

Dear Ms Bartholomew,

We, the Oxford Flood Alliance, are writing with regard to the planning application: 15/03703/FUL - Construction of a culvert under the railway between Hinskey Drain and Hinskey Stream. We understand you are the case officer for this application. We have reviewed in detail the Flood Risk Assessment and GRIP3 report filed with the application and have identified a number of serious inconsistencies in the documents, which leave us unable to determine whether the flood risk created by raising the railway has been sufficiently mitigated. We have discussed these concerns with the Environment Agency: all our reservations remain. We understand that the Environment Agency has requested that Network Rail provide a revised FRA document. From the documents currently in the public domain it is not possible to establish whether the mitigation is adequate or not. In our view any revised FRA should deal with the points below as well as any separate points the Environment Agency may raise.

Our specific concerns are:

The data in Tables 3 and 4 of the FRA appear to be incompatible. Table 3 shows 0.38m of water on the track just north of Abingdon Bridge for a 1:20 flood at its present elevation. Once the track is raised 0.4m a 1:20 flood results in 0.11m of flood depth on the track. This would mean the flood depth is $0.4 + 0.11 = 0.51\text{m}$ compared to the baseline of 0.38m, i.e. an increase of 0.13m. This appears inconsistent with the data in Table 4 which suggests that flood depths west of the railway are raised only 0.02m in a 1:20 event. The fact that measurements given in the two tables are from different locations might account for some difference, but a difference of 0.11m seems very unlikely. It is critical that accurate data is provided clearly showing water depths in the area before and after the works.

Para 5.4.1 of GRIP3 gives an invert AOD for the new culvert (simulation 1) as 54.125m. Based on the dimensions of the culvert in the planning application and the 0.7m of ballast required as a minimum on top we calculate that the track levels above the new culvert would have to be around AOD 56.925m. But para 5.4.2 of GRIP3 says the track level is AOD 56.30m. This cannot be correct as it would not allow sufficient headroom for the culvert. Appendix G to the GRIP3 report was not supplied as part of the planning application, but we obtained a copy from Network Rail (NR). This shows the elevation of the track over the new culvert to be between 56.8m (north) and 56.5m (south). It is not possible to determine with confidence from this conflicting information the level of the upstream invert of the new culvert - which is critical to the modelling.

Appendix G of the GRIP3 report includes a level for a 1:100 flood event 'based on an interpolation of data sourced from LiDaR mapping undertaken by Fugro.' This shows that the railway track, once raised, would not flood even in a 1:100 year event. This is inconsistent with the statement in the planning application that protection is only afforded up to a 1:20 event. If the track does not flood during a 1:20 event it is critical that the planning authority and the public are able to

understand at what point the track is over-topped. If a flood event has to reach the magnitude of a 1:30 or 1:50 event for the railway to flood there would be serious consequences for areas west of the railway.

If this is the true scenario a property level analysis needs to be carried out for Kennington: the FRA does not say that this has been done. Modelling results are not presented for anything between 1 in 20 and 1 in 75 year return periods, but while we understand such intermediate periods are not standard practice they are of real importance here.

Nor are results given for 1 in 100 \pm climate change, but they should be.

It is unclear from the reports what assumptions have been made about the current state of the existing culverts and streams in the project area. Fowles underbridge and the loop stream going north and connecting to Redbridge Stream are currently heavily silted and overgrown. We have had separate correspondence with NR about this and have been assured that maintenance work will be undertaken this year. If the modelling assumes these assets are functioning fully the FRA should comment on this and provide a statement about the maintenance work required to make reality fit the model. Satisfactory completion of all work required to return the assets to a state which matches the assumptions in the model, and then to keep them like that, should be a condition of planning permission.

The maximum depth shown on the flood maps in the FRA is ">1m". As it is expressed only as ">1m" it is not possible to know the actual picture in areas so affected. The maps should show gradations, in appropriate bands, for depths >1m, e.g. 1.1m, 1.2m and so on.

After many hours of poring over those documents we are unable to determine whether the mitigation proposed is adequate. The reports contain too many inconsistencies and there are too many gaps. The fact that some figures are AOD, and some are not, compounds the problem. None of the appendices to GRIP3 were filed with the application.

All this is significant firstly in terms of flood risk from the raised track, and secondly has knock-on implications for the Oxford Flood Alleviation Scheme (OFAS). On the first, an incorrect decision could have very serious consequences for properties nearby, especially in South Hinksey, New Hinksey and Kennington; it is not impossible that the Botley Road area could be affected. On the second, if the NR modelling is incorrect the modelling of the OFAS options starts from a false premise. There must be a clear and evident commitment to getting this present decision right, or public confidence in OFAS would be undermined.

While we are not opposed in principle to this present project it is critical for Oxford that the FRA is fit for purpose so it as clear as possible beforehand that flood risk to property and roads will not be increased.

We understand that at present this application is due to be determined by 22 March 2016. We believe Network Rail should be asked to resubmit revised documents and the public, the Environment Agency and others concerned be given adequate time to review these. Unless NR can, in such adequate time, provide documentation which is consistent, coherent and clear, and which demonstrates the modelling has been done correctly we strongly urge that this application should be refused.

Please would you bring our concerns to the attention of the relevant Planning Committee as soon as possible. Please too would you acknowledge receipt of this email. Thank you.

As time is quite short, we're also emailing this direct to each councillor on the West Area planning committee.

Yours sincerely,

Simon Collings, Nick Hills, John Mastroddi, Adrian Porter and Peter Rawcliffe -
Oxford Flood Alliance steering group.

26 February 2016