

A47 North Tuddenham to Easton Dualling

Scheme Number: TR010038

Volume 8

8.2 Statement of Common Ground Environment Agency

The Infrastructure Planning (Examination Procedure) Rules 2010
Rule 8(1)(e)

Planning Act 2008

February 2022~~November 2021~~

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning
(Examination Procedure) Rules 2010**

The A47 North Tuddenham to Easton Dualling
Development Consent Order 202[x]

STATEMENT OF COMMON GROUND – ENVIRONMENT AGENCY

Rule Number:	8(1)(e)
Planning Inspectorate Scheme Reference	TR010038
Application Document Reference	TR010038/EXAM/8.2
BIM Document Reference	HE551489-GTY-LSI-000-RP-TX-30012
Author:	A47 North Tuddenham to Easton Dualling Project Team, Highways England

Version	Date	Status of Version
Rev.0	November 2021	Draft Issue at Deadline 4
<u>Rev.1</u>	<u>February 2022</u>	<u>Final Signed Issue at Deadline 9</u>

STATEMENT OF COMMON GROUND

This statement of Common Ground has been prepared and agreed by (1) Highways England Company Limited and (2) Environment Agency.

Signed

Chris Griffin ~~Glen Owen~~

Programme Leader ~~Senior Project Manager~~

On behalf of National Highways Limited (formerly Highways England)

Date: 07-02-2022 ~~INSET DATE~~ _____

Signed

Jo Firth NAME

Sustainable Places Team Leader TITLE

On behalf of the Environment Agency

Date: 03-02-2022 ~~INSERT DATE~~

CONTENTS

1	INTRODUCTION.....	1
1.1	Purpose of this Document.....	1
1.2	Parties to this Statement of Common Ground.....	1
1.3	Terminology	2
2	RECORD OF ENGAGEMENT.....	2
3	ISSUES.....	5
3.1	Purpose of this Document.....	5
3.2	Issues related to the preparation of the Environmental Statement (ES).....	10
3.3	Issues related to the Relevant Representations	14
3.4	Issues related to the Environmental Management Plan, 1 st Draft	44
	APPENDIX A – Applicant’s Comments on Environment Agency’s Written Representation	45

1 INTRODUCTION

1.1 Purpose of this Document

- 1.1.1 This Statement of Common Ground ("SoCG") has been prepared in respect of the proposed A47 North Tuddenham to Easton ("the Application") made by Highways England Company Limited ("Highways England") to the Secretary of State for Transport ("Secretary of State") for a Development Consent Order ("the Order") under section 37 of the Planning Act 2008 ("PA 2008").
- 1.1.2 This SoCG does not seek to replicate information which is available elsewhere within the Application documents. All Application documents are available on the Planning Inspectorate website.
- 1.1.3 The SoCG has been produced to confirm to the Examining Authority where agreement has been reached between the parties to it, and where agreement has not (yet) been reached. SoCGs are an established means in the planning process of allowing all parties to identify and so focus on specific issues that may need to be addressed during the examination.

1.2 Parties to this Statement of Common Ground

- 1.2.1 This SoCG has been prepared by (1) Highways England (HE) as the Applicant and (2) the Environment Agency.

1.2.2 Highways England became the Government-owned Strategic Highways Company on 1 April 2015. It is the highway authority in England for the strategic road network and has the necessary powers and duties to operate, manage, maintain and enhance the network. Regulatory powers remain with the Secretary of State. The legislation establishing Highways England made provision for all legal rights and obligations, including in respect of the Application, to be conferred upon or assumed by Highways England.

1.2.3 As per the notification to the Examining Authority in the Applicant's Deadline 5 submission cover letter (REP5-001), on 8 September 2021 (during the course of the Examination) Highways England Company Limited changed its name to National Highways Limited. The Applicant's company number and registered office remains the same.

1.2.21.2.4 The Applicant has amended the dDCO (and Explanatory Memorandum) to reflect the change of name, but the Applicant continues to use Highways England branding where appropriate. This is to ensure consistency within the application and to avoid the need for a wasteful and unnecessary exercise of arranging to have all documentation re-issued and re-branded in the new company name.

1.2.31.2.5 The Environment Agency is a non-departmental public body, established in 1995 and sponsored by the Government's Department for Environment, Food and Rural Affairs (Defra), with responsibilities relating to the protection and enhancement of the environment in England. The Environment Agency is responsible for managing the risk of flooding from the main rivers, reservoirs, estuaries and the sea in

England. The Environment Agency is also responsible for:

- regulating major industry and waste
- treatment of contaminated land
- water quality and resources
- fisheries
- inland river, estuary and harbour navigations
- conservation and ecology.

1.3 Terminology

1.3.1 It can be assumed that any matters not specifically referred to in the Issues section of this SoCG are not of material interest or relevance to SNC, and therefore have not been the subject of any discussions between the parties. As such, those matters can be read as agreed, only to the extent that they are either not of material interest or relevance to SNC.

1.3.2 In this SoCG, the issues raised by the Environment Agency are presented alongside a response from Highways England. "Agreed" signifies that there is agreement between the parties that there are no further points to discuss as regards that particular issue, and the Environment Agency is satisfied by the Highways England response.

2 RECORD OF ENGAGEMENT

2.1.1 A summary of the meetings and correspondence that has taken place between Highways England and Environment Agency in relation to the Application is outlined in Table 2.1.

Table 2-1 - Record of Engagement

Date	Form of correspondence	Key topics discussed and key outcomes
28 May 2020	Email	The Environment Agency's (EA) scoping opinion response made reference to a new AWS abstraction in North Tuddenham village and asked to be contacted for details. An enquiry email was sent by Sweco asking for confirmation as to whether the new abstraction had been included in licence information received.
24 February 2020	Email	Consultation email sent regarding proposed hydrological and hydraulic modelling assessment approach for River Tud and minor watercourses
12 March 2020	Email	EA response to Sweco's proposed hydrological and hydraulic modelling approach.
19 March 2020	Meeting - Skype	Meeting to discuss the EAs response to Sweco's proposed hydrological and hydraulic modelling approach in more detail.

Date	Form of correspondence	Key topics discussed and key outcomes
3 June 2020	Meeting - Microsoft Teams	Meeting to present and review the proposed structure design options for the River Tud Bridge crossing.
28 May with further requested info provided 1 July 2020	Email	Baseline flood model provided to EA (and Norfolk County Council) for review.
16 July 2020	Email	Response from EA on flood risk and proximity of structure to River, focussing on geomorphology, WFD and ecology.
20 July 2020	Email	EA review comments on baseline flood modelling.
21 July 2020	Meeting - Microsoft Teams	To discuss the response from EA (dated 16 July 2020).
24 August 2020	Meeting - Microsoft Teams	Discussion on proposed River Tud crossing for ecology, geomorphology and flood risk.
26 August 2020	Email	Email from EA following up on meeting and recommending extra bank distance would be highly desirable, however the EA would not object to current proposals.
10 September 2020	Letter	Letter received from EA following up on the previous 24 August meeting and confirming the EA's advice regarding the margin between the riverbank and cycle path and requirements for mammal pass.
30 September 2020	Telephone – Sweco to EA	<p>Telephone call to check on the EA's broad requirements around dewatering, the use of slurries and grout and the need for risk assessments and working method statements.</p> <p>It was also confirmed that the new source protection zone (SPZ) for East Tuddenham will be published October / November. It's an interim zone (that is, a circle) but we confirmed that this is suitable for planning purposes. A modelled zone for the source is some years off.</p>
7 October 2020	Email	Email requesting detailed assessment approach for road drainage discharges to groundwater.
5 November 2020	Meeting - Microsoft Teams	Meeting to discuss construction of the River Tud crossing
11 November 2020	Email	Email response on detailed assessment approach for road drainage discharges to groundwater, providing guidance on approach to be taken and key concerns.
17 November 2020	Meeting	Progress update meeting for the Proposed Scheme
22 December 2020	Letter	EA review comments on draft version of Drainage Strategy Report.
17 January 2021	Email	Provision of updated baseline and proposed flood modelling for EA review.

Date	Form of correspondence	Key topics discussed and key outcomes
29 January 2021	Letter	EA response and agreement to proposals for compensatory flood storage at the River Tud. (email sent from SWECO 12 Jan 21)
09 February 2021	Email	EA review comments on updated baseline and proposed flood modelling.
09 February 2021	Letter	EA comments on proposals for compensatory flood storage at Oak Farm and Hockering. (email sent from SWECO 19 Jan 21)
18 August 2021	Meeting - Microsoft Teams	Meeting to agree how we address the matters raised in the Environment Agency's Relevant Representations
22 September 2021	Meeting - Microsoft Teams	Meeting to discuss progress on outstanding matters from the Environment Agency's Relevant Representations and draft Statement of Common Ground
5 October 2021	Telephone Call – Sweco to EA	Telephone call to update on progress on outstanding matters from the Environment Agency's Relevant Representations and draft Statement of Common Ground
2 November 2021	Email	From the Environment Agency with comments on the following their review of the revised Hockering model.
3 November 2021	Meeting - Microsoft Teams	Meeting to discuss progress on outstanding matters from the Environment Agency's Relevant Representations, draft Statement of Common Ground and feedback from the Applicant's Additional Information for the LLFA and Environment Agency submitted at Deadline 3
7 December 2021	Meeting - Microsoft Teams	Meeting to discuss updates on outstanding Statement of Common Ground matters.
5 January 2022	Meeting - Microsoft Teams	Meeting to present initial findings of the river condition survey assessment to the Environment Agency.
14 January 2022	Email	From the Environment Agency with comments following their review of the revised Hockering model.
20 January 2022	Email	Email to Environment Agency providing the river condition survey report for review.
25 January 2022	Email	Email from Environment Agency providing update on status of agreed items
28 January 2022	Email	Email from Environment Agency providing comments on the river condition survey report and confirming agreement that it demonstrates that appropriate mitigation can be provided.
02 February 2022	Email	Final SoCG issued to Environment Agency for signing.

2.1.12.1.2 It is agreed that this is an accurate record of the key meetings and consultation undertaken between (1) Highways England and (2) Environment Agency in relation to the issues addressed in this SoCG.

3 ISSUES

3.1 Purpose of this Document

- 3.1.1 Section 3.1 summarises the key issues explored between the Environment Agency and Highways England, whilst the issues are explored in more detail in Sections 3.2 to 3.4.
- 3.1.2 Appendix A to this SoCG contains a copy of Highways England’s comments on the Environment Agency’s Written Representation, which direct the ExA to the Environment Agency’s Relevant Representations explored in Section 3.3.

ES Chapter	Sub-section	Status	Date Agreed
3.2 Issues raised during preparation of the Environmental Statement			
Chapter 2: The Proposed Scheme	River Tud Crossing	Agreed	03/11/2021
	River Tud Crossing construction methodology	Agreed	03/11/2021
Chapter 8 Biodiversity	Consultation – improving biodiversity.	Under discussion Agreed	28/01/2022
Chapter 10 Material assets and waste	Consultation – waste management	Agreed	03/11/2021
Chapter 13 Road drainage and the water environment	Consultation - proposed methodology for flood modelling	Agreed	03/11/2021
	River Tud Crossing	Agreed	03/11/2021
	Consultation - flood risk, drainage, groundwater and the Water Framework Directive	Agreed	03/11/2021
	Design, mitigation and enhancement measures	Agreed	03/11/2021
3.2 Issues related to the Relevant Representations			
RR-066.1	Environment Agency role	Agreed	03/11/2021
RR-066.2	Ecology	Agreed	03/11/2021
RR-066.3	Flood risk	Agreed	03/11/2021

ES Chapter	Sub-section	Status	Date Agreed
RR-066.4	Draft DCO Requirements 4, 6 and 8	See other RR responses below	
RR-066.5	Draft DCO	Agreed	03/11/2021
RR-066.6	Draft DCO Requirement 4	Agreed	03/11/2021
RR-066.7	Draft DCO Requirement 4	Agreed	03/11/2021
RR-066.8	Environmental Management Plan	Agreed	03/11/2021
RR-066.9	Draft DCO Requirement 6	Agreed	03/11/2021
RR-066.10	Draft DCO Requirement 8	Agreed	03/11/2021
RR-066.11	Draft DCO Requirement 8	Agreed	03/11/2021
RR-066.12	Consents and Licences Position Statement	Agreed	03/11/2021
RR-066.13	Consents and Licences Position Statement	Agreed	03/11/2021
RR-066.14	Consents and Licences Position Statement	Agreed	03/11/2021
RR-066.15	Draft DCO Requirement 4	Agreed	03/11/2021
RR-066.16	White-clawed crayfish survey	Agreed	03/11/2021
RR-066.17	Otter and water vole survey	Agreed	03/11/2021
RR-066.18	Environmental Statement Chapter 9 – Geology and Soils (Table 9.4)	Agreed	03/11/2021
RR-066.19	Environmental Statement Chapter 9 – Geology and Soils (Table 9.5)	Agreed	03/11/2021
RR-066.20	Environmental Statement Chapter 9 – Geology and Soils (Table 9.6)	Agreed	03/11/2021
RR-066.21	Environmental Statement Chapter 9 – Geology and Soils (landfill records)	Agreed	03/11/2021
RR-066.22	Environmental Statement Chapter 9 – Geology and Soils (Table 9.8)	Agreed	03/11/2021
RR-066.23	Draft DCO Requirement 6	Agreed	03/11/2021
RR-066.24	Environmental Statement Chapter 10 – Material Assets and Waste 5.1 Appendix 10.2 Outline site waste management	Agreed	03/11/2021
RR-066.25	Flood Risk Assessment	Agreed	03/11/2021

ES Chapter	Sub-section	Status	Date Agreed
RR-066.26	Flood Risk Assessment – River Tud flood compensation	Agreed	03/11/2021
RR-066.27	Flood Risk Assessment – River Tud flood compensation	Agreed	03/11/2021
RR-066.28	Flood Risk Assessment – River Tud flood compensation	To be agreed once confirmed action added to EMP Agreed	28/01/2022
RR-066.29	Flood Risk Assessment – Oak Farm flood compensation	Under discussion Agreed	28/01/2022
RR-066.30	Flood Risk Assessment – Hockering watercourse flood compensation	To be agreed once confirmed action added to EMP Agreed	28/01/2022
RR-066.31	Flood Risk Assessment – Hockering watercourse flood compensation	Under discussion Agreed	28/01/2022
RR-066.32	River Tud Water Framework Directive	Under discussion Agreed	28/01/2022
RR-066.33	River Tud Ecology	Under discussion Agreed	28/01/2022
RR-066.34	River Tud Ecology	Under discussion Agreed	28/01/2022
RR-066.35	Oak Farm and Hockering watercourses' ecology.	Under discussion Agreed	28/01/2022
RR-066.36	Groundwater resources	Agreed	03/11/2021
RR-066.37	Groundwater levels	N/A	
RR-066.38	Source protection zones	Agreed	03/11/2021
RR-066.39	Directional drilling for utilities crossings	Agreed	03/11/2021
RR-066.40	Methodology for groundworks	Agreed	03/11/2021
RR-066.41	Groundwater mitigation (construction)	Agreed	03/11/2021
RR-066.42	Groundwater mitigation (construction)	Agreed	03/11/2021

ES Chapter	Sub-section	Status	Date Agreed
RR-066.43	Groundwater mitigation (design)	Agreed	03/11/2021
RR-066.44	Piling Works Risk Assessment	Agreed	03/11/2021
RR-066.45	Preliminary Risk Assessment for GWDTE (Groundwater Dependent Terrestrial Ecosystems)	Agreed	03/11/2021
RR-066.46	Draft DCO Requirements 4 and 8	Agreed	03/11/2021
RR-066.47	Surface water quality mitigation	Agreed	03/11/2021
RR-066.48	Water Framework Directive - water quality	Agreed	03/11/2021
RR-066.49	ES Appendix 13.3 Water Quality Assessment	Agreed	03/11/2021
RR-066.50	Draft DCO Requirement 4	Agreed	03/11/2021
RR-066.51	Landscape and ecology management plan, Soil management plan, Materials management plan, Site waste management plan, Biosecurity management plan and Invasive non-native species management plan	Agreed	03/11/2021
RR-066.52	Section 3 and Table 3.1: Record of Environmental Actions and Commitments (REAC)	N/A – see other RR responses	
RR-066.53	Water monitoring plans and temporary surface water drainage strategy	Agreed	03/11/2021
RR-066.54	River Tud Crossing - review and approve the detailed design	To be agreed once confirmed action added to EMP Agreed	28/01/2022
RR-066.55	Consultation on construction method statements, risk assessments and piling design.	Agreed	03/11/2021
RR-066.56	Dewatering licence	Agreed	03/11/2021
RR-066.57	Groundwater and surface water monitoring	Agreed	03/11/2021
RR-066.58	Managing catastrophic spills and directional drilling activities	Agreed	03/11/2021
RR-066.59	Local authority to consent mobile plant permits along with the Environment Agency	Agreed	03/11/2021
3.4 Issues related to the Environmental Management Plan, 1st Iteration			
Table 3.1	Flood Risk Activity Permit	Agreed	03/11/2021

ES Chapter	Sub-section	Status	Date Agreed
Table 4.3	Dewatering works within the saturated aquifer.	Agreed	03/11/2021
Table 6.1	Measures to mitigate effects upon surface waters and groundwater during construction	Agreed	03/11/2021

3.2 Issues related to the preparation of the Environmental Statement (ES)

ES Chapter	Paragraph Reference	Sub-section	Environment Agency Comment	Highways England Response	Status
Chapter 2: The Proposed Scheme	2.5.61 - 2.5.62	River Tud Crossing	Requested that the River Tud Crossing meets certain structure requirements	The bridge has been designed in consultation with the Environment Agency. The clear span of the structure meets the EAs proximity requirements in relation to the River Tud extents.	Agreed
	2.6.35	River Tud Crossing construction methodology	Requested updates to the construction sequencing once more detail was known.	Construction sequencing to be implemented and agreed with EA through DCO Requirement 4.	Agreed
Chapter 8 Biodiversity	8.4.11	Consultation – improving biodiversity	A discussion on how the fragmented landscape presents an opportunity for biodiversity net gain and to mitigate habitat severance took place.	<p>Consultation was undertaken with Natural England and the Environment Agency to consider biodiversity improvements.</p> <p>Opportunities to improve biodiversity have been incorporated into the Environmental Masterplan (TR010038/APP/6.8) and will be delivered through DCO Requirement 4.</p> <p>POST NOTE: Following consultation with the Environment Agency, a river condition survey assessment of the river reaches affected by the Proposed Scheme was undertaken. The potential effect was quantified and it was confirmed that proposed works would result in a negative effect. Other reaches of the river have been identified, within the existing DCO boundary, where positive management can improve the condition of these stretches to mitigate for this effect.</p>	Under-discussion Agreed

ES Chapter	Paragraph Reference	Sub-section	Environment Agency Comment	Highways England Response	Status
				The Applicant will continue to consult with the Environment Agency to develop these mitigation measures at detailed design. The Environment Agency will be consulted under DCO Requirement 4 'Environmental Management Plan (EMP - REP7-035), under which they are a named consultee, to review and comment on the development of the Landscape and Ecology Management Plan (Annex B.5 of the EMP).	
Chapter 10 Material assets and waste	Table 10-1	Consultation Environment Agency (14 August 2020): As part of consultation for the overarching A47 Schemes with regards to the summary of the proposed scope within Table 10-1.	<p>The Norfolk waste team note that the answers to the waste questions in Table 10.1 mean further assessments on the quantities likely to be produced are required.</p> <p>They further note this is what would be expected on a scheme of this scale.</p> <p>No further comments specific to this Scheme were made.</p>	<p>Waste and the indicative quantities have been assessed in Chapter 10 (Material assets and waste) (TR010038/APP/6.1/APP-049) of the Environmental Statement.</p> <p>The Environment Agency will be a named consultee under DCO Requirement 4 to enable them to review and comment on the Environmental Management Plan, including associated appendices (e.g. Site Waste Management Plan).</p>	Agreed
Chapter 13 Road drainage and the water environment	13.4	Assessment methodology	A detailed hydrological and hydraulic assessment (including updated flood modelling) required for this Scheme.	The Flood Risk Assessment (FRA) (Appendix 13.1) (APP-124 and APP-125) has been undertaken in accordance with the requirements of the National Policy Statement for National Networks and the National Planning Policy Framework and the Environment Agency's climate change allowances published in 2016.	Agreed

ES Chapter	Paragraph Reference	Sub-section	Environment Agency Comment	Highways England Response	Status
	13.4.11	Consultation - methodology for flood modelling	<p>The Environment Agency were consulted on the lifetime of the Proposed Scheme and the River Tud crossing in June 2020. They noted the following:</p> <ul style="list-style-type: none"> • that a narrow span bridge would not be appropriate and bridge abutments should preferably be out of the floodplain and flood compensation storage would be needed • any construction and operational impacts should be avoided • they would prefer to avoid flood attenuation culverts and any culverting as much as possible 	<p>The Environment Agency were consulted on the proposed methodology for flood modelling in March 2020 and their advice was incorporated into the subsequent assessments.</p> <p>The bridge has been designed in consultation with the Environment Agency. The clear span of the structure meets the EAs proximity requirements in relation to the River Tud extents. The Environment Agency will be a named consultee under DCO Requirement 4 to enable them to review and comment on the detailed design.</p>	Agreed
	13.4.12	River Tud Crossing	<p>The Environment Agency were further consulted on specific proposals for the River Tud crossing at meetings in June, August and November 2020. Agreement in principle was reached regarding a proposed River Tud crossing with specific requirements relating to the offset of the river bank to the structure in order to allow for adequate width for a wildlife corridor and to</p>	<p>River Tud Crossing incorporates requirements for a wildlife corridor and a mammal ledge along the bridge. The Environment Agency will be a named consultee under DCO Requirement 4 to enable them to review and comment on the detailed design.</p>	Agreed

ES Chapter	Paragraph Reference	Sub-section	Environment Agency Comment	Highways England Response	Status
			allow for natural movement of the watercourse over the lifetime of the Proposed Scheme.		
	13.4.21	Consultation - flood risk, drainage, groundwater and the Water Framework Directive	The Environment Agency and Norfolk County Council are continuing to be consulted on matters relating to flood risk, drainage, groundwater and the Water Framework Directive.	The Flood Risk Assessment, drainage assessment, groundwater assessment and the Water Framework Directive are all presented within 13 (RDWE) and associated appendices of the ES (TR010038/APP/6.1). The Environment Agency will be a named consultee under DCO Requirement 4 to enable them to review and comment on the detailed design and the Environmental Management Plan.	Agreed
	13.11.2	Design, mitigation and enhancement measures	There are proposed works directly over and in close proximity to a main river (the River Tud), a number of ordinary watercourses, and within Principal and Secondary aquifers.	<p>Monitoring of main rivers, local ordinary watercourses and aquifers at risk from pollution and changes to groundwater levels and flow should be carried out prior to and during the construction phase, subject to confirmation with the Environment Agency.</p> <p>Monitoring requirements would be discussed and agreed with the Environment Agency prior to construction and these requirements should be outlined in the EMP. These commitments will be delivered under DCO Requirement 4 'Environmental Management Plan' in which the Environment Agency will be a named consultee.</p> <p>As part of the Environmental Management Plan, a Water Management and Monitoring Plan (WMMP) will be further developed (outline WMMP was submitted at Deadline 3 (REP3-027)) at detailed design and will</p>	Agreed

ES Chapter	Paragraph Reference	Sub-section	Environment Agency Comment	Highways England Response	Status
				include details on the surface water and groundwater monitoring programme.	

3.3 Issues related to the Relevant Representations

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
RR-066.1	<p>APPLICATION BY HIGHWAYS ENGLAND FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE A47 NORTH TUDDENHAM TO EASTON PROJECT Please find below our relevant representation for the A47 North Tuddenham to Easton project.</p> <p>The Role of the Environment Agency The Environment Agency is a statutory consultee on all applications for development consent orders. We have a responsibility for protecting and improving the environment, as well as contributing to sustainable development. We have three main roles:</p> <p>(i) We are an environmental regulator – we take a risk-based approach and target our effort to maintain and improve environmental standards and to minimise unnecessary burdens on business. We issue a range of permits and consents.</p> <p>(ii) We are an environmental operator – we are a national organisation that operates locally. We work with people and communities across England to protect and improve the environment in and</p>	<p>The Applicant has recognised the role of the Environment Agency in its consultation and discussions with the Environment Agency prior to the application for a DCO being submitted.</p> <p>The Applicant will continue to work with the Environment Agency as the detailed design progresses, should the DCO be granted.</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	<p>integrated way. We provide a vital incident response capability.</p> <p>(iii) We are an environmental advisor – we compile and assess the best available evidence and use this to report on the state of the environment. We use our own monitoring information and that of others to inform this activity. We provide technical information and advice to national and local governments to support their roles in policy and decision-making. One of our specific functions is as a Flood Risk Management Authority. We have a general supervisory duty relating to specific flood risk management matters in respect of flood risk arising from Main Rivers or the sea. Overview and issues of concern.</p> <p>Our relevant representation outlines where we consider further work, clarification or mitigation is required to ensure that the proposal has no detrimental impact on the environment.</p>		
RR-066.2	<p>We have highlighted that further information is required in respect of assessing and mitigating the potential impacts of shading on the ecology of the River Tud at the proposed crossing.</p>	<p>The Applicant is continuing to liaise with the Environment Agency to provide the information required to clarify the assessment and mitigation for potential impacts from shading on the ecology of the River Tud at the proposed crossing.</p>	Agreed
RR-066.3	<p>We are broadly satisfied with the assessments and proposals in respect of managing fluvial flood risk, subject to a number of points of clarification and a review of the detailed design. In general we are also satisfied with the approach taken to date and the mitigation proposed in respect of protecting surface water quality and groundwater resources. We have made a number of observations in respect</p>	<p>The Applicant is grateful for the positive feedback from the Environment Agency with regards the proposals to manage flood risk and proposed mitigation for surface and ground water resources.</p> <p>The Applicant is continuing to liaise with the Environment Agency to provide the information required in response to their observations and has responded below to the</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	of these issues and have highlighted that we will need to review further assessments and the detailed proposals prior to development commencing.	requested DCO Requirement changes.	
RR-066.4	We have requested an amendment to Requirement 6, and that we are added as a named consultee to Requirements 4 and 8. Please do not hesitate to contact me if you require any further information. We look forward to continuing to work with the applicant to resolve the matters outlined within our relevant representation to ensure the best environmental outcome for the project.		Agreed
RR-066.5	1.0 Document 3.1 Draft Development Consent Order (DCO) 1.1 We note that the applicant is not seeking to dis-apply environmental permits. We would like to remind the applicant that it will be necessary to apply for and have in place all necessary permits prior to any works commencing.	The Applicant acknowledges the requirement to apply for, and have in place, all necessary permits prior to any works commencing. This process will begin in early 2022 and the Applicant will consult with the Environment Agency on the permit requirements.	Agreed
RR-066.6	1.2 Requirement 4 requires the preparation of an Environmental Management Plan (EMP) and associated documents. The EMP is a mechanism to ensure the delivery of mitigation measures during the construction phase as outlined in the Environmental Statement, including those in Chapter 13 Road drainage and the water environment. Although we are generally satisfied with the approach taken in identifying the potential adverse effects of the proposed scheme on surface water quality and groundwater resources, and with the mitigation outlined to date, the Environment	The Environment Agency will be a named consultee under the DCO Requirement 4 'Environmental Management Plan' and will be able to review and comment on the detailed design and through the application of permits.	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	Agency should have the opportunity to review and comment on the detailed proposals prior to construction.		
RR-066.7	1.3 The Environment Agency should be included as a named consultee in respect of Requirement 4, for matters relevant to our remit.	Requirement 4 of the dDCO has been updated as follows: 4.—(1) No part of the authorised development, except for the ecological works, is to commence until an EMP (Second Iteration) for that part, substantially in accordance with the EMP (First Iteration) has been submitted to and approved in writing by the Secretary of State, following consultation by the undertaker with the relevant planning authority, and local highway authority and the Environment Agency to the extent that the content of the EMP (Second Iteration) relates to matters relevant to their functions.	Agreed
RR-066.8	1.4 Given that construction activity will be required to take place in and around areas of fluvial Flood Zone 2 and 3 (medium and high probability), an Emergency Flood Plan should be prepared. It is currently not clear whether such a document will form part of the EMP, and this should be confirmed.	Action RD2 in the record of environmental actions and commitments, which forms Table 3.1 in the Environmental Management Plan (APP-143), proposes emergency response procedures to manage risks to people and property during construction. Action RD2 also confirms construction method statements and other requirements would need to be approved by the Environment Agency, Norfolk Rivers District Internal Drainage Board and Norfolk County Council (the Lead Local Flood Authority) as required by their respective consenting and approvals. The commitment to deliver this action will be secured through dDCO Requirement 4 'Environmental Management Plan'.	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
RR-066.9	1.5 We support the inclusion of Requirement 6 Contaminated land and groundwater, and we welcome the inclusion of the Environment Agency as a named consultee. However, the proposed wording should be amended. The determination of the need for remediation in part (2) should be based on a consideration of the risk assessment by all parties, rather than determined solely by the undertaker. Additionally, and also in respect of part (2), remedial measures should be taken to render the land fit for its intended purpose and to prevent any impacts on controlled waters.	Requirement 6 of the dDCO has been updated as follows: (2) Where the risk assessment prepared in accordance with sub-paragraph (1) undertaker determines that remediation of the contaminated land is necessary, a written scheme and programme for the remedial measures to be taken to render the land fit for its intended purpose and to prevent any impacts on controlled waters must be submitted to and approved in writing by the Secretary of State, following consultation by the undertaker with the relevant planning authority on matters related to its function and the Environment Agency.	Agreed
RR-066.10	1.6 Requirement 8 is concerned with Surface and foul water drainage. As detailed below, we are generally satisfied with the approach proposed to date. However, work on the detailed drainage design is on-going. It will be important for us to review and confirm that the detailed proposals are acceptable.	The Environment Agency will be a named consultee under DCO Requirement 8 'Surface and foul water drainage' and will be able to review and comment on the detailed design and through the application of permits under both parts (1) and (2).	Agreed
RR-066.11	1.7 The Environment Agency should therefore be a named consultee in respect of Requirement 8 Surface and foul water drainage system.	Requirement 8 of the dDCO has been updated as follows: 8.—(1) No part of the authorised development, except for the ecological works, is to commence until, for that part, written details of the surface and foul water drainage system, reflecting the drainage strategy and the mitigation measures set out in the REAC including means of pollution control, have been submitted and approved in writing by the Secretary of State following consultation by the undertaker with the relevant planning authority and the Environment Agency on matters related to its function.	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p>8.—(2) The surface water drainage system must be constructed in accordance with the approved details, unless otherwise agreed in writing by the Secretary of State following consultation by the undertaker with the lead local flood authority and the Environment Agency on matters related to its function, provided that the Secretary of State is satisfied that any amendments to the approved details would not give rise to any materially new or materially different environmental effects in comparison with those reported in the environmental statement.</p>	
RR-066.12	<p>2.0 Document 3.3 Consents and Licences Position Statement 2.1 We note the inclusion of Appendix A - Table of Consents and Agreements as required from consenting authorities, including the Environment Agency. We welcome early discussions on these authorisations and note that progress is to be reported in a Statement of Common Ground.</p>	<p>The Applicant is continuing to liaise with the Environment Agency and will be discussing the required authorisations.</p>	Agreed
RR-066.13	<p>2.2 It should be noted that the Environment Permitting (England and Wales) Regulations from 2007 onwards replaced the permitting system in the Pollution Prevention and Control Act. Guidance on this can be found in the DEFRA Environmental Permitting: Core Guidance document.</p>	<p>The comments from the Environment Agency have been noted and the Consents and Agreements Position Statement has been updated (REP1-005).</p>	Agreed
RR-066.14	<p>2.3 On the issue of 'Waste and Materials', it should be noted that an Environmental Permit will be required for the importation and treatment of waste material falling outside the scope or limits detailed in either a Regulatory Position Statement or a waste exemption. In respect of 'Waste Materials',</p>	<p>The comments from the Environment Agency have been noted and the Consents and Agreements Position Statement has been updated (REP1-005).</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	the consenting authority for certain mobile plant permits such as concrete crushers is the relevant local authority, and therefore they should be listed along with the Environment Agency.		
RR-066.15	3.0 Document 6.1 Environmental Statement Chapter 8 - Biodiversity 3.1 This chapter details the loss of some habitat types that fall within the footprint of the work, and acknowledges that compensatory habitat can take some time to re-establish (including floodplain grazing marsh and mixed deciduous woodland). We note that compensatory habitat is to be delivered, monitored and managed through the Landscape and Ecology Management Plan (LEMP), as part of the Environmental Management Plan (EMP). The EMP falls under Requirement 4, and as highlighted in 1.2 (above) we would wish to be consulted on this.	Please see the response to RR66.07; the dDCO has been amended accordingly.	Agreed
RR-066.16	3.2 The results of the white-clawed crayfish survey (Appendix 8.5), show that the invasive signal crayfish have become much more numerous in the past 3-4 years, and that numbers of white clawed crayfish have further declined. The remaining population of white clayed crayfish is extremely vulnerable to crayfish plague. It must be ensured that any work in or near the water will be preceded by strict biosecurity measures, in particular a thorough Check-Clean-Dry of machinery equipment and clothing must be undertaken. Such measures must be included in the EMP.	The Environmental Management Plan (APP-143) will contain Annexes B.6 Biosecurity Management Plan and B.10 Invasive Non-Native Species, to be produced prior to construction. These plans will describe the biosecurity and invasive species control measures to be applied during construction of the Project. The commitment to deliver these plans will be secured through dDCO Requirement 4 'Environmental Management Plan'.	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
RR-066.17	<p>3.3 As laid out in section 5.2.3 of the Otter and water vole survey report (Appendix 8.14), measures must be in place to ensure that otters can move freely up and down the watercourse ensuring access during both construction and scheme operation. Excavations and trenches must be covered overnight to prevent entrapment, and permanent fencing should be in place to exclude otter from the carriageway. We note the proposed installation of otter ledges at new culverts and the River Tud crossing.</p> <p>3.4 The Otter and water vole survey report (Appendix 8.14), also states that measures must be in place during construction to ensure that water vole are not impacted. A 5m buffer is to be retained from the top of the bank of the River Tud. Any displacement, if required, must be carried out within the displacement window 15 February – 15 April under Natural England licence. We note the reference to these measures in the EMP table 3.1 Record of Environmental Actions and Commitments (REAC).</p>	<p>All these measures are recorded under action BD8 in the record of environmental actions and commitments, which forms Table 3.1 in the Environmental Management Plan (APP-143). The commitment to deliver this action will be secured through dDCO Requirement 4 'Environmental Management Plan'.</p>	Agreed
RR-066.18	<p>4.0 Document 6.1 Environmental Statement Chapter 9 – Geology and Soils 4.1 In respect of Table 9-4: Sensitivity of receptor; we would suggest that any aquifer, principal or secondary, which supports potable supply should be accorded 'very high' values. However, we note that within Table 9-13: Determination of the significance of residual effects, 'Groundwater' as a feature (encompassing</p>	<p>The ES Chapter 9 Geology and Soils (APP-048) does align regarding the sensitivity value prescribed for groundwater receptors. Table 9.13 gives a "Very High" sensitivity for Groundwater principal and secondary A aquifers based on Table 9-4 of the ES Chapter 9 and DMRB LA 113.</p> <p>The Applicant confirms that the assessment undertaken in ES Chapter 9 primarily addresses the risk to groundwater receptors from contamination in geology or the soils from</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	both principal and secondary aquifer) is identified as having 'very high' sensitivity.	<p>disturbance and mobilisation of contamination during construction and operation. Controlled water risks (including the effects on groundwater and abstractions) are assessed further in ES Chapter 13 Road drainage and the water environment (APP-052).</p> <p>The Applicant acknowledges that EA comments in respect of Table 9.4 still apply, but the EA are satisfied with the overall conclusions of ES chapter 9 in respect of pollution impacts and proposed mitigation.</p>	
RR-066.19	4.2 Regarding Table 9-5: Magnitude of impact; any impacts on groundwater abstraction, whether those abstractions are used for public or private potable supply, should be deemed to be of major magnitude. It will be essential to apply the principle that no private drinking water supplies can be derogated, even temporarily, without the prior consent of the owner and the provision of mitigation measures.	<p>The ES Chapter 9 Geology and Soils (APP-048) addresses the risk to groundwater from disturbance or mobilisation of contamination in the geology and soils during construction and operation only. The impact and effect on groundwater is assessed further in ES Chapter 13 Road drainage and the water environment (APP-052). The magnitude of impact and sensitivity of receptor applied in Table 9-5 is compliant with that specified in DMRB LA 109 and LA 113.</p> <p>POST NOTE: The Applicant acknowledges that EA comments in respect of Table 9.5 still apply, but the EA are satisfied with the overall conclusions of ES chapter 9 in respect of pollution impacts and proposed mitigation.</p>	Agreed
RR-066.20	4.3 Table 9-6: Baseline data. We have a few corrections to make in respect of this table. We would highlight that both the chalk and the sand & gravel aquifers are used for private domestic (i.e. potable) supplies in the area of the scheme, not just for agricultural purposes as recorded in the table. The new Anglian Water Services Public Water Supply borehole is in East Tuddenham not North Tuddenham; the associated Source Protection	<p>Existing text regarding the private abstractions does not specifically include private potable use as well as the currently mentioned agriculture and industrial processes. The impact and effect on abstractions, regardless of end use, are assessed within ES Chapter 9 Geology and Soils (APP-048) and ES Chapter 13 Road drainage and the water environment (APP-052).</p> <p>While the description of the SPZ may not match exactly</p>	Agreed.

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	Zone 1 (SPZ1) should be assumed to extend 250m to east, south and west in addition to 1 km to the north. For information, the site was licensed in September 2020, to take water from the chalk for public supply, all year round.	<p>the extents as it stands, this does not materially affect the assessment of risks to the abstraction, and all abstractions, in ES Chapter 9. The SPZ lies >1km to the south of the Scheme and therefore does not intersect the new road layout. The Applicant acknowledges there is an on-going requirement to consider the SPZs and this will be secured under DCO Requirement 4.</p> <p>See also the Applicant's response to RR-066.38.</p> <p>POST NOTE: Issue managed under Action RD3 in the Environmental Management Plan.</p>	
RR-066.21	4.4 Regarding 'Landfill records' and baseline data, records of former landfills taking 'inert' waste should be substantiated. Prior to regulation, proper records of waste types deposited were not kept, and records that do exist have been found to be incorrect at other sites.	<p>The type of waste described as 'inert' when the landfill operated may not align with current inert definitions and could include a wider selection of wastes, but is the description in the source information consulted.</p> <p>The description of the waste types accepted by the landfill do not alter the outcome of the assessment as the landfill is outside of the Scheme and therefore not likely to be encountered.</p>	Agreed, but original comment will remain a consideration during future discussions
RR-066.22	4.5 For table 9-8: Potential receptors; this should include East Tuddenham SPZ1 and private groundwater abstractors.	Please see the response to RR-066.20.	Agreed
RR-066.23	4.6 As highlighted above, we support the inclusion within the draft DCO of Requirement 6 Contaminated land and groundwater, but have suggested two amendments to the proposed wording. We welcome the inclusion of the Environment Agency as a named consultee in respect of that Requirement.	Please see the response to RR66.09; the dDCO (APP-017) has been amended accordingly.	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
RR-066.24	5.0 Document 6.1 Environmental Statement Chapter 10 – Material Assets and Waste 5.1 Appendix 10.2 Outline site waste management plan is comprehensive in its current form. But the references at 10.1.20 and 10.1.32 to the Environmental Permitting (England and Wales) Regulations 2010, should be updated to Environmental Permitting (England and Wales) Regulations 2016.	This is a typographical error and it does not affect the assessment and proposed mitigation reported in ES Chapter 10 Material assets and waste (APP-049).	Agreed
RR-066.25	6.0 Document 6.1 Environmental Statement Chapter 13 – Road Drainage and Water Environment and Appendices 6.1 In respect of fluvial flood risk, a Flood Risk Assessment (FRA) has been prepared and is included as Appendix 13.1. We are generally satisfied with the FRA and with the proposed approach to managing fluvial flood risk across the scheme, subject to clarification on the points outlined below.	The Applicant notes that the Environment Agency is generally satisfied with the flood risk assessment and the proposed approach to managing fluvial flood risk subject to clarification of further points which are responded to below.	Agreed
RR-066.26	6.2 The FRA confirms that a compensatory flood storage scheme is required to compensate for the loss of floodplain storage at the proposed River Tud crossing. As highlighted at paragraph 13.4.13 of ES Chapter 13, the Applicant has previously provided information to us to demonstrate that the flood storage area indicated in drawing HE551489-GTY-ELS-000-DR-LX-30012 from document 6.8 Environmental Masterplan, has the potential to directly compensate on a volume-for-volume and level-for-level basis to prevent a loss of floodplain storage.		Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
RR-066.27	6.3 However, the submitted FRA does not currently include clear confirmation that appropriate flood storage compensation can be delivered. Further information, possibly as an addendum to the FRA, should be provided as part of the DCO application to demonstrate that the required volumes have been assessed and can be appropriately provided.	As agreed with the Environment Agency, the Applicant has provided further evidence at Deadline 3 (REP3-026) illustrating how the flood compensation storage area would fit into the landscape to demonstrate that the flood storage compensation for the River Tud crossing can be delivered. This has met the requirements of the EA.	Agreed
RR-066.28	6.4 FRA paragraph 7.1.2, in respect of the River Tud compensatory storage scheme, states that: “The proposal will be further reviewed at detailed design, where it will be appropriately contoured and sensitively tied into the landscape following the provision of updated topographic survey”. The Environment Agency would wish to review and agree that detail. It is not currently clear which mechanism will be used to enable us to review and approve the detailed design. This should be confirmed. It would not be appropriate for this matter to be agreed as part of a Flood Risk Activity Permit.	The Environment Agency will be a named consultee under dDCO (APP-017) Requirement 4 'Environmental Management Plan' and will be able to review and comment on the detailed design of the flood compensatory storage area under RD9 of Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-143). POST NOTE: Action RD9 in Table 3.1 will be amended, in the next iteration of the Environmental Management Plan was amended to be and issued to the ExA at Deadline 7.5 or 6, to make clear that this requirement will be achieved through the DCO and not through permits .	To be agreed once confirmed action added to EMP Agreed
RR-066.29	6.5 The potential requirement for flood compensatory storage on the Oak Farm tributary is discussed at paragraph 7.2.3 of the FRA. This paragraph states: “it is proposed that no flood compensatory storage is provided. This has been agreed, in principle, with Norfolk County Council subject to the provision of more detail of the flood risk impacts within this assessment”. It is not clear whether the provision of more detail is already contained within this assessment or is to be added. As above, the mechanism for reaching the final	As stated in RR-037.61, ES Chapter 13 (APP-052) and the Flood Risk Assessment (APP-124 and APP-125) the Applicant recognises that the agreement regarding the requirement for floodplain compensation storage is subject to further information being provided. This is also reflected by the DCO boundary still including land for the provision of potential flood storage compensation for works on the watercourse at Oak Farm; i.e., reflecting our recognition flood storage compensation may still be required. The Applicant is engaging with landowner about the potential need to use their land for floodplain	Under discussion Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	<p>agreement on this issue needs to be defined. If flood compensatory storage is not provided, flood risk to an area of arable land will increase. For that scenario, it should be confirmed that any landowner affected is accepting of the increased risk.</p>	<p>compensation.</p> <p>The final flood compensation need will be determined in consultation with Norfolk County Council and Environment Agency as part of the detailed design development in support of applications for the required land drainage consents. The Environment Agency will be a named consultee under dDCO (APP-017) Requirement 4 'Environmental Management Plan' and as part of the process under Requirement 4 an action will be added to Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-143) to enable the Environment Agency to review and comment on the final proposals at Oak Farm tributary.</p> <p>POST NOTE: Further information was provided at Deadline 3 (REP3-026) to the Environment Agency and Norfolk County Council with regards to further information on the impacts of the Proposed Scheme at the Oak Farm tributary.</p> <p>The Applicant is engaging with landowner about the potential need to use their land for floodplain compensation and met on 4th October 2021 to discuss the flood risk impacts. In response to Environment Agency request, the Applicant will obtain written confirmation from the landowner that they accept the increase in flood risk on their land and way forward agreed on the call.</p> <p>POST NOTE: The Applicant met with the landowners of Rickwood Farm on 4 October 2021. At this meeting we described the impact of the Proposed Scheme with the existing flood extent being displaced northwards and increased by the new road and flood bund. We also described the intention for habitat creation \ stream restoration upstream of the Proposed Scheme to mitigate</p>	

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p>against the impact of additional culverting. In follow up correspondence with the landowners they have accepted the situation and we agreed to hold further consultation at detailed design stage to maximise the use of the area affected by flood risk for habitat mitigation and confirm final permanent and temporary land take needs by summer 2022 to confirm what land can be cropped in 2023.</p>	
RR-066.30	<p>6.6 Regarding the possible need for compensatory flood storage on the Hockering watercourse, paragraph 7.3.2 of the FRA states that: “A detailed topographic survey is currently being undertaken, therefore the estimated volume of floodplain storage displaced will be reviewed at detailed design”. As above, the mechanism for reviewing and agreeing the final design needs to be defined.</p>	<p>The Environment Agency will be a named consultee under dDCO (APP-017) Requirement 4 'Environmental Management Plan'. Under Requirement 4 the Environment Agency will be consulted to ensure a suitable action is added to Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-143) to require appropriate review and comment on the revised estimate of floodplain storage volume displaced based on the detailed design.</p> <p>REVISED WORDING TO CLARIFY: Action RD9 to be added to Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-143REP7-036) has been amended to require appropriate allow review and comment by the Environment Agency to review and comment on the revised estimate of floodplain storage volume displaced based on the detailed design.</p>	<p>To be agreed once confirmed action added to EMP Agreed</p>
RR-066.31	<p>6.7 Paragraph 7.3.1 of the FRA notes that there will be a small displacement of water on the Hockering watercourse, calculated to be 27m³. The paragraph states: “Due to the poor quality of LiDAR within this area and the fact that cross-sections are mainly based on interpolation, an uncertainty allowance of</p>	<p>Further information was provided at Deadline 3 (REP3-026) to the Environment Agency and Norfolk County Council with regards to the additional flood modelling undertaken to assess the impacts of the Proposed Scheme at the Hockering tributary and to improve the accuracy of the lost floodplain volume.</p>	<p>Under discussion Agreed</p>

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	<p>20% has been included in the estimate". As stated at ES paragraph 13.9.36, we agree that no compensatory storage would be required for a loss in floodplain storage of 27m3. However, the Applicant should confirm that the 20% uncertainty allowance is a sufficient worst case scenario, and that there is no risk that a detailed topographic survey would change the amount of water displaced sufficiently to result in a compensatory storage scheme becoming required.</p>	<p>The Environment Agency has responded requesting some further information to support the Applicant's view that flood compensatory storage is not required due to the lack of off-site impacts. This information will be provided at Deadline 5.</p> <p>The ExA will be kept informed of outcome of this exercise during the DCO Examination process, and the Applicant expects to be in a position to issue an update or further information at Deadline 3. If required, appropriate updates will be made to the DCO application documents and submitted to the ExA.--</p> <p><u>POST NOTE: The Environment Agency has reviewed the revised hydraulic modelling report and the revised 1D-2D model for the Hockering tributary and has confirmed that no flood storage compensation is required. Following their model review, the Environment Agency has asked for some comments to be addressed at detailed design stage. The mechanism to secure this will be under DCO Requirement 4 'Environmental Management Plan' (REP7-035) where the Environment Agency are a named consultee.</u></p>	
RR-066.32	<p>6.8 In respect of surface water and ecology, paragraph 13.8.28 of the ES considers the potential impact of the River Tud crossing on the watercourse. Although shading is considered in respect of its potential effects on channel stability, structural damage and increasing sediment, the potential impact of the new 30m wide bridge deck on Water Framework Directive (WFD) Biological quality elements does not appear to have been assessed.</p>	<p>Open areas and areas of dense shading occur along the River Tud at a catchment scale and this provides the river with a greater degree of biodiversity than if all areas along the Tud were open. ES Appendix 8.4 Appendix 8.4 – River Tud Corridor Aquatic Invertebrate Survey (APP-099) states "It is considered that any proposed works in and around the River Tud will have little impact on the invertebrate species recorded as long as mitigatory measures are taken to maintain river low rates and prevent possible sedimentation build up during works that may effect surface run-off or disturb the integrity of the</p>	<p>Under discussion awaiting discussion on results of October /November River Ecology surveys <u>Agreed</u></p>

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p><i>river's bankside."</i> Shading from the proposed crossing will therefore have no effect on the invertebrate assemblage associated with the River Tud. In addition, the length of the River Tud area at the point of the crossing is shaded by trees.</p> <p>The Applicant is working with the Environment Agency to provide further assessment information on the macrophyte cover and marginal vegetation associated with the river at this point, to determine what compensatory measures, if any, would be required for loss of riparian vegetation in this area of the Tud due to shading.</p> <p>The ExA will be kept informed of outcome of this exercise during the DCO Examination process, and the Applicant expects to be in a position to issue further information at Deadline 5. If required, appropriate updates will be made to the DCO application documents and submitted to the ExA.</p> <p><u>POST NOTE:</u></p> <p><u>Following consultation with the Environment Agency, a river condition survey assessment of the river reach affected by the River Tud Crossing was undertaken. The potential effect was quantified using the Biodiversity Metric 3.0 and it was confirmed that proposed River Tud Crossing would result in a negative effect. Other reaches of the river have been identified, within the existing DCO boundary, where positive management can improve the condition of these stretches to mitigate for this effect.</u></p> <p><u>The Applicant will continue to consult with the Environment Agency to develop these mitigation measures at detailed design. The Environment Agency will be consulted under DCO Requirement 4.</u></p>	

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p>‘Environmental Management Plan (EMP - REP7-035), under which they are a named consultee, to review and comment on the development of the Landscape and Ecology Management Plan (Annex B.5 of the EMP). An addendum to the Water Framework Directive assessment presented in the ES Chapter 13 (APP-052) will be completed once the measures have been developed at detailed design.</p>	
RR-066.33	<p>6.9 Shading of the River Tud at this location may have profound impacts on the aquatic, marginal and bankside vegetation assemblage and consequently create a ‘dead zone’ where shading is densest. If vegetation is shaded out there will be a permanent loss of habitat for invertebrate species, and subsequently fish and mammal species as well. For some fish species dense shade is a barrier to migration. It should be demonstrated that the impact of shading has been assessed both alone, and in combination with the existing crossing which will be retained and with other relevant projects.</p>	<p>The River Tud has a number of areas that are both shaded and open, with a diversity of woodland and grassland habitats along its banks. The length of the crossing will not produce a tunnel effect so will not create a “dead zone” or a dispersal barrier for fish, therefore does not have an impact alone or in-combination. A water body with a variety of open and shaded areas creates variation in microclimatic conditions that is of benefit to different species.</p> <p>POST NOTE: Following consultation with the Environment Agency, a river condition survey assessment of the river reach affected by the River Tud Crossing was undertaken. The potential effect was quantified and it was confirmed that proposed River Tud Crossing would result in a negative effect. Other reaches of the river have been identified, within the existing DCO boundary, where positive management can improve the condition of these stretches to mitigate for this effect.</p> <p>The Applicant will continue to consult with the Environment Agency to develop these mitigation measures at detailed design. The Environment Agency will be consulted under DCO Requirement 4 ‘Environmental Management Plan (EMP - REP7-035), under which they are a named consultee, to review and</p>	<p>Under discussion— awaiting discussion on results of October /November River Ecology surveys <u>Agreed</u></p>

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p>comment on the development of the Landscape and Ecology Management Plan (Annex B.5 of the EMP). An addendum to the Water Framework Directive assessment presented in the ES Chapter 13 (APP-052) will be completed once the measures have been developed at detailed design. The Applicant is committed to working with the Environment Agency to resolve their concerns.</p>	
RR-066.34	<p>6.10 Drawing HE551489-GTY-ELS-000-DR-LX-30012 (from document 6.8 Environmental Masterplan), identifies an area for potential enhancement measures in the vicinity of the River Tud crossing. There must be confidence that ecological enhancements, which are to be detailed at a later stage, will be capable of appropriately compensating and mitigating any adverse effects of the proposals, including those caused through shading. The River Tud is priority Chalk Stream Habitat, which are protected under the Natural Environment and Rural Communities Act 2006 (NERC). The proposed development must also ensure that there is no deterioration in the current WFD status of the River Tud, and must not prevent the waterbody from achieving 'Good' status in the future. Further information is required to demonstrate that measures will be provided to mitigate all impacts of the proposed crossing.</p>	<p>The Applicant acknowledges the comment regarding the confidence in the potential enhancement measures in the vicinity of the River Tud crossing to compensate and mitigate against the impacts on aquatic and riparian ecology. As outlined in the Applicant's response to RR-066.32, further assessment is being undertaken and the ExA will be kept informed of the outcome. This further survey will cover the area of the proposed crossing and other areas of watercourses to be affected by the Scheme and all areas being considered for proposed mitigation. The survey will comprise a river metric survey including a rivers condition assessment, to enable the Biodiversity Metric 2.0 to be used to quantify baseline habitats, habitats lost, restored and created. The survey data and analysis data will also inform the ecological compensation and mitigation measures to be developed during the detailed design stage to achieve no deterioration in the current WFD status of the River Tud and avoid preventing the waterbody achieving 'Good' status in the future.</p> <p>Following consultation with the Environment Agency, a river condition survey assessment of the river reach affected by the River Tud Crossing was undertaken. The potential effect was quantified and it was confirmed that proposed River Tud Crossing would result in a negative effect. Other reaches of the river have been identified.</p>	<p>Under discussion—awaiting discussion on results of October/November River Ecology surveys Agreed</p>

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p>within the existing DCO boundary, where positive management can improve the condition of these stretches to mitigate for this effect.</p> <p>The Applicant will continue to consult with the Environment Agency to develop these mitigation measures at detailed design. The Environment Agency will be consulted under DCO Requirement 4 'Environmental Management Plan (EMP - REP7-035), under which they are a named consultee, to review and comment on the development of the Landscape and Ecology Management Plan (Annex B.5 of the EMP). An addendum to the Water Framework Directive assessment presented in the ES Chapter 13 (APP-052) will be completed once the measures have been developed at detailed design.</p>	
RR-066.35	<p>6.11 Paragraph 13.8.30 of the ES highlights the impacts of the new and extended culverts on the ecology of the Oak Farm and Hockering watercourses. Paragraph 13.9.11 outlines the proposed mitigation and enhancement measures. Further information will be required to fully demonstrate that the detailed measures proposed will provide adequate compensation for the impacts on the specific ecology of the affected watercourses from the permanent loss of riparian habitat.</p>	<p>As outlined in the Applicant's response to RR-066.32 and RR-066.34, the Applicant is working with the Environment Agency to provide further information to confirm the measures proposed will provide adequate compensation for the impacts on the specific ecology of the affected watercourses from the permanent loss of riparian habitat. As for the ecology of the Oak Farm and Hockering watercourses, the further survey will cover the area of the proposed crossing and other areas of watercourses to be affected by the Scheme and all areas being considered for proposed mitigation. As outlined in the Applicant's response to RR-066.32, the ExA will be kept updated and, if required, DCO application documents will be updated.</p> <p><u>POST NOTE:</u></p> <p>Following consultation with the Environment Agency, a river condition survey assessment of the river reaches</p>	<p>Under-discussion Agreed</p>

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p>affected by the additional culverting and those proposed reaches for mitigation, was undertaken. The potential effect was quantified and it was confirmed that additional culverting at Oak Farm and Hockering would result in a negative effect. Other areas have been identified, within the existing DCO boundary, where mitigation measures can be implemented to improve the condition of these stretches to mitigate for this effect.</p> <p>The Applicant will continue to consult with the Environment Agency to develop these mitigation measures at detailed design. The Environment Agency will be consulted under DCO Requirement 4 'Environmental Management Plan (REP7-035), under which they are a named consultee, to review and comment on the development of the Landscape and Ecology Management Plan. An addendum to the Water Framework Directive assessment presented in the ES Chapter 13 (APP-052) will be completed once the measures have been developed at detailed design.</p>	
RR-066.36	6.12 In respect of groundwater resources and quality, we would comment that in Table 13-1 Criteria for Estimating the Importance of Water Environment Attributes, the 'high' category should include principal and secondary aquifers supporting all drinking water supplies (public and private). In Table 13-2 Estimating the Magnitude of an Impact on an Attribute, we note that the 'major beneficial' category includes 'recharge of an aquifer. Artificial recharge to the chalk aquifer must be precluded.	<p>The details provided in Table 13-1 of ES Chapter 13 (APP-052) are provided as set out in the DMRB LA113, however the Applicant agrees with comments that any aquifer providing a local important resource for drinking water supplies, whether principal or secondary, should be considered "high" importance. Table 13-7 highlights that the secondary superficial aquifers are assigned "high" importance due to private water supplies (for drinking water purposes).</p> <p>The Applicant accepts the comments that artificial recharge to the Chalk aquifer must be precluded and</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		confirms that the Scheme does not include artificial recharge directly to the Chalk aquifer.	
RR-066.37	6.13 Paragraph 13.5.2 considers groundwater levels. We would suggest that the February/March 2021 levels are likely to be representative of maxima.	<p>Groundwater level information collected over this period will be used in any further hydrogeological impact assessments during the detailed design stage and for determination of any dewatering requirements.</p> <p>Full details of the groundwater level information used for the environmental impact assessment is provided in ES Appendix 13.4 Groundwater Assessment (APP-129). This is based on groundwater level monitoring collected as part of a ground investigation undertaken between March 2020 and August 2020.</p>	N/A
RR-066.38	6.14 With reference to paragraph 13.5.5, the temporary source protection zones for the new public water supply abstraction at East Tuddenham are available online.	<p>A temporary source protection zone for the new public water supply abstraction at East Tuddenham is available online. The extents of the potential SPZ1 used in the assessments, as presented in ES Figure 13.7 (APP-079), extends beyond the temporary source protection zone and therefore provides a conservative approach to protection of the public water supply abstraction.</p> <p>POST NOTE: The Applicant acknowledges there is an on-going requirement to consider the SPZ and this will be secured under DCO Requirement 4.</p>	Agreed
RR-066.39	6.15 Paragraph 13.8.15 refers to the use of directional drilling for utilities crossings. Where directional drilling is to be used, the Environment Agency must be consulted prior to any works to agree a method statement. Any such works must not alter the hydraulic continuity or otherwise between strata, must use inert drilling fluids, and	The Environment Agency will be a named consultee under dDCO (APP-017) Requirement 4 'Environmental Management Plan'. Under Requirement 4, the Environment Agency will be consulted to ensure a suitable action is added to Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-143) so the Environment Agency	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	should include monitoring and breakout mitigation plans.	<p>are consulted on the method statement directional drilling for utilities crossings.</p> <p>POST NOTE: Action RD3 in the Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (REP7-036) has been amended as requested by the Environment Agency.</p>	
RR-066.40	6.16 With reference to paragraph 13.8.16; the Environment Agency would like to be consulted on the methodology for any groundworks with the potential to disrupt vertical hydraulic gradients.	<p>The Environment Agency will be a named consultee under dDCO (APP-017) Requirement 4 'Environmental Management Plan'. Under Requirement 4, the Environment Agency will be consulted to ensure a suitable action is added to Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-143) so the Environment Agency are consulted on the methodology for any groundworks with the potential to disrupt vertical hydraulic gradients.</p> <p>The potential impacts of groundworks, including their potential to disrupt vertical hydraulic gradients are considered in ES Appendix 13.4 Groundwater Assessment (APP-129). Furthermore, a supplementary ground investigation is to focus on collection of additional information to inform groundworks and detailed design. Hydrogeological impact assessments will therefore be updated at the detailed design stage.</p> <p>POST NOTE: Action RD3 in the Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (REP7-036) has been amended as requested by the Environment Agency.</p>	Agreed
RR-066.41	6.17 The potential for impacts from spillages on shallow groundwater during construction should be included in Table 13.8. We note that this potential	The Applicant accepts that it is not clear that spillages from shallow groundwater during construction have been considered in Table 13.8 of ES Chapter 13, but it is	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	<p>impact is included in Table 13.9 which considers potential effects during the operation of the proposed scheme.</p>	<p>considered and is combined with “earthworks within the saturated aquifer, including excavations, ground improvement, utilities, pilings, and cuttings” on page 72. The potential impacts from spillages on shallow groundwater are discussed in paragraph 13.9.19 and considered in ES Appendix 13.4 Groundwater Assessment (APP-129).</p>	
RR-066.42	<p>6.18 In respect of the Drainage Strategy Report (Appendix 13.2), and paragraph 6.8.5, we would comment that no hazardous substances can be permitted to enter groundwater irrespective of the dilution potential.</p>	<p>The HEWRAT assessment referred to in paragraph 6.8.5 of ES Appendix 13.2 Drainage Strategy Report considers routine runoff only, using copper and zinc as indicative soluble substances, which are classed as non-hazardous substances.</p> <p>Hazardous substances are considered likely to result from a catastrophic spill, the risk of which is considered in the spillage assessment (see ES Appendix 13.3 Water quality assessment (APP-128)) and ES Appendix 13.4 Groundwater assessment (APP-129).</p> <p>POST NOTE: Under Requirement 4 of the DCO, the Environment Agency will be consulted on the findings of updated impact assessment based on additional survey and supplementary ground investigation.</p>	Agreed
RR-066.43	<p>6.19 We are pleased to note that filter drains will not be employed over areas where groundwater is within 1 m of the ground surface or within SPZ1. We request that drainage basins should also be excluded from these settings.</p>	<p>The ES Appendix 13.2 Drainage Strategy Report (APP-126 and APP-127) highlights that infiltration basins have been discounted because of poor ground conditions and other constraints on discharging to ground. The Scheme would utilise drainage detention basins discharging to outfall to nearby watercourses. There are no planned drainage basins within an SPZ2 or SPZ1, specifically, the temporary SPZs for the East Tuddenham abstraction.</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
RR-066.44	6.20 We look forward to being consulted on Piling Works Risk Assessment (and those for other below-ground structures) in terms of obstruction to groundwater flow, water quality and the preclusion of contaminant mobilisation.	The piling works risk assessment will incorporate baseline groundwater monitoring from the 2020 and 2021 ground investigation.	Agreed
RR-066.45	6.21 We also look forward to seeing the Preliminary Risk Assessment for GWDTE (Groundwater Dependent Terrestrial Ecosystems) and groundwater abstractions, and any subsequent Hydrogeological Impact Assessments for sites in proximity to underground works, along with water features surveys for drainage at cuttings.	<p>The preliminary risk assessment for GWDTE and additional information on the hydrogeological impact assessment relating to below ground structures is contained within ES Appendix 13.4 Groundwater Assessment (APP-129).</p> <p>The impact assessment will be updated during detailed design phase, once the findings of a supplementary ground investigation are available. Water features surveys will also be undertaken at this stage, and the findings will be shared with the Environment Agency.</p> <p>POST NOTE: Under Requirement 4 of the DCO, the Environment Agency will be consulted on the findings of updated impact assessment based on additional survey and supplementary ground investigation.</p>	Agreed
RR-066.46	6.22 Overall, we are generally satisfied with the proposals and information outlined in the Drainage Strategy Report, but as indicated we will need to review and confirm that further assessments and the detailed proposals for both the construction and operational stages are acceptable. As highlighted above with regards to the draft DCO, the Environment Agency should therefore be a named consultee in respect of Requirement 8 (Surface and foul water drainage system), and, for matters	The Environment Agency will be a named consultee in respect of the draft DCO Requirements 4 'Environmental Management Plan' and parts (1) and (2) of Requirement 8 'Surface and foul water drainage'. The draft DCO was updated at Deadline 3 to include this requirement (REP3-010).	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	relevant to our remit, Requirement 4 (Environmental Management Plan).		
RR-066.47	6.23 In respect of surface water quality, we are satisfied with the consideration of potential issues and with the general principles of the proposed mitigation measures for construction and operation. As mentioned, we would want to review the detailed proposals.	<p>The Environment Agency will be a named consultee in respect of dDCO (APP-017) Requirements 4 'Environmental Management Plan' and 8 'Surface and foul water drainage'. In this role the Environment Agency will be able to review Annex B.7 Water monitoring and management plan of the Environmental Management Plan (APP-143). Under Requirement 4 the Environment Agency will be consulted to ensure a suitable action is added to Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (APP-143) so suitable consultation is undertaken on the detailed drainage design under RD10.</p> <p><u>POST NOTE: Action RD10 in the Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (REP7-036) has been amended as requested by the Environment Agency.</u></p>	Agreed
RR-066.48	6.24 With regards to water quality and WFD, chapter 13 includes reference to no impact on the 'overall WFD status of the waterbodies'. There should be no deterioration in the status of any of the quality elements; it should be made clear that this has also been considered and is also the case.	<p>The Water Framework Directive assessment is provided in ES Chapter 13 Water and Road Drainage Environment (APP-052). It states that there will be not be any significant impacts caused to the water environment from the Scheme when the mitigation measures identified in the chapter are in place. The status of the ecological and chemical quality elements were considered in the assessment. Construction and operational activities affecting the Tud and indirectly the Wensum (DS Norwich) and Yare (Tiffey to Wensum) water bodies are considered to cause no deterioration in the status of any of the quality elements and should not prevent future attainment of WFD water body targets.</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		Mitigation and enhancement measures are set out in the Record of Environmental Actions and Commitments which forms Table 3.1 in the Environmental Management Plan (APP-143). Delivery of these commitments, including consultation with the Environment Agency, will be secured through dDCO (APP-017) Requirements 4 'Environmental Management Plan' and 8 'Surface and foul water drainage'.	
RR-066.49	6.25 We have reviewed the Water Quality Assessment (Appendix 13.3). We support the proposed approach to identify and put in place mitigation measures to ensure that sediment and other pollutants will not impact on the water quality of receiving watercourses. We look forward to reviewing the detail.	Mitigation and enhancement measures are set out in the Record of Environmental Actions and Commitments which forms Table 3.1 in the Environmental Management Plan (APP-143). Delivery of these commitments, including consultation with the Environment Agency, will be secured through dDCO (APP-017) Requirements 4 'Environmental Management Plan' and 8 'Surface and foul water drainage'.	Agreed
RR-066.50	7.0 Document 7.4 Environmental Management Plan 7.1 With reference to paragraph 1.1.6, we note that the following documents are to be prepared to mitigate potential adverse effects upon surface waters and groundwater during construction: • a water monitoring and management plan • a temporary surface water drainage strategy 7.2 As highlighted above, the Environment Agency should be included as a named consultee in respect of Requirement 4, to enable us to review and comment on relevant documents.	Please see the response to RR66.7; the dDCO (APP-017) has been amended accordingly.	Agreed
RR-066.51	7.3 Other plans that we would also wish to review include the Landscape and ecology management plan, Soil management plan, Materials	These documents have been listed as annex B management plans within the outline Environmental Management Plan (EMP) (APP-143) to be produced by	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
	management plan, Site waste management plan, Biosecurity management plan and Invasive non-native species management plan (if prepared as a separate document).	the Principal Contractor and included in the second iteration of the EMP prior to construction. The Applicant will continue to consult with the Environment Agency as the detailed design of the Scheme continues to develop and on the production of these listed documents.	
RR-066.52	7.4 We have reviewed Section 3 and Table 3.1: Record of Environmental Actions and Commitments (REAC). We have the following comments at this time:	The Applicant has responded to the comments below.	N/A
RR-066.53	7.5 BD4 & RD1 – we note the reference to the use of construction best practice in relation to pollution prevention and water management. As highlighted, the Environment Agency should be consulted on the water monitoring plans and temporary surface water drainage strategy.	Delivery of these commitments will be secured through dDCO (APP-017) Requirements 4 'Environmental Management Plan' and 8 'Surface and foul water drainage'. See responses to RR-066.6, RR-066.7, RR-066.10 and RR-066.11 confirming the Environment Agency will be named as a consultee in respect of Requirement 4 Environmental Management Plan and Requirement 8 Surface and foul water drainage system.	Agreed
RR-066.54	7.6 RD2 & RD9 – In addition to the above, specifically in respect of the proposed compensatory flood storage area upstream of the River Tud Crossing, it should be noted that the Environment Agency should review and approve the detailed design. This should be progressed as part of the DCO process and not through an Environmental Permit.	See responses to RR-066.6, RR-066.7, RR-066.10 and RR-066.11 confirming the Environment Agency will be named as a consultee in respect of Requirement 4 Environmental Management Plan and Requirement 8 Surface and foul water drainage system. As part of the process under Requirement 4, actions RD2 and RD9 would be reviewed in Table 3.1: Record of Environmental Actions and Commitments, when developing the second iteration of the Environmental Management Plan (APP-143), to allow the Environment Agency an opportunity to review the detailed design for the proposed compensatory flood storage area upstream of the River Tud Crossing	To be agreed once confirmed action added to EMP Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		<p>before submission with a permit application.</p> <p>POST NOTE: Action RD9 in Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (REP7-036) has been amended to allow the Environment Agency to review and comment on the detailed design. Action RD9 in Table 3.1 will be amended, in the next iteration of the Environmental Management Plan to be issued to the ExA at Deadline 5 or 6, to make clear that this requirement will be achieved through the DCO and not through permits.</p>	
RR-066.55	7.7 RD3 – we note that the Environment Agency is to be consulted on construction method statements and risk assessments. We should also be consulted on piling design.	<p>The Environment Agency will be a named consultee in respect of dDCO (APP-017) Requirements 4 'Environmental Management Plan'. Under Requirement 4, the Environment Agency will be consulted to amend Action RD3 in Table 3.1 in the second iteration of the Environmental Management Plan (APP-143) to reflect this expectation.</p> <p>POST NOTE: Action RD3 in the Table 3.1: Record of Environmental Actions and Commitments in the Environmental Management Plan (REP7-036) has been amended as requested by the Environment Agency.</p>	Agreed
RR-066.56	7.8 RD5 (and Table 4.1) – dewatering can only be undertaken without a licence at the rates quoted in the tables if the dewatering works for the whole scheme will last for a period of 6 consecutive months or less. If dewatering will occur over a longer time frame, the maximum rate at which dewatering can be undertaken without an abstraction licence is 20 m3/d.	<p>The Environment Agency will be a named consultee in respect of dDCO (APP-017) Requirements 4 'Environmental Management Plan'. Under Requirement 4, the Environment Agency will be consulted to ensure Table 4.1 and Action RD5 in Table 3.1 in the Environmental Management Plan (APP-143) correctly reflect this commitment.</p> <p>POST NOTE: Action RD5 in the Table 3.1: Record of Environmental Actions and Commitments and Table 4.1 in</p>	Agreed

Relevant Representation Section	Environment Agency Comment	Highways England Response	Status
		the Environmental Management Plan (REP7-036) have been amended as requested by the Environment Agency.	
RR-066.57	7.9 RD10 – we would like to see the groundwater and surface water monitoring proposal and an assessment of the areas where groundwater is judged to be less than 1m below the drainage system.	<p>The Applicant will submit the monitoring plan to the Environment Agency for comment at detailed design stage. This will include plans showing areas where groundwater is judged to be less than 1m below the drainage system, based on supplementary ground investigations, and an assessment of the impacts.</p> <p>This will be provided within the Annex B.7 Water monitoring and management plan of the Environmental Management Plan (APP-143). The Environment Agency will be a named consultee in respect of dDCO (APP-017) Requirement 4 'Environmental Management Plan'.</p>	Agreed
RR-066.58	7.10 The EMP does not currently appear to consider how catastrophic spills affecting the surface water drainage systems will be dealt with, or how any directional drilling activities will be managed. These issues should be addressed.	The Environment Agency will be a named consultee in respect of dDCO (APP-017) Requirement 4 'Environmental Management Plan'. Under Requirement 4 the Applicant will consult with the Environment Agency to ensure the Environmental Management Plan (APP-143) is appropriately updated to include how catastrophic spills and direct drilling activities will be managed.	Agreed
RR-066.59	7.11 Regarding Table 4.1 – it should be noted that the Environment Permitting (England and Wales) Regulations from 2007 onwards replaced the permitting system in the Pollution Prevention and Control Act. It should also be noted that the consenting authority in the case of certain mobile plant permits such as concrete crushers is the local authority and therefore they should be listed along with the Environment Agency	The Applicant confirms this is an error and will update Table 4.1 in the second iteration of the Environmental Management Plan (APP-143), in consultation with the Environment Agency.	Agreed

3.4 Issues related to the Environmental Management Plan, 1st Draft

Paragraph Reference	Environment Agency Comment	Highways England Response	Status
Table 3.1	Obtain a Flood Risk Activity Permit from the Environment Agency for works within 8m of the River Tud	Flood Risk Activity Permit to be obtained by the Environment Agency pre-construction. These commitments will be delivered under DCO Requirement 4 'Environmental Management Plan' in which the Environment Agency will be a named consultee.	Agreed
Table 4.3 Dewatering	Works within the saturated aquifer may require dewatering. Dewatering volumes above 100m ³ /day require a transfer or abstraction licence. A licensing exemption limit may be reduced to 50m ³ /day, depending on whether there are conservation sites within 500m or springs, wells or boreholes used to supply water for any lawful use within 250m of the proposed abstraction. If the dewatering works for the whole scheme will last for a period of longer than 6 consecutive months, the maximum rate at which dewatering can be undertaken without an abstraction licence is 20 m ³ /d.	To be assessed and obtained pre-construction if required. These commitments will be delivered under DCO Requirement 4 'Environmental Management Plan' in which the Environment Agency will be a named consultee.	Agreed
Table 6.1	Measures to mitigate potential adverse effects upon surface waters and groundwater during the construction phase	Inspections and audits along with general monitoring and reporting of effectiveness of control measures to be carried out throughout the construction programme. These commitments will be delivered under DCO Requirement 4 'Environmental Management Plan' in which the Environment Agency will be a named consultee. As part of the Environmental Management Plan, a Water Management and Monitoring Plan (WMMP) will be further developed (an outline WMMP was submitted at Deadline 3 (REP3-027)) at detailed design and will include details on the surface water and groundwater monitoring programme.	Agreed

APPENDIX A – Applicant’s Comments on Environment Agency’s Written Representation

The Environment Agency’s Written Representation is available at:

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010038/TR010038-000445-D1_Environment%20Agency%20-%20Written%20Representations%20\(WRs\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR010038/TR010038-000445-D1_Environment%20Agency%20-%20Written%20Representations%20(WRs).pdf)

Environment Agency Comment	Applicant’s Response
<p>1.0 Document 3.1 Draft Development Consent Order (DCO)</p> <p>1.1 We previously requested that the Environment Agency be included as a named consultee in respect of Requirement 4 (Environmental Management Plan (EMP)), for matters relevant to our remit. This remains outstanding.</p>	<p>Please see responses RR-066.6 and RR-066.7 in the Applicant’s Responses to the Relevant Representations (REP1-013). Requirement 4 of the dDCO (APP-017) has been updated accordingly.</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>1.2 We also requested confirmation that an Emergency Flood Plan would be provided, given that construction activity will be required to take place in and around areas of fluvial Flood Zone 2 and 3 (medium and high probability). This could be as part of the EMP or as a standalone document.</p>	<p>Please see response RR-066.8 in the Applicant’s Responses to the Relevant Representations (REP1-013).</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>1.3 We supported the inclusion of Requirement 6 Contaminated land and groundwater, but the proposed wording should be amended. The determination of the need for remediation in part (2) should be based on a consideration of the risk assessment by all parties, rather than determined solely by the undertaker. Additionally, and also in respect of part (2), remedial measures should be taken to render the land fit for its intended purpose and to prevent any impacts on controlled waters. We await confirmation of these changes.</p>	<p>Please see response RR-066.9 in the Applicant’s Responses to the Relevant Representations (REP1-013). Requirement 6 of the dDCO (APP-017) has been updated accordingly.</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>1.4 We have highlighted that the Environment Agency should be a named consultee in respect of Requirement 8 Surface and foul water drainage system, to enable us to review and confirm that the detailed proposals are acceptable. For clarity, we would add that this should be in respect of both part (1) and (2) of Requirement 8.</p>	<p>Please see response RR-066.11 in the Applicant’s Responses to the Relevant Representations (REP1-013).</p> <p>The Applicant has further amended Requirement 8 so that the Environment Agency is a named consultee in part (2) as well.</p>
<p>2.0 Document 3.3 Consents and Licences Position Statement</p>	<p>Please see responses RR-066.13 and RR-066.14 in the Applicant’s Responses</p>

Environment Agency Comment	Applicant's Response
<p>1.0 Our Relevant Representation highlighted some amendments that should be made to Appendix A - Table of Consents and Agreements. We look forward to viewing an updated version of this document.</p>	<p>to the Relevant Representations (REP1-013).</p> <p>The applicant and The EA continue to work together to prepare a SoCG. Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019). .</p>
<p>2.2 As stated within Appendix A, progress on consents required from the Environment Agency will be reported in a Statement of Common Ground (SoCG). We have now agreed with the Applicant a process for progressing the SoCG. All necessary permits must be in place prior to any works commencing.</p>	<p>The Applicant is working with the Environment Agency to prepare a SoCG with the aim of submitting a first issue to the ExA as additional information prior to the November hearings.</p>
<p>3.0 Document 6.1 Environmental Statement Chapter 8 - Biodiversity</p> <p>3.1 We highlighted in our Relevant Representation several measures to be included in the EMP, or in the Landscape and Ecology Management Plan (LEMP), which will form an Annex to the EMP. We would wish to review the further detail on these measures proposed for inclusion in the second iteration of the EMP, and therefore should be added as a named consultee for Requirement 4.</p>	<p>Please see responses RR-066.16, 17, 28, 29, 30, 39, 40 and 46 to 50 in the Applicant's Responses to the Relevant Representations (REP1-013). As per their response at Deadline 2 (REP2-019), the Environment Agency has accepted the responses subject to some additional amendments to the EMP:</p> <ul style="list-style-type: none"> • RR-061.28 - RD9 in Table 3.1 is amended to make clear that this action will be achieved through the EMP. • RR-061.29 – the action is added to Table 3.1 in the EMP to enable the Environment Agency to review and comment on the final proposals at Oak Farm tributary. <p>The Applicant confirms these actions will be added to the EMP (APP-143) and will re-issue the EMP by Deadline 5 to include these and other committed ahead of the development of iteration 2 under Requirement 4 of the dDCO (REP2-005).</p>
<p>4.0 Document 6.1 Environmental Statement Chapter 9 – Geology and Soils</p> <p>4.1 We highlighted a number of required amendments to Table 9-6: Baseline data in our Relevant Representation, and that records of former landfills taking 'inert' waste should be substantiated. We also emphasised the importance of ensuring that no private drinking water supplies will be derogated, even temporarily, without the prior consent of the owner and the provision of mitigation measures.</p>	<p>Please see response RR-066.20, RR-066.21 and RR-061.38 in the Applicant's Responses to the Relevant Representations (REP1-013). Responses have been accepted by the Environment Agency subject to some additional amendments to the EMP:</p> <p>As per their response at Deadline 2 (REP2-019), the Environment Agency has accepted the responses subject to the Applicant continuing to bear in mind risks to SPZs. The Applicant's confirms SPZs will continue to be considered during the detailed design stage.</p>

Environment Agency Comment	Applicant's Response
<p>5.0 Document 6.1 Environmental Statement Chapter 10 – Material Assets and Waste</p> <p>5.1 We confirmed that Appendix 10.2 Outline site waste management plan is sufficient, but that the references at 10.1.20 and 10.1.32 to the Environmental Permitting (England and Wales) Regulations 2010, should be updated to Environmental Permitting (England and Wales) Regulations 2016.</p>	<p>Please see response RR-066.24 in the Applicants Responses to the Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>6.0 Document 6.1 Environmental Statement Chapter 13 – Road Drainage and Water Environment and Appendices</p>	<p>Please see response RR-066.25 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>6.1 In respect of fluvial flood risk, we have stated that we are generally satisfied with the Flood Risk Assessment (FRA), and with the proposals to manage fluvial flood risk across the scheme, subject to clarification on a number of points and the inclusion of some further information.</p>	<p>Please see response RR-066.26 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>6.2 The Applicant has confirmed that further information to demonstrate that the required flood storage compensation at the proposed River Tud crossing can be accommodated is being prepared and will be submitted as an addendum to the FRA. We are satisfied with this approach and look forward to reviewing the addendum.</p>	<p>Please see response RR-066.27 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Issue still in discussion with the Environment Agency, but way forward agreed as per their response at Deadline 2 (REP2-019).</p> <p>The Applicant has issued further information at Deadline 3 to respond to the Environment Agency's query.</p>
<p>6.3 As previously highlighted, the Environment Agency would wish to review and agree the detailed River Tud compensatory flood storage scheme. The mechanism through which we will be consulted on this should be confirmed; it is not clear whether this would be through consultation on the EMP for example. It would not be appropriate for this matter to be considered as part of a Flood Risk Activity Permit consultation.</p>	<p>See response RR-066.28 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>As per their response at Deadline 2 (REP2-019), the Environment Agency has accepted the response subject to action BD9 being amended RR-061.28 - RD9 in Table 3.1 is amended to make clear that this action will be achieved through the EMP.</p> <p>The Applicant confirms this will be added to the EMP (APP-143) and will re-</p>

Environment Agency Comment	Applicant's Response
	<p>issue the EMP by Deadline 5 to include the commitment ahead of the development of iteration 2 under Requirement 4 of the dDCO (REP2-005).</p>
<p>6.4 In response to our questions regarding the potential requirement for flood compensatory storage on the Oak Farm tributary, the Applicant has advised that a further statement will be provided to address the points we have raised, along with those highlighted by Norfolk County Council as the Lead Local Flood Authority (LLFA). We look forward to reviewing that statement.</p>	<p>Please see response RR-066.29 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>As per their response at Deadline 2 (REP2-019), the Environment Agency has accepted the response subject to action being added to Table 3.1 to make clear that this action will be achieved through the EMP.</p> <p>The Applicant confirms this will be added to the EMP (APP-143) and will re-issue the EMP by Deadline 5 to include the commitment ahead of the development of iteration 2 under Requirement 4 of the dDCO (REP2-005).</p>
<p>6.5 Regarding the possible need for compensatory flood storage on the Hockering watercourse, we understand from the Applicant that the flood model is being updated with the outputs from the detailed topographical survey. This will provide a better understanding of the situation, and further detail on the implications of the scheme on this watercourse will subsequently be provided. Again, we look forward to reviewing that information.</p>	<p>Please see response RR-066.30 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>As per their response at Deadline 2 (REP2-019), the Environment Agency has accepted the response subject to the action being added to Table 3.1 to make clear that this action will be achieved through the EMP.</p> <p>The Applicant confirms this will be added to the EMP (APP-143) and will re-issue the EMP by Deadline 5 to include the commitment ahead of the development of iteration 2 under Requirement 4 of the dDCO (REP2-005).</p> <p>The Applicant has also issued further information at Deadline 3 to respond to the Environment Agency's query in RR-0066.31 about Hockering watercourse.</p>
<p>6.6 In respect of surface water and ecology, in our Relevant Representation we stated it should be demonstrated that the potential impact of the new 30m wide bridge deck over the River Tud has been fully assessed. This was particularly in relation to the impact of shading on aquatic, marginal and bankside vegetation. Impacts should be considered both alone, and in combination with the retained existing crossing and with any other relevant projects.</p>	<p>Please see response RR-066.32 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>With regards the Environment Agency's comment on 'shading' in their response at Deadline 2 (REP2-019), the Applicant will explore this issue further with Environment Agency following completion of the river metric survey (see response box below) to inform discussions to confirm the compensatory measures, if any, required for loss of riparian vegetation in this area of the Tud due to shading.</p>

Environment Agency Comment	Applicant's Response
<p>6.7 We also stated that there must be certainty that the outlined ecological measures, and the areas identified across the scheme within which such measures will be accommodated, will be sufficient to appropriately compensate and mitigate all adverse impacts. This is relevant to those impacts arising from the new structure over the Tud, but also applies to the impacts of the new and extended culverts on the ecology of the Oak Farm and Hockering watercourses.</p>	<p>The Applicant is working with the Environment Agency to provide further assessment information/surveys on the baseline characteristics of the area in question with a view to establishing that the proposed compensatory, mitigation and enhancement measures for the specific ecological impacts and water courses are appropriate to the level of impact likely to occur.</p>
<p>6.8 The Applicant has confirmed, through discussions, that further survey and assessment work is being undertaken on the River Tud and the Hockering and Oak Farm tributaries. This work will consider in more detail the scale of ecological impacts and opportunities for mitigation and enhancements and will be completed during the Examination. We welcome this confirmation and look forward to reviewing the results of the assessments and considering the measures proposed.</p>	<p>A river condition survey is planned in October 2021 to enable the biodiversity river metric to be used to quantify baseline habitats, habitats lost, restored and created. The ExA will be kept informed of the outcome of this exercise during the DCO Examination process. The outcome will also be recorded in the Statement of Common Ground with the Environment Agency. If required, appropriate updates will be made to the DCO application documents and submitted to the ExA.</p>
<p>6.9 In respect of groundwater resources and quality, our Relevant Representation included (from sections 6.12 – 6.22) a number of comments and observations on ES Chapter 13 and accompanying Appendices. We also highlighted the occasions when it should be ensured that we are consulted. We await to see how the points raised have been addressed.</p>	<p>Please see responses RR-066.36 to RR-066.46 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as illustrated by their response at Deadline 2 (REP2-019).</p> <p>The Applicant also confirms an updated EMP (APP-143) will be issued by Deadline 5 to include the commitments ahead of the development of iteration 2 under Requirement 4 of the dDCO (REP2-005).</p> <p>The Applicant has further amended Requirement 8 so that the Environment Agency is a named consultee in part (2) as well.</p>
<p>6.10 Our Representation included, at section 6.19, a request that 'drainage basins' as well as filter drains are excluded from areas where groundwater is within 1m of the ground surface or within Source Protection Zone 1 (SPZ1). For clarity, 'drainage basins' should be taken to include any drainage feature that has the capacity to create a pathway to an unconfined aquifer for potentially contaminated water (even if that water is partially treated). Any such features should not be located in these areas without a clear demonstration that groundwater quality would not be affected.</p>	<p>Please see response RR-066.43 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as illustrated by their response at Deadline 2 (REP2-019).</p> <p>The Applicant also acknowledges the additional clarification and shall continue to work with the Environment Agency to develop a SoCG to agree the position on drainage basins and clarify the interpretation of the term 'drainage basins'.</p>

Environment Agency Comment	Applicant's Response
<p>6.11 Section 6.21 of our Relevant Representation stated that we would wish to review the Preliminary Risk Assessment for GWDTE (Groundwater Dependent Terrestrial Ecosystems) and groundwater abstractions, and any subsequent Hydrogeological Impact Assessments for sites in proximity to underground works, along with water features surveys for drainage at cuttings. For clarity, we can confirm that the consideration of GWDTE in the Groundwater Assessment (APP-129 6.3 ES Appendices Appendix 13.4) is sufficient at this time. However, we would wish to see the further assessments that are referred to in paragraph 4.2.11 of the Groundwater Assessment. This states that these are to be undertaken after the supplementary ground investigation has been completed. If significant impacts are subsequently anticipated, a risk assessment will be needed in order to determine and agree the relevant mitigation measures from the EMP.</p>	<p>Please see response RR-066.45 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>As stated in the RR response, the applicant shall continue to share the results of further assessments with the EA.</p> <p>Response accepted by the Environment Agency, as illustrated by their response at Deadline 2 (REP2-019).</p>
<p>6.12 In respect of surface water quality, we previously highlighted that we are generally satisfied with the consideration of potential issues and with the principles of the proposed mitigation measures for construction and operation. It should be made clear that there will be no deterioration in the status of any of the Water Framework Directive quality elements, in addition to the overall WFD status. We should be provided with the opportunity to review and comment on the detailed proposals.</p>	<p>Please see response RR-066.47 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as illustrated by their response at Deadline 2 (REP2-019).</p>
<p>7.0 Document 7.4 Environmental Management Plan</p>	<p>Please see responses RR-066.6 and RR-066.7 in the Applicant's Responses to the Relevant Representations (REP1-013). Requirement 4 of the dDCO (APP-017) has been updated accordingly.</p>
<p>7.1 Our Relevant Representation re-emphasised that we should be included as a named consultee in respect of Requirement 4, and outlined the specific plans, strategies and assessments that we should be consulted on.</p>	<p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>7.2 We also highlighted that dewatering can only be undertaken without a licence at the rates quoted in section RD5 of Table 3.1 and Table 4.1 if the dewatering works for the whole scheme will last for a period of 6 consecutive months or less. If dewatering will occur over a longer time frame, the maximum rate at which dewatering can be undertaken without an abstraction licence is 20 m³/d</p>	<p>Please see response RR-066.56 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>

Environment Agency Comment	Applicant's Response
<p>7.3 Additionally in respect of table 4.1, we highlighted that the Environment Permitting (England and Wales) regulations from 2007 onwards replaced the permitting system in the pollution Prevention and control Act. And that the consenting authority for certain mobile plant permits such as concrete crushers is the local authority and therefore they should be listed along with the Environment Agency.</p>	<p>Please see response RR-066.59 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>
<p>7.4 We previously stated that the EMP does not currently appear to consider how catastrophic spills affecting the surface water drainage systems will be dealt with. We note that emergency procedures are to be included within Appendix D, which should address this concern, and we look forward to reviewing that section of the EMP prior to construction.</p>	<p>Please see response RR-066.58 in the Applicant Responses Relevant Representatives (REP1-013).</p> <p>Response accepted by the Environment Agency, as per their response at Deadline 2 (REP2-019).</p>