River Thames Scheme

Protecting our communities
Securing our economy
Enhancing our Thames

Preliminary Environmental Information Report

Volume 2

Chapter 10: Flood Risk

10 Flood Risk

10.1 Introduction

10.1.1.1 This chapter of our Preliminary Environmental Information Report (PEIR) considers the effects from construction and operation of the River Thames Scheme (RTS) ('the project') in relation to flood risk. Within this chapter we have included topic specific sections on:

- Legislation, policy and guidance (noting any changes since the RTS Environmental Impact Assessment (EIA) Scoping Report (Environment Agency and Surrey County Council, October 2022) ('the EIA Scoping Report');
- Engagement with consultees, including responses to comments received on the RTS EIA Scoping Report;
- The assessment methodology for this topic (again noting any changes or updates since EIA scoping);
- Key environmental considerations and opportunities,
- Primary and tertiary mitigation;
- Our preliminary assessment of effects;
- Secondary mitigation; and
- Future work for this topic of the EIA.

10.1.1.2 For a summary of the key baseline elements associated with flood risk see Section 5.6.

10.1.1.3 An explanation of the topic study area can be found in Section 10.2.3 of our RTS EIA Scoping Report. The study area is the area within the project boundary for EIA PEIR, plus a 500 metre buffer or the area within the 1:100 year floodplain (i.e. the area with a one per cent chance of flooding in any given year) that benefits from the RTS, whichever is the greater. The study area is therefore slightly different to that presented in our EIA Scoping Report due to minor changes in the project boundary for EIA PEIR (the flood risk study area is shown in Figure 5.8).

10.1.1.4 Given the flood alleviation goal of the RTS and the site setting largely within the floodplain, the flood risk overlaps with most other environmental topics and these chapters should be read in conjunction with this chapter.

10.2 Legislation Policy and Guidance

10.2.1.1 A summary of the key legislation, policy and guidance relevant to flood risk is provided in Appendix M of our EIA Scoping Report.

10.2.1.2 There have been no significant changes made to the relevant legislation since the EIA Scoping Report, policy, and guidance for flood risk, based on a review we have undertaken for this PEIR.

10.2.1.3 Since the publication of our EIA Scoping Report in October 2022 the National Policy Statement (NPS) for Water Resources Infrastructure (Defra, 2023) has been updated and finalised. There is little change that would alter the assessment of flood risk as stated in our EIA Scoping Report. Nevertheless, the finalised NPS acknowledges that reservoirs can be used to store floodwater in some circumstances and that operational aspects of infrastructure can be adapted during critical flood risk periods to mitigate flooding impacts; as noted in Chapter 2: Project Description, we are exploring opportunities to adapt Thames Water's abstraction regime in times of flooding through an operating protocol.

10.2.1.4 The NPS effectively reinforces the National Planning Policy Framework (NPPF) (2023 as updated) and Planning Policy Guidance (PPG) (2023 as updated) flood risk requirements.

10.2.1.5 The UK government has also announced that it will implement Schedule 3 to the Flood and Water Management Act 2010 that will mandate sustainable drainage systems (SuDS) in new developments in England for 2024. It is understood that Defra will carry out a consultation to collect views on the impact assessment, national standards and statutory instruments during 2023. This will be monitored, but the RTS is being designed to optimise the use of SuDS. This is integral to the reduction in flood risk overall.

10.3 Engagement

10.3.1 Responses to EIA Scoping

10.3.1.1 Table 10-1 below summarises the comments and responses received on our EIA Scoping Report following formal submission to the Planning Inspectorate (PINS) including the PINS EIA Scoping Opinion (date 15 November 2022) ('the PINS Scoping Opinion') and any key comments

received from statutory consultees. Full consultee comments on our EIA Scoping Report and our responses to these comments are provided in Appendix 4.1.

Table 10-1: Responses to comments received on the EIA Scoping Report

Consultee or Organisation	Summary of Comment	Project Response
PINS	The EIA Scoping Report proposes that [construction works in and around waterbodies] will be secured through the CEMP and flood risk activities permit and will be informed by more detailed hydraulic modelling. The Inspectorate does not agree to scope this matter out without further information on the required mitigation to evidence that this would not lead to a likely significant effect.	Noted. We have considered this in the PEIR and will assess it within the Environmental Statement (ES) and proposed mitigation described.
PINS (and similar from LPA Planners Group and Environment Agency Sustainable Places)	The ES should assess impacts/effects from flood risk to third party land from the storage of materials on site where significant effects are likely to occur. Should any related mitigation be required this should be detailed in the ES and secured via the Development Consent Order (DCO).	We have already included within the EIA scope the assessment of construction stage flood risk resulting from temporary changes in land levels, in particular for stockpiles and processing areas (see Sections 10.4.1.1 and 10.7.3.2 of the EIA Scoping Report).
PINS	The Scoping Report states that the Flood Risk Assessment (FRA) will assess relevant effects from changes to flood flows downstream of the channels. As this impact is dependent on the outcomes of the sediment and hydraulic modelling, the Inspectorate does not have enough information to scope this matter out. The ES should assess significant effects from	As noted in Section 10.7, the RTS will have a significant positive effect on flood risk during operation, through significant reductions in flood levels and extents. There will be no increase in fluvial flood levels during operation at any location in any flood conditions and we therefore consider that effects on flood flows downstream can remain scoped out of the EIA. The Flood Modelling Report Non-Technical Summary (WBi, 2023) and

Consultee or Organisation	Summary of Comment	Project Response
	flood risk during operation where they are likely to occur.	detailed report issued as part of our materials for statutory consultation explain the fluvial hydraulic modelling that verifies this.
PINS	The ES should describe how the scheme alters drainage patterns and flood risk from all sources across the study area, with reference to hydraulic modelling in the FRA. Any significant effects arising from these changes should be reported in the ES.	Our FRA will address all relevant sources of flooding posed to and from the project for all stages of the project (including operation) for the intended lifetime of the RTS; this will be NPPF and PPG compliant. The FRA will be presented alongside the ES.
PINS	Long-term maintenance activities required to ensure that the design profile is maintained are not described…. in the absence of further details regarding the extent and nature of such effects, the Inspectorate does not consider that this matter may be scoped out. The ES should … provide an outline of the operational maintenance plan, demonstrating how this would mitigate likely significant effects.	Maintenance of the channel to restore the design profile has been scoped into this topic in response to the PINS scoping opinion. An outline of the operational maintenance plan will be provided alongside the DCO application.
LPA Planners Group	It is noted that a peak flow value of 150m3/s has been stated as a design value for the new channel. It is not clear what return period is the scheme being designed to / protect against (if applicable)?	The River Thames Scheme does not have a specific design standard - the benefit provided varies depending on location. The flood channel will work most effectively in moderate flood magnitudes such as the 1:20 year annual chance flood, which is similar to the observed 2003 and 2014 floods. However, the channel will continue to reduce flood depths and extent in much more extreme floods.
LPA Planners Group	Level for level floodplain compensation should be	There will be no loss of floodplain storage overall. Flood compensation will be incorporated where more

Consultee or Organisation	Summary of Comment	Project Response
	provided for any loss of floodplain storage capacity.	localised needs are identified by the hydraulic modelling and the FRA process and mitigation is required.
LPA Planners Group	Evidence should be provided within the FRA that the components of the RTS are located in appropriately compatible Flood Zones as per PPG Table 2.	The FRA will demonstrate how the most up to date flood risk policy has been addressed for all aspects of the RTS.
LPA Planners Group (and similar from Environment Agency Sustainable Places)	Will the FRA include analysis of sensitivity testing of structures (i.e. blockage scenarios of any new bridge crossings/culverts, sedimentation)?	The FRA will include appropriate sensitivity testing for the infrastructure used for the RTS.
LPA Planners Group	How will the Flood Zones be defined? (i.e. as the definition ignores the presence of formal defences, will the baseline flood zones remain as the pre-construction scenario or will a new baseline be defined post construction e.g. based on a reduced scheme operation?).	The RTS will result in a defended flood outline (area that benefits from the RTS) which is standard when new flood infrastructure is completed, and the performance verified. The planning flood zones will not change as a result. Relevant process will be followed in consultation with the relevant authorities.
LPA Planners Group	The Environment Agency are considering the updated definition of Flood Zone 3b Functional Floodplain to the 1 in 30 annual probability flood event (rather than 1 in 20). It is assumed this change would only formally take place once the revisions have passed through local planning policy documents (i.e. Strategic Flood Risk Assessments (SFRAs)).	The Environment Agency has confirmed that we should use the 1 in 30 year annual probability flood for Flood Zone 3b, which therefore by default already includes the 1 in 20. It is at the discretion of those preparing SFRAs if they use the Environment Agency's 1 in 30 year annual probability flood event or a different approach to designating their functional floodplain, as per guidance on preparing SFRAs.
LPA Planners Group	The study area is stated as the 'upstream and downstream boundaries of the 1:100 year floodplain to be affected by the	The study area was set to accord with the planning flood zones - i.e. the Flood Zone 3 planning extent is defined by the 1:100 year floodplain.

Consultee or Organisation	Summary of Comment	Project Response
	project' as defined in Figure 10.1. This should include climate change impacts.	RTS is also assessing the effects of climate change on flood risk (the 1:100 year floodplain + 35% climate change allowance as shown in Figure 5.11).
Environment Agency Sustainable Places	The Scoping Report indicates that the principle for the scheme … was established through the Lower Thames Flood Risk Management Strategy (LTFRMS) which was finalised after consultation in 2009. The EIA Scoping Report should justify why the LTFRMS is still an up to date and appropriate assessment of alternative flood risk management strategies.	The work done as part of the Strategic Outline Case (approved in 2017) and the Outline Business Case (approved in 2020) demonstrate that the LTFRMS is still an up to date and appropriate assessment of alternative flood risk management strategies and this will be discussed further in the DCO application.
Environment Agency Sustainable Places	We recommend that the scheme employ an adaptive approach regarding climate change and would encourage ongoing evaluation of the scenarios being used to inform the project as new information becomes available.	Hydraulic modelling will use the most up to date climate scenarios. The project has been designed to address the fact that the channels, for example, will be used more in the future as a result of climate change.
Environment Agency Sustainable Places	We are pleased to see that there is a discussion of fluvial and tidal interactions, and that modelling will look at effects downstream of Teddington Lock. The applicant should consider whether plans on other parts of the Thames could impact on the RTS. For example, the Thames Estuary 2100 Plan.	We are considering other relevant plans and operations in the FRA and Thames Estuary 2100 will be considered in the assessment of cumulative effects.

10.3.2 Other Engagement Since EIA Scoping

10.3.2.1 Section 10.2.2 of our EIA Scoping Report summarises the stakeholder engagement relevant to the Flood Risk topic that was undertaken prior to submission of the EIA Scoping Report.

10.3.2.2 Since EIA Scoping, we held a meeting with the Environment Agency National Infrastructure Team in October 2023 to discuss the approach the RTS is taking to the Flood Risk Assessment (FRA) and the Sequential Approach being taken to design project in accordance with flood risk policy (as discussed in Section 10.6.2).

10.3.2.3 We held a meeting with the LPA Project Group in September 2023 to present the content of our Flood Modelling Report Non-Technical Summary (WBi, 2023) to planning officers. Engagement with the LPA's has also been ongoing to understand the status of Strategic Flood FRAs produced by the LPAs as updates to these are known to be upcoming.

10.3.2.4 We have ongoing meetings with both Thames Estuary 2100 and the Environment Agency operations teams for the Thames Barrier to help refine the inputs to the fluvial model and understand the potential for future operational changes.

10.3.2.5 Stakeholder working groups have also been set up with communities and meetings held to discuss important anecdotal flooding challenges and access invaluable knowledge of local conditions which are critical to the flood risk assessment. These meetings have also provided the opportunity to explain the fluvial flood modelling, project design and next steps.

10.4 Methodology

10.4.1 Introduction

10.4.1.1 This section should be read in conjunction with Chapter 4 'Approach to the Environmental Assessment' which sets out relevant information on the design parameters and information that have informed our PEIR assessment, and how we have approached various aspects of the assessment including:

- The scope of the assessment;
- The methodology (including the approach to defining the baseline environment, topic study areas, and assessment methodology and criteria);
- The approach to mitigation; and
- The approach to cumulative effects.

10.4.1.2 Our baseline methodology for flood risk is documented in Section 10.2 of our EIA Scoping Report, including a summary of the information sources and engagement that has informed this.

10.4.1.3 The assessment methodology we have used for the Flood Risk topic in this PEIR, and to be used in the Environmental Statement (ES), is presented in Section 10.7 of our EIA Scoping Report, and is expanded and updated by the information in Section 10.4.3.

10.4.2 Baseline Methodology

10.4.2.1 We have completed extensive fluvial hydraulic (flood) modelling to understand the flood risk baseline conditions, develop, test, and refine the design of the RTS, and inform our assessments. This is the most up to date modelling of the current fluvial flooding regime for the Lower Thames and its tributaries and is being reviewed and agreed by the Environment Agency in its regulatory role.

10.4.2.2 We are using the modelled fluvial baseline (i.e. without the RTS in place) as the starting point for our environmental assessments, including those considered in this PEIR. In due course this baseline will be used to update the Environment Agency's online flood map for planning.

10.4.2.3 Our PEIR provides up to date modelled fluvial flood extents to demonstrate a) current flood risk without the project and b) future flooding with the project, under different flood return periods / scenarios, including an allowance for climate change.

10.4.2.4 We are undertaking ongoing flood modelling work, such as testing the refined landscape design, which continues to inform the RTS design decisions; the model is therefore subject to further refinement to optimise the hydraulic performance of the RTS and will be reported on in the ES. Information on the background, development, testing, and confidence of our fluvial modelling is presented in our Flood Modelling Report Non-Technical Summary (WBi, 2023).

10.4.2.5 We are also investigating flood risks from groundwater and surface water runoff. Our fluvial hydraulic model does not represent surface water and groundwater flooding – alternative modelling approaches are being used for those flood mechanisms. Preliminary modelling which couples the surface water and groundwater levels and flows is being used to inform

our PEIR and to determine the need for additional modelling and design input to jointly review potential effects on water quality, quantities, and flood risk.

10.4.3 Assessment Methodology

10.4.3.1 We are assessing flood risk in terms of the NPPF, Lead Local Flood Authority (LLFA) and LPAs approach, which assesses all relevant sources of flooding posed to and from the RTS for the lifetime of the project. The NPPF Annex 3 groups land uses into a range of flood risk vulnerability classifications (DLUHC, 2021). These classifications include essential infrastructure, highly vulnerable uses (such as basement homes and police stations), more vulnerable (such as hospitals, houses and places of education), less vulnerable (such as shops and restaurants) and water compatible development (such as outdoor recreational areas and wildlife sites). Our assessment uses these classifications to determine the sensitivity of flood risk receptors, as noted in Section 10.7 of our EIA Scoping Report.

10.4.3.2 We are undertaking a detailed NPPF compliant technical FRA (with Environment Agency approved modelling) and drainage assessment report that will form part of the appendices to the ES. We are undertaking the FRA iteratively as the design of the RTS progresses to ensure that there is no increase in flood risk from the operation of RTS and that any temporary loss in floodplain storage during construction is mitigated for. This will also include the need for construction methodologies that account for works being undertaken in a floodplain.

10.4.3.3 As noted in Section 10.3.1, PINS provided a response within its EIA Scoping Opinion (dated 15 November 2022) (‘the PINS Scoping Opinion’), which included the following requirements that have now been scoped into the EIA. We have included these requirements in this PEIR and they are part of our ongoing assessment to inform the ES and FRA as appropriate:

- To assess flood risk from construction stage elements in and around waterbodies such as cofferdams;
- To describe in the ES how the RTS alters drainage patterns and flood risk from all sources across the study area;

- To scope in the effects on flood risk from maintenance of the flood channel to restore the design profile; and
- To not scope out the effects from changes to flood flows downstream of the channels without the results of the sediment modelling and subsequent hydraulic modelling.

10.4.3.4 The PINS Scoping Opinion also noted that changes to flood flows downstream of the channels are dependent on the outcomes of the sediment and hydraulic modelling and that the ES should assess significant effects from flood risk during operation where they are likely to occur. As noted in The Flood Modelling Report Non-Technical Summary (WBi, 2023) there will be no increase in fluvial flood levels during operation at any location in any flood conditions and we therefore consider that effects on flood flows downstream can remain scoped out of the EIA.

10.5 Key Environmental Considerations and Opportunities

10.5.1.1 The key considerations with respect to flood risk are:

- The need to ensure that the project will be safe for its lifetime, without increasing flood risk elsewhere, particularly downstream;
- A large portion of the project is in the functional floodplain (Flood Zone 3b). Construction of infrastructure schemes in flood prone and damp areas is inherently challenging; and
- The government's NPPF and PPG place numerous restrictions on development in the floodplain - the most vulnerable development needs to be in areas of lowest flood risk, unless there are overriding reasons to prefer a different location, therefore a Sequential Approach needs to be taken for the project as a whole.

10.5.1.2 The key opportunities with respect to flood risk are:

- Increased flood resilience for an area of low lying floodplain that has no defences or future resilience;
- A reduction in fluvial flood risk within the study area;
- A reduction in surface water flooding through drainage design and new SuDS; and
- Removal of some "More Vulnerable" uses such as certain areas of landfill from the floodplain.

10.6 Primary and Tertiary Mitigation

10.6.1 Primary Mitigation

10.6.1.1 Flood risk reduction is one of the project core goals, hence most mitigation is already embedded.

10.6.1.2 We are applying the Sequential Approach to the design of the project, as defined by the NPPF, that seeks to reduce flood risk through sensitive positioning and design of project elements. This approach is the same for all developments: i.e. all elements of a project need to be located in the lowest flood risk area possible (with an appropriate assessment of alternatives) and designed to be in an appropriate flood setting relative to their sensitivity and they should not increase flood risk on or off site. Specifically, our Sequential Approach to design of the RTS includes:

- Application of the Sequential Test and Exception Test (if required) i.e. to evaluate and prioritise project components in the lowest flood risk areas;
- Consideration of all relevant sources of flooding posed to and from the project; and
- Avoiding increase in flood risk during different phases of construction (which includes preventing the displacement of flood flow pathways from surface water and groundwater sources).

10.6.1.3 As an example of how we are applying the Sequential Approach, the layout and design of the new green open spaces is being designed with reducing flood risk as a core input, including ensuring existing flood flow pathways are accommodated where appropriate and new pathways are created to direct flood water to lower risk areas and therefore further reducing flood risk to sensitive receptors.

10.6.1.4 The design of our construction surface water drainage system, including temporary SuDS / specific plant (pumps / tanks) and storage and restricted conveyance of stormwater are an important part of our primary mitigation for managing surface water flooding from construction and operation stages of the project, and will also mitigate negative effects to water quality. Our drainage strategy design is ongoing, including an appropriate allowance for climate change.

10.6.1.5 Our integrated landscape design process has flood risk management as a key design input. The design is ongoing and includes, for example, during construction sensitively locating and orienting materials stockpiles and areas of temporary compensatory flood storage to mitigate flood risk, and for operation, considering the form and contouring of raised earthwork profiles and locating activities within public spaces in accordance with NPPF and PPG flood risk requirements.

10.6.1.6 Our primary mitigation also includes specific design elements to reduce flood risk, such as altering the water level control structure from St Ann's Lake to Abbey Lake to divert floodwaters to reduce flood risk from the Chertsey Bourne, plus silt monitoring and maintenance in targeted locations of the flood channel to restore the design profile and ensure the flood channel can continue to operate effectively.

10.6.2 Tertiary Mitigation

10.6.2.1 The following tertiary mitigation is proposed in relation to the flood risk effects assessed within our PEIR to address the fact that the works are taking place in a floodplain.

- We will produce a specific Construction Surface Water Management Plan to address the effects of the temporary changes to land drainage of the work areas; this will include the minimisation of impermeable areas, careful management of surface water runoff and the required response for safe operations during storm events;
- We will also develop a construction flood protocol together with an Emergency Response Plan such that the construction can be managed safely in the floodplain, including for example flood warnings, evacuation and refuge requirements; and
- We will follow flood consenting regime requirements, pursuant to drafting in the DCO, responding to the fact that much of the project will be undertaken in the floodplain.

10.7 Preliminary Assessment of Likely Significant Effects

10.7.1 Introduction

10.7.1.1 Our PEIR adopts a precautionary approach. Assessments reported within this chapter are a preliminary assessment of potential likely significant

environmental effects based on the design parameters set out in Chapter 2 Project Description. This precautionary approach has been taken for the PEIR as there is some information on the project that is currently incomplete and the parameters within Chapter 2 are high level and account for a range of uses and allowance for design development within a boundary that could possibly be refined once this work has been completed. For example, some design, construction, and mitigation details (and therefore also land requirements) or baseline information is still required from further surveys, assessments and/or consultation feedback.

10.7.1.2 In making a determination of likely significant effects, we have considered the sensitivity of receptors (a receptor being a feature of the environment that responds to change) and the potential magnitude (i.e. size) of change caused by the RTS. The methodology for defining sensitivity and magnitude varies by topic and are defined in the topic sections of our EIA Scoping Report.

10.7.1.3 We are committed to including mitigation measures as necessary to address likely significant negative environmental effects as far as reasonably practicable. Both primary and tertiary mitigation are considered to form part of the RTS; those applicable to this topic are set out in Section 10.6. Several of these mitigation measures are still being developed, and therefore as a precaution, the preliminary assessment of effects for our PEIR does not assume full achievement of these in considering if a project effect is likely to be significant (Appendix 4.2 identifies the implementation status of primary and tertiary mitigation for the PEIR assessment). Furthermore, the potential likely significant effects reported within our PEIR have been assessed prior to the implementation of secondary mitigation measures, those applicable to this topic are set out in Section 10.7.5. These secondary mitigation measures are the subject of further development; and given they are still being developed, are not able to be applied to develop a ‘residual’ effects assessment.

10.7.1.4 Our PEIR is based on the latest design and construction parameters and baseline information. As such the findings of the preliminary environmental appraisal presented within our PEIR will be subject to change as the design progresses, as mitigation is further developed or information from further studies becomes available, such as our Sequential Approach to design the project in accordance with flood risk policy. The final assessment of effects undertaken as part of the EIA and

reported within the ES will be based on the latest information available at that time.

10.7.2 Potential Likely Significant Effects

10.7.2.1 Our preliminary assessment of likely significant environmental effects prior to the implementation of secondary mitigation, developed as a mandatory part of a compliant FRA, has identified the potential for temporary negative effects from construction on all NPPF classes of vulnerability to flooding. This results from temporary changes to floodplain storage and flow paths, thus potentially changing the risk to levels and extents of flooding from rivers and surface water. The FRA is an ongoing process, and these effects are a focus of the design optimisation and development of secondary mitigation if required.

10.7.2.2 Our preliminary assessment of the likely significant environmental effects prior to the implementation of secondary mitigation has identified the potential for effects from operation on flood risk, as follows:

- Potential permanent positive effects on all NPPF classes of vulnerability to flooding from an overall reduction in flood risk from all sources (the modelled predicted changes in fluvial flood extents are shown for a range of flood return periods in Figures 5.9 to 5.12); and
- Potential permanent negative effects on all NPPF classes of vulnerability to flooding due to potential permanent changes to groundwater flows causing an increase in flood risk due to permanent barriers as part of the RTS, including sheet piling. These effects are highlighted at this stage because the relevant data gathering, design assessments and FRA are ongoing.

10.7.2.3 Further details of the potential likely significant effects from construction and operation with respect to receptors, project components and project activities, in relation to flood risk can be found in Table 1 and 2 in Appendix 10.1.

10.7.3 Potential Likely Non-Significant Effects

10.7.3.1 Effects from construction considered to be non-significant with respect to flood risk are due to the movement of construction vehicles, equipment and operatives (off site), as noted in Table 3 in Appendix 10.1. No non-significant operation effects were identified in relation to flood risk.

10.7.4 In-Combination Climate Impact

10.7.4.1 We have considered 'In-Combination Climate Impact' (ICCI). Our preliminary environmental assessment has considered a future climate scenario. Potential likely significant positive flood risk effects during operation would be influenced by predicted climate change, essentially by affecting the frequency with which the channel is operated in times of flooding. Further consideration of ICCI will be included in the ES.

10.7.5 Secondary Mitigation

10.7.5.1 As noted in Section 10.7.1.2, primary and tertiary mitigation are still being developed, and therefore as a precaution, the preliminary assessment of effects for our PEIR does not assume full achievement of these in considering if a project effect is likely to be significant. Furthermore, the potential likely significant effects reported within our PEIR have been assessed prior to the implementation of secondary mitigation measures. For the majority of the identified likely significant environmental effects it is considered likely that the primary and tertiary mitigation will be sufficient at ES stage such that no secondary mitigation will be required. Where secondary mitigation is already under consideration for potential significant environmental effects, this is detailed below.

10.7.5.2 Given flood risk reduction from all sources is a core project goal, most mitigation is already included through the primary or tertiary measures noted in Section 10.6. Our ongoing assessment and design of the construction stage is being undertaken to ensure any temporary increase in flood risk will be avoided or mitigated.

10.7.5.3 The uncertainty of impacts on groundwater flows and levels that we have highlighted as part of the current assessment is being investigated using monitoring data and engineering impacts currently understood given the stage of the project. We will be developing secondary mitigation measures, where required, to avoid increased groundwater flooding during operation of the RTS, and these may require additional modelling, monitoring and further input to engineering designs to inform the ES.

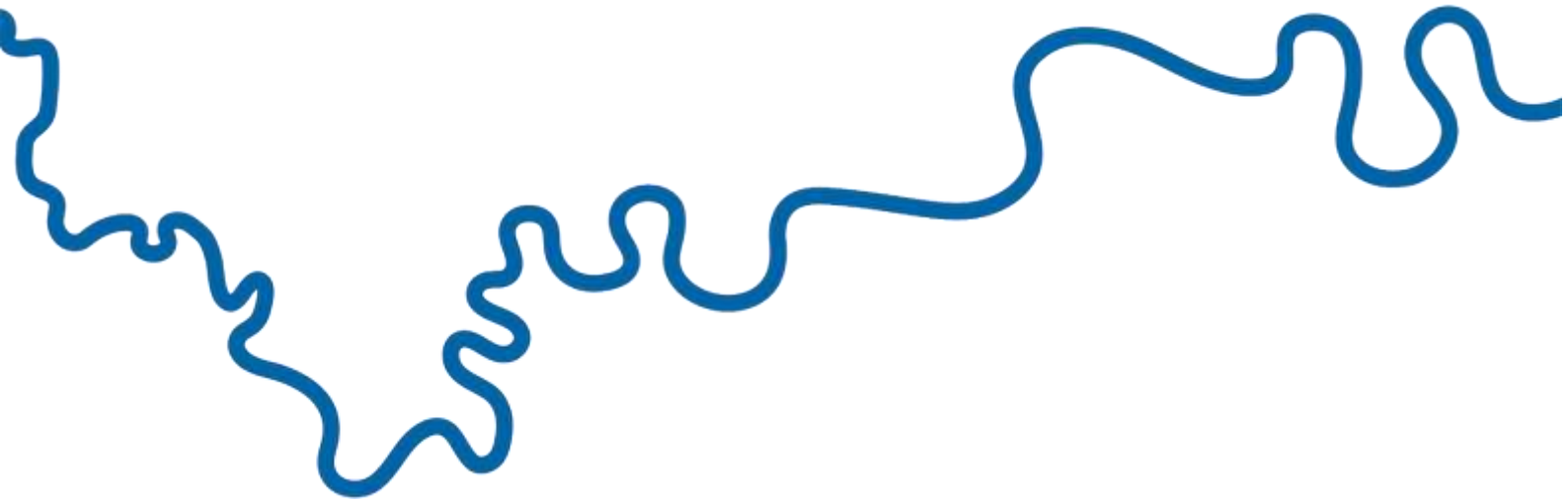
10.8 Further Work for the EIA

10.8.1.1 Our next steps for the flood risk element of the EIA are to continue the FRA process and the Sequential Approach of embedding the reduction of flood risk into the design of all project components. This includes addressing the relevant interactions with other environmental disciplines in terms of the likely significant effects and importantly demonstrating the appropriate accommodation of climate change for all sources of flooding.

10.8.1.2 Our FRA and associated drainage assessment will be a technical appendix of the EIA. The appendices of the FRA will document the detailed modelling and methodologies. The FRA will document the flood risk reduction performance of the project as a whole and the proposed mitigation.

10.8.1.3 Ongoing engagement with, for example, the Environment Agency National Infrastructure Team (NIT), LPAs, the Thames Barrier and Thames Estuary 2100 teams, landowners, local community groups and the LLFA is required to ensure the FRA and EIA have the most comprehensive and up to date data for all flood sources, especially more recent records of flood incidents and other flood related projects. The FRA will help ensure policy is appropriately updated as local policies and plans are renewed. The up-to-date designs and layout of the RTS may also be used by LPAs to update their Strategic Flood Risk Assessments where and when appropriate.

10.8.1.4 We consider that the further development of the project design and mitigation measures which will be reflected in the ES and DCO application, will enable a reduction in the scale of identified negative likely significant effects set out in this chapter.



SURREY COUNTY COUNCIL

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The River Thames Scheme represents a new landscape-based approach to creating healthier, more resilient and more sustainable communities by reducing the risk of flooding and creating high quality natural environments.

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