

**From:** [REDACTED]  
**To:** [REDACTED]  
**Subject:** FW: A47 Modelling - LLFA Comments  
**Date:** 22 March 2022 17:33:26  
**Attachments:** [image001.jpg](#)  
[image002.jpg](#)  
[image003.png](#)  
[image004.jpg](#)

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Another email in case it helps.

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**From:** Hilary Ellis  
**Sent:** 18 March 2021 17:08  
**To:** 'Vivian, Richard' [REDACTED]  
**Cc:** Joely Norris [REDACTED]; Craig Campbell  
[REDACTED]; Pickering, Jack [REDACTED]  
**Subject:** RE: A47 Modelling - LLFA Comments

Good afternoon Richard,

Thank you for sharing this. Based on the plan, given the increased depths are almost entirely <0.2 m across the floodplain, we wouldn't raise an objection.

Kind regards,

**Hilary Ellis**

Principal Sustainable Drainage Officer & Flood Risk Contract Manager  
Flood Risk & Biodiversity Team  
[REDACTED]

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**From:** Vivian, Richard [REDACTED] **Sent:** 10 March 2021 11:26  
**To:** Hilary Ellis [REDACTED]  
**Cc:** Joely Norris [REDACTED]; Craig Campbell  
[REDACTED]; Pickering, Jack [REDACTED]  
**Subject:** RE: A47 Modelling - LLFA Comments

Hi Hilary,

Please see attached for updated detriment maps for the A47 Wansford scheme. The 10% AEP event does increase flood depths across the Wittering Brook floodplain; however, only to a maximum depth of 0.2m. With that being said, the detriment maps also show betterment in areas across the floodplain to a maximum depth of 0.2m. This is likely to be due to variations in the model mesh which have been generated from LiDAR. It's important to note the large increases in flood depths along the toe of the scheme embankment are as a result of a drainage channel stitched into the LiDAR which is ultimately mis-represented in the model mesh. Flood depths along the drainage channel line are not a fair representation of detriment/betterment in the floodplain.

I hope this resolves any outstanding issues you have and please let me know if you have any further queries.

Kind Regards,

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**Richard Vivian**  
Graduate Hydrologist  
[REDACTED]  
[REDACTED]

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**From:** Pickering, Jack [REDACTED]  
**Sent:** 04 March 2021 15:53  
**To:** Ellis Hilary [REDACTED]  
**Cc:** Joely Norris [REDACTED]; Craig Campbell [REDACTED]; Vivian, Richard [REDACTED]  
**Subject:** RE: A47 Modelling - LLFA Comments

Thanks Hilary,

I've asked a colleague to extract those depths now so I'll send back shortly. Do you know if the EA were reviewing the model build at all?

Kind Regards,

Jack

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**Jack Pickering C.WEM**  
Principal Consultant  
Flood and Water Management  
[REDACTED]  
[REDACTED]

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**From:** Ellis Hilary [REDACTED]  
**Sent:** 04 March 2021 14:16  
**To:** Pickering, Jack [REDACTED]  
**Cc:** Joely Norris [REDACTED]; Craig Campbell [REDACTED]  
**Subject:** A47 Modelling - LLFA Comments

Dear Jack,

We have reviewed the following documents:

- FEH Hydrological Assessment (HE551494-GTY-EWE-000-RP-LE-30002 | P01.03)
- Hydraulic Model Report (HE551494-GTY-EWE-000-RP-LE-30003 | P01.02)

Based on the above, the LLFA would not raise any objection to the preferred culvert arrangement – Option 2b. We would however request some additional information as outlined below. It is our understanding that this option consists of a 2.5 x 2.5 m concrete box culvert over a length of 60m (carriageway width). The modelling suggests that whilst the proposed A47 embankment will encroach onto the floodplain of the Wittering Brook, the need for floodplain compensation is negated by the installation of a culvert of the above dimensions (these are larger than the existing culvert). Hydraulic modelling demonstrates that during a 1% AEP plus 65% climate change event, the increase in flood depths on the floodplain are minor; however during a > 10% AEP event there appears to be quite

widespread 'detriment' across the floodplain of Wittering Brook (see below). We request details of the depth of detriment (m) so we can ascertain the impact on the floodplain in this location.



It is acknowledged that Option 2b will increase the peak flow rates into the River Nene by a negligible amount. Highways England/Sweco should consult with the Environment Agency to ensure they are satisfied the increase in flow rate will not have a detrimental impact on flood risk for the Nene.

Kind regards,

**Hilary Ellis**

Principal Sustainable Drainage Officer & Flood Risk Contract Manager

Flood Risk & Biodiversity Team



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