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13 April 2011

Our Ref: WE01386 Environment Agency 2011 04 11 Out CLR Fluvial FRA Review

Dear Sarah,

**Witney, Cogges Link Road
Fluvial FRA and Flood Plain Extents**

Please find enclosed our review of the Fluvial FRA produced by Jacob's on behalf of Oxfordshire County Council in support of the Cogges Link Road scheme. We have produced this on behalf of one of the local land owners significantly affected by the proposed road and would request that you take account of the content of our review in your assessment of the Jacob's Report.

Key to our review is concern that the modelling undertaken by Jacob's is fundamentally flawed, not in the manner in which the modelling itself has been undertaken, but in the way the base evidence of the 2007 flood event in particular has been recorded and assessed and how the model has then been calibrated to these incorrect observations. In particular we are concerned that there are reports of minimal or no flooding in the Country Park, when the photographic evidence of the flooding at its peak clearly shows a significant flow of water across the Country Park.

In addition, there is flooding to the Cogges residential area and in the vicinity of the Cogges Museum car park, which are not identified as being a result of the flow in the River Windrush. We would challenge that position on the basis that even if the water that flooded these areas came from the Madley Brook, as asserted by Jacob's, it is highly likely that this is also as a result of the flood levels in the River Windrush itself, and therefore is directly related to the River Windrush.

We are also of the view, based upon evidence provided by local residents that the full extent of flooding in the area is not apparent just from the photographs presented. A significant area of the River Windrush floodplain was and is covered by grass, which at the time of the July 2007 floods was long (up to 2 feet high), and this 'masked' significant areas of water ponding and flowing within the area. All of this adds up to a significant concern that the flood modelling for the Cogges Link Road is not robust, and that given the significant risk to life and property associated with a future flood event the modelling should be strongly challenged.

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We also have concerns over the modelled flood height in the area downstream of Bridge Street. This is of importance as it represents the last major constriction on the river before the area of the proposed CLR. It is also the most thoroughly observed and surveyed location providing the opportunity to accurately calibrate the model.

At Section 5.2 of their report Jacobs have used data supplied by the EA to calibrate their modelled flood event. The data supplied by the EA takes the form of measurements and pictures. The data provided can be split between photographs taken during the flood and photographs taken some time later. Jacobs have listed nine data points at paragraph 5.2.1 of their report. There is a clear miscorrelation between the measurements taken at the time of the flood (points 4,3,1,5) and measurements taken later (2,7,6). When calibrating the model considerable weight has been given to the estimated flood levels taken after the event over those measurements taken at the time of the flood.

Fortunately there is enough information in the data supplied by the EA to directly compare the 'wet' and 'dry' photographs. 'Dry' 2 should be compared with 'wet' 3. The location of 3 is misplaced in the Appendix and is much closer to 2. The end of the wing wall above the surveyor's head in 2 can also be seen in 3 at the bottom right of the picture. Please note the black metal railing, white flag pole and grey sign posts. It can be seen that the water level has reached the base of the short blue and green sign in 3 that is visible in 2 above, right and behind the surveyor. The reading in 2 (79.890mOD) is clearly wrong and should be discarded.

The same surveyor can be seen in dry 6 identifying a point(80.090mOD) considerably below the soffit of the Aquarius Bridge. This should be compared to wet 5. In 5 water can be seen flowing out of the river onto the road and is recorded as 80.500mOD. This measurement correlates well with the photograph from the Witney floods gallery of the upstream soffit of the Aquarius bridge during the flood showing a clearance of no more than 150-200mm. 7 should be compared with 7A which produces a 680mm difference.

In respect of the measurements used for the modelling, it should be noted that the higher levels to which we are making reference are those seen when the river was actually in flood. The lower levels are those recorded once the event was over with no water present.

We consider that it is of utmost importance that the extent and level of the flooding is accurately represented in the modelling, and believe that any differences should be clearly explained, and backed by clear hydraulic modelling. At the Aquarius bridge, the difference in recorded levels is significant between the upstream and downstream soffits (between 400 and 500mm), and the reason for this needs to be set out. If it can not be explained in the model, then the higher level shown in the actual photograph of the flood event should be used as the calibration level for the model.

We understand that the Environment Agency will be giving the Fluvial FRA by Jacob's a very close scrutiny, and we wish to assist with this process, not only because we consider that it is an incorrect report supporting the wrong scheme, but also as local residents and landowners. If the Council are successful in delivering the scheme, we do not want to suffer from an increase in flood risk and extent because this report does not model the flood plain accurately. The worrying issue is that the S105 flood map appears to better model the flood event than the new Jacob's work, and that can not be right.

We are still reviewing the flood modelling work and will almost certainly provide additional information on the matter. However, as we are aware that you are currently in the process of responding to the Council on the Jacobs Report, we considered that it was essential that we bring these concerns to your attention now.

In order to further assist, our Client Mr James Mawle has provided a Witness Statement in respect of his direct observations of the flooding when he visited the site during the peak flood event. We have attached this Statement for your information.

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We trust that the attached documents assists with your review, and provides further insight to the 2007 flood event, recorded by those most closely affected. We will provide our further reports to you, for your information and consideration, as they are completed. Should you require further clarification or information please do not hesitate to contact either Iain McNeill (details below) or Zeean Brydon on 0119 929 2244.

Yours sincerely
For and on Behalf of Clarke Bond (South West) Limited



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Enc Clarke Bond Technical Note dated 11 04 2011
James Mawle Witness Statement dated 13 04 2011