



# Cambridge Waste Water Treatment Plant Relocation Project



Draft Outline Code of Construction Practice:  
Part A General Requirements  
February 2022

## Document Control

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## 1 Introduction

- 1.1.1 The proposed Cambridge Waste Water Treatment Plant Relocation Project (CWWTPRP) (hereafter called the Proposed Development) is a Nationally Significant Infrastructure Project and Anglian Water Services Ltd, hereafter referred to as Anglian Water Services, intends to submit a Development Consent Order (DCO) application to the Planning Inspectorate under the Planning Act 2008; it is a statutory instrument which defines the terms under which development consent for a project is granted.
- 1.1.2 This draft outline Code of Construction Practice (CoCP) is intended to be an overarching document which sets out the measures that Anglian Water Services proposes, at this stage of the CWWTPRP, to manage, mitigate and monitor potential impacts during the construction phase of the development. It is considered a 'living' document which will continue to be developed during the EIA process, further to continued stakeholder and community engagement, following the submission of the DCO application and during the examination period. Compliance with the CoCP will be secured through a requirement of the DCO.
- 1.1.3 The purpose of the CoCP is essentially twofold:
- To provide effective planning, management and controls during the construction period with the aim of controlling potential impacts on the local community along with the natural and historic environments.
  - To set out a framework for engagement with the local community and their representatives throughout the construction period.
- 1.1.4 For the purpose of the CoCP, the term 'construction' includes all site preparation works, engineering and construction activities associated with the construction of the scheme including deliveries and waste removal. Wet and dry commissioning of the new infrastructure also falls within the remit of this document. The only decommissioning activities within its scope, however, relate to the activities required to take the existing Cambridge Waste Water Treatment Plant (WWTP) and Waterbeach Waste Water Recycling Centre (WRC) on Bannold Drove out of service and to rescind the associated Environment Agency Permits. Demolition is not included.
- 1.1.5 Details of the Proposed Development, construction activities including the overall construction programme, are set out within the Preliminary Environmental Impact Report (PEIR) and not therefore repeated in the CoCP.
- 1.1.6 This CoCP comprises two parts: Part A; General Requirements and Part B; Site Specific Measures.
- 1.1.7 Part A of the CoCP which is this document, sets out overarching and general principles including the following:

- Legislative requirements, guidelines and Best Practice Measures to be implemented and followed during construction;
  - Where relevant obligations which will be imposed upon relevant contractors, subcontractors and suppliers when undertaking work on behalf of Anglian Water Services; and
  - Plans, control measures and monitoring procedures for managing potential environmental impacts relating to the construction period.
- 1.1.8 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 Proposed Development. As with Part A, Part B has been prepared in line with information available at the time of PEIR and is a 'living' document which will be updated as an appropriate in line with the project progression.
- 1.1.9 It is proposed that the finalised measures set out in both Parts A and B of the CoCP will be incorporated into the contracts for the Principal Contractor(s) which Anglian Water Services will appoint. The Principal Contractor(s), subcontractors and their suppliers will thereafter be required to observe the relevant provisions.
- 1.1.10 The CoCP will include a commitment to secure a Construction Environmental Management Plan(s) (CEMP) which will be produced by the Principal Contractor(s) appointed by Anglian Water Services as part of the requirements of the scheme, along with a series of supporting topic based management plans which will be appended to this. This commitment is detailed further in section 3.4 below.
- 1.1.11 Adherence to the CoCP will not, however, absolve Anglian Water Services or its contractors from compliance with other legislation or permitting requirements relating to construction activities.

## 2 Community & Stakeholder Engagement

2.1.1 Anglian Water Services will require the Principal Contractor(s) to adopt a proactive approach to communication with the local community and stakeholders in order to keep occupiers of nearby properties, Parish Councils and the Local Authorities informed of the works taking place, including durations, particularly where these will involve works outside of the core working hours or impact community facilities and business and local infrastructure such as Public Rights of Way (PRoW)/cycleways.

2.1.2 A draft Community Liaison Plan will be prepared by Anglian Water Services as part of the stakeholder engagement strategy and submitted as part of the DCO application. The plan will be developed in conjunction with the Local Authorities and will be implemented during the construction phase by the Principal Contractor(s). Although the plan has yet to be developed it is proposed that it will include, as a minimum, the following:

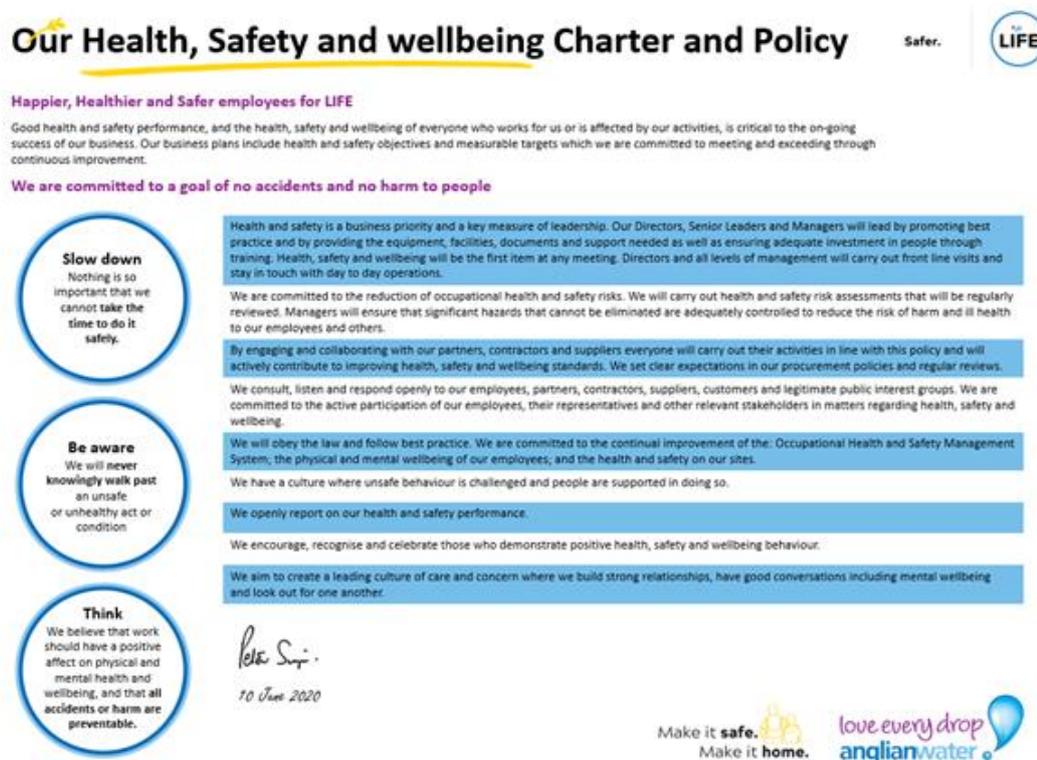
- Details of the methods and tools which will be used to ensure compliance with the mitigation commitments. This will include a mechanism for the monitoring of these commitments and associated reporting including the reporting of any non-compliance.
- Communication protocols for informing the relevant Local Authorities, the community, stakeholders and affected parties of the construction activities being undertaken including the frequency of such liaison, the status of the construction works and the construction programme, including, where relevant, any changes to the programme.
- The plan will set out timescales for the distribution of pre-commencement construction notifications. These notifications will consist of information sheets or letters detailing construction activity timescales, working hours, any potential disruption associated with the relevant construction activities and what mitigation measures will be implemented to minimise impacts (where applicable).
- The plan will define the roles and responsibilities of a Community Liaison Officer(s) along with relevant contact details. These will include, but will not be limited to:
  - Organising and attending meetings with residents, business and other local occupiers to keep them informed of the progression of the development;
  - Managing and maintaining forums for the community, relevant local authorities, stakeholders, affected parties and other development schemes;

- Gathering feedback on the effectiveness of the projects' engagement and the mitigation measures set out in the Environmental Statement and managements plans. Where relevant improvement measures will be developed and implemented;
  - Ensuring the frequencies and chairing of the meetings is carried out in accordance with the requirements agreed between Anglian Water Services and the relevant local authority;
  - Ensuring that matters raised as part of ongoing community engagement are fed back to the Principal Contractor(s) in a timely manner, for incorporation into the onsite communications given daily; and
  - Promoting education opportunities within the local community communities including to local schools and colleagues.
- 2.1.3 The plan will secure commitments to the provision of a 24-hour help line service to deal with complaints and Frequently Asked Questions (FAQs). A minicom text facility will be made available for people with speech or hearing difficulties as will a free telephone translation service for people whose first language is not English. Details of the help line will be promoted by various means including press releases and on Anglian Water Services' web site.
- 2.1.4 The Community Liaison Plan will be approved by the relevant local authorities prior to the commencement of construction activities. A complaints procedure will also be developed and implemented during the construction process. All complaints will be logged, investigated and the response recorded, the outcome will be reported to the complainant by Anglian Water Services within 10 working days.
- 2.1.5 A Stakeholder Engagement Plan will also be produced setting out plans for communicating with key stakeholders. The plan will include the commitment to the creation and management of forums agreed to as part of the Technical Working Groups.
- 2.1.6 Anglian Water Services will also explore the feasibility of setting up a Construction Forum which would include other local developers such as the Marshall's Group, to facilitate communication across other developments to help minimise construction impacts. Representatives from the Local Authorities (notably Environmental Health) would be invited to participate in any such group.

### 3 General Requirements

#### 3.1 Health and Safety

- 3.1.1 Anglian Water Services takes the health, safety and wellbeing of everyone who both works for it or anyone affected by its activities extremely seriously. Health, Safety and Wellbeing is one of its core values. Anglian Water Services' business plans include health and safety objectives and measurable targets which it is committed to meeting and exceeding through continuous improvement, not only to meet legal obligations but to achieve best practice.
- 3.1.2 This commitment is outlined in Anglian Water Services' Health, Safety and Wellbeing Charter and Policy, Figure 3.1 refers.



**Figure 3.1: Extract from Anglian Water Service's Health, Safety and Wellbeing Charter**

- 3.1.3 The commitments are delivered through a Health and Safety Strategy with five clear goals. Health and Safety is improved through continued worker engagement; risk management controls; ensuing hazardous processes are understood and controlled and ensuring that Health and Safety is understood and followed.
- 3.1.4 Anglian Water Services also requires that its partners, contractors and suppliers carrying out activities on its behalf achieve the same high level of health and safety standards.

## 3.2 Environmental and Health & Safety Management Systems

3.2.1 The Principal Contractor(s) appointed by Anglian Water Services will be required to be accredited to British Standard (BS) EN ISO 14001: Environmental Management and ISO 45001: Health and Safety Management Standards.

3.2.2 This will align with the Anglian Water Services environmental and health & safety management systems and will set out:

- the contractor's environmental and health & safety policy;
- the procedures to be implemented to deliver and monitor compliance with environmental and health & safety legislation;
- staff competence and awareness requirements and how these are achieved and maintained; and
- the procedures to be implemented to deliver and monitor compliance with the environmental provisions in this CoCP and the construction management plans.

3.2.3 Anglian Water Services will require the Principal Contractor(s) to have a robust audit and review process to ensure and demonstrate that all the environmental controls of the contract and all relevant legislation, standards, regulations and consents are being met.

3.2.4 The Principal Contractor(s) will be required to have mechanisms in place for incident, near miss and dangerous occurrence reporting. This will include review processes to ensure corrective actions, lessons learnt and continuous improvement.

3.2.5 As part of its Environmental Management System, Anglian Water Services will require its Principal Contractor(s) to comply with the CLOCS Standard. CLOCS is a national industry standard which requires stakeholders to take responsibility for health and safety 'beyond the hoardings' to ensure the safest construction. Its mission and primary goals are as follows:

- zero collisions between construction vehicles and the community.
- improved air quality and reduced emissions.
- fewer vehicle journeys.
- reduced reputational risk.

## 3.3 Considerate Contractors Scheme

3.3.1 In addition to meeting the commitments in the CoCP, the CWWTRRP will sign up to the Considerate Contractors Scheme (CCS).

- 3.3.2 Companies and suppliers registering with the scheme agree to abide by the Code of Considerate Practice which is designed to encourage best practice beyond statutory requirements with aim of raising standards through the industry.
- 3.3.3 Contractors signing up to the CCS are required to ensure that their sites appear professional and are well managed, to respect the community within which they are working, to protect the environment, to care about health and safety and to value their workforce. Respect for the community includes informing, respecting and showing courtesy to those affected by the work, minimising in the impact of deliveries, parking and work on the public highway, contributing to and supporting the local economy and working to create a positive and ensuring impression and promoting the CCS.
- 3.3.4 Contractors appointed by Anglian Water Services will be expected to abide by CCS principles.

### 3.4 Construction Environmental Management Plan (CEMP)

- 3.4.1 The Principal Contractor(s) will be required to produce a Construction Environmental Management Plan (CEMP) before works associated with each part of the Proposed Development commence. This will contain the detailed commitments derived from the measures set out in the CoCP. It may be that different CEMPs are produced for separate elements of the Proposed Development to assist with construction phasing.
- 3.4.2 Each CEMP will be supported by a series of topical management plans as set out below. These will be appended to the CEMP(s) and will secure additional mitigation during the construction phase. Where the plans are highlighted in **bold**, outline versions will be submitted as part of the DCO application.
- 3.4.3 The CEMP and supporting management plans (which, where appropriate, will be in accordance with any outline versions submitted as part of the DCO application) will be approved as a requirement of the DCO.
- 3.4.4 The management plans which will be prepared are as follows: -
- Community Liaison Plan (See Section 2);
  - Temporary Lighting Strategy (See Section 4.9);
  - Emergency Preparedness Plan (See Section 4.5);
  - Pollution Incident Control Plan (See Section 4.6);
  - Wildlife Hazard Plan (see Section 4.15);
  - **Landscape, Ecology and Recreation Management Plan** (See Section 6.2);
  - **Soils Management Plan** (See Section 6.4);
  - Decommissioning Plan (See Section 6.4);
  - Commissioning Plan (See Section 6.5);
  - Construction Water Quality Management Plan (see Section 6.5);
  - **Construction Traffic Management Plan** (See Section 6.6);
  - Noise and Vibration Management Plan (See Section 6.7);

- Air Quality/Dust Management Plan (see Section 6.8);
- Materials Management Plan (see Section 6.9); and
- Site Waste Management Plan (See Section 6.9)

## 4 Site Set Up and General Arrangements

4.1.1 The plans within the PEIR show the proposed working areas for the different parts of the Proposed Development and detail where various construction activities will take place. Construction compounds will be located within these working areas.

### 4.2 Training and Site Induction

4.2.1 All construction staff will receive appropriate training on their responsibilities for minimising the risk to the environment and implementing the measures set out in CoCP/CEMP(s) and other construction management plans.

4.2.2 Anglian Water Services will require that the Principal Contractor(s) and their contractors/subcontractors employ an appropriately competent workforce with the appropriate recognised qualifications as well as experience. All contractors working on behalf of Anglian Water Services will be expected to complete Construction Skills Certificate Scheme (CSCS) training and to carry CSCS cards.

4.2.3 The Principal Contractor(s) will also be responsible for identifying the training needs of their personnel to enable appropriate training to be provided.

4.2.4 Anglian Water Services will require training to include safety induction, site briefings and toolbox talks to equip the workforce with the necessary knowledge on health, safety and environmental topics, and the relevant environmental control measures pertinent to the task being undertaken.

4.2.5 A site induction will be provided for all personnel before they are allowed to work on or visit the site. This will include Environmental and Health & Safety risks and requirements. The form of this will be agreed with the Construction Project Director and may include a training video with input from relevant specialists such as the Environmental Manager and the Ecological Clerk of Works (see Section 5.3 below). The site induction will as a minimum cover the following key aspects:

- Project overview and roles and responsibilities;
- Site safety including site specific hazards;
- Regulations governing storage, handling, treatment and disposal procedures for all wastes;
- Environmental constraints onsite;
- Environmental protection measures;
- Expectations regarding behaviour and conduct whilst on site including respecting and showing courtesy to and supporting the local community;
- Pollution prevention;

- Incident and Near Miss Reporting;
- Fire and Emergency procedures;
- First Aid provision;
- Housekeeping;
- Welfare Facilities; and
- A test on completion of the induction.

4.2.6 The induction will reflect approved mitigation measures where relevant.

4.2.7 The Principal Contractor(s) will be responsible for ensuring all personnel working onsite including other contractors and sub-contractors have been properly inducted and have the required Personal Protective Equipment (PPE). Any person including visitors who do not have this will not be permitted to enter the working areas.

### 4.3 Site compound Set Ups, Security and Fencing

#### General

4.3.1 The Principal Contractor(s) appointed by Anglian Water Services will be responsible for setting up construction compounds and maintaining these in a safe, clean and tidy condition. Welfare facilities including toilets, kitchen and dining facilities and drying rooms will be provided within the main construction compounds as required by the Construction (Design and Management) Regulations. The facilities will be connected to mains services and drainage where reasonably practicable. Alternative arrangements in line with Health and Safety Executive (HSE) standards, will be made if connection to the mains is not possible.

4.3.2 It is also anticipated that mobile welfare facilities in the form of eco-units or similar will be provided as required within the working areas during construction.

4.3.3 The Principal Contractor(s) will always be expected to maintain the site in a clean and tidy condition. Measures will be implemented to provide effective preventative pest and vermin control and prompt treatment of any pest and vermin infestation. These will include the following:

- All sites and work areas will have closed skips and bins for waste management;
- Cleaners will be present at the main site compounds;
- All areas around the bottom of offices, welfare and storage containers will be netted to avoid nesting. Netting (or other suitable materials) will also be used along the bottom of site hoardings;

- Vermin management and control will be identified and covered in the site induction and toolbox talks;
  - All work areas will be regularly checked by designated for signs of vermin or pests;
  - Regular inspections will be carried out by the Environmental Director; and
  - If vermin are found to be present in an area, that area will be segregated, and specialist contractors brought as quickly as possible to remove it.
- 4.3.4 Smoking will only be permitted in designated areas located within the construction site compounds but away from the boundaries with any neighbouring land. These areas will be equipped with containers for smoking wastes.
- 4.3.5 Open fires will be prohibited at all times and all necessary measures will be taken to minimise the risk of fire. Contractors will be expected to comply with the requirements of the Regulatory Reform (Fire Safety) Order 2005 and the HSE HSG 168 Fire safety in construction (HSE, 2010) guidance.
- 4.3.6 Waste from the construction areas will be stored securely to prevent wind blow.

#### **Site Security and Access**

- 4.3.7 Site security is an important issue for Anglian Water Services. The Principal Contractor(s) will be required to ensure that the main construction compounds are suitably signed and secured to protect against unauthorised entry in accordance with HSE Standards.
- 4.3.8 Additional security measures such as the use of CCTV and on-site security personnel will be used as appropriate. These measures will be confirmed in Part B of the CoCP. The Principal Contractor(s) will be required by Anglian Water Services to review these with the Police Service before works start on site and to make any additional provisions or amendments.
- 4.3.9 Working areas will be demarcated/fenced in a suitable way for the activity being undertaken.
- 4.3.10 All temporary fencing or other demarcation fencing will be maintained in a tidy condition and will be fit for purpose for the duration of the Proposed Development. It will be removed as soon as reasonably practicable after completion of the works. 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.

- 4.3.11 Gates at vehicle access and egress points will be required to open inwards towards the site rather than outwards onto the highway, where 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.
- 4.3.12 Site access, egress and internal site vehicle routings will adhere as far as is practicable, to the HSE guidance HSG 144 (The Safe Use of Vehicles in Construction Sites (2009)).
- 4.3.13 Where possible, there will be separate entrances and exits to sites for vehicles and pedestrians. The layout shall where practicable have an internal circulation route or turning bays to turn lorries on site, so as to ensure vehicles exit the site in forward gear. If reversing on to the highway is unavoidable, the Principal Contractor(s) will be required to provide traffic marshals to facilitate the safe departure of the vehicle.

#### 4.4 Fire Prevention and Control

- 4.4.1 Anglian Water Services will require the Principal Contractor(s) to have in place appropriate plans and management controls to prevent fires (in line with HSE standards). The measures to be put in place will include the following:
- Fire Inspection and Risk Assessments will be prepared and carried out for all relevant areas and buildings;
  - Fire and Emergency Plans will be prepared. These will be reviewed regularly. The Site Managers will ensure that they are understood and complied with by everyone on site;
  - Nominated trained fire marshals will be appointed for each area as appropriate. The marshals will be clearly instructed in respect of their duties;
  - Fire marshals will be on site at all times;
  - All personnel (including visitors) will receive instruction in fire precautions, action and evacuation in the event of fire;
  - Adequate and suitable fire-fighting equipment will be provided on each floor of any site buildings, in readily accessible locations and maintained in a serviceable condition;
  - Fire exit routes, fire/smoke doors will be clearly signed, and written fire instructions displayed at suitable points within the site compounds;
  - Weekly inspections of escape routes, fire brigade access, fire-fighting facilities and work areas will be carried out. This will include a check that the requirements of the site Fire and Emergency Plan are being followed;

- Fire drills will be carried out at least twice a year and weekly tests on all alarm and detection devices installed;
- A written record will be kept of all checks, inspections, tests, fire patrols and fire drill procedures;
- A quarterly check will be made of the detailed arrangements and actual procedures for calling the fire brigade and, where appropriate, (i.e. on the more complex sites); liaise with them to arrange site inspections and familiarisation tours;
- Any security personnel will be liaised with;
- A Disaster Recovery Plan will be developed and maintained by the designated Emergency Co-ordinator;
- All fire extinguishers will be regularly calibrated; and
- Colour coded extinguishers for different fires will be provided in site compounds

#### **4.5 Emergency Procedures and Preparedness Plan**

- 4.5.1 Emergency procedures will be developed in line ISO 14001 criteria and HSE standards by the Principal Contractor(s) appointed by Anglian Water Services for construction of the Proposed Development and incorporated into an Emergency Preparedness Plan(s). The appropriate content, relevant to their statutory remit, will be submitted to the Environment Agency for approval. The procedures will be standardised as far as possible and adapted to the anticipated hazards and specific layout including the site conditions and the requirement for tunnelling/deep shafts and river working. This will include liaison with the emergency services as appropriate. Further details will be set out in Part B of the CoCP.
- 4.5.2 The emergency preparedness plan will include amongst other matters include pollution incident control measures (based on Environment Agency guidelines), fire and site evacuation procedures and contacts including contacts for the local authorities, statutory stakeholders and local community representatives as instructions to the workforce. Standby equipment such as road signs will also be made readily available.
- 4.5.3 The emergency procedures will also contain emergency phone numbers, location of the nearest accident and emergency department and the method of notifying local authorities and statutory authorities. It will also set out procedures to be followed in the event of an alarm sounding on site.

- 4.5.4 The Principal Contractor(s) will be required to ensure that procedures are put in place to deal with potential flood events, as is relevant to the flood risk at each working area (also see Section 6.5.12). This will include a requirement to sign up to the Environment Agency flood warnings, identified of evacuation route and potential refuge areas in the event of a flood to enable the workforce to leave the site.
- 4.5.5 Suitable spill kits will be provided and positioned in vulnerable areas and staff will be trained in their use.
- 4.5.6 A record will be kept of all pollution incidents or near misses to ensure that appropriate action is taken, and lessons learned. Regular 'toolbox talks' will be held to raise staff awareness of incident prevention and to share lessons learned. The Pollution Incident Control Plan shall set out written procedures for dealing with spillages and pollution.
- 4.5.7 Whilst the plan has not yet been developed it is expected that it will contain the following as a minimum; -
- Guidance on the storage and use of hazardous materials with the aim of preventing and containing spills and releases of potentially hazardous material;
  - Guidelines on the degrees of containment that take account of the nature of the materials and the sensitivity of the environment;
  - Procedures to be adopted in the event of an environmental incident, to contain and minimise any adverse effects;
  - Procedures and appropriate information required in the event of any spill or release; and
  - Systems for notifying appropriate emergency services, the Environment Agency, other relevant authorities, Anglian Water Services and the contractor's personnel.

## 4.6 Pollution Incident Control Plan

- 4.6.1 Anglian Water Services and the Principal Contractor(s) will develop and implement a Pollution Incident Control Plan.
- 4.6.2 The plan will detail the practical measures which will be implemented to avoid pollution incidents and will have regard to best practice measures and guidance set out in the Environment Agency's pollution prevention guidance notes (PPGs). Whilst these have been cancelled, they remain best practice.

- 4.6.3 The plan will detail 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).
- 4.6.4 The site procedures, methods of working and materials will be selected having regard to the risk of pollution incidents and include mitigation measures to reduce the likelihood and impact of any incident. Preventative containment measures will also be considered.
- 4.6.5 The storage, handling, use and disposal of any potentially hazardous materials will comply with the relevant statutory provisions, Environment Agency and HSE's codes of practice and guidance notes, together with any relevant manufacturers' recommendations.
- 4.6.6 The relevant statutory bodies will be consulted during the development of the plan as is appropriate.
- 4.6.7 Whilst the plan has not yet been developed it is expected that it will contain the following: -
- An assessment of the type of materials to be used and the risk of contamination;
  - Guidance on the storage and use of hazardous materials, with the aim of preventing and containing spills and releases;
  - Guidelines on pollution prevention for works adjacent to the River Cam and watercourses;
  - Guidelines on the degrees of containment which take account of the nature of the materials and the sensitivity of the environment;
  - Procedures to be adopted in the event of a pollution incident, to contain and minimise any adverse effects
  - Procedures and appropriate information required in the event of any incident such as a spill or release;
  - Systems for notifying as required by legislation and is appropriate emergency services, relevant authorities, statutory bodies, Anglian Water Services and the site personnel including the Construction Project Director and Environment Manager (Section 5 refers);
  - Details of standby equipment and materials; and

- Relevant procedures and contacts for each working area for forwarding to the emergency services and appropriate authorities.

## 4.7 Health and Wellbeing

4.7.1 Anglian Water Services will require the Principal Contractor(s) to comply with the following:

- First Aid
  - All site supervisors and site managers will need be first aid trained. All will be expected to complete an identified 3-day first aid training;
  - First aid equipment to be provided in the site office;
  - First aid stations to be provided within the working areas;
  - The site compound to include a designated first room/area;
  - Defibrillators will be located in the main offices within the site compound areas and within the working areas;
  - All injuries will be recorded using the specified reporting system. The nearest hospital location will be included in CEMP(s), identified as part of site induction with details to be posted on the wall of the main site office within each main compound area; and
  - Each site compound area to include a board which identifies the main roles and responsibilities on site including all first aiders and fire marshals.
- Health Care
  - Appropriate occupational health checks to be carried out in line with the regulations;
  - Mental health ambassadors to be available at all times during working hours either via telephone or present on site; and
  - Regular 'stand downs' to be held to 'check in' with staff on site and to discuss their health and wellbeing/any improvement which could be made.

## 4.8 Lay Down/Storage Areas

4.8.1 A number of temporary laydown areas/storage areas outside of the main construction site compounds will be used for the storage of materials and equipment, in order to reduce the number of vehicle movements required. These areas will be secured as is appropriate depending upon what equipment is being stored within them. They will

be removed, and the land restored as soon as reasonably practical after the completion of the works associated with them.

## 4.9 Site Lighting

4.9.1 A temporary lighting strategy for the construction period will be developed and incorporated into the CEMP. This will identify the type of lighting to be used, its location and the hours when it will be required.

4.9.2 Temporary lighting will be required during the construction period to ensure that construction work can continue safely and effectively during periods of the working day when there is insufficient natural daylight, where special circumstances working, or continuous working is required (see section 4.10 below).

4.9.3 Temporary lighting is likely to comprise the following:

- Mobile trailer-mounted, generator powered light plant. This will generally be used in connection with specific construction works such as works associated with the pipelines.
- More permanent site lighting will be used to light the construction compounds and certain working areas. The following types of lighting are likely to be used in these areas:
  - LED mounted floodlights;
  - LED street lanterns;
  - LED linear battens; and
  - LED wall luminaires.

4.9.4 Where possible lighting will be solar powered.

4.9.5 Construction lighting will be designed to ensure that any artificial light emitted from the working areas does not prejudice health or create a nuisance as required by the Environmental Protection Act 1990 and in accordance with The Institute of Lighting Engineers advice Note- Guidance Note 1 for the Reduction of Obtrusive Light Guidance (GN01) (2011) or any later revisions of this document published by the Institute and Advice Note 8; Bats and Artificial (2018). These measures will also reduce potential impacts upon the natural and historic environment.

4.9.6 Any road lighting will be designed to comply with the provisions of BS5489-1:2020 Design of Road Lighting. Lighting of Roads and public amenity areas - code of practice, where applicable.

4.9.7 Relevant local stakeholders will be consulted in respect of the proposed temporary lighting strategy as appropriate prior to its installation on site.

## 4.10 Working Hours

- 4.10.1 The Proposed Development will comprise a number of different working areas within which a range of construction activities will be carried out including the construction of a new WWTP, major shaft and tunnel construction and pipe laying along with a new outfall to the River Cam.
- 4.10.2 Table 4.1 below sets out the proposed working hours and describes the types of activity which would be carried out under each category. Some activities will require periods of working on a continuous 24 hour, 7 days a week basis.
- 4.10.3 Part B of the CoCP will confirm what working hours are proposed for each works area as well as identifying where further controls over working hours may be appropriate taking into account the proximity of sensitive receptors such as residential properties. These will be confirmed in the CEMP.
- 4.10.4 As set out under section 2, Anglian Water Services will require the Principal Contractor(s) to keep the local community regularly informed with regard to the construction activities taking place and the working hours associated with those activities. This will include notifying the local community and any other relevant stakeholders before an activity falling within the very special circumstances category takes place or before a period of continuous working commences. The notification will include a description of the activity which will be carried out and details of how long the activity will last.

**Table 4.1: Proposed construction hours**

Working Hours Categorisation	Description
<p>Winter core working hours (October to March)</p> <p>7am to 6pm Monday to Friday. 8am to 4pm Saturday.</p> <p>Daily mobilisation activities- Plus up to one hour before and after for mobilisation/maintenance activities i.e. 6am to 7pm Monday to Friday and 7am to 5pm Saturday.</p>	<p>These are the core hours that will apply to the majority of work areas and activities.</p> <p><u>Daily mobilisation/maintenance activities</u> These will include the following;</p> <ul style="list-style-type: none"> <li>- Arrival and departure of the workforce to the construction compounds.</li> <li>- Movement from compounds to the working areas (if parked engines shall be turned off and shall be considerate toward neighbours with no loud music or raised voices).</li> <li>- Site meetings (briefings in compound buildings) and quiet walk overs or site inspections.</li> <li>- Refuelling.</li> <li>- Site cleaning and maintenance (which does not require the use of</li> </ul>

Working Hours Categorisation	Description
<p><u>Summer core hours (April to September)</u></p> <p>6am to 7pm Monday to Friday            8am to 6pm Saturdays</p> <p>Daily mobilisation activities- Plus one hour before and after for mobilisation activities i.e. 5am to 8pm Monday to Friday and 7am to 7pm Saturday.</p>	<p>plant or hammering/banging).</p> <p>Longer working hours are proposed in the summer months in order to maximise the works which can be undertake in better weather conditions albeit that they may not be used every day.</p> <p><u>Daily mobilisation/maintenance activities</u>            These will include the following;</p> <ul style="list-style-type: none"> <li>- Arrival and departure of the workforce to the construction compounds.</li> <li>- Movement from compounds to the working areas (if parked engines shall be turned off and shall be considerate toward neighbours with no loud music or raised voices).</li> <li>- Site meetings (briefings in compound buildings) and quiet walk overs or site inspections.</li> <li>- Refuelling.</li> <li>- Site cleaning and maintenance (which does not require the use of plant or hammering/banging).</li> </ul>
<p>Very special circumstances extension for particular activities</p> <p>6pm to 10pm Monday to Friday            6pm to 10pm on Saturdays            8am to 2pm on Sundays</p> <p>These are more likely to be required during the first two years of the Proposed Development.</p>	<p>Extended working hours will be required for specific activities which it will not be possible to complete during the core working hours. The number of activities which will fall within this category will be limited and will not necessarily take place on consecutive days.</p> <p>The following activities falling within this category have been identified:</p> <ul style="list-style-type: none"> <li>- major concrete pours including base slabs;</li> <li>- Abnormal load delivery including those escorted by the Police;</li> <li>- Contract lifts i.e. lifting of pieces of equipment on crane.</li> </ul>
<p>Continuous Working Hours            0.00 to 0.00 Monday to Sunday</p>	<p>Certain specific construction activities will need to take place on a continuous 24-hour, 7 day a week basis. These have been</p>

Working Hours Categorisation	Description
	<p>identified as;</p> <ul style="list-style-type: none"> <li>- Tunnelling and underground work including the maintenance of underground machinery and plant. Essential surface support activities including the processing and handling of excavated material, shaft lifting operations, tunnel lining supply.</li> <li>- Where over pumping takes place 24 hour call out will be needed in order to respond to any issues should they arise.</li> <li>- Network Rail and/or National Highways are expected to stipulate a requirement for 24 hour working in relation to works under or adjacent to their assets.</li> <li>- Construction under the River Cam. Horizontal Directional Drill under the River Cam will need to be a period of continuous working in order to complete the drill shots.</li> </ul>
<p>Out of hours working</p>	<p>It would be beneficial to carry out the following activities outside of the core working hours in order to minimise disruption to the local community.</p> <p>The following activities are proposed:</p> <ul style="list-style-type: none"> <li>- Construction deliveries to utilise periods of low traffic flow -this will be set out in the CTMP;</li> <li>- works within the highway or footpaths;</li> <li>- Connections into Anglian Water’s existing network so that these can be done during periods of low demand;</li> </ul>

Working Hours Categorisation	Description
	<ul style="list-style-type: none"> <li>- Utility connections as required by the relevant statutory undertaker so that these can be done during periods of low demand.</li> </ul>
Short notice working for safety reasons	<p>There may be isolated occasions where works need to be made safe. This requirement could arise due to adverse weather or climate conditions.</p> <p>Due to their nature, it is unlikely that it would be possible to notify the local community before any works falling within this category take place but there would be a requirement for them to be explained to the local community as part of the regular liaison which the Principal Contractor(s) will be expected to undertake.</p>
Over running works	<p>Whilst every effort will be made to ensure that this does not happen there may be some occasions when a construction activity over runs and cannot be paused until it has been completed and/or made safe.</p> <p>Due to their nature, it will not be possible to notify the local community before any works falling within this category take place but there would be a requirement for them to be explained to the local community as part of the regular liaison which the Principal Contractor(s) will be expected to undertake.</p>

## 4.11 Tunnelling

4.11.1 The contractor responsible for tunnelling will be expected to follow and adhere to the Association of British Insurers/British Tunnelling Society's Code of Practice for Risk Management in Tunnelling.

## 4.12 Cranes and Other Temporary Tall Structures

4.12.1 All cranes will be operated in accordance with the requirements of CAP1096 (Guidance to crane users on the crane notification process and obstacle lighting marking).

4.12.2 All cranes, regardless of location, will be notified to the Civil Aviation Authority (CAA) by the Principal Contractor(s) prior to erection if at any point during the planned lifting operations the highest point of the crane or load would exceed 10m above ground level or the surrounding structures or trees (if higher).

4.12.3 Any other tall structures on site such as a concrete batching plant if required, will also be notified to the CAA and the operator of Cambridge airport and any safety recommendations incorporated into the site set up.

## 4.13 River Work

### **Outfall to the River Cam**

4.13.1 The new outfall structure will be constructed within a coffer dam located on the eastern bank of the River Cam. Sheet-piling is currently proposed to be used, with a reinforced concrete capping beam, to align, form and protect the riverbank immediately up and downstream of the outfall. The outfall structure is to be constructed of reinforced concrete using either cast-in-situ or precast techniques. The structure will include separate compartments for each of the outfall pipelines, each featuring access manholes and non-return valves. The riverbed, immediately in front of the outfall structure, will be re-profiled and protected with an anti-scour material (such as riprap).

4.13.2 Normal construction techniques will be used for the reinforced concrete works in the dry excavation with lifting provided by the crawler crane with a lattice jib.

4.13.3 Part B of the CoCP will include site specific measures for works associated with the construction of the new outfall.

### **Other River Crossings**

4.13.4 The new transfer tunnel and the Waterbeach pipeline will also need to cross the River Cam.

4.13.5 The new transfer tunnel will be constructed below the depth of the riverbed and will not therefore have any direct impact upon it.

4.13.6 It is proposed to install the Waterbeach pipeline where it crosses the River Cam via Horizontal Directional Drill (HDD) to avoid any direct impact upon the river.

#### **4.14 Other Watercourses/Drainage Channels**

4.14.1 The Proposed Development will involve the crossing of number of other watercourses/channels, notably the Waterbeach pipeline will also need to cross a number of other watercourse/channels.

4.14.2 Shallow ditches will be temporarily dammed and over pumped to maintain water flow whilst excavation works lay the pipe are undertaken. These will be reinstated promptly once the pipe has been laid. Larger ditches will be crossed using trenchless crossing techniques.

4.14.3 Where possible land drains will be avoided. If this is not possible then these will be repaired to a standard design. In localised areas where extensive damage is envisaged, it may become necessary to install a Pre and Post works land drainage system.

#### **4.15 Managing flows during existing Cambridge WWTP connection**

4.15.1 Current wastewater and storm flows to the existing CWWTP will need to be diverted at the inception shaft into the new transfer tunnel. It is currently proposed to temporarily over pump during construction of the new interception shaft. This will be removed once the new tunnel has been constructed.

#### **4.16 Cambridge Airport**

4.16.1 As set out above, the location and height of cranes and any other tall structures will be notified to the operators of Cambridge Airport (and the CAA as required). Detailed of temporary lighting will also be made available. Any appropriate adjustments or additional safety measures will be incorporated following this engagement. A Wildlife Hazard Plan will also be prepared. This will assess the potential for adverse impact during construction works if wildlife is attracted temporarily to the working area.

#### **4.17 Overhead lines**

4.17.1 Where work has to be carried out close to or underneath overhead lines this will be done in accordance with Guidance Note GS6 published by the Health and Safety Executive.

4.17.2 A risk assessment will be undertaken to eliminate the risk and if this is not possible to ensure that suitable control measures in line with GS6 are put in place, based upon the voltage of the line.

4.17.3 All workers will be briefed on the risks and provided with instructions about the risk prevention measures. All works will be directly supervised by someone who is familiar with the risks and who can make sure that the required safety precautions are observed.

#### **4.18 Rail and A14 Crossing**

- 4.18.1 The transfer tunnels and Waterbeach pipeline will need to be constructed under the Fen Line Railway. All works under and in close proximity to the railway line will be covered by a Basic Asset Protection Agreement (BAPA) which will be agreed with Network Rail. This will include confirmation of construction techniques, any monitoring requirements and any other mitigation measures.
- 4.18.2 The transfer tunnels and the Waterbeach pipeline will also both need to be constructed under the A14. All works under and in close proximity to the A14 will be agreed with National Highways. This will include construction techniques, any monitoring requirements and any other mitigation measures.
- 4.18.3 Both Network Rail and National Highways will also as part of these agreements specify when construction works can be carried out.

#### **4.19 Utility Works**

- 4.19.1 Anglian Water Services will require the Principal Contractor(s) to identify all utility diversions and new works required in the detailed design and to produce and agree schedules with the utility owners and relevant authorities in accordance with the DCO and other applicable legislation, and where appropriate, with the protective provisions.

## 5 Construction Roles and Responsibilities

### 5.1 General

- 5.1.1 The follow key construction roles and responsibilities have been identified to ensure that the impacts of the Proposed Development can be minimised. This is a draft list which will be kept under review and refined through the EIA process and DCO submission.
- 5.1.2 Final job titles may vary from those listed below but the key responsibilities under each role are not expected to alter materially.

### 5.2 Construction Project Director or similar

- 5.2.1 Given the scale of the Proposed Development, it is expected that a Project Construction Director will be appointed. The Project Construction Director will have overarching responsibility, under whom there will be a number of Site Managers who will be responsible for delivery of specific aspects of scheme i.e. the Waterbeach pipeline, the transfer tunnels etc.
- 5.2.2 The Construction Project Director will be responsible amongst other matters, for maintaining and updating the CEMP(s) where appropriate; ensuring environmental standards are adhered to and monitoring compliance during construction; carrying out regular monitoring and inspections of construction work activities; and undertaking staff induction courses on environmental issues.

### 5.3 Environmental Manager or similar

- 5.3.1 The Environmental Manager will be responsible for the interface between the environmental specialists and the contractors. The Environmental Manager will have primary responsibility for managing environmental issues through construction and post-construction monitoring and for obtaining any relevant licences and consents not secured when construction commences. There will be a series of specialists to support this role and the management of environmental issues on site, such as an Ecological Clerk of Works (ECoW).

### 5.4 Health and Safety Lead

- 5.4.1 A Health and Safety Lead will be appointed to support and advise the Construction Project Director and his/her team on health and safety matters as construction works are undertaken.

## 6 Management of the Environmental Effects

### 6.1 General

- 6.1.1 This section identifies a number of overarching general mitigation measures which are proposed to avoid and minimise the impacts of the Proposed Development during the construction period. The measures set out below are based upon standard industry guidance and best practice. The measures will be kept under review and refined prior to the submission of the DCO application as further design work is undertaken, through the EIA process and in light of feedback from stakeholders and the local community.
- 6.1.2 As set out under section 3.4 the measures outlined in this section will be supplemented by more detailed construction management plans and also refined by the site-specific measures to be set under in Part B of the CoCP.

### 6.2 Ecology and Nature Conservation

- 6.2.1 Detailed ecological/arboriculture surveys of the site have been or are in the process of being carried out. The results of these surveys will be used to inform construction techniques and where feasible, the timings of specific construction activities to avoid or minimise the impact of the scheme on habitats and protected species. All works will be carried out in accordance with the provisions of the Wildlife and Countryside Act 1981. At this stage, the following general approach is proposed.
- 6.2.2 Pre-commencement surveys will be undertaken before works start within each works area (based upon the works plans) to confirm the presence or absence of protective species. Further adjustments to construction techniques or the phasing of the works will be made if it is appropriate and feasible to do so following these surveys or any additional mitigation measures identified. Areas of habitat which could support protected species such as reptiles will be cleared sensitively in accordance with all relevance guidance including the reptile working method statement which will be prepared. An Ecological Clerk of Works will also be present where required.
- 6.2.3 If required, protected species licenses will be obtained from Natural England prior to any works starting within the area where the protective species has been identified. At this stage it has been confirmed that Natural England licenses will be required for badgers and water voles. The requirement for protected species licenses will be kept under review and informed by pre-commencement surveys.
- 6.2.4 As part of the site induction process the construction teams will be made of aware of the Natural England licenses and agreed working methodologies which are in place, along with the procedures to be followed should protected species be found during construction works.

- 6.2.5 If protected species are found during construction, then works will cease in the immediate area and the Environmental Manager will attend site to deal with the issue, with input from the Ecological Clerk of Works as required. Working will only recommence at the direction of the Environmental Manager (as advised by the Ecological Clerk of Works). This may require appropriate mitigation and compensation.
- 6.2.6 The measures outlined under sections 6.4, 6.5 and 6.8 below in respect of 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.
- 6.2.7 If feasible, suitable habitat for breeding birds, including hedgerows, will be cleared between October and mid-February (outside of the breeding bird season). Where this is not feasible, vegetation will only be removed after it has first been inspected by a suitably qualified ecologist. Any active nests will be retained along with a suitable buffer around them (to be advised by the Environmental Manager with advice from specialist advisors as appropriate i.e. from an experienced ornithologist in relation to any Schedule 1 bird species nests, along with any requirements for compensation.
- 6.2.8 If necessary, nests will be monitored during construction for signs of disturbance and if necessary, methods will be altered or works delayed preventing negative impacts to birds, their nests and any eggs or dependent young.
- 6.2.9 Where feasible measures will be put in place to ensure that any bat foraging/commuting habitat and retained areas of trees, hedge or scrub are adequately protected from damage or destruction during the construction phase of the Proposed Development.
- 6.2.10 As set out under 4.9 a temporary Lighting Strategy will be developed as part of the CEMP(s). This will be designed in accordance with the Institute of Lighting Engineers advice Note- Guidance Note 1 for the Reduction of Obtrusive Light Guidance and Advice Note 8 Bats and Artificial Lighting in order to seek to minimise any adverse impact upon sensitive receptors.
- 6.2.11 Where there is the potential for active badger setts to be damaged or destroyed by construction work or unacceptably disturbed i.e. by vibrations these will be closed using appropriate methods and timings subject to the necessary Licence from Natural England being obtained.
- 6.2.12 If there is the potential for badgers to be using the working area for foraging activities, then the following general measures will be put in place. These measures will also be relevant/appropriate for other protected species such as otters:
- Excavations will be closed overnight, or ramps / planks of wood used to provide a means of escape;

- Any chemicals will be stored in containers overnight and any spillages cleaned up immediately;
  - Site Operatives will be informed of badgers using the site through the site induction and a Toolbox Talk;
  - If appropriate and practical vehicles may be prevented from access certain areas which will be marked by fencing and signage;
  - Pipes over 120mm diameter will be capped off during storage;
  - Material or equipment which poses a risk of injury will be securely covered or fenced off, such as sharp objects or cement; and
  - In order to avoid attracting badgers to the site compound areas any food waste will be disposed of in appropriate bins or removed from site at the end of each day.
- 6.2.13 Existing trees, scrub and hedgerows which it is proposed to retain will be protected during construction works as will any early planting which is undertaken.
- 6.2.14 Tree/hedgerow protection details will be included on the Tree Protection Plan within the Arboricultural Impact Assessment. The type of protection proposed will depend upon the nature of the activity being undertaken but will accord with BS5837 Trees in relation to construction (2012) and National Utilities Group (NJUG) Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (2007).
- 6.2.15 Procedures will be put in place to deal with any non-native invasive species or injurious weeds which are found to be present within the working areas. These will be set out as part of the induction process and 'toolbox' talks.
- 6.2.16 In the event that non-native species or injurious weeds are found to be present on site the affected area will be clearly identified and fenced off. The area will not thereafter be disturbed until the Environmental Manager has been informed and the species/weeds appropriately dealt with.
- 6.2.17 Anglian Water Services will also require the Principal Contractor(s) to put in place appropriate biosecurity measures. As required, these will include the following:
- Construction staff and visitors will be expected to arrive on site with clean footwear and in a clean vehicle;
  - Requirement to keep to established tracks and park vehicles on hard standing where possible;
  - Use of facilities provided on site to clean footwear and equipment;

- Whenever possible allow footwear and equipment to thoroughly dry before reuse;
- Ensure vehicles are kept clean – in particular remove any accumulated mud;
- Measures to control and limit access to waterbodies;
- Keep contact time between equipment and raw water to a minimum.

6.2.18 New habitats and ecological features will be created as part of the mitigation to minimise likely significant effects arising as a result of the construction period. The Landscape, Ecological and Recreational Management Plan (LERMP), which is currently in the outline stage, is a site-specific document which identifies the immediate and long-term commitments to manage the planting, protection and enhancement of biodiversity and recreational areas.

### 6.3 Historic Environment

- 6.3.1 Detailed archaeological/built heritage surveys of the Proposed Development area are being undertaken. These include geophysical surveys, heritage setting surveys and intrusive archaeological evaluation. The results of these surveys and the ongoing assessment works will be used to inform the scheme's historic environment mitigation strategy which will be developed as part of the EIA process.
- 6.3.2 It is proposed that a detailed Archaeological Investigation Strategy will be developed in consultation with the Cambridgeshire Historic Environment Team. The Archaeological Investigation Mitigation Strategy will be produced in line with an archaeological brief, which will be issued by the Cambridgeshire Historic Environment Team. At this stage the following general historic environmental approach is proposed.
- 6.3.3 The general mitigation measures set out under Traffic and Transport (section 6.6) and Noise and Vibration (Section 6.7) will help reduce the impacts upon heritage assets during construction. Further asset specific temporary mitigation may also be identified as being required by the forthcoming mitigation strategies. Any such measures will be incorporated into the site-specific measures to set out in Part B of the CoCP/CEMP(s).
- 6.3.4 Where possible impacts to non-designated archaeological remains will be mitigated by avoidance of the identified areas. Where non-designated archaeological assets fall within a construction area but can be avoided by the construction works, a physical barrier will be installed around the asset at the commencement of the construction works and thereafter retained until works in that area are complete.
- 6.3.5 Details of the avoidance areas will be included in the Archaeological Investigation Mitigation Strategy.

- 6.3.6 Where non-designated archaeological assets are identified within the construction area and impacts cannot be avoided, archaeological investigation mitigation may be required. The details and areas where archaeological investigation is required will be set out in the [Archaeological Investigations Mitigation Strategy](#).
- 6.3.7 The archaeological investigations will be undertaken by an archaeological contractor appointed by Anglian Water Services, in advance of the construction works within that area commencing. The archaeological investigation works will be completed in line with an approved archaeological written scheme of investigation, provided by the chosen archaeological contractor. The archaeological investigations will be monitored by the Cambridgeshire Historic Environment Team and the scheme archaeologist/s on behalf of Anglian Water Services.
- 6.3.8 A chance find strategy will be developed for the construction phase. The strategy will comprise an archaeological briefing which will be included in the site induction and as part of the site procedures. The induction will include details on what to do if archaeological finds are encountered.

## 6.4 Land Quality

### Ground investigation

- 6.4.1 Ground investigation is currently being carried out. This includes an initial assessment of the potential for contamination. The results will be used to inform the design of the scheme and EIA process including the identification of any additional specific mitigation measures to avoid/reduce environmental impacts. This will be developed in accordance with the guidance contained in the Environmental Protection Act 1990 (Part IIA) and the Contaminated Land (England) Regulations 2000 (SI 2000/227) which set out the conditions under which land is to be regarded as contaminated. The steps within the Land Contamination Risk Management (LCRM) Guidance will be followed as the scheme progresses. These steps include the production of a Preliminary Risk Assessment and completion of an appropriate ground investigation, tiered stages of risk assessments together with an assessment of unacceptable pollutant linkages. Where such linkages are found then mitigation measures will include a remediation options appraisal and strategy to be agreed with the Environment Agency and relevant local authority.

### Contamination

- 6.4.2 Based on the Preliminary Risks Assessment for the Proposed Development, which includes a review of current and historic land uses, the likelihood of contamination being present is low.
- 6.4.3 However, it is suspected that there are potential areas of contamination within the existing Cambridge WWTP and at Waterbeach WRC. Following receipt of the ground investigation results any areas identified will be assessed in accordance with the LCRM Regulations as set out above and a mitigation plan created to manage the risk.

6.4.4 A Decommissioning Plan(s) will also be prepared. This will set out in detail how works to take the existing Cambridge WWTP and Waterbeach WRC out of service and to rescind the Environment Agency permits will be carried out to ensure that these activities do not result in harm to the surrounding environment. The plan will incorporate the general mitigation set in this CoCP as relevant and any other specific measures which will be applied.

#### **Unsuspected Contamination**

6.4.5 During the site works, and in particular during the initial below-ground works, the Principal Contractor(s) will be expected to carry out routine monitoring for contamination, e.g. the presence of odours and unusual staining, as well as oily, tarry or fibrous materials.

6.4.6 In the event that contamination which has not previously been identified is suspected, works in the immediate area will be made safe and secure and the event reported to the Construction Project Director and Environmental Manager.

6.4.7 An appropriate strategy will be developed to identify the most appropriate option for dealing with unsuspected contamination. This strategy will include the following:

- The Environmental Manager will be expected to liaise with the relevant local authority, the Environment Agency and other relevant statutory bodies to agree control or protection measures necessary to provide appropriate mitigation;
- Contamination issues will be recorded in the risk register, in accordance with the Construction (Design and Management) Regulations 2015, to protect affected parties;
- The Environmental Manager's contaminated land specialist will inspect the site and, where deemed necessary, arrange for further sampling and laboratory testing of soils or liquids. Further risk assessments to receptors will be carried out as necessary and reported to Anglian Water Services, the relevant local authority and the Environment Agency;
- A remediation strategy will be agreed with the relevant local authority, in consultation with the Environment Agency and any other appropriate body as required and works will not recommence in the affected area until and approach for dealing with the contamination had been agreed. This may involve sealing, excavating and disposing of soil or onsite remedial works; and
- A verification report will be submitted to the local authority and the Environment Agency once the agreed measures had been implemented as required.

### **Unexploded Ordnance**

- 6.4.8 A review of the Zetica unexploded bomb (UXB) risk maps has been undertaken. These indicated that the Proposed Development lies within a low-risk zone (defined as an area indicated as having less than 15 bombs per 1000 acres or less).
- 6.4.9 An UXO specialist will be consulted prior to works commencing on site to undertake a further assessment of the potential risks and any appropriate mitigation identified.
- 6.4.10 The Environmental Manager will also be expected to develop a UXO mitigation strategy in accordance with a Guide for the Construction Industry (CIRIA, 2009). The strategy will utilise information from the Explosive Ordnance Threat Assessment Report (Bactec, 2013). All contractors and subcontractors will be expected to adhere to this.

### **Asbestos**

- 6.4.11 Whilst no demolition works are proposed as part of the construction activities to be carried out under the scope of the Proposed Development, works will be required to take out of service the existing Cambridge WWTP and Waterbeach WRC.
- 6.4.12 This is likely to entail entering and altering Motor Control Centres (MCCs) and Primary Local Controls (PLCs) which may have asbestos in them. Measures will be put in place in accordance with the Control of Asbestos Regulations 2012 and associated approved codes of practice including Asbestos: The Survey Guide Health & Safety Executive guidance, HSG264 (2012) to ensure that this is done safely. These measures will be set out in the Decommissioning Plan.
- 6.4.13 Asbestos can, also occur naturally within soils. Whilst this is not anticipated, based upon the results of the ground investigation carried out to date, procedures will be put in place should it be uncovered during construction in line with the Control of Asbestos Regulations and associated approved codes of practice referenced above.

### **Contamination from Site Activities**

- 6.4.14 There is the potential whilst construction activities are undertaken for these to result in contamination. The following general measures will be put in place to minimise these risks. Any specific risks which may be identified through either further site investigation works, or the EIA process will be set out in Part B of the CoCP/CEMP(s).

### **Personal Protective Equipment (PPE)**

- 6.4.15 All construction staff and visitors will only be permitted access to the working area with the correct personal protective equipment. This will include high visibility clothing, safety boots, hard hat, safety glasses, gloves and ear defenders/plugs for noisier activities.

## Spillages

6.4.16 Measures will be put in place to prevent and control the spillage of oil, chemicals and other potentially harmful liquids in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 and Dangerous Substances and Explosive Atmospheres Regulations 2002. This will include a risk assessment to identify, eliminate or mitigate the risk and ensure suitable control measures are in place.

6.4.17 Control measures will be set out in the Emergency Preparedness Plan (4.5 refers) and will include but not be limited to;

- where feasible the storage of oil will be avoided within 50 metres of a spring, well or borehole, and within 10 metres of a designated watercourse or where oil could run over hard ground into a watercourse;
- Storage containers will be required to have sufficient strength and structural integrity to ensure that they are unlikely to burst or leak in ordinary use. Secondary containers and bunding will be used where required by the Regulations;
- The base and walls of the secondary containment will be required to be impermeable to water or oil. The base or walls will not be permitted to be penetrated by any valve, pipe or other opening which would be used for draining the system. The base and walls of the secondary containment will not be permitted to be penetrated by any valve, pipe or other opening used for draining the system. Any valve, filter, sight gauge, vent pipe or other equipment ancillary to the container (other than a fill pipe or draw pipe) will be required to be situated within the secondary containment. Where a fill pipe would not be within the secondary containment system, a drip tray/plant nappy will be used to catch the oil spill when the container is being filled;
- Avoidance of storage of non-bio-degradable oil in areas at risk of flooding or where this is necessary oils will be stored above the flood levels;
- All containers will be marked with their contents and capacity;
- Suitable spill kits and containment will be made accessible including drain seals/filter membranes and chemical spill kits;
- Pipe and steel valves will be protected against frost damage;
- Movement of fuels will be risk assessed and suitable controls put in place to transport diesel/petrol from the fuel storage tank/bowser to the plant/equipment. Measures (i.e. plant nappies) will be put in place when these are filled from bowzers to ensure that the risk of ground contamination is minimised. Cans will be transported to the plant/equipment on a plant nappy, upright in a vehicle to minimise manual handling; and

- Only approved containers will be used to transport diesel/petrol. These will be UN approved with suitable markings and labelling. If this activity includes use of the public highway, then the requirements of The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 will be applied.

6.4.18 As set out above, measures to ensure that decommissioning activities do not result in spillages or contamination risks will be set out in the Decommissioning Plan(s).

### **Refuelling**

6.4.19 Refuelling of machinery will only be undertaken within designated areas (unless expressly stated within the CEMPs which will be prepared) where spillage can be more easily contained. The following measures will also be put in place: -

- All containers will be labelled with their contents and spill kits will be made available. Drip trays/plant nappies will also be made available. Refuelling will be undertaken in accordance with refuelling plans to be prepared by the Principal Contractor(s) and approved by the Environmental Manager as part of the CEMP(s);
- Only trained staff will be permitted to carry out refuelling and all personnel doing so will be provided with the necessary safety equipment including Personal Protective Equipment (PPE);
- Prior to delivery, the fuel delivery company/driver will be given a briefing on any environmental, safety risks and emergency procedures associated with the Proposed Development;
- Delivery points will be clearly marked with the tank contents and maximum tank capacity and secured when not in use;
- When refuelling, if the storage tank and trailing hoses infringe on walkways/access areas then an exclusion zone will be installed using barriers. Pedestrians will be notified of alternative routes or escorted through the area;
- Non-return (check) valves and sealed connections will be used where appropriate along with protect filling points to prevent overfilling;
- All diesel and oil storage facilities will be locked to prevent un-authorized use. A spill kit and fire extinguisher will be kept in close proximity to the fuel storage location. A 'Refuelling Do's and Don'ts' poster will be displayed at the refuelling location;
- Any spillages will be reported to the relevant Site Manager and cleaned up immediately; and
- Machinery will be routinely checked to ensure it is in good working condition.

### **Drilling Fluid Breakout**

- 6.4.20 The Proposed Development involves the installation of new sections of pipeline. It is proposed that some sections be installed via Horizontal Directional Drill (HDD).
- 6.4.21 This is a standard construction technique for the installation of pipelines within the water and waste industry and the risks associated with it are considered to be low. There is, however, the potential for 'breakouts' (of the drilling fluid) to occur so a number of pre-cautionary measures will be put in place.
- 6.4.22 An assessment of the risk of a breakout occurring will be carried out by the Specialist Drilling Contractor before any drilling begins, and all sensitive receptors identified i.e. watercourses, drains, public highways, water supplies, boreholes. A plan/map will be produced along with details of mitigation measures to be put in place in the event of a breakout. This will include an emergency phone number list. This information will be made available to everyone working on the drilling operation.
- 6.4.23 Where feasible, mitigation measures will be put in place before the drilling begins. Such measures include bunding watercourse banks with sandbags or bales and terram to stop the drill fluid from reaching a watercourse and/or river in the event of a breakout on the banks. Where this is not practical, the mitigation will be stored in close proximity (e.g. bowsers, pumps).
- 6.4.24 Monitoring will be undertaken whilst each drill shot is carried out. The primary detection method for potential mud breakout will be the continuous monitoring of drilling mud pressures and volumes while the drilling rig is operating. This will take place along the line of the drill and in the immediate area. The monitors will be required to be in direct contact with the drilling crew via radios to establish progress and where the drilling head is located.
- 6.4.25 If a breakout does occur this will be reported to the drill crew and all drilling will stop immediately. If not already in place, the spill will be contained by constructing a bund and sump where necessary from earth or sandbags. Drilling fluid will be recovered from the bund using a vacuum tanker or pump. The drilling fluid will be discharged into the entry pit for recycling. The breakout will be allowed to seal before drilling is restarted unless it is clearly contained within the banded area.
- 6.4.26 If a breakout occurs this will be reported to the Environmental Manager and escalated. Anglian Water Services will be notified and will report the incident to the Environmental Agency in accordance with the Pollution Incident Control Plan.
- 6.4.27 Implementation of measures to protect groundwater during construction, including good environmental practices, will be based on legal responsibility and guidance on good environmental management guidance in CIRIA C532 Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (CIRIA, 2001).

## Soil Management

6.4.28 A Soil Management Plan will be produced. This will set out further measures to protect soil quality in accordance with the Code of Construction Practice for the Sustainable Use of Soil on Construction Sites (DEFRA 2009) and will be incorporated into the CEMP(s).

6.4.29 Topsoil and subsoil will need to be stored during the construction period. The amount of time which storage is required for will be dependent upon the works being undertaken.

6.4.30 The following general mitigation measures will be put in place to protect soil quality, in accordance with the Code of Practice: -

- Vegetation will be cleared before soil is stripped;
- Soil handling work will only be undertaken in suitable weather conditions will be aborted if the weather is not appropriate i.e. in periods of heavy rainfalls, snow or if the soil is frozen;
- Topsoil, lower sub soil and upper subsoil will be stored separately;
- Wet and dry soils will be stockpiled separately;
- Stockpiles will not exceed 3-4 metres in height;
- Compaction by machinery will be avoided;
- Topsoil and subsoil will be reinstated in the correct horizon order specific to that area as is standard practice for pipelaying in the water and wastewater industry. This will also be done in consultation with the landowner;
- Subsoil will be ripped where necessary prior to reinstatement;
- Topsoil and subsoil will be replaced as soon as is practically possible;
- Stockpiles will be sprayed as required to prevent growth of weeds;
- Excess arisings will be removed and re-used in construction of the bund or in other local developments where feasible rather than removed off site;
- In areas where new landscaping is proposed the topsoil will be mixed as is appropriate to ensure it is suitable for the species to be planted in accordance with the British Standard BS3882:2007 Specification for Topsoil.

## 6.5 Water Resources and Flood Risk

- 6.5.1 Mitigation measures and best practice will be applied prior to and during construction to protect hydrological receptors and to prevent increased flood risk both on and off site.
- 6.5.2 As set out under section 3.4 a Construction Water Quality Management Plan will be prepared. This will set out requirements to protect water quality in surface and ground water during construction such as controls for site run-off and/or dewatering to protect watercourses from sediment release and buffers from watercourses.
- 6.5.3 As set out in Section 6.4 a Decommissioning Plan(s) will be prepared. This will set out amongst other matters how decommissioning activities will be managed to prevent pollution to the water environment.
- 6.5.4 A Commissioning Plan(s) will also be prepared. This will set out in detail how the new infrastructure will be commissioned prior to be brought into operational use. The plan will include amongst other matters how water used within the commissioning process will be disposed to ensure that it does not pollute the surrounding environment.
- 6.5.5 The Principal Contractor(s) will also be required to have in place appropriate approvals and consents from the relevant regulatory body or statutory undertaker for works which could affect any surface water or ground water resources before construction commences in that area or before the start of the activity to which the approval relates.

### Protection of Surface Water, Ground Water and Aquifers

- 6.5.6 A number of the measures identified in section 6.4 will help protect water quality. In addition, the following general mitigation measures will be put into place:
- Where feasible the storage of materials and plant will be avoided within 50 metres of a spring, well or borehole, within 10 metres of a designated watercourse including the River Cam or where there is the potential for run off over hard ground into a watercourse;
  - Watercourses and land drains will be identified before construction works in that area commence and regularly checked for signs of silt. If evidence of contamination is found, measures will be put in place to stop the pollution with a physical block i.e. a bund or drain seal and the activity causing the pollution will be ceased. The incident will be reported to the relevant Site Manager and the Environmental Manager for corrective action and reported to Anglian Water Services who will notify any other relevant bodies in accordance with Pollution Incident Control Plan;

- Where feasible concrete lorries will return to their supplier or batching plant for wash out. Concrete wash out skips if required on site will be lined and located at least than 50 metres from a borehole or 10 metres from a watercourse or surface water drain. They will be placed on hardstanding or on the ground with plastic and membrane containment and clearly marked to avoid cross contamination. Any wash out areas within the working areas will be inspected weekly by the Site Manager to ensure there are no leaks or overflows. The pH of the wash out water will also be monitored;
- Only suitable concrete mixes will be used in watercourses;
- Any cement bags will be sealed and stored appropriately to prevent leaks or dust;
- Surface water drainage around any batching plants will be controlled. This will include an appropriately designed and designated wash out area. The water will be disposed of appropriately and any necessary Environmental Permits obtained before the batching commences; and
- Where required adequate dewatering will be undertaken during excavation activities or construction of subsurface features and foundations. Construction techniques may also be reviewed to determine whether an alternative approach is more appropriate.

### **Management of Silt During Construction**

6.5.7 Silty water can arise from excavations, exposed ground, stockpiles, plant and wheel washing, and site roads and has the potential to result in pollution incidences.

6.5.8 The following measures will be put in place to seek to prevent this from occurring:

- Silty water will be diverted away from watercourses and drains through the use of physical measures such as sandbags and trenches. If necessary, cut off trenches will be put in uphill of excavations / stripped soil area to divert rainwater;
- Where practical, vegetation corridors will be left adjacent to watercourses to act as 'buffer strips' and filter out silt before the water reaches the watercourse;
- Stabilisation measures will be put in place along the River Cam adjacent to the proposed new outfall and any other significant watercourses where these need to be stripped of vegetation to prevent erosion for example, by putting down biodegradable sheets and seeding with clover or fast-growing grasses;
- Bog mats, tracking or other appropriate surfacing will be laid where appropriate, to prevent the churn of soil from vehicle and plant movements which could lead to silty run-off in poor weather conditions;

- Stockpiles (waste spoil and imported materials) will be appropriately stored and so far as is possible located on level ground;
- All sensitive receptors such as open drains, land drains and watercourses will be identified before works commence. Where appropriate, measures identified in Sections 6.4 and 6.5 will be put in place to protect them during construction works;
- No more land will be stripped than is required;
- Sites access routes and Haul routes within the workings area will be kept free from mud and dust to minimise silty runoff;
- All washing down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses and groundwater. Oil interceptors will be installed if required;
- Designated concrete wash out area will be set up where required; and
- Materials free from contamination will be used to avoid potential contamination of local surface water flow paths (see section 6.9).

#### **Dewatering (Permit to Pump)**

6.5.9 Where construction activities require it, a Permit to Pump will be obtained from the Environment Agency. Dewatering will thereafter be undertaken in accordance with all specific requirements of the permit.

6.5.10 The following additional provisions in accordance with the Environmental Permitting Regulations (2016 as amended in 2018 and any subsequent amendments which may come into practice) will also be put in place in relation to groundwater dewatering activities:

- Records of water pumped (volume and quality to sewer and/or watercourse) will be kept at all dewatering sites as required under the terms of a permit;
- Water quality at all dewatering sites will be monitored, applying a risk-based approach appropriate to the location. Visual inspection of the discharged water at an agreed frequency will be carried out to ensure that excessive suspended solids are not present in the discharge. Turbidity testing will also be carried out. Pumping will cease immediately (without risk to site personnel and equipment) if polluted discharge is noted. The frequency will be specified within the Water Quality Management Plan; and
- Discharge rates and location of discharge points will be agreed with the Environment Agency or another other relevant body as required.

#### **Private Water Supplies/Boreholes**

6.5.11 Works will be carried out within the vicinity of a number of private boreholes. The EIA process will assess whether the Proposed Development is likely to have any impact upon these during construction. Any further mitigation measures which may be required in addition to those set out above will be set out in Part B of the CoCP and the CEMP(s).

### **Flood Risk**

6.5.12 Some construction works will take place within flood zones 2 and 3.

6.5.13 A Flood Risk Assessment (FRA) will be prepared as part of the DCO submission along with a Construction Water Quality Management Plan. This will set out measures to avoid and minimise potential impacts to the Proposed Development during construction from flooding along with measures to prevent any significant effects on the existing flood risk in the surrounding area.

6.5.14 Construction activities will be undertaken so as to avoid any significant increase of flood risk. Appropriate measures will be implemented by the Principal Contractor(s) to prevent, so far as is reasonably practicable, damage to equipment or the works during potential flooding events. These measures may include:

- Reducing constraints to the River Cam as much as possible;
- Identifying suitable access and safe refuges for use in the event of a flood;
- making available appropriate maintenance access to watercourses and associated flood risk structures, if required; and
- If soil is stored temporarily within the flood zone, then gaps will be made in the bunds to allow flood water to run through.

6.5.15 The Principal Contractor(s) will consult with the Environment Agency, Lead Local Flood Authority and any other relevant risk management authorities in respect of the flood risks in the preparation of the Emergency Preparedness Plan and Pollution Incident Plan. This will include use of the Environment Agency's Floodline flood warning service for works within areas at risk of flooding.

6.5.16 Any further additional site-specific measures will be set out in Part B of the CoCP.

### **Water Conservation/Reuse**

6.5.17 Anglian Water Services will require the Principal Contractor(s) to put measures in place to manage and where possible minimise water usage during construction. This will include the following:

- measurements of potable water consumption;
- targets and procedures for reporting water consumption;

- measures for improving the water efficiency of construction site facilities; and
- Consideration of alternatives to the use of potable water where practical and feasible.

## 6.6 Traffic and Transport

6.6.1 There is the potential for construction works to adversely impact highway safety and users of the surrounding road network. The following measures will be put in place to minimise the potential impacts upon road users both motorised and non-motorised

### **Construction Traffic Management Plan (CTMP)**

6.6.2 A Construction Traffic Management Plan (CTMP) will be prepared and secured through the DCO requirements.

6.6.3 A draft CTMP has been prepared to inform PEIR.

6.6.4 When finalised this will set out measures to ensure that the identified construction access routes are complied with and the strategies which are being considered to reduce the impact of the Proposed Development upon the local highway network including hours of deliveries.

### **Construction Employee Travel Plan (CETP)**

6.6.5 In addition to the CTMP, a Construction Employee Travel Plan (CETP) will be prepared. This will set out the measures which will be put in place to encourage construction workers to use more sustainable travel modes, to reduce single occupancy vehicle trips and will investigate the potential for flexible working patterns to facilitate travel outside of the peak periods. The contractors appointed by Anglian Water Services will be expected to sign up to the Travel Plan and promote the measures set out therein.

### **Traffic Management Measures**

6.6.6 Some traffic management measures may require Traffic Regulation Orders (TROs) under the Road Traffic Regulation Act 1984 to cover measures such as road closures, banned turns and temporary speed limits.

6.6.7 At this stage it is anticipated that such measures will be identified within the schedules of the DCO. If this is not possible in all cases at the time of submission, then applications will be made to the relevant highway authority in advance of the works to which the application relates commencing. Anglian Water Services will assess the overall traffic impacts from the development and ensure that, where required, traffic management is coordinated.

6.6.8 Should any temporary road closures or partial closures be required these will be communicated in advance to the local community in accordance with the Community Liaison Plan.

6.6.9 In accordance with the New Roads and Street Works Act (1991) the Principal Contractor(s) will be expected to apply to the relevant Highway Authority for approval for all temporary road signs on the public highway before any such signage is displayed.

### **Highway Restoration**

6.6.10 Pre and post construction surveys will be agreed with the Local Highway Authority as required. Where temporary alterations are required, the highway will be restored to the same condition as before the works took place or to a standard which is acceptable to the Local Highway Authority.

### **Public Rights of Way**

6.6.11 The proposed construction works will impact a number of Public Rights of Way (PRoW). Measures will be put in place to manage the impact upon users of the PRoW during the construction period.

6.6.12 Where practical and feasible continued access to and use of the PRoW will be facilitated in order to minimise the number of diversions required. Safety gates will be put in place and users allowed to safely cross the working area.

6.6.13 Where this is not feasible or would create a safety issue, the PRoW will either be temporarily diverted or if the route cannot be diverted temporarily stopped up. All closures and diversions will be agreed with the Local Highway Authority. Details of proposed diversions will be set out in Part B of the CoCP.

6.6.14 In accordance with the New Roads and Street Works Act (1991) the Principal Contractor(s) will be expected to apply to the Local Highway Authority for approval for all temporary road signs on the public highway before it is displayed.

6.6.15 Anglian Water Services will require the Principal Contractor(s) to adhere to the following guidelines:

- Suitable diversion routes will be identified and approved prior to the commencement of the work. The length of these and the time they are required for will be minimised and they will, as far as is reasonably practicable, be maintained to a comparable standard of those that they replace;
- Suitable signage and barriers for diversion routes will be provided;
- Local residents and businesses will be provided with details of the diversion route and dates/ durations. As far as practicable, this information will be provided a minimum of two weeks in advance of the diversion being brought into use although, exceptions will apply in the case of emergency works; and
- All diversions will be fully accessible and comply with the requirements of the Disability Discrimination Act 1995 as far as practicable and in the context of the route to be temporarily diverted.

6.6.16 All PRoWs will be restored to the same condition as before the works took place or to a standard which is acceptable to the Local Highway Authority.

6.6.17 New recreational facilities including the provision of new footpaths will be provided in order to improve access throughout the countryside and provide additional links in the existing network. The creation and management of these areas is covered within the LERMP.

### **Road Cleanliness**

6.6.18 It is acknowledged that the construction works have the potential to result in mud or other debris being deposited onto the public highway, resulting in highway safety issues. It is also an offence under Section 148 of the Highways Act 1980 to deposit mud or other debris which may interfere with other road users.

6.6.19 Every effort will be made to prevent mud from being tracked onto the public highway. The following hierarchy of measures has been identified. Drive through wheel washes will be used in the event that all of the measures identified within the hierarchy are not sufficient to keep road surfaces clean.

6.6.20 The Principal Contractor(s) will be required to adhere to this hierarchy and to introduce additional measures if instructed by Anglian Water Services: -

- All vehicles will be correctly loaded and covered where necessary to avoid spillage on the journey;
- Hardstanding/track mats will be laid at the access and egress points to the working areas if required due to the weather or due to the nature of the use of the access/egress i.e. it will be heavily trafficked;
- An appropriate road sweeper will be employed (for smaller accesses this may be a person with cleaning equipment);
- Cattle grid or similar matting will be laid;
- A high-pressure jet wash or similar will be used; and
- A drive through wheel wash will be installed.

## **6.7 Noise and Vibration**

6.7.1 There is the potential for construction works to impact upon the local community along with the natural and historic environments as a result of noise and vibration.

6.7.2 Noise and vibration impacts will be assessed as part of the EIA process and a Noise and Vibration Management Plan prepared. This will detail the environmental controls and environmental protection measures including best practicable means (BPM) which will be implemented to prevent significant adverse effects and to minimise construction noise and vibration impacts.

6.7.3 Part A of this CoCP sets out a framework for the control of noise and vibration during construction, outlining a number of general mitigation measures which will be implemented to reduce disturbance to sensitive receptors as far as is reasonably practicable. Specific measures will be set out in Part B of the CoCP.

#### **General mitigation measures**

6.7.4 Construction works will be undertaken in accordance with best practicable means (BPM) as defined by the Control of Pollution Act 1974 (CoPA) and the Environmental Protection Act 1990 (EPA). As part of BPM, the following will be applied:

- Where possible, noise and vibration will be controlled/reduced at source; and
- Working methods will be changed or amended where it is feasible to include equipment and operational activities which produce less noise.

6.7.5 The following general measures which will help to reduce noise levels at source (where they are produced) will be applied:

- Construction activities will take place in accordance with the proposed working hours set out under Section 4.10;
- Equipment will be switched off when not in use and operators expected to avoid unnecessary revving of engines;
- Site access routes to the working areas will be maintained;
- Where feasible one-way traffic systems will be put in place to minimise the annoyance caused by vehicle reversing alarms;
- Rubber linings will be used where feasible for example on chutes and dumpers to reduce impact noise;
- The drop height of materials, such as aggregate from a wagon will be minimised;
- Appropriate plant and equipment will be selected and where possible plant with noise control measures e.g. silencers, mufflers and acoustic shrouds will be used;
- The location of plant and equipment on site will be considered and located as far as is practically possible from sensitive receptors;
- Plant will be regularly and effectively maintenance by trained persons;
- Plant will be CE marked with a sound power level where feasible e.g. generators, pumps, auger machines, compressors etc; and

- Plant and machinery in intermittent use will be shut down or operated in a minimum idling condition whenever not required.

6.7.6 Fencing specifications and requirements will be reviewed and amended to solid hoardings where potential impacts are identified through the EIA assessment process.

### **Reducing Vibration**

6.7.7 The following general measures will be used to reduce potential adverse vibration impacts:

- The distance between the vibration source and receiver will be maximised as far as is practicable;
- Construction methods will be kept under review to determine if the impact can be reduced through an alternative method of construction;
- Plant and machinery with a low frequency vibrational output will be switched to that with a higher frequency output if practical;
- Plant will be located as far as possible on non-saturated ground;
- Anti-vibration mountings will be used where practical; and
- Haul roads will be kept as smooth as possible and maintained to reduce vibration impacts from heavy plant.

6.7.8 Anglian Water Services will also give consideration to the use of S61 notices under the CoPA. The right to use such notices will be included within the DCO.

6.7.9 If used the notices will set out BPM measures to minimise construction noise and vibration, including control of working hours, and provide a further assessment of construction noise and vibration, including confirmation of noise insulation/temporary rehousing provision.

6.7.10 The provision for noise insulation or temporary rehousing measures will also be reviewed during the EIA process with relevant stakeholders and any site specific measures identified in Part B of the CoCP.

6.7.11 Anglian Water Services will require the Principal Contractor(s) to undertake and report monitoring as is necessary to assure and demonstrate compliance with all noise and vibration commitments. This information will be made available to the Local Planning Authority on request.

6.7.12 In accordance with the Community Liaison Plan the local community will be notified by the Principal Contractor(s) prior to the start on site of works which are likely to result in noise impacts or produce vibrations. This will include details of how long the activity is likely to last.

## 6.8 Air Quality

- 6.8.1 Gaseous and particulate pollutant emissions to the atmosphere from vehicles and plant used on the site and dust from construction activities have the potential to result in adverse impacts upon air quality. Measures are therefore proposed to ensure that the impacts upon air quality receptors can be minimised during the construction period.
- 6.8.2 The Principal Contractor(s) will be expected to comply with the provisions of the Health and Safety at Work Act 1974, the Environmental Protection Act 1990, the Environment Act 1995, the Clean Air Act 1993 and the regulations made thereunder, including the Control of Substances Hazardous to Health Regulations (SI 2002/2677).
- 6.8.3 Part A of this CoCP sets out a framework for the control of air quality during construction, identifying a number of 'standard' mitigation measures which will be implemented whilst construction work takes place.
- 6.8.4 The following mitigation plans which will be prepared will also help to mitigate any air quality impacts:
- Air Quality/Dust Management Plan;
  - Construction Traffic Management Plan (CTMP); and
  - The Construction Environmental Management Plan (CEMP).
- 6.8.5 Any site-specific impacts identified through the EIA process which require additional mitigation will be set out in Part B of the CoCP.
- 6.8.6 Construction dust effects will be mitigated proportionally, using the recommendations within the IAQM 'Guidance on the assessment of dust from demolition and construction'.
- 6.8.7 The mitigation measure recommended will depend on the level of dust risk identified at local receptors.

### General measures

- 6.8.8 The following general measures will be put in place: -
- The contact details of person(s) accountable for air quality and dust issues on the site will be displayed in prominent locations within the working area; and
  - As set out under section 2 a Community Liaison Plan will be developed. This will outline amongst other matters, how the local community will be kept informed as construction progresses and how any complaints or issues will be dealt with.

### Site management and monitoring

- 6.8.9 The following site measures will be put in place: -

- Regular inspections will be undertaken by the Principal Contractor(s) to monitor compliance with the Air Quality/Dust Management Plan. The inspection results will be recorded, and an inspection log made available to the Local Authority when requested. It will include regular dust soiling checks of surfaces such as street furniture and cars and within 100 m of the construction working areas. Cleaning will be provided if necessary. The frequency of these inspections will be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions;
- All dust and air quality complaints will be recorded, the causes identified, and appropriate measures taken to reduce emissions in a timely manner. The measures taken will also be recorded and the information made available to the Local Authority on request;
- A complaints log will be made available to the Local Authority when requested;
- Machinery and dust causing activities will be located as far away from receptors as is possible;
- Consideration will be given to the use of solid screens or barriers when activities will a high potential for dust generation are carried out;
- Materials which have the potential to produce dust will be removed from site as soon as possible, unless being re-used on site. If they are being re-used on-site, they will be covered or stored in locations where there is less potential for impact;
- Stockpiles will be positioned as far as practicable from residential areas and at least 10 metres from watercourses where practical;
- Vehicle engines will be switched off when stationary;
- The use of diesel or petrol- powered generators will be avoided where possible and mains electricity, solar or battery powered equipment used where practicable;
- Where required, access routes to the working area will be hard paved or track matting used. Heavily used part of the working areas for the proposed WWTP or the tunnel shafts will also be hard paved;
- Access routes to the working area will be kept clean in line with the mitigation hierarchy set out under section 6.6 above;
- A maximum-speed-limit of 15 mph on surfaced and 10 mph on un- surfaced access routes or work within the working areas will be imposed (if there are long stretches speeds may be increased; and
- Lorries carrying dry material off site will be sheeted.

## Construction Activities

6.8.10 The following general measures will be put in place:

- Cutting, grinding or sawing equipment will be fitted with or used in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;
- Adequate water supplies will be made available effective dust/particulate matter suppression/mitigation;
- Surfaces will be swept and damped down with water at regular intervals as required. Site fencing, barriers and scaffolding will be kept clean using wet methods;
- Enclosed chutes and conveyors and covered skips will be used;
- Drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment will be minimised, and fine water sprays used on such equipment wherever appropriate;
- Equipment will be made readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods;
- Avoidance of scabbling (roughening of concrete surfaces);
- Sand and other aggregates will be stored in designated locations and not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. These will be banded if it is appropriate to do so based upon best practice guidance and the regulations in place at the time construction commences;
- Bulk cement and bentonite will be stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery;
- Concrete bags will be sealed and stored to prevent leakage and dust; and
- No bonfires and/or burning of waste materials will be permitted on site.

## Vehicle and plant emissions

6.8.11 The Principal Contractor(s) will be expected to ensure that the adverse effects of vehicle and plant emissions are controlled and minimised as far as is practical. The following general measures will be put in place to minimise emissions and avoid nuisance:

- the engines of all vehicles and plant onsite will be turned off when not in use;

- low emission vehicles and plant will be used as far as possible; and
- movement of construction traffic around the working area will be minimised as far as possible.

### **Construction Odours**

6.8.12 In general, it is not anticipated that construction activities will give rise to any significant odour impacts although the following activities may give risk to some odour impacts:

- Activities relating to connections to existing sewer network;
- Over pumping of the flows from the existing WWTP during construction of the tunnel;
- Commissioning of the proposed WWTP; and
- Decommissioning works to take the existing Cambridge WWTP and Waterbeach WRC out of service and to rescind the existing Environment Agency permits.

6.8.13 Part B of the CoCP will set out how potential odour impacts arising from activities associated with connecting into and diverting existing sewers will be managed.

6.8.14 Potential odour impacts arising from commissioning and decommissioning activities will be assessed as part of the EIA process and measures to minimise impacts set out in the Commissioning and Decommissioning Plans respectively.

## **6.9 Waste Management and Resource Use**

6.9.1 Measures will be put in place to manage waste during the construction process. These will be used to reduce the amount of waste which the Project produces and to ensure that materials being imported or removed comply with all necessary legislative requirements.

6.9.2 A Site Waste Management Plan will be prepared through the EIA process. This will include more detailed information relating to measures for managing wastes likely to be generated from the construction of the Project and along with how waste will be managed to meet legislative and policy requirements in line with the Waste Hierarchy. The following general principles will be adhered to.

### **Importing of materials**

6.9.3 Any materials imported during construction works will be checked on arrival to ensure that the relevant certificates are in place. This will include a requirement for the supplier to prove they are licenced to process waste into aggregate (and hold a waste permit or exemption) and that the material is fit for purpose and meets required specification. Visually inspections will also be carried out.

6.9.4 Prior to accepting the material, the Site Manager will be informed by the supplier/ subcontractor of the following information:

- Site name and address from where the material has been obtained;
- Confirmation that the method of production for recycled aggregates is in accordance with the WRAP Quality Protocol;
- Confirmation that the production of topsoil / subsoil has been undertaken at an appropriately licensed or exempt facility;
- Any change to the source in advanced of its delivery to site; and
- If recycled materials are being supplied for more than 6 months, or where deliveries are over 6 months apart, further testing records will be requested.

6.9.5 A rejection procedure will be put in place in case of non-conformance. The supplier / sub-contractor will also be required to leave a copy of the delivery ticket for each load.

#### **Waste Storage and segregation**

6.9.6 The following measures will be put in place to control how waste is stored on site to reduce the potential for contamination.

- Waste will be stored in designated areas isolated from surface drains, watercourses and settlement facilities. Liquid wastes would be stored on impermeable surfaces which are bunded;
- Suitable containers for their contents will be used and inspected to make sure they are not corroded, and the contents will not leach out;
- Where possible, skips will be covered to prevent dust, wind-blown litter and rainwater accumulation. These will be inspected regularly and replace when full. All skips will be clearly labelled to allow for the segregation of waste with reduced levels of contamination;
- Different types of waste will be segregated;
- Dedicated bins for any hazardous wastes will be made available; and
- Where necessary an Environmental Permit or Waste Management Licence will be obtained.

#### **Waste minimisation**

6.9.7 The following measures will be put in place to minimise the amount of waste being generated:

- The Waste Hierarchy will be adhered to;

- Where possible the volume of waste produced will be reduced, material reused or recycled. Opportunities for reuse and recycling of material will be explored and maximised within the Project and on other nearby developments;
- The amount of material ordered will be checked to avoid over ordering or the ordering standard lengths rather than the lengths required;
- Avoid damage during unloading or delivery to inappropriate areas or the acceptance of incorrect deliveries, specification or quantity;
- Avoid exceeding shelf lives;
- Avoid damage or contamination from incorrect storage, loss, theft and vandalism. Any excess concrete will be allowed to harden then broken up and taken off site by a licensed carrier to a permitted or exempt waste site; and
- A Materials Management Plan (MMP) will be developed if required to allow the use of excavated waste under CL: AIRE Definition of Waste: Development Industry Code of Practice, v2 (2011) for the reuse of excavated waste materials.

### **Soil testing**

- 6.9.8 Excavated soils are often classed as a waste product by the Environment Agency and are therefore subject to waste Duty of Care requirements. All waste must be legally classified according to a List of Waste code found within the Environment Agency Technical Guidance Document WM3. Soil has been included within the document as a mirror entry.
- 6.9.9 Contaminated soils may be classified as either hazardous or non-hazardous, depending on the concentrations of 'dangerous substances' in the soil. An assessment of the composition of the waste soil using appropriate techniques, which could include sampling and laboratory analysis, will be undertaken to determine whether the waste is classifiable as hazardous.
- 6.9.10 It is against the law to knowingly or unknowingly wrongly classify waste as hazardous or non-hazardous. It is also against the law to send waste to a site that cannot legally accept it (e.g. hazardous soil to an inert landfill). It will be the responsibility of the waste producer to ensure all soil wastes are appropriately classified.

### **Resource Use**

- 6.9.11 Anglian Water Services will require the Principal Contractor(s) to put in place measures to minimise energy consumption and carbon emissions during construction. This will include:
- Measures to reduce energy usage;
  - Monitoring, reporting and setting of targets for carbon dioxide arising from site activities and from transportation to and from sites;

- Consideration of energy efficiency in the procurement, maintenance and use of construction plant; and
- Consideration and assessment of energy from renewable and/or low emission sources used during construction.

## 7 References

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Construction Industry Research and Information Association (CIRIA) C532 Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors. 2001.

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Environment Agency Guidance Pollution Prevention Guidelines (PPGs) with particular reference to PPG1 (general guide to the prevention of water pollution), PPG3 (use and design of oil separators in surface water drainage systems), PPG5 (works near or liable to affect watercourses) and PPG6 (working at construction and demolition sites). The PPGs contain a mix of regulatory requirements and good practice advice. Whilst these PPGs have been withdrawn by the Environment Agency, they are still considered good practice advice to avoid pollution of watercourses.

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Environment Protection Action 1990.

Environmental Permitting (England and Wales) Regulations 2016.

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Institute of Air Quality Management (IAQM)-Guidance on the assessment of dust from demolition and construction 2014.

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Institute of Lighting Engineers –Guidance Note 8 Bats and Artificial Lighting 2018.

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Protection of Badgers Act 1992

Regulatory Reform (Fire Safety) Order 2005.

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The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009.

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The Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction 2002. Wildlife and Countryside Act 1981.

## 8 List of abbreviations

Anglian Water Services	Anglian Water Services Limited
BAPA	Basic Assessment Protection Agreement
BPG	Best practice guidance
BPM	Best practical means
BS	British Standard
CCS	Considerate Contractor's Scheme
CEMP	Construction Environmental Management Plan
CLOCS	Construction Logistics and Community Safety
CIRIA	Construction Industry Research and Information Association
CoCP	Code of Construction Practice
CoPA	Control of Pollution Act 1974
CSCS	Construction Skills Certificate Scheme
CTMP	Construction Traffic Management Plan
CWWTP	Cambridge Waste Water Treatment Plant (existing)
CWWTPRP	Cambridge Waste Water Treatment Plant Relocation Project
Defra	Department for Environment, Food and Rural Affairs
DCO	Development Consent Order
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EMA	Environmental Management Plan
EMS	Environmental Management System
EPA	Environmental Protection Act 1990
ES	Environmental statement
FRA	Flood risk assessment
HGV	Heavy Goods Vehicle
HSE	Health and Safety Executive
IQAM	Institute of Air Quality Management
LCRM	Land Contamination Risk Management
MMC	Motor Control Centre
MMP	Materials Management Plan
NJUG	National Joint Utilities Group
PRoW	Public Right of Way
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidance
PLC	Primary Local Controls
TRO	Traffic Regulation Order
WRAP	Waste and Resources Action Programme
WRC	Water Recycling Centre
WSI	Written scheme of investigation
WWTP	Waste Water Treatment Plant.
UXO	Unexploded Ordinance

