

# Medworth Energy from Waste Combined Heat and Power Facility

PINS ref. EN010110

Document Reference: Vol 7.12

Revision: 56.0

Deadline: 56

June-July 2023



## Outline Construction Environmental Management Plan

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with energy.**



# Executive Summary

This document is the Outline Construction Environmental Management Plan (Outline CEMP) relating to the Proposed Development. This Outline CEMP sets out the responsibilities and environmental standards that the Applicant will comply with and will require its EPC Contractor(s) to comply with during the construction of the Proposed Development. This Outline CEMP covers the following components of the Proposed Development:

- The construction of the EFW CHP Facility.
- The construction of associated buildings and infrastructure including a CHP Connection, Temporary Construction Compound, Access Improvements, Water Connections and Grid Connection including the Walsoken Substation.

This Outline CEMP will be updated and confirmed by the appointed EPC Contractor ahead of construction commencing, in the form of a detailed CEMP in accordance with the DCO. The EPC Contractor will prepare the detailed CEMP which will be referenced by construction staff on a day-to-day basis for the mitigation and management of construction-related effects. It will provide documented procedures for controlling environmental impacts and for preventing disruption to local residents and businesses during the construction phase of the Proposed Development.

This Outline CEMP details the roles and responsibilities for those managing construction activities, arrangements for inspection and for the auditing and reporting of incidents. A detailed CEMP will be produced in line with this Outline CEMP following grant of the DCO and would be agreed with the LPA and (if relevant) statutory consultees) before starting the works.

General requirements associated with the safe and environmentally responsible management of the site are set out, including general site layout, working hours, pollution control, emergency preparedness and site health and safety.

Management measures are detailed relating to environmental risk, pollution prevention, construction nuisance as well as the consideration of topic specific issues: dust, noise and vibration, lighting, waste, traffic and transport, landscape and visual, historic environment, biodiversity, hydrology and geology, hydrogeology and contamination.



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Appendix C	Outline Soil Management Plan
Appendix D	Outline Ecological Mitigation Strategy
Appendix E	Outline Site Materials and Waste Management Plan
Appendix F	Outline Construction Noise and Vibration Management Plan (NVMP)



# 1. Introduction

## 1.1 Overview of the Proposed Development

- 1.1.1 Medworth CHP Ltd (the 'Applicant') intends to make an application to the Secretary of State for a Development Consent Order (DCO) for an Energy from Waste (EfW) combined heat and power (CHP) facility (the 'Proposed Development') on the industrial estate, Algores Way, Wisbech, Cambridgeshire.
- 1.1.2 The Proposed Development will recover useful energy in the form of electricity and steam from 625,600 tonnes of non-recyclable (residual), non-hazardous Municipal and Commercial and Industrial waste each year. Generating over 50 megawatts, the electricity will be exported to the grid. The facility will also have the capability to export steam and electricity to users on the surrounding industrial estate.
- 1.1.3 The Proposed Development is a Nationally Significant Infrastructure Project (NSIP) under Part 3 Section 14 of the Planning Act 2008 (hereafter referred to as the '2008 Act') by virtue of the fact that the generating station is located in England and has a generating capacity of over 50 megawatts (see section 15(2) of the 2008 Act). It, therefore, requires an application to be submitted for a DCO.

## 1.2 MVV's Environmental Management System

- 1.2.1 The Applicant is a wholly owned subsidiary of MVV Environment Limited ('MVV'). MVV is part of the MVV Energie group of companies, providing sustainable and efficient solutions for waste-fired energy generation to publicly and privately-owned waste disposal companies as well as to Local Authorities.
- 1.2.2 MVV's environmental management system is certified to ISO 14001: 2015 and MVV's environmental policy targets are applied to reduce its environmental impact. The Engineering, Procurement and Construction Contractor(s) (EPC Contractor) selected will be expected to demonstrate the same level of commitment to the principles of ISO 14001: 2015, and to implement procedures and systems that are of an equivalent standard, regardless of whether or not they are certified to the standard.
- 1.2.3 The Applicant is committed to ensuring excellence in environmental performance for all of its employees, contractors and other stakeholders, and recognises that its activities have an environmental impact. Accordingly, it will adopt MVV's management systems and policy targets and require its EPC Contractor to actively promote and administer a robust environmental culture amongst their staff, subcontractors and suppliers engaged on the contract.

## 1.3 Statement of MVV's' Health, Safety and Environment Policy

- 1.3.1 This is a formal statement of company policy in respect of management processes, due diligence, roles and responsibilities.



1.3.2 This policy sets out MVV's commitments and responsibilities to achieve environmental and social sustainability in its projects which will be adopted by the Applicant. MVV believes that sustainable development is a fundamental aspect of sound business practice and adds value to its activities by working for long-term sustainability through effective environmental and social management. It is committed to the principles of corporate transparency, accountability and stakeholder engagement.

1.3.3 Consistent with MVV's policy, the Applicant will, as a minimum:

- Comply with all applicable national laws and regulations;
- Minimise environmental and social impacts and continually improve environmental and social performance as an integral part of its operating strategy;
- Respect stakeholders, the environment and cultural heritage;
- Constructively engage with affected communities and other stakeholders and address complaints about any breach of this policy promptly;
- Ensure that employees and contractors understand this policy and conform to the high standards required; and
- Intervene promptly in unsafe or non-compliant situations.

1.3.4 In addition, the Applicant will actively seek to:

- Ensure its activities adhere to good international industry practices in environmental, social and human resource management; and
- Contribute to effective implementation of relevant principles and codes of practice related to environment, labour, corporate responsibility and access to information.

1.3.5 The Applicant will develop and maintain an ISO 14001-type environmental management system that provides the procedures and tools to implement MVV's policy.

## 1.4 The Proposed Development

1.4.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility Site;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection (underground cable and Walsoken Substation).

1.4.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **Chapter 3: Description of the Proposed**





**Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter: 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- **TCC:** Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.
- **Access Improvements:** includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- **Water Connections:** A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the north-east of the Algores Way site entrance and into the EfW CHP Facility Site.
- **Grid Connection:** This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

1.4.3

The Proposed Development would be constructed in a manner consistent with that described within ES **Chapter: 3 Description of the Proposed Development (Volume 6.2)**. In summary:

- Work would commence with the establishment of the TCC together with any pre-commencement surveys and works to demolish existing structures and clear the EfW CHP Facility Site. The mobilisation and site set-up phase will last approximately 3-months.





- Access Improvements on New Bridge Lane will commence and take place over a 6-month period.
- Civil works comprising earthworks, piling and later the creation of external hardstanding areas, concrete structures and steelwork framing and the installation of the Water Connections will take place over a 34-month period.
- Overlapping with the erection of the structures at the EfW CHP Facility Site, mechanical, electrical and plant installation would take place over a period of 24-months followed by a 9-month period of commissioning and testing.
- The construction of the CHP Connection and Grid Connection would follow a similar process of mobilisation, civils and commissioning.

1.4.4 Following the completion of commissioning and testing, the TCC site accessed from Algores Way would be restored to its former condition.

## 1.5 Purpose of this Document

1.5.1 This document is the Outline Construction Environmental Management Plan (Outline CEMP) relating to the Proposed Development. The Outline CEMP sets out the responsibilities and environmental standards that the Applicant will comply with and will contractually require its EPC Contractor to comply with during the construction of the Proposed Development.

1.5.2 The Outline CEMP includes mitigation requirements identified within the following, principle, Environmental Statement (ES) chapters:

- Chapter 6: Traffic and Transport;
- Chapter 7: Noise and Vibration;
- Chapter 8: Air Quality;
- Chapter 9: Landscape and Visual;
- Chapter 10 Historic Environment;
- Chapter 11 Biodiversity;
- Chapter 12 Hydrology;
- Chapter 13 Geology, Hydrology and Contaminated Land; and
- Chapter 17 Major Accidents and Hazards.

1.5.3 Each ES chapter can be found in **Volume 6.2**, with ES Figures and ES appendices in **Volumes 6.3 and 6.4** respectively. This Outline CEMP forms part of the suite of DCO application documents and a DCO Requirement will be included to require the submission of a CEMP prior to the commencement of the Proposed Development. The detailed CEMP must be in accordance with this Outline CEMP and may take the form of two separate documents, for example a separate CEMP for the Grid Connection.

1.5.4



1.5.5

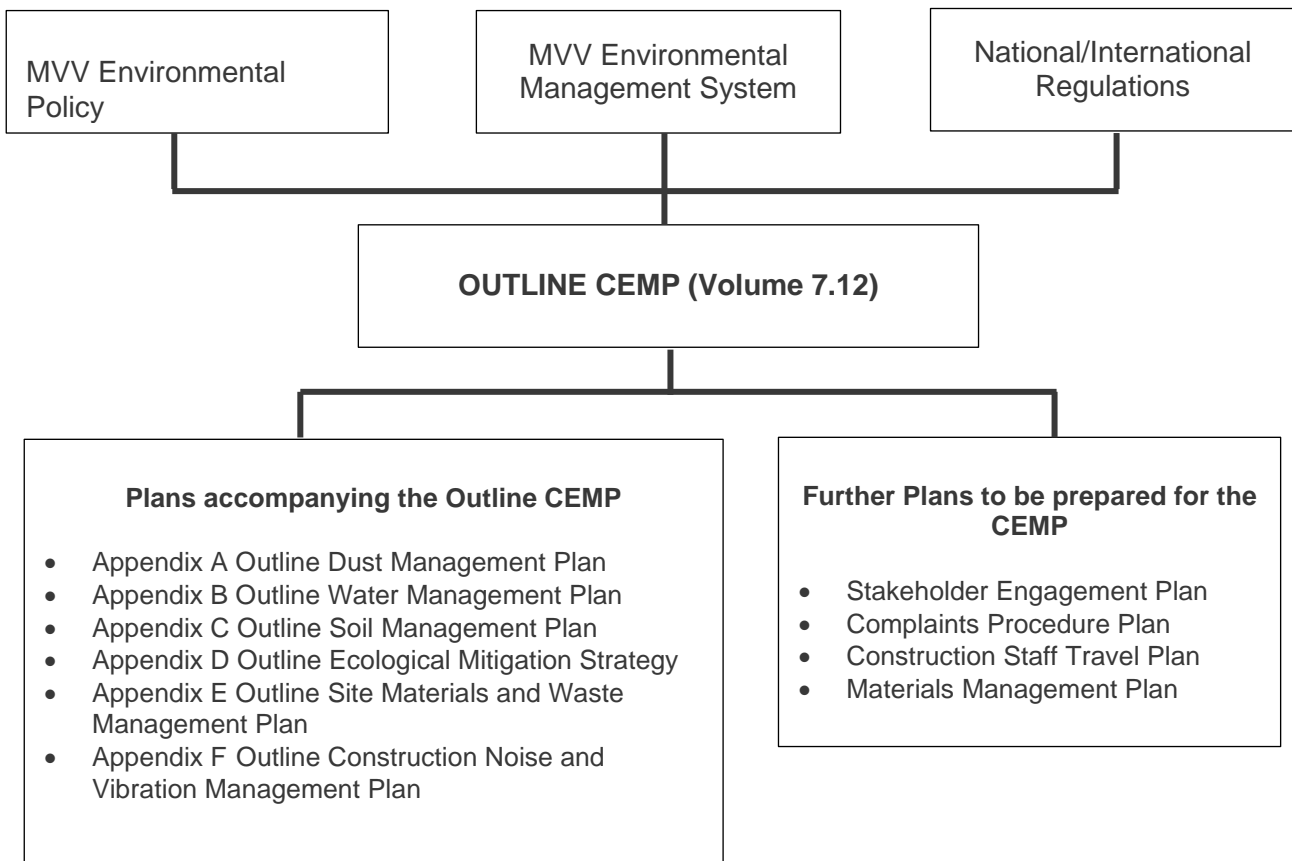
Prior to the commencement of development, a CEMP will be prepared by the Applicant and/or its EPC Contractor and submitted to the relevant planning authorities for approval. Once approved, the CEMP will be the management document that will be referenced by construction staff on a day-to-day basis and provide a documented procedure for controlling and mitigating environmental impacts and for preventing or minimising disruption to local residents and businesses during the construction phase of the Proposed Development.



## 2. Structure of the Outline CEMP

2.1.1 To prepare the Outline CEMP, the Applicant has accounted for mitigation requirements identified in the ES, wider MVV policy and management systems and where relevant National and International regulations. Several topic specific plans are either appended to this document or commitments provided for their preparation; these will form part of the CEMP’s suite of documents. **Graphic 2.1: Outline CEMP Relationship between Higher and Lower Level Policies and Plans** illustrates the relationship between the Outline CEMP and higher and lower level plans and policies.

**Graphic 2.1: Outline CEMP Relationship between Higher and Lower Level Policies and Plans**





## 3. Environmental Responsibilities

### 3.1 Roles and Responsibilities

3.1.1 This Outline CEMP identifies the site management responsibilities regarding the management and reporting of the environmental impact of the construction phase. The overall environmental objectives that will apply to the construction of the Proposed Development are:

- All practicable steps shall be taken to avoid or minimise the environmental effects of construction works;
- All activities shall be conducted in accordance with the CEMP, relevant legislation (including the DCO), Codes of Practice, Guidelines, and any local environmental procedures;
- Environmental licenses, permits and consents and other statutory requirements are to be obtained prior to works commencing, and fully complied with;
- All construction staff (including subcontractors) shall be aware of the environmental issues relevant to the construction of the Proposed Development through the provision of site-specific information on the environmental impacts of construction and the mitigation measures to be applied during inductions, briefings and toolbox talks; and
- Regular review of the environmental requirements to ensure that environmental controls remain adequate throughout the duration of the construction of the Proposed Development.

### 3.2 Overall Responsibility

3.2.1 The overall responsibility for ensuring compliance with the CEMP lies with the Applicant.

3.2.2 The Applicant will establish a site management team to oversee the process of construction and manage the EPC Contractor. On the matter of environmental management key responsibilities will be:

- To lead by example and champion all areas of environmental management; and
- Ensure that appropriate resources are in place to effectively implement the CEMP and deliver all legal requirements.

### 3.3 EPC Contractor

3.3.1 Reporting to the Applicant, the CEMP shall be implemented and controlled on the construction site by the EPC Contractor. To ensure that the CEMP remains relevant, it will be the contractual responsibility of the EPC Contractor to take ownership of the CEMP, including regular reviews.



3.3.2 To be confirmed in the CEMP, indicative key responsibilities for the EPC Contractor include:

- Ensure that the CEMP and associated documents and control methods are effectively implemented on site on a day-to-day basis;
- Fully investigate and act on any environmental incidents and report findings to the senior site manager;
- Conduct and document weekly environmental inspections;
- Ensure that environmentally orientated briefings and toolbox talks are being delivered to the site workforce;
- Implement and maintain environmental controls on site;
- Ensure action is taken on any spills/incidents that occur on site; and
- Report any activity that has potential to have an environmental effect immediately to the senior site manager.

## EPC Contractors Site Management

3.3.3 To be confirmed in the CEMP, indicative site management responsibilities include:

### *Senior site manager*

3.3.4 The senior site manager's responsibilities include:

- Ensure that appropriate resources are in place to effectively implement the CEMP and deliver all legal requirements;
- Review the CEMP throughout the construction process to ensure it remains relevant and effective in identifying and managing environmental risks;
- Report and agree in writing any amendments to the CEMP with the relevant planning authority in accordance with the provisions in the DCO;
- Ensure that all legal requirements are identified and met;
- Implement the use of CEMP management plans and ensure applicability to the site operations;
- Ensure that the site is safe and that hazards are identified and secured;
- Undertake (or nominate others) to undertake audits;
- Monitor performance during construction of the Proposed Development against statutory requirements, objectives and targets;
- Ensure the accurate reporting of resource usage e.g., energy and water;
- Ensure that all documentation referencing environmental procedures and policy are relevant and up to date;
- Manage all necessary documentation to demonstrate compliance with appropriate legislation for the required period;



- Identify necessary levels of environmental competence in staff and ensure necessary training is delivered to personal;
- Manage investigation and resolution of complaints; and
- Ensure correct procedures are followed in case of an environmental incident.

### *Construction supervisor(s)*

3.3.5 The construction supervisor's responsibilities include:

- Ensure that the CEMP and associated documents and control methods are effectively implemented on site on a day-to-day basis;
- Fully investigate and act on any environmental incidents and report findings to the senior site manager;
- Conduct and document weekly environmental inspections.
- Ensure that environmentally orientated briefings and toolbox talks are being delivered to the site workforce;
- Implement and maintain environmental controls on site;
- Ensure action is taken on any spills/incidents that occur on site; and
- Report any activity that has potential to have an environmental effect immediately to the senior site manager.

### *Subcontractors*

3.3.6 The subcontractor's responsibilities include:

- Compliance with direction given in the site induction;
- Proactively approach environmental issues whilst on site;
- Site staff should ensure they are fully aware of the environmental procedures in place and if they have any questions, they should be directed towards the senior site manager;
- Ensure all construction activities are carried out in line with the procedures detailed in the CEMP; and
- Report any environmental incident to the senior site manager.

## 3.4 Contact Details

3.4.1 EPC Contractor details to be confirmed in the detailed CEMP.



## 3.5 Environmental Management, Risk Management and Auditing

### Overall Site Management Actions

- 3.5.1 All environmental documentation shall be kept on site at all times and be available for inspection by internal and external auditors and regulators. Site personnel shall be made aware immediately if any significant changes in work procedures are implemented.
- 3.5.2 Relevant documentation shall include the following:
- CEMP and supporting management plans;
  - Site weekly checklist;
  - Impacts and aspects matrix;
  - Environmental risk assessment;
  - Pollution prevention plan including emergency response; and
  - Training and responsibilities matrix.
- 3.5.3 Weekly environmental inspections shall take place on site by the senior site manager. The findings of these inspections and any associated actions shall be appropriately documented on the weekly checklist.
- 3.5.4 The Applicant will liaise as necessary with the relevant authorities and regulatory bodies with regard to all construction related consents, exemptions and DCO Requirements. A consents schedule shall be completed and held on site, detailing relevant information from date of application.
- 3.5.5 Where specific limitations are set through any licence or requirement, this is to be clearly identified and regularly reviewed to ensure compliance.

### Pollution Prevention Planning and Emergency Response

- 3.5.6 The EPC Contractor will prepare and implement appropriate measures to control the risk of pollution associated with construction activities, materials and extreme weather events and document these in an incident control plan as part of the detailed CEMP.
- 3.5.7 The EPC Contractor will be required to investigate and provide a report to the relevant authorities and regulatory bodies in the event a pollution incident occurs, including the following matters:
- A description of the pollution incident, including its location, the type and quantity of contaminant and the likely Receptor(s);
  - A description of the contributing factors;
  - Adverse effects and the measures implemented to mitigate adverse effects; and
  - Recommendations to reduce the risk of the incident re-occurring.





- 3.5.8 When preparing response measures, the EPC Contractor will consult with relevant regulatory authorities and other parties which may include Health and Safety Executive (HSE) (Construction), the Fire Authority, Environment Agency (EA), Natural England (NE), utilities companies and the relevant local authorities.
- 3.5.9 The EPC Contractor will develop, prior to the commencement of construction, an emergency procedure in consultation with the emergency services for potential risks during construction and will be required to follow the procedure in any site emergency.
- 3.5.10 This site emergency response procedure is set out at **Section 3.5** of this Outline CEMP. Contact details shall be clearly displayed on site and information explained to all site personnel. The pollution prevention plan shall contain a clear detailed plan of the site which indicates the location of sensitive Receptors such as watercourses and drainage points.
- 3.5.11 Emergency phone numbers and the method of notifying the relevant local authorities and all other relevant regulatory authorities including emergency services will be included, along with contact numbers for the EPC Contractor's key personnel.
- 3.5.12 In the event of an environmental incident, procedures must be followed to ensure risks of further spillages/migration of pollutants are minimised. Procedures will contain a clear detailed plan of the site which indicates the location of sensitive Receptors such as watercourses and ditches.
- 3.5.13 An appropriate number of spill kits will be located within these areas and clearly marked on the plan. Drip trays will be utilised under machinery where there may be a risk of leaks of oil and diesel.
- 3.5.14 The Pollution Prevention Guidance PPG22: Dealing with Spills, shall be followed to prevent, limit or reduce damage to the environment and risk to public health from a spill.

### Considerate Constructors Scheme

- 3.5.15 The Applicant intends to register the Proposed Development with the Considerate Constructors Scheme (CCSc). The CCSc is a non-profit-making, independent organisation founded by the construction industry to improve its image. The CCSc is neither grant maintained, nor funded by the government, and is solely financed by its registrations. The CCSc Code of Considerate Practice commits those sites and companies registered with the Scheme to be considerate and good neighbours, as well as respectful, environmentally conscious, responsible and accountable. Registered sites must also consider their appearance and safety.
- 3.5.16 This commitment is maintained by the CCSc monitoring registered sites and by the display of posters around the construction site, setting out the Code to which the sites or companies are committed. If passers-by wish to comment, the name and telephone number of the site management or company contact are clearly displayed, alongside the freephone telephone number of the CCSc's administration office.
- 3.5.17 CCSc Monitors who are drawn from the senior ranks of all disciplines within the construction industry, with a fairly even division between architects, engineers,



contractors and surveyors, visit the site on a regular basis. The Monitor acts as an 'informed member of the public' and is looking at how the site represents the company and the industry. During the visit, the Monitor will assess the perimeter of the site, the access to the site offices and the facilities provided for the operatives. The Monitor will also review whether the site's procedures are in accordance with the Scheme's Code of Considerate Practice.

3.5.18 The Monitor will write a report which will include the score achieved against each of the eight categories of the Scheme's Code of Considerate Practice. The purpose of this score is to indicate how well the site is performing against the Code.

3.5.19 The Proposed Development will comply with the CCS Code of Considerate Practice and target to maintain a high-level score on each site monitor's visit. The construction sites serving the Proposed Development shall clearly display the associated posters and banners allowing local residents to identify all contact numbers. The Applicant and the EPC Contractor will ensure all works carried out are undertaken in a manner which not only ensures best practice, but also minimal cause for complaint by the public and disruption to third parties.

## Stakeholder Engagement

### *General*

3.5.20 The Applicant with the EPC Contractor will develop a Stakeholder engagement plan to set out what engagement with the local community and businesses and relevant statutory parties shall be undertaken prior to work commencing on site. The plan will be implemented for the duration of construction of the Proposed Development and include establishing a local liaison group.

### *Community Liaison Manager*

3.5.21 A Community Liaison Manager will be employed by the Applicant before the commencement of the authorised works and be retained for the construction phase of the Proposed Development. The Community Liaison Manager will be responsible for preparing and implementing the Stakeholder engagement plan. To minimise disruption for local businesses, for example, on Algores Way, the Stakeholder engagement plan will take account of the Applicant's stated commitments in the **Outline Construction Traffic Management Plan (CTMP) (Volume 6.4) [REP1-011]** and any subsequent updates.

### *Local liaison group*

3.5.22 The Applicant with the EPC Contractor will establish a local liaison group. The agenda, timings, roles and responsibilities will be agreed as part of the Stakeholder engagement plan. Organisations and individuals invited to join the local liaison group are not limited to, but will include:

- Host Authorities;
- Environment Agency;
- East of England Ambulance Trust (EEAST);



- Cambridgeshire and Peterborough Integrated Care System (CPICS);
- Cambridgeshire Constabulary and Cambridgeshire Fire and Rescue Services; and
- Local businesses, including those on:
  - ▶ Algores Way, e.g., James Mackle Ltd, Hair World UK Ltd, WEP Powdercoating Ltd;
  - ▶ Europa Way, e.g., Icon Engineering (Wisbech) Ltd;
  - ▶ Anglia Way, e.g., Tiger Racing Ltd;
  - ▶ Boleness Road, e.g., Optimum Packing Ltd
  - ▶ New Bridge Lane, e.g., Kirk Coachworks Ltd; and
  - ▶ Salters Way, e.g., Fountain Frozen Ltd.
- [Representatives from PROW, NMU and other relevant user groups.](#)

3.5.23 In conjunction with appropriate mitigation, operating hours and employee training, handling public relations in an appropriate way will help to reduce the potential for complaints. 'Building Research Establishment's (BRE): The Pollution Control Guide: Part 1 – Pre-Project planning and effective management' makes recommendations regarding the handling of public relations. These recommendations will be included in the Stakeholder engagement plan.

3.5.24 A Stakeholder engagement plan will form part of the detailed CEMP.

## Complaints Procedure

3.5.25 Notice boards on the perimeter fencing will display telephone and email contacts for enquiries and receipt of complaints, and the name of the persons who should be contacted. All complaints arising from the construction activities will be investigated to:

- Identify the cause of the complaint;
- Identify and implement appropriate mitigation measures in a timely manner; and
- Record the complaint, and any measures taken, and make the complaints log available to the local authority when requested.

3.5.26 A complaints procedure plan will form part of the detailed CEMP.

## Site Environmental Documentation

3.5.27 The EPC Contractor shall ensure all environmental documentation is available at the TCC for inspection by internal and external auditors. The folder structures will conform to the Applicant's document control systems. Where any document is amended, previous versions will be superseded and documents transmitted in line with procedures. Site personnel will be made aware immediately, if any significant changes in works procedures are implemented.

3.5.28 Initial start-up documentation will include the following:



- Site set-up checklist;
- Impacts and aspects matrix;
- Environmental risk assessment;
- Construction environmental management plan;
- Training and responsibilities matrix; and
- Consents schedule.

## Training and Awareness

3.5.29 All construction personnel will receive induction training. Induction checklists will be used, and inductees should sign the induction checklist after having understood the relevant induction material. This includes reading and understanding relevant environmental operating procedures. Induction training will include:

- Introduction to the relevant construction site;
- Relevant construction site tour (if deemed appropriate, relative to the spatial and technical extent of works that the staff member will undertake);
- Key roles and responsibilities;
- HSE objectives, targets, applicable improvement plans and key performance indicators; and
- Relevant risk assessments and operating procedures.

3.5.30 All personnel will be required to undergo a health, safety and environment based training course as part of the site induction.

3.5.31 In addition, the EPC Contractor shall develop and deliver health, safety and environment toolbox talks as appropriate throughout the construction phase. The toolbox talks will act as refresher sessions of key topics covered in the induction training. Potential topics for toolbox talks could include:

- Identification and management of invasive species;
- Identification and management of protected species; and
- Best practice pollution prevention and control.

## Environmental Inspection and Audits

3.5.32 The EPC Contractor will be required to undertake a programme of weekly environmental inspections and monthly environmental audits to record performance and identify any corrective actions required. It is the responsibility of the senior site manager to ensure all documentation and evidence required for audit purposes is kept up to date and freely available for inspection at all times. The site environmental management system will be audited to the standards set out by ISO14001. Additional legal compliance audits will also be undertaken. Any system failures will be documented and appropriate corrective actions issued and implemented.



- 3.5.33 Appropriate environmental inspections and monitoring of the EPC Contractor's environmental performance in the form of monthly audits will be undertaken. Where problems are identified, the corrective action will be identified by the auditor and undertaken by the EPC Contractor.

### Environmental Incident and Near Miss Reporting

- 3.5.34 A system for reporting environmental incidents or potential hazards will be developed. All reported incidents or hazards will be logged in a database to allow review, auditing and lessons learned.



## 4. General Requirements

### 4.1 Layout and Management of Construction Sites

4.1.1 The EPC Contractor will ensure compliance with the following measures, which will reduce the occurrence of potential environmental incidents or nuisances:

- Preparation of a construction site environmental risk drawing showing key areas such as material storage, spill kits, material and waste storage and drains. This will be placed on site notice boards;
- Appropriate lighting and security such as control of lighting/illumination to reduce visual intrusion or any adverse effects on sensitive Receptors;
- Security measures, including, closed circuit television (CCTV);
- Adequate welfare facilities for staff, and designated smoking areas and containers for waste at the TCC;
- Removal or stopping and sealing of drains and sewers taken out of use as well as preventing discharge of site runoff to ditches, watercourses, drains, sewers or soakaways without agreement of the appropriate authority;
- Prohibition of open fires as well as measures in place to reduce the likelihood of fires;
- Wheel washing facilities for all vehicles leaving the construction areas onto the highway; and
- Storage, machinery, equipment and temporary buildings will be carefully positioned to reduce environmental effects.

### 4.2 Construction Working Hours

4.2.1 Proposed core working hours would be 07:00 to 19:00 Monday to Friday, 08:00 to 16:00 on Saturdays, and no work on Sundays or Public Holidays, other than the limited number of works which may be required outside of the core working hours which are listed below. Other works would require prior approval from the relevant planning authority. The limited works to be permitted are:

- EfW CHP Facility:
  - ▶ Continuous and over running concrete pours;
  - ▶ X-ray weld testing;
  - ▶ Mechanical and electrical fit out;
  - ▶ Abnormal load deliveries;
  - ▶ Abnormal lifts; and
  - ▶ Pipe bridge works over Weasenham Lane (CHP Connection).



- Grid Connection:
  - ▶ Works within the A47 verge; and
  - ▶ UGC road crossings.
- Water Connections:
  - ▶ HDD or open-cut trenching across the A47.

4.2.2 During the one hour before and one hour after the core working hours, some mobilisation activities would occur and include:

- Arrival and departure of the workforce at the site and movement to and from areas across the Proposed Development;
- Site inspections and safety checks; site meetings (briefings and quiet inspections/walkovers);
- Site clean-up (site housekeeping that does not require the use of plant); and
- Low-key maintenance including site maintenance, safety checking of plant and machinery (provided this does not require or cause hammering or banging).

4.2.3 Mobilisation activities would not include HGV movements into and out of the TCC.

4.2.4 The process to be followed when carrying out works other than those set out above, outside of the core working hours would be subject to prior agreement from the relevant planning and highway authority, for example in the case of noise generating activities, via the s61 process which is explained in **Appendix F**.

## 4.3 Construction Site Hoarding and Fencing

4.3.1 The design of hoardings around construction activities shall include consideration of the character of the surrounding landscape (e.g., solid hoarding, use of artwork where appropriate, viewing windows, etc). Fencing and hoarding shall be kept well maintained throughout construction.

4.3.2 The following measures will be applied:

- Maintenance of adequate fencing and hoardings to an acceptable condition to prevent unauthorised access to the construction site, to provide noise attenuation, screening and site security where required;
- Use of different types of fencing and hoarding (e.g., mesh fence or solid hoarding including hoardings used for noise control) to be erected around the perimeter with a 2.4m solid hoarding erected along the boundary to New Bridge Lane;
- Consideration of artwork or other decoration and to keep them free of graffiti or posters; and
- Providing site information boards with 'out of hours' contact details, telephone helpline number (for comments/complaints) and information on the works.





## 4.4 Pollution Incident Control

- 4.4.1 The EPC Contractor will prepare and implement appropriate measures to control the risk of pollution due to construction activities, storage and handling and extreme weather events and document in an incident control plan as part of the detailed CEMP.
- 4.4.2 The EPC Contractor will be required to investigate and provide a report to the Applicant in the event a pollution incident occurs, including the following:
- A description of the pollution incident, including its location, the type and quantity of contaminant and the likely Receptor(s);
  - A description of the contributing factors;
  - Adverse effects and the measures implemented to mitigate adverse effects; and
  - Recommendations to reduce the risk of the incident re-occurring.
- 4.4.3 The EPC Contractor will consult with the relevant organisations, statutory bodies and other relevant parties such as the HSE, the Fire Authority, EA, NE, and utilities companies when preparing response measures.

## 4.5 Emergency Preparedness

- 4.5.1 At pre-construction commencement, the EPC Contractor will develop an emergency procedure in consultation with the emergency services for potential risks during construction and will be required to follow the procedure in any site emergency.
- 4.5.2 The procedures will contain emergency phone numbers and the method of notifying local authorities and all other relevant statutory authorities including the emergency services. Contact numbers for the EPC Contractor's key personnel will also be included.

## 4.6 Fire Protection and Emergency Access

- 4.6.1 The EPC Contractor will ensure that the requirements of the relevant fire authority will be followed for the provision of construction site access points (suitable for emergency services). Emergency access points will be included in the emergency procedures and reviewed and updated as required.

## 4.7 Extreme Weather Events

- 4.7.1 The EPC Contractor will consider the environmental impacts of extreme weather events and related conditions during construction. The EPC Contractor must consider all measures deemed necessary and appropriate to manage extreme weather events and should specifically address training of personnel and prevention and monitoring arrangements. As appropriate, method statements should also consider extreme weather events where risks have been identified, information on which will be included in the detailed CEMP.



- 4.7.2 The EPC Contractor will register with the Environment Agency Floodline to receive flood warnings (see **Appendix B**).

## 4.8 Health and Safety (and COSHH assessment)

- 4.8.1 All construction work must be carried out in accordance with the provisions of the Health and Safety at Work Act 1974 to the satisfaction of the HSE or its local officer. The Health and Safety at Work Act 1974 (HSWA) places a number of general and specific duties on employers, employees and the self-employed.
- 4.8.2 Section 2 of the HSWA places a duty on every employer to ensure, as far as is reasonably practicable, the health, safety and welfare at work of all employees. Employers are also under a duty (Section 3) to ensure, so far as is reasonably practicable, that persons not in their own employment (e.g., EPC Contractors or subcontractors) are not exposed to risks to their health and safety. Section 7 of the HSWA places a duty on every employee while at work to take reasonable care of the health and safety of themselves and of other persons, and to cooperate with their employer or any other person with regard to any duty or other statutory requirement. A large number of statutory regulations made under the HSWA set out detailed requirements for specific aspects of health and safety (e.g., provision of personal protective equipment, ladders, lighting, signs, electrical equipment, manual handling). These must be complied with during all construction works. The senior site manager will ensure that appropriate industry standards for health and safety are applied, and that continuous improvement in safety performance is sought, in accordance with the principles of HSG65 'Successful health and safety management', published by the HSE.
- 4.8.3 Risk assessments will be carried out by the EPC Contractor to document all identified risks. The risk assessments will be shared with all workers during the site induction and made available at the site office for the duration of the works. Further assessments will be carried out as the works progress and any necessary mitigation implemented.
- 4.8.4 The EPC Contractor will prepare Control of Substances Hazardous to Health (COSHH) assessments to cover substances brought to or arising from the construction works.
- 4.8.5 Appropriate utility companies and/or relevant local authorities and utilities have been and will continue to be consulted (as needed) to ensure that any crossings or work required in the vicinity of pipelines will be undertaken safely. In this regard, the EPC Contractor must assure themselves that they have accurate records of utilities and 3<sup>rd</sup> party assets and the necessary permissions in place and, where appropriate following the requirements of the relevant protective provisions as set out within the DCO. [The EPC contractor will also comply with Street Works UK \(NJUG Guidelines\) with regard to the identification, positioning and installation of apparatus.](#)

## 4.9 Construction Site Security

- 4.9.1 The necessary infrastructure and personnel to provide a secure and safe construction site will be provided. This includes:



- EfW CHP Facility Site and TCC:
  - ▶ Site security fencing;
  - ▶ Appropriately positioned CCTV system;
  - ▶ Full time (24 hour, 7 days a week) monitoring by security personnel;
  - ▶ Access control at all entrances to and exits from the site;
  - ▶ Adequate temporary mobile lighting; and
  - ▶ Acoustic and visual fire and emergency alarm system.
- CHP Connection, Access Improvements, Water Connections and Grid Connection:
  - ▶ Linear construction sites requiring a more flexible approach with temporary site security fencing relocated as the works progress and any temporary mobile lighting removed during the daytime, in the case of the Grid Connection.

4.9.2 Before the commencement of the construction works at the EfW CHP Facility Site, the EPC Contractor would, in close cooperation with the local fire, emergency, and police authorities, develop adequate safety and security plans for the construction site.

4.9.3 All of the following must be carried out by the senior site manager at the EfW CHP Facility Site:

- Daily visual inspections of the fence line;
- Daily inspections of the CCTV;
- Regular testing of the audible and visual emergency warning system; and
- Prompt repair of any faults or damage.



## 5. Topic-Specific Management Measures

### 5.1 Environmental Risk Assessment

5.1.1 On behalf of the Applicant, an Environmental Impact Assessment (EIA) has been undertaken and reported in the ES by Wood Group UK Limited. The ES reports on those aspects of construction that could have an environmental impact and, where appropriate, proposes mitigation. Chapters of the ES that have identified mitigation requirements relevant to the Outline CEMP are:

- Traffic and Transport;
- Noise and Vibration;
- Air Quality, including dust;
- Landscape and Visual;
- Historic Environment;
- Biodiversity;
- Hydrology;
- Geology, Hydrogeology and Contamination;
- Climate;
- Socio economics, Tourism, Recreation and Land use;
- Health; and
- Major Accidents and Disasters.

5.1.2 The information obtained through the EIA will be used to determine the mitigation methodology to be utilised during construction. Where significant risks are identified, specific management plans are to be put into place and details of these are found within this Outline CEMP. Method statements will incorporate the mitigation for the assumed risk. Any changes to work packages must be reassessed prior to any commencement of work.

### 5.2 Guidance for Pollution Prevention

5.2.1 Guidance for Pollution Prevention (GPPs) documents are replacing the old series of guidance document (PPGs). The new series provide environmental good practice guidance for the whole UK but form regulatory guidance for Northern Ireland, Scotland and Wales only. There are currently 29 guidance documents available with the following considered to be of greatest potential relevance to the construction of the Proposed Development:

- GPP 1: Understanding your environmental responsibilities - good environmental practices;



- GPP 2: Above ground oil storage tanks;
- GPP 3: Use and design of oil separators in surface water drainage systems;
- GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer;
- GPP 5: Works and maintenance in or near water;
- PPG 6: Working at construction and demolition sites;
- GPP 8: Safe storage and disposal of used oils;
- PPG 18: Managing fire water and major spillages; and
- GPP 21: Pollution incident response planning.

5.2.2 Guidance specific to England is issued by Defra on its website entitled, 'Pollution prevention for businesses'. Activities during the construction process shall be undertaken in line with the guidance, relevant topics are;

- Polluting substances;
- Activities that produce contaminated water;
- Correct use of drains;
- Storing materials, products and waste;
- Unloading and moving potential pollutants;
- Construction, inspection and maintenance; and
- How to set up an environmental management system.

5.2.3 All the above guidance shall be complied with unless otherwise agreed with the relevant planning authority.

## 5.3 Dust & Air Quality

5.3.1 Mechanical disturbance of granular material exposed to air creates atmospheric dust, this type of dust generation is termed as 'fugitive' as it is not discharged into the atmosphere in a confined stream. The potential sources of these fugitive dust emissions are:

- Site clearance;
- On site earth moving operations, site levelling, cut and fill etc.
- Vehicle movements over haul roads;
- Vehicle movements on site during dry periods;
- Wind blowing across the site during dry periods;
- Stockpiling of excavated materials;
- Cutting and grinding;



- Accidental spillage and loss of load from vehicles carrying loose material; and
- Deep excavations.

5.3.2 The generation of this fugitive dust requires consideration of additional factors such as:

- Prevailing wind (speed, direction);
- Prevailing climate, including rainfall; and
- Location of sensitive Receptors (including residential and commercial properties, habitats and watercourses).

5.3.3 Prevailing winds are specifically important when considering fugitive dust. The speed of winds can determine the dispersion of dust; high winds can increase the initial generation of dust, in addition to carrying the dust over greater distances.

5.3.4 Appropriate preventative measures to control dust emissions can significantly reduce the potential for dust generation. The Dust mitigation measures set out in the Outline Dust Management Plan Appendix A list the IAQM (2014) recommended mitigation measures for dust effect according to the construction activity. These measures are also set out within the ES at **Chapter 8: Air Quality (Volume 6.2)**.

5.3.5 Measures to mitigate non-road mobile machinery (NRMM) exhaust emissions during construction will be as follows:

- All NRMM should use fuel equivalent to ultralow sulphur diesel;
- All NRMM should comply with either the current or previous EU Directive Staged Emission Standards;
- All NRMM should be fitted with Diesel Particulate Filters (DPF) conforming to defined and demonstrated filtration efficiency (load/duty cycle permitting);
- The on-going conformity of plant retrofitted with DPF, to a defined performance standard shall be ensured through a programme of on-site checks; and
- Implementation of fuel conservation measures including instructions to throttle down or switch off idle construction equipment; switch off the engines of trucks while they are waiting to access the site and while they are being loaded or unloaded, ensure equipment is properly maintained to ensure efficient fuel consumption.

## 5.4 Noise & Vibration

5.4.1 Noise and vibration has the potential to cause disturbance. In general, noise levels from construction activities will be monitored to ensure that a total ambient sound level of 75 dB  $L_{Aeq,T}$  is not exceeded at any noise sensitive location identified by the site operators. Where measured construction sound levels exceed the construction noise level criteria, action will be taken to investigate the cause of the exceedance and identify appropriate measures to reduce noise emissions from the specific activities giving rise to the exceedances.



5.4.2 Measures to control and reduce construction noise emissions may include:

- Selection of quieter plant;
- Reducing intensity of works;
- Scheduling works to avoid multiple activities near to noise sensitive locations;
- Scheduling works to avoid noise sensitive times of day;
- Provision of local screening;
- Provision of boundary screening; and
- Provision of plant movement alarms that vary the loudness level according to ambient noise levels.

5.4.3 Emissions will be monitored against the predicted noise levels. Where there is the potential for construction vibration impacts, pre-construction building condition surveys may be required. Further information upon which is contained within **Appendix F**.

5.4.4 An Outline Construction Noise & Vibration Management Plan is included at **Appendix F**. This plan will be updated as part of the preparation of the detailed CEMP and to take into account the detailed construction programme. The detailed plan will include a high level summary of the significance of impacts at Receptors and where required, include details of the measures to be implemented to address each impact identified as a significant impact in the ES Chapter 7: Noise and Vibration. Supporting evidence to verify the results of the proposed mitigation measure shall be provided.

5.4.5 A separate Grid Connection Construction Noise Management Plan (GCCNMP) specific to the proposed Grid Connection works will be prepared and submitted to the relevant planning authorities for approval prior to the commencement of this element of the construction activities. The GCCNMP will include the distribution of resident notification letters advising of the dates and times of work and likely operations. It will also provide a summary of mitigation measures documented within the Environmental Statement to mitigate noise.

## 5.5 Construction Lighting

5.5.1 The following mitigation and best practice will be implemented:

- Adequate lighting of working areas is an essential safety consideration and lighting units will be placed in such a way as to pose minimal risk of light disturbance;
- Lighting will be suitable for the works being undertaken;
- Unnecessary lighting will be avoided;
- Lights will be switched off when they are not needed; this will include periods outside of normal site working hours;





- Any security lighting will be kept to a minimum at all times and powered by mains supply where possible; and
- Checks will be made each evening to ensure no lights are left on in error.

5.5.2 The construction site would be adequately lit to ensure safe working conditions. All lighting would be positioned and adjusted so that it does not cause a nuisance to neighbouring properties. Night-time illumination, outside of working hours, would be reduced to a minimum commensurate with the need to maintain the site's security requirements to reduce the environmental impact and reduce light pollution.

5.5.3 Additionally, lighting arrangements will also take into consideration the potential disturbance of wildlife and ecology. The lighting design will minimise the impacts of light spillage on adjacent retained habitats through the attachment of directional hoods to lights. Non-essential lighting will be fitted with automatic cut-off switches.

## 5.6 Site Material and Waste Management

5.6.1 An Outline Site Materials and Waste Management Plan (SMWMP) (**Appendix E**) describes the procedures for the management of materials and waste arising from the construction activities.

5.6.2 The SMWMP allows for the tracking of all excavated materials, showing their point of origin, characterization and proposed method to deal with them. The plan will be finalised prior to the commencement of works and shall incorporate information obtained from site data, which will support the rationale for the methods of re-use or disposal. The plan will incorporate details of contingencies that can be initiated in the event of unexpected occurrences.

5.6.3 The SMWMP includes matters relating to:

- safe storage of materials;
- waste policy;
- site waste management procedures;
- the identification and storage of waste;
- segregation of waste;
- disposal of non-hazardous and hazardous waste;
- waste reporting and records; and
- roles and responsibilities.

5.6.4 Construction strategies will be implemented that will seek to maximise the reuse of excavated clean materials where practicable and feasible. Prior to construction, and with reference to the Site Materials and Waste Management Plan (**Appendix E**), a detailed Materials Management Plan (MMP) will be prepared that outlines where excavated non-waste materials will be re-used in line with the CL:AIRE Definition of Waste Code of Practice (DoWCoP). The MMP will include a declaration by a Qualified Person that the MMP has been completed in accordance with the DoWCoP and that best practice is being followed.



## 5.7 Traffic and Transport

- 5.7.1 An Outline Construction Traffic Management Plan (CTMP) has been produced to support the ES ( **Chapter 6: Traffic and Transport, Appendix 6A CTMP (Volume 6.4)**).
- 5.7.2 The detailed CTMP will be agreed with the relevant planning authority in consultation with the relevant highways authorities prior to the commencement of development.
- 5.7.3 In addition to the CTMP the Applicant will prepare a Construction Staff Travel Plan which will include for the monitoring how construction staff travel to and from the construction site and will contain the following objectives;
- Objective 1: To enable sustainable travel choice to/from the TCC during the construction phase; to establish behavioural change opportunities, increase sustainable travel awareness and increase use of sustainable modes of travel.
  - Objective 2: To reduce travel by car, particularly single occupancy vehicle (SOV) trips during the construction phase.
- 5.7.4 [The Applicant will provide buses to transport construction workers staying outside the local area to and from the Proposed Development site during the construction process.](#)

## 5.8 Landscape and Visual

- 5.8.1 An assessment of the potential likely significant landscape and visual effects resulting from construction of the Proposed Development has been undertaken and is set out in the ES, **Chapter 9: Landscape and Visual (Volume 6.2)**.
- 5.8.2 In order to reduce visual impacts of construction activity upon surrounding Receptors, a temporary 2.4m high solid fence would be installed adjacent to New Bridge Lane to act as a visual screen to Non Motorised Users (NMUs) using the highway.

### Protection of retained landscape and habitat features

The **Tree Survey (Volume 7.13)** identifies existing individual and groups of trees with root protection zones calculated with reference to BS 5837. Partial clearance of existing scrub within the CHP corridor, in preparation for the construction of the pipeline, may reveal additional trees that require survey and protection. All retained trees within or adjacent to the Order limits shall be protected with fencing in accordance with the BS 5837 (2012) and if required, other detailed measures to be set out in an Arboricultural Method Statement in accordance with BS 5837 (2012) and subject to a DCO requirement. In the unlikely event that a veteran tree is identified, this would be avoided by micro-siting the design where practicable, and protected by the measures outlined above. If impacts to a veteran tree are unavoidable, mitigation would be set out in the Arboricultural Method Statement and subject to a DCO Requirement.



5.8.3 All other retained structural vegetation and ditches within or adjacent to the Order limits that could be adversely impacted by the construction phase would be protected by temporary fencing illustrated on detailed plan/s to be submitted and subject to a DCO Requirement.

5.8.4 The potable Water Connection includes for an option to HDD underneath the A47. To undertake land within an existing commercial orchard north of New Bridge Lane would be required to accommodate the launch site compound. To accommodate the compound, those commercial orchard trees within it shall be excavated and removed by a competent contractor. These trees, including a suitable root ball, will be protected and stored until the land is reinstated.

## 5.9 Historic Environment

5.9.1 An assessment of the potential likely significant historic environment effects resulting from construction of the Proposed Development has been undertaken and is set out in ES **Chapter 10: Historic Environment (Volume 6.2)**. Prior to the commencement of development, an Archaeological Written Scheme of Investigation (WSI) will be prepared by the Applicant (and its appointed archaeological contractor) and, if provided to the Applicant, to a scope prepared by CCC's Historic Environment team. The WSI will be submitted to and approved by the relevant planning authorities. The WSI will set out the arrangements and proposed methodology for the recording of archaeological remains in areas where the assessment has identified a potential for these to be present. Whilst the scope and methodology is subject to approval by the relevant planning authorities, it is anticipated that as a minimum it will include provision for archaeological monitoring of soil stripping with recording of any identified archaeological remains. Archaeological monitoring could be undertaken during soil stripping for the TCC and deeper excavations for the EfW CHP Facility.

5.9.2 In addition to the above, the scope of works will include a geoarchaeological/geological specialist study aiming to align deposits in borehole records with the quaternary deposits already recorded for the Fenland region. The geoarchaeological work, involving two boreholes to be dug at the EfW CHP Facility Site, would seek to identify absolute dates for peat horizons and incipient soil surfaces identified in cores or during groundworks. The boreholes would be conducted during Phase 1 to 2 of the Construction Works.

5.9.3 In the event of any finds outside of work covered by the WSI, the following chance finds procedure would be followed:

- Immediately stop works in the area of the find;
- Protect the find and the area surrounding by fencing/blocking off and immediately contact the senior site manager;
- Contact an archaeologist if necessary and obtain advice on how to proceed; and
- All significant finds must be reported to the relevant local authority.



5.9.4 In the event of any human remains being discovered the relevant stipulations in the Burial Act (1857) and the disused Burial Grounds Act (1884, amended 1981) are included within the revised **Draft DCO (Vol 3.1)** which is submitted at Deadline 1.

5.9.5 As no consecrated/church-related burial grounds have been recorded within the Proposed Development area in the assessment stage of this project, any human remains encountered during excavation must result in work stoppage and remains being reported to the coroner in the first instance.

## 5.10 Biodiversity

5.10.1 Pre-construction update surveys will be undertaken for protected species where relevant and necessary, i.e., to maintain up-to-date baseline data for known ecological Receptors to inform mitigation requirements and European Protected Species licensing, or to identify potential additional ecological Receptors which may become established within the Study Area (i.e., mobile species) prior to construction commencing.

5.10.2 An Outline Ecological Mitigation Strategy (**Appendix D**) outlines ecological good practice and Receptor-specific mitigation that will negate or minimise the risk of any potential impacts on ecological Receptors that have the potential to be within or close to working areas at the time of works and avoid contravention of associated legislation.

5.10.3 Additional control measures provided within this Outline CEMP, relating to factors such as pollution prevention and control of dust, noise, vibration and lighting, will be implemented during the construction phase to further avoid damage to habitats/species.

## 5.11 Hydrology

5.11.1 An Outline Water Management Plan (**Appendix B**) outlines the best practice working methods to protect surface water and groundwater from pollution and other adverse impacts including change to flow and water levels during the construction phase of the Proposed Development. This includes a description of the proposed management of surface water and groundwater and required consents/permits, pollution prevention measures and flood emergency management measures.

## 5.12 Geology, Hydrogeology and Contamination

5.12.1 An Outline Soil Management Plan (**Appendix C**) ensures the protection, conservation and reinstatement of soil material, its physical and chemical properties, and functional capacity for agricultural use.

5.12.2 The Outline Soil Management Plan accords with the principles of environmental protection set out in the ES, including:

- All soil handling, placing, compaction and management shall be undertaken in accordance with best practice (DEFRA, 2009);



- Soils suitable for reuse as part of wider mitigation (e.g., planting areas) to be reused in a broadly similar location to their origin, and stored for the shortest amount of time permissible; and
- Any surplus soils will be disposed of in an appropriate manner off-site.

5.12.3 Any temporary onsite storage of excavated materials suspected or confirmed to be contaminated will be on impermeable sheeting, covered over and with adequate leachate/runoff drainage to prevent migration of contaminants from the stockpile. Materials will be segregated where possible to prevent cross-contamination occurring. Such materials will only be reused if they are confirmed as suitable for use in line with the requirements of the Outline Site Materials and Waste Management Plan (**Appendix E**).

5.12.4 The Final Soil Management Plan which will be consistent with the Outline Soil Management Plan and it will be informed by an additional Phase 2 geoenvironmental ground investigation which will be undertaken ahead of construction. This Phase 2 investigation will be in accordance with the UK Government's LCRM guidance and it will seek to target identified potential sources of contamination in areas of the Proposed Development not previously subject to ground investigation (Access Improvements, CHP Connection, TCC and Water Connections). In addition, a Phase 2 investigation of the Grid Connection Corridor, including the historical landfill at the former Wisbech Canal will be undertaken ahead of its construction commencing.



## 6. Conclusion

- 6.1.1 The Outline CEMP establishes the mechanisms, management systems, plans and procedures appropriate to the control of environmental effects during the construction of the Proposed Development. As an outline document it will be updated with additional detail once the appointed EPC Contractor(s) is/are engaged and the exact methods and means by which the Proposed Development will be constructed is confirmed. A detailed CEMP will be produced in line with this Outline CEMP following grant of the DCO and would be agreed with the LPA and (if relevant) statutory consultees) before starting the works.



# Appendix A

## Outline Dust Management Plan



# Medworth Energy from Waste Combined Heat and Power Facility



PINS ref. EN010110  
Document Reference: Vol 7.12  
Revision: [56.0](#)  
Deadline: [56](#)  
[June-July](#) 2023

## Outline Construction Environmental Management Plan Appendix A Outline Dust Management Plan

**We inspire  
with energy.**



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# 1. Introduction

## 1.1 Purpose of this Document

1.1.1 The objectives of this document are to set out working methods to control the generation of dust during the construction phase of the Proposed Development. This document forms part of the Outline Construction Environmental Management Plan.

## 1.2 Development Proposal

1.2.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.2.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- **TCC:** Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.



- Access Improvements: includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.



## 2. Construction dust mitigation measures

2.1.1 Based on the IAQM Guidance on the assessment of dust from demolition and construction (Jan 2014), **Table 2.1 Construction dust mitigation measures** sets out the proposed construction dust effects mitigation measures.

**Table 2.1 Construction dust mitigation measures**

ID	Measures
<b>COMMUNICATION</b>	
DM01	Develop and implement a Stakeholder Engagement Plan that includes community engagement before work commences on site.
DM02	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary.
DM03	Display the head or regional office contact information.
<b>SITE MANAGEMENT</b>	
DM04	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
DM05	Make the complaints log available to the local authority when requested.
DM06	Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
DM07	Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/ deliveries which might be using the same strategic road network routes.
<b>MONITORING</b>	
DM08	Around the boundary of the active construction areas, undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular



ID	Measures
	dust soiling checks of surfaces such as street furniture, cars, and window sills.
DM09	Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when requested.
DM10	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
DM11	Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.
<b>PREPARING AND MAINTAINING THE SITE</b>	
DM12	Plan site layout so that machinery and dust causing activities and stockpiles are located away from receptors, as far as is possible.
DM13	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
DM14	Where possible enclose specific operations where there is a high potential for dust production and the site is active for an extensive period.
DM15	Avoid site runoff of water or mud.
DM16	Where possible, keep site fencing, barriers and scaffolding clean using wet methods.
DM17	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
DM18	Cover, seal, seed, or fence stockpiles to prevent wind whipping.



ID	Measures
<b>OPERATING VEHICLE/MACHINERY AND SUSTAINABLE TRAVEL</b>	
DM19	Ensure all vehicles switch off engines when stationary - no idling vehicles.
DM20	Where possible, avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable. Where not practical to use ultralow sulphur diesel.
DM21	Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
<b>OPERATIONS</b>	
DM22	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems.
DM23	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water (rainwater) where possible and appropriate and deploy this in bowsers on site at regular intervals. To ensure a sufficient supply at all times a supply of potable water from Anglian Water should also be made available.
DM24	Use enclosed chutes and conveyors and covered skips.
DM25	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
DM26	Ensure equipment is 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
<b>WASTE MANAGEMENT</b>	
DM27	Prohibition of bonfires and burning of waste materials.



ID	Measures
<b>MEASURES SPECIFIC TO DEMOLITION</b>	
<b>DM28</b>	Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
<b>MEASURES SPECIFIC TO EARTHWORKS</b>	
<b>DM29</b>	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
<b>DM30</b>	Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
<b>DM31</b>	Where possible, only remove the cover in small areas during work and not all at once.
<b>MEASURES SPECIFIC TO CONSTRUCTION</b>	
<b>DM32</b>	Avoid scabbling (roughening of concrete surfaces) if possible.
<b>DM33</b>	Ensure sand and other aggregates are stored in bunded areas and are 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.
<b>DM34</b>	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overflowing during delivery. Otherwise spray to reduce dust potential.
<b>DM35</b>	For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.





ID	Measures
<b>MEASURES SPECIFIC TO TRACKOUT</b>	
DM36	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
DM37	Avoid dry sweeping of large areas.
DM38	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
DM39	Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
DM40	Record all inspections of haul routes and any subsequent action in a site log book.
DM41	Install hard surfaced haul routes, which are regularly damped down and regularly cleaned.
DM42	Implement a wheel washing system.
DM43	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
DM44	Access gates to be located at least 10m from receptors where possible.



# Appendix B

## Outline Water Management Plan

# Medworth Energy from Waste Combined Heat and Power Facility



PINS ref. EN010110  
Document Reference: Vol 7.12  
Revision: [56.0](#)  
Deadline: [56](#)  
[June-July](#) 2023

## Outline Construction Environmental Management Plan Appendix B Outline Water Management Plan

**We inspire  
with energy.**



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# 1. Introduction

## 1.1 Purpose of this Document

1.1.1 The objectives of this document are to set out working methods to protect surface water and groundwater from pollution and other adverse impacts including change to flow and water levels during the construction phase of the Proposed Development. This document forms part of the Outline Construction Environmental Management Plan (CEMP).

## 1.2 Development Proposal

1.2.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.2.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.



- TCC: Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.
- Access Improvements: includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

## 1.3 Structure of this Document

1.3.1 The document is structured as follows:

- Section 2 - provides a description of the proposed surface water management, groundwater management and required consents/permits during the construction phase of the Proposed Development;
- Section 3 – sets out mitigation measures designed to prevent the potential release of pollutants from the Proposed Development construction areas;
- Section 4 – sets out the flood emergency management measures for the construction phase of the Proposed Development. and
- Section 5 – commits the Applicant to notifying Anglian Water of the higher potable and foul water demands during the commissioning phase of the EfW CHP Facility.



## 2. Water Management

### 2.1 Introduction

2.1.1 This Section provides a description of the proposed surface water management (**Section 2.2**), groundwater management (**Section 2.3**) and required consents/permits (**Section 2.4**) during the construction phase of the Proposed Development.

### 2.2 Surface Water Management

2.2.1 Flooding from surface water source is a potential risk when the intensity of rainfall is greater than the local drainage and infiltration capacity, causing water to flow overland. Where low-points or barriers to flow are present, particularly deep areas of flooding may occur. It is therefore important to give consideration to changes in surface water runoff patterns during the construction of the Proposed Development.

2.2.2 The creation of the hardstanding surfaces associated with temporary hardstanding during construction of the Proposed Development has the potential to increase surface water runoff rates and volumes and modify runoff pathways. Appropriate management of surface water will therefore be necessary to ensure risks to on-site and off-site (down-gradient) third party Receptors are appropriately addressed.

2.2.3 The following measures will be implemented to manage surface water runoff during the construction phase of the Proposed Development.

### EfW CHP Facility Site, CHP Connection and TCC

2.2.4 The conceptual drainage layout for the EfW CHP Facility Site and TCC during the construction phase is illustrated in **ES Chapter 3 Description of the Proposed Development Figure 3.11 (Volume 6.3)** and described below.

2.2.5 A large proportion of the EfW CHP Facility Site will have a temporary working platform constructed to allow the safe operation of piling rigs, mobile cranes and other heavy plant. Surface water runoff from the EfW CHP Facility Site construction area will be collected by a series of French drains which will discharge to perimeter swales. Three detention basins in the southern area of the EfW CHP Facility Site will receive and attenuate flows from the perimeter swales (gravity fed from southern area and pumped from northern area) prior to discharge into the HWIDB drainage network at greenfield runoff rates (in accordance with the protective provisions in the DCO). The total attenuation volume of the detention basins required to limit discharge from the site to greenfield rates for events up to and including the 1% AEP with a 20% climate change allowance is 443m<sup>3</sup>. The final location and dimensions of the basins are to be determined by the EPC Contractor.

2.2.6 Surface water runoff from the TCC will be collected in swales and attenuated in an underground tank prior to discharge into the HWIDB drainage network at greenfield runoff rates (in accordance with the protective provisions in the DCO). The total attenuation volume of the underground tank required to limit discharge from the TCC

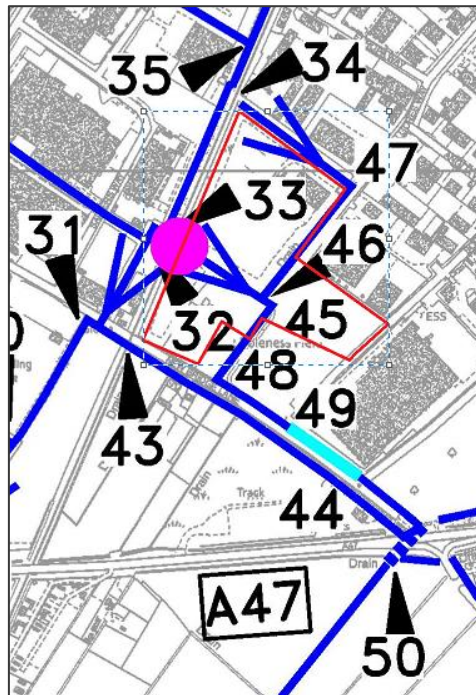




to greenfield rates for events up to and including the 1% AEP with a 20% climate change allowance is 463m<sup>3</sup>. The final location and dimensions of the tank is to be determined by the Contractor.

- 2.2.7 The two temporary discharge points from the EfW CHP Facility Site and TCC will be piped into the HWIDB drains between nodes 45–48 and 46–47 respectively (**Graphic 2.1: Extract from the HWIDB's District plan showing the IDB adopted watercourses, flow direction, node numbers and separation dam (pink circle) near EfW CHP Facility Site (Order limits)**). The discharge pipes will emerge in the drains through simple bagwork headwalls. Pipe and headwall work within the drain itself at the discharge location are not anticipated. The discharge pipe will be fitted with a penstock which will enable the discharge flows to be throttled or shut off if required.

**Graphic 2.1 Extract from the HWIDB's District plan showing the IDB adopted watercourses, flow direction, node numbers and separation dam (pink circle) near EfW CHP Facility Site (Order limits) <sup>1</sup>**



- 2.2.8 No temporary hardstanding surfaces are anticipated during construction of the CHP Connection which would give rise to additional surface water runoff.

## Access Improvements

- 2.2.9 Surface water runoff from the Access Improvements construction area will be collected by temporary cut-off drainage ditches (or swales) along the improved section of New Bridge Lane (and access bell mouth) and Algores Way, before being discharged into a HWIDB drain located on the southern edge of New Bridge Lane and western edge of Algores Way respectively. Surface water runoff generated during the construction phase would pass through a number of straw bales located

<sup>1</sup> Mapping provided by Hundred of Wisbech IDB on email dated 25th January 2021 (Appendix 12D: IDB drainage plans of Chapter 12: Hydrology (Volume 6.4) of the ES)



in the temporary drainage ditches to remove silts and solids before entering into the HWIDB drain at an agreed discharge point. The Applicant will replace the bales regularly to prevent decomposition of the bales and subsequent release ammonia into the drainage system. Consent is required from HWIDB for the discharge infrastructure pursuant to the protective provisions in the DCO.

## Water Connections and Grid Connection

### *Underground Cable and Water Connections*

- 2.2.10 The underground cable and water pipe will be installed via open cut trenching except for the water pipe crossing of the A47 where a horizontal directional drilling (HDD) option is also being considered. The time any excavations are open will be kept to a minimum to minimise water ingress and dewatering requirements. For the open cut trenching, excavation, installation and backfilling will take place overnight. For the HDD option, the preparatory works and HDD process will be undertaken during daytime construction hours and take approximately 3-weeks to complete. Given the depth of the open cut trenches (1.2-2mbgl) significant dewatering is not anticipated. If dewatering is required, pumped water will be discharged to local ditches (in accordance with the protective provisions in the DCO if applicable) or to ground. Any temporary dewatering discharge to a watercourse within the HWIDB and KLIDB districts will require temporary consent from HWIDB or KLIDB under Byelaw 3.

### *Walsoken Substation*

- 2.2.11 Surface water runoff will be collected by temporary French drains which will convey water into a swale and a small detention basin, before discharge into the adjacent drainage network (in accordance with the protective provisions in the DCO). Surface water runoff would pass through straw bales located in the temporary swale to remove silts and solids before entering into the temporary detention basin. The straw bales will be replaced regularly to prevent decomposition of the bales and subsequent release ammonia into the drainage system.

## 2.3 Groundwater Management

- 2.3.1 Most of the groundwater dewatering requirements for the construction of the EfW CHP Facility relate to the deeper excavations associated with the waste bunker (80m long, 26m wide and 14m deep). Pumped groundwater will be managed as part of the surface water drainage system and will be discharged into the HWIDB network via the detention basins provided in the southern part of the EfW CHP Facility Site (in accordance with the protective provisions in the DCO).
- 2.3.2 Based on preliminary dewatering calculations (**Appendix 12F: Outline Drainage Strategy (Volume 6.4)**), groundwater daily pumping rates (most likely value 30m<sup>3</sup>/day) are small (less than 10%) in comparison with the capacity of the attenuation basins (423m<sup>3</sup>). This suggests that there is sufficient attenuation capacity available in the three attenuation basins to accommodate pumped groundwater from the bunker excavation. Furthermore, the attenuation basin storage calculations have been based on a storm return period of 1 in 100yr (plus a 20% climate change allowance) which is conservative for a 3-year construction



period for the EfW CHP Facility, and it is anticipated that dewatering from the bunker excavation will be required over an even shorter period of 3-4 months. The volume of the three basins has also been increased by a quantity of 30m<sup>3</sup> (453 m<sup>3</sup>) to accommodate the indicative volume of pumped groundwater (as agreed with CCC), which equates to the estimated daily quantity of pumped groundwater. If the recommended aquifer pumping tests at detailed design indicate that the dewatering rates are higher than the preliminary calculations indicate, then sufficient space will still be available in the southern area of the EfW CHP Facility Site to increase the capacity of the attenuation basins if this is required.

- 2.3.3 Given the depth of the open cut trenches (1.2-2mbgl) associated with the underground cable and water pipe significant dewatering is not anticipated. If dewatering is required, pumped water will be discharged to local ditches (in accordance with the protective provisions in the DCO if applicable) or to ground.

## 2.4 Required Consents/Permits

- 2.4.1 Construction works will be undertaken in accordance with approvals from the Environment Agency (EA), Cambridgeshire County Council (CCC) and Norfolk County Council (NCC) as the Lead Local Flood Authorities (LLFA) for the Proposed Development area and from the relevant Internal Drainage Board (IDB) for those works within IDB areas (**Appendix 12F: Outline Drainage Strategy**).

- 2.4.2 No construction works are proposed within 16m of a Main River (River Nene) and therefore no Flood Risk Activity Permits are required.

- 2.4.3 All construction works are within the HWIDB district and King's Lynn IDB (KLIDB) districts. Stand-off distances from Ordinary Watercourses will be adhered to as agreed with HWIDB and KLIDB and consent under the protective provisions in the DCO or a Land Drainage Consent sought from where works encroach within these distances as set out below:

- A minimum stand-off distance from the edge of HWIDB maintained drains of 6m (on both sides of the drain) will be provided to ensure ongoing access for maintenance of the IDB drains. This applies to all construction works associated with the EfW CHP Facility Site and TCC with the exception of hardstanding and car park area (which are acceptable to HWIDB within the 6m strip).
- A minimum stand-off distance from the edge of the HWIDB maintained drains of 9m (on both sides of the drain) will be provided where possible for all construction works associated with the Access Improvements to ensure ongoing access for maintenance of the IDB drains. HWIDB advised that depending on the specific drain conditions the stand-off distance can potentially be reduced.
- A minimum stand-off distance from the edge of the HWIDB and KLIDB maintained drains of 9m (on both sides of the drain) will be provided where possible along the Grid Connection and Walsoken Substation to ensure ongoing access for maintenance of the IDB drains. HWIDB and KLIDB advised that depending on the specific drain conditions the stand-off distance can potentially be reduced (e.g., where it is impractical to provide the 9m stand-off distance along the cable route). KLIDB indicated that a stand-off distance of 5m can be considered.



- 2.4.4 Water discharges from the construction works will be limited to greenfield runoff rates as agreed with HWIDB, KLIDB, CCC and NCC (**Appendix 12F: Outline Drainage Strategy (Volume 6.4)**). Consent under the protective provisions in the DCO or a Land Drainage Consent will be sought for the installation of the discharge infrastructure from HWIDB, KLIDB, CCC or NCC. Discharges would be temporarily halted if a flood alert or flood warning is in place downstream (and the on-site discharges could feasibly contribute to the flood event).
- 2.4.5 Consent under the protective provisions in the DCO or a Land Drainage Consent will also be obtained for watercourse crossings from HWIDB and KLIDB for crossings of IDB drains and NCC and CCC for crossings of Ordinary Watercourses. This includes the following crossings (full details provided in **Chapter 12: Hydrology and Figure 12.3i: Water Environment (Proposed Development) (Volume 6.3)**). It is anticipated that the approval powers of HWIDB, KLIDB, CCC, NCC and National Highways will be enforced to ensure that the future detailed designs of these crossings and structures will limit sediment-laden runoff:
- Two permanent vehicle crossings of the HWIDB drain bisecting the EfW CHP Facility Site and two temporary pedestrian crossings of HWIDB drains on eastern edge of EfW CHP Facility Site. The crossings will be designed to standards agreed with the HWIDB.
  - Replacement and extension of culverted HWIDB drain in New Bridge Lane as part of Access Improvements. The replacement culvert will be designed to standards agreed with the HWIDB.
  - One permanent crossing by the Water Connections of HWIDB drain. The crossing will be designed to standards agreed with the HWIDB and, if required, National Highways, pursuant to the Protective Provisions for those parties in the DCO.
  - Five permanent crossings by the underground cable of IDB maintained drains which are culverted beneath the A47 (two HWIDB drains and three KLIDB drains). The HWIDB and KLIDB maintain the watercourses but not the culvert beneath the A47. The crossings will be designed to standards agreed with the HWIDB and KLIDB.



## 3. Pollution Control Measures

### 3.1 Introduction

3.1.1 This Section sets out mitigation measures designed to prevent the release of pollutants from the Proposed Development construction areas. This is because contaminated runoff has the potential to impact on the water quality of receiving water bodies (**Section 12.9 of Chapter 12: Hydrology (Volume 6.2)**). An overview of the relevant pollution prevention guidance is first provided in **Section 3.2** followed by a description of the pollution control measures for watercourses (**Section 3.3**) and groundwater (**Section 3.4**) and the water quality monitoring programme (**Section 3.5**).

### 3.2 Pollution Prevention Guidance

3.2.1 The following EA Pollution Prevention Guidelines (PPGs) will be followed during construction of the Proposed Development to prevent pollution of the water environment. This is not an exhaustive list and will need to be developed further by the Applicant prior to construction.

- PPG 1: General guide to the prevention of water pollution;
- PPG 2: Above ground oil storage tanks;
- PPG 3: Use and design of oil separators in surface water drainage systems;
- PPG 4: Treatment and disposal of sewage where no foul sewer is available;
- PPG 5: Works and maintenance in or near watercourses;
- PPG 6: Working at construction and demolition site;
- PPG 7: Safe storage – The safe operation of refuelling facilities;
- PPG 8: Safe storage and disposal of used oils;
- PPG 13: Vehicle washing and cleaning;
- PPG 18: Managing fire water and major spillages;
- PPG 20: Dewatering of underground ducts and chambers;
- PPG 21: Pollution incident response planning; and
- PPG 26: Safe storage – drums and intermediate bulk containers.

### 3.3 Protection of Watercourses

3.3.1 Construction activities may adversely affect the quality of surface water or groundwater as a result of contaminated runoff from, or spillages within the construction areas. Control and mitigation measures to be implemented to prevent pollution are set out below.





## Specific Measures for Preventing Pollution from Surface Water Discharges

3.3.2 Pollution control measures with respect surface water discharges include:

- Surface runoff and any pumped groundwater from the construction areas associated with the EfW CHP Facility Site, TCC, Access Improvements, Water Connections and Walsoken Substation will be collected, attenuated and treated in SuDS prior to discharge into the receiving watercourse. Any water discharging into an open watercourse will be regularly tested to ensure it meets the appropriate standards. As described in **Section 2.2**, the SuDS considered include swales and detention basins in the EfW CHP Facility Site and Walsoken Substation, swales and a soil separator in the TCC and swales for the Access Improvements. The proposed SuDS components have been determined in accordance with The CIRIA SuDS Manual C753 to provide the required pollution control prior to discharge of water off-site (**Appendix 12F: Outline Drainage Strategy (Volume 6.4)**).
- In the unlikely event that dewatering of the excavations associated with the Grid Connection and Water Connections is required, appropriate treatment will be provided before discharge to surface water or groundwater, and this could include the use of silt busters (or similar) for solids removal, if necessary. No silty water will be pumped directly into any watercourse.

## Specific Measures for Preventing Pollution from Watercourse Crossings

3.3.3 The Proposed Development includes a small number of watercourse crossings (full details provided in **Chapter 12: Hydrology (Volume 6.2)**):

- Two permanent vehicle crossings of the HWIDB drain bisecting the EfW CHP Facility Site and two temporary pedestrian crossings of HWIDB drains on eastern edge of EfW CHP Facility Site.
- Replacement and extension of culverted HWIDB drain in New Bridge Lane as part of Access Improvement works.
- One permanent crossing by the Water Connections of HWIDB drains beneath the A47 (either by placing the water pipe above the culverted drain using open cut installation method with strike plate protection (where there is reduced cover) or HDD beneath the drain).
- Five permanent crossings by the underground cable of IDB maintained drains which are culverted beneath the A47 (two HWIDB drains and three KLIDB drains). The HWIDB and KLIDB maintain the watercourses but not the culvert beneath the A47. The underground cable will be placed above the culverted drain using open cut installation method as agreed with National Highways and Water Management Alliance (**Appendix 12B: Stakeholder Consultation (Volume 6.4)**). Strike plate protection will be provided where there is reduced cover.

3.3.4 Site specific pollution control measures for the watercourse crossings will be employed in line with the PPG guidelines detailed in **Section 3.2**, with the provisions of PPG5 being particularly pertinent. These include:



- If dewatering of the open trench and HDD excavations is required appropriate treatment of the pumped water will be provided before discharge to adjacent ditches or ground, and this could include the use of silt busters (or similar), if necessary.
- Surface water runoff from exposed ground and stockpiles will be collected and treated (for example silt busters (or similar)) prior to discharge to adjacent ditches or ground.
- All equipment containing hazardous fluids will have double skinned fuel tanks or be parked on drip trays with appropriately sized PVC berms to contain any fluid spills or storm water runoff. Spill kits will be carried on all plant that operates with hazardous fluids.
- The HDD option for crossing of the A47 and adjacent watercourses as part of the Water Connections will use inert hydraulic fluids (bentonite drilling muds). Should the HDD option be selected a 'Frac-out' Plan will be prepared to set out the measures to prevent and control the potential for leakage of bentonite into any watercourse for approval with the relevant local authorities and IDB.

### Specific Measures for Preventing Pollution from Stockpiles and Exposed Ground

3.3.5 Pollution control measures with respect to stockpiles and exposed ground include:

- Minimise the amount of exposed ground and soil stockpiles from which water drains and the period of time such water drains (any surplus excavated materials would be disposed of off-site as early as possible).
- Gaps will be provided at intervals in the stockpiles to act as water pathways to ensure that floodwater movement is not hindered.
- Only remove vegetation from the area that needs to be exposed in the near future (ensure a vegetated strip will be left adjacent to any watercourses in accordance with the stand-off distance from IDB drains as agreed with the HWIDB and KLIDB detailed in **Section 2.4**).
- Stockpiles will be present for the shortest practicable timeframe, with materials being reinstated as the construction work progresses. Stockpiles which remain present for three months or longer will be carefully managed using seeding techniques.
- No stockpiles will be stored within 20m of open watercourses.
- Excavated materials during construction works will be segregated and stored/re-used on-site in accordance with the Outline Site Materials and Waste Management Plan (**Appendix E**) (in compliance with the CL:AIRE Definition of Waste: Code of Practice). Any temporary onsite storage of excavated materials suspected or confirmed to be contaminated will be on impermeable sheeting, covered over and with adequate leachate/runoff drainage to prevent migration of contaminants from the stockpile. Materials will be segregated where possible to prevent cross-contamination occurring. Such materials will only be reused if



they are confirmed as suitable for use in line with the requirements of the Materials Management Plan.

- Any excavated, imported or exported soils and materials will be regularly tested to ensure it meets the appropriate standards.
- No soils or materials, particularly those which are potentially contaminated, will be placed within 20m of an open watercourse.
- No stockpiles will be present along the underground cable and Water Connections route. If necessary, excess excavated soil will be transported and stockpiled in the EfW CHP Facility Site during construction. The excavated materials will be used as backfill and compacted to a similar density as the surrounding ground.
- Filter strips will be provided besides open drains, where required. The exact details to be confirmed at the detailed design stage.
- Detention basins, swales, straw bales will be provided where necessary to remove suspended solids from runoff from stockpiles before discharge into the watercourses (see above). The straw bales will be replaced regularly to prevent decomposition of the bales and subsequent release ammonia into the drainage system.

### Specific Measures for Preventing Pollution from Concrete and Cement

3.3.6 Pollution control measures with respect to safe storage and use of concrete and cement, concrete and cement mixing and washing areas should:

- Be sited no closer than 30m from any watercourse or surface water drain to minimise the risk of contaminated runoff entering a watercourse;
- Have settlement and re-circulation systems for water re-use, to minimise the risk of pollution and reduce water usage; and
- Dispose of contained water by tanker off site.

### Specific Measures for Preventing Pollution from Storage and Use of Oils and Chemicals

3.3.7 Pollution control measures with respect to safe storage and use of oils and chemicals include:

- Fuel storage will be in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 and other Pollution Prevention Guidelines (PPGs). All stores of fuel will be located at least 20m from any watercourses and away from areas at risk of flooding.
- Areas that are used for fuel storage, plant maintenance and refuelling will be surfaced with fully impermeable materials to prevent any infiltration of contaminated runoff and within a secondary containment system such as a bund.
- Any tanks containing oils, fuels and chemicals will be double skinned. There will be a bunded capacity of 100% of the maximum tank volume for non-hazardous





fluids. For hazardous chemicals, fuels or oils bund capacity will be the larger of 110% of the largest tank volume for single tank bunds, (or, in the case of multi tank bunds, 110% of the largest tank capacity or 25% of the combined tank capacity, whichever is the largest).

- An accident response protocol will be developed to ensure any spillages or potential pollution incidents are dealt with appropriately including the provision of containment for spills of contaminated liquids.
- Plant and machinery will be maintained to minimise the risks of oil leaks or similar.
- Areas for transfer of contaminating materials/substances (i.e., from vehicular tankers to onsite storage tanks) will be protected in a similar manner to the measures outlined for the storage areas.
- All oiling, and greasing will take place above a drip tray or on an impermeable base to protect underground strata and be located away from drains, watercourses or abstraction locations.
- Drip trays will be placed below static mechanical plant.
- If possible, use a biodegradable hydraulic oil in plant, when working in or near watercourses.
- If possible, use water based or low solvent products.
- Avoid products containing lead as a drying agent and those containing hazardous solvents (toluene or chlorinated hydrocarbons).

### Specific Measures for Preventing Pollution from Refuelling Activities

3.3.8

The following pollution control measures with respect to refuelling will be implemented (risk of spillage is greatest when refuelling plant):

- Refuel mobile plant in designated areas, or on impermeable base a minimum of 30m away from drain, watercourses or abstraction locations;
- Use a bunded bowser;
- Supervise all refuelling and bulk deliveries;
- Check the available capacity in the tank before refuelling;
- Don't jam open a delivery valve;
- Check hoses and valves regularly for signs of wear;
- Turn off valves after refuelling and lock them when not in use;
- Position drip trays under pumps to catch minor spills;
- Keep spill kits with sand, earth or commercial products for containment of spillages at key locations such a refuelling and maintenance areas; and
- Provide incident response training to staff and contractors.



## Specific Measures for Preventing Pollution from Vehicle and Wheel Washing

3.3.9 Pollution control measures with respect of vehicle and wheel washing on site include:

- Vehicle washing and cleaning will be carried out in areas that are clearly marked and isolated from surface water drainage systems, unmade ground and porous surfaces (designated washing bays); and
- A designated washing bay should be designed so that runoff is isolated using channels, gullies, gradients, directed to a silt trap or sediment tank to remove larger particles, and either collected in a sealed system for re-use or authorised disposal or discharged to public foul sewer (subject to approval).

### 3.4 Protection of Groundwater

3.4.1 The pollution prevention measures outlined above, along with good construction practices will ensure that any oils, fuels, solvents and other pollutants which may be used during the construction process will not discharge to the ground, and as such not form any pollutant pathways to groundwater. Such measures would also ensure that surface water bodies that may be hydraulically linked to groundwater would not be impacted upon by groundwater.

### 3.5 Water Quality Monitoring

3.5.1 A water quality monitoring programme will be agreed with the regulators and implemented during the construction phase. This will include monitoring of the discharges to surface water to demonstrate that the discharges aren't having an impact on the receiving watercourse. In addition, watercourse monitoring will be undertaken at selected locations along the Grid Connection and Water Connections route where construction activities have the potential to adversely impact on the water environment. It is proposed that a baseline sample be taken from each location prior to construction works commencing.

3.5.2 During the construction phase, visual inspections will include an assessment from the bank of the condition of the water, with photographic records taken, facing upstream and downstream of the monitoring point, for reference.

3.5.3 The frequency, duration and monitored parameters of the monitoring programme will be agreed with the regulators prior to the commencement of monitoring activities.

3.5.4 Once the construction phase within an area adjacent to a watercourse has been completed a final monitoring sample will be taken to ensure water quality is comparable to that of the baseline sample.



## 4. Flood Emergency Management Measures

### 4.1 Introduction

- 4.1.1 This section sets out the flood emergency management measures for the construction phase of the Proposed Development site focusing on the key flood risks to the site. The flood emergency management measures for the operational phase are provided in the **Outline Flood Emergency Management Plan (Volume 7.9)** whilst for the decommissioning phase will be provided in the Decommissioning Plan (which will be prepared prior to decommissioning in accordance with the DCO). An overview of the flood risk at the Proposed Development site is provided in **Section 4.2** followed consideration of the flood management procedure in **Section 4.3**.

### 4.2 Overview of Flood Risk

- 4.2.1 Tidal flooding from the River Nene (which is located approximately 0.6km to the west of the EfW CHP Facility) represents the greatest potential flood risk posed to the Proposed Development (**Appendix 12A: Flood Risk Assessment (Volume 6.4)**). This is associated with part of the Proposed Development being in Flood Zone 3a, including the entirety of the EfW CHP Facility Site and CHP Connection. The TCC, Access Improvements area and Water Connections area are within Flood Zones 2 and 3a. The Grid Connection is mostly in Flood Zone 1 with sections on New Bridge Lane and the northern end within Flood Zone 2, including the Walsoken Substation.
- 4.2.2 Detailed tidal flooding information provided by the EA indicates that the Proposed Development would remain dry during the design flood event (0.5% Annual Exceedance Probability (AEP) plus climate change), as it benefits from the protection offered by the raised tidal defences along the banks of the River Nene. The Proposed Development is also predicted to remain dry during the 0.1% AEP tidal overtopping plus climate change event. As the entire Proposed Development is predicted to remain dry during the design tidal flood event, there is no potential for the development to increase tidal flood risk elsewhere.
- 4.2.3 Parts of the Proposed Development are however potentially at residual risk of tidal flooding during breach of the raised tidal defences protecting the area or a severe flood event that exceeds the flood management design standard. This includes part of the EfW CHP Facility Site, CHP Connection Corridor, TCC, Water Connections and the Access Improvements areas. Most of the Grid Connection is not at risk of residual flooding. A flood management procedure for the residual tidal flood risks arising from breach of the flood defences in the River Nene is set out in **Section 4.2** as requested by NCC (**Appendix 12B: Stakeholder Engagement (Volume 6.4)**).






## 4.3 Flood Management Procedure

### Receiving and understanding Food Warnings

- 4.3.1 The main means by which the residual tidal flood risks arising from breach or overtopping of the flood defences in the River Nene will be managed during construction of the Proposed Development is through the EA's Flood Warning System. Flood warnings have no effect on flood levels or flows but provide individuals with an opportunity to respond in advance of a flood. They also provide the opportunity for devising an appropriate 'incident' management strategy.
- 4.3.2 The Applicant will register with the EA's Flood Warning service, which will provide flood alerts and warnings by phone, text or email. The flood warning codes are described in **Table 4.1 EA Flood Warning Codes**. The applicant will notify the appropriate emergency planners of the residual risk of flooding in the access roads.

**Table 4.1 EA Flood Warning Codes**

Flood Warning	What it means
<b>Three-day flood risk forecast</b>	Be aware. Think ahead. Keep an eye on the weather situation.
 <b>FLOOD ALERT</b>	Flooding is possible. Be prepared.
 <b>FLOOD WARNING</b> <small>FLOODING IS EXPECTED. IMMEDIATE ACTION REQUIRED.</small>	Flooding is expected. Immediate action required.
 <b>SEVERE FLOOD WARNING</b> <small>SEVERE FLOODING. DANGER TO LIFE.</small>	Severe flooding. Danger to life.
<b>Warning no longer in force</b>	No further flooding is currently expected for your area.

### Receiving and understanding Severe Weather Warnings

- 4.3.3 The main means by which the flood risks arising from severe weather events will be managed during construction of the Proposed Development is through the Met Office's Severe Weather Warnings.
- 4.3.4 The Applicant will register with the Met Office email alert service, which will provide severe weather warnings. The severe weather warning codes are described in **Table 4.2 Met Office Severe Weather Warning Codes**.



**Table 4.2 Met Office Severe Weather Warning Codes**

Severe Weather Warnings	Severe Weather Warning Meaning
<b>Yellow</b>	Yellow warnings can be issued for a range of weather situations. Many are issued when it is likely that the weather will cause some low-level impacts, including some disruption to travel in a few places. Many people may be able to continue with their daily routines, but there will be some that will be directly impacted and so it is important to assess if you could be affected. Other yellow warnings are issued when the weather could bring much more severe impacts to the majority of people but the certainty of those impacts occurring is much lower. It is important to read the content of yellow warnings to determine which weather situation is being covered by the yellow warning.
<b>Amber</b>	There is an increased likelihood of impacts from severe weather, which could potentially disrupt your plans. This means there is the possibility of travel delays, road and rail closures, power cuts and the potential risk to life and property. You should think about changing your plans and taking action to protect yourself and your property. You may want to consider the impact of the weather on your family and your community and whether there is anything you need to do ahead of the severe weather to minimise the impact.
<b>Red</b>	Dangerous weather is expected and, if you have not already done so, you should take action now to keep yourself and others safe from the impact of the severe weather. It is very likely that there will be a risk to life, with substantial disruption to travel, energy supplies and possibly widespread damage to property and infrastructure. You should avoid travelling, where possible, and follow the advice of the emergency services and local authorities.

### River Nene Tidal levels

- 4.3.5 The Applicant will use tide timetable information to identify if a Met Office severe weather warning will coincide with high tidal levels in the River Nene as it can further increase the risk of flooding at the Proposed Development.

### Flood Management Procedure

- 4.3.6 The senior site manager is responsible for receiving and interpreting flood warning and severe weather warnings, as well as paying close attention to the tidal levels in the River Nene.
- 4.3.7 Detailed flood management procedures will be developed prior to commencing construction and will detail the procedure to be followed once a flood warning and/or



severe weather warning is received. Should evacuation of the Proposed Development areas be required, primary considerations will include:

- Evacuation of personnel from the construction areas at risk of flooding (areas at residual flood risk from breach of the flood defences including the EfW CHP Facility Site, CHP Connection Corridor, TCC, Water Connections and the Access Improvements area. Most of the Grid Connection is not at risk of residual flooding). This is the primary safety consideration and is the highest priority in the unlikely event that there is insufficient time to undertake the additional activities set out below). Evacuation routes will be towards the north via Algores Way and Weasenham Lane which then connect to the A1101 and A47.
- Making the construction area safe prior to evacuation – this would include appropriate storage of equipment and materials and securing items to prevent them being mobilised in flood water.
- Removal of critical plant, equipment and polluting materials from the floodplain. This could include raising critical items or polluting materials above the design flood level to removing them from the floodplain completely to suitable alternative locations for the duration of the flood event. At the construction storage the contractor would identify the need (or not) to remove equipment or polluting materials from the working areas based on the flood warnings or alerts received.

4.3.8

When the flood water has receded the senior site manager will inform the Environment Agency's Incident Line. Also, when it is safe to do so, the access roads to the construction areas will be checked to see if it is safe to re-open them. Once these checks have been undertaken and the access roads reopened, all construction staff will be informed that normal work patterns can be resumed.



## 5. Anglian Water Notification

- 5.1.1 During commissioning of the EfW CHP Facility the Applicant will draw potable water and discharge this to the foul water network. Within the commissioning process there will be periods where the water demands are within the network's capacity, but Anglian Water have requested prior notification to inform their operational team and consequently understand any sudden increase in demands. To ensure Anglian Water are aware of any periods of high water/foul demands during commissioning phase of the EfW CHP Facility, prior to commissioning, the Applicant will notify Anglian Water of programmed periods for these higher potable and foul water demands.



## 6. Conclusions

- 6.1.1 This document has set out the proposed surface water and groundwater management, pollution prevention mitigation measures and flood emergency management during the construction phase of the Proposed Development. Implementation of these working methods is considered sufficient to mitigate any of the potential effects on the water environment Receptors identified in **Chapter 12: Hydrology (Volume 6.2)**.





# Appendix C

## Outline Soil Management Plan

# Medworth Energy from Waste Combined Heat and Power Facility



PINS ref. EN010110  
Document Reference: Vol 7.12  
Revision: 56.0  
Deadline: 56  
~~June~~ July 2023



## Outline Construction Environmental Management Plan Appendix C Outline Soil Management Plan

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with energy.**



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# 1. Introduction

## 1.1 Purpose of this Document

1.1.1 The purpose of this document is to set out working methods to manage excavated soils during the construction phase of the Proposed Development. This document forms part of the Outline Construction Environmental Management Plan (CEMP).

## 1.2 Development Proposal

1.2.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.2.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- **TCC:** Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.



- Access Improvements: includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

1.2.3

Soil is effectively a non-renewable resource which provides essential ecosystem services. Key soil functions include providing a growing medium for food, timber and crops, filtering and storing water, and supporting terrestrial biodiversity (and soil is also rich in biodiversity). Poor soil handling during construction and reinstatement can result in damage to the soil health and structure, resulting in effects including waterlogging/flooding, soil erosion, and subsequent degradation of surface water quality, and poor plant growth. The following measures are to be implemented by the construction contractor to protect the soil resource during construction and reinstatement.



## 2. Soil Management Plan

### 2.1 Introduction

2.1.1 Soil is effectively a non-renewable resource which provides essential ecosystem services. Key soil functions include providing a growing medium for food, timber and crops, filtering and storing water, and supporting terrestrial biodiversity (and soil is also rich in biodiversity). Poor soil handling during construction and reinstatement can result in damage to the soil health and structure, resulting in effects including waterlogging/flooding, soil erosion, and subsequent degradation of surface water quality, and poor plant growth. The measures set out in the final Soil Management Plan shall be implemented by the construction contractor to protect the soil resource during construction and reinstatement.

### 2.2 Soil management measures

2.2.1 The construction contractor will develop a plan so that the following measures are implemented in grassed/vegetated areas where the natural topsoil and subsoil is still likely to be in place and uncontaminated, or where previous landscaping works have taken place (e.g., vegetated road verges) and natural or imported topsoil is likely to be present:

- Ground investigation/survey will be completed as part of pre-construction work to assist in defining the soil resources present (soil type, extent, and thickness), this will also serve as a pre-condition survey for soil and should be recorded with a written description and photographic record. The results of this survey will feed into soil management planning, in addition to the Outline Site Materials and Waste Management Plan (SMWMP) (**Appendix E**).
- Soil storage areas for different types of topsoil, subsoil and/or mineral substrate will be identified prior to construction activities to avoid the mixing of these resources.
- Stripping, stockpiling and placement of soil should be completed in the driest conditions possible.
- Methodical soil stripping should be carried out using a toothed excavator bucket wherever possible. Excavator size should be proportionate to the size of the area needing soil stripped. The use of tracked vehicles will further reduce soil compaction. An example of good practice for soil stripping from Defra (2009) *Construction code of practice for the sustainable use of soils on construction sites* is shown below as **Figure 2.1 Good practice for topsoil stripping**.
- Construction traffic will keep to designated routes to minimise soil compaction.
- If ground conditions require it, a temporary track of either metal, wood or plastic, would be used for vehicles to access the working areas. This track would be removed once construction is complete.



- Daily records of soil operations undertaken, and site and soil conditions, should be maintained during soil handling activities.
- Soil storage periods will be kept to the minimum required, this is to limit impacts on soil health.
- Topsoil and subsoil will be excavated separately and stockpiled separately. Stockpile heights of 3 to 4m can be used for topsoil that can be stripped and stockpiled in a dry state.
- During excavation, if unexpected potentially contaminated materials are encountered, this material should be segregated to prevent cross-contamination with clean soils occurring and appropriate containment measures put in place to limit the potential for leaching of contaminants, contaminated surface run-off, or dust release to occur. The protocol for encountering unexpected contamination should then be followed.
- During excavation at grassed/vegetated verges it is likely that some fly tipped/wind blown waste materials will be encountered at or near surface. These materials should be removed and segregated as waste and dealt with in accordance with waste duty of care, to avoid them becoming mixed with the excavated soils. During verge excavation, the same principles of separating topsoil and subsoil are to be followed, however, the stockpiling will be very short-term, with soil being reinstated as soon as possible (same day/following day).
- Ground to be used for storing the topsoil should be cleared of vegetation or waste arising from the Proposed Development (e.g., building rubble and fill materials).
- Topsoil should first be stripped from land to be used for storing subsoil (subsoil can only be stored on subsoil or mineral substrate).
- Stockpiles to be left for periods of more than a few weeks are to be fenced off to prevent animals (e.g., badgers) from colonising them.
- Soil stockpiles will be located away from surface watercourses in accordance with the Outline Water Management Plan (**Appendix B**).
- Soil stockpiles will be clearly defined and identified (e.g., with clear signage) in accordance with the Outline Site Materials and Waste Management Plan (**Appendix E**).
- Once the stockpile has been completed, the area should be cordoned-off with secure fencing to prevent any disturbance or contamination by other construction activities.
- If soil is to be stockpiled for more than six months, the surface of the stockpiles should be seeded with an appropriate grass/clover mix to minimise soil erosion and to help reduce run-off and infestation by nuisance weeds that might spread seed onto adjacent land. Management of weeds that do appear should be undertaken during the summer months, either by spraying to kill them, or by mowing or strimming to prevent their seeds being shed.
- Soil will have a natural angle of repose of up to 40° depending on texture and moisture content but, if stable stockpiles are to be formed, slope angles will



normally need to be less than that, for stockpiles to be grass seeded and maintained, a maximum side slope of 25° is appropriate.

- If sustained heavy rainfall (e.g., >10mm in 24 hours), occurs during soil handling operations, work must be suspended and not restarted until the ground has had at least a full dry day or agreed moisture criteria (such as 'drier than the plastic limit') can be met.
- To minimise damage to soil during handling, topsoil and subsoil stripping methods should be based upon the examples of good practice set out in Defra (2009) *Construction code of practice for the sustainable use of soils on construction sites* and presented below in **Figure 2.2 Stockpiling method to be applied to soil in a dry and non-plastic state** and **Figure 2.3 Stockpiling method to be applied if the construction programme or prevailing weather conditions result in soil having to be stockpiled when wet and/or plastic in consistency**. In order to determine the soil moisture/soil consistency state, and the appropriate method of soil stockpiling, soil samples will need to be assessed by a suitably qualified/experienced person.
- Soil should be stored in an area where it can be left undisturbed and soil movements/soil handling should be kept to a minimum.
- During soil reinstatement or placement, damage to soil structure should be minimised by handling soil only when dry or slightly moist and using suitable machinery in an appropriate way. The 'loose tipping' method, using dump trucks and hydraulic excavators to move and spread topsoil, is the most appropriate method for topsoil placement, as shown in the example of good practice from Defra (2009) *Construction code of practice for the sustainable use of soils on construction sites*, shown below in **Figure 2.4 Good practice for placement of soil**.
- If the receiving basal layer or subsoil has been compacted by vehicles, foot trafficking or the storage of building materials prior to placement of topsoil, the substrate should be decompacted to break up any panning to reduce flood risk and to promote deeper root growth. This can be achieved, even in restricted areas such as planting beds or road verges, using a small (1-5 tonne) to medium sized (13 tonne) tracked excavator, fitted with a single rigid tine.
- In general reinstatement should aim to restore the land to its former condition or to where soil is being translocated, to provide a suitable platform for establishment of the intended landscaping. Following reinstatement, the EPC Contractor will carry out an inspection to confirm that reinstatement has been completed adequately. In some instances, aftercare may be needed, specific requirements for reinstatement will need to be agreed with landowners in advance of the construction work.





**Graphic 2.1 Good practice for topsoil stripping**

**Method**

Remove surface vegetation by blading off, by scarification and raking, or kill off by application of a suitable non-residual herbicide applied not less than two weeks before stripping commences.

The method illustrated below is the preferred method for minimising damage to topsoil. It shows the transport vehicle running on the basal layer under subsoil as subsoil is also to be stripped. If only topsoil is to be stripped, the vehicle would run on the subsoil layer.

Stripping should be undertaken by the excavator standing on the surface of the topsoil, digging the topsoil to its maximum depth and loading into site or off-site transport vehicles.

Alternative stripping methods that can be shown to afford the same degree of soil protection are acceptable.

An archaeological watching brief might have to be accommodated during topsoil stripping.

**Graphic 2.2 Stockpiling method to be applied to soil in a dry and non-plastic state**

**Soil stockpiling**

Soil should be stored in an area of the site where it can be left undisturbed and will not interfere with site operations. Ground to be used for storing the topsoil should be cleared of vegetation and any waste arising from the development (e.g. building rubble and fill materials). Topsoil should first be stripped from any land to be used for storing subsoil.

**Method 1 – Dry non-plastic soils**

The soil is loose-tipped in heaps from a dump truck (a), starting at the furthest point in the storage area and working back toward the access point. When the entire storage area has been filled with heaps, a tracked machine (excavator or dozer) levels them (b) and firms the surface in order for a second layer of heaps to be tipped. This sequence is repeated (c & d) until the stockpile reaches its planned height. To help shed rainwater and prevent ponding and infiltration a tracked machine compacts and re-grades the sides and top of the stockpile (e) to form a smooth gradient.



**Graphic 2.3 Stockpiling method to be applied if the construction programme or prevailing weather conditions result in soil having to be stockpiled when wet and/or plastic in consistency**

**Method 2 – Wet plastic soils**

The soil is tipped in a line of heaps to form a 'windrow', starting at the furthest point in the storage area and working back toward the access point (a). Any additional windrows are spaced sufficiently apart to allow tracked plant to gain access between them so that the soil can be heaped up to a maximum height of 2m (b). To avoid compaction, no machinery, even tracked plant, traverses the windrow.

Once the soil has dried out and is non-plastic in consistency (this usually requires several weeks of dry and windy or warm weather), the windrows are combined to form larger stockpiles, using a tracked excavator (d). The surface of the stockpile is then regraded and compacted (e) by a tracked machine (dozer or excavator) to reduce rainwater infiltration.



**Graphic 2.4 Good practice for placement of soil**

**Loose-tipping method**

This method entails working to a strip system (the width of the strip determined by the reach of the excavator), and replacing soil sequentially across the soiling area. The receiving ground, whether a basal layer or compacted subsoil is first loosened with a wing-tine ripper.

A hydraulic excavator, fitted with a toothed-bucket to avoid excessive smearing, should be used to load the soil materials from the source area or stockpile into a dump truck which then discharges them onto the receiving surface. An excavator stands next to the newly dropped soil and spreads this to the required thickness. If there is to be more than one soil layer (i.e. if both topsoil and subsoil are being replaced) then the whole length of the strip is restored with subsoil before the process is repeated with topsoil. The topsoil is lifted onto the subsoil without the excavator travelling on the newly placed subsoil. Only when the strip has been completed is the next one started.

If soil is cloddy in structure, the excavator bucket can be used to break up the clods. Large stones can be removed during the operation.

Modified versions of the loose-tipping method, for use when both subsoil and topsoil are to be placed, include spreading the subsoil as described above but then spreading the topsoil layer out using a low ground pressure dozer. Providing that soil conditions are suitably dry and dozer movements are minimised, this can gently consolidate the placed soil without causing over-compaction.

**The loose-tipping method (topsoil spreading only)**

a) loosening the subsoil of the receiving ground  
 b) loading of topsoil from stockpile  
 c) backtipping topsoil onto loosened subsoil  
 d) levelling topsoil

**The loose-tipping method (topsoil and subsoil spreading)**

a) loosening the substrate of the receiving ground  
 b) loading of subsoil from stockpile  
 c) backtipping subsoil onto loosened substrate  
 d) levelling subsoil  
 e) backtipping topsoil  
 f) spreading topsoil over subsoil using excavator working on substrate



## 2.3 Protocol for encountering unexpected potential land contamination

2.3.1 The EPC Contractor will develop a protocol for encountering unexpected contaminated material (soil or groundwater) during excavation works. This will include measures to:

- Segregate and label the suspected contaminated soil or groundwater/liquid, keeping records and photographs of the observed material – where encountered, lateral extent, depth, colours, odours etc.
- Provide adequate containment for the material so that it cannot migrate to cross-contaminate clean soils, reach the surrounding ground or surface water.
- Cease excavation in the location of the unexpected contaminated material until suitable chemical testing, as set out below, has taken place and the results have been assessed.
- Arrange for suitable chemical testing by a UKAS and MCERTS accredited laboratory through discussion with a contaminated land specialist, and follow-on assessment of the contamination in accordance with UK contaminated land guidance i.e., the Environment Agency (2020) *Land contamination risk management* (LCRM) to identify the next steps e.g., to allow decisions to be made about the reuse, treatment or disposal of the material, and to define any other investigative or remedial actions that may be needed.



# Appendix D

## Outline Ecological Mitigation Strategy



# Medworth Energy from Waste Combined Heat and Power Facility

PINS ref. EN010110

Document Reference: Vol 7.12

Revision: 56.0

Deadline: 56

June-July 2023



## Outline Construction Environmental Management Plan Appendix D Outline Ecological Mitigation Strategy

**We inspire  
with energy.**



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# 1. Introduction

## 1.1 Purpose of this Document

This Ecological Mitigation Strategy (EMS) has been produced to document the environmental measures that will be adopted to ensure potential effects on ecology Receptors are avoided and/or minimised. This document forms part of the Outline Construction Environmental Management Plan (CEMP).

## 1.2 Development Proposal

1.2.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.2.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- **TCC:** Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.



- Access Improvements: includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.



## 2. Background

- 2.1.1 A desk study and an extended Phase 1 habitat survey undertaken by Wood Group UK Limited (Wood) in 2020-21 and further species-specific surveys undertaken by Wood in 2021 (see **Appendix 11.D-L (Volume 6.4)** of the Environmental Statement) identified the presence/potential presence of species which are legally protected or otherwise notable within or adjacent to the Order limits. Construction activities for the Proposed Development therefore have the potential to adversely impact on a range of ecological Receptors.
- 2.1.2 The purpose of this EMS is to define the risks to the following ecological Receptors that have the potential to be within or adjacent to the working areas at the time of the works:
- Breeding birds (The Wildlife and Countryside Act 1981 (as amended));
  - Bats (Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended));
  - Badgers (Protection of Badgers Act 1992);
  - Great crested newt (Schedule 5 of the Wildlife and Countryside Act 1981 (as amended));
  - Reptiles (Schedule 5 of the Wildlife and Countryside Act 1981 (as amended));
  - Otter (Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended));
  - Water vole (Schedule 5 of the Wildlife and Countryside Act 1981 (as amended));
  - Invasive species (The Wildlife and Countryside Act 1981 (as amended)); and
  - Other notable species (e.g., brown hare, hedgehog and common toad, which are Species of Principal Importance for the purpose of conserving biodiversity in England, listed under Section 41 of the Natural Environment and Rural Communities Act 2006).
- 2.1.3 Mitigation that will negate or minimise the risk of any potential impacts on these species and therefore reduce the risk of breaching the relevant legislation has been outlined within this EMS.
- 2.1.4 There is potential for protected or notable species to occur within all areas of the Proposed Development. Species are not limited to 'green' habitats, and there is potential for construction activities to inadvertently create habitat for species in areas that would otherwise be unsuitable. This EMS therefore includes general mitigation measures (**Section 3**) that will be applied throughout the Proposed Development as good practice. **Section 4** details Receptor-specific mitigation which will be applied in areas where sensitive Receptors are known to be present or where there is potential for them to occur (i.e., based on the presence of suitable habitat within or



close to working areas). The distribution of species and their habitat can change prior to commencement (i.e., since baseline surveys were completed) and during the construction phase. An Ecological Clerk of Works (see **Section 2.3**) is required to guide where it is appropriate to apply the Receptor-specific mitigation measures described in this EMS.

## 2.2 Responsibilities

2.2.1 It is the responsibility of the Applicant (Medworth CHP Ltd), the Engineering, Procurement and Construction Contractor(s) (EPC Contractor) and all sub-contractors to carry out the works in a manner which will not contravene the legislation, including the DCO, will not endanger protected species, and with due care to any other wildlife on site. Any variations from the EMS may contravene legislation and therefore risk prosecution. Thus, it is their joint responsibility that no changes to the timings or methods outlined below, nor the already identified and delineated working areas on site, are made without prior agreement from a suitably qualified ecologist.

## 2.3 Ecological Supervision and Toolbox Talk (TBT)

2.3.1 An appropriately qualified and experienced ecologist will be appointed as an Ecological Clerk of Works (ECoW) to guide and quality-control the implementation of this EMS. The ECoW will also advise when and where it is appropriate to apply the measures described within this EMS, and will undertake tasks such as pre-works checks and site supervision where these are required (as outlined in **Section 3** and **4**).

2.3.2 The training and communication of the EMS will be embedded into the site indication process. and where appropriate, site operatives would be briefed using a TBT factsheet, which details the species that may be encountered over the site during the course of the works. The TBT would also identify the habitats present on site that have the potential to be used by these species and outline the procedures and environmental measures to be followed in order to avoid breaches of legislation and/or adverse impacts on these species that could occur within or in the vicinity of the working area.



## 3. General Mitigation

### 3.1 Overview

3.1.1 This section outlines general mitigation measures that will be applied throughout the Proposed Development as good practice to protect biodiversity and minimise the risk of contravening legislation.

### 3.2 General Measures

3.2.1 The following general measures will be adopted.

- In advance of works commencing (including site clearance and preparatory works) the ECoW will provide a TBT for the works and ensure that the EPC Contractor and all sub-contractors have signed the site register, confirming their understanding of, and agreement with, this EMS. The ECoW will undertake a walkover (to an appropriate buffer around the proposed works) with the EPC Contractor at this time in order to identify any additional ecological constraints which may be present, and to micro-site locations of access and working areas where appropriate to avoid ecological habitats/features of interest, and minimise loss and fragmentation of habitats.
- If the ECoW identifies potential for localised fragmentation of a habitat features, they will advise on mitigation measures that will be implemented (e.g., the use of temporary screens to maintain connectivity of linear features for commuting bats).
- The EPC Contractor and all sub-contractors must be fully aware of the site boundary of the Proposed Development within the Order limits. Works will be restricted to the minimum possible footprint so as to avoid unnecessary disturbance of species/habitats or fragmentation of habitat. Unless agreed with the ECoW, under no circumstances will the surrounding habitats outside the working area be disturbed or impacted by the works.
- An **Outline Lighting Strategy (Chapter 3 Appendix 3B (Volume 6.4))** has been prepared which includes for measures to minimise impacts on nocturnal fauna. This will be followed throughout works.
- If any protected species are observed within the site boundary or the surrounding habitats, work will stop immediately at that location and within an approximate 30m buffer and the ECoW notified. The ECoW will provide advice on how best to progress with the works while minimising the risk of contravening legislation. Although these measures are necessary specifically in relation to protected species, all site personnel must treat any animals with similar due care and attention.
- All site personnel will be made aware that protected species may be found sheltering amongst refugia such as rubble, wood, chippings or rubbish and as a



result will maintain a tidy site and remain vigilant for species when moving such materials.

- All machinery, materials and chemicals will be stored safely and securely to prevent foraging and commuting animals coming in to contact with these, and to prevent spillage of chemicals. They should be stored on hard standing surfaces where possible. If not possible, materials will be raised off the ground.
- Fuel will be stored in appropriate capacity bunded tanks/bowsers, and drip trays used beneath equipment such as generators.
- Chemicals will be used in strict accordance with manufacturer's instructions, and appropriate spill kits will be provided, and site personnel appropriately trained to use these.
- Chemicals in the form of herbicides, pesticides and fertilisers will be avoided wherever possible.
- Vegetation clearance will be minimised, and all vegetation clearance will be carried out in line with the additional working methods outlined in **Section 3.3**.
- Works will remain as far from all watercourses and waterbodies as is possible, with no works occurring within watercourses unless agreed in advance with the ECoW (noting additional Receptor-specific measures for otter and water voles in **Section 4.6-4.7**); see also Outline Water Management Plan (**Appendix B**)
- Works will be carried out in accordance with GOV.UK and Environment Agency (EA) guidance for pollution prevention<sup>1</sup> during any works that occur within ~10m of a watercourse to minimise the risk of pollution incidents affecting watercourses.
- Any obvious mammal trails through the site should remain clear of obstruction.
- Any excavations will be back-filled by the end of each working day. If this is not possible, then one of the following measures will be used:
  - ▶ A means of escape for any animals that may become entrapped will be placed in the open excavations (i.e., one side of the excavation at a 1 in 2 or shallower angle or with a ramp left in place such as a wooden plank);
  - ▶ Small excavations will be covered at the end of the day (e.g., with road plates); and/or
  - ▶ Larger excavations will be fenced off at the end of the day using a suitable material to prevent access by small and large animals.
- Prior to any sections of the site being cleared/or excavated or any works that will cause disturbance to the ground, a visual check will be made for reptiles and any other protected species. This will also be undertaken immediately prior to each "shift" of work on an area (e.g., after a lunch break and at the start of each day).

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<sup>1</sup> Guidance on pollution prevention for businesses is available on the GOV.UK website: <https://www.gov.uk/guidance/pollution-prevention-for-businesses>. Further to this, the Environment Agency previously published a series of pollution prevention guidance (PPG) notes. The PPGs were withdrawn in December 2015 and now reside in The National Archives; however, they contain a mix of regulatory requirements and advice, much of which remains relevant good practice:





- Speed limits will be imposed on all construction haul roads and access tracks to minimise the risk of road traffic collisions with fauna.
- Once works are complete, habitats will be reinstated in accordance with the **Outline Landscape and Ecological Management Plan (Volume 7.7)**. Reinstatement of temporary habitat loss will be undertaken in a timely manner once works are complete in each area, to minimise periods of habitat loss. For linear works, such as construction of the Grid Connection along the verge of the A47, habitat reinstatement will be phased as sections of construction works are progressively completed along the route.
- If changes to the programme and scope of work are required at any stage of construction, this would need to be reassessed in consultation with the ECoW prior to the works taking place.

### 3.3 Site Clearance

3.3.1 Prior to any site clearance, the ECoW will undertake a greenworks walkover of the site with the EPC Contractor to identify any particularly ecologically sensitive areas as well as updating the current ecological baseline. The walkover would identify areas of vegetation clearance where supervision by the ECoW would be required (in addition to any locations identified elsewhere within this EMS, e.g., Receptor-specific mitigation in **Section 4**), and where the following measures will be applied:

- All vegetation clearance will be completed between September and February inclusive where possible. Any vegetation clearance between March and August inclusive requires a pre-works nesting bird assessment by the ECoW (see **Section 4.2**) and may require supervision to determine whether nesting birds are present (if an active nest is found, additional mitigation measures may be required).
- Site clearance of rubble, brash, logs etc. that is deemed suitable as refugia for amphibians and reptiles by the ECoW will be carried out under suitable weather conditions as defined by the ECoW (e.g., following 5 days above 5°C overnight).
- Immediately prior to site clearance, hand searching (where required) of suitable habitats will be undertaken by the ECoW.
- If there is potential for hibernating animals (advised by the ECoW but generally features such as root bases, log or stone piles) the cut to ground level and/or uprooting will be delayed until the animals are likely to be out of hibernation (March - May depending on species and weather conditions) or the feature will first be inspected by the ECoW.
- Vegetation will be directionally cleared as advised by the ECoW, to encourage any animals present within the working area to move into suitable adjacent habitat outside of the working area.
- Any coarse vegetation (scrub, trees, semi-improved grassland, tall ruderal) that requires removal within the working area will be cut to a short sward/stump (~30cm in height), this initial cut may be conducted without supervision if agreed with the ECoW.

## D10



- After the first cut, hand searching (as required) of suitable habitats will again be undertaken by the ECoW.
- All cut vegetation will then immediately (before sunset on the same day) be cleared out of the working area (for example, blown or raked) and disposed of at a location away from the working area or chipped and spread thinly if agreed with the ECoW.
- Any branches/rubble/boulders etc. will be lifted (not dragged) off site immediately. Any branches must be lowered gently and not allowed to crash to the ground.
- Clearance to ground will only be undertaken following agreement from and/or under supervision by the ECoW.
- The vegetation must be maintained at ground level height during the works or until the roots etc. can be removed. This should make the habitat less attractive to ecological Receptors and minimise the risk of re-population.





## 4. Receptor-Specific Mitigation

### 4.1 Overview

4.1.1 This section details Receptor-specific mitigation which will be applied in areas where sensitive Receptors are known to be present or where there is potential for them to occur based on the habitat present. The ECoW will guide where the measures in this section will be applied.

### 4.2 Breeding birds

4.2.1 Suitable habitat for nesting birds is present throughout the Proposed Development. The most suitable areas of habitat include areas of scrub, trees, and hedgerow within the EfW CHP Facility Site, CHP Connection Corridor and localised areas of the Grid Connection and substation compound, however other habitats are also suitable such as areas of grassland and stands of dense vegetation along verges and ditches. Vegetation clearance will, where possible, be completed between September and February inclusive (i.e., outside of the main bird breeding season). Where vegetation removal is necessary during the main bird breeding season (approximately March to August inclusive) the following mitigation will be undertaken:

- A nesting bird check will be undertaken by the ECoW prior to the work commencing for each discrete area of vegetation clearance (within no more than 24 hours prior).
- To minimise the risk of works disturbing breeding activity by Schedule 1 birds<sup>2</sup>, Schedule 1 breeding bird walkovers will be undertaken monthly during the main breeding season (March to August inclusive) covering all working areas and an appropriate surrounding buffer.
- An emergency procedure will be implemented by all site personnel if breeding birds or a nest is encountered. All work within 50m radius will immediately cease and the ECoW be notified. The ECoW will inspect the site and define if any mitigation is required. The ECoW will review whether the nest is active, identify the species present, and if construction activities are likely to affect it and, if so, what mitigation options are available. Priority will be given to assessing and mitigating impacts to species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) which receive increased protection from disturbance during breeding, along with their dependent young.
- Following the identification of an active nest, a protection zone will be set out by the ECoW in order to avoid destruction to that nest. No works will be carried out within these zones whilst birds are using the nest or young are still dependent on the nest site. Monitoring of the nest will be undertaken by the ECoW.

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<sup>2</sup> Several species of bird are listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). 'Schedule 1' species receive increased protection; protecting them and their dependent young from disturbance during breeding.



- For key specially protected species, appropriate protection zones based upon industry standard guidance (i.e., Ruddock and Whitfield, 2007<sup>3</sup>) will be established upon confirmation of breeding taking place in order to avoid any risk of disturbance.
- In all cases, EPC Contractor and all sub-contractors will be advised of existing/new constraints together with mitigation options by the ECoW.

## 4.3 Bats

4.3.1 Suitable habitat for bats is present throughout the Proposed Development. The most suitable areas of habitat include areas of scrub and trees within the EfW CHP Facility Site and CHP Connection Corridor which provide opportunities for roosting, foraging and commuting. Suitable foraging and commuting habitat is present throughout other parts of the Proposed Development including grassland and scattered scrub within the TCC, roadside trees, scrub, woodland, grassland and hedgerows immediately adjoining the Grid Connection, the extensive network of ditches, and localised areas of verge habitats along the Access Improvements and Water Connections.

### Lighting

4.3.2 An Outline Lighting Strategy (**Chapter 3 Appendix 3B (Volume 6.4)**) has been prepared which includes for measures to minimise impacts on bats. This will be followed throughout works.

### Felling of Trees

4.3.3 Where tree felling or reduction is to take place (notably at the EfW CHP Facility Site, CHP Connection Corridor, and Grid Connection substation compound), all trees will undergo a preliminary ground level roost assessment for Potential Roost Features (PRFs) prior to works by a suitably qualified and experienced ecologist. This should be undertaken in accordance with the Bat Conservation Trust (BCT) Surveys: Best Practice guidance (2016)<sup>4</sup>; to determine whether the tree has negligible, low, moderate or high suitability for roosting bats.

4.3.4 Trees assessed by the ecologist as having **negligible suitability for roosting bats** can be pruned or removed following the General Mitigation measures outlined in **Section 4**.

4.3.5 Should a tree, or any section of tree directly or indirectly affected, be assessed by the ecologist as having **low suitability for roosting bats** the works will proceed in accordance with the following mitigation:

- All works will be completed under the supervision of a suitably licensed and experienced ECoW. The trees for supervised felling/pruning will be clearly marked as such.

<sup>3</sup> Ruddock, M. & Whitfield, D. P. (2007) A review of disturbance distances in selected bird species. Natural Research Projects Ltd report to Scottish Natural Heritage. <http://www.snh.gov.uk/docs/B313999.pdf>.

<sup>4</sup> Bat Conservation Trust (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition).



- The ECoW will provide a TBT to the EPC Contractor and all sub-contractors prior to any works. The TBT will highlight that bat roosts are potentially present within the affected trees, the legal implications associated with the species and the measures that must be taken to ensure compliance with the legislation.
- All trees will be inspected for signs of roosting bats from the ground by an ecologist prior to removal, and where possible, this will be followed by an aerial assessment by a qualified tree climber (under supervision of a bat licenced ecologist) prior to felling.
- Each limb or tree section containing a potential roost feature, or if left to fall would affect a potential roost feature, will be soft felled and lowered slowly and carefully to the ground by rope rather than dropped, to cover the low residual risk of harm to individual bats being present. These sections will be checked for evidence of roosting bats by the ECoW prior to stacking/chipping.
- As per the JNCC Bat Workers Manual<sup>5</sup>, if cracks are kept open by stress, “*care must be taken when cutting so that the crack does not close*” (potentially crushing any bats within). In addition, “*care must be taken not to cut directly into holes or directly above them*”.
- Should bats be found at any point during works, work will cease immediately and the ECoW will advise on the most appropriate course of action. The advice given would depend on each individual situation and may involve leaving the bat to depart the roost of its own accord or removal of the bat by an appropriately licenced bat ecologist. Liaison with Natural England may be required to determine if a licence is required.
- All site personnel are explicitly forbidden from handling, harming or disturbing bats in any way.
- The works will take place during suitable weather conditions in accordance with the ECoW’s recommendations and the BCT and Natural England guidance. The ECoW will monitor conditions to ensure they remain suitable, and works may need to be suspended if conditions deteriorate significantly.

4.3.6 Should a tree, or section of tree subject to works, be assessed as having **moderate or higher suitability for roosting bats**, the control measures outlined below must be followed.

4.3.7 Where pruning or removal of such trees is unavoidable, there is potential to affect bats and their roosts. Other site work in locations where a tree with moderate or higher suitability has been identified in close proximity could also potentially indirectly affect roosting bats (e.g., through noise disturbance). Therefore:

- Tree removal and other site activities in locations where a tree with moderate or higher suitability for roosting bats has been identified must be discussed in advance with the ECoW, prior to works commencing. Additional surveys and/or mitigation may be required, potentially including working under a Natural England Bat Mitigation Licence.

<sup>5</sup> Mitchell-Jones, A.J., & McLeish, A.P. Ed 3rd Edition Bat Workers' Manual (2004).



## 4.4 Badger

4.4.1 Evidence of badger activity has been recorded within the Order limits, but no setts have been recorded. Badgers are a highly mobile species and suitable habitat is present for foraging, commuting and/or creation of new setts throughout all parts of the Proposed Development. The following mitigation will therefore be implemented to minimise the risk of harm to badgers or damage/disturbance to their setts:

- Prior to vegetation clearance and site strip, a pre-works check by the ECoW will be undertaken of the proposed working area as well as a ~30m buffer to check for the presence of newly created setts or evidence of badger activity.
- The ECoW will provide a TBT to the EPC Contractor and all sub-contractors prior to any works. The TBT will highlight that badgers are present within the immediate local area, the legal implications associated with the species and the measures that must be taken to ensure compliance with the legislation.
- As a precaution, any mammal paths will be cleared of felled timber, brash or any other materials or equipment before the end of each day.
- Chemicals will not be used without prior agreement by the ECoW.
- An Outline Lighting Strategy (**Chapter 3 Appendix 3B (Volume 6.4)**). has been prepared which includes measures to minimise impacts on nocturnal fauna. This will be followed throughout works.

## 4.5 Great Crested Newts and Reptiles

4.5.1 Due to the presence of suitable habitat, great crested newts (GCN) and/or reptiles are potentially present in working areas throughout all parts of the Proposed Development. The following mitigation will be implemented to minimise the risk of harm or other affects to these species.

### Site Clearance

4.5.2 Habitat manipulation will be undertaken to displace reptiles from areas of suitable habitat that will be lost where adequate adjoining surrounding suitable habitat will remain to support a viable population. This includes areas of trees, scrub, grassland and vegetated bunds within the EfW CHP Facility Site, trees, scrub and grassland habitat along the CHP Connection, and grassland and scattered stands of scrub within the TCC, as well as any other localised areas of suitable reptile habitat as advised by the ECoW.

4.5.3 Habitat manipulation for the purposes of displacement of reptiles will ideally be undertaken during the winter (November to February inclusive, or when daytime temperatures average less than 5°C during a single 24-hour period) and will follow the mitigation measures outlined below. If habitat manipulation is unavoidable during the reptile active period (March to October inclusive) this will involve multi-staged vegetation clearance using hand tools only and will be closely supervised by the ECoW. This mitigation is also appropriate to minimise the risk of harm to GCN in areas where there is a very low residual risk of their presence.



- The ECoW will provide a TBT to the EPC Contractor and all sub-contractors prior to any works. The TBT will highlight that GCN/reptiles are potentially present within the immediate local area, the legal implications associated with the species and the measures that must be taken to ensure compliance with the legislation.
- The working area will be hand-searched for GCN/reptiles immediately prior to works commencing, and/or the works would be directly supervised by the ECoW, as determined by the ECoW.
- The minimum amount of vegetation clearance possible to enable the works to proceed safely will be undertaken at each location.
- Phased vegetation clearance:
  - ▶ During the winter (November to February inclusive, or when daytime temperatures average less than 5°C during a single 24-hour period), the requirement for multi-staged vegetation clearance will be determined by the ECoW (i.e., where phased clearance is required to enable the ECoW to search dense vegetation to identify potentially suitable hibernacula which will be retained and protected). Clearance to ground will only be undertaken during winter when the ECoW is satisfied that there is sufficiently low risk of hibernating animals being present/harmed by the work.
  - ▶ During the reptile active period (usually March to October inclusive) a multi-stage cut will be used as a minimum requirement when removing vegetation to ground level under the guidance and supervision of the ECoW. A pre-works check by the ECoW (finger-tip search) will be undertaken at the start of each stage. All vegetation to be removed will be cut down to 30cm and removed from site – the site will then be left undisturbed for two suitably mild and dry days; this would then be repeated taking the vegetation down to no less than 10cm. Finally, the vegetation will be taken down as close to the ground as possible and maintained in this condition for the duration of the works. Vegetation will be directionally cleared as advised by the ECoW, to encourage any animals which may be present within the working area to move into suitable adjacent habitat outside of the working area.
  - ▶ The timing of the cutting stages may be adjusted by the ECoW to reflect the vegetation and site conditions where necessary.
- All vegetation cuttings and/or chippings will be removed from the working area on the same day and left in a designated area as agreed between the ECoW and EPC Contractor. This must be located at an appropriate distance from any nearby water courses which are suitable for GCN. Site personnel will be made aware that stored chippings/arising can provide GCN/reptile refugia.
- Existing features such as refugia (e.g., rubble and log piles) or hibernacula will ideally be avoided as advised by the ECoW. If this is not possible, they will carefully be dismantled by hand during the reptile active period, approximately March-October inclusive (overseen by the ECoW). Any potential breeding sites will be dismantled by hand outside the breeding season as advised by the ECoW. Where possible, habitat features such as hibernacula or egg-laying sites





which are to be lost will be reconstructed (or replaced) within the replacement habitats.

## Trackway Installation/Removal

4.5.4 Should the requirement for temporary trackway panels be identified by the EPC Contractor, the following additional control measures will be followed:

- The ECoW will provide a TBT to the EPC Contractor and all sub-contractors prior to any works. The TBT will highlight that GCN are potentially present within the immediate local area, the legal implications associated with the species and the measures that must be taken to ensure compliance with the legislation.
- Any trackway used will be of a suitable specification to negate the potential for GCN/reptiles to shelter within/beneath.
- Installation and removal of trackway will be supervised by the ECoW.
- Trackway will be sealed to the ground (if the ground is not flat) using earth/sandbags to ensure that no GCN/reptiles are able to enter any gaps underneath the trackway. This will be done by compacting earth along the edge of the trackway, so no gaps are present, or by placing sandbags along the edges to ensure trackway is sealed. This sealing of trackway will be done on the same day as that the trackway is installed. Trackway will undergo regular inspection by the ECoW to ensure no gaps/cracks appear, and if present these will be resealed promptly.

## During All Works

4.5.5 In addition to the mitigation referenced above the following mitigation measures are required during these activities as well as all other works (i.e., construction):

- Any features with the potential to be used as hibernacula by GCN/reptiles, as identified by the ECoW will only be dismantled or removed following at least five nights where minimum temperatures do not fall below 5°C.
- No rubbish/materials will be discarded or dumped within the working areas, as GCN/reptiles may use these materials for temporary shelter. It is imperative that during all site works due care and attention is paid to any materials accidentally left lying around in case GCN/reptiles are sheltering under or within them. All such materials will be examined for presence before they are moved/discarded/destroyed off-site.
- All stored materials (including spoil) created from works may be used as a refuge by GCN/reptiles and will be stored appropriately as advised by the ECoW. For example, materials will be stored in areas that are not connected to suitable GCN/reptile habitat. If materials are stored in areas adjoining suitable GCN/reptile habitat, they will be elevated off the ground, for example using pallets (approximately 25cm above ground level), or stored within skips, or the edges of spoil mounds will be compressed/battered with an excavator bucket to prevent cracks and crevices forming.



- Should a GCN/reptiles be found at any stage during works, all work will cease immediately at that location and within an approximate 30m buffer and the ECoW notified. The ECoW will provide advice on how best to progress with the works while minimising the risk of contravening legislation. Should a GCN be identified, additional surveys and/or mitigation may be required, potentially including working under a Natural England GCN Mitigation Licence.

## 4.6 Otter

4.6.1 Although no evidence of otters or their rest sites have been identified within ~200m of the proposed working areas, there are records of otter in the local area. The species is far-ranging and the network of ditches within and adjoining the Proposed Development provide potential commuting corridors that link to more extensive areas of suitable habitat such as the River Nene.

4.6.2 The following mitigation measures will be applied to all working areas within 30m of a wet ditch, as guided by the ECoW:

- A pre-works check by the ECoW will be undertaken of any suitable habitat within the working area and any wet ditch habitat extending ~200m up and downstream to check evidence of otter.
- The ECoW will provide a TBT to the EPC Contractor and all sub-contractors prior to any works. The TBT will highlight that otters are potentially present within the immediate local area, the legal implications associated with the species and the measures that must be taken to ensure compliance with the legislation.
- As a precaution any mammal paths will be kept free of felled timber, brash or any other materials or equipment before the end of each day.
- Works will be carried out in accordance with GOV.UK and EA guidance for pollution prevention to minimise the risk of pollution incidents.
- An Outline Lighting Strategy (**Chapter 3 Appendix 3B (Volume 6.4)**) has been prepared which includes for measures to minimise impacts on nocturnal fauna. This will be followed throughout works.

## 4.7 Water vole

4.7.1 Evidence of water vole presence has been recorded within the Order limits including a low level of water vole use of ditches within the EfW CHP Facility Site and TCC. There is an extensive network of inter-connected ditches within the local area, and there is potential for water vole to occur on ditches throughout all parts of the Proposed Development. As both noise and visual impacts do not, in most cases, have a significant impact upon water voles (Deans et al, 2016)<sup>6</sup>, any potential risk of impact to water voles caused by the works is deemed to be via direct impacts to water vole individuals, their burrows, or other habitats which support them.

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<sup>6</sup> Dean.M, Strachan.R, Gow.D and R. Andrews (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds: Fiona Mathews and Paul Chanin. The Mammal Society, London.



4.7.2

To ensure the vegetation clearance and construction works do not cause any impact upon water voles, the following mitigation measures will be applied to all locations where working areas occur within 10m of a ditch or pond:

- A pre-works survey by a suitably experienced ECoW will be undertaken to identify if any water vole burrows or field signs are present prior to any works commencing. The survey will encompass a 20m buffer up and downstream of the working areas.
- The ECoW will provide a TBT to the EPC Contractor and all sub-contractors prior to any works. The TBT will highlight that water vole are potentially present within the immediate local area, the legal implications associated with the species and the measures that will be taken to avoid impacts on water voles and ensure compliance with the legislation.
- Unless essential, no work will be undertaken, or equipment or vehicles stored, within 10m of a watercourse. This buffer zone will ensure burrows are not compacted or damaged as a result of the works or equipment used.
- Works will be carried out in accordance with GOV.UK and EA guidance for pollution prevention to minimise the risk of pollution incidents.
- If evidence of water vole is recorded during the pre-works survey or at any time during works, the works will stop immediately and advice from the ECoW will be sought. Additional control measures may be required such as exclusions zones around burrows. If works are to unavoidable within 10m of a water vole burrow, or directly impact upon a water vole burrows and it cannot be avoided, a licence from Natural England may be required. If required, an appropriate and proportionate licensable mitigation scheme be determined at the time based on the nature and extent to be agreed with Natural England through the species licencing process.
- If the ECoW determines that licensable mitigation is required, damaging activities must not take place within the licence area until an appropriate licence is in place, at which point works will progress in accordance with the timing, requirements and conditions of the approved licence. Licensable activities will be overseen the Named Ecologist on the licence, and any Accredited Agents, Assistants or trained site operatives appointed and authorised in accordance with the licence by the Named Ecologist. The Licensee and Named Ecologist will be responsible for ensuring that site personnel and relevant site works comply with the licence.

## 4.8 Invasive non-native plant species

4.8.1

Japanese knotweed and cotoneaster have been identified within the survey area within the CHP Connection Corridor north of Weasenham Lane and will need removing for the works. There is also the potential for invasive non-native plant species to be present throughout the remainder of the CHP Connection Corridor and other areas of the Proposed Development where impenetrably dense scrub vegetation prevented access during baseline surveys. There is potential for other invasive non-native plant species to occur throughout the Proposed Development





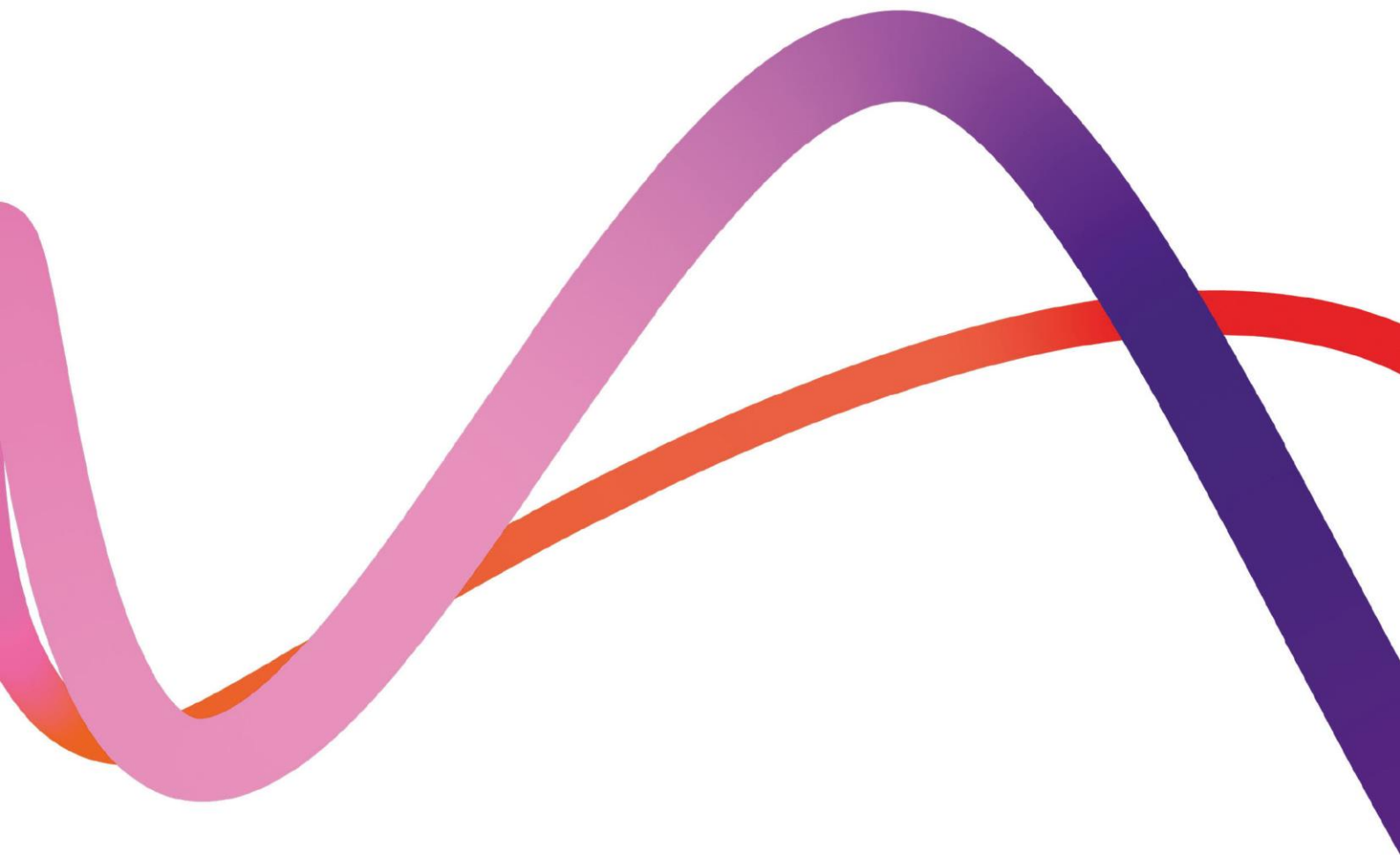
such as Himalayan balsam that could occur along ditches and adjoining habitats. The following mitigation will therefore be applied throughout works:

- The ECoW will provide a TBT to the EPC Contractor and all sub-contractors prior to any works. The TBT will highlight that invasive non-native plant species are potentially present within the immediate local area, the legal implications associated with the species and the measures that must be taken to ensure compliance with the legislation.
- A pre-works check will be undertaken by the ECoW to identify presence of invasive non-native plant species.
- If invasive non-native plant species are identified, the ECoW will advise on an appropriate exclusion zone which will be maintained around areas of these species, and no ground disturbance or vegetation clearance will occur within these areas.
- If works are required within an exclusion zone, an invasive non-native species management plan will be required, which would include bio-security measures and may including the use of an appropriate contractor to clear the area prior to works.



## 5. Conclusion

- 5.1.1 Implementation of the general and Receptor-specific mitigation measures outlined reduce the potential impacts of the Proposed Development on the ecological Receptors defined within this EMS to negligible, and therefore unlikely to result in contravention of the relevant protective legislation. This EMS is based upon the interpretation of wildlife legislation by Wood ecologists.
- 5.1.2 This EMS forms part of the **Outline CEMP (Volume 7.12)** which is secured through a requirement in the DCO.





# Appendix E

## Outline Site Materials and Waste Management Plan

# Medworth Energy from Waste Combined Heat and Power Facility



PINS ref. EN010110  
Document Reference: Vol 7.12  
Revision: 56.0  
Deadline: 56  
~~June~~ July 2023

## Outline Construction Environmental Management Plan Appendix E Site Materials and Waste Management Plan

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# E1

## Outline Construction Environmental Management Plan Appendix E Outline Site Materials and Waste Management Plan

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# 1. Site Materials and Waste Management Plan

## 1.1 Purpose of the document

1.1.1 The purpose of this Outline Site Materials and Waste Management Plan (SMWMP) is to describe the procedure by which waste will be managed by the Engineering, Procurement and Construction Contractor(s) (EPC Contractor) during construction phase. The document will also act as a guide to construction personnel on how to manage all types of waste, in accordance with statutory and best practice requirements. This document forms part of the Outline Construction Environmental Management Plan (CEMP).

## 1.2 The Proposed Development

1.2.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.2.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to



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Wisbech railway. The pipeline and cables would be located on a raised, steel structure.

- TCC: Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.
- Access Improvements: includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

## 1.3 Management Arrangements

- 1.3.1 The EPC Contractor will appoint a senior site manager to take overall responsibility for the implementation of the SMWMP and management of waste generated on site during the construction phase. The appointed person is responsible for instructing all subcontractor construction managers, overseeing and documenting progress against the SMWMP.

## 1.4 Communication, Training and Distribution of the SMWMP

- 1.4.1 The training and communication of the SMWMP will be embedded into the site induction process.
- 1.4.2 The training shall be implemented in order to highlight the importance of the SMWMP and individual responsibility in ensuring effective waste minimisation and management on site.
- 1.4.3 All parties on the distribution list for this SMWMP will receive the latest version of the SMWMP from the appointed person, with the responsibility for removing superseded copies (hard copy and electronic format) residing with those on the distribution list (in their relevant work area).
- 1.4.4 A copy of the latest version of the plan will be displayed in the site induction room.



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## 1.5 Materials and Waste Policy

1.5.1 The following must be implemented on site by all personnel and contractors:

1. All materials on site are to be handled efficiently:
  - a nominated person needs to ensure ordering is monitored closely, preventing over ordering as this can result in waste production;
  - ensure dedicated storage areas are provided and that materials susceptible to water damage, e.g., cement bags, are stored within weatherproof areas;
  - ensure materials are stacked/stored in a manner that will not result in damage; and
  - ensure stores are locked when not in use to prevent misuse or vandalism.
2. Dedicated waste storage area with suitable hardstanding for containers to be established in a secure location, and preferably set back from public access to prevent fly tipping. Area to be suitably signed, clearly identifying permitted wastes aiding segregation and shown on both the site plan and the traffic management plan.
3. Provision for hazardous wastes to be made as necessary, timescales of which will be dictated by the works phase and likelihood of generation, e.g.:
  - used aerosols throughout the lifetime of the construction phase to be stored in segregated and labelled container;
  - any asbestos containing materials encountered during the groundworks;
  - contaminated arisings encountered during the groundworks; and
  - contaminated ground due to poor refuelling practices/accident on site.
4. All waste transfers from site must be dealt with in strict accordance with the Waste (England and Wales) Regulations 2011 (as per section 34 of the Environmental Protection Act 1990).

## 1.6 Materials storage

1.6.1 The arrangements for materials storage should be discussed and agreed between contractors and the project client and where appropriate included in the Construction phase plan.

- Storage areas - designated storage areas for plant, materials, waste, flammable substances e.g., foam plastics, flammable liquids and gases such as propane and hazardous substances e.g. pesticides and timber treatment chemicals;
- Pedestrian routes – no storage of materials where they obstruct access routes or where they could interfere with emergency escape;
- Flammable materials - to be stored away from other materials and protected from accidental ignition;



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- Storage at height - if materials are stored at height e.g., on top of a container, ensure guard rails are in place if people could fall when stacking or collecting materials or equipment;
- Tidiness - all storage areas to be kept tidy, whether in the main compound or on the site itself; and
- Deliveries – deliveries are to be planned to keep the amount of materials on site to a minimum.

## 1.7 Waste Identification

1.7.1 The EPC Contractor will identify and detail all likely waste streams generated including likely volumes. The SMWMP will also assign volume targets to achieve in terms of re-use, recycling and disposal of material both on and off site, in order to identify opportunities for savings in both financial and environmental terms. The assessment will include site-generated wastes, e.g., arisings and construction specific waste, and imported materials.

1.7.2 The EPC Contractor will ensure the principles of the waste hierarchy, i.e., eliminate, reduce, re-use, recycle, disposal, are applied to this SMWMP to enable best practice on site and to improve the overall sustainability. It is intended that this SMWMP will evolve and as such, regular monitoring and reviews will be undertaken to ensure continual improvement, legal compliance and that cost effective solutions are in place.

## 1.8 Waste storage

1.8.1 Space for the storage of construction waste arisings will be made available. The space required will be determined from the waste forecast to be generated from construction activities, and according to the specific waste's potential for re-use, recycling or disposal. Residual waste that cannot be utilised on site shall be sent off site for re-use/recycling or disposed of at a suitably permitted facility.

1.8.2 Waste storage containers with appropriate signage will be used to store waste. Segregated waste containers will be provided. When full, containers shall be collected by a registered waste carrier.

1.8.3 The EPC Contractor in conjunction with their waste management contractors shall determine the size and number of storage containers and collection frequency required for the works. Storage, handling, use, and disposal of any potentially hazardous materials shall be in accordance with the relevant statutory provisions and Health and Safety Executive (HSE) Codes of Practice and Guidance notes.

## 1.9 Segregation of waste

1.9.1 To ensure maximum potential for reducing waste to landfill, and encouraging reuse and recycling, waste will be segregated. Separate skips will be made available for all types of waste. Each skip will be clearly labelled and site personnel will be informed of procedures within the site induction. Regular monitoring will be



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### Outline Construction Environmental Management Plan Appendix E Outline Site Materials and Waste Management Plan

undertaken to ensure correct procedures are followed at all times. The skips will be emptied at regular intervals to prevent overfilling. Toolbox talks will be undertaken with all site personnel to ensure full understanding of waste procedures.

## 1.10 Re-use and recycling

1.10.1 The following initiatives will be considered and agreed upon, aiming to reduce the amount of waste produced in the first instance, and assisting in the recycling and re-use of waste as an alternative to offsite disposal.

### Re-Use on Site:

- Waste soil and subsoils will be re-used wherever possible. There is no exemption required (under Environmental Permitting Regulations (EPR) 2016) as not classed as waste.
- Waste materials crushed or processed to WRAP quality protocol, e.g., concrete will be re-used wherever possible. Under new Environmental Permitting Regulations (EPR) 2016 there is no exemption required as it is not classed as waste.

### Recycling Off-Site:

- soils – recycled at licensed/permitted facility;
- aggregates - recycled at licensed/permitted facility;
- wood - recycled at licensed/permitted facility;
- metals - recycled at licensed/permitted facility;
- plastic packaging – where suitable, recycled at licensed/permitted facility; and
- paper and cardboard – recycled at licensed/permitted facility.

## 1.11 Disposal of Non-Hazardous Waste

1.11.1 All non-hazardous waste will be removed from site within strict adherence to all waste legislation requirements, including the Waste duty of care: code of practice (Section 34(9) of the Environmental Protection Act 1990.) Prior to any agreed use of hauliers or waste disposal sites, the appropriate licenses will be thoroughly checked to ensure that particular waste streams can be accepted and carrier licenses are valid. This can only be undertaken by the EPC contractor's authorised staff and copies of all necessary licenses must be retained on site at all times and reviewed for expiry. No waste will leave site without appropriate waste transfer notes. It is essential that all waste transfer notes are inspected for detail and must contain the correct description of the waste as well as the correct waste code, in line with the List of Waste Codes. Only suitably trained personnel may sign waste transfer notes. Regular audits will be carried out following loads from site to the designated licensed tip.



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### Outline Construction Environmental Management Plan Appendix E Outline Site Materials and Waste Management Plan

## 1.12 Disposal of Hazardous Waste

1.12.1 No hazardous waste must leave site without the correctly completed consignment note. The consignment notes must contain all necessary information including waste description. Any carriers removing hazardous waste must have appropriate licenses and disposal sites must be verified to be able to accept waste being sent. These checks and signing of consignment notes can only be undertaken by authorised personnel. All hazardous waste must be stored on site in appropriate, covered or locked skips. No mixing of hazardous and non-hazardous waste will take place. Any hazardous waste will be disposed of in accordance with the Hazardous Waste Regulations 2005 and the Waste duty of care: code of practice.

## 1.13 Waste Reporting and Records

1.13.1 All waste transfer and consignment notes will be held on site throughout the duration of construction.

1.13.2 Each waste transfer will be fully documented and updated accordingly. Each month, the team, detailing the exact movements of the previous month's waste, including destination and treatment, will compile a comprehensive waste report. Regular auditing will be undertaken of all waste management systems.

## Reviews of Site Waste Procedures

1.13.3 Reviews of site waste procedures will be undertaken at 3-monthly intervals, or less if required. Site personnel will be trained in accordance with the waste management procedures.

## 1.14 Roles and Responsibilities

### Senior Project Management

- responsibility to ensure suitable resources are made available during the preconstruction phase within the technical team to ensure the SMWMP can be developed;
- responsibility to ensure the implementation of the SMWMP;
- ensures the environmental manager is aware of his responsibilities and that these are enacted on site;
- responsible for the initiation of the SMWMP at design stage,
- responsible for estimating total volumes of waste expected to be generated during construction;
- responsible for the setting of targets relating to re-use, recycling, and disposal of wastes on and off site; and
- responsible for identifying key SMWMP related issues to contractors at tender stage, including information required to complete the site waste matrix.



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#### Senior Site Management

- overall responsibility for the implementation and ongoing monitoring of the SMWMP;
- responsibility for the production and issue of the site waste matrix to sites; and
- responsibility for the collation of weekly data sheets/ information relating to waste management and the input of data into the nominated monitoring tool.

#### Site Management

- responsible for on-site operations and the assignment of resources on site to meet the requirements of the plan; and
- responsible for arranging for all waste information/weekly summary sheets to be sent to the senior site management on a weekly basis.





# Appendix F

## Outline Construction Noise and Vibration Management Plan (NVMP)

# Medworth Energy from Waste Combined Heat and Power Facility

PINS ref. EN010110

Document Reference: Vol 7.12

Revision: 56.0

Deadline: 56

June-July 2023



## Outline Construction Environmental Management Plan Appendix F Outline Construction Noise and Vibration Management Plan

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# Glossary

Term	Description
<b>Ambient sound</b>	Totally encompassing sound in a given situation, at a given time, usually composed of sound from many sources near and far.
<b>BPM</b>	Best Practicable Means, as defined in Section 79(9) of the Environmental Protection Act 1990.
<b>dB</b>	Decibel
<b>dBA</b>	A-weighted decibel. A-weighting is a correction factor to represent how the human ear responds to sound, which is internationally accepted and found to correspond well with people's subjective reaction to sound.
<b>CoPA</b>	Control of Pollution Act, 1974
<b>EPA</b>	Environmental Protection Act, 1990
<b>EPR</b>	Environmental Permitting Regulations 2016 (as amended)
<b>ES</b>	Environmental Statement
<b>L<sub>Aeq, T</sub></b>	The equivalent continuous sound level. The sound level of a steady sound having the same energy as a fluctuating sound over the same period. Ambient and residual sound levels are described with this index. L <sub>Aeq, T</sub> is considered the best general-purpose index for environmental sound, as it is the index which generally best represents how sound levels are perceived.
<b>L<sub>Amax</sub></b>	The maximum recorded sound level during the measurement period.
<b>L<sub>An, T</sub></b>	This noise index represents the sound level exceeded for n% of the measurement period. The L <sub>A90, T</sub> is used to indicate quieter times during the measurement period. In BS 4142 assessments it is usually referred to as the background sound level and describes the quietest 10% of a measurement period.
<b>NVMP</b>	Noise and Vibration Management Plan



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Term	Description
<b>Sound (/noise)</b>	Sound encompasses all audible sounds. Noise generally refers to unwanted sound. These terms are used interchangeably in British Standards relating to sound and noise. For example, ambient sound levels may be referred to as ambient noise levels.



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<a href="#">Annex A Example Section 61</a>	
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Annex A	Example Section 61
Annex B	Example Community Liaison Letter



# 1. Introduction

1.1.1 This Outline Construction Noise and Vibration Management Plan (NVMP) presents noise and vibration control measures to be implemented during the construction of the Proposed Development.

## 1.2 The Proposed Development

1.2.1 The Proposed Development comprises the following key elements:

- The EfW CHP Facility;
- CHP Connection;
- Temporary Construction Compound (TCC);
- Access Improvements;
- Water Connections; and
- Grid Connection.

1.2.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F Terms and Abbreviations (Volume 6.4)**.

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- **TCC:** Located adjacent to the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.
- **Access Improvements:** includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).





- **Water Connections:** A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- **Grid Connection:** This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

1.2.3 The Proposed Development is located in the town of Wisbech within the administrative areas of Cambridgeshire County Council and Fenland District Council. The Grid Connection also extends into the administrative areas of Norfolk County Council and the Borough Council of Kings Lynn and West Norfolk.

## 1.3 Purpose of the Document

1.3.1 Construction activities have the potential to give rise to construction noise and/ or vibration at off-site sensitive Receptor locations. Construction noise and vibration should be managed throughout the duration of the construction programme to minimise emissions to the environment and reduce and avoid any adverse impacts.

1.3.2 Further to **Chapter 7 Noise and Vibration (Volume 6.2)** of the ES, which provides the assessment of construction vibration and summarises the results of the construction noise assessment in **Appendix 7B Construction Noise Assessments (Volume 6.4)**, this document provides additional information so that construction activities will comply with the following legislation and guidance:

- *Environmental Protection Act, 1990 (EPA)*<sup>1</sup>.
- *Control of Pollution Act, 1974 (CoPA)*<sup>2</sup>.
- *The Control of Noise (Code of Practice for Construction and Open Sites) (England) Order 2015*<sup>3</sup>.
- *BS 5228–1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise*<sup>4</sup> & *Part 2: Vibration*<sup>5</sup>.

<sup>1</sup> HMSO, 1990. Environmental Protection Act 1990.

<sup>2</sup> HMSO, 1974. Control of Pollution Act 1974.

<sup>3</sup> HMSO, 2015. The Control of Noise (Code of Practice for Construction and Open Sites) (England) Order 2015.

<sup>4</sup> British Standards Institution, 2014. BS 5228-1:2009 + A1:2014 Code of construction practice for noise and vibration control on construction and open sites – Part 1: Noise. BSI, London.

<sup>5</sup> British Standards Institution, 2014. BS 5228-2:2009, Code of construction practice for noise and vibration control on construction and open sites – Part 2: Vibration. BSI, London.



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### Outline Construction Environmental Management Plan Appendix F Outline Construction Noise and Vibration Management Plan

1.3.3

This NVMP sets out best practice measures to be employed during the construction phase, further to the potential additional mitigation measures detailed in the ES in **Chapter 7 Noise and Vibration (Volume 6.2)** and **Appendix 7B Construction Noise Assessments (Volume 6.4)**, to control emissions during the construction phase and mitigate potentially significant impacts. Precise requirements for mitigation measures will be confirmed following appointment of a Engineering, Procurement and Construction Contractor(s) (EPC Contractor) and when a detailed construction programme is available.



## 2. Construction activities and predicted noise and vibration effects

- 2.1.1 The description of the Proposed Development provided in **Section 1.2** outlines the different elements to be constructed. At this time, prior to the appointment of an EPC Contractor, precise details of the plant requirements and construction techniques to be employed during the construction phase, and the mitigation measures required to avoid significant adverse impacts, are subject to detailed design.
- 2.1.2 When such details are available, this section will be updated to provide descriptions of the plant, construction techniques and schedule for the construction of each element of the Proposed Development. **Section 2.2** and **Section 2.3** will be updated with results of construction noise and vibration assessments setting out the expected construction noise and vibration effects, based on the detailed construction information, without any specific additional mitigation measures. **Section 3** will be updated to contain details of the specific mitigation measures required to minimise adverse effects.
- 2.1.3 Determination of the precise mitigation requirements required, based on the detailed construction programme, will be carried out through assessments of construction noise and vibration undertaken in accordance with BS 5228–1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise & Part 2: Vibration. Where the assessment, undertaken in accordance with Section E.3.2. of BS 5228-1, indicates that significant adverse effects may occur, then additional mitigation measures will be required to minimise the effects.
- 2.1.4 For reference, **Section 2.2** and **Section 2.3**, below, outline the results of the assessment of construction noise and vibration provided in **ES Chapter 7: Noise and Vibration (Volume 6.2)** and **Appendix 7B Construction Noise Assessments (Volume 6.4)**. The receptors considered in the assessment are detailed below in [Table 2.1](#) ~~Table 2.1~~, broken down by study area as indicated in **ES Chapter 7: Noise and Vibration Figures (Volume 6.3)**, **Figure 7.1** to **Figure 7.3**.

**Table 2.1 Receptors considered in construction noise and vibration assessment presented in ES Chapter 7: Noise and Vibration**

ID	Receptor	Receptor type
<b>Receptors in the construction vibration study area</b>		
R2	9 New Bridge Lane	Residential
R3	10 New Bridge Lane	Residential
R16	BJ Books Ltd, Algore's Way	Industrial/ commercial

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ID	Receptor	Receptor type
R18	Welbourns of Wisbech Ltd, 3 New Bridge Lane	Industrial/ commercial
R19	Kirk Coachworks, New Bridge Lane	Industrial/ commercial
R22	James Mackle (UK) Ltd, Algores Way	Industrial/ commercial
R24	Fountain Frozen Ltd, Salters Way	Industrial/ commercial
R51	Floorspan Contracts, Unit 1, Europa Way	Industrial/ commercial
R52	Hair World UK Ltd, Algores Way	Industrial/ commercial
R53	The Builders Yard, rear of 9 New Bridge Lane	Industrial/ commercial
<b>Receptors in the construction noise study area (construction of the EfW CHP Facility)</b>		
R1	2 New Bridge Lane	Residential
R2	9 New Bridge Lane	Residential
R3	10 New Bridge Lane	Residential
R4	Dwelling known as 'Potty Plants' off new Bridge Lane, north of A47	Residential
R27	Cambian Education Foundation Learning Centre, Anglia Way	Education
R16	BJ Books Ltd, Algores Way	Industrial/ commercial
R17	DHL, 11 Salters Way	Industrial/ commercial
R18	Welbourns of Wisbech Ltd, 3 New Bridge Lane	Industrial/ commercial
R19	Kirk Coachworks, New Bridge Lane	Industrial/ commercial
R23	Industrial Operation, Boleness Road	Industrial/ commercial
R22	James Mackle (UK) Ltd, Algores Way	Industrial/ commercial
R24	Fountain Frozen Ltd, Salters Way	Industrial/ commercial



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### Outline Construction Environmental Management Plan Appendix F Outline Construction Noise and Vibration Management Plan

ID	Receptor	Receptor type
R51	Floorspan Contracts, Unit 1, Europa Way	Industrial/ commercial
R52	Hair World UK Ltd, Algores Way	Industrial/ commercial
R53	The Builders Yard, rear of 9 New Bridge Lane	Industrial/ commercial
<b>Receptors in the construction noise study area (Activities in Temporary Construction Compound)</b>		
R2	9 New Bridge Lane	Residential
R3	10 New Bridge Lane	Residential
R4	Dwelling known as 'Potty Plants' off new Bridge Lane, north of A47	Residential
R7	The Chalet, New Drove	Residential
R27	Cambian Education Foundation Learning Centre, Anglia Way	Education
R16	BJ Books Ltd, Algores Way	Industrial/ commercial
R18	Welbourns of Wisbech Ltd, 3 New Bridge Lane	Industrial/ commercial
R23	Industrial Operation, Boleness Road	Industrial/ commercial
R22	James Mackle (UK) Ltd, Algores Way	Industrial/ commercial
R24	Fountain Frozen Ltd, Salters Way	Industrial/ commercial
R51	Floorspan Contracts, Unit 1, Europa Way	Industrial/ commercial
R52	Hair World UK Ltd, Algores Way	Industrial/ commercial
R53	The Builders Yard, rear of 9 New Bridge Lane	Industrial/ commercial
<b>Receptors in the construction noise study area (construction of Access Improvements)</b>		
R1	2 New Bridge Lane	Residential
R2	9 New Bridge Lane	Residential



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### Outline Construction Environmental Management Plan Appendix F Outline Construction Noise and Vibration Management Plan

ID	Receptor	Receptor type
R3	10 New Bridge Lane	Residential
R4	Dwelling known as 'Potty Plants' off New Bridge Lane, north of A47	Residential
R9	93 South Brink	Residential
R10	97 South Brink	Residential
R27	Cambian Education Foundation Learning Centre, Anglia Way	Education
R25	The Anglia Community Eye Service Clinic, 32 Cromwell Road	Healthcare
R16	BJ Books Ltd, Algores Way	Industrial/ commercial
R17	DHL, 11 Salters Way	Industrial/ commercial
R18	Welbourns of Wisbech Ltd, 3 New Bridge Lane	Industrial/ commercial
R19	Kirk Coachworks, New Bridge Lane	Industrial/ commercial
R20	Thurlow Nunn, 14 Cromwell Road	Industrial/ commercial
R21	Tesco Filling Station, Cromwell Road	Industrial/ commercial
R23	Industrial Operation, Boleness Road	Industrial/ commercial
R22	James Mackle (UK) Ltd, Algores Way	Industrial/ commercial
R24	Fountain Frozen Ltd, Salters Way	Industrial/ commercial
R51	Floorspan Contracts, Unit 1, Europa Way	Industrial/ commercial
R52	Hair World UK Ltd, Algores Way	Industrial/ commercial
R53	The Builders Yard, rear of 9 New Bridge Lane	Industrial/ commercial
<b>Receptors in the construction noise study area (construction of Water Connection)</b>		
R2	9 New Bridge Lane	Residential
R3	10 New Bridge Lane	Residential

## F12



ID	Receptor	Receptor type
R4	Dwelling known as 'Potty Plants' off new Bridge Lane, north of A47	Residential
R27	Cambian Education Foundation Learning Centre, Anglia Way	Education
R16	BJ Books Ltd, Algores Way	Industrial/ commercial
R18	Welbourns of Wisbech Ltd, 3 New Bridge Lane	Industrial/ commercial
R19	Kirk Coachworks, New Bridge Lane	Industrial/ commercial
R22	James Mackle (UK) Ltd, Algores Way	Industrial/ commercial
R23	Industrial Operation, Boleness Road	Industrial/ commercial
R24	Fountain Frozen Ltd, Salters Way	Industrial/ commercial
R51	Floorspan Contracts, Unit 1, Europa Way	Industrial/ commercial
R52	Hair World UK Ltd, Algores Way	Industrial/ commercial
R53	The Builders Yard, rear of 9 New Bridge Lane	Industrial/ commercial
<b>Receptors in the construction noise study area (construction of CHP Connection)</b>		
R31	15 Hillburn Road	Residential
R32	16 Hillburn Road	Residential
R33	16a Hillburn Road	Residential
R34	24 Burdett Road	Residential
R35	5 Great Eastern Road	Residential
R36	1 Oldfield Lane	Residential
R37	3 Oldfield Lane	Residential
R38	25 Victory Road	Residential
R39	27 Victory Road	Residential
R50	21 Cromwell Road	Residential



**F13**

ID	Receptor	Receptor type
<b>Receptors in the construction noise study area (construction of Grid Connection)</b>		
R2	9 New Bridge Lane	Residential
R3	10 New Bridge Lane	Residential
R4	Dwelling known as 'Potty Plants' off New Bridge Lane, north of the A47	Residential
R5	Newbridge Lane Caravan Park	Residential
R7	The Chalet, New Drove	Residential
R44	52 Broadend Road	Residential
R45	56 Broadend Road	Residential
R46	Elme Hall Hotel	Residential
R47	85 Elm High Road	Residential
R48	36 Elmfield Drive	Residential
R49	Oxburgh Cottage, Meadowgate Lane	Residential
R18	Welbourns of Wisbech Ltd, 3 New Bridge Lane	Industrial/ commercial
R19	Kirk Coachworks, New Bridge Lane	Industrial/ commercial
R22	James Mackle (UK) Ltd, Algores Way	Industrial/ commercial
R23	Industrial Operation, Boleness Road	Industrial/ commercial
R24	Fountain Frozen Ltd, Salters Way	Industrial/ commercial
R53	The Builders Yard, rear of 9 New Bridge Lane	Industrial/ commercial
<b>Receptors in the construction noise study area (construction of Grid Connection at Walsoken Substation)</b>		
R44	52 Broadend Road	Residential
R45	56 Broadend Road	Residential



## 2.2 Predicted construction noise effects

- 2.2.1 This section contains summaries of the assessments provided in **ES Chapter 7: Noise and Vibration (Volume 6.2)** for Receptor locations and construction activities where significant effects would be expected if no additional mitigation was applied. Where significant effects are expected, additional mitigation will be required to minimise the adverse impacts. However, noise emissions and any associated impacts at all sensitive receptors will be managed and minimised throughout the construction phase in accordance with best practice.
- 2.2.2 Receptors listed in [Table 2.1](#) are representative and are the closest Receptors to the works. Therefore, any mitigation applied to construction activities in order to minimise impacts at these locations will also benefit receptors that are further away from the works.
- 2.2.3 If subsequent assessments of construction activities, following detailed design, identify significant effects at Receptors not listed below or in [Table 2.1](#), this document shall be updated to include mitigation provisions for those receptors affected.

### Residential receptors

- 2.2.4 Potentially significant effects due to construction noise were identified at:
- Receptors 2 – 5 due to certain periods of the works occurring at, and in the vicinity of, the EfW CHP Facility Site;
  - At Receptors 44 – 49 due to works on the Grid Connection; and
  - Receptors 31 – 39 due to works at the northern end of the CHP Connection.
- 2.2.5 For all other works and assessment locations, predicted effects are of no greater than negligible magnitude and are not significant.
- 2.2.6 Consideration of the duration of effects is essential to the final determination of significance, and all potentially significant effects were examined in the context of the anticipated duration of the works. A summary of effects confirmed as significant are provided below in [Table 2.2](#) **Summary of significant effects due to construction noise at residential Receptors** of the activities, timings and locations where potentially significant effects were confirmed as significant.



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**Table 2.2 Summary of residential Receptor locations where significant construction noise effects are predicted, without additional mitigation measures**

Period	Construction activities for development components	Receptors where significant effects confirmed
Months 2 to 8	EfW CHP Facility and Access Improvements.	R2, R3
Months 16 to 18	Grid Connection & Water Connection along New Bridge Lane, Water Connection – A47 crossing (HDD option) and M&E (out of core hours works).	R2, R3, R4, R5
Months 18 to 22	EfW CHP Facility Site roads and hardstandings, M&E and plant installation.	R2, R3
Month 25	EfW CHP Facility Site structures, M&E, plant installation and CHP Connection site clearance.	R3
Months 34 to 43	EfW CHP Facility commissioning and testing (out of core hours works).	R2

### *Non-residential Receptors*

2.2.7 Potentially significant effects were identified at:

- Receptors 22, 23, 25 and 27 – due to daytime mobilisation activities at the TCC; and
- Receptors 16 – 27 due to various works at, and the vicinity of, the EfW CHP Facility Site, at various stages of the construction programme.

2.2.8 For all other works and assessment locations, predicted effects are of no greater than medium magnitude and are not significant.

2.2.9 Consideration of the duration of effects, and absolute sound levels, is essential to the final determination of significance. All potentially significant effects were examined in the context of the anticipated duration of the works, predicted construction noise levels and baseline sound levels. A summary is provided below in [Table 2.3](#) **Table 2.3 Summary of significant effects due to construction noise at non-residential Receptors** of the activities, timings and locations where potentially significant effects were confirmed as significant.

Form

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### Outline Construction Environmental Management Plan Appendix F Outline Construction Noise and Vibration Management Plan

**Table 2.3 Summary of non-residential Receptor locations where significant construction noise effects are predicted, without additional mitigation measures**

Period	Construction activities for development components	Receptors where significant effects confirmed
<b>Month 1</b>	Activities at the TCC.	R22, R23
<b>Months 2 to 8</b>	EfW CHP Facility Site mobilisation, EfW CHP Facility Site earthworks, Access Improvements.	R16, R18, R22 – R24 inclusive
<b>Month 8</b>	EfW CHP Facility Site earthworks.	R16, R22, R24
<b>Months 10 to 12</b>	EfW CHP Facility Site foundations and plant installation.	R16, R22, R24
<b>Months 12 to 16</b>	EfW CHP Facility Site foundations, plant installation and M&E.	R16, R22, R24
<b>Months 12 to 31</b>	EfW CHP Facility Site: M&E (out of core hours works).	R16, R22, R24
<b>Months 16 to 18</b>	EfW CHP Facility Site foundations, M&E, plant installation and Grid Connection.	R16, R22, R24
<b>Months 18 to 22</b>	EfW CHP Facility Site: roads and hardstandings, structures, M&E and plant installation.	R16, R17, R22, R24
<b>Months 22 to 25</b>	EfW CHP Facility Site structures, M&E and plant installation.	R16, R22, R24
<b>Month 25</b>	EfW CHP Facility Site structures, M&E, plant installation and CHP Connection site clearance.	R16, R22, R24
<b>Months 26 to 30</b>	EfW CHP Facility Site structures, M&E and plant installation and CHP Connection foundations.	R16, R22, R24
<b>Month 31</b>	EfW CHP Facility Site structures, M&E and plant installation and CHP Connection pipeline installation.	R16, R22, R24
<b>Months 31 to 34</b>	EfW CHP Facility Site structures and plant installation.	R16, R22, R24
<b>Months 34 to 36</b>	EfW CHP Facility Site structures, commissioning and testing.	R16, R22, R24
<b>Months 36 to 43</b>	EfW CHP Facility commissioning and testing.	R16



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### 2.3 Predicted construction vibration effects

- 2.3.1 As described in paragraph 7.8.5, and under paragraph 7.8.24, of **ES Chapter 7: Noise and Vibration (Volume 6.2)** qualitative assessments of construction vibration were undertaken. The outcomes of the assessments are reproduced below.

#### Vibration effects due to construction activities

- 2.3.2 With regard to residential Receptors, the assessment in Section 7.9 of **ES Chapter 7: Noise and Vibration (Volume 6.2)** indicated that, at R2, when vibratory rollers are in closest proximity, significant effects could occur. No significant effects are expected at any other residential Receptor.
- 2.3.3 With regard to industrial and commercial Receptors, no significant construction vibration effects are anticipated at any nearby industrial and/ or commercial buildings.

#### Vibration effects due to vehicle induced vibration from construction traffic

- 2.3.4 With regard to residential Receptors, the assessment in Section 7.9 of **ES Chapter 7: Noise and Vibration (Volume 6.2)** indicated that, at R2, vehicle induced vibration from construction traffic could give rise to significant effects. No significant effects are expected at any other residential Receptor.
- 2.3.5 With regard to industrial and commercial Receptors, no significant effects are anticipated due to vehicle induced vibration from construction traffic at any nearby industrial and/ or commercial buildings.



## 3. Noise control measures

- 3.1.1 The EPC Contractor will control and limit noise levels so that sensitive Receptors are protected from excessive noise throughout the construction programme as far as is practicable.
- 3.1.2 Requirements for specific measures to avoid significant effects, in addition to the general measures set out in **Section 3.3**, will be determined based on the detailed construction programme, once available, and will be detailed here in an updated version of this document, post consent and following detailed design.
- 3.1.3 The general and specific measures may need to be updated at any time during the construction phase. For example, if a significant adverse impact is identified that was not anticipated, then the additional mitigation measures required to minimise the impact should be detailed below and a revised version of this management plan will be disseminated by the EPC Contractor's Environmental Manager to ensure that all required mitigation measures are implemented during the construction phase.
- 3.1.4 Justification to demonstrate the effectiveness of mitigation at noise-sensitive Receptors, including quantitative assessment where possible, will be provided to the relevant planning authority on request.
- 3.1.5 Where validated complaints are received, a review of the locations where mitigation assessment might be required will be undertaken.

### 3.2 Best Practicable Means

- 3.2.1 Noise and vibration measures are presented below and are consistent with best practice guidance in BS 5228 'Code of practice for noise and vibration control on construction and open sites', Part 1: Noise (+A1:2014)<sup>4</sup>, and Part 2: Vibration (+A1:2014)<sup>5</sup>, which is the approved code of practice for noise as enacted under Control of Pollution Act 1974<sup>2</sup> and subsequent orders of parliament<sup>3</sup>.
- 3.2.2 The EPC Contractor will use 'Best Practicable Means' (BPM) to ensure noise and vibration emissions are minimised and to avoid nuisance due to construction noise and vibration.
- 3.2.3 BPM is defined by reference to the following provisions in Section 79(9) of the Environmental Protection Act 1990:
- 'practicable' means reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications;
  - the means to be employed include the design, installation, maintenance and manner and periods of operation of plant and machinery, and the design, construction and maintenance of buildings and structures;
  - the test is to apply only so far as compatible with any duty imposed by law; and



- the test is to apply only so far as compatible with safety and safe working conditions, and with the exigencies of any emergency or unforeseeable circumstances.

### 3.3 General noise and vibration measures

3.3.1 The EPC Contractor will be required to follow standard good construction practice as outlined in BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014.

3.3.2 This will include the following measures:

- Construction will generally be confined to core working hours. Where planned activities outside of existing or newly constructed buildings must be undertaken outside core working hours, or are predicted to exceed BS 5228-1 threshold values at nearby dwellings, or other agreed construction noise limits at dwellings or non-domestic premises, these specific works will be subject to agreement with the relevant local authorities, normally through a Section 61 consent.
- Items of plant are to be selected so that they conform with national, EU or international standards. Plant items are to be operated using BPM and manufacturer recommendations are to be followed to reduce unnecessary noise emissions.
- All plant items are required to comply with the noise limits quoted in the relevant European Commission Directive 2000/14/EC/United Kingdom Statutory Instrument (SI) 2001/1701 (as amended). The EPC Contractor's Environmental Manager will maintain a register of plant and equipment and statutory certification.
- Where potentially significant vibration impacts are predicted, building condition surveys should be undertaken prior to and following the works, and any damage made good.
- If complaints due to construction vibration are received then the requirement for vibration monitoring should be considered.
- Acoustic screening is to be implemented where practicable and necessary. Screening measures may include site hoardings, acoustic barriers, acoustically rated enclosures, temporary bunds and acoustically rated plant housing. To provide adequate attenuation from activities, barriers will need to be located as close to the activity as is practicably possible. BS 5228 recommends a minimum mass per unit area of 7 kg/m<sup>2</sup>.
- Plant items that operate using a combustion engine will require effective exhaust silencers. Silencers will be subject to regular inspection and maintenance so that good efficient working order is maintained.
- Repairs and scheduled maintenance of plant items shall be undertaken within core working hours. Where repair and maintenance is required outside of the core working hours, activities will be kept to a practicable minimum and undertaken within the boundaries of the site with suitable screening.





- Compressors are required to be “low noise” models that have an acoustically lined and sealed cover. Covers are to be kept closed whilst in operation.
- Pneumatic percussive tools will be fitted either mufflers or silencers dependent upon manufacture guidance and recommendation.
- When equipment or plant items are being operated intermittently, in the intervening periods they will be shut down, or throttled down. Lorry engines are to be switched off when stationary.
- Plant and equipment such as flatbed lorries, skips and chutes will be lined with noise attenuating materials. Materials will be handled with care and be placed, not dropped. Materials will be delivered during normal working hours.
- Equipment or plant items that run continuously are required to be housed within a suitable acoustic enclosure.
- To minimise the impact when multiple noisy activities are scheduled, activities should be distributed throughout the working period and across the site area.
- Equipment and plant that is likely to generate noise and/or vibration will be located as far as practicably possible away from sensitive Receptors or behind close boarded noise barriers.
- Where it is deemed suitable, fixed plant items will be powered electrically in preference to diesel or petrol alternatives.
- Plant reversing near dwellings have a banksperson in place of ‘beepers’.
- Traffic associated with the development will not idle or queue on the public highway and designated access routes will be used. Traffic movements will comply with the Construction Traffic Management Plan (CTMP).
- Mobile plant will be required to have a reversing alarm fitted which incorporates one or more of the following features:
  - ▶ highly directional sounders;
  - ▶ broadband reversing alarm;
  - ▶ flashing warning lights; and
  - ▶ reversing alarms will be set to the minimum allowable output level which complies with health and safety.
- When carrying out particularly noisy works in the street (e.g., breaking tarmac, vibratory compaction, or other works that require workers to use hearing protection to complete) and where the works require non-motorised road users (e.g., pedestrians, cyclists, horse riders) to pass within 10m of the works. The noisy activity shall be temporarily stopped to allow the non-motorised road users to pass by.

All construction personnel will be trained in the application of Best Practicable Means to reduce noise and vibration as part of the induction process. Site personnel will also receive role appropriate training, with specific information covering noise and vibration management.





## 4. Construction Noise and Vibration Monitoring

### 4.1 Noise monitoring equipment

- 4.1.1 Instrumentation for monitoring airborne noise must meet requirements within BS EN 60942:2018 *'Electroacoustics – Sound level meters. Specifications'*<sup>6</sup>. Measurements of construction noise levels will include, as a minimum, broadband indices  $L_{Aeq}$ ,  $L_{Amax}$  and  $L_{A90}$ .
- 4.1.2 All sound level meters used will be Class 1 and subject to traceable laboratory calibration. Field calibrations will also be undertaken at regular intervals, in the case of any fixed boundary monitoring, and before and after each measurement set, in the case of any short-term spot measurements. All field calibrations will be documented and the results stored for reference. Any significant deviation found will be investigated and any issues with the measurement system will be rectified.

### 4.2 Noise monitoring procedure

- 4.2.1 If noise monitoring is identified as a requirement following a complaint or is otherwise required during the works for example, where Receptors may be exposed to construction noise for extended periods, or could be exposed to construction noise levels which may exceed the BS 5228-1 thresholds, the following procedure will apply:
- measurements will be undertaken in accordance with British Standard BS 7445-1:2003 *'Description and measurement of environmental noise. Guide to quantities and procedures'*<sup>7</sup>;
  - noise surveys will be undertaken at the complainant's property, a Receptor closest to the works of interest or a proxy/ boundary location, depending on which is most practicable at the time;
  - noise surveys are to be undertaken during representative working hours and remain for a period of time representative of the activity's duration. Surveys should include, where possible, worst-case activities, or activities responsible for the complaint;
  - results from the noise monitoring will be used to assess compliance with any agreed noise limits or to identify potential impacts;
  - noise monitoring should be undertaken by competent and appropriately qualified personnel; and

<sup>6</sup> BSI (2018). British Standards Institution. British Standard BS EN 60942 'Electroacoustics – Sound level meters. Specifications'

<sup>7</sup> BSI (2014). British Standards Institution. British Standard BS 7445-1:2003 'Description and measurement of environmental noise. Guide to quantities and procedures'



- noise survey results will be stored by the EPC Contractor and be made available to the relevant local authority environmental health department upon request.

### 4.3 Vibration Monitoring

- 4.3.1 Where vibratory rollers may be in operation in close proximity to dwellings on New Bridge Lane, and there is the potential for cosmetic building damage, building conditions should be assessed prior to and after the construction phase, and any damage due to vibration made good.
- 4.3.2 Vibration monitoring may be required if a validated complaint relating to construction vibration is received during construction works. Any vibration monitoring should be undertaken in accordance with BS 5228–2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration<sup>5</sup> and BS ISO 4866 ‘*Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures*’<sup>8</sup>.
- 4.3.3 If vibration monitoring identifies any significant effects (i.e. structural building damage) then the construction activities resulting in significant vibration levels should cease immediately and a mitigation strategy should be developed to reduce the significance of effects.

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<sup>8</sup> BSI (2021). British Standards Institution. BS ISO 4866 ‘Mechanical vibration and shock – Vibration of fixed structures – Guidelines for the measurement of vibrations and evaluation of their effects on structures’



## 5. Section 61 Consent applications

- 5.1.1 The EPC Contractor may submit applications for Section 61 consents, variations, and dispensations under CoPA 1974 (or otherwise seek agreement in writing from the relevant local planning authorities) for any construction activities planned in advance that are:
- Indicated to exceed the BS 5228-1 threshold values at residential premises; or
  - to be undertaken outside of the core working hours.
- 5.1.2 Where Section 61 consents are sought, the EPC Contractor will be required to demonstrate that BPM, as defined under Section 72 of the CoPA 1974, are employed at all times for all activities, to minimise noise and vibration effects on sensitive Receptors.
- 5.1.3 Where a Section 61 consent is required, before starting any construction related activities which may cause significant noise and/or vibration, the EPC Contractor will engage with the relevant planning authority 6-weeks prior to submission of the Section 61 with a draft application to be agreed upon.
- 5.1.4 For any Section 61 application, the EPC Contractor is required to, or as agreed with the relevant local authority, submit the relevant information which will include:
- an outline of the proposed construction method, type and number of plant to be used;
  - definition of the working hours required and, where these differ from the core working hours,
  - a work programme which identifies the location and duration of each significant noise-generating activity;
  - the sound power levels, or sound pressure level at 10m, for each item of plant for each relevant activity;
  - appropriate justification that the method and plant proposed demonstrates that Best Practicable Means has been employed to control noise and vibration impacts;
  - predicted noise and/ or vibration levels at specified sensitive Receptor locations supported by calculations as per the methodology in BS 5228 part 1 and part 2; and
  - all measures and procedures to be employed to minimise noise and vibration emissions during the works.
- 5.1.5 The EPC Contractor is required to communicate with the relevant local authority in a timely manner to obtain an agreement for the information that is to be provided to support the Section 61 application. This agreement will include a list of the proposed activities and stages to be undertaken.
- 5.1.6 Work that is scheduled to be undertaken over or close to the boundary of neighbouring local authorities requires the EPC Contractor to agree the works with,



or prepare Section 61 submissions, for all relevant local authorities. The authorities of concern are requested through discussion to agree a set of common conditions. The conditions will be issued from all involved local authorities.

- 5.1.7 The quantity, consent extent and consent duration of Section 61 approvals will be the subject of timely consultation between the EPC Contractor and each relevant planning authority.
- 5.1.8 An example of the information that should form the basis for a Section 61 application is provided in **Annex A**.
- 5.1.9 If consented work is required to be rescheduled or modified for reasons not initially agreed upon within the original Section 61 submission, the EPC Contractor will need to apply for a dispensation or variation from the relevant planning authority. The dispensation or variation will be required before the start of any works and will be sought through the submission of an application of variation. This will set out the relevant changes to the methodology and construction programme and should be accompanied with revised noise and/ or vibration calculations.
- 5.1.10 Where works have been agreed upon outside of the core working hours under a Section 61 consent, or through written agreement with the local planning authorities, occupiers of nearby residential or other sensitive Receptors who are likely to be affected will be informed. These Receptors will be informed, prior to the commencement of works, of the works to be undertaken and of the estimated duration. An example community liaison letter is provided in **Annex B**.
- 5.1.11 The EPC Contractor is responsible for keeping and maintaining an up to date log of agreed working hours. This will include agreements made with the local authorities through Section 61 Consents or through written agreement.
- 5.1.12 In the event that works extend beyond the approved working hours due to emergencies or unforeseen circumstances that require works to continue for safety or engineering practicability, the Site Manager will log the duration and nature of the works. Logs of any out of core hours works due to emergency or unforeseen circumstances will be maintained by the Site Manager at the site office and made available to local authorities upon request. The log must note the nature, time, location, and reasons for the overrun.



## 6. Conclusions

- 6.1.1 This document presents noise and vibration control measures to be implemented during the construction of the Proposed Development, establishing a framework in which noise and vibration emissions from construction activities will be controlled.
- 6.1.2 Further to **Chapter 7 Noise and Vibration (Volume 6.2)** of the Environmental Statement (ES), which provides the assessment of construction vibration and summarises the results of the construction noise assessment appended in **Appendix 7B Construction Noise Assessments (Volume 6.4)**, this document provides additional information for the management of noise and vibration arising from construction activities. This NVMP provides information so that construction activities will comply with the relevant legislation and guidance.
- 6.1.3 The information provided herein has been based on the information on the Proposed Development available during the planning process. A detailed NVMP will be prepared once the Proposed Development has been consented, and an EPC Contractor has been appointed and detailed construction programmes are available. Requirements for additional mitigation will also be confirmed at this time.



# Annex A

## Example Section 61

<b>Address or location of proposed works</b>	This section 61 application applies to proposed extended hours for piling activities. An overview of the entire works area is provided in Figure A.0 in Appendix A.
<b>Name and address of EPC Contractor</b>	Piling Limited Piling Road Telephone No: 0XXXXXXXXXX Mobile No: 07XXXXXXXXXX Contact email: john.smith@johnsmithpiling.ltd.uk
<b>Particulars of works to be carried out</b>	This application covers consent for piling works to be undertaken between 02 July 2022 and 16 July 2022. The specific activities comprise of: <ul style="list-style-type: none"> <li>• Operation of continuous flight auger piling rigs; and</li> <li>• Operation of associated plant items.</li> </ul> <p>[Insert description of works, reference to Method Statement in Appendix B]</p>
<b>Working hours</b>	All activities are to be undertaken during normal working hours as follows: Monday to Friday – 08:00-17:00 Saturdays – 08:00-13:00  And an extension as follows: Monday to Friday – 17:00-18:00
<b>Methods to be used to complete the works</b>	The methods to be used during the works are set out above. Further details are provided in the Method Statement in Appendix B. Predictions and assessment of noise and vibration from the works are provided in Appendix C.
<b>Proposed steps to minimise noise and vibration</b>	Best Practicable Means (BPM) (as outlined in Section 72 of the Control of Pollution Act 1974) will be employed in order to minimise noise and vibration levels throughout the period of the works. Measures will include the following: <ul style="list-style-type: none"> <li>• Careful selection of plant. Only plant conforming with relevant national or international standards, directives and</li> </ul>



recommendations on noise and vibration emissions will be used;

- Based on the results of the noise and vibration assessment presented in Appendix C the construction contractor will: Provide a 2m wire mesh fencing with acoustic panelling around all piling activity, within XX metres of noise sensitive properties; and plan works so that simultaneous piling is not undertaken in close proximity to a noise sensitive Receptor.
- Static and semi-static plant/equipment (e.g., compressors and generators) will be fitted with suitable enclosures where practicable;

Personnel will be instructed on BPM to reduce noise and vibration as part of their induction training and as required prior to specific work activities; and when plant is not being used it shall be shut down and not left to idle.

#### **Noise and vibration monitoring**

The EPC Contractor has undertaken commissioning measurements of noise from items of plant on other sites to inform the noise predictions set out in Appendix C.

If deemed necessary (for instance, as a result of complaints when works are within XX metres of residences), the construction contractor will undertake short term, hand held noise monitoring exercises once the works are underway. The duration of monitoring would be sufficient to identify a representative average of noise from the works (anticipated to be between 60 minutes and 90 minutes).

Noise monitoring will be undertaken in accordance with the monitoring plan provided in Appendix D.

#### **Approximate duration of works**

The consent period is shown in figure A.0 is 02 July 2022 to the 16 July 2022.

#### **Community liaison**

The construction contractor will be leafleting properties highlighted in figure A.0 within 2-weeks before works commence. An example of the content within the leaflet that will be provided to residents can be found in Appendix E.

#### **Key site contacts**

Main site contact  
 Senior Project Manager: [Name], Mobile: 07XXXXXXXXXX, Email: [site.manager@site]  
 Project Manager: [Name], Mobile: 07XXXXXXXXXX, Email: [project.manager@project]



**List of Appendices**  
**[Example appendices**  
**not provided]**

- Appendix A: Figures
  - Appendix B: Method Statement
  - Appendix C: Noise and Vibration Assessment
  - Appendix D: Noise Monitoring Plan
  - Appendix E: Example Community Liaison Leaflet
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# Annex B

## Example Community Liaison Letter

[11/07/2023](#)~~04/07/2023~~

Dear Sir/Madam,

### Extended hours for piling activities

Due to unforeseen circumstances relating to the commencement of the piling scheduled I am writing to inform you of the extended hours in which piling works will be undertaken.

Works are expected to start on **Monday 2nd of July 2022**. The piling is expected to last for up to **2-weeks**, however, this is dependent on weather and ground conditions.

Prior to the piling, our contractors will need to secure the site and install temporary fencing to prevent any unauthorised access. Heavy plant and machinery will be present on site and will be used to undertake Continuous Flight Auger (CFA) piling. All public and residential roads and footpaths will be maintained whilst the works are taking place.

Properties close to the site may notice an increase in noise levels whilst piling works are underway. These works will only take place **Monday to Friday** between the hours of **8am – 6pm** - an extension to working hours of 1 hour from 5pm to 6pm. Once the works are completed our contractor will restore the site to its previous form.

We apologise in advance for the disruption that these works may cause. Our contractors will carry out these works in a prompt and considerate manner to ensure that there is as little disruption to local residents as possible.

If you have any queries about these works please contact John Smith:

- Phone: 07XXXXXXXXXX
- E-mail: john.smith@communityliaison.com

Yours faithfully,

John Smith  
Community Relations Team



