

Oxford Flood Alleviation Scheme



Environmental Statement Addendum

February 2023

Prepared by Jacobs on behalf of the Environment Agency




Quality Assurance

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<i>Author</i>	<i>Bronwyn Lee</i>

Approvals

<i>Name</i>	<i>Signature</i>	<i>Title</i>	<i>Date</i>	<i>Version</i>
<i>Phil Marsh</i>	<i>PM</i>	<i>Project Manager</i>	<i>21/02/23</i>	<i>2</i>

EIA Quality Mark



This Environmental Statement, and the Environmental Impact Assessment (EIA) carried out to identify the significant environmental effects of the proposed development, was undertaken in line with the EIA Quality Mark Commitments.

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New/Updated Appendices (new information highlighted in blue, updated information highlighted in orange)

A	Engineering Drawings (Updated)
B	Scoping opinion and Pre-Application Advice and Environmental Update Note (No Change)
C	Ecological Appraisal and Survey (Updated)
D	Protected Species Reports (No Change)
E	Invasive Species Reports (No Change)
F	Arboricultural Assessment, Tree Survey and Vegetation Management (replacing Appendix F of the ES)
G	Environmental Action Plan (replacing Appendix G of ES)
H	Air Quality (replaces Appendix H of ES)
I	Landscape (replaces Appendix I of ES)
J	Archaeological and heritage information (No Change)
K	Habitat Regulations Assessment (HRA) Screening Report (No Change)
L	Water Environment Regulations (WER) Compliance Assessment (No Change)
M	Transport Assessment (No Change)
N	Planning Policy Statement (No Change)
O	Materials Management Plan (No Change)
P	Soil Resource Survey Report (No Change)
Q	Modelling Review of Removing Channel (replacing Appendix Q of the ES)
R	Flora and Fauna Legal Compliance (No Change)
S	Biodiversity Net Gain Calculator (supplementing Appendix S of the ES)
T	Carbon calculator calculations (New Information)
U	Multi Criteria Analysis (MCA) Report 2017 (New Information)
V	Landscape and Habitat Management Plan (Updated)

New/Updated Figures (new information highlighted in orange, updated information highlighted in blue)

1.1	Scheme overview (Updated)
1.2	Typical cross-section of first and second stage channel (No Change)
1.3	Study area and Scheme boundary (Updated)
1.4	Flood Extents (Updated)
2.1	Potential sites for permanent land-raising (No Change)
3.1	Scheme overview (Updated)
3.2	Indicative site compound at South Hinksey (No Change)
3.3	Old Abingdon Road / Kennington Road temporary diversion route (No Change)
5.1	Local community and socio-economic assets (Updated)
6.1	Recreation and public access (Updated)
6.2	Public Rights of Way: closures and diversions (No Change)
6.3	Informal paths and permissive access routes: closures and diversions (Updated)
6.4	New permissive path along the maintenance access track (No Change)
7.1	Study Area for Landscape and Visual Impact Assessment (Updated)
7.2a/b	Zone of Theoretical Visibility (Updated)
7.3a/b	Oxfordshire Historic Landscape Characterisation (Updated)

- 7.4 National character areas (Updated)
- 7.5a/b Regional character areas (Updated)
- 7.6a/b Local landscape character areas (Updated)
- 7.7a/b Viewpoint location plan (Updated)
- 8.1 Nature conservation designations (Updated)
- 8.2 UK Habitat Classification (UKHab) Plan (Updated)
- 8.3 Priority habitats prior to Scheme (Updated)
- 8.4 Bridges where bat roosts have been confirmed (No Change)
- 8.5 Priority habitats after Scheme construction and mitigation (Updated)
- 9.1 Hydrological and wetland features (Updated)
- 10.1 Archaeological remains (Updated)
- 10.2 Historic buildings (Updated)
- 11.1 Study area for traffic and transport assessment (Updated)
- 12.1 Made ground and potential sources of contamination (Updated)
- 12.2 Agricultural Land Holdings (New Figure)
- 13.1 Affected road network, key sensitive human and ecological receptors (Updated)
- 13.2 Air Quality Management areas and Local Authority Air Quality Monitoring (Updated)
- 16.1 Haul roads and sidings red line boundary (No Change)
- 16.2 Haul route to the rail sidings (No Change)

New/Updated Tables

1.3	New or updated information
3.1	Description of Scheme
6.1	New and updated impacts on PRow
8.6	Priority and non-priority habitats with above local value
8.8	New impacts on habitats during construction
8.11	Updated summary of potential habitat gains and losses
8.12	The suitability of soils with different extractable phosphorous levels for floodplain-meadow creation or restoration (New table)
8.13	Canopy cover gains and losses (New table)
12.2	Summary of land holdings affected by the Scheme (New table)
12.3	Residual impacts on agricultural land holdings (New table)
12.4	The suitability of soils with different extractable phosphorous levels for floodplain-meadow creation or restoration.
17.1	Provisional monitoring schedule

A table of New/Updated Drawings are in Appendix A of this document and also within the associated Planning Statement Addendum.

1 Introduction

1.1 Overview of ES Addendum

This addendum to the Environmental Statement (ES) has been prepared to provide additional environmental information. It is submitted in support of a planning application, MW.0027/22 – validated 31 March 2022, for a flood alleviation scheme (hereafter referred to as ‘the Scheme’) to manage the flood risk to the city of Oxford over the next 100 years.

This addendum to the ES provides information in response to a request for further information under Regulation 25 of the Town and Country Planning (Environmental Impact Assessment (EIA)) Regulations 2017 and includes;

- An update to the biodiversity net gain calculator score to reflect the changes to the methodology in the DEFRA Biodiversity Metric 3.0. This includes a review and update on the following: -
 - The existing condition scores and associated additional survey
 - Inclusion of ‘delay in year’ condition resulting from a delay in planting future habitats
 - Information on off-site biodiversity net gain delivery
- Additional arboricultural information
- An updated Environmental Action Plan to address queries
- Updated information on Air Quality
- Updated landscape and planting plans
- A minor update to the No-channel Modelling Report
- Inclusion of the Carbon Calculator detailing the calculations used to estimate the carbon emissions figures quoted in the ES
- Additional Information on the options assessed for the proposed 2 stage channel route alignment
- An updated Landscape and Habitat Creation – Delivery and Management Plan

Table 1.3 outlines the new or updated information presented in the Appendices of this ES addendum, to address the request for further information under Regulation 25 of the Town and Country Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (dated 21 August 2018) and/or information to address the design changes outlined above.

Table 1.3: New or updated information

ES Appendix	Title	Changes	Reason for change
Appendix A	Engineering Drawings	Updates to scheme drawings to reflect minor changes as detailed in attached drawing register	Temporary working areas updated with revised red line planning application boundary at Eastwyke Lane and update to scheme overview to include the filed north of South Hinksey into the permanent works.
Appendix B	Scoping opinion and Pre-Application Advice and Environmental Update Note	No change	
Appendix C	Ecological Appraisal and Survey	Updated to include 2021 botanical surveys (C-7)	Additional botanical survey information gathered to inform update to BNG calculator.
Appendix D	Protected Species Reports	No Change	
Appendix E	Invasive Species Reports	No Change	
Appendix F	Arboricultural Assessment, Tree Survey and Vegetation Management	New documents replaces original Appendix F documents	Information and clarifications requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017.
Appendix G	Environmental Action Plan (EAP)	New document replaces original Appendix G	Minor updates as requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017.
Appendix H	Air Quality	New document replaces original Appendix H	New assessment to incorporate latest air quality data as requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017
Appendix I	Landscape	New document replaces original Appendix I	Updated plans to reflect minor change to redline boundary and address planting queries as requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017.
Appendix J	Archaeological and heritage information	No change	
Appendix K	Habitat Regulations Assessment (HRA) Screening Report	No change	

ES Appendix	Title	Changes	Reason for change
Appendix L	Water Environment Regulations (WER) Compliance Assessment	No change	
Appendix M	Transport Assessment	No change	
Appendix N	Planning Policy Statement	No change	
Appendix O	Materials Management Plan	No change	
Appendix P	Soil Resource Survey Report	No change	
Appendix Q	Modelling Review of Removing Channel	New document replaces original Appendix Q	Minor updates to economic analysis
Appendix R	Flora and Fauna Legal Compliance	No change	
Appendix S	Biodiversity Net Gain Calculator	Updated documents supplement original Appendix S	Updated to reflect updated botanical survey and updates as requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017
Appendix T	Carbon calculator calculations	New information	Information provided to demonstrate calculations used to assess carbon impacts as requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017
Appendix U	2016 Multi Criteria Analysis (MCA) Report	New information	Additional information to illustrate alternative options assessed as part of the design development process as requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017
Appendix V	Landscape and Habitat Creation – Delivery and Management Plan	Updated document, previously issued as a standalone document now incorporated as an appendix.	Updated information to provide clarifications to future management proposals as requested under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017

This addendum also addresses the following changes to the original planning application validated in March 2022: -

- A minor change in the planning application red line boundary at Eastwyke Lane, New Hinksey to adjust the temporary working areas (See Figure 1.1),
- Inclusion of the field immediately north of South Hinksey into the permanent works to assist with the proposed maintenance regime of cattle grazing.

This addendum considers the environmental impacts of these changes and assesses their significance using the same criteria as was developed for the ES (see Section 4.3 of the ES). All relevant figures in the ES have been updated to reflect the minor change to the red line boundary. The addendum is structured in the same manner to the original ES, with consistent chapter numbers for ease of reference. Some of the technical chapters from the original ES remain unchanged and this is indicated in the relevant sections of this addendum.

1.2 Location and site description

No change to site location or the description of the existing site. However, the red line boundary for the site has been subject to a minor amendment, as shown on drawing IMSE500177-CH2-00-00-VS-PL-0028 – Red Line Boundary which is included in Appendix A.

1.3 The problem

No change to this section since the ES.

1.4 Project Objectives

No change to this section since the ES.

1.5 Legislation and regulatory requirement

No change to this section since the ES.

1.6 Structure of the ES

This ES Addendum has been structured to reflect the structure of the origin ES document such that any changes are easily identifiable and can be related directly back to the original ES.

Two additional appendices have been added to provide additional information to respond to the request for additional information under Regulation 25 of the Town and Country Planning (EIA) Regulations 2017

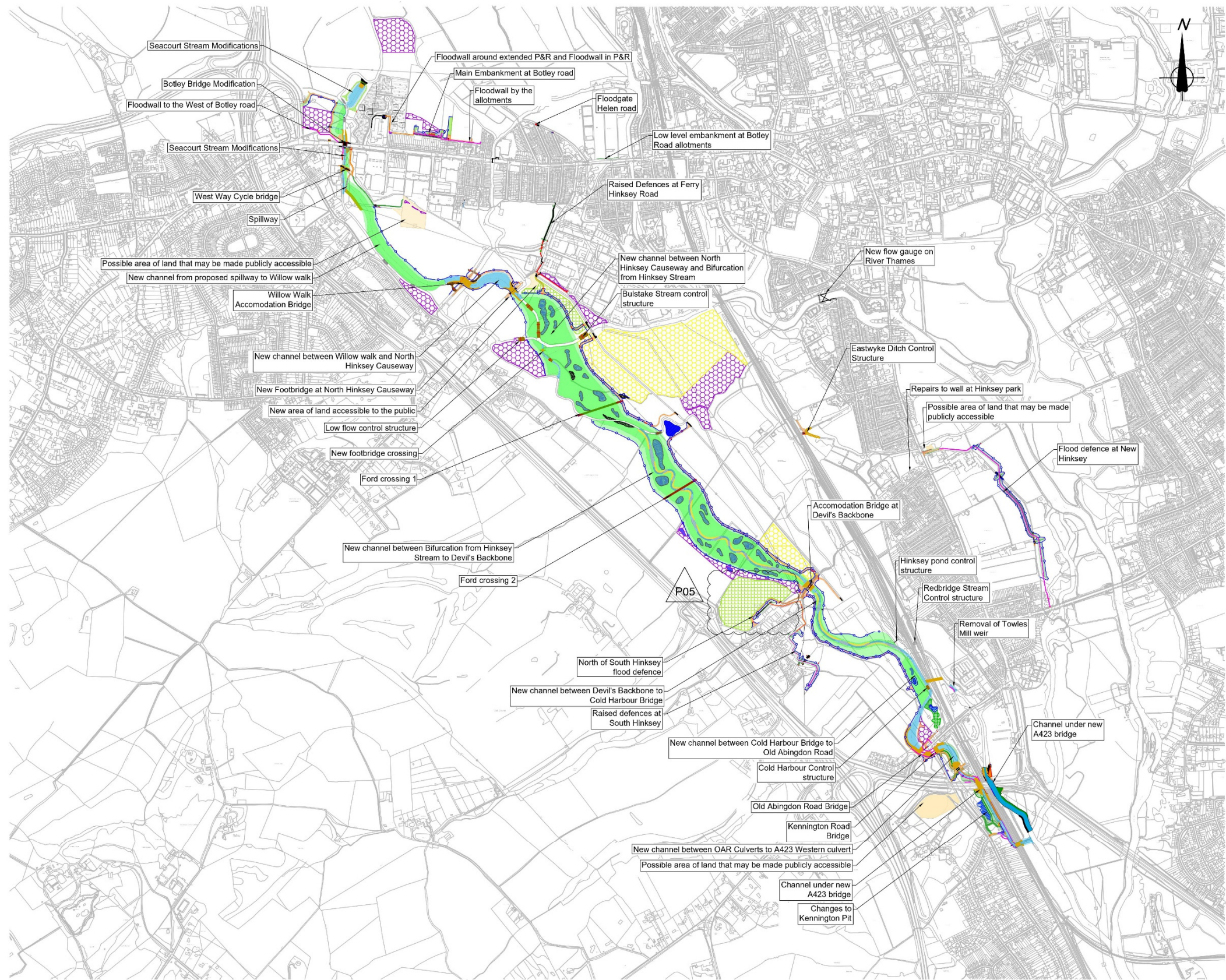
1.7 Review and comments

Copies of this ES together with copies of the plans and supporting information including appendices will be made available for inspection on the [gov.uk](https://www.gov.uk) website and at the following addresses:

- Oxford City Council offices, Town Hall, St Aldate's, Oxford, OX1 1BX;
- Oxfordshire County Council office, County Hall, New Road, Oxford, OX1 1ND;
- South Oxfordshire District Council office, 135 Eastern Ave, Milton, Abingdon OX14 4SB;
- Vale of White Horse District Council office, 135 Eastern Ave, Milton Park, Milton, Abingdon OX14 4SB;
- Oxfordshire County Library, Queen St, Westgate, Oxford OX1 1DJ;

- Kennington Library, Kennington Village Centre, Kennington Rd, Kennington, Oxford OX1 5PG; and
- Abingdon Library, The Charter, Abingdon OX14 3LY.

Figure 1.1: General Scheme Overview



PLAN
SCALE 1:10000 AT A1, 1:20000 AT A3



2 Project development

2.1 Strategic context

No change to the strategic context of the ES.

2.2 Consultation

No changes to the consultation section since the ES.

2.3 Alternative options

Further to the Regulation 25 request we have provided additional information on the various alternative channel route options considered during the development of the design and layout of the scheme. This information is provided in a note in Appendix U of this addendum. This note should be read in conjunction with Section 2.3 of the ES and provides information of the channel route selection and minimising impacts on the MG4 in Hinksey Meadow and impacts on Kennington Pond Local Wildlife Site.

It provides additional information on the design process, different route options considered and further reasoning for the selection of the proposals presented in the planning application to address the wholly exceptional circumstances of reducing known ongoing flood risk to properties and critical infrastructure in the City of Oxford which outweighs the impacts and demonstrates the mitigation and compensation proposed is reasonable.

A previous report produced in 2017 to record the detailed multi-criteria analysis of various alternatives for the route of the channel in different areas of the scheme is also provided as part of Appendix U.

Appendix Q which describes a review of No-channel options has also been updated with revised cost information and replaces the previous Appendix Q.

Other than providing this additional information there is no significant change to the consideration of alternative options since the ES (February 2022).

3 Scheme description

3.1 Description of works

Figure 3.1 has been updated to reflect the changes described in this addendum and Figure 1.3 and drawing IMSE500177-CH2-00-00-VS-PL-0028 in Appendix A have been updated to show the minor amendment to the red line boundary.

There are no changes to the general description of the Scheme from the original submission, where minor variations have resulted from the review to answer queries arising in the Regulation 25 request, they are provided in Table 3.1.

Table 3.1: Description of Scheme [note reference to left and right bank is based on looking downstream]

Location/ Receptor	Description of Flood Alleviation Works
North of Botley Road (Area 1)	
Seacourt Stream Modifications	No change.
Botley Bridge Modifications	No change.
Floodwall and embankment to the west of Seacourt Stream	No change.
Flood defences to the east of Seacourt Stream comprising floodwall in and around extended P&R, main embankment at Botley Road, and floodwall by the allotments	No change
Floodgates at Helen Road and Henry Road	No change
Mitigation tree planting	No change
Allotment gardens	No change.
Ancillary works	No change.
Botley Road to Willow Walk North (Area 2)	
Seacourt Stream modifications and new channel between Spillway and Willow Walk	No change.
Spillway	No change.

Location/ Receptor	Description of Flood Alleviation Works
West Way Cycle bridge	No change.
Tree planting	No change.
New Willow Walk Bridge	No change
Mitigation tree planting	No change
Willow Walk to Devil's Backbone (Area 3)	
New channel	No change.
North Hinksey Causeway	No change.
Control structures	No change.
New footbridge crossing	No change.
Ford crossings	Correction of text in ES to align with submitted design plans which show two (2) fords not three (3) as originally stated in this section.
Devil's Backbone bridge	No change.
Flood defences at Ferry Hinksey Road	No change.
Mitigation tree planting and MG4 habitat creation	No change
Devil's Backbone to the junction with Hinksey Stream and River Thames, including New Hinksey and South Hinksey (Area 4)	
New channel and Hinksey Stream / Mill Stream modifications	No change
Control structures	No change.
Use of existing culverts	No change.
Two bridges at the junction of Old Abingdon Road and Kennington	No change.

Location/ Receptor	Description of Flood Alleviation Works
Road	
A423 rail bridge	No change.
Changes to Kennington Pond	Loss of 0.04ha of Kennington Pond to accommodate a widened channel and embankment. Reinstated areas of pond will be smaller than existing but reprofiled to mitigate for some of the loss, creating more varied pond profiles. A new off-line pond will be created in Area 3 of an equivalent size and depth to the original Kennington Pond as mitigation, along with a number of smaller off-line ponds within the second stage.
Flood Defence at South Hinksey	<ul style="list-style-type: none"> • No change to proposed permanent flood defence works • Inclusion of additional permanent landtake comprising the field immediately north of Manor Farm. The field will continue to be grazed and used as part of the maintenance and habitat management regime providing a refuge for cattle during flood events.
Flood Defence at New Hinksey	<ul style="list-style-type: none"> • No change to proposed permanent flood defence works. • Inclusion of additional temporary working area to facilitate improved temporary diversion at Eastwyke Lane towards the boathouse
Mitigation tree planting	No change
Throughout study area	
Diversion of services	No change
Mitigation strategies for protected species	No change
Hydrometric stations	No change.

3.2 Construction

The only change to the construction aspects of the scheme included in this addendum is the inclusion of a minor change to the red line boundary at Eastwyke Lane. This adjustment has reduced the temporary working area in one location and increased it slightly to help accommodate easier access to the boathouse at the end of Eastwyke Lane during the construction process.

The operation of the scheme is unchanged since submission of the ES.

An additional field to the north of South Hinksey has been included in the permanent land take for the scheme. This field is to assist with the management of the cattle proposed to be used to maintain the majority of the second stage channel. See also Section 3.6 below and Appendix V which contains the Landscape and Habitat Creation – Delivery and Management Plan.

3.3 Access Routes

No change since submission of the ES.

3.4 Vehicle movements

No change since submission of the ES.

3.5 Materials management and movement

No change since submission of the ES.

3.6. Operation and maintenance

No change since submission of the ES.

3.7 Landscaping works, reinstatement, and habitat management

We have included an updated Landscape and Habitat Creation – Delivery and Management Plan as part of the Regulation 25 submission. This document was a standalone document in the original planning submission but is now included as Appendix V of this addendum for ease of access. This document has been updated in response to some queries raised in the Regulation 25 request.

Figure 3.1 has been updated to reflect the additional field to the north of South Hinksey and Figure 1.3 and drawing IMSE500177-CH2-00-00-VS-PL-0028 in Appendix A have been updated to reflect the minor change to the red line boundary.

4 EIA methodology

4.1 Scoping methodology

No change to scoping methodology outlined in Chapter 4 'EIA Methodology' of the ES.

4.2 Baseline information

Since the production of the original ES, the following new or updated baseline information (desk-based assessments and surveys) has been prepared or made available, which has informed the assessment of changes and impacts in this ES addendum:

- Updated botanical survey for the area from Willow Walk to the Devil's Backbone (Appendix C-7).
- Air quality information (Appendix H).

4.3 Assessment methodology

No change to the sub-sections of Section 4.3 since the ES other than the sections below.

4.3.8 Sustainable use of land assessment

Ground contamination

No change to this section since the ES.

Agricultural land use

An impact assessment has been undertaken to assess and report on the environmental effects on agricultural land holdings as set out in the Design Manual for Roads and Bridges LA112. It is the methodology recommended by Oxfordshire County Council in their request for further environmental information. This methodology supersedes that set out in Table 4.19 of the Environmental Statement (February 2022). 'Significance of Effects on Local Farm Businesses'. Further information can be found in the impact assessment can be found in Section 12 of this addendum.

4.3.9 Air quality

The air quality assessment has been updated with the latest information available for the scheme area, the updated report is included in Appendix H of this addendum.

4.4 Uncertainties, difficulties, and assumptions

No change to this section since the ES.

5 Local community

5.1 Existing environment

5.1.1 Strategic overview

No change to strategic overview since the ES.

5.1.2 Local population and community buildings

No change to local population and community buildings since the ES.

5.1.3 Noise and vibration

No change to noise and vibration since the ES.

5.1.4 Socio-economics

No change to socio-economics since the ES.

5.1.5 Human health

The Air Quality Report (Appendix H) has been updated to use traffic and air quality data since 2019 as a baseline as requested by the air quality officers from City and Vale. Measured annual mean concentration of pollutants monitored from 2015 to 2019 is now presented and shows a negligible difference from the ES submission.

5.1.6 Changes to local community in absence of Scheme

No change to this section since the ES.

5.2 Likely significant effects

5.2.1 During construction

Local population and community buildings

No change to local population and community buildings since the ES.

Noise and vibration

No change to noise and vibration since the ES.

Socio-economics

No change to socio-economics since the ES.

Human health

The Air Quality Report (Appendix H) has been updated to using traffic and air quality data from 2019 as a baseline. The Do-Minimum and Do-Something scenarios have been remodelled for 2022 and 2025 scenarios and shows a negligible difference from the ES submission.

5.2.2 During operation

No change to this section since the ES.

5.3 Mitigation

No change to this section since the ES.

5.4 Residual effects

Since submission of the ES, no further additional residual impacts have been identified.

6 Recreation and public access

6.1 Existing environment

Figure 6.1 has been updated to show the minor revision to the Scheme red line boundary. There is no other change to this section since the ES.

6.1.1 Public access

Figure 6.1 showing public access across the scheme area has been updated to show the minor revision to the Scheme red line boundary. There is no other change to this section since the ES.

6.1.2 Recreational use of Scheme area

No change to this section since submission of the ES.

6.1.3 Changes to recreation and public access in absence of Scheme

No change to this section since submission of the ES.

6.2 Likely significant effects

6.2.1 During construction

Public Access

As described in Chapter 6 of the ES, the construction of the Scheme will result in temporary disruption to and severance of existing access including parts of the currently accessible floodplain for recreational users. This will include some temporary and permanent closures and re-routing of public footpaths and a bridleway/cycle path along the length of affected river corridor.

Figure 6.2 remains unchanged. Figure 6.3 has been updated to include further details of the proposed diversion for the public and landowners at Eastwyke Lane.

Table 6.1 provides clarification on the temporary diversion at Eastwyke Lane, a minor change to the red line boundary (Shown in Figure 1.3 and on drawing IMSE500177-CH2-00-00-VS-PL-0028 in Appendix A) in this location is proposed to help facilitate better temporary access for residents and the public during the construction phase of the Scheme. The other routes mentioned in Table 6.1 in the ES are unchanged and therefore these are excluded from Table 6.1 in this document.

As described in the ES, the area of land available for recreation will be reduced in different areas, over a period of approximately three years. There is no change in impact significance from the ES i.e. the impacts on access (and recreation) are still considered to range between **minor** and **minor to moderate adverse** in nature based on minor to moderate negative magnitude and low to medium value receptors i.e. rights of way that may have up to regional/county importance).

Recreational use of Scheme area

No change to this section since submission of the ES

6.2.2 During operation

No change to this section since submission of the ES, except for impacts on PProWs shown in Table 6.1.

Table 6.1: Impacts on Public Rights of Way, informal paths and permissive access routes

Receptor	Potential Impacts		Significance of Impact
	Description of effects	Possible diversionary routes and associated effects	
Public Rights of Way (PRoW)			
None			
Public paths (footways)			
None			
Informal or permissive access routes (excluding routes through public open space)			
Vehicle access track to the Boathouse at Eastwyke Lane	Temporary closure of approximately 110m of Eastwyke for the construction of the embankment section meeting the lane.	Temporary diversion route slight north of existing track, for the duration of construction of the embankment. Including a temporary bridge to cross a ditch	Minor adverse impact on Boathouse members (based on minor negative magnitude)

6.3 Mitigation

No changes to any mitigation since the ES.

6.4 Residual effects

No changes to residual effects since the ES.

7 Landscape and visual amenity

7.1 Existing environment

The minor amendment to the Scheme red line boundary area is shown on Figure 1.3 and on drawing IMSE500177-CH2-00-00-VS-PL-0028 in Appendix A of this ES Addendum.

The revised landscape proposals are illustrated on updated Landscape Plans in Appendix I.

Reference should be made to the Landscape and Visual Impact assessment (LVIA) in the ES when reading this section. Where there is no change to the LVIA since submission of the ES, the details have been omitted from this chapter for the purposes of clarity.

7.1.1 Scheme overview

No change to this section since submission of the ES

7.1.2 Designated sites

No change to this section since submission of the ES.

7.1.3 Historic landscape

No change to this section since submission of the ES.

7.1.4 Existing landscape character assessments

No change to this section since submission of the ES.

7.1.5 Site appraisal

Landscape Receptors

No change to landscape receptor types since submission of the ES.

Since the submission of the ES, a further review of the trees within the scheme was completed and the tree drawings have been updated in accordance with the recommendations of BS5837:2012 (Trees in relation to design, demolition, and construction – Recommendations) that records details of existing trees in and adjacent to the Scheme (see Appendix F of this document which replaces Appendix F of the ES).

As part of the Regulation 25 request we have further reviewed the tree impacts and identified two further individual trees which can be retained and one which has now been removed by others, we have also identified a group of trees which will need to be partially removed which was previously identified for complete removal. Overall, the proposed development will now require the removal of approximately 358 individual trees and 77 groups of trees. The minor change to the red line boundary at Eastwyke Lane included in the Regulation 25 submission has a small impact on a further group of trees resulting in the need for the partial removal of 61 groups of trees. In total, approximately 2,000 trees will be lost as a result of the scheme.

The British Standard requires that 'Individual trees, groups of trees and woodlands should be assessed for their quality and benefits within the context of proposed development'. The term "group" is used to identify trees that form a cohesive feature – such as a group that together provide shelter, or together provide a visible screen.

Further updates to the AIA, AMS and tree report, along with the relevant drawings, have been made to present the information more clearly.

7.1.6 Visual baseline

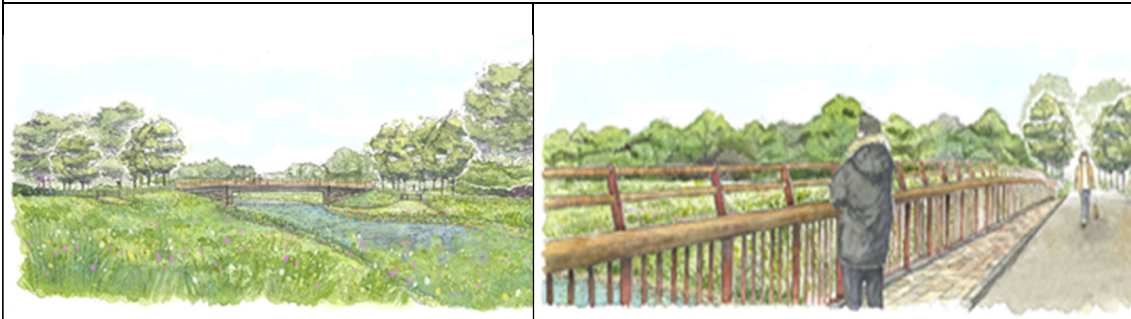
No change to this section since submission of the ES.

7.1.7 Landscape Design and Mitigation

Reference should be made to Section 7.1.7 of the February 2022 ES when reading this section. Where there is no change to the landscape design or mitigation, the details have been omitted from this section for the purposes of clarity.

The illustrations below have been provided to give additional information on the general appearance of the proposed bridge at Willow Walk. These illustrate views of Willow Walk bridge from Hinksey Meadow and views towards North Hinksey village from the bridge.

Plates 10 and 11 illustrate views of Willow Walk bridge from Hinksey Meadow and views towards North Hinksey village from the bridge.



7.1.8 Changes to landscape and visual amenity in absence of Scheme

No change to this section since submission of the ES.

7.2 Likely significant effects

7.2.1 During construction

Landscape Character

There are no proposed material changes to the landscape character of the Scheme area or its wider context during construction of the Scheme since the ES.

Designations

There are no proposed changes to the designations of the Scheme area or its wider context during construction of the Scheme since submission of the ES.

Historic landscape

No change to this section since submission of the ES.

Landscape receptors

No change to this section since submission of the ES.

Visual amenity

No change to this section since submission of the ES.

7.2.2 During operation

Landscape

No change in landscape since submission of the ES

Visual assessment

No change to this section since submission of the ES

Viewpoint Assessment

No change to this section since submission of the ES

Green Belt

No change to this section since submission of the ES

7.3 Mitigation

Construction Phase

No change to this section since submission of the ES.

Operational Phase

No change to this section since submission of the ES.

7.4 Residual effects

No change to this section since submission of the ES.

8 Flora and fauna

This section highlights changes to Chapter 8 in the previous ES and should be read in conjunction with chapter 8 of the ES.

8.1 Existing environment

The study area is defined as the Scheme Area (which has been updated with a minor change to the red line boundary, is shown on Figure 8.1), plus a buffer of 2km for international and national conservation sites, and a buffer of 1km for local conservation sites.

Priority and other habitats recorded of local/county to international ecological value within the Scheme area are listed in Table 8.2 of the ES. Where there have been changes since the submission of the ES these are shown in Table 8.2 below and should be read in place of the original text for the habitats below. Other sections of Table 8.2 in the ES are unchanged. Summary baseline descriptions and an assessment of whether the habitat can be recreated or is “irreplaceable” is defined by the NPPF. Irreplaceable habitats are defined (NPPF, 2021) as those “*which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen*”. Other habitats with a value of “local” and below are not considered further.

Table 8.2: Changes to Priority and non-priority habitats with above local value since ES

Ecological feature	Quantity within the Scheme area	Baseline description	Replaceable/irreplaceable habitat	Value of habitats
Priority habitats				
Hedgerows, including lines of trees	Length: 11.3km / 45 features Area 1.93ha	Extensive network of hedgerows and lines of trees, including 15 important and 16 species-rich. See Figure 8.3 Priority Habitats for locations. 534 trees were recorded within shrubby hedgerows and 250 trees from lines of trees.	Species poor or recent hedgerows can be recreated. Species rich Hedgerows and those containing old trees along ancient boundaries may be replaceable or irreplaceable*. None of the hedgerows affected by the Scheme are irreplaceable*	County

* These hedgerows support mature willows. This is not an uncommon habitat type; it is also not technically difficult to recreate, as willow is also a relatively fast-growing species. As such these hedgerows don't meet the criteria for irreplaceable habitat.

8.1.1 Nature conservation sites

The colours within Figure 8.1 have been revised for improved clarity/presentation. There are no other changes to this section since the production of the ES.

8.1.2 Conservation Target Areas (CTAs)

The colours within Figure 8.1 have been revised for improved clarity/presentation. There are no other changes to this section since the production of the ES.

8.1.3 Habitats

The baseline and value of habitats within the Scheme are described in the habitat and botanical survey report for the Scheme, fieldwork for which was carried out in 2020 (Appendix C-3) and 2022 (Appendix C-7).

Figure 8.2 shows the habitat types as classified under the Phase 1 methodology for the revised Scheme area.

Figure 8.3 shows Habitats of Principal Importance (under the Natural Environment and Rural Communities Act 2006) within the study area.

Figure 8.2 has been updated to incorporate the results of an additional botanical survey, conducted in the summer of 2022 (Appendix C-7). The original Figure 8.2 showed results from the survey in 2020; the revised drawing shows results from the 2022 survey in those parts of the Scheme Area which were re-surveyed and the results of the 2020 survey where this is the most recent information.

Figure 8.3 has been updated to show hedgerows which are Important Hedgerows because they lie on ancient boundary lines, in addition to those which are Important for ecological or landscape reasons.

Since the submission of the ES, the red line boundary around Eastwyke Lane has been amended to permit a diversion route for the nearby boathouse. Resulting in a decrease in field 15/026 to be used for temporary works and an addition of field 15/026z being used for diversion route works. The works will require partial removal of the tree group G161, and removal of sections of wet woodland – alder (H91E0) categorised as priority habitat, and removal of 160m² of fen habitat. These habitats will be replaced with other neutral grassland.

No other changes to the Habitats of Principal Importance outlined in the ES have been made.

Since the submission of the ES, a review of the tree drawings has been undertaken to provide more clarity on individual and groups of trees within the Scheme boundary, in accordance with the recommendations of BS5837:2012 that records details of existing trees in and adjacent to the Scheme (see Appendix F). Overall, the proposed development will require the removal of approximately 358 individual trees and 77 groups of trees. The partial removal of a further 61 groups will also be required. In total, approximately 2,000 trees will be lost resulting from the scheme.

As mitigation for this, we will be planting 4,100 trees within areas of proposed mixed, deciduous woodland and 225 individual trees. Approximately 15,000 smaller tree species (e.g. hawthorn, hazel and elder) will also be planted within the proposed woodland areas and on the woodland edges, along with many more native shrubs such as dogwood, goat willow, dog rose and wild privet.

8.1.4 Protected and notable species

No changes to this section since the production of the ES.

8.2 Likely significant effects

8.2.1 General potential impacts

No changes to this section since the production of the ES.

8.2.2 During construction

Nature conservation sites

No change to assessment of construction impacts on nature conservation sites since submission of the ES.

Conservation Target areas

The botanical survey conducted in 2022 found some fields within the Scheme area which had been listed as modified grassland in 2020 were of greater ecological value than had been previously assessed. While the list of priority habitats to be created is unchanged, the statement in the ES about the Thames and Cherwell at Oxford CTA needs to be corrected.

For “modified grassland and species-poor *Lolium-Cynosurus* and other species-poor neutral grassland dominates large areas of the floodplain between North and South Hinksey” please read “species-poor *Lolium-Cynosurus* and other species-poor and moderate ecological condition neutral grassland dominates large areas of the floodplain between North and South Hinksey”.

8.2.3 During operation

Nature conservation sites

International and nationally designated sites

No changes to assessment of operational impacts on international and national conservation sites since submission of the ES.

Local designated sites

No changes to assessment of operational impacts on local designated sites since submission of the ES.

Protected and notable species

No change to this impact assessment section since submission of the ES.

8.2.4 Habitats

Changes to the potential impacts on each of the key habitats during the construction phase are presented in Table 8.8 of the ES. Where there have been changes since the submission of the ES these are shown in Table 8.8 below and should be read in place of the original text for the habitats below. Other sections of Table 8.8 in the ES are unchanged. Note that habitats not of Principal Importance and identified to be of low or negligible value are not considered in this section. Habitats, which are permanently removed or altered due to the Scheme, are considered in Table 8.1 in Section 8.2.2 in the original ES, even where the changes themselves are due to the construction of the Scheme rather than operation, to consider all such changes in one place.

Table 8.8: Changes to impacts on habitats during construction

Habitat type	Locations affected	Value of existing habitat	Potential impacts	Level of Impact	Significance of Effect (before mitigation)
Priority Habitats					
Lowland fen	Jubilee Scrape through Osney Mead (Botley Meadow) LWS. Eastwyke Lane	County	<p>Fen habitat will be lost under the footprint of the second stage channel (previously part of the old course of Seacourt Stream).</p> <p>A small area (0.016ha) of Fen habitat will be lost resulting from the temporary diversion during the construction works in the Eastwyke Lane area.</p>	Moderate negative	Minor adverse
Wet woodland	Stands of W2 woodland to the south of Kennington roundabout and within Kennington Pond LWS and around Eastwyke Lane	County	<p>There will be the loss of wet woodland that surrounds Kennington Pond and the wet woodland south of Kennington roundabout.</p> <p>The impact on woodland to be removed will be permanent and long term, and therefore high. The significance of a high impact on a feature of county value is moderate adverse.</p> <p>Part of a small area (0.022ha) of wet woodland will lost resulting from the temporary diversion during the construction works in the Eastwyke Lane area.</p>	Major negative	Moderate adverse

Protected and notable species

No change to this impact assessment section since submission of the ES.

8.3 Mitigation

8.3.1. Generic mitigation measures

No change to this section since submission of the ES.

8.3.2 Specific mitigation measures

Construction phase

Habitats

Figure 8.5 within the specific Habitats sub-section has been updated to show the revised Scheme boundary and a slight reduction in the anticipated area of Neutral Grassland which is anticipated to be come floodplain grazing marsh.

Lowland meadow (MG4). In the fields where MG4 lowland meadow will be created by seeding and changes in management practices, we have carried out further surveys following a query as to the existing botanical value of the area. The results of this survey are presented as part of Appendix C-7. The survey confirmed that the fields identified are Other Neutral grassland, rather than Lowland Meadow, and of Moderate ecological condition. Therefore, the ecological value of these fields can be significantly increased by converting them to Lowland Meadow.

Following this sentence on page 182 *“The Floodplain Meadows Partnership have advised on how best to manage this process and how to maximise the chances of success (see Appendix C-5)”* this additional information below should be added:

It should be noted that the Soil Resources Report and the Floodplain Meadows Partnership (FMP) Report differ slightly in terms of their recommendations on the appropriate phosphate range for MG4 translocation and creation, but the Floodplain Meadows Partnership are the national experts on MG4, so it is their advice which we have followed, and which takes precedence.

The MG4 Mitigation Strategy is based upon the recommendations of the Floodplain Meadows Partnership as set out in the ES Appendix C-5 Oxford FAS_FMP Final March 2018. On page 19 of this document it says:

Soil fertility requirements for the creation of a species-rich floodplain meadow

Typically phosphorus levels should be within 5 - 20 mg/l-1 (Olsen's extractant), correlating with phosphate indices 0 and 1. Values above 20 mg/l-1 will result in species richness declines and therefore whilst the site may still be suitable for MG4 restoration, it may not be suitable for translocation purposes. Soil phosphorus availability from within Hinksey Meadow ranges from 6 - 12.4 mg/l-1 (based on 3 samples), therefore for the purposes of translocation, fields with phosphorus availability within a similar range should be sought.

We are proposing to translocate the MG4 from Hinksey Meadow to the field where sample point 18 was located (please refer to Map 1 – Sample Locations in the Appendix to the Soil Resources Report and Management Recommendations (February

2017) by Land Research Associates and provided in Appendix O of the ES). There are three reasons for this:

1. The soil has a P value of 11.2mg/l-1 so it is within the same range found in the 3 samples at Hinksey Meadow.
2. The grassland in this field is less diverse than the fields at points 8, 10a and 11, so it makes more sense to replace some of this lower value grassland with the translocated MG4.

It was highlighted by FMP as a field that would likely support MG4.

The sward in the fields where samples 8, 10b and 11 were taken will be scarified and overseeded to create MG4. For the field with sample point 10b, the P of 18m/l-1 is a little higher than is ideal but the expert advice is that MG4 creation is still very achievable.

In addition to the bespoke advice that the FMP provided for the Oxford FAS in Appendix C of the Environmental Statement, the 'Floodplain Meadows Beauty and Utility – A Technical Handbook' (FMP, 2016) provides guidance on soils suitability as shown in the extract below;

Table 8.12 The suitability of soils with different extractable phosphorous levels for floodplain-meadow creation or restoration (FMP, 2016).

Index ^A	Olsen's P Range (mg/l ⁻¹)	Comments
0	0-9	5-15mg/l ⁻¹ P is the range within which many species-rich floodplain-meadow sites are found
1	10-15	This range should be perfect for the typical floodplain-meadow plant community
2	16-25	Species-richness declines above 20mg/kg ⁻¹ , but it is still worth attempting restoration/creation within this range
3	26-45	Consider reducing P levels by growing a catch crop such as barley on arable or reduce P on improved grassland through hay crops (up to two per year). It might take several years before P levels start to fall, particularly on clay-rich soils.
4	46-70	Values above 50 mg/l ⁻¹ are probably too high for restoration unless drastic measures such as topsoil stripping or soil inversion, deep ploughing or chemical

		amendment can be undertaken
A - The P index for a soil reflects the amount of P present ranging from index 0 (very low fertility) to index 9 (very high fertility). More information about these can be found in Natural England Technical Information Note TIN036 'Soils and agri-environment schemes: interpretation of soil analyses'. (Natural England, 2008)		

The advice is that species richness declines above 20mg/kg⁻¹ but that it is still worth attempting restoration/creation within the range of 16-25mg/kg⁻¹.

All of the MG4 meadows that we are creating will be managed as hay meadow so phosphorous will be removed from the fields on an annual basis, thus making the field which currently has slightly higher P of 18mg/l⁻¹ more suitable for MG4 over time. This is part of the habitat creation process. In 'Floodplain Meadows Beauty and Utility – A Technical Handbook' (FMP 2016), it is explained that:

Hay cutting and grazing

Biomass stripping (such as hay cutting) is the major route by which mineral nutrients, particularly P, leave a floodplain meadow. Hay cutting can typically remove four tonnes of dry biomass from a hectare (ha) of meadow (Gowing, Tallowin et al. 2002). Dry biomass is about 0.2% P by weight, so the amount of P being removed annually is about 8 kg ha⁻¹ yr⁻¹. Assuming hay cutting is repeated annually, this suggests that about 80 kg of P can be removed per decade, which, depending on the soil type, may represent a substantial proportion of the available pool of P. In nutrient-enriched meadows, where growth is not limited by phosphorus availability, it is therefore possible to lower the nutrient status of the soil substantially through annual hay cuts. The soil resource survey (LRA 2018) identified that the Scheme lies within a clayey floodplain alluvium over sands and gravels. The soils associated with this land have variably calcareous heavy silty clay loam or silty clay topsoil; with peaty deposits in wetter locations. The upper subsoils are clay-textured, poorly structured (dense) and slowly permeable. The depth to the underlying gravel varies, but it is mainly at depths of over 80cm below the land surface. The soils are mainly poorly-draining and have a low capacity to absorb excess winter rainfall.

Protected and notable species

At the end of this section, after the paragraphs relating to whorled water-milfoil, this additional information should be added:

Strawberry clover Prior to any construction work in Oatlands Road Recreation Ground, we will identify the area within the Scheme boundary where strawberry clover is present. We will translocate the turf within the Scheme boundary in which strawberry clover is present to a location outside the Scheme boundary. Subject to agreement with the landowner, our preferred location is on the line of the informal footpath at the Willow Walk side of the park in order to replicate the damper, trampled conditions that the strawberry clover population is growing in at the moment.

8.4 Residual effects

8.4.1 Flora and fauna

In Table 8.10, in the row headed "Strawberry clover (county)", delete the text in the final two columns and substitute:

Mitigation Measures: Prior to any construction work in Oatlands Road Recreation Ground, we will identify the area within the Scheme boundary where strawberry clover

is present. We will translocate the turf within the Scheme boundary in which strawberry clover is present to a location outside the Scheme boundary, to be agreed with the landowner at the time. Significance of Residual Impact: **Minor adverse**.

In Table 8.10 also, the row headed “Amphibians (County)”, the first paragraph within in the “Mitigation Measures” column should be updated to read “Three identified ponds are considered to be a very low risk for GCN, but presence has not been ruled out and prior to the start of construction, an eDNA survey will be undertaken in 2023 to check this subject to the ponds not drying up before survey season. A mitigation strategy will be developed if GCN are present”

No change to the rest of this section since submission of the ES.

8.4.2 Summary of habitat losses and gains

Since submission of the ES, we have re-calculated the overall gains and losses of habitat. The most significant change in the assessment was as a result of the re-categorisation and updated survey information of some of the grassland habitats in the baseline. This was specifically due to an increase in ‘Other Neutral Grassland’ (UK Hab category g3c and sub-categories) in the baseline and a corresponding decrease in ‘Modified Grassland’ (g4), as a result of the revised botanical survey results. A number of further changes were also made which included changes to the RLB (inclusion of Eastwyke diversion route), removal of habitat erroneously included in the February 2022 baseline, re-categorisation of some hedgerow polygons and a number of minor revisions to the habitats retained and created.

The DEFRA biodiversity metric for the proposed Scheme (Biodiversity Net Gain Calculator v3.0) has therefore been updated based on the revised Scheme changes (Refer to Section 8.4.3. below). It should be noted that some of the on-site habitat losses must be mitigated for off-site. This is also described further within the metrics Section 8.4.3 below and within the updated Appendix S.

An updated summary of on-site habitat gains and losses is provided in a revised Table 8.11 below.

Table 8.11: Updated summary of on-site habitat gains and losses (i.e. within the red line boundary)

Habitat (UK Hab Category)	Loss	Creation	Net loss/gain
Habitats of principal importance			
Lowland meadows (g3a5; excluded from the metric)	3.10ha *	19.75ha	16.65ha
Wet woodland (w1d and w1d5)	4.15ha	10.06ha	5.85ha
Ponds / Eutrophic standing waters (r1; priority ponds)	0.23ha	4.67ha	4.44ha
Coastal and Floodplain Grazing Marsh (Other neutral grassland)	0ha	18.18ha	18.18ha
Lowland fen (f2a; f2f)	1.14ha	0.36ha	-0.78ha
Rivers	0.00ha	3.8km	3.8km
Hedgerows (h2; h2a; h2b)	3,810m	3,585m	-225m
Other habitats			

Habitat (UK Hab Category)	Loss	Creation	Net loss/gain
Scrub – dense / continuous (e.g. bramble) Scrub (All types – h3, h3a6, h3d, h3h) / Mixed Scrub for creation	3.82ha	2.28ha	-1.54ha
Ruderal/ephemeral (s)	0.07ha	0ha	-0.07ha
Neutral grassland (semi-improved, grazed) (g3, g3c, g3c5, g3c6, g3c7, g3c8)	65.52ha	35.81ha	-29.71ha
Lowland mixed deciduous woodland (w1g, w1g6, w1g7)	2.32ha	1.28ha	-1.04ha
Improved or amenity grassland (g4)	4.42ha	1.87ha	-2.55ha
Ponds / Eutrophic standing waters (r1; non-priority ponds)	0.57ha	0.16ha	-0.41ha

The land classifications have been reviewed and updated in line with the updated surveys to remove any inconsistencies and are illustrated in Appendix C-7.

Priority Habitats

With the exception of changes to wet woodland and priority ponds, described below, priority habitats have the same losses and gains as per last revision apart from a small rounding up error for hedgerow habitat.

Wet woodland habitat losses have remained almost identical (from 4.13ha to 4.15ha), but we have recalculated the amount of on-site habitat resulting in an increase of on-site habitat creation (8.88ha to 10.06ha) equating to an overall net gain of 5.85ha of wet woodland.

Losses of priority ponds are almost identical to previous revision (0.23ha v 0.24ha). However, there has been a small gain of 0.4ha of new pond habitat alongside a reduction in reedbed habitat (net gain reduction from 1.29ha to 0.36ha). The previously proposed management regime would have resulted in some of the priority pond habitat being allowed to develop into reedbeds. We have now changed our proposals and these will now be managed as ponds. Sufficient reedbed will be created off-site to ensure there is no net loss of this priority habitat.

Other habitats

Replace second paragraph of this section with the following:

Due to the changes in the baseline and design of habitat creation, there has been an increase in scrub losses from 2.53ha to 3.82ha with a corresponding increase in gains from 1.30ha to 2.28ha. This has resulted in an increase in the overall net loss to 1.54ha (was previously 1.23ha loss).

A previous loss of 48.81ha of neutral grassland has now been recalculated as a loss of 65.52ha based on the changes to the baseline, the net gain of neutral grassland was 38.29ha and is now 35.81ha. Therefore, the net loss of neutral grassland of 10.52ha has now increased to 29.71ha. This is mostly due to the re-categorisation of some of the improved/amenity grassland habitat (reduction in losses from 38.73ha to 4.42ha).

The permanent losses of neutral grassland are due to the construction of the new two-stage channel, which will include the new stream/river footprint. A large area (35.81ha) of neutral grassland will be enhanced using seeds taken from existing MG4 meadows to create species-rich meadow and to reinstate grassland areas within the Scheme boundary. An additional 18.18ha of Neutral Grassland which is anticipated to be come floodplain grazing marsh will also be created under this habitat category.

For lowland mixed deciduous woodland, although there has been an increase in woodland losses (was 1.78ha loss, now 2.32ha), there has been a corresponding increase in woodland creation (was 0.81ha creation, now 1.28ha). However, this has resulted in a very similar outcome overall of a 1.04ha net loss of woodland (was – 0.97ha).

A summary of woodland canopy cover gains and losses is set out in the new Table 8.13 below. This shows an increase of 4.85ha in woodland area (wet woodland and lowland mixed deciduous). We are therefore assuming around a 4.85ha increase in woodland canopy cover after 15 years. Kendall Copse was planted in 2008 and has complete canopy cover after 14 years.

Rows of individual trees such as Willow Walk and the left bank of the Seacourt Stream have been classified as alder woodland on floodplains or wet woodland on the baseline plans, so they are included in the woodland gains and losses calculations.

Some of the large willows lining the streams in Area 3 have been classified as hedgerow because ‘Line of Trees’ and ‘Hedgerow with trees’ are categories that fall under hedgerows in the Defra Metric. In order to make sure that the canopy cover of these trees is taken into consideration, we have included these in a canopy gains and losses table below. The table includes all the variations on those two hedgerow themes (e.g. line of trees associated with bank or ditch, species rich hedgerow with trees etc...).

Hedgerows are measured as linear features in the Defra Metric so in order to calculate the area of canopy cover, some assumptions have been made on the average width of the ‘line of trees’ and of the ‘hedgerow with trees’ based on aerial photos and our baseline habitat surveys.

We are assuming an average canopy width of 5m for a line of trees (bearing in mind that in the linear measurement there will be some gaps between the trees) and an average canopy width of 3m for hedgerow with trees because presumably there will be larger gaps between trees where there is just hedgerow (otherwise it would have been categorised as woodland or a line of trees).

Table 8.13 – Canopy cover gains and losses

	Existing Canopy cover	Canopy loss	Canopy gain	Net Change in Canopy	Proposed Canopy Cover
Wet woodland	6.42ha	4.15ha	10.06ha	+5.91ha	12.33ha
Mixed Deciduous Woodland	4.25ha	2.32ha	1.28ha	-1.04ha	3.21ha
Line of trees (assume average canopy width 5m)	1.2ha (2400m x 5m)	0.36ha (720m x 5m)	0.00ha	-0.36ha	0.84ha

	Existing Canopy cover	Canopy loss	Canopy gain	Net Change in Canopy	Proposed Canopy Cover
Hedgerows with trees (assume average canopy width 3m)	1.63ha (5430m x 3m)	0.73ha (2460m x 3m)	1.07ha (3590m x3m)	+0.34ha	1.97ha
Total	13.50ha	7.56ha	12.41ha	+4.85ha	18.35ha

Table 8.13 shows that there will be an increase in canopy cover of around 4.85ha.

8.4.3 Biodiversity Net Gain

Paragraph 3 has been updated to read: We have calculated the baseline value of habitats using the habitat surveys carried out for the Scheme (see Appendix C including the new Appendix C-7) and have predicted the value of habitats post-Scheme on the basis of the planting plans and the landscape and habitat management plans submitted with the planning application.

When compared with the previous revision of the Metric undertaken in February 2022, as expected, the most significant change in the assessment was as a result of the re-categorisation of some of the grassland habitats in the baseline. This was specifically due to an increase to 'Other Neutral Grassland' (g3c and sub-categories) in the baseline and a corresponding decrease in 'Modified Grassland' (g4), as a result of the revised botanical survey results. In addition, a number of further changes were also made to the Metric assessment at this time. These included minor changes to the RLB (inclusion of Eastwyke diversion route), removal of habitat erroneously included in the February 2022 baseline, re-categorisation of some hedgerow polygons and a number of minor revisions to the habitats retained and created in the post intervention assessment (Refer to Tables 1 and 2 for more detailed information).

The highest forecast habitat loss by units is therefore predicted for Other Neutral Grassland (UK Hab categories g3, g3C5, g3C6, g3C7 and g3C8) which is a medium distinctiveness habitat. This accounts for 512.73 units or 65.52ha i.e., 78% of total habitat units lost within the RLB and 77% by area. Approximately 504.27 units (59.08ha) of Other Neutral Grassland will be reinstated/or created within the RLB (42.49ha in 'good' condition, 13.05ha in 'moderate' condition and 3.54ha in 'poor' condition). This will result in a net change on-site of -8.46 units.

Wet Woodland, a high distinctiveness habitat (UK Hab category w1d5 Alder Woodland floodplains) is predicted to be subject to a loss of 76.01 units (4.15ha) or i.e., 11.6% of the total habitat units lost within the RLB and 4.9% by area. Approximately 53.79 units (10 ha) of Wet Woodland will be created within the RLB, resulting in a net change of -22.22 units.

With the exception of 9.94 units (4.42ha) of Modified Grassland, the remaining notable habitat losses calculated within the metric are predicted to take place for high distinctiveness (priority ponds, reedbeds) and medium distinctiveness (scrub, ponds, other woodland; broadleaved) habitats.

In terms of highest forecast habitat gains by units, the largest on-site net gain of 41.94 units (4.02ha) is forecast for Ponds (priority/non-priority habitat) which are high and medium distinctiveness habitats respectively. Scrub (all types), a medium

distinctiveness habitat, is also forecast for a minimal net gain of +1.44 units. However, by area this results in a net loss of -0.96ha.

In relation to off-site planting, the February 2022 revision of the Metric had proposed to create 9.2ha of 'Wet Woodland' (good condition) and 0.5ha of 'Reedbed' habitat (good condition) on poor condition 'Modified Grassland'. However, the off-site habitat provision requirement has now been re-calculated; changes to the value of the on-site baseline have increased the requirements for off-site provision, so that in addition to satisfying the trading rules for wet woodland and reedbed, further habitat will need to be created to ensure a minimum of 10% net gain for biodiversity.

Since February 2022, positive engagement with local landowners has enabled the identification of a number of suitable sites for off-site habitat and hedgerow creation and enhancement. These sites range in location from those adjacent to the Scheme, up to a maximum of 15km away. All are within Oxfordshire LPA and next to the Thames to Evenlode Water Framework Directive (WFD) Waterbody. As the off-site habitat can be delivered within the same LPA as the proposed scheme, this results in less woodland (i.e. 4.25ha) being required to generate the units required to off-set the woodland trading rules.

Considering the on-site provision, a minimum of 86 area-based units are required through off-site provision. The preferred developing option for off-site provision therefore comprises: Wet Woodland (4.25ha/13.25 units) and Reedbed (1.25ha/8.43 units) which are both required to meet trading rules. Additionally, the creation of Other Neutral Grassland (8ha/43.20 units) and the enhancement of existing grassland to Floodplain Wetland Mosaic (5ha/30.15 units) are also proposed.

The current revision of the calculator now forecasts an overall net biodiversity gain of +11.24% habitat units where proposed off-site habitat creation areas have been identified and are in the process of being agreed with the relevant landowners. This reflects the requirement to secure a minimum of 86 units off-site. When considering off-site habitat creation, the calculator forecasts an overall net gain of 11.66% for hedgerow units and 15.22% for river units.

These off-site units will be secured to achieve the 10% net gain as agreed with the Local Authority allowing the project to be future proofed in advance of the Environment Act (2021) becoming a mandatory requirement.

9 Water and hydromorphology

9.1 Existing environment

Figure 9.1 has been updated to show the revised Scheme boundary. There is no other change to this section since the submission of the ES.

9.1.1 Surface water features

Figure 9.1 has been updated to show the revised Scheme boundary. There is no other change to this section since the submission of the ES.

9.1.2 Groundwater

No change to this section since submission of the ES.

9.1.3 Water dependent ecosystems

Figure 9.1 has been updated to show the revised Scheme boundary. There is no other change to this section since the submission of the ES.

9.1.4 Water quality

No change to this section since submission of the ES.

9.1.5 Water Environment Regulations Assessment

No change to this section since submission of the ES.

9.1.6 Flooding

No change to this section since submission of the ES.

9.1.7 Changes to water and hydromorphology in absence of Scheme

No change to this section since submission of the ES.

9.2 Likely significant effects

No change to this section since submission of the ES.

9.3 Mitigation

No change to this section since submission of the ES.

9.4 Residual effects

No change to this section since submission of the ES.

10 Cultural heritage

10.1 Existing environment

10.1.1 Cultural heritage baseline

Figures 10.1 and 10.2 have been updated to show the revised Scheme boundary. There is no other change to this section since the submission of the ES.

Area 1 – North of Botley Road

No change to the baseline in this area since submission of the ES.

Area 2 – Botley Road to Willow Walk

No change to the baseline in this area since submission of the ES.

Area 3 – Willow Walk to Devil’s Backbone

No change to the baseline in this area since submission of the ES.

Area 4 – Devils Backbone to the junction with Hinksey Stream

No change to the baseline in this area since submission of the ES.

Archaeological remains

No change to this section since submission of the ES.

Historic Buildings

No change to the baseline in this section since submission of the ES.

Historic Landscape

No change to the baseline in this section since submission of the ES.

10.1.2 Changes to cultural heritage in absence of Scheme

No change to this section since submission of the ES.

10.2 Likely significant effects

10.2.1 During construction

No change to this section since submission of the ES.

10.2.2 During operation

No additional operational phase impacts have been identified since submission of the ES.

10.3 Mitigation

No change to this section since submission of the ES.

10.4 Residual effects

No change to this section since submission of the ES.

11 Traffic and transport

11.1 Existing environment

11.1.1 Traffic and transport characteristics

Figure 11.1 has been updated to show the revised Scheme boundary. There is no other change to the baseline information presented in the ES.

11.1.2 Traffic and transport conditions

No change to the baseline information presented in the ES.

11.1.3 Changes to traffic and transport in absence of Scheme

No change to the baseline information presented in the ES.

11.2 Likely significant effects

No change to this section since submission of the ES.

11.2.1 During construction

No change to this section since submission of the ES.

11.2.2 During operation

No change to this section since submission of the ES.

11.3 Mitigation

No change to this section since submission of the ES.

11.4 Residual effects

No change to this section since submission of the ES.

12 Sustainable Use of land

Chapter 12 in the previous ES should be deleted and replaced with this version.

12.1 Existing environment

Approximately 78% of the Scheme area is considered to be agricultural land (approximately 110ha), with the remaining 22% comprising open space, infrastructure, commercial land use, equestrian land use, watercourses, gardens and allotments.

12.1.1 Geological sites

There are no geological Sites of Special Scientific Interest or Local Geology Sites (formerly known as Regionally Important Geological or Geomorphological Sites, RIGGS) within the study area, which has been defined as the Scheme area (see Figure 1.3) plus a 1km buffer.

12.1.2 Soils and agricultural land

The National Planning Practice Framework states that the planning system should protect and enhance valued soils and prevent the adverse effects of unacceptable levels of pollution. This is because soil is an essential finite resource that provides important ecosystem services, for example as a growing medium for food, timber and other crops, as a store for carbon and water, as a reservoir of biodiversity and as a buffer against pollution.

A detailed soil resource and agricultural quality survey was therefore carried out by Land Research Associates and is provided in Appendix P. A summary of the findings is incorporated into this chapter of the ES addendum.

British Geological Survey (BGS) 1:50,000 mapping identifies that the main area of the Scheme is underlain by river alluvium with occasional patches of Northmoor Member sands and gravels. There are no geological Sites of Special Scientific Interest or Local Geology Sites (formerly known as Regionally Important Geological or Geomorphological Sites, RIGGS) within the study area, which has been defined as the Scheme area (see Figure 1.3) plus a 1km buffer.

The National Soil Map (published at 1:250,000 scale) shows the soils in the main body of the Scheme as belonging to the Thames Soil Association, comprising stoneless clayey soils formed in river alluvium.

12.1.3 Ground contamination

The baseline conditions of potential ground contamination within the Scheme area have been derived from a Phase I desk study prepared for the Environment Agency along with ground investigation works in 2017. The findings of these have been incorporated into a Contaminated Land Risk Assessment and Outline Remediation Strategy (CH2M 2018, plus addendum Jacobs 2021b) for the Scheme.

A few key areas of higher contamination potential within the Scheme boundary are shown in Figure 12.1 which has been updated to show the revised Scheme boundary and include:

- Three mixed waste lined shallow landfills now closed adjacent to Old Abingdon Road. These are directly beneath the footprint of the permanent Scheme works (Kennington West, Kennington East and Redbridge). Sections of these landfills will need to be excavated during construction of new channels/culverts;
- Two mixed waste landfills now closed, also in the Old Abingdon Road area (Coldharbour Campsite and Rivermead). These will lie within the footprint of the

Scheme temporary works area, and the Coldharbour site may be used for storage of excavated soil stockpiles;

- A mixed waste landfill, now closed, at Grandpont. This lies beneath a temporary access route for installation of a small new stream control structure, which will be sited just to the south of the landfill.
- An infilled area beneath and adjacent to the of the A423 Southern bypass, as well as fill in the c. 5-10m-high road embankment itself. The Old Abingdon Road area is the only area with residential properties close to any of the former areas of landfill.

The ground investigation and risk assessment has indicated that whilst contamination is present within these locations, the contamination, which is limited areas of inert historical landfill material, even if disturbed by construction, is not considered to present a risk to nearby receptors and the contamination does not present a risk to the environment.

Key known areas of potential historic soil contamination within 100m of the Scheme, but outside its footprint, are also shown on Figure 12.1 which has been updated to show the revised Scheme boundary and include:

- The industrial estate at Osney Island, which borders the Scheme, currently comprised of commercial/light industrial buildings;
- Historical commercial properties/light industry around Botley Road;
- The railway line and sidings; and
- The overhead line transformer compound, to the east of South Hinksey.

The Ground Investigation has indicated that these areas are unlikely to be affected by or affect the Scheme.

12.1.4 Agricultural Land

Provisional Agricultural Land Classification (ALC) mapping by the former Ministry of Agriculture, Fisheries and Food (1988) shows the main body of the Scheme area to be lying within Grade 4 agricultural land, i.e. land of poor quality for crop production. However, the agricultural land quality survey (Appendix P) showed that the majority of the agricultural land within the Scheme area falls within Grade 3b, i.e. land of moderate quality. This land is dominated by heavy, poorly draining soils, which stand wet for long periods in winter and spring. Arable use would be limited, by wetness, to autumn-sown cereal-based rotation. At present the agricultural land is all under long-term pasture and silage or hay meadow. The land lies mainly on a floodplain and flooding is therefore a limiting factor for agricultural use within most of the Scheme area. The soil resource is considered to be of medium value. Land that was included in the Scheme area post-survey is assumed to be of the same quality.

12.1.5 Agricultural Holdings

The definition of an agricultural land holding as set out in the Design Manual for Roads and Bridges LA112 is 'Land and associated infrastructure for the purpose of agricultural production, e.g., arable farming, dairy farming etc.' As such, impacts on equestrian land uses are considered in ES Chapter 5 Local Community and Chapter 6 Recreation and Public Access.

Eight agricultural land holdings will be affected by the Scheme, and these are illustrated on Figure 12.2. All of the agricultural land that is in use is let/licensed to local farmers whose main enterprises are outside the Scheme area. For reasons of confidentiality, the holdings are identified by a letter rather than their tenant or owner.

Holdings A-G do not contain any key agricultural infrastructure e.g. milking sheds, dairy housing, grain stores, silos, barns. Holding H includes barns, but these are no longer used for farming operations.

For all the holdings that are in agricultural use, access between the land and key agricultural infrastructure is required on an infrequent basis (monthly or less frequent). The land is therefore considered to be of **low sensitivity** as an agricultural holding.

Agricultural land holding D is considered to be of **negligible sensitivity** because it is unused.

Holding A is part of a larger holding to the north-west of the Scheme that is entered into Mid-Tier Countryside Stewardship Agreement. Holding B is part of a larger holding to the north of the Scheme area that is entered into an Environmental Stewardship Agreement (Entry Level plus Higher Level) and Holding C is in a Mid-Tier Countryside Stewardship Agreement. Holdings E,F and H have been entered into a Countryside Stewardship Agreement.

Table 12.2 Summary of land holdings affected by the Scheme

Holding	Description	Approx. area of land holding within the Scheme	Land Use	Sensitivity
A	Land North of Seacourt	1.3ha	Arable – cereals Mid-Tier Countryside Stewardship Agreement Tenant farmer whose main landholding and farming activities are based to north-west of the Scheme.	Low
B	Land North of Botley Road	7.2ha	Grassland for sheep grazing Environmental Stewardship Agreement Tenant farmer whose main landholding and farming activities are based to the north of the Scheme. Also farms Holding C.	Low
C	North Hinksey Meadows	18.8ha	Hay meadow and cattle grazing Mid-Tier Countryside Stewardship Agreement Tenant farmer whose main landholding and farming activities are based to the north of the Scheme. Also farms Holding B.	Low
D	Land South-West of Osney Mead	5.7ha	Unused grassland	Negligible
E	Land South of Osney Mead	19ha	Grassland for silage/hay Countryside Stewardship Agreement Tenant farmer whose main landholding and farming activities are based to the south of the Scheme near Radley. Also farms Holdings F and H.	Low

Holding	Description	Approx. area of land holding within the Scheme	Land Use	Sensitivity
F	Land South-East of Osney Mead	2.3ha	Grassland for silage/hay Countryside Stewardship Agreement Tenant farmer whose main landholding and farming activities are based to the south of the Scheme near Radley. Also farms Holdings E and H.	Low
G	Land between North and South Hinksey	21ha	Grassland for sheep grazing Grassland for silage/hay Tenant farmer whose main landholding and farming activities are based to the south of the Scheme near Thame.	Low
H	Land at South Hinksey	35ha	Grassland for sheep grazing Grassland Countryside Stewardship Agreement Tenant farmer whose main landholding and farming activities are based to the south of the Scheme near Radley. Also farms Holdings E and F.	Low

12.1.6 Green Belt

The proposed Scheme is located within Green Belt to the west of Oxford; this is an area protected by planning policy to prevent urban sprawl by keeping land permanently open; the essential characteristics of Green Belts are their openness and their permanence. We have produced a Green Belt Statement to appraise the proposals against national and local policy on the protection of Green Belt land and to set out how our Scheme is suitable for location within it (see separate Planning Statement).

12.1.7 Changes to use of land in absence of Scheme

In the absence of the Scheme, the agricultural land within the study area will continue to flood and is expected to be subject to increased flooding due to climate change. Additionally, areas of potential soil contamination may be subject to increased flood risk, with potential for future migration of contaminants. Urban flooding could also transfer urban contamination across non-urban flooded areas.

12.2 Likely significant effects

12.2.1 During construction

Geology and Soils

There are likely to be localised minor adverse impacts on ground conditions as a result of land requirements for site compounds, storage areas and working areas during the construction phase. Due to the high clay content of the topsoil within the Scheme area, the proposed construction works have the potential to cause compaction of these soils when wet, particularly considering the difficulties in handling these soils with machinery. Additionally, the heavy subsoils are susceptible to compaction, which could result in restricted rooting depth, increased 'droughtiness' and an increased risk of localised flooding. Compaction of some topsoil and subsoils could affect land drainage and the creation of new habitats. However, much of the access for constructing the

Scheme and on-site haulage will be undertaken within the footprint of the Scheme, particularly in Area 2 (between Botley Road and Willow Walk) where the footprint of the temporary works has been reduced to minimise impacts on Hinksey Meadows. Additionally, some of the newly constructed haul roads will be removed, and the land reinstated upon completion of the Scheme, to reduce permanent damage to the soil resource.

Ground contamination

There is potential for the construction works to expose contaminants and to open new pathways for contaminants, with the following impacts:

- Exposure of construction workers to direct contact with soil contamination and soil gas during excavation work.
- Exposure of local land-users (residents, commercial property users and recreational users) to contaminated material via dust and vapours from exposed soils and soil stockpiles.
- Exposure of local land-users to soil gas risk because of changes to existing gas migration pathways.
- Odour from exposed in situ or stockpiled organic soils.

All of these impacts are considered manageable, and the Scheme will be designed to mitigate these impacts in line with both the legislative requirements and best practice (see Section 12.3).

Agricultural Land

There will be temporary disturbance of up to 100ha of Grade 3b agricultural land, some of which will be in the permanent footprint of the new Scheme and some of which will be used for contractor's compounds and materials storage, topsoil storage and haul routes. These areas will be out of agricultural production for some or all of the construction period but would be progressively returned to agriculture on completion of their use and replacement of soils.

Agricultural Holdings

There may be some disruption of access to individual fields for crop and/or livestock management during construction. Grazing by livestock may not be practical immediately adjacent to the Scheme at times, due to the risk of disturbance by construction machinery.

There will also be temporary impacts on local farm businesses and associated tenancies from temporary land-take during the construction works and from severance effects, which will prevent the continuation of current farming practices in some areas for up to three years, with potential changes in day-to-day management and loss of farm income. Such impacts are considered to be moderate adverse in nature.

12.2.2 During operation

Geology and soils

The Scheme will provide an improved standard of protection against flooding for existing land uses (including agricultural land and some small areas of potential contamination) and soils within the floodplain, thereby helping to reduce the risk of pollution during flood events from the small areas of contaminated land – a moderate beneficial impact.

Land contamination

Operational impacts associated with soil contamination have not been assessed as this was scoped out of the EIA. However, the former landfill areas are to be significantly engineered in the development of the Scheme and therefore a programme of

monitoring during the construction phase and maintenance will be developed to ensure there are no breaches of leachate to the new channel or surrounding environment.

Agricultural land

Following completion of the Scheme, there will be a permanent change in wetness of Grade 3b agricultural land in the permanent footprint of the Scheme due to the increased frequency of flooding. The Grade 3b land within the second stage channel will become Grade 4 agricultural land, which will be managed as Neutral Grassland, which is anticipated to become floodplain grazing marsh, due to being significantly wetter and to having its topsoil removed.

Up to 19.7ha of agricultural land will be used for mitigation planting upon completion of the Scheme. The 7.8ha direct land-take in the footprint of the new first stage stream, new flood defences and new habitat creation areas will be removed from agricultural use. There will also be effects on the land within the second stage channel, as described above, which will remain in agricultural use but will be less productive. Such impacts are considered to be moderate adverse in nature.

Agricultural Holdings

Some of the agricultural landowners within the Scheme area, have indicated their preference for us to take ownership of the Scheme channel upon completion of the works. In these areas, the lowered floodplain is to be acquired and managed by the Environment Agency because of the impracticality of multiple landowners managing land holdings with boundaries that cannot be permanently fenced due to the risk of trapped debris during floods. Seasonal grazing of the lowered floodplain is the intended means for the management of vegetation growth. Temporary electric livestock fencing for seasonal grazing will be permitted across the lowered floodplain.

All eight of the agricultural land holdings will be affected by permanent land take and there will be some land severance. Access to some of the holdings will be improved.

The impacts of land take and other effects on each landholding affected by the proposed scheme are summarised in Table 12.2. The main effects are on access and the severing of land. The impacts both in the absence of mitigation and after proposed mitigation are set out.

12.3 Mitigation

Geology and soils

The Soil Resources Report and Management Recommendations (Appendix O) sets out measures for soil handling/management during construction in order to ensure the resource is not damaged. It also assesses soil resources for suitability for reuse in habitat restoration as part of the development.

We follow the recommendations and implement the following mitigation and management practices to minimise damage to soils:

- Ensure that our Contractors adhere to Defra's 'Safeguarding our Soils' Strategy and the Construction Code of Practice for Sustainable Use of Soils on Construction Sites (Defra, 2009), as well as our strategy document 'Soil a Precious Resource: Our strategy for protecting, managing and restoring soil (Environment Agency, 2007).
- Programme the majority of earth movements and soil handling for between April and October when the soils are likely to be drier.
- Loosen any subsoils that have been unavoidably compacted during the construction works before any topsoil is spread on them.

- Ensure that any areas outside of the Scheme area (i.e. not within the footprint of the Scheme or adjacent working areas) which are not public highway are not used by construction vehicles.
- Store stripped topsoil in separate resource bunds to an approximate maximum height of 2-4m (but depending on soil wetness). These bunds will be kept grassed and free from construction traffic until required for re-use.

Ground contamination

Mitigation for soil contamination risks during construction will follow standard practice appropriate to the risk level and will include:

- Employment of a health and safety plan for any workers likely to come into physical contact with contaminated soils, gases or vapours during the construction phase.
- Use of measures to mitigate dust migration risks from exposed soils and stockpile areas (e.g. tarpaulins, dust suppression sprays and/or siting of any contaminated/odorous stockpiles away from residential areas – see Chapter 13 ‘Air Quality’).
- Storage of excavated soils on low permeability ground or pads with suitable temporary drainage/bunding to prevent risk of wash-off of stockpiled soils by rain or flood water; and/or leaching into the ground.
- Adoption of risk-based human health screening values to determine appropriate locations for the re-use of materials within the project boundary.
- Construction phase monitoring of soil gas levels where there is a significant risk of changing existing soil gas migration pathways e.g. in landfill areas. If required, gas migration breaks (clay bunds) or venting will be incorporated into the design.
- Appropriate design of a capping layer and/or seeding of any bare soils exposed at the end of the earthworks phase to reduce potential exposure pathways.

It is anticipated that employment of these measures during the construction phase will leave no additional residual health risk from the Scheme during the operational phase. We will provide further details of the mitigation strategy to be employed in the outline remediation strategy for the Scheme, which will be implemented via the Contractor’s Construction Environmental Management Plan (CEMP) and EAP (Appendix G).

Agricultural land

The agricultural land areas affected by temporary uses will be returned to agriculture on completion. The permanent loss of agricultural land cannot be mitigated in this scheme. The scheme design includes continuation of agricultural land drainage systems which would otherwise be severed by the new works.

Agricultural holdings

As set out in the Statement of Community Involvement, we have been in discussion with landowners from the early stages of the project and throughout the development of the scheme in order to avoid and minimise impacts upon their land wherever possible. Discussions with landowners and tenants will continue.

Access to farmed land during the works will be maintained wherever possible to enable continued farming on all the holdings affected by construction. Disruption to agricultural holdings will be minimised through working principles which would be adopted in the contractor’s CTMP and EAP, such as temporary access arrangements and measures to reduce dust and construction site runoff. Suitable replacement access points to severed fields will be provided. Without this mitigation some holdings would experience a greater land loss and subsequently a greater adverse impact.

As shown on the General Scheme Overview, in Area 3, two new fords will be provided to allow access across the new channel to the severed fields in Land Holding G and a new bridge and new field access points near the Devil's Backbone will allow access to Land Holdings G and H. A new access track from Ferry Hinksey Road will make Land Holdings D, E and F more easily accessible.

12.4 Residual effects

Table 12.3 overleaf summarises the impacts, mitigation and any residual impacts on agricultural land holdings across the proposed scheme area.

Table 12.3: Residual impacts on agricultural land holdings

Holding	Land take, severance and other effects	Impact without mitigation	Proposed mitigation	Impact with mitigation	Residual Adverse Effect
A (Land North of Seacourt)	<p>The existing access track off the A420 is in a poor state of repair and will be re-built as part of the Scheme so that it safely takes large machinery.</p> <p>There will be a permanent loss of 0.23ha (7%) of the part of the land holding that is within the Scheme area. This will be land under the footprint of the access track and embankment.</p> <p>Temporary use of an additional 1.07ha (35%) of land during construction, for return to agriculture</p> <p>0.5ha of farmable land will be severed by the access track.</p>	Negligible	<p>Timing of access track construction to be agreed with landowner/tenant. As soon as the track is in place, the landowner and tenant will have the right to access their land over it.</p> <p>A new gate will be provided so that the 0.5ha of severed land to the south of the access track can still be farmed.</p> <p>No mitigation is possible for the permanent loss of land within the holding.</p>	Negligible	Slight
B (Land North of Botley Road)	<p>Land next to the Scheme will be temporarily unavailable for grazing during construction due to access restrictions and potential disturbance by construction machinery.</p> <p>Permanent loss of 2.2ha (30%) of</p>	Minor Adverse	During construction, access will be given to cut the grass during June-July, thus meeting the minimum conditions of the Environmental Stewardship Agreement. Aftermath grazing may still be possible depending on the timing of the Scheme works.	Minor Adverse	Slight

Holding	Land take, severance and other effects	Impact without mitigation	Proposed mitigation	Impact with mitigation	Residual Adverse Effect
	<p>the part of the land holding in the Scheme area. This is to allow woodland planting and the creation of an access track to the flood wall and embankment.</p> <p>Temporary use of an additional 1.78ha (25%) of land during construction, for return to agriculture</p>		<p>No mitigation is possible for the permanent loss of land within the holding.</p>		
Holding C (North Hinksey Meadows)	<p>Land next to the Scheme may be temporarily unavailable for grazing during construction due to access restrictions and disturbance by construction machinery.</p> <p>Permanent loss of approximately 5.20ha (28%) of the holding, which will become wetland habitat in the lowered floodplain.</p> <p>Two small sections of Hinksey Meadow totalling 0.94ha of will be severed from the main meadow due to the alignment of the lowered floodplain but it may be still</p>	<p>Moderate Adverse</p>	<p>During construction, there will still be access to cut the grass during June-July, thus meeting the minimum conditions of the Countryside Stewardship Agreement. Aftermath grazing may still be possible depending on the timing of the Scheme works.</p> <p>New gates will be provided so that the severed land can still be accessed.</p> <p>No mitigation is possible for the permanent loss of land within the holding.</p>	<p>Minor Adverse</p>	<p>Slight</p>

Holding	Land take, severance and other effects	Impact without mitigation	Proposed mitigation	Impact with mitigation	Residual Adverse Effect
	<p>possible for livestock to access them by walking across the lowered land.</p> <p>Severance of 0.79ha of the field to the south of Willow Walk.</p> <p>There is the opportunity for access to all parts of the land holding to be improved, by provision of an additional route that avoids a 3-tonne weight restriction.</p> <p>Temporary use of an additional 2.63ha (14%) of land during construction, for return to agriculture</p>				
Holding D (Land South-West of Osney Mead)	<p>The Scheme will include all of Holding D. 3.7ha (65%) will be used to create wetland and wet woodland habitats.</p> <p>Access to the area will be improved with the creation of a new access track off Ferry Hinksey Road.</p>	Negligible	The Environment Agency are permanently acquiring Holding D. 2ha (35%) will be brought back into use as agricultural land.	Minor Beneficial	Negligible
Holding E (Land South of	The Scheme will include all of Holding E. 3ha (15%) will be taken	Minor Adverse	The Environment Agency are permanently acquiring Holding E and	Negligible	Negligible

Holding	Land take, severance and other effects	Impact without mitigation	Proposed mitigation	Impact with mitigation	Residual Adverse Effect
Osney Mead)	out of agricultural use to create wet woodland.		will manage 16ha as agricultural land.		
Holding F (Land South-East of Osney Mead)	The Scheme will include all of Holding F.	Negligible	The Environment Agency are permanently acquiring Holding F and will manage it all as agricultural land.	Negligible	Negligible
Holding G (Land between North and South Hinksey)	The Scheme will include 21ha of Holding G and 3ha (14%) of this will be taken out of agricultural use to create wet woodland. The holding will be severed: 14.3ha to the NE and 3.34 and 13.29ha to the SW.	Moderate Adverse	<p>During construction, there will still be access to cut the grass during June-July. Aftermath grazing may still be possible depending on the timing of the Scheme works</p> <p>The lowered floodplain is to be acquired and managed by the Environment Agency because of the impracticality of multiple landowners managing land holdings with boundaries that cannot be permanently fenced due to the risk of trapped debris during floods.</p> <p>The Scheme includes two ford crossing points over the new stream,</p>	Minor Adverse	Minor

Holding	Land take, severance and other effects	Impact without mitigation	Proposed mitigation	Impact with mitigation	Residual Adverse Effect
			over which the owner and its tenants will be granted access rights. This will connect the severed land parcels to one another. All three will also be accessible via other routes.		
Holding H (Land at South Hinksey)	<p>Once the Scheme has been built, approximately 23ha (65%) of land holding H will remain available for agricultural use by the existing landowner/tenant. 12ha will be to the north-east of the new stream and 11ha will be to the south-west of the new stream. The creation of the new stream, wet woodland and ponds will make around 2ha (6%) of the land holding unavailable for agricultural use.</p> <p>The Environment Agency is to permanently acquire approximately 10ha (29%) of this landholding for the permanent Scheme area. Around 0.2ha of the land will be wet woodland with the remaining 7.1ha managed as an agricultural holding that will also include Land Holdings D, E, F and part of Land Holding G.</p>	Moderate Adverse	<p>During construction, the owner/tenant will be given access outside the Scheme area to mow the grass during June-July. Aftermath grazing may still be possible over the non-scheme area depending on the timing of the Scheme works. The lowered floodplain is to be acquired and managed by the Environment Agency because of the impracticality of multiple landowners managing land holdings with boundaries that cannot be permanently fenced due to the risk of trapped debris during floods.</p> <p>The Scheme includes the creation of a vehicular bridge at The Devil's Backbone, over which the owner and tenants will be granted access rights to reach the severed land to the north-east of the new stream.</p>	Minor Adverse	Minor

13 Air quality

13.1 Existing environment

13.1.1 Overview

The original baseline air quality assessment used data up to and including 2019. This has now been updated to use available post 2019 data. Although this new baseline was used, all resulting changes to data are and minor and have a negligible impact. An updated Air Quality Report can be found in Appendix H which replaces Appendices H-1, H-2, H-3 and H-4 of the ES.

Figures 13.1 and 13.2 have been updated to show the revised Scheme boundary and Figure 13.1 has been amended to show the receptors used for the updated calculations in Appendix H.

13.1.2 Key sensitive human receptors

No change to this section since submission of the ES.

13.1.3 Local air quality management

No change to this section since submission of the ES.

13.1.4 Air quality management areas (AQMAs)

No change to this section since submission of the ES.

13.1.5 Local authority monitoring data

No change to this section since submission of the ES.

13.1.6 Oxford City Council monitoring network

No change to this section since submission of the ES.

13.1.7 VoWH District Council monitoring network

No change to this section since submission of the ES.

13.1.8 Ecological receptors

No change to this section since submission of the ES.

13.1.9 Background concentrations

No change to this section since submission of the ES.

13.1.10 Changes to air quality in absence of Scheme

No change to this section since submission of the ES.

13.2 Likely significant effects

No change to this section since submission of the ES.

13.3 Mitigation

No change to the mitigation section since submission of the ES.

13.4 Residual effects

No change to residual effects section since submission of the ES.

14 Carbon, sustainability and climatic factors

14.1 Climate change

No change to environmental sustainability since submission of the ES.

14.2 Environmental sustainability

No change to environmental sustainability since submission of the ES.

14.3 Carbon

No changes to the estimated carbon emissions associated with the scheme however we have now included the summary outputs from the tool used to calculate the whole life carbon emissions associated with the scheme. Appendix T illustrates the build-up of the results presented in the ES.

15 Cumulative effects and inter-relationships

15.1 Interactions between impacts of the scheme

No change since submission of the ES.

15.2 Cumulative impacts with other developments

No further proposed schemes in the Oxford area have been identified that could have cumulative impacts with the OFAS scheme. However, since submission of the ES, the potential cumulative effects of the following projects or plans have been revised with regard to their relevance to the Scheme:

15.2.1 Oxford Corridor Phase 2

The programme for the Oxford Corridor Phase 2 has changed since the submission of the original ES. It is now expected to be commencing Spring 2023 and completed Spring 2025 updated from the previously estimated Nov 2022 – Nov 2024). The current known key dates are updated and published as follows:

- May 2023 – commence highway works on Roger Dudman Way
- June 2023 – Botley road bridge, additional platform face and station buildings
- October 2023 – Botley road bridge highway works
- May 2024 – West end station entrance construction
- June 2025 – Entry into service

Network Rail have indicated that it is currently anticipated a full closure of Botley Road will be required for two 6-month periods.

The timings of the road closures of Botley Road are still anticipated to be completed early enough that it is unlikely to coincide with the construction of the main parts of the Scheme.

It is therefore expected that any cumulative impacts would be avoided or **minor adverse**. However, we will continue to monitor the delivery programme with Network Rail to minimise the risk of cumulative impacts should the currently anticipated delivery programmes for either scheme get delayed.

15.2.2 A423 Kennington Bridge Rail Replacement Bridge

No change since submission of the ES.

15.2.3 Osney Mead

No change since submission of the ES.

15.2.4 Botley Road Development

No change since submission of the ES.

16 Potential changes to impacts if the rail sidings are used

No change to this section since submission of the ES.

17 Management and Monitoring

17.1 Environmental Action Plan

Updates have been made within the Environmental Action Plan which are illustrated in Appendix G of this addendum and replaces Appendix G in the original ES submission.

17.2 Post-construction Maintenance and Monitoring Plan

Long-term management and monitoring are required to ensure that the environmental objectives of the Scheme are met, including the delivery of biodiversity net gain.

A revised Landscape and Habitat Creation – Delivery and Management Plan has been completed since the submission of the ES. This was submitted as a standalone document in the original planning submission but is now included as Appendix V of this addendum. We aim to promote the management of the Scheme area in a way that is as sustainable as possible. The two-stage channel is designed to function with the main elements of maintenance delivered through sustainable agricultural practices such as managed grazing in place of mechanical mowing.

Table 17.1 below illustrates the rows in the provisional monitoring schedule which have been updated to reflect the change in post-construction monitoring from 25 years to 30 years with changes reflected in blue text. Additional rows have been added for habitats that need to be monitored to ensure the delivery of biodiversity net gain. The Monitoring Plan will be reviewed regularly during years 1-30 to ensure that it remains relevant and fit for purpose. For further information regarding future monitoring, see the Landscape Maintenance Operations Schedule (Gillespies, 2023), and Appendix V.

Table 17.1: Provisional monitoring schedule

Topic Area/ Receptor	Suggested Monitoring Method	Purpose	Years 1-5	Years 6- 10	Years 11- 30
Flora and fauna					
Existing Floodplain Meadow (MG4) at Hinksey Meadow	NVC Survey	To determine the extent of community change across the meadow	Year 2 and 5	Year 10	Year 15 Year 20 Year 25 Year 30
	Soil phosphate survey	Is soil fertility still within the range of the MG4? If soil fertility is changing, management changes may be required	Year 3	Year 6 Year 9	Year 15 Year 20 Year 25 Year 30

Topic Area/ Receptor	Suggested Monitoring Method	Purpose	Years 1-5	Years 6- 10	Years 11- 30
Proposed Floodplain Meadow (MG4)	NVC Survey	To determine the extent of community change across the meadow. Are expected plant communities developing? Plants that have established can tell us about groundwater levels and soil fertility	Years 2 and 5	Year 10	Year 15 Year 20 Year 25 Year 30
	Soil phosphate survey	Is soil fertility still within the range of the target plant community? If soil fertility is changing, management changes may be required.	Year 3	Year 6 Year 9	Year 15 Year 20 Year 25 Year 30

18 Summary

This addendum to the Environmental Statement (ES) has been prepared to provide additional environmental information. It is submitted in support of a planning application, MW.0027/22 – validated 31 March 2022.

The proposed Scheme, as described in the original ES, comprises a combination of modifications to existing channels to increase their capacity, together with the construction of a new two-stage channel and new flood defences, to move flood water away from developed areas and reduce the frequency of flooding.

This addendum to the ES addresses the following changes to the original planning application:

- A minor change in the planning application red line boundary at Eastwyke Lane, New Hinksey to adjust the temporary working areas (See Figure 1.1),
- Inclusion of the field immediately north of South Hinksey into the permanent works to assist with the proposed maintenance regime of cattle grazing.

It also provides information in response to a request for further information under Regulation 25 of the Town and Country Planning (Environmental Impact Assessment (EIA)) Regulations 2017 and includes;

- Updates to the biodiversity net gain calculator: -
 - Changes to the existing habitat condition classification for some areas of grassland
 - Population of the 'delay in year' column to reflect the proposed timing of the proposed habitat creation
 - Updated information on off-site biodiversity net gain delivery
- Additional arboricultural information
- An updated Environmental Action Plan to address queries
- Updated information on Air Quality
- Updated landscape and planting plans
- A minor update to the No-channel Modelling Report
- Inclusion of the Carbon Calculator detailing the calculations used to estimate the carbon emissions figures quoted in the ES
- Additional Information on the options assessed for the proposed 2 stage channel route alignment
- An updated Landscape and Habitat Management Plan

None of the above changes or additional information changes the conclusion of the originally submitted ES, and it is still considered that the Scheme will result in significant socio-environmental benefits by reducing flood risk to people, property and infrastructure, deliver high quality diverse habitats providing and maintaining access to wildlife and securing a more sustainable environment for the future.

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List of abbreviations

Term	Meaning / Definition
AADT	Annual Average Daily Traffic
AIA	Arboricultural Impact Assessment
AQS	Air Quality Standards
CPO	Compulsory Purchase Order
CTA	Conservation Target Areas
CTMP	Construction Traffic Management Plan
EA	Environment Agency
EIA	Environmental Impact Assessment
ES	Environmental Statement
GI	Green Infrastructure
HGV	Heavy Good Vehicle
IAQM	Institute of Air Quality Management
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
NVC	National Vegetation Classification
OFAS	Oxford Flood Alleviation Scheme
ORVal	Outdoor Recreation Valuation Tool
PRoW	Public Right of Way
TVERC	Thames Valley Environmental Records Centre
WFD	Water Framework Directive

Glossary

Air quality management area (AQMA)	Area defined by the local authority as an area requiring management because air quality levels do not meet national air quality objectives
Baseline	A description of the present state of the environment with the consideration of how the environment would change in the future in the absence of the plan/programme/project as a result of natural events and other human activities.
Baseline studies/survey	Collection of information about the environment which is likely to be affected by the project
Catchment	A surface water catchment is the total area that drains into a river. A groundwater catchment is the total area that supplies the groundwater part of the river flow.
Catchment Flood Management Plan (CFMP)	A high-level plan carried out by the Environment Agency in order to manage the risk of flooding to people, property and the environment in an integrated way. These plans form the basis of future flood risk management proposals.
Cumulative impacts	The combined impacts of several projects within an area, which individually are not significant, but together amount to a significant impact.
Department for Environment, Food and Rural Affairs (Defra)	The government department responsible for flood management policy in England
Environmental Action Plan	A standalone report or section within another environmental impact assessment document which ensures that constraints, objectives and targets set in the main Environmental Report/Statement are actually carried out on the ground. Actions are separated into those to be carried out before, during and after construction.
Environmental Impact Assessment (EIA)	“EIA is an assessment process applied to both new development proposals and changes or extensions to existing developments that are likely to have significant effects on the environment. The EIA process ensures that potential effects on the environment are considered, including natural resources such as water, air and soil; conservation of species and habitats; and community issues such as visual effects and impacts on the population. EIA provides a mechanism by which the interaction of environmental effects resulting from development can be predicted, allowing them to be avoided or reduced through the development of mitigation measures. As such, it is a critical part of the decision-making process.” www.iema.net/eiareport
Environmental Statement (ES)	The document produced to describe the environmental impact assessment process where statutory environmental impact assessment is required.
Flood defence	A structure (or system of structures) that reduce flooding from rivers or the sea
Geographical Information Systems (GIS)	A computer-based system for capturing, storing, integrating, manipulating, analysing and displaying data spatially.
Mitigation measures	Actions that are taken to minimise, prevent or compensate for adverse effects of the development.

Natural England	Natural England is an Executive Non-departmental Public Body responsible to the Secretary of State for Environment, Food and Rural Affairs. Their purpose is to protect and improve England's natural environment and encourage people to enjoy and get involved in their surroundings. Their aim is to create a better natural environment that covers all of our urban, country and coastal landscapes, along with all of the animals, plants and other organisms that live with us.
Riparian	Area of land or habitat adjacent to rivers and streams
Scoping	The process of deciding the scope or level of detail of an EIA/SEA. During this stage the key environmental issues (likely significant effects) of a project/strategy are identified so that the rest of the process can focus on these issues. Issues may result from the proposal itself or from sensitivities of the site.
Site of Special Scientific Interest (SSSI)	Nationally important sites designated for their flora, fauna, geological or physiographical features under the Wildlife and Countryside Act (1981) (as amended) and the Countryside Rights of Way (CRoW) Act (2000).
Water Framework Directive (WFD)	EC Directive (2000/60/EC) on integrated river basin management. The WFD sets out environmental objectives for water status based on ecological and chemical parameters, common monitoring and assessment strategies, arrangements for river basin administration and planning and a programme of measures in order to meet the objectives.

Appendix A - Engineering Drawings

New/Updated Drawings

OXFORD FLOOD ALLEVIATION SCHEME PLANNING APPLICATION DRAWINGS		
Drawing number	Drawing description	Updated as Part of Regulation 25 submission
Overview Plans		
IMSE500177-CH2-00-00-VS-PL-0027	GENERAL SCHEME OVERVIEW	Yes
IMSE500177-CH2-00-00-VS-PL-0028	RED LINE BOUNDARY	Yes
Typical Details Drawings		
IMSE500177-CH2-SWR-ZZ-DR-PL-0110	TYPICAL LOW FLOW WEIR	No change
IMSE500177-CH2-IAM-ZZ-DR-PL-0020	TYPICAL TELEMETRY CABINET	No change
IMSE500177-CH2-DFG-ZZ-DR-PL-0025	TYPICAL FLOODGATE	No change
IMSE500177-CH2-CXF-ZZ-DR-PL-0030	TYPICAL FORD CROSSING	No change
IMSE500177-CH2-COC-ZZ-DR-PL-0045	TYPICAL DETAILS OF TWO STAGE CHANNEL	No change
IMSE500177-CH2-COC-ZZ-DR-PL-0050	TYPICAL DETAIL OF IN-CHANNEL CATTLE POLES	No change
IMSE500177-CH2-LAT-ZZ-DR-PL-0055	TYPICAL DETAIL OF ACCESS TRACKS AND KERBS	No change
IMSE500177-CH2-LAT-ZZ-VS-PL-0065	TYPICAL DETAIL OF PROTECTION WORKS	No change
IMSE500177-CH2-SOF-ZZ-DR-PL-0036	TYPICAL DETAIL OF FLEX MSE CULVERT AND HEADWALL	No change
Gauging Stations		
IMSE500177-CH2-IAM-ZZ-VS-PL-0031	LOCATIONS OF NEW TELEMETRY CABINETS	No change
IMSE500177-CH2-IAM-A1A-DR-PL-1150	GA OF FLOW GAUGING STATION AT BULSTAKE STREAM	No change
IMSE500177-CH2-IAM-A1C-DR-PL-1360	GA OF FLOW GAUGING STATION AT SEACOURT STREAM	No change
IMSE500177-CH2-IAM-A3C-DR-PL-3270	GA OF FLOW GAUGING STATION AT RIVER THAMES FRIARS WHARF	No change
Temporary Working Area Drawings		
IMSE500177-CH2-B00-A1-DR-PL-1010	AREA 1 - LOCATION FOR CONSTRUCTION ACCESS AND TEMPORARY STORAGE AREAS	No change

IMSE500177-CH2-B00-A2-DR-PL-2010	AREA 2 - LOCATION FOR CONSTRUCTION ACCESS AND TEMPORARY STORAGE AREAS	No change
IMSE500177-CH2-B00-A3-DR-PL-3010	AREA 3 NORTH - LOCATION FOR CONSTRUCTION ACCESS AND TEMPORARY STORAGE AREAS	No change
IMSE500177-CH2-B00-A3-DR-PL-3011	AREA 3 SOUTH - LOCATION FOR CONSTRUCTION ACCESS AND TEMPORARY STORAGE AREAS	No change
IMSE500177-CH2-B00-A4-DR-PL-4010	AREA 4 NORTH - LOCATION FOR CONSTRUCTION ACCESS AND TEMPORARY STORAGE AREAS	No change
IMSE500177-CH2-B00-A4-DR-PL-4011	AREA 4 SOUTH - LOCATION FOR CONSTRUCTION ACCESS AND TEMPORARY STORAGE AREAS	No change
IMSE500177-CH2-B00-A4-DR-PL-4015	AREA 4 NEW HINKSEY - LOCATION FOR CONSTRUCTION ACCESS AND TEMPORARY STORAGE AREAS	Yes
Area 1		
Channel works		
IMSE500177-CH2-ZZ-A1A-DR-PL-1100	OVERVIEW OF WORKS AT AREA 1A	No change
IMSE500177-CH2-ZZ-A1B-DR-PL-1200	OVERVIEW OF WORKS AT AREA 1B	No change
IMSE500177-CH2-ZZ-A1C-DR-PL-1300	OVERVIEW OF WORKS AT AREA 1C	No change
Bridges and culverts		
IMSE500177-CH2-CXB-A1A-DR-PL-1130	MODIFICATIONS TO BOTLEY BRIDGE	No change
IMSE500177-CH2-CSC-A1A-DR-PL-0001	NEW CULVERT AT EXISTING ACCESS BRIDGE FROM BOTLEY ROAD	No change
Raised flood defences		
IMSE500177-CH2-DWL-A1A-DR-PL-1125	GA OF FLOODWALL DWL.A1A.01 TO THE WEST OF SEACOURT STREAM	No change
IMSE500177-CH2-DWL-A1A-DR-PL-1140	NEW FLOODWALL AT BOTLEY BRIDGE BY RICHER SOUNDS	No change
IMSE500177-CH2-DRH-A1B-DR-PL-1208	GA AND DETAILS OF ROAD HUMP BY SEACOURT P&R	No change
IMSE500177-CH2-DWL-A1B-DR-PL-1210	GENERAL ARRANGEMENT OF FLOODWALL AROUND SEACOURT PARK AND RIDE CAR PARK	No change
IMSE500177-CH2-DWL-A1B-VS-PL-1210	TYPICAL CROSS SECTIONS OF FLOODWALL AROUND SEACOURT PARK AND RIDE CAR PARK	No change
IMSE500177-CH2-DEM-A1B-DR-PL-1220	GENERAL ARRANGEMENT OF FLOOD EMBANKMENT TO THE NORTH OF BOTLEY ROAD	No change
IMSE500177-CH2-DEM-A1B-VS-PL-1220	TYPICAL CROSS SECTIONS OF FLOOD EMBANKMENT TO THE NORTH OF BOTLEY ROAD	No change

IMSE500177-CH2-DWL-A1B-DR-PL-1230	GENERAL ARRANGEMENT OF FLOODWALL AT BULSTAKE CLOSE ALLOTMENTS	No change
IMSE500177-CH2-DWL-A1B-VS-PL-1230	TYPICAL CROSS SECTIONS OF FLOODWALL AT BULSTAKE CLOSE ALLOTMENTS	No change
Area 2		
Channel works		
IMSE500177-CH2-COC-A2A-DR-PL-2105	GENERAL ARRANGEMENT OF SEACOURT STREAM MODIFICATIONS	No change
IMSE500177-CH2-COC-A2B-DR-PL-2200	AREA 2B NORTH - GENERAL ARRANGEMENT OF NEW SCRAPE CHANNEL ADJACENT TO SEACOURT STREAM	No change
IMSE500177-CH2-COC-A2B-VS-PL-2200	AREA 2B CHANNEL DETAILS AND TYPICAL CROSS SECTIONS	No change
IMSE500177-CH2-COC-A2B-DR-PL-2205	AREA 2B SOUTH - GENERAL ARRANGEMENT OF NEW SCRAPE CHANNEL ADJACENT TO SEACOURT STREAM	No change
Bridges and culverts		
IMSE500177-CH2-CXB-A2A-DR-PL-2110	NEW FOOTBRIDGE AT WEST WAY CYCLE PATH	No change
IMSE500177-CH2-CXB-A2B-DR-PL-2210	NEW ACCOMMODATION BRIDGE AT WILLOW WALK	No change
Area 3		
Channel works		
IMSE500177-CH2-COC-A3A-DR-PL-3100	GENERAL ARRANGEMENT OF NEW CHANNEL BETWEEN WILLOW WALK AND NORTH HINKSEY CAUSEWAY	No change
IMSE500177-CH2-COC-A3B-DR-PL-3200	AREA 3B NORTH - GENERAL ARRANGEMENT OF CHANNEL WORKS BETWEEN NH CAUSEWAY TO BIFURCATION FROM HINKSEY STREAM	No change
IMSE500177-CH2-COC-A3B-DR-PL-3205	AREA 3B SOUTH - GENERAL ARRANGEMENT OF CHANNEL WORKS BETWEEN NH CAUSEWAY TO BIFURCATION FROM HINKSEY STREAM	No change
IMSE500177-CH2-COC-A3C-DR-PL-3300	AREA 3C NORTH - GENERAL ARRANGEMENT OF CHANNEL WORKS BETWEEN BIFURCATION FROM HINKSEY STREAM TO DEVIL'S BACKBONE	No change
IMSE500177-CH2-COC-A3C-DR-PL-3305	AREA 3C SOUTH - GENERAL ARRANGEMENT OF CHANNEL WORKS BETWEEN BIFURCATION FROM HINKSEY STREAM TO DEVIL'S BACKBONE	No change

Eastwyke Ditch Flow Control Structure		
IMSE500177-CH2-SCG-A3E-DR-PL-3500	TILTING WEIR AT EASTWYKE DITCH (SHEET 1 OF 3)	No change
IMSE500177-CH2-SCG-A3E-DR-PL-3501	TILTING WEIR AT EASTWYKE DITCH (SHEET 2 OF 3)	No change
IMSE500177-CH2-SCG-A3E-DR-PL-3502	TILTING WEIR AT EASTWYKE DITCH (SHEET 3 OF 3)	No change
Bridges and Culverts		
IMSE500177-CH2-CXB-A3A-DR-PL-3110	NEW FOOTBRIDGE AT NORTH HINKSEY CAUSEWAY	No change
IMSE500177-CH2-CXB-A3A-DR-PL-3121	NEW FOOTBRIDGE AT NORTH HINKSEY CAUSEWAY PARAPET'S DETAILS	No change
IMSE500177-CH2-CXB-A3B-DR-PL-3230	PEDESTRIAN CROSSING AT BULSTAKE STREAM	No change
IMSE500177-CH2-CXB-A3C-DR-PL-3340	ACCOMMODATION BRIDGE AT DEVIL'S BACKBONE	No change
Raised defences		
IMSE500177-CH2-DEM-A3C-DR-PL-3360	GENERAL ARRANGEMENT OF EMBANKMENT TO THE NORTH OF SOUTH HINKSEY VILLAGE	No change
IMSE500177-CH2-DEM-A3D-DR-PL-3405	GENERAL ARRANGEMENT OF EMBANKMENT AT OATLANDS RECREATION GROUND	No change
IMSE500177-CH2-DEM-A3D-VS-PL-3405	OATLANDS RECREATION GROUND - EMBANKMENT DETAILS AND CROSS SECTIONS	No change
IMSE500177-CH2-DWL-A3D-DR-PL-3420	GENERAL ARRANGEMENT OF FLOODWALL AT OSNEY MEAD INDUSTRIAL ESTATE	No change
Area 4		
Channel works		
IMSE500177-CH2-BAR-A4D-DR-PL-0002	OXFORD OAR/KR TEMPORARY DIVERSION ROUTE ALIGNMENT DRAWINGS	No change
IMSE500177-CH2-COC-A4B-DR-PL-4200	GA OF NEW CHANNEL BETWEEN DEVIL'S BACKBONE AND COLD HARBOUR BRIDGE	No change
IMSE500177-CH2-COC-A4C-DR-PL-4305	GA OF NEW CHANNEL BETWEEN COLDHARBOUR BRIDGE AND OLD ABINGDON ROAD	No change
IMSE500177-CH2-COC-A4D-DR-PL-4470	GA OF MODIFICATIONS TO HINKSEY DRAIN BETWEEN OAR BRIDGES TO A423 RAIL BRIDGE	No change
IMSE500177-CH2-COC-A4D-DR-PL-4471	AREA 4D HINKSEY DRAIN CROSS SECTIONS - SHEET 1 OF 2	No change
IMSE500177-CH2-COC-A4D-DR-PL-4472	AREA 4D HINKSEY DRAIN CROSS SECTIONS - SHEET 2 OF 2	No change
IMSE500177-CH2-COC-A4E-DR-PL-4531	GA OF MODIFICATIONS TO HINKSEY DRAIN AT KENNINGTON	No change

IMSE500177-CH2-COC-A4D-DR-PL-4532	Area 4E HINKSEY DRAIN TYPICAL CROSS SECTIONS	No change
IMSE500177-CH2-COC-A4H-DR-PL-4803	GA OF MODIFICATIONS TO HINKSEY STREAM AT NEW HINKSEY	No change
IMSE500177-CH2-COC-A4H-DR-PL-4804	AREA 4H HINKSEY STREAM TYPICAL CROSS SECTIONS AT NEW HINKSEY	No change
Bridges and Culverts		
IMSE500177-CH2-CXB-A4D-DR-PL-4450	NEW BRIDGES AT KENNINGTON & OLD ABINGDON ROAD - SHEET 1 OF 2	No change
IMSE500177-CH2-CXB-A4D-DR-PL-4451	NEW BRIDGES AT KENNINGTON & OLD ABINGDON ROAD - SHEET 2 OF 2	No change
Raised Defences (floodwalls and embankments)		
IMSE500177-CH2-DWL-A4A-DR-PL-4105	GA OF FLOODWALL AT SOUTH HINKSEY VILLAGE	No change
IMSE500177-CH2-DEM-A4A-DR-PL-4130	GA OF FLOOD EMBANKMENT TO THE SOUTH OF SOUTH HINKSEY VILLAGE	No change
IMSE500177-CH2-DWL-A4F-DR-PL-4620	GA OF FLOODWALL AT THE EXISTING ACCESS TRACK TO THE BOATHOUSE	Yes
IMSE500177-CH2-DEM-A4F-DR-PL-4640	GA OF FLOOD EMBANKMENT AT NEW HINKSEY - SHEET 1 OF 3	Yes
IMSE500177-CH2-DEM-A4F-DR-PL-4641	GA OF FLOOD EMBANKMENT AT NEW HINKSEY - SHEET 2 OF 3	No change
IMSE500177-CH2-DEM-A4F-DR-PL-4642	GA OF FLOOD EMBANKMENT AT NEW HINKSEY - SHEET 3 OF 3	No change
IMSE500177-CH2-DWL-A4F-DR-PL-4670	GA OF FLOODWALL TO THE NORTH OF DONNINGTON BRIDGE ROAD	No change
Landscape General Arrangement Drawings (Included in Appendix I of the Environmental Statement)		
IMSE500177-CH2-L00-00-VS-L-0600	Landscape Masterplan General Arrangement plan	Yes
IMSE500177-CH2-L00-A1-VS-L-0601	Landscape Plan (01 of 14)	Yes
IMSE500177-CH2-L00-A2-VS-L-0602	Landscape Plan (02 of 14)	Yes
IMSE500177-CH2-L00-A2-VS-L-0603	Landscape Plan (03 of 14)	Yes
IMSE500177-CH2-L00-A3-VS-L-0604	Landscape Plan (04 of 14)	Yes
IMSE500177-CH2-L00-A3-VS-L-0605	Landscape Plan (05 of 14)	Yes
IMSE500177-CH2-L00-A3-VS-L-0606	Landscape Plan (06 of 14)	Yes
IMSE500177-CH2-L00-A3F-VS-L-0609	Landscape Plan (09 of 14)	Yes
IMSE500177-CH2-L00-A4-VS-L-0607	Landscape Plan (07 of 14)	Yes
IMSE500177-CH2-L00-A4-VS-L-0608	Landscape Plan (08 of 14)	Yes

IMSE500177-CH2-L00-A4-VS-L-0610	Landscape Plan (10 of 14)	Yes
IMSE500177-CH2-L00-A4-VS-L-0611	Landscape Plan (11 of 14)	Yes
IMSE500177-CH2-L00-A4-VS-L-0612	Landscape Plan (12 of 14)	Yes
IMSE500177-CH2-L00-A4-VS-L-0613	Landscape Plan (13 of 14)	Yes
IMSE500177-CH2-L00-A4F-VS-L-0614	Landscape Plan (14 of 14)	Yes
Planting Plans		
IMSE500177-CH2-LPL-00-VS-L-0630	Landscape Masterplan Planting Plans Overview	Yes
IMSE500177-CH2-LPL-A1-VS-L-0631	Planting Plan (01 of 14)	Yes
IMSE500177-CH2-LPL-A2-VS-L-0632	Planting Plan (02 of 14)	Yes
IMSE500177-CH2-LPL-A2-VS-L-0633	Planting Plan (03 of 14)	Yes
IMSE500177-CH2-LPL-A3-VS-L-0634	Planting Plan (04 of 14)	Yes
IMSE500177-CH2-LPL-A3-VS-L-0635	Planting Plan (05 of 14)	Yes
IMSE500177-CH2-LPL-A3-VS-L-0636	Planting Plan (06 of 14)	Yes
IMSE500177-CH2-LPL-A4-VS-L-0637	Planting Plan (07 of 14)	Yes
IMSE500177-CH2-LPL-A4-VS-L-0638	Planting Plan (08 of 14)	Yes
IMSE500177-CH2-LPL-A4-VS-L-0639	Planting Plan (09 of 14)	Yes
IMSE500177-CH2-LPL-A4-VS-L-0640	Planting Plan (10 of 14)	Yes
IMSE500177-CH2-LPL-A4-VS-L-0641	Planting Plan (11 of 14)	Yes
IMSE500177-CH2-LPL-A4-VS-L-0642	Planting Plan (12 of 14)	Yes
IMSE500177-CH2-LPL-A4-VS-L-0643	Planting Plan (13 of 14)	Yes
IMSE500177-CH2-LPL-A4F-VS-L-0644	Planting Plan (14 of 14)	Yes
Landscape and Habitat Management Plans		
IMSE500177-CH2-LPL-00-DR-L-0001	Landscape and Habitat Management Plan Overview	Yes
IMSE500177-CH2-LPL-A1-DR-L-0002	Landscape and Habitat Management Plans -Area 1 (01 of 06)	Yes
IMSE500177-CH2-LPL-A2-DR-L-0003	Landscape and Habitat Management Plans -Area 2 (02 of 06)	Yes
IMSE500177-CH2-LPL-A3-DR-L-0004	Landscape and Habitat Management Plans -Area 3 (03 of 06)	Yes

IMSE500177-CH2-LPL-A4-DR-L-0005	Landscape and Habitat Management Plans -Area 4 (04 of 06)	Yes
IMSE500177-CH2-LPL-A4-DR-L-0006	Landscape and Habitat Management Plans -Area 4 (05 of 06)	Yes
IMSE500177-CH2-LPL-A4-DR-L-0007	Landscape and Habitat Management Plans -Area 4 (06 of 06)	Yes
IMSE500177-CH2-LPL-00-SC-L-0008	Landscape and Habitat Management Operations Schedule	Yes
IMSE500177-CH2-LPL-00-RP-L-0009	Landscape and Habitat Management Plan – now included as Appendix V of the Environmental Statement Addendum	Yes

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