, meeting of 25 May 2018). No engineering authority is quoted for the above statement, and nothing to indicate why one standard is preferred over any other - is gold standard perhaps significantly more effective than silver at volume compensation, and by how much? The application says: *Applying a level for level comparison to volumes lost to the floodplain and excavation of the scheme is not possible as the majority of the areas removed are above the excavation levels.* This would seem inevitable if the ‘excavation levels’ were not chosen with level for level compensation in mind (FRA 6.3.3).

**Discussion**

Having represented this community in a voluntary capacity for ten years, I welcome even the modest reduction in average flood heights. The SOFAG Flood Plan (2012) represents the interests of local communities as perceived at date of its preparation. From the applicant’s data it would appear that the ratio of New Hinksey homes to Weirs Lane homes flooded in a modelled 20-year event is around 2:1. Whether or not this is statistically significant would be for the planning authority to judge, but it might be felt that, given the cost of proposed embanking, both financial and environmental in the collateral requirement for compensatory storage, the balance of protection between these neighbourhoods, both being within the SOFAG plan area, needs to be argued by the applicant.

Some clarity is possible from the planning code as follows:

In the area along the Abingdon Road adjoining the Weirs Lane estate, under National Planning Policy Framework the embanking can be seen as occupying land that may be required for current and future flood management, in which case planning authorities are encouraged to safeguard such land (NPPF 100 bullet 3). Where wider sustainable objectives override any safeguarding, national guidance refers to strategic guidance, and in the present case the SFRAs of all three interested local authorities require flood plain developments to provide compensatory flood storage volume. The EA’s estimate (above) of the scale of flood plain to be enclosed illustrates that realigning the defence to run along the east side of the Abingdon Road must represent a seven to eight figure saving in the cost of creating such compensatory volume, in addition to the lessening of the environmental impact on the west flood plain as proposed.

It was noted above that the applicant regards the gold standard compensatory storage as not possible at Oxford. Perhaps we must accept this, but on 30 July 2017 the Scheme planner reported to Oxford Area Flood Partnership (OAFP, being local authorities and utilities) that the Scheme was aiming at level for level compensation. So what happened? Was the OAFP statement a misunderstanding and gold standard had never in fact been possible? Or has the topography changed since by the equivalent of 141 Olympic swimming pools, an earthquake maybe? Or was the aim correct and the volume is still there, but perhaps no longer ‘possible’ for a contractual reason? Using the Environment Agency’s own LiDAR data it is possible to demonstrate that level for level volume exists in landfill in various places on the Oxford Flood plain, indeed at Kendall’s Copse the Scheme’s proposed excavation will create gold standard volume compensation which is not quantified in FRA 6.3.3.

**Clarity of the sequential test on present proposal**

The FRA outlines the sequential testing of alternative locations for the Scheme other than on the Oxford flood plain, and reasonably finds none. It refers also to ES Appendix Q that considered the Scheme without the excavated channel. Appendix Q refers to the function of the channel as volume storage, and while it models the downstream effect of removing the channel, it does not offer a third option with the volume storage located elsewhere, and specifically storage at a height where it is level for level with the scheme’s displacement. The planning authority might think this surprising,
given that a version of Appendix Q was issued in April 2017, three months before the Scheme reported to OAFP that it was `aiming' for level for level compensation.

Through interaction with the EA we have sought a reference to audited examples of alleviation schemes where `gold' and `silver' standard compensatory volumes have been modelled comparatively. We have seen that publicly available LiDAR data can identify the local height of landfill, and in seeking verification of the applicant’s sequential test the LPA could reasonably ask for the submitted topographical surveys to substantiate the statement that level for level compensation is not available. The LPA could also reasonably ask for a breakdown of the 352,575 cubic metres of displacement expressed in conventional 200mm slices as provided recently by the developer of the Seacourt Park and Ride (Oxford City Application 16/02745/CT3). Such clarification would give the applicant an opportunity to weigh the issues arising from level for level excavation against the present impact on the ecology and agricultural economy of the west flood plain and on public access thereto, a case that will no doubt be made to you by respective interests.

The planning authority might therefore reasonably conclude that:
1. Choice of embanking of Weirs Lane over Vicarage Road is arbitrary;
2. Embanking at Abingdon Road is not compliant with NPPF and the local SFRAs;
3. Compensatory volume does not accord with the Scheme’s aim on 30 July 2017;
4. The effectiveness and relative environmental impact of alternative forms of compensation are not argued rigorously.

If on these grounds the authority was resolved to refuse this application, it could do so confident that Oxford University’s cash contribution has tilted the balance in the direction of a collaboration between themselves and the Agency (on the model of the Hoe Valley Scheme in Woking) to provide an environmentally sound gold-standard flood alleviation scheme befitting the status of this city.

On a personal note, whatever planning decision arises, these issues will have been worth raising if the Environment Agency were to resolve never again to embark on an urban flood alleviation scheme without first carrying out a rigorous audit of landfill available for `gold standard' volume compensation, and designing accordingly from the outset, if necessary negotiating a relaxation of Landfill Tax in this connection.

Yours sincerely

Brian Durham
South Oxford Flood Action Group

cc Roger Bettess
    David Pepper
    Robert Price

Page 4 below: Charts 1 and 2 comparing floor heights of 228 homes in New Hinksey and 185 homes in Weirs Lane estate against modelled flood levels as proposed.
Chart 1: Lake Street-Vicarage Road neighbourhood:
Entry threshold levels (Environment Agency 2004)
plotted against OFAS 2018 modelled baseline and proposed flood levels

1st Threshold level (front door)
- 75-year baseline
  Node EW1.016
- 75-year do min
  Node 13
- 75-year FAS both nodes
- 20-year baseline
  Node EW1.016
- 20-year do min
  Node 13
- 20-year FAS both nodes
- 5-year baseline
  Node EW1.016
- 5-year do min
  Node 13
- 5-year FAS both nodes

Chart 2: Weirs Lane Estate
Entry Threshold Levels (Environment Agency 2004)
plotted against OFAS 2018 modelled baseline and proposed flood levels at Node 46j.040T

1st THL
- Weirs Lane U/S (46j.040T) 5yr do-
  min
- Weirs Lane U/S (46j.040T) 5yr FAS
- 20yr do-min
- 20yr FAS
- 75yr do-min
- 75yr FAS