**Cambridge Waste Water Treatment Plant Relocation Project**
Anglian Water Services Limited

# Environmental Statement Chapter 8: Outline Outfall Management & Monitoring Plan

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| 01 | 29.09.23 | - | First version submitted in relation to the Procedural Decision 01 |
| 02 | 06.12.23 | - | Updated in response to ExQ1 |

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# Summary

This document has been prepared in accordance with Development Consent Order (DCO) for the Anglian Water's Cambridge Waste Water Treatment Plant Relocation project (CWWTPRP). Anglian Water Services Limited (the 'Applicant') is proposing to build a modern, low carbon waste water treatment for Greater Cambridge on a new site area north of the A14 between Fen Ditton and Horningsea. As part of the Anglian Water's CWWTPRP, a gravity pipeline transferring treated waste water from the proposed Waste Water Treatment Plant (WWTP) to a discharge point (the outfall) on the river Cam river Cam and a pipeline for storm water overflows is to be constructed.

The DCO for the CWWTPRP project, requires an Outfall Management and Monitoring Plan (OMMP) to be submitted and approved by the relevant planning authority prior to construction commencing. The construction OMMP must include:

a) details of ditch habitat creation, monitoring and maintenance measures;

b) details of any proposed restrictions on navigation on the river Cam during construction works;

c) details of proposed communication of restrictions to river users and the Cam Conservancy; and

d) details of public footpath diversions during construction and proposed reinstatement methods.

A subsequent plan is required in relation to operation which must also be approved by the relevant planning authority prior to construction commencing.

The outline OMMP provides a framework for achieving the design objectives and mitigation measures outlined in the Environmental Statement Mitigation Register (App Doc Ref 5.4.2.6) and summarised within Appendix A of this document.

The detailed OMMP will identify what the environmental mitigation measures are; how and when they will be implemented, monitored, maintained and managed; and who will be responsible for ensuring they achieve their stated functions. This document sets out requirements by phase to be incorporated into the detailed OMMP.

Environmental compliance during the operational phase will be monitored under the Environmental Permit alongside specific licence conditions associated with the Natural England conservation licence for water vole. The detailed plan will be prepared to account for the specific requirements of permits, conditions and licences.

This is with the exception of the Environmental Permit for water discharges which will have a separate monitoring regime.

The detailed OMMP will be a live plan updated throughout the construction and operation of the Proposed Development. This document sets out the required updates triggered by specific programme milestones.

# 1 Introduction

## 1.1 Anglian Water Services Limited

1.1.1 Anglian Water Services Limited (the 'Applicant') is the largest regulated water and water recycling company in England and Wales by geographic area, supplying water and water recycling services to almost seven million people in the East of England and Hartlepool.

1.1.2 The Applicant is committed to bringing environmental and social prosperity to the region they serve, through their commitment to Love Every Drop. As a purpose-led business, The Applicant seeks to contribute to the environmental and social wellbeing of the communities within which they operate. As one of the largest energy users in the East of England, they are also committed to reaching net zero carbon emissions by 2030.

## 1.2 Introduction to the relocation project

1.2.1 Anglian Water's Cambridge Waste Water Treatment Plant Relocation project (CWWTPRP) ("the Proposed Development") is funded by Homes England, the Government's housing accelerator which seeks to improve neighbourhoods and grow communities by releasing land for development.

1.2.2 The Proposed Development involves the relocation of the existing Cambridge Waste Water Treatment Plant (WWTP) currently operating at Cowley Road, Cambridge, to a new site between Horningsea, Fen Ditton and Stow cum Quy, adjacent to the A14 in Cambridgeshire.

1.2.3 The relocation would make the site of the existing WWTP available to form part of the development of a new low-carbon city district, known as North East Cambridge. The site at Cowley Road, is Cambridge's last major brownfield site, and the wider North East Cambridge district proposals envisage creating around 8,350 homes and 15,000 jobs over the next 20 years.

1.2.4 North East Cambridge is a highly sustainable location for housing. In addition to the Homes England funding, the area has benefitted from Transport Infrastructure Fund (TIF) funding for Park & Ride, the completion of Cambridge Guided Bus public transport infrastructure, the delivery of the Cambridge North rail station and the Chisholm Trail.

1.2.5 North East Cambridge is one of three key strategic sites which will form "*central building blocks of any future strategy for development*" in the proposed Greater Cambridge Local Plan being jointly prepared by Cambridge City Council and South Cambridgeshire District Council that will be subject to public consultation in Autumn 2023. The North East Cambridge Area Action Plan (AAP), currently in "Proposed Submission" form, will be the planning policy framework which ultimately guides the development of North East Cambridge city district.

1.2.6 The importance of the Proposed Development, both regionally and nationally, was recognised by the Secretary of State for Environment, Food and Rural Affairs (DEFRA) in January 2021, who directed that the Proposed Development is nationally significant and is to be treated as a development for which a Development Consent Order (DCO) is required (see Appendix 1-3 of the Planning Statement, App Doc Ref 7.5).

1.2.7 The policy context of the Proposed Development is described in more detail in the Planning Statement (App Doc Ref 7.5).

## 1.3 The relocation site

1.3.1 The relocation site was selected following comprehensive study and public consultation. The site selection process and consideration of alternatives is described in more detail in Chapter 3: Alternatives of the Environmental Statement (App Doc Ref 5.2.3).

1.3.2 The current environmental conditions at the existing Cambridge WWTP site and at the relocation site are described in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). The site is located to the north-east of Cambridge and two kilometres to the east of the existing Cambridge WWTP, as shown on the Works Plans (App Doc Ref 4.3.1). It is situated on arable farmland immediately north of the A14 and east of the B1047 Horningsea Road in the green belt between the villages of Horningsea to the north, Stow cum Quy to the east and Fen Ditton to the south west. Two overhead lines of pylons cross the northern and eastern edges of the main development site and come together with a third line at the north eastern corner of the site. The topography is fairly flat with an approximately 4m fall across the site south west to north east.

## 1.4 Purpose of the Proposed Development

1.4.1 The Proposed Development for which the DCO is being sought will deliver all the functions of the existing Cambridge WWTP at Cowley Road, treating all waste water from the Cambridge catchment and wet sludge from the wider region.

1.4.2 In addition, it will have an increased capacity, being intended to treat the waste water from the Waterbeach catchment and anticipated housing growth in the combined Cambridge and Waterbeach catchment area.

1.4.3 The infrastructure provided as part of the main works will have a design life to at least 2090, and the supporting infrastructure (i.e. the transfer tunnel, pipelines and outfall) will have a designed capacity sufficient to meet population growth projections plus an allowance for climate change into the 2080s. Furthermore, there is capability for expansion in space that has been provided within the earth bank and by modification, enhancement and optimisation of the design to accommodate anticipated flows into the early 2100s.

## 1.5 Outline description of the Proposed Development

1.5.1 The DCO application is seeking approval for the following main elements of the Proposed Development:

- an integrated waste water and sludge treatment plant;
- a shaft to intercept waste water at the existing Cambridge WWTP on Cowley Road and a tunnel/ pipeline to transfer it to the proposed WWTP and terminal pumping station. Temporary intermediate shafts to launch and recover the micro-tunnel boring machine;
- a gravity pipeline transferring treated waste water from the proposed WWTP to a discharge point on the river Cam and a pipeline for storm water overflows;
- a twin pipeline transferring waste water from Waterbeach to the existing Cambridge WWTP, with the option of a connection direct in to the proposed WWTP when the existing works is decommissioned;
- on-site buildings, including - a Gateway Building with incorporated Discovery Centre, substation building, workshop, vehicle parking including electrical vehicle charging points, fencing and lighting;
- environmental mitigation and enhancements including substantial biodiversity net gain (BNG), improved habitats for wildlife, extensive landscaping, a landscaped earth bank enclosing the proposed WWTP, climate resilient drainage system and improved recreational access and connectivity;
- renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces biogas designed to be able to feed directly into the local gas network to heat homes, or as an alternative potential future option burnt in combined heat and power engines;
- renewable energy generation via solar photovoltaic and associated battery energy storage system;
- other ancillary development such as internal site access, utilities, including gas, electricity and communications and connection to the site drainage system;
- a new vehicle access from Horningsea Road including for Heavy Goods Vehicles (HGV's) bringing sludge onto the site for treatment and other site traffic;
- Temporary construction works including compounds, temporary highway controls, accesses and signage, fencing and gates, security and safety measures, lighting, welfare facilities, communication control and telemetry infrastructure; and

- Decommissioning works to the existing Cambridge WWTP to cease its existing operational function and to facilitate the surrender of its operational permits including removal of pumps, isolation of plant, electrical connections and pipework, filling and capping of pipework, cleaning of tanks, pipes, screens and other structures, plant and machinery, works to decommission the potable water supply and works to restrict access to walkways, plant and machinery.

1.5.2 Additional elements, together with more information on the above features are provided in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2). Principles of Good Design have been used to inform the development of the project, which has been guided by the National Infrastructure Commission's Design Principles, advice from the Design Council and review by the Cambridgeshire Quality Panel, as described in the Design and Access Statement (App Doc Ref 7.6).

1.5.3 Construction activities, likely to take 3-4 years, will include the creation of a shaft to intercept waste water at the existing Cambridge WWTP and temporary intermediate shafts between the existing Cambridge WWTP and the proposed WWTP to launch and recover a micro-tunnel boring machine. The sequence and location of construction activities are also detailed in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2).

1.5.4 Towards the end of the construction period, commissioning of the Proposed Development will commence, lasting for between 6 months and 1 year.

1.5.5 The Proposed Development will also involve the decommissioning of the existing Cambridge WWTP at Cowley Road. This is secured by the Development Consent Order and the Outline Decommissioning Plan (Appendix 2.3, App Doc Ref 5.4.2.3) and involves activities necessary to take the existing plant out of operational use and to surrender its current operational permits.

1.5.6 Following decommissioning, the site of the existing plant will be made available in accordance with agreements already in place with Homes England and with the master developer appointed to deliver the redevelopment of north-east Cambridge.

1.5.7 Consent is not sought under the Development Consent Order for the subsequent demolition or redevelopment of the Cowley Road site, which, as described in Chapter 2: Project Description of the Environmental Statement (App Doc Ref 5.2.2) will be consented under a separate and future planning permission, by master developers, U+I and TOWN, appointed under the agreements described above.

1.5.8 The relationship between the Proposed Development, the scope of the proposed DCO and the future demolition and redevelopment of the site at Cowley Road is set out in Figure 1.1 below.

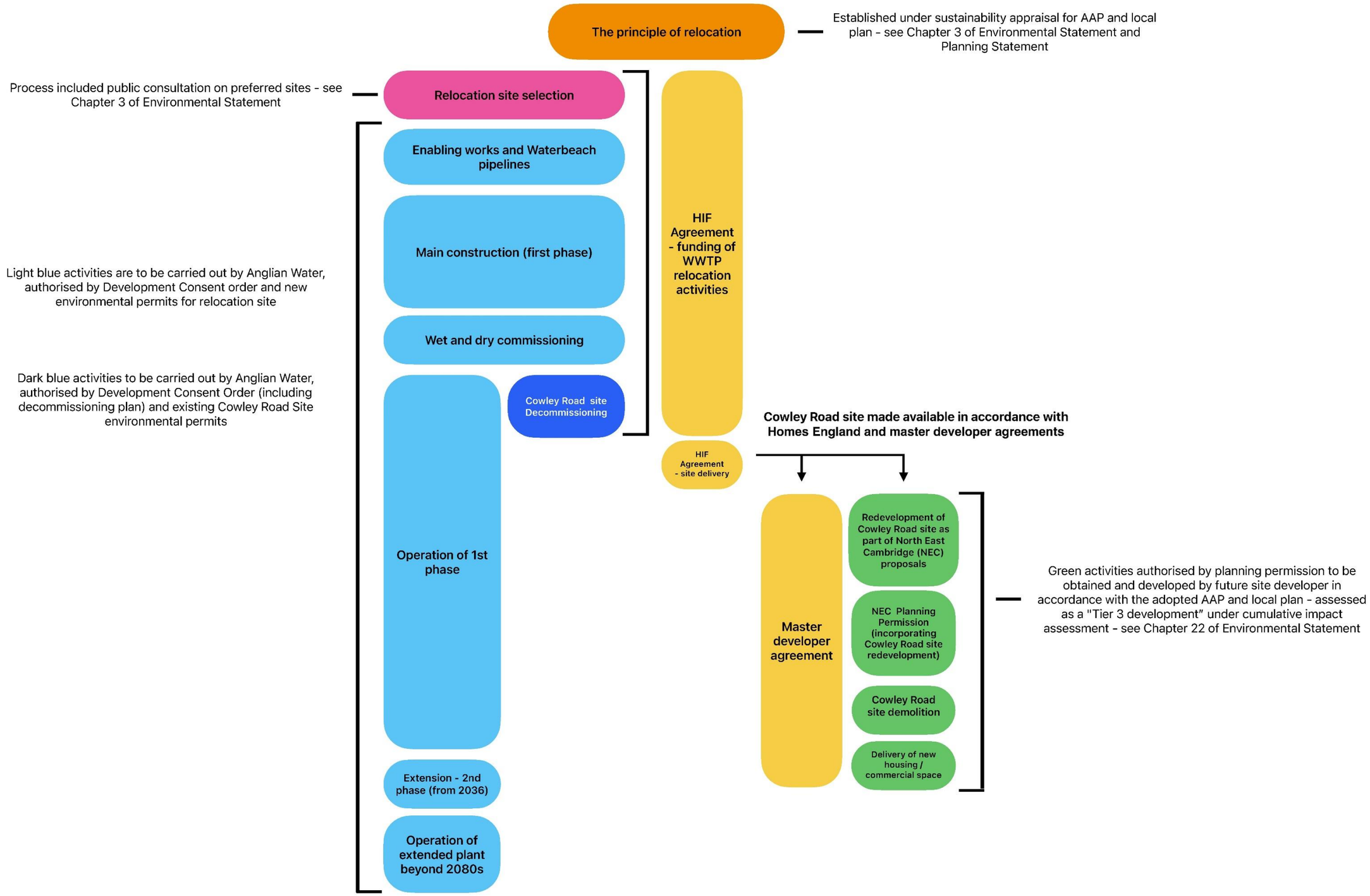


**Figure 1.1 Scope of the draft DCO and the future demolition and redevelopment of the site at Cowley Road**

## 1.6 Plan aims and objectives

1.6.1 This plan relates to the management and monitoring activities for the area Work No. 32 and 39, as shown on the Works Plans, Sheet 2 (App Doc Ref 4.3.2). This will inform the development of the detailed Outfall Management and Monitoring Plan (OMMP) covering the pre-construction, construction and operational management and monitoring activities related to Work No. 32. The management and monitoring activities related to the river Cam outfall compound and its construction, ditch and reedbed habitat creation, and operation of the outfall and long term monitoring of mitigation habitat and features as part of the river bank protection works.

1.6.2 The Final Effluent (FE) and Storm Pipeline will extend from the proposed Waste Water Treatment Plant (WWTP) to a new discharge location on the east bank of the river Cam, referred to in the outline OMMP as the river Cam outfall.

1.6.3 The construction and operation of features as part of Work No. 32 as shown on Works Plans, Sheet 2 (App Doc Ref 4.3.2) will be managed under a detailed OMMP for the construction and operation phases.

1.6.4 The outline plan sets out the collection of mitigation measures in relation to the impacts and effects identified within the following chapters of the ES:

- ES Chapter 8: Biodiversity (Doc App Ref 5.2.8);
- ES Chapter 8 Appendix 8.13: BNG Report (Doc App Ref 5.4.8.13);
- ES Chapter 11: Community (Doc App Ref 5.2.11); and
- ES Chapter 20: Water resources (Doc App Ref 5.2.20).

1.6.5 A summary is provided in Appendix A.

1.6.6 The DCO for the Proposed Development, requires an OMMP to be submitted and approved by the relevant planning authority prior to construction and operation commencing.

1.6.7 The detailed OMMPs will assist in maintaining positive working relationships with local communities (including river users), the relevant planning authorities, the Environmental Agency, the Cam Conservancy, and the Lead Local Flood Authorities (LLFA), and ensure local authorities are kept informed and satisfied with the implementation management and monitoring measures in relation to Works No 32.

### Construction

1.6.8 The detailed plan for the construction phase must include:

- details of ditch and reedbed habitat creation, monitoring and maintenance measures;
- details of any proposed restrictions to navigation on the river Cam during construction works;

- details of proposed communication of restrictions to river users and the Cam Conservancy; and
- details of public footpath diversions during construction and proposed reinstatement methods.

1.6.9 This document sets out the range of management and monitoring activities that will be implemented with the following activities incorporated into detailed plans:

- Pre-construction:
  - construction of new ditches for the main purpose of providing water vole habitat; and
  - pre-works ecological checks.
- Construction:
  - construction of the outfall and connecting section of the final effluent and storm transfer pipelines;
  - construction of the final effluent and storm pipeline using open cut methods across a section of ditch parallel to the outfall;
  - construction of the outfall using open cut methods and temporary disturbance to the footpath (PRoW 85/6) adjacent to the river Cam;
  - use of a cofferdam to create a temporary works area for construction of the river Cam outfall and temporary disturbance to the river Cam including the navigation;
  - construction of a section of river bank protection wall either side of the river Cam outfall and temporary disturbance to the river Cam; and
  - works for the reinstatement of the footpath (PRoW 85/6) and ditch.

1.6.10 As a requirement of the Code of Construction Practice (CoCP) Part A Section 4.4 (App Doc Ref 5.4.2.1), a detailed OMMP will be produced prior to the commencement of the below construction activities:

- River Cam outfall construction including preparatory works, clearance, temporary river works, construction, dewatering, reinstatement;
- compound set up;
- ditch works including pre-works habitat creation, preparatory works at the works location, clearance, isolation of ditch, construction, dewatering/over pumping, reinstatement;
- navigational controls and communications with the Conservators of the river Cam and river users; and
- general reinstatement of the footpath

**Operation**

1.6.11 The detailed plan for the operation phase must include:

- details of proposal for monitoring scour and bank erosion;
- potential adaptive management measures in the event of erosion arising from outfall operation;
- the circumstances in which adaptive management measures will be deployed;
- details of ditch and reedbed monitoring and maintenance measures; and
- details of measures for the achievement of twenty percent biodiversity net gain comprising river units within or outside of the Order limts.

1.6.12 In relation to the above requirements, this document sets out the range of management and monitoring activities that will be implemented with regards to the following activities incorporated into detailed plans:

- operation of the river Cam outfall including infrequent storm flows; and
- post construction monitoring of new habitats and environmental conditions at the river Cam outfall.

1.6.13 The operational stage OMMP will not, however, replicate operational monitoring as required by the Environmental Permit required for water discharge activities.

### Detailed plan preparation

1.6.14 The outline OMMP will be used to prepare detailed plans which will be live documents updated as and when required to reflect the requirements and conditions of the relevant permits and consents to be sought outside of the DCO, including:

- Environmental permit (flood risk activities);
- Environmental permit (Discharges to surface water);
- Land drainage consent (for works to the ordinary watercourse); and
- Natural England conservation licence for water vole.

1.6.15 The detailed OMMP for each phase will be based on the principles outlined in this outline OMMP and will define the measures the applicant and its contractors will be required to adopt. The detailed plan for each phase will be submitted to and approved by the relevant planning authority.

## 1.7 Structure of the outline OMMP

1.7.1 The structure of this Plan is shown below in Table 1-1.

**Table 1-1 Structure of the document**

| Section | Content |
|---|---|
| 1 Introduction | General overview of the Proposed Development and this Plan. |
| 2 Baseline | Overview of the Baseline conditions within Work No. 32 as shown on the Works Plans, Sheet 2. |
| 3 Activities Covered by the Plan | Details of activities within Work No. 32 as shown on Sheet 2 of the Works Plans for which the Plan will apply to. |
| 4 General Plan Requirements | General requirements specified in other plans and strategies to apply to activities within Work No. 32 as shown on Sheet 2 of the Works Plans.<br>Includes required permits and licences. |
| 5 Specific Requirements | Specific requirements to apply to activities within Work No. 32 as shown on Sheet 2 of the Works Plans. |
| 6 Roles and Responsibilities | Roles and responsibilities by phase in relation to completion and implantation of the OMMP. |
| 7 Monitoring and Reporting | Monitoring and reporting requirements to determine how general and specific measures will be achieved. |
| 8 Plan Preparation Triggers | The triggers and timing of changes in preparation of the detailed OMMP for each phase. |

# 2 Baseline Environment

2.1.1 This section provides an overview of the environmental baseline within the area covered by the OMMP. The section of the plan will be updated and adjusted once pre-construction surveys have been undertaken to account for the updated baseline.

2.1.2 For the operational plan this section of the plan will be updated and adjusted once construction is completed to reflect the changes in relation to reinstated habitat, the presence of permanent structures and the newly created ditch habitat.

## 2.2 Current baseline

2.2.1 The main development site for the proposed WWTP is located to the north-east of Cambridge and two kilometres to the east of the existing Cambridge WWTP. It is situated on farmland immediately north of the A14 and east of the B1047 Horningsea Road in the Green Belt between the villages of Horningsea to the north, Stow cum Quy to the east and Fen Ditton to the south west. A new final effluent and storm pipeline would be installed from the western side of the proposed WWTP, crossing under B1047 Horningsea Road and arable farmland before discharging via the outfall into the river Cam upstream of Baits Bite Lock.

2.2.2 The site of the river Cam outfall is located in an area of agricultural land, typified by open fields of arable farmland, with some enclosure from hedgerows, arable farmland with some existing woodland, and field boundary hedgerows.

2.2.3 The following documents show the location and layout of the river Cam outfall:

- Design Plans - Sewage Tunnel and Longitudinal Sections (App Doc Ref 4.12); and
- Design Plans - Outfall (App Doc Ref 4.13).

## 2.3 Statutory designations

2.3.1 The area of the river Cam within the order limits has no statutory designations.

2.3.2 Section 3.2 of Chapter 8 Biodiversity – Environmental Statement (App Doc Ref 5.2.8) provides an overview of designations identified within the Ecological Zone of Influence (EZoI) defined for Biodiversity. Statutory and non-statutory designated sites within the river Cam study area are outlined in Table 3-1 of Chapter 8 Biodiversity – Environmental Statement (App Doc Ref 5.2.8).

2.3.3 There is one internationally designated Ramsar site and two designated Special Areas of Conservation (SACs) in the study area:

- Wicken Fen Ramsar;
- Fenland SAC; and
- Devil's Dyke SAC.

2.3.4 Of these, Wicken Fen Ramsar is downstream of the river Cam outfall area but is not hydrologically connected to the river Cam. It shares the same boundary with Fenland SAC and is also designated as a Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR).

## 2.4 Non-statutory designations

2.4.1 Statutory and non-statutory designated sites within the river Cam outfall study area are outlined in Table 3-1 of Chapter 8 Biodiversity – Environmental Statement (App Doc Ref 5.2.8).

2.4.2 The river Cam is a County Wildlife Site (CWS) and therefore construction activities associated with the river Cam outfall are within and adjacent to the CWS.

## 2.5 Habitats, flora and species

2.5.1 Two distinct habitats have been considered when developing this Plan: river Cam (including bank and footpath) and the adjacent ditch. The potential for protected or notable species to be present within the river Cam outfall is based on best available evidence obtained through the desk study, the 2020 Extended Phase 1 Habitat Survey and surveys completed in 2021 and 2022 as part of the biodiversity assessment. The biological records search returned records of protected and notable species within the area of river Cam outfall. These findings are discussed below.

### River Cam

2.5.2 One River Habitat Survey (RHS) was undertaken on the river Cam in June 2021 which was centered on the proposed treated effluent discharge outfall to the river Cam. This survey indicated that this reach of the river Cam has 'High' habitat diversity in comparison to reference rivers, though is 'Severely modified', leading to an assessment of 'Poor' River Habitat Quality (RHQ).

2.5.3 A River Condition Assessment (RCA) based on the Modular River Survey (MoRPh) technique was also undertaken at the same location. The RCA classified this section of the river Cam as 'Fairly Poor'. Bank face reinforcement and bank top managed ground cover were considered to be key impacts to river physical habitat quality. Non-native invasive species within the channel also impacted the RCA outcome with Nuttall's waterweed (*Elodea nuttallii*) recorded as present.

### Otters

2.5.4 The river Cam is known to support or have previously supported otters in certain locations. Otters can have wide-reaching territories and are known to use smaller watercourses including drains and ditches. Therefore, otters may utilise the drainage ditches throughout the study area for foraging or dispersal. Evidence of otters were found during surveys in 2021 and 2022 along the watercourses and ditches (including the river Cam) within the survey area. These included old and fresh spraints and feeding remains indicating that otters are using the river Cam and associated ditches but in limited numbers. Locations suitable for use by resting otters were noted, though no active holts were found. Suitable terrestrial habitat is

limited for otter holts around the river Cam outfall. The Otter Baseline Report (Appendix 8.9, App Doc Ref 5.4.8.9) outlines areas where evidence of otter presence has been found.

### Bats

2.5.5 The biological records search returned records of at least eleven species of bats within five kilometres of the Scheme Order Limits including barbastelle (*Barbastella barbastellus*), with the closest record identified to species level, for a Natterer's bat (*Myotis nattereri*) roost 1.2km to the north.

2.5.6 This search also returned records of European Protected Species (EPS) mitigation licences for bat species. The closest was located approximately 200 metres west of the river Cam outfall relating to common pipistrelle and soprano pipistrelle.

2.5.7 Surveys carried out in 2021 and 2022 recorded at least eight species of bat using the area within the Scheme Order Limits: Common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), barbastelle bat, brown long-eared bat (*Plecotus auritus*), noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*), Daubenton's bat (*Myotis daubentonii*) and *Myotis* species.

2.5.8 No roosts were confirmed within the river Cam Outfall area during surveys. Bats recorded foraging or commuting within this area during transect surveys included barbastelle bat, along with common pipistrelle, soprano pipistrelle, Daubenton's bat, *Myotis* species and noctule.

2.5.9 Detailed survey information is provided within ES Volume 4 Chapter 8 Appendix 8.7 Bat Technical Appendix 8.7 (App Doc Ref 5.4.8.7).

2.5.10 Habitats within this area offer good foraging and commuting resources for bats, along the river Cam, adjacent ditches, grassland, trees and woodland.

### Birds

2.5.11 The Ecological Zone of Influence (EZoI) for birds includes suitable habitat for nesting and foraging birds, such as the river Cam with adjacent floodplain grazing marsh, other waterbodies including standing water, extensive arable farmland with fields separated by hedgerows, small copses of woodland, scrub and scattered trees.

2.5.12 The river Cam and standing waterbodies are suitable breeding habitat for grey wagtail (*Motacilla cinerea*), kingfisher (*Alcedo atthis*), garganey (*Spatula querquedula*), avocet (*Recurvirostra avosetta*), Cetti's warbler (*Cettia cetti*), and reed bunting (*Emberiza schoeniclus*). The habitats within the EZoI are particularly suitable to support breeding Schedule 1 species considering their distribution in the local area.

2.5.13 The surveys carried out in 2021 and 2022 did not find any possible nest sites or active nests of Schedule 1 species within the river Cam Outfall area (Figure 2.1).

2.5.14 British Trust for Ornithology (BTO) data outlined in the Breeding Bird Report (Chapter 8 Biodiversity. Appendix 8.4. App Doc Ref 5.4.8.4) identified numerous

protected, priority or rare bird species are notable for winter abundance and range within 10 kilometres of the river Cam Outfall. Section 3.1 of Chapter 8 Biodiversity – Environmental Statement (App Doc Ref 5.2.8) details the specific bird species identified by the EZoI and BTO data from the Breeding Bird Report (Appendix 8.4 App Doc Ref 5.4.8.4).

### Water vole

2.5.15 Water vole surveys have been undertaken 100 metres either side of the river Cam outfall. Latrines, footprints and burrows and a sighting of a water vole were recorded on the banks of the river Cam and in an adjacent ditch near the treated effluent discharge outfall to the river Cam.

2.5.16 Detailed survey information is provided within ES Chapter 8 3 Water Vole Technical Appendix 8.3 (App Doc Ref 5.4.8.3).

### Reptiles

2.5.17 Reptile surveys were conducted at all suitable habitat within the Scheme Order Limits plus any contiguous habitat within 250 metres. Reptile refugia were placed at two locations adjacent to the river Cam outfall. The refugia were checked seven times during optimal survey conditions. In proximity to the Cam River outfall four grass snakes were recorded and one common lizard was recorded adjacent to the river Cam outfall.

2.5.18 Detailed survey information is provided within ES Chapter 8 Reptile Technical Appendix 8.5 (App Doc Ref 5.4.8.5).

### Fish

2.5.19 Fish surveys were undertaken in September 2021 within 100 metres of the river Cam outfall and all suitable ditches within 100 metres of the Scheme Order Limits. Surveys completed using micro-seine netting and electric-fishing methods as appropriate for the waterbody.

2.5.20 A number of fish species were caught, including fish of conservation value include bullhead and spined loach. The Schedule 9 invasive fish species bitterling was recorded in a ditch adjacent to the river Cam during the macroinvertebrate surveys in April 2021. The unnamed ditch is north east of the field where the river Cam outfall will be located. A potential sunbleak record, as captured during the river Cam surveys, are also a non-native fish species.

2.5.21 Detailed survey information is provided within ES Chapter 8 Aquatics Technical Appendix 8.5 (App Doc Ref 5.4.8.1).

### Macrophyte

2.5.22 Macrophyte surveys were conducted on the river Cam in September 2021 at two locations: one upstream and one downstream of the river Cam outfall. The surveys indicated that the macrophyte community is dominated by species tolerant of sedimentation and elevated nutrient concentrations. Both upstream and

downstream sites generated an indicative Water Framework Directive (WFD) status of 'Moderate', indicating a moderate change from natural conditions because of human activity. No species of conservation importance were recorded in these surveys.

2.5.23 Detailed survey information is provided within ES Chapter 8 Aquatics Technical Appendix 8.5 (App Doc Ref 5.4.8.1).

### Invasive species

2.5.24 Non-native fish species details are provided in paragraph 2.5.20.

2.5.25 The invasive crustacean Northern River/Florida crangonyx (*Crangonyx pseudogracilis/floridanus agg.*) and demon shrimp (*Dikerogammarus haemobaphes*) were recorded within the river Cam and surrounding ditches. The invasive aquatic plant species Nuttall's waterweed, least duckweed and the stonewort were recorded within the river Cam and surrounding ditches. Indian balsam or Himalayan balsam (*Impatiens glandulifera*) was found on the river bank of the river Cam opposite to the proposed river Cam outfall.

### Plant species

2.5.26 Natural Vegetation Classification (NVC) surveys were undertaken in May and July 2021 and identified Strawberry clover (*Trifolium fragiferum*) was present on the tow path on the eastern side of the river Cam north of the A14 bridge near the location of the river Cam outfall.

2.5.27 Figure 8.6 of Volume 3 Book of Figures Biodiversity (App Doc Ref 5.3.8) provides a Phase 1 Habitat Map covering the extent of Work No. 32 as shown on Sheet 2 of the Works Plans.

2.5.28 Detailed survey information is provided within ES Chapter 8 NVC Baseline Appendix 8.10 (App Doc Ref 5.4.8.10).

## 2.6 River Cam

2.6.1 This section provides summary information in relation to the river Cam in the area of the proposed outfall.

### Navigation

2.6.2 The river Cam is a navigable waterway with approximately 15 miles that is navigable from Cambridge to the junction with the Great Ouse, at Pope's Corner. The location of the river Cam outfall is within the navigable section. The river authority in this location is The Conservancy. Their jurisdiction covers the river above Bottisham Lock.

### Public Right of Way

2.6.3 The pathway to the east of the river Cam in the area of work related to the river Cam outfall is a public right of way (85/6). It is indicated in Figure 4.6.2 of the Rights of Way Plan (App Doc Ref 4.6) which shows the proposed temporary diversion using existing part of the existing PRoW 85/8.

### Water quality

2.6.4 Baseline information in relation to water quality is provided within Section 3 of Chapter 20 Water resources (App Doc Ref 5.2.20). The existing outfall from the existing Cambridge WWTP is located approximately 300 metres upstream on the opposite bank to the river Cam outfall. There is also an existing combined sewer overflow (CSO) to the river Cam approximately 3 kilometres upstream of the existing Cambridge WWTP, which operates as part of the existing Cambridge WWTP system.

2.6.5 The river Cam water body is classified as heavily modified, with 'Moderate' overall status under the WFD (Department for Environment Food and Rural Affairs, Environment Agency, 2021). The physico-chemical quality elements comprise key indicators of water body health such as ammonia, BOD, dissolved oxygen (DO), phosphate, temperature and pH. The Cam is classified as having 'Moderate' ecological status. Since 2010, river water quality has achieved 'Good' or 'High' status for all physico-chemical parameters except phosphate. Phosphate concentrations are assigned 'Poor' status, owing to continuous sewage discharge.

### Water levels and flood risk

2.6.6 Figure 20.1 of the Water Resources Book of Figures (App Doc Ref 5.3.20), shows the extent of flood zones. A Flood Risk Assessment (FRA) has been completed for the Proposed Development (Chapter 20 Water Resources Appendix 20.1. App Doc Ref 5.4.20.1).

2.6.7 The river Cam levels are controlled by weir structures and sluice gates along much of its length, with Baits Bite weir and lock structure located approximately 500 metres downstream of the proposed river Cam outfall. These existing modifications to the natural river channel contribute to the designation of the river Cam as a heavily modified water body.

### Main river

2.6.8 The river Cam is a main river and therefore works within the river, within eight metres of the bank or works to cross the river are subject to Environmental Permits granted by the Environment Agency.

## 2.7 Other waterbodies

2.7.1 The final effluent and storm pipelines cross through an existing unnamed ditch parallel to the river Cam. The location of the ditch is indicated on Figure 4.13.3 within the Design Plans – Outfall (App Doc Ref 4.13).

2.7.2 This is an ordinary watercourse and not within an internal drainage board area. Works to this ditch require permits from the Lead Local Flood Authority (LLFA).

# 3 Activities at the Outfall Area Covered by the OMMP

3.1.1 This section sets out the scope of activities that the OMMP will apply to and the phase that the measures apply.

3.1.2 The detailed OMMP for the construction phase will be prepared to refer to detailed design and construction method statements.

3.1.3 The detailed OMMP for the operation phase will be prepared to refer to as-built conditions, requirements of permits, licences and conditions and measures and monitoring informed by earlier phases.

## 3.2 Construction OMMP

### Pre-construction

3.2.1 This OMMP for construction will include pre-work checks of habitats within Works No. 32, including the ditch parallel to the river Cam, the river Cam riparian habitats within the area of work affected by the river Cam outfall and river bank protection works, the river Cam outfall compound and the area for the created ditch and reedbed habitat in area Work No. 39.

3.2.2 The plan will apply to the works required to create the new ditch network (which will include the creation of reedbed habitat too) in Work No. 39. The new ditches are required to be in place a minimum of 12 months in advance of water vole displacement to provide sufficient time for newly planted vegetation to become established prior to its use by any displaced animals.

3.2.3 The detailed OMMP will be updated to provide pre-construction activities as they are progressed. These details will be in accordance with designs in accordance with relevant environmental permits, including but not limited to the water vole conservation licence.

***Ditch and reedbed habitat creation***

3.2.4 The river Cam outfall includes proposals to create an extension to the ditch network (including reedbed) adjacent to the river Cam in Work No. 39 location for the purpose of water vole habitat mitigation and 20% BNG. To achieve this, a network of new water-holding, vegetated ditches will be constructed within 150 metres of the river Cam outfall. These plans are outlined in Work No. 32 and 39 as shown on Sheet 2 of the Works Plans and in Appendix C of the ES Chapter 8 Appendix 8.13: BNG Report (Doc App Ref 5.4.8.13).

3.2.5 The new ditch will be 84 metres in length dedicated for water vole mitigation with an additional 261 metres of ditch for BNG which will be suitable for water vole. Reedbed habitat creation (covering an area 0.0245ha) will also be integrated into a length of the ditch as detailed in Appendix C of the ES Chapter 8 Appendix 8.13: BNG Report (Doc App Ref 5.4.8.13).

3.2.6 The habitat (ruderal/ephemeral) within Work No. 39 which the new ditches and reedbeds will be created in will be destroyed during construction and will be re-seeded to create the habitat other neutral grassland.

## Construction

3.2.7 Section 5.13 of the CoCP Part A requires that an an Outfall Management and Monitoring Plan (OMMP) will be produced prior to the commencement of the below construction activities:

- Outfall construction including preparatory works, clearance, temporary river works, sheet piling, construction, dewatering, reinstatement;
- Compound set up;
- Ditch works including pre works habitat creation, preparatory works at the works location, clearance, isolation of ditch, construction, dewatering/over pumping, reinstatement;
- Navigational controls and communications with the Conservators of the river Cam and river users; and
- General reinstatement of the footpath.'

3.2.8 The following will set out the proposed works and construction information provided in Chapter 2 Project Description of the Environmental Statement (App Doc Ref 5.2.2). The detailed OMMP will be updated to provide construction and design details as they are progressed for detailed design. These details will be in accordance with relevant environmental permits.

***River bank protection and outfall construction***

3.2.9 The Final Effluent (FE) and Storm Pipeline will extend from the proposed WWTP to a new discharge location on the east bank of the river Cam, close to the discharge location of the existing Cambridge WWTP, known in this Plan as the river Cam outfall.

3.2.10 The structure will be built within a sheet pile cofferdam, which is a temporary watertight enclosure from which water is pumped to expose the bed of a body of water in order to permit construction of this type. Works likely to generate significant sediment, such as the removal of bed material and placement of scour protection within the river, will be removed to behind the cofferdam using appropriate silt and sediment removal techniques to achieve a compliant water quality standard prior to any discharge back to the watercourse. The cofferdam will be designed to exceed (by maintaining a freeboard) the flood protection levels currently provided by the river bank.

3.2.11 During construction, the public right of way (PRoW) (85/6) along the river will need to be diverted. It is proposed to divert the footpath from the east bank within the adjacent field. Pedestrians will then be diverted back to the river footpath close to

where it joins Green End. The route of the diversion is indicated within Figure 4.6.2 of 4.6 Rights of Way Plans (App Doc Ref 4.6).

3.2.12 Bank and bed protection will be provided as part of the design. This will be in the form of rip rap bed protection and steel sheet piling to protect the banks as shown in Figure 4.13.3 of the Design Plans – Outfall (App Doc Ref 4.13).

3.2.13 The construction of the river bank protection will include translocation of marginal reeds (where possible) along the river Cam within the area affected by the river bank protection works. These shall be moved to the created ditches in Work No. 39 location, where possible and or downstream within Work No. 32 area on the river Cam.

***Compound set up***

3.2.14 The construction compound in this area, shown in Sheet 3 of the Works Plans (App Doc Ref 4.3.3), has been set back from the river footpath and ditch. The size of the compound will be up to 40m x 25m and accessed from the pipeline easement.

3.2.15 As describe within Chapter 2: Project Description Section 3.5 (App Doc Ref 5.2.2). Each construction compound will be established by the following:

- stripping the topsoil, laying of a barrier (i.e., Terram), placement of hardstand and stabilising the base;
- storing of topsoil in accordance with the measures contained with the outline SMP;
- construction of a temporary fence and creation of temporary parking area;
- installation of temporary welfare portacabins; and
- movement of equipment to the compound area (such as excavators and crane, tower lighting, waste skip, water filtration, generator and workshop).

3.2.16 Topsoil removed to form a hardstanding will be managed under the requirements of an Outline Soil Management Plan (SMP) (App Doc Ref 5.4.6.3). The same topsoil to be returned to the area where it was temporarily removed from. Refer to Section 4.2 of this plan for more information on the Outline SMP (App Doc Ref 5.4.6.3).

3.2.17 The compound will be required for the duration of the works to construct the outfall and the section of the final effluent and storm pipelines connecting from Horningsea Road to the outfall at the river Cam.

3.2.18 The field in which the compound is sited will be restored to its current status or improved by re-seeding to create the habitat other neutral grassland following removal of the construction compound.

***Ditch reinstatement***

3.2.19 The crossing of the field drain running parallel to the east bank of the river Cam will be via open cut method. The ditch will be temporarily flumed with a section of plastic pipe to allow construction vehicles to track over it. Road plates will be added

above the pipe to spread the load. The flow in the ditch is known to be very low and often dry in the summer months.

3.2.20 The preferred temporary ditch crossing option would be to complete the works at a time of zero flow, cut through the ditch, lay the pipe then reinstate the ditch. If this is not possible for programme reasons and flow is present in the ditch, the flow will be temporarily diverted by over pumping (potentially directly into the river Cam subject to required permits) and temporarily stopping up the ditch.

3.2.21 The upper surface of the final effluent and storm pipes will potentially be close to bed of drain following installation (this is potentially as low as 300mm). To protect the pipe during any ditch maintenance activities, the final effluent and storm pipes will either be wrapped in a protective material, such as concrete canvas, or protection planks added to the bottom of the ditch above the pipes. These planks will then be covered by the soil previous removed for the pipes to be laid to ensure the ditch looks as natural as possible after reinstatement. The final decision on protection design will be made in collaboration with the landowner.

3.2.22 The detailed OMMP will be updated to include details of the construction method statements and any specific requirements related to permits conditions that must apply to works affecting the drainage ditch.

***Navigational controls***

3.2.23 During the construction of the outfall the temporary river works will require a cofferdam (described above in paragraph 3.2.10) and temporary narrowing of the river Cam. This will require temporary navigation controls to be in place including signage and lighting.

3.2.24 The detailed OMMP will be updated to include details of the navigational arrangements to be in place as agreed with the Conservancy.

***Footpath reinstatement***

3.2.25 During the installation of the outfall chamber, storm pipeline and effluent pipeline there will be a requirement for open cut construction which will affect PRoW 85/6. The existing footpath will be temporarily diverted and fully restored on completion of the river Cam outfall construction activities.

3.2.26 The detailed OMMP will be updated to include details of the reinstatement activities, any planting and confirmed path levels.

## 3.3 Operation

3.3.1 The detailed OMMP will be prepared prior to operation and will set out the following:

- details of proposals for the monitoring scour and bank erosion;
- management measures to be implemented in the event of erosion arising from outfall operation;

- triggers where interventions would be deployed (i.e., scour detected along the riverbed and riverbanks at the river Cam outfall will require further assessment to prevent further damage);
- details of ditch and reedbed monitoring and maintenance measures;
- details for measures for the achievement of twenty percent biodiversity net gain comprising river units within or outside of the Order limits; and
- any specific measures or monitoring related to the requirements of any environmental permit, protected species licence or land drainage consent.River bank protection and outfall

3.3.2 Once the river bank protection works and outfall have been completed there will be a period of monitoring of this area. This will include monitoring for evidence of scour.

3.3.3 The detailed OMMP for operation will describe these monitoring activities. Additional activities may be included, including annual visual monitoring and completion of surveys to detect changes to the river cross-section in the area of the river Cam outfall.

### Reinstated footpath

3.3.4 The area of the footpath reinstated following construction will be monitored by visual inspection annual for the first 5 years of operation to check for signs of settlement and uneven surfaces.

3.3.5 The Applicant will complete remediation measures in the event that the footpath is deemed not to meet pre-construction levels in order to restore the footpath 85/6 to an acceptable condition.

3.3.6 Any remedial works should seek appropriate permits from the Environment Agency and LLFA for works within the byelaw margin of main river and ordinary watercourses.

3.3.7 The detailed OMMP will describe these monitoring activities, frequency and types of remediation measures.

### Ditch and reedbed habitat creation

3.3.8 After the construction and planting of the newly designed ditch network and reedbed habitat, regular visits will be undertaken to monitor the establishment and development of vegetation along the ditch banks and to ensure adequate water levels. Monitoring checks will be undertaken annually for the first five years and every five years subsequently for 30 years. By doing this monitoring, the need for any further remedial management can be identified and implemented to ensure vegetation suitability for food and coverage for water vole and that the habitats created are meeting the BNG commitments and target habitat conditions.

3.3.9 Operational monitoring will also assess the success of the displacement strategy within the local water vole population. On completion of the works, annual surveys

of ditches that have been impacted by the works will be undertaken during the breeding season for a minimum of three years, as outlined in the draft water vole conservation licence method statement (App Doc Ref 5.4.8.22).

3.3.10 The detailed OMMP will be updated to include details of the monitoring requirements in accordance with the water vole conservation licence conditions, detailed method statements and BNG commitments.

### Ditch reinstatement

3.3.11 The reinstated ditch will be monitored post construction for up to five years. This is expected to include the following annual activities:

- Monitoring of river bank and river bed in the reinstated area to check for slumping and erosion, including exposure of the engineered protection covering the final effluent and storm pipelines;
- Survey for vegetation cover and condition of replanted marginal vegetation; and
- Water vole survey completed during the breeding season to understand success of reinstatement.

3.3.12 The detailed OMMP for operation will include detailed monitoring requirements in accordance with the water vole conservation licence conditions, detailed method statements and BNG commitments. The detailed plan will be approved by the relevant local authority.

## 3.4 Temporal extent of plan and associated activities

3.4.1 A detailed OMMP will be prepared to cover preconstruction and construction activities in relation to the Works No. 32 and 39. The detailed plan will include a programme of activities, and this shall include time required to prepare and obtain required consents, licences and permits.

3.4.2 The detailed OMMP for operation will include a monitoring and reporting programme. Should monitoring indicate the need for additional works the plan will be updated to include these works.

# 4 General Plan Requirements

4.1.1 This section sets out general requirements that the detailed OMMP will account for as the project progresses from construction to operation. During construction this will include applying the general measures incorporated into the detailed Construction Environmental Management Plan (CEMP) and associated sub plans.

## 4.2 Pre-construction / Construction

### Related plans and strategies

***Code of Construction Practice (CoCP) – Part A***

4.2.1 Code of Construction Practice (CoCP) describes the standards and measures, based upon current legislation and best practice, which will be adopted by the Applicant and its Principal Contractors to manage, mitigate and monitor potential impacts during the construction phase of the river Cam outfall. Compliance with the CoCP will be secured through a requirement of the Development Consent Order (DCO).

4.2.2 The purpose of the CoCP is:

- to provide effective planning, management and controls during the construction period with the aim of controlling potential impacts on the local community, and the natural and historic environments; and
- to set out a framework for engagement with the local community, their representatives and other stakeholders throughout the construction period.

4.2.3 Part A of the CoCP sets out overarching and general principles, including:

- legislative requirements, guidelines and Best Practice Measures (BPM) to be implemented and followed during construction;
- where relevant obligations which will be imposed upon the Applicant and its contractors; and
- plans, control measures and monitoring procedures for managing and mitigating potential environmental impacts relating to the construction period.

4.2.4 Part A of the CoCP that relate to the river Cam outfall is summarised below.

*Pollution and Incident Control Plan*

4.2.5 Section 5.7 of the CoCP Part A, Pollution Incident Control Plan, requires the preparation of a plan that details procedures to deal with any pollution incident that may occur, including response procedures (including appropriate equipment, materials and resources), timescales and notification procedures that would be implemented to minimise the effects. It will complement and be consistent with the Emergency Preparedness Plan(s).

*River work - outfall*

4.2.6 Section 5.13 of the CoCP Part A, River Work – Outfall to the river Cam, contains a number of control measures in the construction of the river Cam outfall structure, de-watering requirements and construction techniques.

*Ecology and Nature Conservation*

4.2.7 Section 7.2 (Ecology and Nature Conservation) of the CoCP Part A, contains a series of control measures relating to the safeguarding of habitats (riparian and aquatic habitats, tree and hedgerow removal, and reinstatement of all habitats) and wildlife (nesting birds, water vole, reptiles). It includes a section under 7.2 on invasive species and the requirement for pre-construction surveys to check for the presence of invasive species and in the event, any are identified that controls are put in place. Biosecurity measures are also a requirement of construction method statements.

*Water resources and flood risk*

4.2.8 Section 7.5 (Water Resources and Flood Risk) of the CoCP Part A, contains a series of control measures relating to the protection of surface water, groundwater and aquifers. In addition, Section 7.5 contains a series of control measures to ensure that the risk of uncontrolled discharges from construction is reduced (including sediment management) and detailing an Emergency Response Plan in the event of a pollution incident. This Plan must be prepared for all works. It also includes measures in relation to the control of dewatering activities and works affecting watercourse including the requirement to obtain permits.

*Noise and vibration*

4.2.9 Section 7.7 (Noise and Vibration) of the CoCP Part A, contains a series of noise and vibration control measures.

*Waste management*

4.2.10 Section 7.9 (Waste management and resource use) outlines measures to be in place to manage waste during the construction process. These will be used to reduce the amount of waste produced, to ensure that materials being imported or removed comply with all necessary legislative requirements, to maximise resource efficiency throughout the construction process in line with the principles of the waste hierarchy and to project people and the environment. A Site Waste Management Plan(s) (SWMP) will be prepared for the management of wastes generated during the construction process in line with the waste hierarchy. It will document the decisions taken during the planning and design stages to minimise waste and set objectives and targets for the main waste types, to meet legislative and policy requirements in line with the Waste Hierarchy.

*Other*

4.2.11 The measures outlined under sections 7.4 (Land Quality), 7.5 (Water Resources and Flood Risk) and 7.8 (Air Quality) in respect to control of run off, the storage of

materials and the management of dust will be implemented to avoid the pollution of designated sites and the local water environment during construction.

***Code of Construction Practice - Part B Site specific measures***

4.2.12 Part B of the CoCP sets out site specific measures which supplement and refine the general requirements in Part A. The need for site specific measures for certain locations is due to the varying factors, including but not limited to the presence of sensitive receptors which require specific mitigations measures and the need for specific construction activities or construction methodologies not widely used across the rest of the river Cam outfall.

***Soil Management Plan***

4.2.13 An Outline Soil Management Plan (SMP) has been prepared in accordance with the Code of Construction Practice for the Sustainable Use of Soil on Construction Sites (DEFRA 2009) and is submitted with the DCO application (Appendix 6.3, App Doc Ref 5.4.6.3). The CoCP (Defra, 2009) provides general measures that are required to be in place to ensure that soil is appropriately managed during construction and suitable for its final use.

4.2.14 The outline SMP provides the basis for detailed SMP which will be prepared by the Principal Contractor prior to construction. A detailed SMP will include the measures as applicable to the particular soil types of the particular area/construction activities that should be adhered to during and after the construction phase. The detailed SMP will be approved by the Employer prior to the start of the works. The Applicant will require the Principal Contractor(s) to undertake and report monitoring as is necessary to assure and demonstrate compliance with all.

***Lighting Design strategy***

4.2.15 The Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) has been prepared to inform an assessment of the potential effects from artificial lighting associated with the Proposed Development. This Strategy outlines the design objectives and principles related to the use of artificial lighting during the construction and operation of the river Cam outfall.

4.2.16 The effects of the river Cam outfall construction, operation and maintenance of lighting on sensitive receptors and the surrounding environment are considered in Environmental Statement Chapter 15 Landscape and Visual Amenity (App Doc Ref 5.2.15) and the Lighting Assessment Report (Appendix 15.3, App Doc Ref 5.4.15.3).

4.2.17 During construction, the following temporary lighting may be required to facilitate construction of the river Cam outfall:

- lighting of temporary compounds;
- lighting on plant and equipment (i.e., cranes);
- construction vehicle lighting;
- lighting of parking facilities;

- lighting within buildings remaining under construction; and
- temporary lighting structures (including mobile structures) to illuminate working areas.

4.2.18 Lighting details (locations, duration of use, lighting types) will be agreed between The Applicant and their Principal Contractor during the detailed design stage. Where details are not currently fixed owing to the stage of the project reasonable worst-case assumptions have been developed for the environmental lighting impact assessment at the river Cam outfall as outlined within Table 4-1.

**Table 4-1 Construction phase lighting requirement summary**

| Construction and compound area(s) | Details / tasks info | Duration of use / activity | Lighting types | Maintained illuminance (Em) | Maximum height |
|---|---|---|---|---|---|
| Outfall | Up to 40m x 25m compound secured when not in use. Lit with PIR security lights. Screening in place (not solid hoarding | 4 months | LED tower lights | 200 | 8m |

*Source: Lighting Assessment Report. Appendix 15.3 App Doc Ref 5.4.15.3.*

4.2.19 The detailed OMMP will include relevant details demonstrating alignment with the lighting design strategy with the aim of avoiding excessive lighting in particular in relation to the river Cam.

## 4.3 Licences and permits

4.3.1 This section sets out the required licence and permits in relation to the Works No 32 activities.

4.3.2 The application includes a Consents and Other Permits Register (App Doc Ref 7.1). This register records the consents, licences and agreements required for lawful development.

4.3.3 The detailed OMMP will be updated to include a register of all related licences and permits with specific details relating to each licence or permit. The plan shall also include a programme for the preparation and submission of applications aligned to the programme and start dates for various activities. The register shall be updated at successive plan updates.

4.3.4 An example register is provided in Appendix B.

### Water vole licence

4.3.5 The river Cam outfall has the potential to impact upon water vole and could result in damage to burrows and habitat suitable for water vole as well as destruction of burrows and risk of killing water vole.

4.3.6 Known impacts currently include losses of habitat during construction of the river Cam outfall. This would result in the permanent loss of up to 70 metres of marginal habitat along one side of the river Cam associated with the permanent outfall and permanent river bank protection works. Temporary removal (up to six months) of 30 metres of water vole habitat from both sides of a ditch and then reinstatement of this marginal ditch habitat will also occur. Both areas of habitat have been confirmed to support water vole.

4.3.7 The primary purpose of the water vole licence is to protect water vole during the construction of the proposed works and ensure that the population is retained and enhanced in the longer term to ensure continuation of a robust population of water vole in the area. The provision of the newly created ditch area in Work No. 39 solely for the purpose of mitigation habitat for water vole will ensure the viability of the water vole population in those areas that will be affected by the river Cam outfall. Additionally, there will be complementary benefits to water vole populations downstream of the river Cam outfall, owing to the improvement in water quality discharged from the new waste water treatment plant.

4.3.8 As identified in the Ghost Licence Method Statement – Water Vole (App Doc Ref 5.4.22), to mitigate the construction and operational impacts outlined above, the following activities will ensure reasonable precautions have been taken to prevent disturbance of water vole whilst occupying a structure or shelter, to avoid death and/or injury of water vole during construction and operation and to conserve the local population of water vole. All activities will be carried out in accordance with current best practice guidelines to avoid impacts to individual water vole following the methods described in The Water Vole Mitigation Handbook (Dean, Strachan, Gow, and Andrews, 2016) during periods of least sensitivity.

### Flood risk activities permit

4.3.9 Given that the installation of the new outfall falls within the definition of undertaking work “on, or within eight metres of, a main river” a Flood Risk Activity Permit is required for the river Cam outfall. The purpose of the permit is to set any conditions and to undertake assessments to ensure the activity does not increase flood risk, impact on drainage or harm the environment. Flood risk activities will be agreed with the Environment Agency and submitted in parallel with the DCO. It is anticipated this permit will be submitted year 2 of construction, with receipt anticipated 3 months thereafter.

### Water impounding licence

4.3.10 A water impounding licence will be required before any works begin to construct the river Cam outfall. Application timing in discussion and prescribed form with the

Environment Agency. Anticipated three months before outfall construction year two, with receipt anticipated one month thereafter.

4.3.11 It is expected that a fish rescue method will be required in relation to the construction and use of the cofferdam. The detailed OMMP for the construction phase will include detailed methods for fish rescue as agreed with the Environment Agency. The Fish Management Plan in Table 5-1 briefly describes the fish rescue strategy.

### Land drainage consent

4.3.12 Works within ordinary watercourses require permission. The completion of works in, over, under or near a watercourse require the necessary consent before starting the work. For ordinary watercourses in Cambridgeshire, outside an Internal Drainage Board (IDB) area, the relevant authority is Cambridgeshire County Council (CCC). The consent granted by CCC for working on a watercourse is as "Land Drainage Consent".

4.3.13 Separate consents are required for the permanent works and any temporary works that do not form part of the permanent works. The application will need to include a method statement for the works and supporting drawings (plans and cross sections). It is expected that the detailed OMMP can also be provided within the application to indicate measures to be applied to control any impacts in relation to the proposed work.

4.3.14 It is anticipated that there will be several applications in relation to works activities within Work No. 32 as shown on Sheet 2 of the Works Plans, including works to connect the created ditches to the existing drainage network, works to the existing ditch and permanent structures crossing the ditch. The permits will be submitted in year 1 and year 2 of construction, the plan should account for a 2 month determination timeframe.

## 4.4 Community and stakeholder consultation

4.4.1 The detailed OMMP will include specific consultation and communication actions in relation to Work No. 32 as shown on Sheet 2 of the Works Plans.

4.4.2 The following sections indicate expected approaches and measures by phase. The OMMP does not need to replicate general communications within the overarching Community Liaison Plan.

### Pre-construction /construction

4.4.3 The contractor will take all reasonable steps to engage with stakeholders in the local community, focusing on those who may be affected by the construction works including residents, businesses, community resources and specific vulnerable groups.

4.4.4 In relation to Work No. 32, as shown on Sheet 2 of the Works Plans, this would include but not limited to users of PRoW 85/6, users of the river Cam, land owners with a direct interest in works plan area 31, regulatory bodies and local interest groups.

4.4.5 Communication with the local community, South Cambridgeshire District Council and Cambridge City Council and other relevant stakeholders shall be undertaken at an appropriate level and frequency throughout construction. Anglian Water Services Limited will establish a Communications Management Plan that will specify obligations in relation to community and stakeholder engagement that the contractor must adhere to. The OMMP is expected to integrate with this plan and to set out mechanisms for providing information to the Communications Lead.

4.4.6 Community and Stakeholder consultation will aim to provide a complete narrative of what is happening to in relation to works occurring in Work No. 32 as shown on Sheet 2 of the Works Plans. This information is expected to include:

- Information on the progress of the river Cam outfall (including maps and plans for local area, timings and duration of works, how and when areas will be reinstated);
- Information on any changes and/or updates to construction activities and timings;
- Timing of PRoW diversions and information on PRoW 85/6 measures, including diversions and alternative routes;
- inform the community of proposed working hours;
- timing on navigation restrictions and notice to mariners; and
- inform on project contact details and signpost to other methods of communication.

### Anglian Water Community Education Programme

4.4.7 The Proposed Development includes provision of the Discovery Centre. This will provide a schedule of programmed educational visits managed by the Anglian Water Community Education team. The programme will cover water, water recycling, biodiversity and the wider environment and sustainability agenda.

4.4.8 Elements of the works in Work No. 32 as shown on Sheet 2 of the Works Plans are expected to form part of the body of information incorporated into the education programme in particular habitat creation information and net gain achievements.

4.4.9 During construction there will be a temporary visitor centre that will provide information on river Cam outfall as well as Anglian Water's wider education programme. The Anglian Water Education team will collaborate with the Community Liaison Officer on the temporary visitors' centre and on activities that provide education, learning and skills opportunities within the community. Further details will be provided in the final Community Liaison Plan.

## 4.5 Biodiversity Net Gain

4.5.1 Biodiversity net gain (BNG) is an approach for a development to achieve a measurable net gain in biodiversity. It follows the 'mitigation hierarchy' process of first avoiding and minimising biodiversity loss and providing positive habitat

intervention, resulting in a net improvement to biodiversity. BNG means that the biodiversity value of a site brought forward for development must exceed the pre-development value of the site by a minimum percentage. The post-development value can include not just the value of the site itself but registered offsite biodiversity gain and (when available from government) purchased biodiversity credits.

4.5.2 The Applicant is committed to achieving at least a 20% net gain in all unit types including river units, and to avoid trading down habitat value, proposed measures by which this will be achieved are presented in the ES Volume 4 Chapter 8 Appendix 8.13 BNG Report (Doc App Ref 5.4.8.13). Appendix C Outline River and Reedbed Units Net Gain Strategy of the BNG report presents the opportunity to create new habitats as part of the Proposed Development and also factors in emerging opportunities that are likely to arise for purchasing river units by funding off-site habitat restoration/enhancement and or creation.

4.5.3 The loss of river units and reedbed habitat units will occur at the proposed outfall location on the River Cam as a result of increased riparian encroachment. To achieve a 20% BNG on river units, this could be delivered by the following:

- A minimum of 0.04 high distinctiveness river units to be delivered on the River Cam (or a river/watercourse in Cambridgeshire that falls within the Cam Lower Operational Catchment); and
- The creation of 261m stretch of ditch (which will contain standing water for at least four months of the year) within area Works No. 39 (as shown on Works Plan Sheet 2 (App Doc Ref 4.3) [AS-150]), which will generate 2.01 river units. The 261m is in addition to the 84m required for the water vole ditch mitigation.

4.5.4 To achieve an overall BNG and resolve the trading down for reedbed habitats, the loss of reedbed habitat units will be minimised as far as possible and the creation of 0.0245ha of reedbeds within the created wet ditches in area Works No. 39.

4.5.5 The area within Works No. 39 has been identified for the delivery of on-site river units and to avoid trading down in reedbed habitat units, as shown on Figure 1 in Appendix C Outline River and Reedbed Units Net Gain Strategy of the BNG report. This area has been identified for BNG river unit opportunities using information obtained from the existing ecological baseline surveys. This area is also desirable as it would link to a habitat type used by water voles.

# 5 Specific Requirements

5.1.1 This section sets out specific plan requirements by activity within Work No. 32 as shown on Sheet 2 of the Works Plans.

5.1.2 Table 5-1 provides specific requirements that the detailed OMMP should incorporate in relation to the preconstruction and construction phase of the activities related to Work No. 32 and Work No 39 as shown on Sheet 2 of the Works Plans. Table 5-2 provides focusses on the monitoring and management activities that the detailed OMMP should incorporate in relation to the operation phase of the Work No. 32 area.

**Table 5-1 Pre-construction / construction phase requirements of the OMMP**

| Activity | Related licence or permit | Plan requirement | Monitoring |
|---|---|---|---|
| **Pre construction** | | | |
| Pre-construction checks – compound, outfall area, and ditch/reedbed creation area Work No. 39 | | • Prior to construction, a team of suitably qualified and experienced Ecological Clerk of Works (ECoWs), will be appointed to support, oversee and monitor the Construction Contractor with the implementation of measures defined within the CoCP Part A and B as set out within the approved CEMP. Multiple ECoWs may be required during construction to ensure appropriate oversight of multiple active works locations.<br>• Updated ecological surveys would be completed prior to the start of construction, where necessary, to gain up to date information on relevant protected or notable species whose status or distribution may have changed since baseline surveys were completed (e.g., water vole, badger). This would be required to inform protected species licence applications (where necessary), or otherwise to determine appropriate mitigation requirements. This includes checking for the presence of plants of botanical interest such strawberry clover (*Trifolium fragiferum*) present near the tow path and invasive non-native species. Prior to construction, plants of interest that would be directly affected by the construction will be translocated. The translocation of individual plants will be undertaken during the winter period in dry conditions under the supervision of an ECoW. The OMMP should be updated to include method statements for any translocations.<br>• For invasive non-native species, a pre-construction survey to check for the presence of invasive species will be undertaken and in the event, any are identified that controls are put in place. Biosecurity measures are also a requirement of construction method statements.<br>• Similar to above the pre-works checks should confirm the presence of reedbeds potentially affected by the proposed outfall works. The OMMP will include a method statement for the translocation of any areas of reedbed present in the location of the permanent outfall /riverbank protection works. This should be to an area upstream (within Works No. 32) or to the newly created ditches in Work No. 39 to utilise existing plant specimens. These works will be in accordance with measures approved by the Environment Agency through the Environmental Permit (Flood Risk Activities).<br>• Surveys would adhere to the relevant species/habitat specific best practice guidance at the time of survey and would be undertaken during appropriate survey periods in accordance with the relevant guidance.<br>• Method statements are to be prepared prior to the works commencing. These are to be activity specific and should include environmental protection actions, mitigation measures, and appropriate emergency preparedness procedures. The Site Manager should review method statements prior to their issue.<br>• An updated habitat plan should be prepared including the extents of any vegetation suitable for translocation within the created ditch and reedbed habitat in Work No. 39.<br>• The detailed OMMP will be updated to include the updated habitats plan to meet BNG commitments as stated above in Section 4.5 Biodiversity Net Gain . | Pre-construction survey 12 months prior to start of works |
| Ditch habitat creation in Work No. 39 area | Water vole licence<br>Land drainage consent (connections to existing ditches) | **Water vole habitat**<br>• The detailed OMMP will cover the requirement for the new ditch habitat to be established over a 12-month period prior to its use as a receptor site for any displaced animals and will be created a minimum of 12 months in advance of displacement.<br>• The wetland habitat in the newly constructed ditches will be designed specifically to benefit water vole and will ensure that areas of high ground for burrowing and refuge and riparian vegetation for food and shelter are provided (Strachan et al, 2011).<br>• The proposed planting of aquatic, terrestrial and marginal plants will be undertaken using locally sourced stock. Terrestrial and aquatic plant establishment will be accomplished via a mixture of natural colonisation, translocation of turfs and/or individual plants from on-site sources (reedbed from Work No. 32 outfall area), and nursery sourced plug plants to reduce establishment time.<br>• The design will indicate connection points to the existing drainage network and include details of tie in works.<br>• A detailed design and construction method statement for new ditch habitat will be approved and integrated into the detailed OMMP. | Potential for pre works checks to inform detailed design |

| Activity | Related licence or permit | Plan requirement | Monitoring |
|---|---|---|---|
| Open cut of ditch to install outfall chamber and final effluent and storm | Water vole licence | **Water vole protection**<br>• The detailed OMMP will specify required methods as set out within the licence method statement and conditions of the licence.<br>• Vegetation clearance will be required as part of displacement method mitigation techniques, under licence as per best practice guidance.<br>• Vegetation clearance (by strimming or turf stripping) will aim to make habitat unsuitable for water vole and will cover a maximum span of 50m along each bank from proposed crossing locations where open-cut trenching is required. Vegetation clearance will be completed between February and April inclusive under supervision of a licenced ecologist and will be maintained until such time that works commence to ensure continued discouragement of water vole from proposed crossing locations.<br>• Vegetation clearance will only take place following confirmation that nesting birds are absent from the area of works if undertaken during the nesting bird season March to August inclusive.<br>• At the commencement of works, the banks will be excavated under supervision of the ECoW (or other licenced ecologist), and burrows carefully excavated and destroyed. In the unlikely event water vole are encountered during the excavation process works will cease and consultation sought from Natural England.<br>As impacts to water vole cannot be entirely avoided, displacement will be used to relocate water vole outside of the working areas. Displacement is the process of undertaking habitat manipulation to encourage the movement of a limited number of water vole to a safe area outside the location of the works area. The following methods will be integrated into the OMMP and implemented in line with Appendix 1 of the Water Vole Mitigation Handbook (Dean, Strachan, Gow, and Andrews, 2016):<br>• all burrows in the working area will be identified and marked;<br>• vegetation from the working width will be removed using a strimmer until only bare earth remains. The strimmed area will extend to the top of the bank and a further two metres;<br>• all arisings from the strimmed area will be raked off and removed;<br>• the burrow entrances will then be checked to ensure that they have not become blocked;<br>• the strimmed area will be monitored on a daily basis for field signs of water vole;<br>• a destructive search will be carried out five days following strimming and only if no signs of water vole are recorded;<br>• the area will be maintained as unsuitable for water vole until the works are carried out. Works will be undertaken as close to the completion of the displacement process as possible to ensure the area is not recolonised by water vole in the interim. Where there is time between the displacement being finalised and the works commencing the location will be monitored on a regular basis (minimum every two weeks) and maintenance will be undertaken to ensure the habitat remains unsuitable for water vole; and<br>• where possible (particularly on ditches), water drawn down will be also used as part of the displacement process. | Supervision during works by ECoW |
| | | **Habitat reinstatement**<br>• A pre-works crossing point survey will be carried out to record channel and bank morphology and features, riparian zone structure, and collect photographic record, so that reinstatement is as close to baseline (or better) as practicable. | Pre works check prior to start of works best timed in winter for ease of survey when vegetation has died back |
| | Land drainage consent | **Water quality**<br>• The detailed OMMP will include the measures to be implemented in relation the open cut works including layouts for over pumping of the ditch to create a dry works area. | Monitoring details as defined in detailed method statements |
| Open cut of ditch to install outfall chamber | | **Noise and vibration** | As specified in the approved method statement |

| Activity | Related licence or permit | Plan requirement | Monitoring |
|---|---|---|---|
| and final effluent and storm | | • The OMMP must take account of any specific requirements within the piling method statement to be prepared before any works in the river commence. The method statement will specify the type of piling technique proposed, the rationale for this, the timing of the works and appropriate mitigation measures. It is proposed that a piling mat will be formed and that all piling will be done from the river bank. | |
| **Construction** | | | |
| Created ditch habitat for water vole in Work No. 39 area – monitoring and management | Water vole licence | **Monitoring in construction**<br>• Throughout the development the newly created habitat within the new channel, monitoring will review the success of vegetation development and establishment with regard to water vole food plant and vegetation cover, and remedial action will be taken to ensure that the habitat becomes suitable for water vole (if required) and meeting the BNG commitments and target habitat conditions.<br>• The detailed OMMP will set out the approach to monitoring of the newly created habitat and ensure that ongoing construction activities are not impacting the newly created habitats.<br>• The newly created ditches will provide additional biodiversity benefit to aquatic and terrestrial invertebrates, foraging and nesting habitat for various bird species as well as additional foraging habitat for otter, amphibian and reptile species. As such the OMMP should include a checklist for visual monitoring in relation to monitoring the presence of other species during route checks.<br>• The OMMP will include a programme of monitoring to meet the requirements of the water vole licence and meeting the BNG commitments and target habitat conditions.<br>• Monitoring checks will be undertaken annually for the first five years and every five years subsequently for 30 years. By doing this monitoring, the need for any further remedial management can be identified and implemented. | Monitoring in accordance with the licence and BNG commitments<br><br>Monitoring as part of CEMP |
| Created reedbed and ditch habitat in Work No. 39 area – monitoring and management | n/a | • Throughout the development the newly created habitat monitoring will review the success of vegetation development and remedial action will be taken to ensure that the habitat created are meeting the BNG commitments and target habitat conditions.<br>• The detailed OMMP will set out the approach to monitoring of the newly created habitat and ensure that ongoing construction activities are not impacting the newly created habitats.<br>• The OMMP will include a programme of monitoring to meet the requirements of the BNG commitments and target habitat conditions.<br>• Monitoring checks will be undertaken annually for the first five years and every five years subsequently for 30 years. By doing this monitoring, the need for any further remedial management can be identified and implemented. | Monitoring in accordance with the BNG commitments |
| Compound set up | | **Fencing and security**<br>• Temporary fencing will be erected during the construction period. This will comprise temporary hoarding or an opaque sheeting. The construction compound will be secured in line with the CDM. Temporary fencing will also be used to prevent access into ecological mitigation areas.<br>• Temporary LED tower lights no taller than eight metres in height will be used if required whilst the works are undertaken. Lighting levels will not exceed 200 lux. Temporary lighting will not be used for any longer than is required. Vehicle access into the main construction compounds and the working areas will be controlled and limited to specified entry points. All personnel entries/exits will be recorded for security and health and safety purposes. Gates at vehicle access and egress points will be required to open inwards towards the site rather than outwards onto the highway, wherever possible. As far as is reasonably practicable, gates will be positioned to allow vehicles to drive into the site clear of any public highway. Where provided for noise control purposes, gates will be of a similar material and construction to the boundary fence in which they are situated and will be closed except when in use for access.<br>• The outfall compound will need to have screening/hoarding to minimise the visual impact compatible with the requirements in the Flood Risk Assessment (FRA) (Appendix 20.1, App Doc Ref 5.4.20.1).<br>**Flood risk management** | General environmental audit checks as part of detailed CEMP |

| Activity | Related licence or permit | Plan requirement | Monitoring |
|---|---|---|---|
| | | The OMMP will include details of measures relating to flood risk management at the compound.<br>• The OMMP should demonstrate that measures are in place to ensure the temporary outfall compound does not increase flood risk elsewhere and can be made safe for the duration of its use. Areas of higher risk, such as equipment and facilities and material stockpiles, will generally be located on the east side of the compound.<br>• The OMMP should include a plan of the compound layout and the location of welfare areas, stockpile and material storage location in relation to flood zones.<br>• The OMMP should indicate how the construction works will avoid the positioning of temporary material stockpiles near to watercourses and will ensure material stockpiles are located outside of the flood zone where practicable. Welfare facilities and stored equipment and materials to be located within the compounds so that areas of high flood risk are avoided.<br>• The OMMP should indicate person(s) responsible for implanting emergency response measures including monitoring weather alert services in order to prepare for possible flood events.<br>**Ecological protection**<br>The OMMP should include details on siting and layouts in relation to the pre-works checks and maintain as far as reasonably possible a 10m buffer from existing watercourses in this location. | |
| Outfall construction – river works | Environmental Permit | **Navigation controls**<br>• The OMMP will include details relating to the navigation.<br>• Within the construction working area the construction methodology will be planned to avoid lifting over the river as far as is practical. If this is not possible, controls will be put in place during the lifting operation to protect users of the river, whilst maintaining navigation. The detailed OMMP should include these controls or cross reference to relevant method statements.<br>• The usable width of the river Cam will be narrowed during construction of the river Cam outfall for a period of approximately four months. Whilst the navigable area will be narrowed the river Cam will remain navigable to all permitted users throughout this period. Appropriate signage will be displayed on the river to inform river users of the proposed construction works. Site set up to be as agreed with the Conservancy and Environment Agency including the setting of temporary river works structure heights. Appropriate signage will be displayed on the river to inform river users of the proposed construction works.<br>• The OMMP shall include a layout showing the position of works and navigation signage and types.<br>The OMMP shall include details of navigation notices procedures and communications protocols as agreed with the Conservancy. | General checks in relation to signage and lighting and as agreed with the Conservancy (navigational authority\0 |
| Outfall construction – river works | Environmental permit | **Water quality**<br>• A Construction Water Quality Management Plan, Pollution Control Plan and Emergency Preparedness Plan will be prepared as part of the detailed CEMP. These plans will amongst other matters set out measures to avoid and minimise potential impacts to the river Cam Outfall during construction, including flooding and measures to prevent any significant effects on the existing flood risk in the surrounding area. Construction activities will be undertaken so as to avoid any significant increase of flood risk. The OMMP should reference these detailed plans and include provisions for implementation of the detailed CEMP.<br>• The OMMP should provide details of bank stabilisation measures to be put in place on the eastern side of the river Cam in the vicinity of the river Cam outfall in the form of sheet piling with capping beam.<br>• Surface water run-off and excavation dewatering will be captured and settled out prior to disposal where practicable. The Contractor will ensure that any contaminants are to be suitably removed prior to disposal. The OMMP will specify the measures to be deployed for the control and treatment of surface water run-off. | Monitoring as defined in CEMP and associated sub-plane<br>Monitoring as defined in environmental permit |

| Activity | Related licence or permit | Plan requirement | Monitoring |
|---|---|---|---|
| | | • Turbidity monitoring will be undertaken by an ECoW during the construction phase where deemed required by the Construction Contractor's Environmental Manager due to the sensitivity of aquatic species receptors. The need and frequency of turbidity monitoring would be determined by the regulatory authority and detailed in any required permits for undertaking work within or near watercourses.<br>• The OMMP will include detailed description of the main discharge points, abstraction and discharge rates, equipment used and construction sequence, any authorisation and details of any pre-treatment required prior to discharge approved by the Environment Agency. | |
| Outfall construction – river works | | **Protection of fish**<br>• Outfall works will avoid sensitive fish migration and spawning periods - 15 March to 15 June - Coarse fish.<br>• A Fish Management Plan will be prepared and agreed with relevant stakeholders to specify the measures and supervision required to deliver legislative compliance during construction of the river Cam outfall. As all construction works within watercourses are subject to regulation and permitting regimes, the Fish Management Plan will be prepared and agreed with the relevant regulator (Environment Agency). The Fish Management Plan will include details of:<br>– appropriate timings to minimise potential for disturbance to migratory fish;<br>– provision for screening of pump intakes to prevent fish being drawn into the pipe/pump;<br>– supervision of dewatering of any cofferdam(s) by an appropriately experienced ECoW to oversee fish rescue prior to dewatering, fish welfare and to support the relocation of any stranded fish or associated wildlife back to the main channel of the relevant watercourse outside the working area; and<br>– if appropriate, other specialist techniques to support the capture and relocation of fish to the main channel of the relevant watercourse outside the working area prior to drawdown.<br>• This plan will be attached to the OMMP. During any river dewatering and/or in-channel working, an ecological watching brief and fish rescue plan will be employed. | |
| Outfall construction – river works | | **Flood risk management**<br>• To minimize the potential for flood risk, mitigation measures and best practice have been established and will be applied prior to and during construction. Flood Risk Activities Permit is required for the river Cam Outfall to set conditions and to undertake assessments to ensure the activity does not increase flood risk, impact on drainage or harm the environment.<br>• Weather conditions will be monitored, and the contractor will sign up for the flood warning service.<br>• Where appropriate, action will be taken to halt works when information indicates a flood event or peak flows may occur.<br>• The temporary works site set up to be as agreed with the Environment Agency including the setting of temporary river works structure heights.<br>• The completion of the river works to maximise July-August when river levels are typically lower and river users fewer outside of term time, the OMMP shall include a programme for all river works and demonstrate that the works are outside of sensitive periods for fish and recreational river users. | Monitoring as defined in CEMP and associated sub-plans including general checks and audits |
| Outfall construction – river works | | **Invasive species**<br>• The detailed OMMP will include a Biosecurity Method Statement which will be implemented throughout the construction period.<br>• The Biosecurity Method Statement will detail the locations and extent of any INNS identified, alongside appropriate measures to control and prevent spread or propagation of INNS. The OMMP will include high-level recommendations for the treatment and removal of INNS. The plan will specify appropriate good hygiene measures (e.g., Check, Clean, Dry methods will be detailed). | Monitoring as defined in CEMP and associated sub-plans including general checks and audits |

| Activity | Related licence or permit | Plan requirement | Monitoring |
|---|---|---|---|
| | | • Work force should be equipped with the necessary equipment, Personal Protective Equipment (PPE) and substances to implement biosecurity control measures, including effective hygiene and sanitation practices. The plan will indicate required PPE and details of any disinfectant to be used, and methods for cleaning and disinfecting equipment and PPE prior to entering/leaving construction areas. | |
| Outfall chamber and treated effluent pipeline construction – ditch open cut | Environmental Permit<br>Land Drainage Consent | **Clearance activities**<br>• Any tree felling, removal of scrub and other tall vegetation should be carried out between 1 September and 28 February, to avoid any risk to breeding birds and their Habitats. If works occur during this period they should follow checks by a suitably qualified ecologist and be carried out under supervision of an ECoW/ Ecologist. The plan will include detailed method statements including:<br>– Arboricultural works;<br>– Soil management;<br>– Vegetation clearance; and<br>– Watercourse protection.<br>The detailed OMMP will include any measures related to compliance with licences and conditions. | The plan will include monitoring activities including in relation to licences and consents |
| | | The detailed OMMP will cross reference to other management plans within the approved CEMP in relation to noise, lighting, water quality and emergency incident responses. | Monitoring as defined in CEMP and associated sub-plans including general checks and audits |
| Testing and commissioning of the outfall | Environmental Permit | **Water quality**<br>• The detailed plan will include details on proposed water quality monitoring for turbidity and oxygen monitoring during the commissioning stage where deemed required due to the sensitivity of aquatic species receptors. The need and frequency of turbidity and oxygen monitoring would be determined by the regulatory authority and detailed in any required permits for undertaking work within or near watercourses. | The OMMP will include monitoring specifications including sample points, equipment to be used, frequency of observations and measurements as well as duration of the monitoring |
| Ditch reinstatement following completion of open cut works | Land Drainage Consent | **Ditch reinstatement**<br>The detailed OMMP will set out the approach to ditch reinstatement. This should incorporate the following:<br>• Bank and any aquatic vegetation will be left in place for as long as practicable. Topsoil from the banks will be removed and stored separately for reinstatement after construction in accordance with the Outline SMP (Appendix 6.3, App Doc Ref 5.4.6.3).<br>• Reinstatement of any marginal planting will be undertaken in the first available planting season following construction.<br>• Channel and banks will be reinstated to mimic baseline conditions as far as practicable to ensure more natural bank forms and in-channel features and morphological diversity. This includes reinstatement of an appropriate vegetation assemblage and structure within the riparian zone along with enhancements to the riparian zone to off-set impacts<br>• Seeded biodegradable fibre matting will be used to encourage re-vegetation after works on, or near, the banks of each watercourse (except field drains unless otherwise advised by the ECoW) disturbed by the works to reduce establishment time and to help support bank structure.<br>• Re-instatement works should be supervised by an appropriately qualified ECoW. | Monitoring of reinstatement works |
| Footpath reinstatement | | **Path reinstatement**<br>The detailed OMMP will set out the approach to reinstatement of the footpath. This should incorporate the following: | |

| Activity | Related licence or permit | Plan requirement | Monitoring |
|---|---|---|---|
| | | • Reinstatement to same levels as baseline, compacted and appropriately surfaces / planted.<br>• The path should seek a return to natural condition without the creation of uneven surfaces | |

**Table 5-2 Operational phase requirements of the OMMP**

| Operation | Related licence or permit | Plan requirement | Triggers for further actions |
|---|---|---|---|
| Created ditch habitat for water vole in Work No. 39 area – monitoring and management | Water Vole Licence | **Water vole habitat**<br>• Throughout the development of the newly created habitat within the new channel, monitoring will review the success of vegetation development and establishment with regard to water vole food plant and vegetation cover, and remedial action will be taken to ensure that the habitat becomes suitable for water vole (if required). The newly created ditches will provide additional biodiversity benefit to aquatic and terrestrial invertebrates, foraging and nesting habitat for various bird species as well as additional foraging habitat for otter, amphibian and reptile species. The OMMP should incorporate annual walkover monitoring that includes checking for the presence of non-target species. Monitoring checks will be undertaken annually for the first five years and every five years subsequently for 30 years. By doing this monitoring, the need for any further remedial management can be identified and implemented to ensure vegetation suitability for food and coverage for water vole and that the habitats created are meeting the BNG commitments and target habitat conditions.<br>• Operational monitoring will also assess the success of the displacement strategy within the local water vole population. On completion of the works, annual surveys of ditches that have been impacted by the works will be undertaken during the breeding season for a minimum of three years.<br>• The detailed OMMP will be updated to include details of the monitoring requirements in accordance with the water vole conservation licence conditions, detailed method statements and BNG commitments | The plan will include triggers for actions in the event monitoring determines the habitat compensation aims have not been achieved. |
| Created reedbed and ditch habitat in Work No. 39 area – monitoring and management | N/A | **BNG monitoring**<br>• The OMMP will include a programme for monitoring in relation to demonstrating BNG achievement. This will include all habitats in Work No 39. As a minimum the entire ditch network formed as part of compensatory habitat provision will be monitored.<br>• The monitoring should occur in the summer (mid-June to late August) with the same month monitored over the entire period for continuity. Monitoring should be carried out prior to any vegetation cuts, or after a period whereby the vegetation has recovered following a cut. Monitoring checks will be undertaken annually for the first five years and every five years subsequently for 30 years. By doing this monitoring, the need for any further remedial management can be identified and implemented to ensure that the habitats created are meeting the BNG commitments and target habitat conditions. Remediation will be undertaken in the next appropriate season following the monitoring visit. | The plan will include triggers for actions in the event monitoring determines that the BNG habitat target condition is not likely to be achieved.<br><br>Assessment against the Biodiversity Metric 3.0 habitat condition assessment sheet for ditches and reedbeds<br><br>Such as slumping of bank, uneven bed level, visible scour, bare banks / poor vegetation growth, evidence of erosion.<br><br>Monitoring to account for Common Standards Monitoring Guidance for Ditches (JNCC, 2005) |

| Operation | Related licence or permit | Plan requirement | Triggers for further actions |
|---|---|---|---|
| River bank protection monitoring | Environmental Permit | **Embedded features in river bank protection works**<br>• The OMMP will include a programme for monitoring in relation to demonstrating the successfulness of the embedded features in the river bank protection works, which includes reedbed creation behind the filter drains at the outfall.<br>• This will include monitoring of the entire section of new riverbank protection. It is expected this can be incorporated into the programme of habitat monitoring for the reinstated ditch and therefore also be timed prior to any vegetation cuts, or after a period whereby the vegetation has recovered following a cut.<br>• Monitoring should be carried out in years 1, 3, 5, 10, 15, 20, 25 and 30, post construction. | In the event embedded features are not successful the plan should specify measures that could be considered in order to improve the design to achieve the intended outcome. If there are no measures the effect on BNG should be assessed. Such as poor vegetation growth, evidence of erosion behind the wall, clogging of gravels. |
| Reinstated ditch monitoring | Land Drainage Consent | **BNG monitoring**<br>• The OMMP will include a programme for monitoring in relation to demonstrating successful reinstatement of the habitat. As a minimum the reinstated section will be monitored.<br>• The monitoring should occur in summer (mid-June to late August) with the same month monitored over the entire period for continuity. Monitoring should be carried out prior to any vegetation cuts, or after a period whereby the vegetation has recovered following a cut. Monitoring will be carried out in years 1, 3, 5, 10, 15, 20, 25 and 30, post construction, and with any remediation occurring in the next appropriate season following the monitoring visit. | The plan will include triggers for actions in the even monitoring determine that successful reinstatement has not been achieved such as slumping of bank, uneven bed level, visible scour, bare banks / poor vegetation growth, evidence of erosion |
| Reinstated area at Compound | | **Compound area reinstatement**<br>The OMMP shall cross refer to measures within the Outline SMP developed for this to cover Work No 32. The habitat (ruderal/ephemeral) within Work No. 39 will be destroyed during construction and will be re-seeded to create the habitat other neutral grassland. | As defined in the Outline SMP (App Doc Ref 5.4.6.3) |
| Reinstated right of way / footpath monitoring | | **Reinstated footpath (85/6)**<br>The OMMP will include monitoring programme to check the condition of the section of reinstated footpath. This shall not conflict with or duplicate any post construction defects monitoring under the responsibility of the construction contractor. This will include checking for slumping, erosion, hazards to users of the PRoW and to determine if any planting / seeding has taken effect. | Post construction levels / footpath condition is deemed to not meet required levels or provide adequate surface similar to the baseline |
| Operation of the outfall – extreme events monitoring and management | Environmental Permit | **Operation of the outfall – extreme storm events**<br>• The OMMP will include a programme for monitoring in relation to understanding the effect of extreme events resulting in infrequent storm flows.<br>• This would include the area of the outfall and an area 50m up and downstream.<br>• It is expected that this would be a combination of measures including visual inspection and checking of the river profile in this location.<br>• Monitoring will commence following the first event and specify the frequency of ongoing inspections. | Scouring of the bed and banks is deemed to be compromising river bank protection structures and or habitat quality |

# 6 Roles and Responsibilities

6.1.1 This section sets out the roles and responsibilities for implementation of mitigation measures, including monitoring in relation to activities and structures covered by the OMMP.

6.1.2 The detailed OMMP will include an updated list for each plan iteration and is expected to align with the organisational structure presented within the CEMP during construction and the Environmental Management System (EMS) during operation.

## 6.2 Pre-construction and construction – roles and responsibilities

6.2.1 The detailed OMMP will be updated to set out the roles and responsibilities in relation to the construction phase.

6.2.2 It will be the responsibility of everyone on site to ensure the environment is protected for the duration of construction activities related to:

- Pre works checks of all construction areas;
- Mobilisation and enabling works including ditch creation in advance of outfall construction;
- Set up and use of the compound;
- In river works to construct the outfall and river bank protection works;
- Open cut works to the unnamed ditch parallel to the outfall;
- Open cut works to the public right of way; and
- All reinstatement works.

6.2.3 To manage this effectively, key individuals should be assigned specific responsibilities to ensure that all persons employed on the river Cam outfall know the responsibilities expected of them.

6.2.4 Anglian Water Services Limited and the Contractor will be responsible for the safe and environmentally compliant delivery of the Proposed Development. These organisations must ensure that effective control is established on site to manage activities outlined within this Plan. The plan will contain a list of responsibilities and assigned role holders from within these organisations. This section provides an indication of roles, responsibilities and training requirements related to the implementation of the OMMP.

### Ecological Contractor

6.2.5 A specialist Ecological Contractor (EC) is expected to be responsible for the production and preparation of the detailed design and construction of the created

ditch and reedbed habitats. The EC shall prepare detailed plans and profiles for approval together with detailed method statements.

### Ecological Clerk of Works

6.2.6 An Ecological Clerk of Works (ECoW) will lead the management of ecological issues in delivery, will advise and provide support to Anglian Water Services Limited, and liaise with the Principal Contractor(s), which will have the responsibility to deliver all construction and maintenance activities.

6.2.7 The ECoW's role is to oversee any works that are sensitive to protected species and habitats. This may not be a full-time site-based role and would only be required when works to protected species and habitats are anticipated. It is the ECoW responsibility to ensure the Contractor is undertaking works legally and in a sensitive way to protected species and habitats within and around the site location. The ECoW should be suitably qualified and licenced when required to oversee the works detailed in this Plan.

6.2.8 In summary, the ECoW will be responsible for the following activities:

- Overseeing, in conjunction with the Anglian Water Services Limited Project Management Team, the delivery of all measures detailed in this Plan, including inspection, monitoring and quality control, of the embedded environmental (ecological) measures implemented by the Principal Contractor(s)/Contractor(s) during the construction phase;
- Reviewing relevant documents, including risk assessments, method statements and evidence relating to all proposed work activities that may impact upon ecology to ensure they comply appropriately;
- Advising the Applicant and its Principal Contractor(s) in relation to how legal and contractual ecological management measures should be met;
- Reviewing the content of toolbox talks (TBTs) or other ecological briefings provided by the Principal Contractor;
- Reviewing the Site Ecology Register (SER) of works conducted, from site establishment through to demobilisation which will be maintained by the Principal Contractor. The SER will include weekly updates and a photographic record of activities carried out and recommendations of future works; and
- On request of the Applicant and/or Principal Contractor Project Management Teams, meet landowners and occupiers to describe the Building Management Systems (BMS), its intentions, and its implications for their land interests.

### Contractor

6.2.9 The Contractor will be responsible for executing the works activities associated with the construction activities associated with Work No. 32 as shown on Sheet 2 of the Works Plans, The Contractor will take on direct responsibility for implementation of

this detailed OMMP during construction. The Contractor will be responsible for ensuring that all members of the teams responsible for construction stage of Work No. 32, including sub-contractors, comply with the procedures and requirements of the detailed OMMP The Contractor shall ensure that all persons working on sites within the area of Work No. 32 as shown on Sheet 2 of the Works Plans are provided with sufficient training, supervision, equipment, and instruction to fulfil this requirement.

6.2.10 The Contractor shall also ensure that all persons allocated specific environmental responsibilities are notified of their appointment and confirm that their responsibilities are clearly understood.

### Applicant

6.2.11 Anglian Water Services Limited will be the employer responsible for ensuring that competent parties are appointed to undertake construction and that sufficient resources are made available to facilitate the appropriate management of risks to the environment. Anglian Water Services Limited responsibilities include:

- Identifying and approving the environmental competence of the Contractor and all sub-contractors to be employed for the construction stage of Work No. 32;
- Reviewing and approving the detailed OMMP and identifying the need for any improvements;
- Reviewing and approving construction method statements regarding environmental aspects prior to works commencing;
- Oversight of the monitoring the implementation of the OMMP throughout the construction of the river Cam outfall; and
- Ensuring that enough resources are allocated to deliver works with the OMMP requirements.

### Site and Environmental Manager

6.2.12 The contractor will appoint a Site Manager to oversee the day-to-day management of working areas within the site and ensure that effective, safe, planned construction activities are delivered on an ongoing basis to the highest standards. The Site Manager will be a suitably qualified, competent and experienced professional that will oversee site logistics, communicate regularly with construction staff, accommodate project-specific inductions for staff on site and ensure that all work is compliant with the relevant design standards and health and safety legislation.

6.2.13 The Environmental Manager/Advisor will also be responsible for conducting monthly site inspections during construction and recording this in the form of a short report with photographic evidence, ensuring that best environmental practice and compliance is adhered to throughout the duration of the works. They will be responsible for overseeing implementation of the planning conditions, regulatory requirements and consents, and the requirements of this Plan. They will also be

required to review and update the CEMP and this Plan during the river Cam outfall where necessary.

6.2.14 The Environmental Manager/Advisor will be responsible for ensuring all relevant stakeholder liaison and management of environmental constraints are in line with procedures set out in this Plan. This role includes:

- The provision of technical guidance on legislative and best practice measures to be implemented;
- Monitoring of activities and highlighting areas for improvement;
- Assistance in the occurrence of environmental incidents;
- Developing materials and information for inductions, training, and toolbox talks;
- Ensuring environmental incidents are appropriately reported both internally and to statutory authorities;
- Conducting training sessions (including inductions and toolbox talks) and contributing to developing training material;
- Conducting audits to ensure compliance with the organisation's environmental standards;
- On-site advice, reporting and investigation of all environmental incidents; and
- Liaise with the ECoW when they are required on site.

### Community liaison officer

6.2.15 Prior to, and during construction, there will be a Community Liaison Officer (CLO) who will implement the CLP. They will focus on the community stakeholder engagement, communications, correspondence and opportunities to support the local community. They will function as a single point of contact for all community stakeholders and will aim to tell the wider story of river Cam outfall, demonstrating the environmental and social opportunities the river Cam outfall can bring.

6.2.16 The CLO will play a key role in ensuring that relationships and lines of communication are maintained throughout the construction period. They will be the key point of contact for the community and will ensure that community concerns are dealt with promptly. They will work closely with the Principal Contractor(s), Logistics Manager and Site Manager to ensure they have detailed knowledge of what is happening with construction activities and so that they can communicate promptly with the community.

## 6.3 Training and site induction - construction

6.3.1 The Contractor will be responsible for providing and recording attendance at environmental training at the commencement of, and throughout, the construction

stage of Work No. 32. The Contractor will also be responsible for providing ongoing environmental awareness training and toolbox talks as appropriate, these are expected to include but not be limited to:

- Navigation controls and communications;
- Water pollution controls and spill response;
- Protected species and the law; and
- Lighting controls.

6.3.2 The detailed OMMP will specify who is responsible for the provision of training and who should attend. It is expected that training will be provided by the Environment Manager/Advisor and/or Site Manager to ensure that all persons working on site have a practical understanding of environmental issues and management requirements prior to commencing activities. A full list of required training should be developed following appointment of the Contractor and include requirements for environmental training for different groups of Project and/or site staff and training frequency. This should be reflected in the detailed OMMP or the overarching CEMP.

6.3.3 As part of a site induction, all personnel involved in construction shall be made aware of the environmental risks and local sensitivities of the habitats and features within the area of Work No. 32, including but not limited to ecology, watercourses, users of footpaths and neighbours. This awareness would ensure that staff are familiar with the principles of the detailed OMMP and the CEMP and the consequences of departures from these procedures. The full content of the site induction shall be developed by the Contractor. Specific ecological toolbox talks shall also be given by the Contractor Environmental Advisor and ECoW where applicable. The toolbox talks that form part of the induction should be signed as read and understood.

## 6.4 Communication – construction

6.4.1 Clear lines of communication throughout all levels and functions (e.g., management, staff and sub-contracted service providers), is the key to minimising environmental impacts and achieving continual improvements in environmental performance. Key activities and any environmentally sensitive operations shall also be briefed to all staff. Environmental policies for the Proposed Development, client, and company are to be displayed onsite in regularly utilised locations.

6.4.2 The Environment Manager or Delegate will meet regularly to discuss any issues with environmental management on-site, any amendments to plans that might be required or any new, or changes to construction activities. Regular meetings may also be scheduled with the environmental representative and relevant Anglian Water Services Limited environmental staff. The purpose of these meetings would be to communicate ongoing environmental performance and to identify any issues to be addressed.

### External engagement and continued communication

6.4.3 The local planning authority (LPA) and Natural England will be invited to attend regular meetings (typically monthly where active works are about to or are occurring) during the pre-construction and construction phases of the river Cam outfall. The need for and regularity of meetings will be held as requested or required by the LPA or Natural England during the operational phase. Meetings will be held to enable the ECoW, Site Manager or applicant to report on progress and the effectiveness of the implemented OMMP and to provide an opportunity to discuss measures considered necessary to ensure adherence to the requirements of the Plan and relevant legislation.

6.4.4 Where necessary (i.e., where topics or work areas to be discussed are relevant) invitations to meetings will be extended to other relevant stakeholders including the Environment Agency. Frequent and ad hoc meetings will be held by the ECoW, Site Manager or Applicant as considered necessary.

## 6.5 Operation – roles and responsibilities

6.5.1 Once operational construction activities cease, the OMMP focus is on ongoing monitoring and management activities with interventions informed by the outcomes of the monitoring.

6.5.2 The detailed OMMP for construction will outline the persons responsible for delivering the operational requirements of the plan. This section provides an indication of roles and responsibilities relevant to the operational stage in respect Work No. 32.

### The Applicant

6.5.3 Anglian Water Services Limited as operator will be responsible for ensuring that competent parties are appointed to undertake operational monitoring and any associated management interventions. They will be responsible for ensuring that sufficient resources are made available to facilitate the monitoring and management activities in relation to Work No. 32, including the river Cam outfall, reinstated habitats, created habitats in Work No. 39 and the reinstated footpath PRoW 85/6. The responsibilities include:

- Ensuring a detailed OMMP is prepared and updated at specified intervals and approved by the local authority;
- Identifying and approving the competence of any third parties employed for the purposes of monitoring and managing specific structures, habitats and features relevant to the operational OMMP;
- Delivering interventions as indicated by monitoring outcomes to ensure that mitigation is achieved;
- Oversight of the monitoring the implementation of the OMMP throughout the operation stage; and

- Ensuring that enough resources are allocated to deliver works with the OMMP requirements.

### Environmental team

6.5.4 The environmental team is expected to consist of ecologists and other specialists (such as botanists, licenced ecologists, geomorphologists, and hydrogeologists) responsible for:

- monitoring the programme design and delivery;
- Managing the surveys on behalf of the Applicant;
- Supporting the Applicant with ongoing consultation with the LPA, Environmental Agency and the Conservancy; and
- Production of the detailed specifications, monitoring investigations and reviewing all reporting.

6.5.5 The detailed OMMP updated for operation will set out the technical requirements of the environment team.

### Applicants environment lead

6.5.6 The Applicant will be responsible for overseeing all environmental management and monitoring works in relation to the Proposed Development. The Applicant will provide resources from their environmental team to act as the environment lead for the operation of the proposed WWTP, and this will include implementation of the detailed OMMP covering the operation.

6.5.7 The Applicant is looking to clarify further how the monitoring and management of BNG habitats will be secured through the Draft DCO (App Doc Ref 2.1). The Applicant will confirm this at Deadline 3. The detailed OMMP will specify the production of reporting to support this.

### Engineering team

6.5.8 The operational stage includes monitoring and management activities in relation to built development and will require support of appropriately qualified engineering support. It is expected that specialists engineers will be required and have the following responsibilities:

- Specifying monitoring activities in relation to structures and scour;
- Completing inspections on behalf of the Applicant;
- Supporting the Applicant with any ongoing consultation with the LPA, Environmental Agency and the Conservancy; and
- Production of the detailed specifications, monitoring investigations and reviewing all reporting.

## 6.6 Communication - operation

6.6.1 The detailed OMMP will be updated for the operational phase and will indicate lines of communication in respect of the OMMP monitoring and management activities.

6.6.2 It is anticipated that the AWS Environment Manager will meet with appointed team responsible for updating the detailed OMMP and delivering ongoing monitoring and management activities. This will be to discuss any emerging issues and likely plan amendments that might be required or any new, or changes to, monitoring activities.

6.6.3 In operation it is expected that there would be a debrief following the completion of monitoring campaigns and following receipt of monitoring reports. The purpose of this meeting(s) would be to communicate ongoing environmental performance, identify any issues to be addressed and to understand any key issues to be discussed and agreed with stakeholders.

# 7 Monitoring and Reporting

7.1.1 This section sets out the OMMP monitoring and reporting activities by phase.

7.1.2 The detailed OMMPs will be updated at various intervals to update the monitoring and reporting programme (section 8 sets out the plan updates).

7.1.3 The following sets out the expected monitoring and record keeping by phase. This would align with the specific requirements within the detailed OMMPs including any reporting requirements within permits, consents and licences.

## 7.2 Pre-construction

7.2.1 The ECoW will maintain a record of all pre-construction works undertaken, including pre-construction survey reports, as they relate to the environmental impacts within proximity to the river Cam outfall. This will include impacts relating to water voles, breeding birds and bats, invertebrates and reptiles, invasive non-native species.

7.2.2 The survey reports, including advice regarding implications for construction, will be provided to the appointed Site Manager and the Applicant. The pre-construction survey reports will maintain up-to-date baseline data for known biodiversity features to inform mitigation requirements and European Protected Species licensing, or to identify potential additional biodiversity features which may become established within the Order Limits (i.e., mobile species) prior to construction commencing.

## 7.3 Construction

### Monitoring

7.3.1 During the construction phase, monitoring will be in accordance with Section 8.2 of the CoCP Part A, including regular monitoring and inspections by the licenced water vole ecologist to ensure that habitats are maintained in line with displacement activities (as per the water vole conservation licenced method statement) and water vole are not at risk of direct impacts .

7.3.2 For areas outside the LERMP, measures set out in Section 7.3 of the CoCP Part A, Ecology Nature Conservation include a requirement for monitoring of planting for five years after construction. For planting completed within the construction period this monitoring will commence and continue into operation. Success criteria of such planting will include establishment and growth of required and/or planted species. Monitoring would be recommended to include success criteria for functionality of the mitigation (including retained soil moisture in wetter habitats) and growth of vegetation. The detailed OMMP will identify areas where replacement planting will be required and specify the type of planting and ongoing monitoring activities. This is expected to include areas affected by the open cut crossing of the ditch.

7.3.3 During the construction phase, water voles will be subject to a separate Natural England species licence for damaging and disturbance activities. The licence includes specific monitoring conditions to be completed during works.

7.3.4 Regulatory monitoring and reporting (storm events, treated effluent quality and river monitoring) would be part of normal operations and responding to the requirements of the environmental permit and not covered in this Plan.

7.3.5 Whilst it is not anticipated, to ensure that site staff are not exposed to contaminated land and to protect the natural and historic environment during the site works, and in particular during the initial below-ground works, the Principal Contractor(s) will be required to carry out routine monitoring for contamination, including the presence of odours and unusual staining, as well as oily, tarry or fibrous materials.

7.3.6 Appendix A summarises mitigation measures applicable to the river Cam Outfall, including the proposed monitoring for each environmental impact during construction of the river Cam outfall.

### Reporting

7.3.7 The ECoW will maintain a record of all ecology works undertaken during the construction period, including any ecological watching briefs or protected species surveys and findings of any site visits. Reports will be provided to the applicant and the Site Manager and, where appropriate, to Natural England and the LPA.

7.3.8 The ECoW will maintain a record of any breaches of the requirements of the OMMP and any measures undertaken in order to mitigate potential impacts of a breach. Records will be provided to the applicant, Site Manager and if necessary, the LPA and Natural England.

7.3.9 If any reasonable changes to the measures described in this Plan are considered necessary by the ECoW in order to achieve the objectives and adhere to the construction timeframe and any relevant legislation, the ECoW will produce a report of these proposed changes, detailing the reasons for them, and this report will be provided to the LPA for approval prior to the measures being carried out on site.

7.3.10 ECoW and/or licence holder will be responsible for producing any required Natural England licence return forms and report of the works undertaken. A copy of the forms and reports will be provided to the applicant, Natural England, and the LPA as soon as practicable and as required under the conditions of the licence.

### Environmental emergencies and incident

7.3.11 Emergency procedures will be developed in line with ISO 14001 criteria and Health Safety and Environment (HSE) standards by the appointed Principal Contractor(s) and incorporated into an Emergency Preparedness Plan(s) as part of the CEMP. The plan provides guidance in the event of any environmental or safety related emergency affecting the river Cam outfall. The procedures have been standardised and adapted to the anticipated hazards and specific layout including the site conditions and river working at the river Cam outfall location. The detailed OMMP will cross reference to the reporting requirements contained within the CEMP.

***Pollution Incident Control Plan***

7.3.12 Environmental emergencies are generally related to spills of liquids such as oil or gases. The Pollution Incident Control Plan as part of the CEMP will detail the practical measures which will be implemented to avoid pollution incidents and has regard to best practice measures and guidance set out in the Environment Agency's pollution prevention guidance notes.

7.3.13 The Plan details procedures to deal with any pollution incident that may occur, including notification procedures including as relevant notification of the Applicant and where applicable local authorities, along with response procedures (including appropriate materials, equipment and resources, and timescales) to minimise the effects. The Plan will complement and be consistent with the Emergency Preparedness Plan(s).

7.3.14 The Environmental Incident Report will contain details of the incident including the location, known and suspected causes and weather conditions. It will define the scale and effects (short, medium, long term, temporary/permanent) as well as required corrective actions and mitigation/remediation/compensation measures, as appropriate.

7.3.15 The detailed OMMP will cross reference to the reporting requirements contained within the CEMP.

## 7.4 Operation

### Monitoring

7.4.1 Appendix A summarises mitigation measures applicable to the river Cam outfall, including the proposed monitoring for each environmental impact during construction. Table 7-1 provides a summary of the monitoring periods for the activities during pre-construction, construction and operation of this project.

***River Cam***

7.4.2 During the operational phase, monitoring of new planting and ecological features will be a requirement of the LERMP. This will inform any measures of success for habitats within the land required for the proposed WWTP and the landscape masterplan as well as enabling responses to repair or remediation required.

7.4.3 For areas outside the LERMP, measures set out in Section 7.3 (Ecology and Nature Conservation) of the CoCP Part A, includes a requirement for monitoring of planting for five years after construction. For planting completed within the construction period this monitoring will commence and continue into operation.

7.4.4 Additional monitoring will also be required in relation to protected species in line with the Natural England licences for bats, water vole and badger, with species specific requirements conditioned, and reporting required.

7.4.5 During the operational phase, regulatory compliance monitoring (UK Government, 2021) and Environment Agency ongoing assessment of permit conditions will prevent deterioration of water quality within the river Cam.

***Ditch and reedbed habitats***

7.4.6 Post-construction monitoring for flora, riparian mammals, and water vole (presence/absence) will be undertaken in the respective seasons, in years 1, 3 and 5. This is likely to involve similar or scaled-down methods to the baseline surveys to enable cross-comparison with baseline data, to assess any changes in biodiversity as a result of the river Cam Outfall.

7.4.7 After the construction and planting of the newly designed ditch network and reedbed habitat, regular visits will be undertaken to monitor the establishment and development of vegetation along the ditch banks and to ensure adequate water levels. Monitoring checks will be undertaken annually for the first five years and every five years subsequently for 30 years. By completing this monitoring, the need for any further remedial management can be identified and implemented to ensure vegetation suitability for food and coverage for water vole and that the habitats created are meeting the BNG commitments and target habitat conditions.

7.4.8 The habitat (ruderal/ephemeral) within Work No. 39 which the new ditches and reedbeds will be created in will be destroyed during construction and will be re-seeded to create the habitat other neutral grassland.

7.4.9 The Applicant is looking to clarify further how the monitoring and management of BNG habitats will be secured through the Draft DCO (App Doc Ref 2.1). The Applicant will confirm this at Deadline 3. The detailed OMMP will specify the production of reporting to support this.

7.4.10 Post-development monitoring will also assess the success of the displacement strategy within the local water vole population. On completion of the works, annual surveys of ditches that have been impacted by the works will be undertaken during the breeding season for a minimum of three years. This is to confirm establishment of habitat and search for field signs in accordance with Box 4 in the Water Vole Mitigation Handbook (Dean, Strachan, Gow, & Andrews, 2016). All water vole field signs will be recorded and used to ascertain whether water vole is present. Latrine counts within these areas will give an approximate estimate of population size, which can be compared to pre-construction estimates.

7.4.11 Overall, the post-development monitoring will assess the success of the mitigation strategy as well as the suitability and level of occupation of the newly created ditch network post-construction.

***Reinstated ditch***

7.4.12 Post-construction monitoring for flora, riparian mammals, and water vole (presence/absence) will be undertaken in the respective seasons, in years one, three, five and ten post construction. This is likely to involve similar or scaled-down

methods to the baseline surveys to enable cross-comparison with baseline data, to assess any changes in biodiversity as a result of the river Cam Outfall.

### Reporting

7.4.13 The ECoW and/or Natural England licence holder will be responsible for producing and distributing any required licence return forms and report of the works covered by the Licence. The ECoW will also be responsible for producing a report to confirm habitat reinstatement or enhancement measures have been carried out in accordance with the detailed OMMP.

## 7.5 BNG Reporting

7.5.1 Biodiversity Metric 3.0 requires the consideration of long-term delivery of the measures to achieve net gain. The detailed OMMP will specify the production of a BNG habitat monitoring and management plan (HMMP) to include monitoring reporting for Work No. 39 area. The HMMP will detail the monitoring checks that will be undertaken annually for the first five years and every five years subsequently for 30 years. By completing this monitoring, the need for any further remedial management can be identified and implemented the habitats created are meeting the BNG commitments and target habitat conditions.

7.5.2 Table 7-1 of the Biodiversity Net Gain (BNG) Report (Appendix 8.13. App Doc Ref 5.4.8.13) summarises the various elements of the river Cam outfall and how The Applicant intends to secure and monitor features contributing to BNG over the operational lifetime of 30 years for Work No. 39 area.

### BNG Audit

7.5.3 The Applicant is looking to clarify further how the monitoring and management of BNG habitats will be secured through the Draft DCO (App Doc Ref 2.1). The Applicant will confirm this at Deadline 3. The detailed OMMP will specify the production of reporting to support this.

## 7.6 Summary

7.6.1 Table 7-1 summarises the monitoring periods and approaches the detailed OMMP will include a monitoring programme which will be updated through successive plan iterations.

**Table 7-1 OMMP Monitoring period and summary of details by phase**

| Phase | Location | Monitoring period | Details |
|---|---|---|---|
| **Construction OMMP** | | | |
| Pre-construction | Ditch area, site of the proposed compound, river margin in area where outfall and river bank protection works are located | 12 months prior to construction | Ecological surveys to gain up to date information on relevant protected or notable species whose status or distribution may have changed since baseline surveys were completed |
| | Ditch network adjacent to the river Cam from the site where the final effluent and storm pipe crosses and 100m either side | 12 months prior to construction | Habitat review to inform further protected species licences |
| | Ditch and reedbed and habitat creation site in Work No. 39 | 12 months prior to construction (or 12 months prior to use as a receptor site) | New ditch created for water vole habitat compensation, new water holding and vegetation.<br>The habitat (ruderal/ephemeral) within Work No. 39 which the new ditches and reedbeds will be created in will be destroyed during construction and will be re-seeded to create the habitat other neutral grassland.<br>Provide additional biodiversity benefit to aquatic and terrestrial invertebrates, foraging and nesting habitat for various bird species, and foraging habitat for otter, amphibian and reptile species.<br>Habitat creation for BNG |

| Phase | Location | Monitoring period | Details |
|---|---|---|---|
| Construction | Entire length of area affected by outfall and river bank protection works and 100m up and downstream | During the construction of the outfall and river protection works | Monitoring in line with detailed CEMP to be prepared by Contractor to incorporated measures within Section 7.8 of the CoCP Part A (App Doc Ref 5.4.2.1). |
| | Ditch and reedbed creation areas in Work No. 39 | During the entire construction period immediately after translocation activities in accordance with the approved species licence | Monitoring in line with Section 7.8 of the CoCP Part A.<br><br>Water voles subject to a separate Natural England species licence. |
| | Outfall compound area | During entire period in use and during reinstatement activities once the compound is removed | Monitoring in line with detailed CEMP to be prepared by Contractor to incorporated measures within Section 7.8 of the CoCP Part A (App Doc Ref 5.4.2.1). |
| Commissioning | river Cam | Year 4 of construction | To cover activities relating to the commissioning of the outfall.<br><br>Monitoring will be in accordance with any specific requirements set out within permit conditions but are expected to include:<br>• Water quality;<br>• Visual observations within the river (foams/ surface scums); and<br>Evidence of scour. |
| **Operation and Maintenance** | | | |

| Phase | Location | Monitoring period | Details |
|---|---|---|---|
| Operation | River Cam river bank | 5 years post construction - New planting and ecological features | Monitoring of new plantings and ecological features for 5 years after construction. |
| | Ditch network and reedbed habitat in Work No. 39 | In years one, three and five | Post-construction monitoring for flora, riparian mammals, and water vole (presence/absence) will be undertaken in the respective seasons |
| | | Checks undertaken annually for the first five years and every five years subsequently for 30 years | Regular visits will be undertaken to monitor the establishment and development of vegetation along the ditch banks and to ensure adequate water levels and that the habitats created are meeting the BNG commitments and target habitat conditions. |
| | | Minimum of three years | Success of the displacement strategy within the local water vole population will be assessed through surveys of ditches impacted by works |
| | Outfall compound | Defined in Outline SMP(App Doc Ref 5.4.6.3) | Defined in Outline SMP (Section 4.2 of this Plan)<br>The habitat (ruderal/ephemeral) within Work No. 39 will be lost during construction and will be re-seeded to create the habitat other neutral grassland. |
| | Reinstated ditch | Years one, three, five and ten | Monitoring for flora, riparian mammals, and water vole |
| | Biodiversity Net Gain Work No. 39 | Checks undertaken annually for the first five years and every five years subsequently for 30 years | The Applicant is looking to clarify further how the monitoring and management of BNG habitats will be secured through the Draft DCO (App Doc Ref 2.1). The Applicant will confirm this at Deadline 3. The detailed OMMP will specify the production of reporting to support this. |

# 8 Plan Updates

8.1.1 The detailed OMMP will be a live document covering the management and monitoring of activities related to Work No. 32 and 39 as shown on Sheet 2 of the Works Plans from pre-construction to operation.

8.1.2 Appendix C provides an indicative plan content for each phase.

8.1.3 No construction works within the area of Work No. 32 as shown on Sheet 2 of the Works Plans can commence until a the detailed OMMP for the construction phase has been submitted to and approved by the relevant planning authority. The operation of the river Cam outfall that forms part of Work No. 32 must not commence until the detailed OMMP has been updated for the operational phase and has been submitted to and approved by the relevant planning authority.

8.1.4 Table 8-1 sets out the minimum number of revisions for the OMMP by phase. The revisions triggers should be updated in the detailed OMMP to account for specific requirements within associated permits and licences and in response to updated surveys.

**Table 8-1 Triggers for updates to the detailed OMMPs**

| Revision trigger | Timing | Details | Interim updates |
|---|---|---|---|
| **Construction OMMP** | | | |
| **Pre construction** | | | |
| Habitat creation (ditch mitigation and reedbed habitat in Work No. 39 area) | Prior to the start of habitat creation (which would be at least one year before the start of the works to the ditch needed to construct the river Cam outfall chamber and pipelines (final effluent and storm)) | Prepare plan and include measures relating to the water vole licence and habitat creation one year prior to the start of the outfall works<br>Update baseline including the ditch creation site, unnamed ditch and river bank in the area affected by the outfall and riverbank protection works | Monitoring or changes trigger a change to management actions |
| **Construction** | | | |
| Outfall construction works | Either to support the permit applications or prior to the start of works (including time to integrate permit conditions) | Update plan prior to start of outfall works to integrate:<br>• associated permit conditions (FRAP, Land drainage)<br>• agreements with the conservancy regarding navigation<br>• CoCP requirements | Monitoring or changes trigger a change to management actions |
| Commissioning of the river Cam outfall | Depends on timing of consent but as a minimum at least 1 month prior to start of wet commissioning works | Update plan prior to start of wet commissioning to integrate:<br>• associated permit conditions (FRAP, Discharge Consent Phase 1)<br>• agreements with the conservancy regarding navigation<br>• CoCP requirements | Monitoring or changes trigger a change to management actions |

| Revision trigger | Timing | Details | Interim updates |
|---|---|---|---|
| Existing (Milton) outfall decommissioning | Prior to works to decommission the existing outfall | Update plan prior to start of wet commissioning to integrate<br>• associated permit conditions (FRAP, Discharge Consent Phase 1)<br>• agreements with the conservancy regarding navigation<br>• CoCP requirements | Monitoring or changes trigger a change to management actions |
| **Operation OMMP** | | | |
| **Operation and maintenance** | | | |
| Prior to start of operation | Prior to the start of operation, the OMMP will be updated to cover the operation period | Update plan to provide details on detailed monitoring and management responses in relation to:<br>• Footpath monitoring for slumping, settlement, uneven surfaces<br>• Riparian vegetation recovery at river Cam and effectiveness of 'wetted edge' design<br>• Reinstated ditch condition (bank profile, bed, water levels, vegetation and recolonisation by water vole)<br>• Created ditches and reedbed habitats in Work No. 39 to incorporate monitoring requirements within approved species licence and BNG commitments/target habitat condition.<br>• Evidence of scour at the outfall (such as through survey of river profile) | Changes to reflect monitoring outcomes |
| Year 2 – 5 of operation -annual | 3 months following completion of the annual monitoring | Update plan to provide details on detailed monitoring and management responses in relation to: | Changes to reflect monitoring outcomes |

| Revision trigger | Timing | Details | Interim updates |
|---|---|---|---|
| updates after monitoring | | • Riparian vegetation recovery at river Cam and effectiveness of 'wetted edge' design<br>• Reinstated ditch condition (bank profile, bed, water levels, vegetation and recolonisation by water vole)<br>• Created ditches and reedbed habitats in Work No. 39 to incorporate monitoring requirements within approved species licence and BNG commitments//target habitat condition.<br>• Evidence of scour at the outfall (such as through survey of river profile) | |
| Year 5 of operation | 3 months following completion of year 5 of monitoring | Update plan to provide details on detailed monitoring and management responses. This would cover ongoing monitoring in relation to BNG commitments as well as other monitoring as informed by year 1-5 monitoring activities. | Changes to reflect monitoring outcomes |

# References

Anglian Water Services Ltd (2023) Chapter 8 Biodiversity

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Code of Construction Practice Part A: Environmental Statement Appendix 2.1. App Doc Ref 5.4.2.1

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Code of Construction Practice Part B: Environmental Statement Appendix 2.2. App Doc Ref 5.4.2.2

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Biodiversity Net Gain (BNG) Report. Environmental Statement 8.13. App Doc Ref 5.4.8.13

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Landscape, Ecological and Recreational Management Plan. Environmental Statement Appendix 8.14. App Doc Ref 5.4.8.14

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Environmental Statement Chapter 2: Project Description. App Doc Ref 5.2.2

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Environmental Statement Chapter 20: Water Resources. App Doc Ref 5.2.20

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Natural England Ghost Licence Method Statement Water Vole. Environmental Statement Appendix 8.22. App Doc Ref 5.4.8.22

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Mitigation tracker. Environmental Statement Appendix 2.6. App Doc Ref 5.4.2.6

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Environmental Statement Community Liaison Plan. App Document Reference 7.8

Anglian Water Services Ltd (2023) Cambridge Waste Water Treatment Plant Relocation Project. Construction Traffic Management Plan. Environmental Statement Appendix 19.7. App Doc Ref 5.4.19.7

Dean, M., Strachan, R., Gow, D., & Andrews, R. (2016). The Water Vole Mitigation Handbook for Development and other Construction Activities. London: The Mammal Society.

Defra. (2009, September). Construction Code of Practice for Sustainable Use of Soils on Construction Sites.

Strachan et al. (2011). The Water Vole Conservation Handbook 3rd Edition.

UK Government. (2021, 09 6). Environment Bill 2020. Retrieved from Environment: https://www.gov.uk/government/publications/environment-bill-2020

# Appendices

# Appendix A – Effects and Mitigation Summary

| Activity | Impact | Effect | Effect classification | Mitigation | Residual effect |
|---|---|---|---|---|---|
| Construction of the river Cam outfall and connecting section of the final effluent and storm transfer | Permanent loss of up to 70 metres habitat along the river Cam | Temporary effect on the river Cam CWS related to river water quality as well as physical changes to the river.<br>Permanent change to section of riverbank within the river Cam CWS | Moderate adverse (significant) | Designing outfall and chamber to allow reinstatement of ditch parallel to river Cam to same profile<br>design of outfall (orientation and sizing) to minimise land required overall and to limit the extent of the structure within the river;<br>minimising extent of river bank protection works;<br>design that includes embedded 'Green' engineering features within river bank protection works that seeks to maintain hydrological connection to the river bank and encourage natural reinstatement of marginal vegetation<br>implementation of final design for outfall and river protection works to include measures required by the Environment Agency secured by the Environmental Permit (flood risk activities).<br>requirement within the CoCP Part B to prepare an Outfall Management and Monitoring Plan including control measures and monitoring requirements in relation to the outfall construction<br>requirement within the CoCP Part B for the translocation of reedbed and any species of botanical interest affected by the works to construct the outfall and the river bank protection. Any relocation activities to be included in Outfall Management and Monitoring Plan (OMMP). | Slight adverse (not significant) |
| River bank protection structures will affect up to 50 metres of the river bank either side of the outfall and will require removal of marginal vegetation and bank disturbance. | Loss of habitat quality through the removal of riparian vegetation, macrophyte loss, loss of natural bank | Moderate adverse (significant) | As above plus<br>The OMMP will include specific measures on translocation and management of macrophyte species in the vicinity of the outfall. | Slight adverse (not significant) |
| Construction of cofferdam will require removal of a section of river bed and replacement of a section of riverbed substrate with erosion protection. | Cofferdam trapping fish could result in lethal and non-lethal impacts on any fish trapped behind the cofferdam with effects on fish populations | Slight adverse (not significant) | As above plus the preparation by the construction contractors of an Outfall Management and Monitoring Plan (OMMP) to incorporate all control measures and<br>monitoring requirements including a fish rescue plan in relation use of a temporary cofferdam (CoCP Part B Section 3 App Doc Ref 5.4.2.2) | Neutral (not significant) |
| Cofferdam construction and temporary safety lighting will result in short term noise and lighting impacts in the river during the installation. | Disturbance effects upon sensitive ecological receptors such as bats. | Slight adverse (not significant) | As above plus measures within the CoCP Part A Section 4.4 (Construction Environment Management Plan), Section 5.9 (Lighting), 7.5, Surface water and flood risk which includes a number of measures to be reflected within the construction Water Quality Management Plan (WQMP) appended to/as part of the CEMP | Slight adverse (not significant) |
| Dewatering during the construction of the outfall | Dewatering of the cofferdam resulting in | Slight adverse (not significant) | CoCP Part A Section 4.4 (Construction Environment Management Plan), and 7.5, Surface water and flood risk which includes a number of measures to be reflected within the construction Water Quality Management Plan (WQMP) appended to/as part of the CEMP including | Slight adverse (not significant) |

| Activity | Impact | Effect | Effect classification | Mitigation | Residual effect |
|---|---|---|---|---|---|
| | temporarily reduces water quality within the river Cam<br><br>CWS | downstream water quality deterioration | | the management of dewatering to meet requirements of the Environment Agency regulatory position statement (RPS) 'Temporary dewatering from excavations to surface water' or Environmental Permit – whichever applies to the activity. Including treating dewatering effluent prior to discharge | |
| | Impact of cofferdam, used to maintain dry conditions during outfall construction, on water quality of the river Cam | Installation and subsequent removal of the cofferdam would be expected to have a temporary impact on the sediment content of the river water over a reach of the river downstream of the outfall. | Surface water quality (contaminants) Surface water drains: Moderate adverse. Significant<br><br>Black Ditch: Moderate adverse. Significant<br><br>River Cam: Major adverse. Significant<br><br>Surface water quality (discharges) Surface water drains: Slight adverse. Not significant<br><br>Black Ditch: Moderate adverse. Significant<br><br>River Cam: Moderate adverse. Significant | Management of construction activities as described within the CoCP Part A and B (Appendix 2.1 and 2.2 App Doc Ref 5.4.2.1 and 5.4.2.2) in particular section 4.4 which requires the Principal Contractor(s) to produce a Water Quality Management Plan(s), Pollution Incident Control Plan, and risk assessments before works commence on site. The plans will be appended to or incorporated into the CEMP(s). These plans will include the requirement to implement best practice measures including: Management of dewatering activities in accordance with Environment Agency specifications including treating dewatering effluent prior to discharge and control of dewatering discharge rates to prevent scour. Management of construction activities as described within the CoCP Part A and B (Appendix 2.1 and 2.2 App Doc Ref 5.4.2.1 and 5.4.2.2) in particular Part A section 4.4 which required the Principal Contractor(s) to produce a Water Quality Management Plan(s), Pollution Incident Control Plan, and risk assessments before works commence on site. The plans will be appended to or incorporated into CEMP(s). These plans will include the requirement to implement best practise measures in relation to management of dewatering activities including:<br><br>Management of dewatering activities in accordance with Environment Agency specifications including treating dewatering effluent prior to discharge and control of dewatering discharge rates to prevent scour<br><br>The application of measures to prevent run-off from construction to the landside draining to the cofferdam such as the use of cut off drains, avoiding vegetation removal right up to the bank, minimising the areas at the bank that are disturbed/cleared, avoiding stockpiling of material close to the banks, use of silt fencing or coir rolls on gentle slopes installed at levelled contours to control runoff. | Slight adverse (not significant) |
| Temporary disturbance of a section of ditch parallel to the river Cam outfall | Temporary loss of ditch habitat and disturbance to water vole. | Effects on water vole population and habitat within the section of ditch required for construction of the outfall | Slight adverse<br><br>(not significant) | Creation of water vole habitat through new ditches as compensation. Works carried out in accordance with licence. | Slight adverse<br><br>(not significant) |
| | Temporary changes to water quality during construction | Short term deterioration in water quality and effects on aquatic vegetation, invertebrates, and fish | Slight adverse<br><br>(not significant) | CoCP Part A Section 4.4 (Construction Environment Management Plan), and 7.5, Surface water and flood risk which includes a number of measures to be reflected within the construction Water Quality Management Plan (WQMP) appended to/as part of the CEMP including the management of dewatering to meet requirements of the Environment Agency regulatory position statement (RPS) 'Temporary dewatering from excavations to surface water' or Environmental Permit – whichever | Neutral<br><br>(not significant) |

| Activity | Impact | Effect | Effect classification | Mitigation | Residual effect |
|---|---|---|---|---|---|
| | | | | applies to the activity. Including treating dewatering effluent prior to discharge | |
| Temporary disturbance to the footpath (PRoW 85/6) adjacent to the river Cam during construction of the river Cam outfall | Temporary increased journey distance for users of the PRoW | Longer journey times and less pleasant journey for river users | Major adverse | Inclusion of temporary diversion indicated within<br>CoCP Part A Section 4.4 (Construction Environment Management Plan) and section 7.6 (Traffic and transport) require the use of safety gates and crossing system to shorten the diversion incorporated into the temporary diversion. | |
| Temporary disturbance to the river Cam navigation during construction of the river Cam outfall | Disturbance to river users (including rowers, motorboats, paddleboarders, canoeists) through temporary restriction to navigable width | Delay to journeys<br>Reduction in quality of experience for river users | Moderate adverse (significant) | Timing of works outside of peak events season and outside term time of university<br>Section 3.1 of the CoCP Part B (Appendix 2.2, App Doc Ref 5.4.2.2) includes limiting the construction activity in the river to between mid-June and early September and defining a minimum river width that must be retained throughout the duration of the construction.<br>Specific measures set out to provide advance warning to potentially affected receptors on the duration and type of works within the river. | Moderate adverse (significant) |
| | Temporary changes to water quality during over pumping activities | Short term deterioration in water quality and effects on aquatic vegetation, invertebrates, and fish | Slight adverse (not significant) | CoCP Part A Section 4.4 (Construction Environment Management Plan), and 7.5, Surface water and flood risk which includes a number of measures to be reflected within the construction Water Quality Management Plan (WQMP) appended to/as part of the CEMP including the management of dewatering to meet requirements of the Environment Agency regulatory position statement (RPS) 'Temporary dewatering from excavations to surface water' or Environmental Permit – whichever applies to the activity. Including treating dewatering effluent prior to discharge | Slight adverse (not significant) |
| | Potential impacts to fish through entrapment in coffer dam | Cofferdam trapping fish could result in lethal and non-lethal impacts on any fish trapped behind the cofferdam with effects on fish populations | Slight adverse (not significant) | Outfall Management and Monitoring Plan (OMMP) to incorporate all control measures and monitoring requirements including a fish rescue plan in relation use of a temporary cofferdam (CoCP Part B Section 3 App Doc Ref 5.4.2.2) | Slight adverse (not significant) |
| Set up and use of the outfall compound | Temporary disturbance from noise, lighting and presence of people | Temporary effects on ecological receptors such as bats, invertebrates and otter that could affect normal behavioural patterns (foraging) | Slight adverse (not significant) | Measures within the CoCP Part A Section 4.4 (Construction Environment Management Plan), Section 5.9 (Lighting), Section 7.7, Noise and vibration which requires the application of best practicable measures (BPM) as defined by the Control of Pollution Act 1974 (CoPA) and the Environmental Protection Act 1990 (EPA) for the control of noise. These measures are to be reflected within the Noise and Vibration Management Plan (NVMP) appended to/as part of the CEMP. | Slight adverse (not significant) |

| Activity | Impact | Effect | Effect classification | Mitigation | Residual effect |
|---|---|---|---|---|---|
| | Temporary disturbance to soils within the footprint of the compound | Temporary impacts to top soil resulting in a reduction in soil quality | Moderate (significant) | The implementation of measures set out under section 7.4 of the CoCP Part A in respect of Soil Management and in the Outline SMP (Appendix 6.3 App Doc Ref 5.4.6.3) | |
| | Temporary changes to flood risk through the presence of temporary structures in the floodplain | Increase flood risk to people including construction work force.<br><br>Secondary effect on habitats and water quality as a result of flood water. | Slight adverse (not significant) | The management of water resources and flood risk as set out within Section 7.5 of the CoCP Part A, Water resources and flood risk, sets out a framework for the control of flood risk during construction, identifying a number of 'standard' mitigation measures which will be implemented whilst construction work takes place.<br><br>An Emergency Preparedness Plan and Construction Water Quality Management Plan will be incorporated into the CEMP. These plans will set out requirements in construction areas to minimise impacts to the works and surrounding area from flooding and prevent any significant effects on the existing flood risk in the surrounding area. | Slight adverse (not significant) |
| Construction of new ditches for the main purpose of providing water vole habitat | Creation of habitat to compensate for permanent loss of ditches supporting water vole | Provision of compensatory habitat and overall benefit as greater habitat extent is established over time | Slight beneficial (not significant) | Continued management of the created ditch as required by application of the mitigation and monitoring measures in line with agreed Natural England licence conditions. Draft measures set out within Draft Licence (Appendix 8.22 App Doc Ref 5.4.8.22).<br><br>Further measures delivered during operation will be implemented through the long term application outfall management and monitoring plan which requires that the operator to prepare a detailed management and maintenance plan for created habitats relied upon to deliver river habitat net gain (secured through requirements in the DCO), this to be agreed with key stakeholders. | Slight beneficial (not significant) |
| Construction of new ditches for the main purpose of providing compensation for loss of ditch habitat and reedbed habitat, and to achieve 20% BNG. | Creation of habitat to compensate for permanent loss of ditches and reedbed | Provision of compensatory habitat and overall benefit as greater habitat extent is established over time | Slight beneficial (not significant) | Continued management of the created ditch habitat (which will include the reedbed) as required by application of the mitigation and monitoring measures in line with agreed Natural England licence conditions. Draft measures set out within Draft Licence (Appendix 8.22 App Doc Ref 5.4.8.22).<br><br>Further measures delivered during operation will be implemented through the long term application outfall management and monitoring plan which requires that<br><br>the operator to prepare a detailed management and maintenance plan for created habitats relied upon to deliver ditch and reedbed habitat net gain (secured through requirements in the DCO). | Slight beneficial (not significant) |
| Commissioning the outfall | Short term reduction in water quality within the river Cam | Short term deterioration in water quality and effects on aquatic vegetation, invertebrates, and fish | Slight adverse | Management of commissioning activities through application of measures within the outline Commissioning Plan (Appendix 2.4 App Doc Ref 5.4.2.4) and the CoCP Part A, Section 4.4 (Construction Environment Management Plan), and Section 7.5 (Water Resources and Flood Risk) (Appendix 2.1 App Doc Ref 5.4.2.1) | Neutral |

| Activity | Impact | Effect | Effect classification | Mitigation | Residual effect |
|---|---|---|---|---|---|
| Operation of the river Cam outfall | Intermittent risk of scour associated with low frequency large storm events | Localised scour in the vicinity of the outfall affects the CWS, macroinvertebrates | Moderate adverse (significant)<br><br>Neutral for macroinvertebrates (not significant) | Long term application outfall management and monitoring plan which requires that the operator to prepare a detailed management and maintenance plan for the outfall (secured through requirements in the DCO), to include ongoing monitoring measures to identify erosion/scour of the river bank. This may trigger the need for remediation including the application of further physical interventions. | Slight adverse<br>(not significant)<br><br>Neutral for macroinvertebrates (not significant) |

# Appendix B – Example Permits and Licences Register

| Permit type | Related activity | Contact | Permit Reference | Permit Expiry Date | Conditions | Related plans / monitoring requirements |
|---|---|---|---|---|---|---|
| *Land drainage consent* | *Works affecting ordinary watercourse – outfall construction*<br>*Works affecting ordinary watercourse – ditch habitat creation* | *CCC* | *xxxx* | *dd-mm-yy* | Summary specific conditions | *Does consent / licence require specific monitoring.*<br>*State type i.e. water quality* |
| *Environmental permit (Flood Risk Activities)* | *Outfall construction – cofferdam*<br>*Outfall – river bank protection works*<br>*Works within 8m of main river* | *Environment agency* | *xxxxx* | *dd-mm-yy* | Summary specific conditions i.e. fish protection plan | |
| *Water vole licence* | *Ditch creation*<br>*Ditch works – construction of outfall* | *Natural England* | *xxxxx* | *dd-mm-yy* | | |
| *Compound* | *Any works within byelaw margin of ordinary watercourse* | *CCC* | *xxxxx* | *dd-mm-yy* | | |

# Appendix C - Indicative Detailed Plan Content

## Construction OMMP

**Section 1 – Introduction**

Plan purpose

Cross reference Appendix A Related Consents Permits and Licences

**Section 2 – Baseline Update**

Update with pre construction checks information including but not limited to:

Habitat Map, Receptors map in relation to construction layouts including and exclusion, areas demarcated on map

**Section 3 – Roles and Responsibilities**

Organisational chart

Description of roles and responsibilities in relation to Works No 32 specific to OMMP implementation

**Section 4 – Detailed Design & Method Statements**

Detailed design update

Append drawings, plans and cross sections, planting plans and planting schedules

Append method statements including but not limited to:

- Ditch clearance
- Outfall construction – ditch crossing
- Outfall construction – river works and riverbank protection
- Compound set up
- Ditch and reedbed habitat creation in Work No. 39 area
- Grassland creation in Work No. 39 area
- Arboricultural works
- Translocation – plants and reedbed habitats
- Water vole displacement
- Fish rescue

**Section 5 – Environmental Management and Monitoring**

Cross references to related plans under detailed CEMP

Specific actions and requirements related to Table 5-1 in outline OMMP including navigational controls (Append Protocols to Plan), PRoW diversions and signage

Monitoring schedule

**Section 6 – Reporting**

Compliance reporting

Incident reporting

## Construction OMMP

| |
|---|
| Specific reporting relating to monitoring i.e. ditch water quality, habitat condition<br>Reporting relating to permits, conditions and licences |
| **Section 7 Communications** |
| Details of communications protocols including internal communications and external communications including in relation to permits, licences and consents, PRoW diversions, river works notices |
| **Section 7 Non-conformance and Actions** |
| Details of non-conformance reporting and corrective action procedures specific to OMMP to align to CEMP |
| **Section 8 Plan Revisions** |
| Details of triggers requiring plan updates such as monitoring reveals ineffective controls |
| **Appendices** |
| A Licences, consents and permits tracker |
| B Figures |
| C Method Statements |
| D Reporting templates |

## Operational OMMP

| |
|---|
| **Section 1 – Introduction** |
| Plan purpose<br>Cross reference Appendix A Related Consents Permits and Licences |
| **Section 2 – Baseline Update** |
| Update with post construction checks information including but not limited to:<br>As-built Habitat Plan, New Ditch Layout, As-built details for river protection works |
| **Section 3 – Roles and Responsibilities** |
| Organisational chart<br>Description of roles and responsibilities in relation to Works No 32 specific to operational OMMP implementation |
| **Section 4 – Method Statements** |

## Operational OMMP

Append method statements including but not limited to:

- Ditch monitoring – reinstated ditch
- Ditch and reedbed habitat creation monitoring in Work No. 39
- Grassland creation in Work No. 39 area
- Water vole related monitoring and licence requirements
- Scour monitoring
- Footpath monitoring

**Section 5 – Environmental Management and Monitoring**

Management activities in relation to new habitat and reinstated habitat

Monitoring schedule - ditches, river, footpath

**Section 6 – Reporting**

Specific reporting relating to monitoring i.e. ditch water quality, habitat condition

Reporting relating to permits, conditions and licences

The Applicant is looking to clarify further how the monitoring and management of BNG habitats will be secured through the Draft DCO (App Doc Ref 2.1). The Applicant will confirm this at Deadline 3. The detailed OMMP will specify the production of reporting to support this.

**Section 7 Communications**

Details of communications protocols including internal communications and external communications including in relation to permits, licences and consents, BNG

**Section 8 Plan Revisions**

Details of triggers requiring plan updates such as monitoring reveals condition of habitats is not achieving BNG

**Appendices**

A Licences, consents and permits tracker

B Figures

C Management Protocols, Monitoring Specifications

D Reporting templates

# Get in touch

**You can contact us by:**

Emailing at **info@cwwtpr.com**

Calling our Freephone information line on **0808 196 1661**

Writing to us at **Freepost: CWWTPR**

You can view all our DCO application documents and updates on the application on The Planning Inspectorate website:

**https://infrastructure.planninginspectorate.gov.uk/projects/eastern/cambridge-waste-water-treatment-plant-relocation/**