

**APPEAL REF: DPI/H2265/20/13 LI H2265**

**Application under section 17(3)(a) to vary the Leigh Flood Storage Area**

**Round Table Discussion**

**Tuesday 4<sup>th</sup> May 2020**

Having reviewed the submitted questions I am of the view that the questions of residents are effectively covered by 2 areas of discussion:

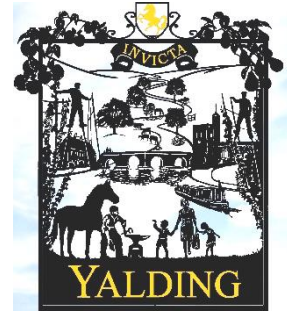
1. What is the purpose of the River Medway Flood Relief Act 1976 ?  
How do the EA Operation Procedures for the FSA reflect this ? How would the operation procedures be varied by this proposal ?  
How far are other aspects of the operating procedures a matter for the inquiry ?  
(Mrs Robertson Q1, Yalding PC Q 1)
2. What effect will the proposed amendment to the storage level at the FSA have on communities downstream of Tonbridge and Hildenborough, such as Yalding ?
  - How far does the modelling take account of effects at Yalding ?
  - How are the effects on Yalding taken into account when determining the rate of discharge ?
  - Would this be altered by the scheme before me?

(Yalding PC question 2, 3, 4.1 4.2 and 4.3, Dr Ackerman all questions, Mrs Robertson Q's 2, 3 & 4).

The questions submitted by residents are appended below. I would be grateful if the EA could review these and in particular be prepared to answer the specific questions posed on the modelling, including the inter-relationship of release from the FSA with flows on the Beult and Teise.

## RIVER MEDWAY (FLOOD RELIEF) ACT 1976

### INQUIRY INTO THE ENVIRONMENT AGENCY'S REVISED SCHEME FOR THE LEIGH FLOOD STORAGE AREA, KENT



Following the response from the Environment Agency (EA) to our submission, we have the following questions.

1. According to the EA, references in the 1976 Act to “further downstream communities” are merely recitals and they therefore do not place any obligation upon the EA to protect those communities.

**Why then in the Mott MacDonald “Leigh Barrier Operating Procedures Review” from 2005 are there several comments and recommendations regarding the Rivers Beult and Teise as well Yalding itself.?**

The document already submitted and highlighted by Dr Ackerman & Dr Schuldenfrei in Documents Received During Inquiry.

2. **Why have none of these recommendations been implemented?**
3. The EA states in their response to our submission; “Due to the complexity in forecasting the combined influence of the Rivers Beult and Teise, not just the River Medway, we do not currently have the operational tools nor confidence in the forecast models to make decisions about how to operate the FSA to further reduce risk to Yalding.”

Kent County Council (KCC) set aside £1.5m solely to look at flood mitigation for Yalding.

**Why cannot this funding be applied to provide modelling that everyone can have confidence in order for the LFSA to be used for the benefit of, not only Yalding, but all downstream communities?**

4. Having listened to the expert witnesses at the inquiry;
  - 4.1. **During the Christmas 2013 flood event, we understand that the water was entering the FSA in excess of 300 cumecs and being released at around 160 cumecs. Can the EA please advise what the release rate might have been with a bigger FSA and the impact this might have had on flood levels?**
  - 4.2. **With the possibility of more water being stored during a major flood event, how will this impact on Yalding and the ability to allow the Beult and Teise to get away?**
  - 4.3. **Will the flood water stand around for far longer and ultimately stay in people's homes for longer?**

## Questions for the Inquiry to be addressed at the roundtable discussion - Dr Ackerman

1. Does the EA have confidence in the Medway Flood Model 2015? Does this include Model 3, which covers the River Medway between Tonbridge and East Farleigh as well as the Rivers Beult and Teise?
2. Does the EA have the operational tools and/or the confidence in its forecast models to make decisions about how to operate the FSA to reduce risk to Yalding or any other communities downstream of Tonbridge and Hildenborough?
3. Does the EA have the operational tools and/or the confidence in its forecast models to make decisions about how to operate the FSA to **not increase** risk to Yalding or any other communities downstream of Tonbridge and Hildenborough?
4. If it does, why would these not be sufficient to also operate the FSA to reduce risk to Yalding and other downstream communities?
5. If not, how can the EA have confidence that the increased post-impoundment discharges – of longer duration and consisting of a greater quantity of water – that will be made possible and, in severe events, necessitated under the revised Scheme and expanded storage capacity will not increase the risk and severity of flooding to Yalding and other downstream communities?
6. If the EA does not have the operational tools and forecast models to make these judgements, does it not need to acquire these tools in order for this application to proceed?
7. How can there be sufficient confidence in the flood risk assessment supporting the application if there is no confidence in the forecast models for the impacts of operation on Yalding and elsewhere downstream ?
8. If there is sufficient confidence in such models for them to inform the flood risk assessment, then why are they insufficient to inform the operation of the structure, in order to minimise the risk to Yalding and elsewhere downstream?
9. Will the EA acknowledge that the level of the Beult at the confluence with the Medway is determined by the level of the Medway, particularly in flood conditions – i.e., that the higher the Medway the higher the mouth of the Beult, necessarily, and that any water arriving from the Beult will necessarily be added on top of the Medway's level at Yalding?
10. Does the EA recognise that this, combined with the narrowing of the floodplain just downstream of Yalding, creates a backfilling/backwater effect which extends far up the Beult and Teise in flood conditions, so that the Medway controls upstream levels on the Beult in such conditions, quite possibly as far as Stilebridge – 12 km upstream of the confluence (as noted, e.g., in the published details for the EA's Stilebridge gauging station which have been submitted as evidence [ID-14])?

11. During the 5<sup>th</sup>-7<sup>th</sup> March 2020 River Medway flood event, a Flood Warning for Yalding was issued and updated numerous times, forecasting peak flood levels approaching and then, as the event developed, exceeding the levels of the December 2019 flood – which had been the most extreme Medway flood event since December 2013 and during which the FSA was operated for 4 days and up to a level of 27.08m. Why was the FSA not used to impound any water and reduce Medway flows, thereby reducing the risk to Yalding, during the March 2020 flood?
12. If the HR Wallingford Leigh Flood Storage Area Review July 2015 (CD 1.19) found that the reduction in the level of the Medway attributable to the operation of the FSA during the December 2013 flood was greater at Yalding than at Tonbridge (Table 4.1) – 1.0m vs 0.6m, or 66.6% greater – and, further, that the additional reduction in the level of the Medway that might hypothetically have been achieved under optimal operation of the FSA would have been greater at Yalding than at Tonbridge (Table 4.2) – 0.4m vs 0.2m, or 100% greater – why does the EA continue to maintain that the impact of the FSA simply decreases as one moves downstream from it? Are there not a number of factors, which have been modelled and likely need further modelling, that would explain why the impact of the FSA at the confluence of the Medway, Teise and Beult would be increased not decreased?
13. If discharges from the expanded FSA are to be released for the protection of Tonbridge and Hildenborough only, how can the EA exclude that these discharges will coincide with peaks arriving down the Beult and Teise or other downstream tributaries, thereby directly causing the inundation of Yalding and other downstream communities and increasing the severity and duration of such flooding?
14. If there is a credible risk that the revised Scheme could increase the flood risk in Yalding in certain flood events, why did the EA not recommend to DEFRA that Yalding Parish Council and other equivalent bodies representing downstream communities that stand to be similarly substantially affected by the revised Scheme be included as interested parties and consulted on the Revised Scheme in the same way as the three parish councils with boundaries inside the FSA?
15. Could these risks to Yalding and other downstream communities be mitigated by requiring as a condition of approval of the current application that the expansion not be brought online without an obligation for the EA to operate the FSA in such a way as to minimise risk to downstream communities including Yalding both when making decisions to impound and to discharge water?

## Questions from Jane Robertson

1. Why has the EA changed the operating procedures to say 'only' Tonbridge and Hildenborough when the original Act of Parliament mandated 'and further downstream' as also important to protect. Is this not illegal or misreading of Act?
2. Why have the EA in working with Tonbridge to develop stage 2 SFRA allowed flood mitigation provided by enhanced Leigh scheme to be used to advantage development in Tonbridge that may mean operation of the enhanced barrier to be used in such a way to alter the flood plain. Is it Tonbridge swimming pool vs Yalding?
3. The modelling appears to show that Yalding may be worse with the presence of the barrier compared to the undefended case. However the modelling appears to be incredibly vague and non-specific and has not been fully explored. The EA themselves say they have a little confidence in this particular aspect of the model. Is this correct? Certainly there has been no exploration of alternative strategies to operate the barrier to consider the confluence here in Yalding. Have the defended case and enhanced defended case both been modelled? Ref Medway Catchment Study Report 5.4 p26,27, Table 7.5.
4. The proposal simply cannot go ahead under current circumstances. If the extension is to be built then must be robust procedures put in place to ensure that downstream communities are not adversely affected as an absolute minimum. Importantly the opportunity must be taken to ensure that as many people benefit as possible. This mandates through additional modelling proper understanding of how the confluence works, different operating procedures, different flood conditions and the attendant studies. Please can this be done?