

**In the matter of
River Medway (Flood Relief) Act 1976**

**Defra Ref: DPI/H2265/20/13
(Public Inquiry, Monday 26th April 2021 – 6th May 2021)**

**Re: River Medway
Flood Relief Leigh Storage Scheme**

**CLOSING STATEMENT
on behalf of the Environment Agency**

Introduction

1. As was said in Opening, the Environment Agency is seeking the Minister's approval to make a variation to the existing scheme for operating the sluice gates in the Leigh Barrier which control the use of the Leigh Flood Storage Area ("FSA"). The Revised Scheme would see the capacity of the flood storage area increased, and this will give greater flexibility to deal with the flood events that threaten to occur in this part of the River Medway.
2. Almost everyone who knows about this project can see that there is a strong public interest in allowing it to go ahead, as it will reduce the risk to more households and businesses in the downstream areas. The FSA has already helped improve the situation in and around the urban areas of Tonbridge and Hildenborough, and further downstream, which would otherwise have suffered from far more significant flooding. There is scope to do more, and we are also faced with the challenge of climate change which is forecast to bring more frequent and intense flooding to Kent, as to other parts of the UK. These are risks that this Revised Scheme can help address.

Overall legal framework and summary

3. I concentrated in Opening this case, on the language of the River Medway (Flood Relief) Act 1976 ("the 1976 Act"), under which the Leigh Barrier and the FSA were authorised. I

simply adopt and repeat what was said about the Act in paras 13 to 24 of my Opening, and to concentrate in closing in addressing the points that have arisen. There is a compelling case to vary the Scheme in the public interest.

4. We are now seeking further authorisation within the context set by that Act to allow for the storage area to be enlarged. Whilst the increase in the maximum volume is some 24%, this increase in the capacity is mainly achieved by increasing the depth of water nearer to the Barrier itself so that the extent of land that may be affected is more limited than might be expected. I shall return to the likely effects when discussing the evidence in more detail below.
5. It is still necessary to ensure that the right balance is struck. It is a matter where the public interest in allowing the Scheme to go ahead and the interests of individuals who may be adversely affected by it need to be considered. To borrow the language of compulsory purchase, and rights,¹ the strong public interest does justify the interference with the human rights of those with an interest in the land affected by the increase in capacity of the FSA (as outlined in the Application section 2). The relevant rights are those regarding the protection of property (under Article 1 of the First Protocol to the European Convention on Human Rights) and, in the case of any dwelling, Article 8 of the Convention (the right to respect for private and family life). Both of these rights are qualified rights- in that an interference will not be considered to be a breach of those rights if it is in the public interest to do so.² This project is, after all, about reducing flood risks.
6. One of the factors to take into account when considering the burden that an individual may be asked to bear in these circumstances is the potential provision of compensation. That is relevant in this case, as the 1976 Act makes provision for compensation to be paid “where

¹ See the “Guidance on Compulsory purchase process and The Crichel Down Rules” (MHCLG 2018).

² See Article 8.2 - There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others; and in A1P1: Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.

The preceding provisions shall not, however, in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties.

damage is sustained by any person” by reason of the exercise by the Authority of their powers under section 17 to this section, to operate the sluice gates to control the flow of the river (s.17(4)). It helps ensure that any landowner will not be bearing a disproportionate individual burden. The examples given by Mr Burraston and Mr Storey of their claims relating to the exceptional floods of December 2013 show the system does work. There are established procedures, familiar to surveyors who deal in this area (C.Overs evidence – if evidence is needed of standard practice). It is another example of where statute provides that works are able to go ahead in the wider public interest, even though compensation may need to be payable to any individual who is adversely affected. There is no block put on the works until this is agreed. A direct comparison can be drawn with the Environment Agency’s powers under section 165 of the Water Resources Act 1991 (WRA) to carry out flood risk management works, with the ancillary powers under section 172 WRA to enter land to do so. The related provisions of schedules 20 and 21 of the WRA 1991 include compensation provisions.

7. The Revision is needed in the form suggested, as there is no other reasonable option available to achieve these improvements. This variation is appropriate, and it does not seek to go further than is required for the purpose – it is limited to changing the capacity.
8. In increasing the capacity, additional land will be potentially affected in particular flood events. The extent to which it is affected will be infrequent, but the risk it will be needed is real. The additional area of land is required for the project has been identified by the comparative maps, between the existing level of 28.05m and 28.6m AOD.
9. It is important to identify what the possible adverse impacts can be said to be. Certain objectors consider that there is a greater interference than the Agency considers that the evidence shows, and everyone has had the opportunity to bring their own evidence forward and to ask questions about the Agency’s evidence. Some of that has been done in writing only. Some of that has been heard at this inquiry, with particular regard to the Penshurst area and, this week, the Yalding area. That is discussed in more detail below.
10. The Application has been properly made, and the required procedures in the Act have been followed. I should note that where appropriate, summaries have been used of the

representations that have been made. It is regrettable that some – such as Penshurst Estates and Mr Storey – have considered that their views have been misrepresented in the summaries. That was never the intention, and it seems to be a hazard inherent in all summaries – as anyone who has done Local Plan work will know. And, as in Local Plan work, the original is always still available. The Application for this Revised Scheme presents an objective overview of the consultation undertaken by the Environment Agency and this has been enlarged upon in Mr Overs’ proof. The Act distinguishes between the “specified interests” and the general public, and has been discussed in his evidence. He has set out the steps that have been taken, and his Appendix has a useful summary of the contacts made with the individual objectors. The summary of the contacts with the public bodies is in Ax L of the Application (and all of their representations are copied as part of the inquiry Library).

11. The question has been raised whether there are any challenges to the validity of the application. No one is now arguing that the Agency has failed to comply with the consultation requirements of the 1976 Act. This is summarised in the Application and in Charles Overs’ evidence. The appendix to his proof also shows how the Agency has engaged with the locals’ interests.
12. That was a point taken at an early stage, by some of the specified interests (as part of their written objections and then in the joint case prepared by Mr Storey) but it has been confirmed at this inquiry that they are not now taking the point. It was answered by the Agency in the Statement of Case, para 7.31 (December 2020).
13. On a legal note, the 1976 Act refers on the matter of service of documents to section 120 of the Water Resources Act 1963. Following the repeal of the 1963 Act,³ when the Water Resources Act 1991 and the Land Drainage Act 1991 were made, the similar provisions in those Acts about service being able to be made by post apply.⁴ Service will be taken to have been affected at the time at which the letter would be delivered in the ordinary course of post - unless the contrary is proved. Here, there was a difference of one day (11 June

³ By the Water Consolidation Act (Consequential Provisions) Act 1991.

⁴ Pursuant to the provisions of the Interpretation Act 1978 that (see s.17(2)(a)): “(2) Where an Act repeals and re-enacts, with or without modification, a previous enactment then, unless the contrary intention appears,—
(a) any reference in any other enactment to the enactment so repealed shall be construed as a reference to the provision re-enacted;”

receipt, not 10 June). The breach of section 17(3)(e) has been a minor one and the Environment Agency have apologised for this (see Appendix 3, SoC). However, Defra has accepted their representations and ample time has elapsed since June. As such, any delay in them receiving the notification of the Environment Agency's intention to vary the Scheme has not denied anyone the opportunity to be heard by the Minister. They have not suffered any detriment or prejudice from this delay. In addition to the consultation carried out by the Environment Agency, the planning applications afforded an opportunity for any member or the public or organisation to make a representation regarding the Revised Scheme. We can also see that there has been no issue with the notification public inquiry itself, and those who have wanted to make representations have done so.

14. The Agency has also demonstrated that they have taken reasonable steps to acquire all of the land and rights likely to be affected by the revised Scheme by agreement – and indeed they have also tried to address some of the issues that arise under the existing scheme. But we cannot force anyone's hand, and the baseline position remains that there are flood easements in place across the majority of the area and the ability to deal with any loss or damage that may occur under the compensation provisions.
15. There are no obstacles to delivering the Scheme. You can be satisfied that the resources are there to carry out the project,⁵ as well as any other necessary authorisations- in this case the three planning permissions, and its associated planning conditions are capable of being satisfied. These works will also ensure that the requirements of the Reservoirs Act 1975 (as amended) continue to be met. I simply adopt and repeat what was said about the permissions and the Reservoirs Act in paras 13 to 24 of my Opening, and we have the most relevant planning documents in the inquiry library (in particular, the Environmental Statement). This is a Scheme that will be delivered within a reasonable timescale.

⁵ Tim Connell note in response to the Inspector's questions (dated 5th May 2021, in reply to ID/24), and the Funding Note (ID/ 21).

The Revised Scheme's wording

16. The Minister does have the power to approve the scheme with or without modifications (s.17(3)(f), 1976 Act). A suitable analogy can be drawn with how other similar statutory powers to modify are handled, in that the modifications need to be ones that have been canvassed as part of the inquiry, so that they can be fairly dealt with by all concerned. Essentially, in this case, the possible modifications are the 'conditions' that have been raised by various parties.

17. The Operational Procedures are not the subject of this inquiry, for two reasons:

- a. They are not part of the existing Scheme, and they are not part of this Application to vary the Scheme;
- b. They are not a "scheme" in the form set out in Section 17 of the 1976 Act. The existing Scheme is a good example of the level of detail that it needs to contain.

They are however material considerations in this inquiry, as they show how the Scheme is applied in practice, and what the effect is on the ground. They are an inevitable part of the discussion. The Scheme does indeed set the parameters for how the Agency operates the sluice gates under its powers in s.17(1)(a) and (b).

18. But the Scheme under section 17 has to respect the wording of the 1976 Act, that it is for the Agency to decide how to operate the sluice gates to control the flow of the river downstream of the control structure "in such manner and for such periods as they think necessary or desirable" and either (a) at any time when "it appears to the Authority" necessary to prevent or alleviate or otherwise control floods or inundations caused by the overflow of the river downstream of the control structure or (b) in any other case of emergency (see s.17(2)).

19. The terms of the Revised Scheme seek to increase the storage capacity of the FSA. It is proposed to do this by increasing the maximum level to which water can be stored from 28.05m AOD to 28.60m AOD, as measured at the point identified in the existing scheme at the Leigh Barrier (shown on the plan at Ax.D, Tim Connell's evidence).

20. It is not proposed to change the other elements of the Scheme:

- a. The minimum rate of flow in the river below which the sluice gates shall not be operated will remain as stated, at 35 cubic metres a second;
 - b. The same provisions will apply to any operation in case of emergencies upstream, that the sluice gates may be operated at any time regardless of the rate of flow in the river;
 - c. The rate of flow of water which may from time to time be discharged into the River Medway downstream of the control structure will remain the same, in that it shall not exceed the maximum rate which will occur naturally in the river upstream of the control structure.
21. As a matter of theory, the Minister would have the power to alter these elements of the Scheme, using his power of modification. It is possible to imagine that altering one aspect may require tweaking another. However, it has remained a matter of theory in this case, as no one has sought to propose that type of modification.
22. The Agency has acknowledged that the Revised Scheme is dependent on the implementation of the planning permission. This is mentioned in the Statement of case, para 7.32, when the applications for planning permission were still to be determined. There is now a planning condition to that effect (condition 8), so it may be considered that it is a duplication to include it in the Revised scheme as well. But, if it is, there is no dispute about the proposed wording to include (paragraph 2 of the Revised Scheme was set out in the covering letter to the Application, dated 8 June 2020).
23. It is also proposed to install one further gauging station [described in ID/15 with its location and grid ref TQ 53241 43843], the relevance of which is discussed further below. The Agency has undertaken to install this, and it may therefore not be considered to be needed as a modification in itself.
24. The conditions that have been proposed by various objectors would be modifications, to the extent that they are able to be attached. The other ‘conditions’ requested or discussed have been:
- a. From Mr Storey’s combined case:
 - i. Gauging station at Rogues Hill
 - ii. Rogues Hill Causeway works
 - iii. Supplemental deed at Bridge House

- iv. Supplemental deed Colquhoun Cottages (Burraston)
 - v. Supplemental deed The Yews (Thompson)
- b. Traffic:
 - i. Construction traffic issue (Leigh village resident)
 - ii. Traffic Count on the causeway (Penshurst PC)
- c. Penshurst Estate
 - i. Concrete road improvements
- d. Yalding (from a number of representations)
 - i. Alteration to the operating procedures

These other ‘conditions’ requested or discussed are not necessary, for the reasons discussed and summarised below.

The evidence

25. As mentioned in Opening, the evidence that the Environment Agency has submitted, in the witness statements and in documentary form, aims to deal with all the issues that have been raised - including those relating to the public benefits involved.

- a. It has been inevitable that the time was spent at the public inquiry only on some of them, and particular attention was paid to those remaining objectors’ concerns.
- b. We hope that you will be satisfied that all the outstanding matters, which have been raised in the written and oral representations, have been addressed and that you will be able to recommend the Revised Scheme to the Minister.

26. I particularly want to address in closing:

- a. The evidence about the public interest;
- b. The evidence of the likely impacts;
- c. The overall balance.

27. The dispute about the evidence of the likely impacts has related to a few general points, and then some specific points related to different parts of the river catchment:

- a. The general points relate to
 - i. The use of the forecasting model;
 - ii. The use of the non-real time modelling of the likely flood events,
 - 1. Calibration, validation and sensitivity testing of the models;

2. The provision of a level gauging station near Rogues Hill;
3. The difference between the design flood events and the residual risk events;
4. Undefended scenario modelling / natural flooding;
5. Conclusions from the non-real time modelling.

b. The specific points relate to:

- i. Penshurst village
- ii. Penshurst Estate
- iii. The Rogues Hill causeway
- iv. Penshurst and the work of the National Flood Forum
- v. Individual houses near Penshurst
- vi. Leigh village
- vii. Hildenborough
- viii. Yalding.

28. But it is important not to lose sight of the other settlements, and the support that has been expressed – in particular the operation of the FSA to protect Tonbridge and Hildenborough, and communities downstream. There is also a reasonable limit to the contribution that the FSA can be expected to achieve the further downstream you go.

29. As mentioned in Opening, the Agency has responded to all of the objections that have been made, and that material is before the inquiry. Appendix 2 of the Environment Agency's Statement of Case lists those who objected to its application for the Revised Scheme, and the Environment Agency's written responses to them are copied in appendix 3 - and they are also copied in the Core Documents. Further objections were received after notices of the Inquiry were posted in the locality, and these can be found in the Interested Parties' Correspondence section of the Website Library. The Environment Agency has prepared and submitted written responses to those, which can also be found in the 'EA Responses to Interested Parties' section of the Website Library and now also in the RM series of document submitted during the inquiry.

The evidence about the public interest

30. Mr. Tim Connell, the Area Operations Manager for the South London, West Kent and East Sussex Area, for the Environment Agency, has given an overview of the project. This has been the product of a careful study of the catchment, and the options available, particularly given the challenges that climate change is likely to bring. The option of increasing the capacity of the FSA was first identified in the Middle Midway Strategy in 2005, and in the 2010 review. It was also one of the options considered by the Medway Flood Partnership, which was formed to develop an action plan to reduce the risk of river flooding to over 9,000 households across the Medway catchment. The project to expand this FSA is one of 54 actions within the Medway Flood Action Plan 2017 that they published. The different options to increase flood protection have been considered, in the light of all interests in the river catchment.
31. Considerable support has been expressed for the Revised Scheme, particularly by the public authorities and their elected members. The principle of increasing the FSA's capacity is supported by Kent County Council, Maidstone Borough Council, Tonbridge and Malling Council, Tunbridge Wells Council, Sevenoaks Council and the Upper Internal Drainage Board, and a number of other parties such as the Kent Flood Action Group Forum.
32. As Mr Connell has said, the FSA has been highly effective in reducing both the frequency and the severity of flooding in Tonbridge and Hildenborough since its construction and use. With the passage of time the extent and frequency of such flooding in this part of the Medway can easily be forgotten. Some flooding continues to occur, and there is a need to plan for a future where these events are likely to increase due to climate change. There are further significant benefits to the communities that can be secured by increasing the capacity of the FSA. The expansion of the Leigh FSA will ensure that further benefits can be derived, and will provide a degree of resilience to the impacts of climate change.
33. The financial, economic and social benefits of the Revised Scheme are substantial. More people, businesses and properties will be safeguarded from the considerable disruption, both personal and material, of flooding. The Revised Scheme will provide substantial extra

protection from flooding to the residents and businesses of Tonbridge,⁶ and it opens up the opportunity to facilitate construction of flood defences in Hildenborough (discussed further below).

34. These are the main justifications for this Revised Scheme, and the reason that it has been able to attract public funding (see Tim Connell's evidence, and the Strategic Outline Case CD 1.15). The funding also includes a contribution from the South East Local Enterprise Partnership which recognises the ongoing contribution the flood protection afforded by the FSA makes toward the prosperity of the downstream communities. As Tom Tugendhat MP mentioned, the ability to attract funding from a variety of sources also demonstrates the importance of the project for this area.

The evidence of the likely impacts

35. The dispute about the evidence of the likely impacts has related to a few general points, and then some specific points related to different parts of the river catchment:

General point: The use of the forecasting model.

36. We have had the detailed evidence from Mr. Andrew Irvine, who is the Lead operator for the Leigh Flood Storage Area (FSA), and a Team Leader (Partnerships and Strategic Overview) with the Environment Agency. He has described the operation of the Leigh Barrier and Flood Storage Area for the current and Revised Schemes. Whilst the use of the FSA varies - and in some years the FSA has been used several times and in other years not at all (see Ax G of the Application) - there is an operator on duty 365 days a year. The forecast model is only one of the elements that is used to decide how to operate the FSA. Decisions are guided by the use of predictions and calculated flows, as well as weather forecasts and telemetry data, and then may change as the flood event develops. This also allows flood warnings to be given, and advance warnings about the likely and the actual use of the FSA. It is notable that everyone who has discussed this at the inquiry has been complimentary of the work that is being done.

⁶ Ben Gibson has been able to put some figures on the likely differences that could be achieved on the peak flows through Tonbridge, using a representative location – his para 123 and 124.

37. We are dealing with risks, that may or may not happen, and the unpredictability of the weather. There are likely to be increased risks of greater storms and flood events due to climate change. The requirement regarding discharge rate in the Scheme accurately reflects the need to ensure that effects downstream are no worse than they would otherwise be if the river was running in an uninterrupted fashion. But there are limits to what is it reasonable to do. Whilst there can be some theoretical capacity to try to accommodate the requirements of a particular community downstream, there will not always be enough confidence in whether to do so in any particular flood event.

General point: The use of the non-real time modelling of the likely flood events.

38. Mr Ben Gibson, a Principal Analyst with Jeremy Benn Associates Limited, has described the flood risk modelling related to the Revised Scheme project. He has described how modelling works, and why reliance can be placed on it - even given the uncertainties where every flood event will be different. We can use and apply this expert evidence - as the Agency has said in its written responses, you can be satisfied that the modelling is sufficient to predict the impact of increasing the Leigh Flood Storage Area within the bounds of accepted modelling practice.

39. The objections that have been made about the modelling of the expected impact of the Revised Scheme is not supported by any technical evidence. It is disappointing that they have not understood what is being said.

40. Mr Gibson has also been involved in the modelling work in this catchment for several years now, and his evidence describes how the FRA fits with the studies that have been done on the River Medway. There are 4 models for the River Medway which were updated in 2015 as part of the Medway Catchment Mapping and Modelling Study. The Flood Risk Assessment ("FRA"), that was submitted with the planning applications, builds on this earlier work for Model 1 and is the most up to date assessment (copied at Appendix 4 of the Environment Agency's Statement of Case). When it comes to Yalding, this is also discussed in the FRA, and it takes account of Model 3 for this part of the river. He has also addressed the specific concerns that have been raised in the different areas of the catchment, and responded to the objections (notably his paras 151- 157).

Calibration, validation and sensitivity testing of the models;

41. Each of the four flood risk mapping models (Models 1-4) have been calibrated and verified during their development (see the 2015 Report, section 6, & Ax. C, CD 1.18). We are mostly concerned with Model 1. This was calibrated and verified for three historic flood events, including November 2000 and December 2013. Calibration involved comparing model predictions against observations for eight gauging sites. These gauging sites included Colliers Land Bridge and Vexour Bridge, which are key sites used by the Environment Agency to inform decisions they make regarding operation of the FSA radial gates. The gauging sites also included Penshurst gauging site located approximately 3km upstream of Rogues Hill Road. It is not uncommon for reaches of watercourse to be absent of gauging data, and the wider picture is relevant. The later modelling, including the FRA, builds on that.
42. As Ben Gibson (“BG”) said, he has done some sensitivity testing. It is also important to understand the purpose of what is being compared. BG has explained that the modelling prepared for the current and revised Schemes allows direct / like-for-like comparison to be drawn from the outputs, so that the effects of raising the maximum permitted water level at Leigh FSA can be understood.
43. Equally, Model 3 (which provides flood mapping outputs from the catchment downstream of Tonbridge, includes the River Beult and Teise and also settlements such as Collier Street and Yalding) was calibrated and verified for three historic flood events, including November 2000 and December 2013. Calibration involved comparing model predictions against observations for twelve gauging sites. These gauging sites included two sites at Yalding and the Stilebridge and Stonebridge gauge sites on the River Beult and River Teise, respectively.

The provision of a level gauging station near Rogues Hill;

44. The Agency’s suggested provision of a level gauging station near Rogues Hill (ID/15) will inform the understanding of non-real time modelling flooding, and facilitate the arbitration of any compensation claim. It is being proposed on the basis that more information is

good. But it is not essential. Furthermore, the operational model used by Mr Irvine's team does not need it, and it would not provide useable data in time for them to use.

45. It is being provided in response to the concerns expressed that the Agency has not measured the water level in the FSA and so does not allegedly understand the effect of the FSA on Penshurst (see Storey objection, points 2.1-2.5). This is also the reason for its proposed location, away from the influence of the bridge and causeway.

46. It was only during the inquiry that others have raised the idea of understanding the effect of the FSA on the road, rather than their homes. This is discussed below

The difference between the design flood events and the residual risk events;

47. We also need to be clear about the risks we are assessing. This is discussed in the BG proof, and also in the FRA. The main focus should be on the design events, as set out in Appendix A and B.

48. But every event is different, and there is a residual risk event – where the combination of factors may mean that the volume of water for that storm is in excess of the equivalent design flood event. This is discussed in para 5.3.1 of the FRA, as well as in BG's proof. The design event modelling prepared to inform the assessment of changes in flood risk at Leigh FSA has involved consideration of single-peaked flood hydrographs, as is typical for design event modelling of low probability/large magnitude events. But as it is plausible that events with different characteristics (e.g. events with multiple peaks or larger flood volumes) could occur, the impact of such events has also been considered. This is analysed further in the BG evidence - as the remoter 'residual risk'. But it has been taken into account.

Undefended scenario modelling

49. I need to mention this as there has been some unfair criticism made. It is a small part of the evidence, as we are concentrating on the Revised Scheme, and its comparison with the Existing Scheme. But it is useful to consider the undefended situation as well (as Appendix 3A does do), to provide context to influence of existing scheme, and to help with understanding the natural flooding originating from the catchment upstream.

50. If you are an expert, it is standard practice that a model of the undefended scenario will exclude all the defences and it is understood that they will be. That is not deceit but what such modelling does. Also, it is not a cunning trick by the Agency's consultants to somehow reduce the impact of flooding in Penshurst. The 2015 modelling report which is within the inquiry core documents explains that the undefended case modelling, prepared for the 2015 project, removed both Leigh FSA embankment and radial gates, and the flood defences located in Edenbridge. Anyone other than a layman would know what to look for.

Conclusions from the non-real time modelling

51. The modelling, in brief, demonstrates that:

- With increases in distance upstream from the radial gates, changes in peak flood depths and extents lessen. Changes in flood risk for the flood design events are not predicted upstream of the floodplain south of Well Place Farm. This is approximately 1km downstream of Rogues Hill, Penshurst.
- Flooding in “residual risk” events (but not the design events) may increase peak flood depths as far upstream as the eastern or downstream side of the Rogues Hill road but it will not increase flood depths upstream of Rogues Hill (e.g. Bridge House). Further, the increase in peak flood depths in residual risk events is in areas of the floodplain already at risk of flooding. Residual risks are identified for events that have a relatively low probability of occurring;
- The peak flood levels at Rogues Hill coincide with the peak flow rates from upstream, rather than the time of peak water level stored at the FSA. This means that the peak of flooding at Rogues Hill results from the natural flood response from upstream, rather than from operation of the FSA. The data from Mr Storey has been used, along with photographs provided by Mr Storey as part of his objection (Interested Parties Correspondence - RM002), to review when peak levels at Rogues Hill in Penshurst arose in comparison with when peak impounding levels of the FSA were reached (Irvine).

- Backwater effects (being the backing up of water behind the FSA) may prolong the drainage of land upstream of the radial gates. However, the further upstream one gets from the FSA, the additional length of time that water takes to drain away lessens (see BG evidence).

Specific points:

Specific point: Penshurst village. (Parish Council and others)

52. The effect of the Revised Scheme ends just downstream of Well Place Farm. As a result, homes in Penshurst will not be additionally affected by the Revised Scheme.
53. There have been a series of individual properties, to which a written response has been given. There will be no greater effect this far upstream. Several properties have no evidence of a history of flooding. Those properties where there is an existing easement are already covered by the provisions of the 1976 Act, and should further flooding occur they can seek compensation. Mr Rees for the Parish Council expressed the alarm that had been caused by looking at the plan in ax.6 of the Statement of Case. That was not the intention - the blue line is for one particular flood event, the worse case so to speak, of the 1 in 100 year event plus a 20% allowance for climate change. As was confirmed, this is intended to illustrate the same line⁷ as shown in the FRA Appendices (A.3 and B.3). It is the FRA plans which show the comparative extent and the depth for this flood event. I hope that provides some reassurance that is the correct plan, even if the flood event shown is unwelcome news.

Specific point: Penshurst Estate.

54. We have the written objection letters from the Penshurst Estate, by which we have been referring to Lord De L'Isle, the Trustees of the Penshurst Settled Lands Trust and the Executors of the Right Honourable William Philip Viscount De L'Isle's estate. The Penshurst Estate have requested that their solicitor's letters of 7 July 2020 and 8 March

⁷ A comment has been made, anecdotally, that the width of the blue biro marker line used by Daclour Maclaren on Ax.6 may mislead - illustrative in that sense. A common pitfall when using plans at a scale.

2021 are taken into account by the Inspector and Secretary of State in their determination of the Application. These are two documents with the general ref RM 003. The Agency has given an initial written response (as included in Ax 3 of the Statement of Case), and this has been supported by the proofs of evidence.

55. The Penshurst Estate was concerned that:

- a. in their view, the Application material contained significant technical errors and omissions;
- b. the potential impact of the revised Scheme on the operation of the Estate had been significantly understated; and
- c. No mitigation works were proposed to address the risk to the Estate and its occupiers.

56. No evidence has been produced to this inquiry to substantiate the first two concerns that were raised. The second Letter accepts that "... [the Estate] appointed WSP to advise in respect of technical matters. WSP in turn met and corresponded with the Environment Agency and its advisors at considerable length. This process involved the exchange of technical information." They accept that WSP did agree most (but not all) matters regarding the modelling methodology.

57. The outstanding issue has been the risk to the Concrete Road flooding as a result of the operation of the FSA in accordance with the revised Scheme. They continue to seek a condition about this. We still have no evidence on this from WSP, despite the ample time and opportunity.

58. As matters stand today, the EA's point made in the Application that the revised Scheme will not increase water levels at this part of the Penshurst Estate has been substantiated by the evidence.⁸ The Revised Scheme does not increase the flood risk on the concrete road and therefore it is not the Environment Agency's responsibility to carry out works to raise the road surface. There is no evidence to support the imposition of the condition requested.

⁸ Ben Gibson, para 136 and Fig 14 deals with the 'residual risk', where there are some patches of predicted increases, but in a situation where the existing scheme has already affected the concrete road (location 1).

59. It is curious how the lawyer for the Estate confuses the reference to the existing situation and the effect of the revised scheme, and this may be the source of some of the opposition that has occurred. In their letter they attach an Appendix B, and refer to it showing “an increase of 100mm in flood levels within the Estate, including at the Concrete Road.” But the figure in their Ax.B demonstrates the current situation only - Figure 2 is VBA’s “Depth difference map - existing impoundment situation (28.05m AOD) minus the undefended scenario, for the 1% (1 in 100) plus climate change AEP event”.
60. It is also not a fair criticism for them to make that the information about the likely effects have changed. As project has developed (from an option for 29m AOD to now), the areas affected for each landowner have been revised. As noted in ID/23, the April 2021 state of affairs is that physically a further 8.51 acres of land owned by the Penshurst Estate may be flooded in the 1% AEP + climate change event compared to the existing scheme. However, almost all of this is already subject to an easement, so that the likely adverse effect on the Penshurst Estate land is on a further 0.63 acres of land. Indeed, even the relevant part of the concrete road which may get flooded is covered by an easement (the land hatched in green washes over the road, unlike the area hatched in red adjacent to it).
61. It is worth noting that there is an important ongoing relationship between the Penshurst Estate and the Agency, regardless of the outcome of this inquiry. Discussions with them continue about the potential for amendments to the easements. But if no agreement can be reached about a new easement it can fairly be covered by the existing compensation provisions.

Specific point: The Rogues Hill causeway

62. Local objections have been raised about the continued use of this road in times of flood. We have heard anecdotal evidence that HGVs and tractors do continue to use the highway, and that there have been some efforts by the police or the highways authority to close it when required – which it is said are not always effective.
63. The request has been made to require the Agency to carry out a traffic survey (P.PC), and from Mr Storey that the Agency should pay the costs of raising the road level at the

Causeway above flood levels (his proposed condition 5). There is no proper basis for either request.

64. Firstly, just because the road passes across the flood plain does not make it the responsibility of the Agency. The public highway remains the responsibility of the County Council. You would hope that a Parish Council is aware of this, and would have talked to them about this issue – when it is said that they have not (Mr Rees). Indeed, you would also hope that they would be aware that it is the County Council that is the Lead Local Flood Authority for this area. As such, it is KCC's duty - on becoming aware of a flood - to investigate it as they consider necessary with a view to determining what flood risk management functions are relevant and who is to exercise them (s.19, Flood and Water Management Act 2010). Although flooding will require a multi-agency response, the underlying responsibilities of each authority remain the same – and the Scheme under the 1976 Act does not change that. The EA is not the highways authority and it is not their decision to close this road or not.
65. Secondly, the evidence is that the risk of floodwater on the road is an existing issue, that predates the FSA itself (see the EA's written responses). It is certainly not an issue that is caused by, or made worse by, the Revised Scheme. BG has described the model results for this area, and that the flooding upstream of, and flowing over, the Rogues Hill causeway results from the natural flood response originating from the catchment upstream. This remains the case for the Revised Scheme as well.
66. Thirdly, this matter was also a material consideration at the time of the planning application and it is not supported by the highways authority or the local planning authority.
67. Much play was made by Mr Storey of a 'risk of death' that using this road may pose when it is flooded. The letter from the Agency's Area Director Sally Harvey to him dated 18 Sept 2020 (ID/ 22) makes it clear that the Agency shares the concern over the risks presented by this flooding and that this situation predates the FSA. But a generalised concern is not a reason to impose a condition. There is no evidence that the highway authority is not fully aware of its responsibilities. It was consulted on this Application, as it was on the planning applications.

Specific point: Penshurst PC and the work of the National Flood Forum

68. It is not a significant point, but it was a matter of disagreement. We say that it is part of the reasonable efforts that have been made to consult and listen to the local community.
69. There does seem to have been a complete misunderstanding why it has been suggested, and why the Agency would offer to fund the National Flood Forum's work here. If the local community is looking for assistance, it can - like others across Kent and even on the same river - call on the National Flood Forum. This is an independent body. It can help the residents of Penshurst understand the flooding issues, from their perspective, and then work with them and the flood risk management authorities to help manage the flooding issues at Penshurst. For example, they could have advised them who is responsible for what in the area, such as KCC.

Specific points: Individual houses near Penshurst

70. There is a point that applies to all of these properties. As BG's evidence has shown, the Revised Scheme has no additional impact on the flood levels predicted to occur at Bridge House, The Yews and Colquhouns.
71. From the Agency's perspective, any supplementary easements and any further flood protection or resilience work is still worthwhile as it is related to the existing position under the possible impacts of existing scheme. Should supplementary easements not be agreed, there is always the compensation procedure to fall back on to protect the residents' interests - as Mr Burraston and Mr Storey have done. The 1976 Act ensures that the residents will be compensated if harm is in fact caused.
72. *Mr Burraston (Colquhouns Cottage)*. Discussions have been had about the studio building in the garden, and possible flood resilience. They continue. His house has never flooded. His garden has - and is largely covered by a flood easement. His other points have been able to be co-ordinated with the case made by Mr Storey. There is no evidence to support the imposition of a condition on the Scheme that the Agency must have paid the cost of making the Studio resilient to flood (Storey condition 3).

73. *Mr Thompson (The Yews)*. His general points have been able to be co-ordinated with the case made by Mr Storey. The Yews house has never flooded, but his garden has - and is covered by a flood easement. The additional flood risk here is from the rarer residual risk, and not from the design flood events (BG evidence⁹), and not to the house. If there is some additional flooding that does cause a loss he wishes to claim, the compensation procedures are in the Act to be used.
74. In his oral evidence he confirmed, very fairly, that there was no outstanding compensation claim, and that he was not likely to make one. This is no evidence to support the imposition of a condition on the Scheme that the Agency have paid (in the past tense) for flooding The Yews (Storey condition 4).
75. *Mr Storey (Bridge House)*. As regards this inquiry, Bridge House is in an unusual category, as it is the only dwelling house within the existing flood plain. Of course, at a national level, the occupiers are not the only persons to live in such a position on the banks of a river, and one only has to think of the pictures of the Kings Arm pub in York when the river Ouse floods amongst others. Indeed, Bridge House itself used to be a pub in days gone by.
76. As Mr Storey said, he did acquire the property in 2004 with his eyes open. He was aware of the flood easement, and his seller did tell him that they had flooded. It should not then be surprising that it is shown as being located in the designated functional flood plain (Flood Zone 3a, Sevenoaks DC SFRA, 2017). It is at risk of flooding now, with a 5% AEP every year.
77. This does mean that the starting point when considering the possible effect of any additional impacts is different compared to other properties. Mr Storey accepts that the garden will flood, and – despite some understandable reluctance – that the flood easement includes part of his house (the kitchen area, seen in the photos he has submitted - [Doc RM002, Interested Parties Correspondence]).

⁹ Ben Gibson, para 136.5 and 136.6 and Fig 14 deals with the ‘residual risk’, where there are some patches of predicted increases, and it could affect the workshop building as it is close to the threshold.

78. I note that he refers to national planning policy in his latest document (ID/ 07), and seeks to rely on it to say that flood levels cannot be allowed to increase elsewhere. That is the general point made by planning policy to developments in general. We are looking at a position where the 1976 Act gives Parliamentary authority for flooding which would otherwise be potentially actionable (s.17). It does, by definition, cause some flooding where it stores water. It also contains provisions where compensation will be payable if loss is caused by the operation of the sluice gates (over and above the area covered by the easement)– provisions that Mr Storey has indeed been able to use. That provides a fair basis upon which to continue.
79. In addition, the evidence is that the Revised Scheme will not impose an additional burden on Bridge House. Mr Storey’s response in questioning on this was that he did not accept the modelling, and did not accept that adding 0.5m downstream at the Barrier would not add to the level at this house – even though it is this far upstream (despite the FRA, and the evidence of BG, esp at para 133). He has submitted photos and timings about the levels at Bridge House, but has not followed through the logic about the different times that the sluice gates are operated and the delay that any effect from their operation may have this far upstream (Irvine evidence, section 7). His assertions run counter to the evidence.
80. As it is, there is even stronger evidence now that the existing scheme has less effect on what happens to the flooding at Bridge House than had been assumed. The past references to a possible increase of +0.1m or so, from the Existing Scheme in comparison to the undefended scenario, should be much less. On Appendix 3A, the comparison at this point in the catchment is actually predicted to be upto 0.02m (Gibson, ID- 05). Most importantly, it remains the case that there is no evidence of an increased effect from the revised scheme.
81. We have told Mr Storey about this before, but he has been an unreceptive listener. Mr Storey’s description of how he sees the December 2013 compensation claim does reveal a lot about his continuing attitude. Full and final compensation was accepted and paid, after he had had legal advice and professional surveyor advice. Yet I noted down when he questioned Mr Overs that he said that while he might have said ‘full and final’ he did not see it that way. Nor does it help when he casts aspersions about deceit because he has not understood what an undefended scenario means. It is a matter of regret that he continues to

make such comments. I hope that he will be able to review and moderate what he says now.

82. As matters stand now, discussions about the way forward with this property continue. We want to continue to be constructive. The main issue from our perspective is about the current level of flood risk. Reasonable professional fees can be part of a claim for compensation, so that it has made sense to pay for Mr Storey to get legal advice, and professional surveyor's advice.
83. As for the way forward, for the purposes of this inquiry, it can be noted that there is a deliverable solution for Mr and Mrs Storey. The Agency cannot be reasonably expected to do more than it has. It has discussed flood resilience works as an option, and it has paid for ground investigation works, QS fees and architect's fees regarding what it would take to implement the planning permission. Whilst it will be necessary to obtain the Agency's formal agreement (under the terms of the deed) to consent to a new structure within the area of the flood easement, the current state of affairs shows that this is unlikely to be withheld. The Agency was able to support the application for planning permission for what is proposed. The current situation is that Mr Storey is content to leave the resolution of whether he builds out his planning permission to later. There is no evidence to support the imposition of a condition that the Agency must agree to pay the cost of implementing planning permission 20/01907/House (Storey condition 3).

Specific point: Leigh village

84. I should note that in ID-11 EA Response to RM LR 001 Mr & Mrs Cook the Agency has addressed the flooding concern, and noted that this is a surface water flooding issue that is not related to the FSA. Measures were taken when the FSA was built to protect Leigh village, and these continue. Similarly, the concerns about the railway embankment have been addressed. The issue about lorry traffic is an example of a matter that has been dealt with as part of the planning permission, and there is a condition requiring a traffic management plan.

Specific point: Hildenborough

85. As was mentioned in Opening, the Hildenborough flood defence proposals are not part of this application to vary the Scheme about how the sluice gates at the Leigh Barrier can be used. But one of the benefits of the Revised Scheme is that the scheme at Hildenborough can progress once the additional capacity in the Leigh FSA is available. The implementation of this scheme enables the construction of a local flood bund in Hildenborough that will directly benefit 180 households, many of which flooded in December 2013. But completing the Hildenborough works without this additional capacity could increase the flood risk to local households. The relationship is discussed in more detail in the Environmental Statement that accompanied the planning applications (CD 1.03).

86. I need to add a little more, even though no objections have been made in respect of Hildenborough. Tom Tugendhat MP raised a question on behalf of his constituents in this area. As he said, he is not objecting, but he did ask about it. The Agency is also aware that there are concerns, and it has been in discussion with the local residents in that area, particularly about the position of the bund. He asked:

My question for this inquiry is to what extent these works have been factored into the application, and what impact any changes will have on the ability of an enlarged barrier to perform the role all residents downstream expect it to? I know the works at Leigh were 'decoupled' from the works at Hildenborough some time ago, for reasons I understand, but we cannot ignore the impact that one will have on the other.

87. The objections of these particular Hildenborough residents are about the specific location of the proposed solutions in Hildenborough. They will be assessed in the normal way as part of that project, including as part of the consideration of the economic analysis and the likely impacts to residents and the environment. Whatever solution is chosen for the Hildenborough works has no adverse effect on application being made by the Agency to amend the Scheme for the Leigh FSA.

Specific point: Yalding.

88. As the river passes downstream, the affected communities have expressed their support – through the relevant local authorities and the Flood Action Group. Indeed the Kent Flood Action Group Forum (RM REP 014) represents Flood Action Groups from Collier Street, Ightham, East Peckham, Hildenborough, Tunbridge Wells and Headcorn. I note that Helen

Grant MP has also expressed that she is very much in favour of the proposal.¹⁰ As the Flood Action Group Forum note, the operational procedures already (and this is in section 6) *state that communities downstream of Tonbridge will benefit from the operation of the Leigh FSA due to a reduction in peak flows on the River Medway. This benefit decreases proportionally the further you go down stream as other factors such as flows from other tributaries and the shape of the floodplain, become more influential in determining local flood risk.*

89. I have addressed the status of the operational procedures above, and that they are not specifically before this inquiry. We can of course reassure the residents that the 1976 Act has not been rewritten by a summary given in an operational manual. But it must also be remembered that section 6 of the Operational Procedures emphasises the contribution the FSA makes to Tonbridge and Hildenborough and to communities downstream.

90. Of course, we have heard more specifically from the community at Yalding from their PC and some local residents, who seek to secure greater benefits downstream than the Agency says already should occur.

91. The important point for this inquiry is that the Revised Scheme will not lead to a worse position downstream. I do not consider that you need to go further than that in your conclusions. That is a proper conclusion in the light of the likely positive effects on the catchment overall.

92. The starting point is that the flood design events have been properly considered, and the FRA identifies that there will be overall benefits downstream. The modelling shows that Yalding benefits from the use of the FSA's capacity – both now and with the revised Scheme - see Appendix D and E of the FRA.

93. The review of the 2013 flood also demonstrated this benefit does occur now. HR Wallingford also expressed their view that trying to achieve any greater benefits than did

¹⁰ Her letter also asks for a condition to be added that the deployment of the FSA could protect communities downstream as well as being used to protect Tonbridge (ID-08). This raises a similar concern to what has been discussed at the inquiry, and we would say is already being considered.

occur (the hypothetical optimal scenario) could be achieved only with “perfect foreknowledge of the inflows” and that it could not be achieved “with sufficient confidence to enable its implementation” [section on ‘Could the Environment Agency have done better?’, p.5 of CD 1.19] - essentially that it is a counsel of unachievable perfection.

94. We did hear that, weighed against those benefits, there may be a theoretical risk that there could be a release of water from the FSA (at whatever lower peak than a normal flood event) that coincided with a peak on the other two rivers that converge near Yalding (the rivers Beult and Teise). As you heard, that theoretical risk is difficult to guard against, or plan for, and any such plan would itself place the greater benefits that the FSA can bring at risk themselves. Every storm is different, and potentially changeable. That is the context for saying that the current tools and forecasting models do not sensibly allow for further improvements at this stage to reduce the further the risk to communities downstream of Tonbridge and Hildenborough. When looked at overall, this scheme will not lead to a worse position downstream than the existing scheme.

95. Even if there was a remaining concern about what the Agency may choose to do, it would not be reasonable to seek to change the Revised Scheme. Within the broad powers given by the 1976 Act, there is still the expectation that the Authority will act reasonably. The Agency has a broad supervisory jurisdiction for flooding matters, in addition to its responsibilities for the main rivers. The additional capacity in the FSA will give the Agency greater flexibility, and its experience in using that extra capacity in coming years will inform how it does this. Communities downstream of Tonbridge benefit from the operation of the FSA, and will further benefit from the proposed expansion. The Agency will continue to operate the FSA with the aim of providing the greatest overall benefit in reducing flood risk to downstream communities.

The overall balance

96. So, as I have said, there is a compelling case to vary the Scheme in the public interest. The beneficiaries of the flood risk management scheme are the substantial number of existing households and businesses who will be at a reduced risk of flooding in Tonbridge, Hildenborough and the communities downstream. This can be set against the impact of the raising the storage level, where the modelling has shown it does not increase the flood risk to any households. Full account has also been taken of the interests of those who are affected upstream of the FSA, and the 1976 Act does provide for compensation to be paid if people are nevertheless adversely affected by reason of the exercise by the Environment Agency of its powers under the 1976 Act.

William Upton QC

**Instructed by
Peter Carty, solicitor, Environment Agency**

6th May 2021