

The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Outline Construction Environmental Management Plan



The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009 – Regulation 5(2)(q)

Drax Power Limited

Drax Repower Project

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1 INTRODUCTION

1.1 Project background

- 1.1.1. Drax Power Limited (the Applicant) has made an application for a Development Consent Order (DCO) to the Secretary of State. The DCO, if granted, will authorise the Applicant to construct and operate the repower of up to two existing coal-fired units (known as Unit 5 and Unit 6) with gas. In order to repower with gas, a new gas pipeline needs to be constructed connecting the Existing Drax Power Station Complex to the National Gas Transmission System (NTS). Drax Power Station is located near Selby in North Yorkshire.
- 1.1.2. The Proposed Scheme has been subject to an Environmental Impact Assessment (EIA) and therefore has been assessed for likely significant environmental effects from construction, operation and decommissioning activities as reported in the Environmental Statement (ES) (Document Reference 6.1). Mitigation proposed as a result of the findings in the ES is captured in the Environmental Statement Commitments Register (Document Reference 6.5) submitted as part of the DCO Application. The commitments register confirms that a CEMP (Construction Environmental Management Plan) will be prepared and implemented during construction of the Proposed Scheme, which will set out how construction will be managed in order to deliver the environmental mitigation measures and how environmental issues that arise will be handled to ensure compliance with relevant legislation and with environmental policies. The CEMP will be prepared in substantial accordance with this document, the outline CEMP, which is submitted in support of the DCO Application.

1.2 Purpose of this Document

- 1.2.1. The purpose of a Construction Environmental Management Plan (CEMP) is to address the construction environmental management requirements attached to a Development Consent Order. The final CEMP will govern the construction (including the Site Reconfiguration Works), and a Decommissioning Environmental Management Plan (DEMP) will be implemented for the decommissioning of the Proposed Scheme (which will cover similar elements to the CEMP).
- 1.2.2. This outline Construction Environmental Management Plan (CEMP) provides a framework from which the final CEMP will be produced. It has been prepared in support of the Environmental Statement (ES) and the wider DCO application.
- 1.2.3. A requirement is included in Schedule 2 to the draft DCO which stipulates that the Applicant must submit the CEMP, to be prepared substantially in accordance with this outline, for approval to Selby District Council prior to the commencement of construction. The DCO also requires that construction works for the Proposed Scheme (or the part to which the CEMP relates) must be carried out in accordance with the approved CEMP.
- 1.2.4. Assuming the DCO is granted, the Applicant will appoint a Principal Contractor (PC) (or lead contractor for each work package) who will have demonstrated that they are competent in managing the effects of construction on the environment. This is important as it will be the duty of the PC and its subcontractors to follow the environmental management and mitigation arrangements prescribed in the CEMP, to minimise environmental risks and ensure

compliance with any relevant requirements of the DCO. This outline CEMP will be handed over to the PC for tendering and onward implementation of the measures prescribed within.

- 1.2.5. The CEMP document will be prepared to align with established good management practices, and the commitments register (see Table 2.1 and 2.2) and will set out the overarching principles for environmental management of the construction. It has been split into sections to outline:
- General environmental management requirements (section 2).
 - The demolition method statement and associated environmental management requirements (section 3).
 - Specific environmental management requirements for the construction phase (section 4).
- 1.2.6. This CEMP is a live document and it will be periodically reviewed and updated by the PC (or lead contractor delegated to each work area) every six months, or as required, to satisfy all contractual requirements and ensure environmental risks are managed and mitigated throughout. In particular, it will be updated to take account of the following:
- Changes in design.
 - Changes in external factors such as regulations and standards.
 - Any unforeseen circumstances as they arise such as new protected species or new archaeological finds and provide a mitigation framework for this.
 - Good construction practices and ensure these are adopted and maintained throughout.
 - The results of audits and inspections.
 - Learning points from environmental near misses and accidents
- 1.2.7. All construction works must be undertaken in accordance with the approved CEMP. An approved CEMP will be required for each work package in the DCO, and the draft DCO allows flexibility for a CEMP to be submitted to cover just one numbered work or for multiple numbered works.
- 1.2.8. This outline CEMP reflects environmental requirements identified to date, which have either been actioned or have been identified for action as the Proposed Scheme progresses.

1.3 Project Overview

Project Description

- 1.3.1. The Proposed Scheme is to repower up to two existing coal-powered generating units (Units 5 and 6) at the Existing Drax Power Station Complex with new gas turbines that can operate in both combined cycle and open cycle modes. The term "repower" is used as existing infrastructure, such as the steam turbine and cooling towers, that are currently used for the coal fired units would be reutilised for the new gas fired generating units/stations.
- 1.3.2. The repowered units (which each constitute a new gas fired generating station) would have a new combined capacity of up to 3,600 MW in combined cycle mode (1,800 MW each), replacing existing units with a combined capacity to generate up to 1,320 MW (660 MW each).
- 1.3.3. Each gas generating station (or unit) would have up to two gas turbines, with each gas turbine powering a dedicated generator of up to 600 MW in capacity. The gas turbines in each generating station (or unit), therefore, would have a combined capacity of up to 1,200 MW.

The gas turbines in each generating station (or unit), in combined cycle mode, would provide steam to the existing steam turbine (through Heat Recovery Steam Generators (HRSGs)) which would generate up to 600 MW per generating station (or unit). Each generating station (or unit) would have up to two HRSGs. This results in a capacity for each generating station of up to 1,800 MW and, should both Units 5 and 6 be repowered, a combined capacity of up to 3,600 MW. The new gas turbine generating stations (or units) have been designated the terms "Unit X" and "Unit Y".

- 1.3.4. Each of Unit X and Unit Y would have (subject to technology and commercial considerations) a battery energy storage facility with a capacity of up to 100 MW per Unit, resulting in a combined battery energy storage capacity of up to 200 MW. The two battery energy storage facilities would be stored in a single building.
- 1.3.5. The total combined capacity of the two gas fired generating stations, Unit X and Unit Y, and two battery storage facilities (i.e. the total combined capacity of the Proposed Scheme) is therefore 3,800 MW.
- 1.3.6. The DCO seeks consent for the following flexibility:
 - Repowering of either Unit 5 or 6 and construction of Unit X as a gas fired generating station (this would leave either Unit 5 or 6 (depending on which had been repowered) as a coal-fired unit); or
 - Repowering of both Units 5 and 6 and construction of Unit X and Unit Y as two gas fired generating stations.
- 1.3.7. In the event that a single unit is repowered and Unit X constructed, up to two gas turbines and up to two HRSGs and (subject to technology and commercial considerations) a battery energy storage facility of up to 100 MW storage capacity would be constructed. The size of the building housing the battery storage facility would not change, as the building could house sufficient battery capacity to allow the 100 MW output to be sustained for a longer duration. However, the fuel gas station and gas insulated switchgear required for the Gas Pipeline would be smaller.
- 1.3.8. In the event that two units are repowered and both Unit X and Unit Y are constructed, then construction works would be undertaken consecutively rather than concurrently. It is assumed for the purposes of this ES that there would be a gap of a year between construction periods, but this could be longer depending on commercial considerations. Unit Y would mirror Unit X, with up to two gas turbines and up to two HRSGs and (subject to technology and commercial considerations) a battery energy storage facility of up to 100 MW storage capacity which would be housed in the building constructed for the battery for Unit X.
- 1.3.9. In order to repower to gas, a new Gas Pipeline would be constructed from the Existing Drax Power Station Complex to the National Transmission System (NTS) operated by National Grid. Pipeline infrastructure would be the same whether Unit X was constructed or whether Unit X and Unit Y was constructed.
- 1.3.10. A gas receiving facility (GRF) comprising Pipeline Inspection Gauge (PIG) Trap Facility (PTF), Pressure Reduction and Metering Station (PRMS) and compressor station is proposed south of woodland to the east of New Road.

- 1.3.11. At the connection to the NTS there will be an above ground installation (AGI) south of Rusholme Lane. The AGI involves a PIG Trap Launching station (PTF-L) which will be operated by Drax, and a Minimum Offtake Connection (MOC), which will be operated by National Grid.
- 1.3.12. A full description of the Proposed Scheme and the Site is contained in Chapter 3 (Site and Project Description) of the ES.

DCO Requirements by Project Component

- 1.3.13. An outline of the DCO requirements by project component will be inserted into the approved CEMP once finalised.

Current Status

- 1.3.14. The Proposed Scheme is currently at the pre-construction phase. Any known construction work due to be carried out at this stage of the Proposed Scheme is reflected in this outline CEMP. Current construction progress for each phase of the Proposed Scheme is outlined below:

- In order to construct Unit X and Unit Y and associated facilities on the Power Station Site, it is proposed to demolish, remove and relocate existing facilities at the Power Station Site. These works are known as the Site Reconfiguration Works or Stage 0 and will be completed prior to the commencement of any further construction activities. The private squash court will be demolished and not replaced, while the Learning Centre will be demolished and its functions consolidated into existing facilities. Other facilities will be demolished and relocated, including car parking, Turbine Outage Stores, contractor's compounds and welfare facilities. In addition, a cooling water spray screen up to 10 m high will be built between relocated facilities and the southern cooling towers and a ditch created near the parking area in the Site Reconfiguration Works for drainage.
- The gas turbine generating units will be constructed in stages which are referred to as Stages 1 and 2 in the EIA. During Stage 1, Unit X will be constructed whilst Units 5 and 6 remain operational as coal-firing units until Unit X is ready for connection into the steam turbine. During Stage 2, Unit Y will be constructed while Unit X is operational as a gas-fired unit, and once Unit Y is ready for connection into the steam turbine, the remaining coal-fired unit will be turned off so as to allow the steam turbine to be used for Unit Y.
- Each construction stage will take approximately 34 months followed by commissioning. The two construction stages will be separated by up to a year, but this could be longer depending on commercial considerations. Overall the construction period will last at least 83 months including commissioning of Unit Y. The Gas Pipeline and the building to house the battery storage facilities (in connection with Units X and Y) will be constructed within the first half of this programme (Stage 1). The battery storage would be installed within the building in two phases of 100 MW as each unit is repowered (that is, up to 100 MW of battery energy storage during Stage 1 in connection with Unit X, and up to 100 MW of battery energy storage during Stage 2 in connection with Unit Y).
- The construction of Unit X will commence in 2019/2020 with open cycle gas turbine (OCGT) capability by 2021/2022 and closed cycle gas turbine (CCGT) ready by 2022/2023. If both Unit X and Unit Y are built, the construction of the second unit would commence in 2024 and be completed in 2027.

- The peak period for construction traffic is anticipated to be between months 19 and 22, with up to around 400 car trips per day. A second, lower, peak is anticipated between months 65 and 68, with more than 350 car trips per day. Alongside the CEMP, a Construction Traffic Management Plan and a Construction Worker Travel Plan will be implemented to manage construction related traffic.

1.3.15. When the successful PC (or lead contractor assigned to each work area) assumes responsibility for this CEMP they will be required to prepare the CEMP substantially in line with the measures outlined herein, as these will have been considered appropriate as part of the consideration of the DCO Application, given these measures have been assumed for the purpose of the findings in the ES. It will be necessary for the PC to add and amend this revision of the CEMP with information that was not available during the pre-construction phase. These are:

- Any subsequent changes to construction scope.
- Inclusion of policy documents.
- Inclusion of named persons in Table 3 (Project Personnel).
- Development and reference to a detailed Soil Handling Strategy.
- Update resulting actions from pre-construction contaminated land investigations to be conducted.
- An update of the Risk Register (Appendix A) to align with the detailed construction methods.
- Any updates required to meet changes in legislation.
- Any updates required as dictated by regulatory bodies or the client.

Works locations and descriptions

A brief description of the works and their locations are given in Table 1-1 below.

Table 1-1 - Summary Description of work to be undertaken within each Works Area and current progress

Work No.	Title of the works
1	An electricity generating station (Unit X) fuelled by natural gas and with a gross electrical output capacity of up to 1,800 megawatts
2	An electricity generating station (Unit Y) fuelled by natural gas and with a gross electrical output capacity of up to 1,800 megawatts.
3	Up to two battery storage facilities with a combined gross storage capacity of up to 200 megawatts, housed in a single building
4	Up to two new gas insulated switchgear banking buildings
5	A natural gas receiving facility
6	Above ground gas installation(s)
7	A gas pipeline
8	Electrical connections
9	Temporary construction laydown areas
10	Carbon capture readiness

Work No.	Title of the works
11	Retained landscaping
12	Decommissioning and demolition of sludge lagoons and construction of replacement sludge lagoons
13	Removal of existing 132 kilovolt overhead line and associated towers and foundations
14	Passing place on Rusholme Lane
15	Site reconfiguration works

Table 1-2 - Indicative lists of crossings for the Gas Pipeline

Description	Type	Likely Technique
Crossing off Rusholme Lane (Minor Road)	Minor Road	Open Cut
Field North of Rusholme Lane	Minor Water	Trenchless
Main Road, Drax	Minor Road	Trenchless
Main Road, Drax	Minor Water	
Field West of Main Road	Overhead Electrics	Open Cut
Field South of Carr Lane	Minor Water	Trenchless
Wren Hall Lane	Overhead Electrics	Open Cut
Wrenn Hall Lane	Minor Road	Trenchless
Field in front of Drax Site	Overhead Electrics	Open Cut

Public Highways

- 1.3.16. The construction of the Proposed Scheme will require the transportation of large and heavy plant and construction equipment. A Construction Traffic Management Plan (CTMP), including an Abnormal Load Routing Plan, will be prepared and implemented by the PC in order to ensure the minimum level of traffic disruption. An outline CTMP is provided as an appendix to the Environmental Statement (Document Reference 6.2).
- 1.3.17. The final CTMP will be submitted to, and approved by, the relevant planning authority pursuant to a requirement in Schedule 2 to the draft DCO, and in consultation with the local highway authority and Highways England. Any new means of access to the highway or alteration of an existing access for construction purposes, which is not already provided for within the DCO, will be submitted to and approved by the relevant planning authority in accordance with the draft DCO.

2 GENERAL ENVIRONMENTAL REQUIREMENTS

2.1 Risks and Opportunities

- 2.1.1. Risks and opportunities identified prior to construction works will be included in the Environmental Risk Register, a template for which is provided in Appendix A. Risks identified will be based on the understanding of the proposed works activities at the time each revision of the CEMP, and reflect the various risks identified in the ES. Control measures will be developed in accordance with legal and contractual requirements.
- 2.1.2. This Risk Register is the main focus for the environmental management of the works as it outlines what aspects have potential to cause significant impact on the environment. It also provides focus to those aspects so that the project team can control and/or influence activities during the works.
- 2.1.3. The Risk Register will be updated on a regular basis by the PC, to be agreed with the client, and as new risks are identified. All activities undertaken on-site will be subject to an environmental risk assessment. Environmental risk assessments will be undertaken by trained staff following a procedure to be approved by the client which will:
- Identify potential environmental impacts that can be anticipated.
 - Assess the risks from these impacts.
 - Identify the control measures to be taken and re-calculate the risk.
 - Report where an unacceptable level of residual risk is identified so that action can be taken through design changes, re-scheduling of work or alternative methods of working in order to reduce the risk to an acceptable level.
- 2.1.4. The results of risk assessments will only be considered acceptable if:
- The severity of the outcome is reduced to the lowest practicable level.
 - The number of risk exposures are minimised.
 - All reasonably practical mitigating measures have been taken and the residual risk rating is reduced to a minimum.
- 2.1.5. The findings of all risk assessments and in particular, the necessary controls, will be explained to all relevant staff and subcontractors before the commencement of the relevant works using an instruction format to be agreed with the client (e.g. Toolbox Talks).

2.2 Requirements and Consents

Environmental Requirements

- 2.2.1. This Proposed Scheme shall be carried out in accordance with the principles of ISO14001 and the requirements (but not limited to) those listed below along with any relevant legislation:
- Applicable DCO Schedule 2 Requirements.
 - The Environmental Statement.
 - Client and PC Environmental Policies.
 - T/PR/G17 'Procedures For The Management Of New Works, Modifications And Repairs'.
 - T/SP/TR18 'National Grid Gas Specification For Engineering of Pipelines and Installations Operating at above 7 barg'.

- Construction (Design and Management) Regulations.

2.2.2. For ease of reference, Table 2-1 will provide a summary of how and where DCO Schedule 2 requirements of relevance to environmental management during demolition and construction have been addressed. It will also provide a guide as to how the measures outlined in the Commitments Register will be transposed into the CEMP.

Table 2-1 - DCO Requirements and mitigation commitments of relevance to environmental management during demolition and construction [to be completed prior to construction commencing]

DCO Requirement	Planning condition	Mitigation commitment	Document	Section/comment

Audits and Inspections

- 2.2.3. The appropriate PC and client environmental policies will apply to construction. A list will be included in the approved CEMP.
- 2.2.4. Once construction work commences, internal environmental inspections and audits on the Proposed Scheme will be conducted. Audits will be carried out in accordance with the principles of an ISO14001 Environmental Management System (EMS) to assess the Proposed Scheme's performance and to check compliance with the legal and contractual requirements.
- 2.2.5. With regard to the Gas Pipeline, it is expected that National Grid Gas would carry out audits, to an agreed programme with the Project Manager, throughout the construction phase to assess the implementation of the quality management system for delivery of assets.
- 2.2.6. Environmental inspections will take place in accordance with the EMS to ensure all sites are assessed whilst construction activities are taking place.

Consents

- 2.2.7. A register of consents covering: planning, highway and environmental will be prepared and maintained by the PC to keep track of any progress. This will enable the project team to plan for consents to be applied for and obtained prior to construction work commencing.
- 2.2.8. Further work and surveys required confirming consenting procedures and mitigation measures are dependent on the works area and are detailed in sections 3, 4 and 5 of this CEMP as appropriate.
- 2.2.9. The progress of the preparation, submission and internal approval of the consents identified as being required will be tracked using the consents register.
- 2.2.10. This CEMP will be the overarching document outlining and tracking the delivery and achievement of legal compliance.

Health and Safety

- 2.2.11. This document provides an overview of the health and safety measures and processes that are likely to be adopted during the demolition and construction phases of the Proposed Scheme. However, is not intended to fulfil any legislative obligations of the PC with regard to occupational health and safety.

2.3 Objectives and targets

- 2.3.1. The objective of this CEMP is to ensure all those involved in the construction phase of the Proposed Scheme follow a project specific framework which outlines all environmental impacts associated with implementation of the proposed works activities. It ensures the environmental risks are properly identified and outlines the mitigation to be employed throughout the construction phase of the Proposed Scheme.

2.4 Roles and responsibilities

- 2.4.1. Personnel with defined environmental responsibilities are detailed in Table -2-23 below.
- 2.4.2. Each responsible individual will sign to confirm that they understand and accept their designated duties and responsibilities. A signed copy will be retained and made available on request. Where there is more than one individual with responsibilities, these personnel will sign a project induction which will confirm the acceptance of their environmental/sustainability responsibilities.

Table 2-2 - Project Personnel

Role	Individual	Responsibilities
Project Manager / Director	TBC	<ul style="list-style-type: none"> Overall environmental management of the Proposed Scheme, ensuring that all works are carried out in accordance with the CEMP.
Environmental Advisor / Manager	TBC	<ul style="list-style-type: none"> Work with programme planners and project managers to ensure consents are embedded within the programme. Monitor submission of consent applications and ensure their timely delivery. Provide input to consultation with consent granting bodies, commitment holders and other third parties. Co-ordinate and manage all required scheduled consents and property notifications. Ensure environmental consents are obtained in line with the programme. Maintain and update the consents register in line with requirements and ensure review of individual deliverables by project specialists. Monitor and report progress on consents and commitments. Monitoring construction works including the sub-contractors for compliance against Environmental

Role	Individual	Responsibilities
		<p>Risk Assessment and method statement control measures.</p> <ul style="list-style-type: none"> • Co-ordination of all environmental documentation. • Monitoring environmental training, consultation and implementation of sub-contractor procedures. • Attending site HSE committee meetings. • Monitoring of all site environmental incidents and ensuring they are reported and investigated. • Undertaking site inspections. • Accompanying HSE Managers and EA inspections. • Advising the Project Manager on the implementation of the EMS. • Compliance with duty of care, the Site Waste Management Plan (SWMP) or any permits and/or exemptions. • Monitoring and measurement of waste. • Communicate sustainability good practice, innovation and targets to the project team and supply chain. • Keep a record of key performance indicators (KPIs). • Act as the main point of contact on environmental matters relating to the Proposed Scheme.
Environmental Clerk of Works	TBC	<ul style="list-style-type: none"> • Support the Environmental Manager in delivering the environmental component of the Proposed Scheme. • Monitor construction activities and performance to ensure control measures are effective. • Maintain full records of the progress of the Environmental Works. • Implement an auditable environment record filing system. • Maintain regular contact and liaison with the Environmental Specialists. • Carry out further monitoring as required by the CEMP.
Ecological Clerk of Works	TBC	<ul style="list-style-type: none"> • Monitoring and management of the ecological-related control measures • Pre-construction ecological checks for habitats and species • Implement and maintain exclusion zones • Oversee provision of ecological mitigation measures • Provide ecological information for site inductions, tool-box talks and meetings
Engineering Manager	TBC	<ul style="list-style-type: none"> • Raise innovation at team meetings. • Capture good ideas/innovations/lessons learnt. • Track progress of improvements and support if needed.

Role	Individual	Responsibilities
		<ul style="list-style-type: none"> • Grow the culture of innovation by effective means of communication e.g. presentations, site visits, engagement with our supply chain. • Ensure environmental issues and constraints are included in individual designs, in accordance with environmental design procedures.
Planning Manager	TBC	<ul style="list-style-type: none"> • Plan works to avoid sensitive times of year. • Plan works to avoid working unsociable hours. • Plan into the project consents/surveys required and the time scales in which they take to obtain.
Construction Manager	TBC	<ul style="list-style-type: none"> • Advising PC representative on the implementation of the EMS. • Monitoring construction works including the sub-contractors for compliance against Environmental Risk Assessment and any method statement control measures. • Monitoring environmental training, consultation and implementation of sub-contractor procedures. • Accompanying site safety, health and environment (SHE) Inspections and any environmental authority inspections. • Attending SHE co-ordination meetings.
Works Supervisors / Site Manager	Various	<ul style="list-style-type: none"> • Ensuring that all site work is carried out in accordance with method statements, task briefings and activity briefings. • Ensure that staff under their supervision is aware of their environmental responsibilities. • Ensure key risks are identified and brief operatives on environmental topics. • Carry out site inspections to identify any environmental issues.
Safety, Health and Environment Advisor / Manager	TBC	<ul style="list-style-type: none"> • Accompanying SHE Inspections and any environmental authority inspections. • Leading SHE co-ordination meetings. • Ensure compliance with environmental policies, standards and procedures. • Ensure compliance with environmental legislation.
General Operatives	N/A	<ul style="list-style-type: none"> • Ensuring environmental mitigation measures are carried out during the course of their duties, in line with work package plans, task briefings and activity briefings. • Working considerately with a good working ethic in order to minimise adverse environmental impacts and follow all site rules communicated during briefings and project training sessions.

Role	Individual	Responsibilities
		<ul style="list-style-type: none"> • Informing their line management of any environmental issues they have on site, so that these can be communicated to the project management team for further investigation. • Attending the project induction prior to commencing work where details of the site environmental rules will be provided.

2.4.3. All employees working on the Proposed Scheme will have a responsibility to ensure that they comply with the EMS.

2.5 Competence, Training and Awareness

2.5.1. The PC shall identify the training needs of their employees and subcontractors so that they can implement the requirements of this CEMP into briefings and construction method statements.

2.5.2. Specific training needs will be developed for individuals to reflect the work to be carried out on the Proposed Scheme and the significant risks and opportunities identified.

2.5.3. The requirement is for all personnel to be aware of their general environmental management responsibilities, and for those whose work may cause, or have the potential to cause, a significant impact on the environment, to receive specific environmental awareness briefings. Environmental awareness will be reinforced through information, such as poster campaigns, environmental/sustainability performance indicator reports and environmental alerts available on site notice boards.

2.5.4. All contractors are responsible for ensuring the competency of their environmental staff. In the event that environmental training is needed for staff, a contractor is responsible for ensuring this requirement is fulfilled. Any training provided to members of the project team will be logged by the project administrator and any certification documents will be produced by the relevant members of staff as evidence that they hold the required competencies.

2.6 Internal Communication

2.6.1. Communication on environmental issues within the project team will take place through face-to-face conversation, e-mail and telephone. The project management team will be made aware of all environmental issues at the earliest possible opportunity. Communication on environmental matters will be maintained through construction meetings chaired by a member of the SHE project team or a senior manager.

2.6.2. Environmental issues identified by any member of the project team will be communicated to the relevant personnel to ensure any required actions are carried out. Dissemination of information will take place in several forms, as appropriate, including meetings to discuss particular project issues, method statements, task/activity briefings, toolbox talks, inductions, environmental notices and environmental alerts. Records that these have been carried out and who received them will be recorded on briefing registers and collated by the project administrator. The Environmental Advisor/Manager will provide updates to the supervisors at

each site to ensure policies and procedures on display are up to date. Supervisors will also be notified of any legislation changes which may affect working practices on site.

- 2.6.3. Any unexpected finds/occurrences by site staff can be reported to their supervisors, which will then give notification to a member of the SHE project team. A SHE representative will advise on the course of action to be taken.

2.7 External Communication

Communication with the Applicant

- 2.7.1. The PC will liaise regularly with the Applicant and its representatives regarding the programme of works, nature of the operations and methods to be employed to minimise adverse environmental impacts. This will include progress meetings as well as the production and submission of progress reports which will cover environmental/sustainability issues. The PC will also supply all relevant supporting information and documentation to the client for matters concerning consents and environment in accordance with the appropriate timescales.

Statutory Authorities and Non-Governmental Organisations

- 2.7.2. A stakeholder communications plan that includes community engagement before work commences on site should be developed and implemented.
- 2.7.3. In the event of stakeholder liaison being required with local authorities or Non-Governmental Organisations (NGOs), the PC will identify the requirement and seek authorisation from the applicant to undertake the task. Where consultation is required, a representative from the applicant will be invited to attend alongside the relevant PC personnel.
- 2.7.4. Project staff will keep an archive of any e-mail correspondence between themselves and statutory authorities and NGOs concerning the activities taking place. In the event that any complaints are received via statutory authorities or NGOs a log of correspondence and complaints will be kept up to date by the PC.

Public Relations

- 2.7.5. The PC will not communicate with residents unless approval has been granted by the client. Contact with landowners for surveys on third party land will be in accordance with client procedures and in accordance with signed agreements where relevant.
- 2.7.6. A minimum of 14 days prior notification by letter drop to those properties likely to be directly impacted before works are due to commence will be adhered to. The letter will outline where exactly the works are taking place, what activities are involved, timescales for the work and potential impacts. The process for distributing letters to the public is as follows:
- Draft letter written by PC.
 - Draft letter submitted to the client for approval.
 - Final letter returned to the PC with appropriate distribution list.
 - Letter delivered to residents a minimum of 14 day prior to works commencing.

Complaints Procedures

- 2.7.7. As part of the site set-up process, site notice boards will be erected, maintained and clearly visible to third parties. A telephone number for environmental complaints will be published local to the site. The SHE officer will be responsible for dealing with any complaints and will

have the appropriate authority to resolve any issues that may occur. Should they be required, both the SHE officer and the site managers 'out of hours' telephone numbers will be available.

- 2.7.8. The SHE officer will maintain a close liaison with the Local Authority Environmental Health Officer (EHO) at all times.
- 2.7.9. Should any unforeseen event occur within the construction site that has the potential to cause off-site pollution then the SHE officer will immediately notify the EHO by phone and e-mail. As far as possible, notice will be issued to the EHO for dealing with an unforeseen activity which may give rise to a particular problem.
- 2.7.10. During any site work, if any complaints are received directly to the PC or its subcontractors, the client will be notified as soon as is practicable but within twelve hours of the complaint being received. It will be the responsibility of the PC's Site Manager to brief any staff responsible for unacceptable working conduct in relation to worksite neighbours whilst working on the Proposed Scheme.

Worksite Security

- 2.7.11. The PC will maintain a 24-hour helpline during construction. Signage will be provided on site hoardings to inform the public of the helpline number for reporting security incidents or concerns. The PC will follow up security incidents and concerns reported and will arrange implementation of further measures required.
- 2.7.12. Construction worksites will be under the control of the PC who has a statutory duty to prevent unauthorised access to the site. The client will require its PC to carry out site specific assessments of the security and trespass risk at the project site and implement appropriate control measures, which will include:
- Maintenance and retention of the existing full perimeter security fence (temporary fences may be used in certain areas, such as for short term occupation of areas).
 - Site lighting to be used at site perimeters where required to provide a well-lit route for the passing public, e.g. to avoid shadows cast by the site hoarding on surrounding footpaths, roads and amenity areas.
 - 24-hour security guard coverage to main worksites, with patrols of site and perimeter areas, and site gates manned at all times during work hours and closed and locked when there is no site activity.
 - Closed-circuit television (CCTV) (or similar security surveillance system), infrared surveillance and alarm systems where required.
 - Special security measures for worksites at risk of trespass by children, including communications initiatives to local schools to warn of dangers, and involving schools in response to incidents involving their pupils.
 - Consultation with local crime prevention officers to agree security proposals and to identify any foreseeable security problem), with regular liaison to review security effectiveness and response to incidents.
 - Immobilisation of plant out of hours, removing or securing hazardous materials from site, securing fuel storage containers and preventing unauthorised use of scaffolding by enclosing base of scaffolding and removing ladders when work is not in progress, and locking access equipment.

2.8 Records and Documents

- 2.8.1. The CEMP is the principal operating document for environmental management during the construction of the Proposed Scheme. Client and PC procedures define the general course of action to manage environmental issues on the Proposed Scheme. Any relevant records or documentation supplementary to the CEMP form part of the EMS for the Proposed Scheme. These are highlighted in the relevant sub-categories of the works locations (refer sections 3 and 4).

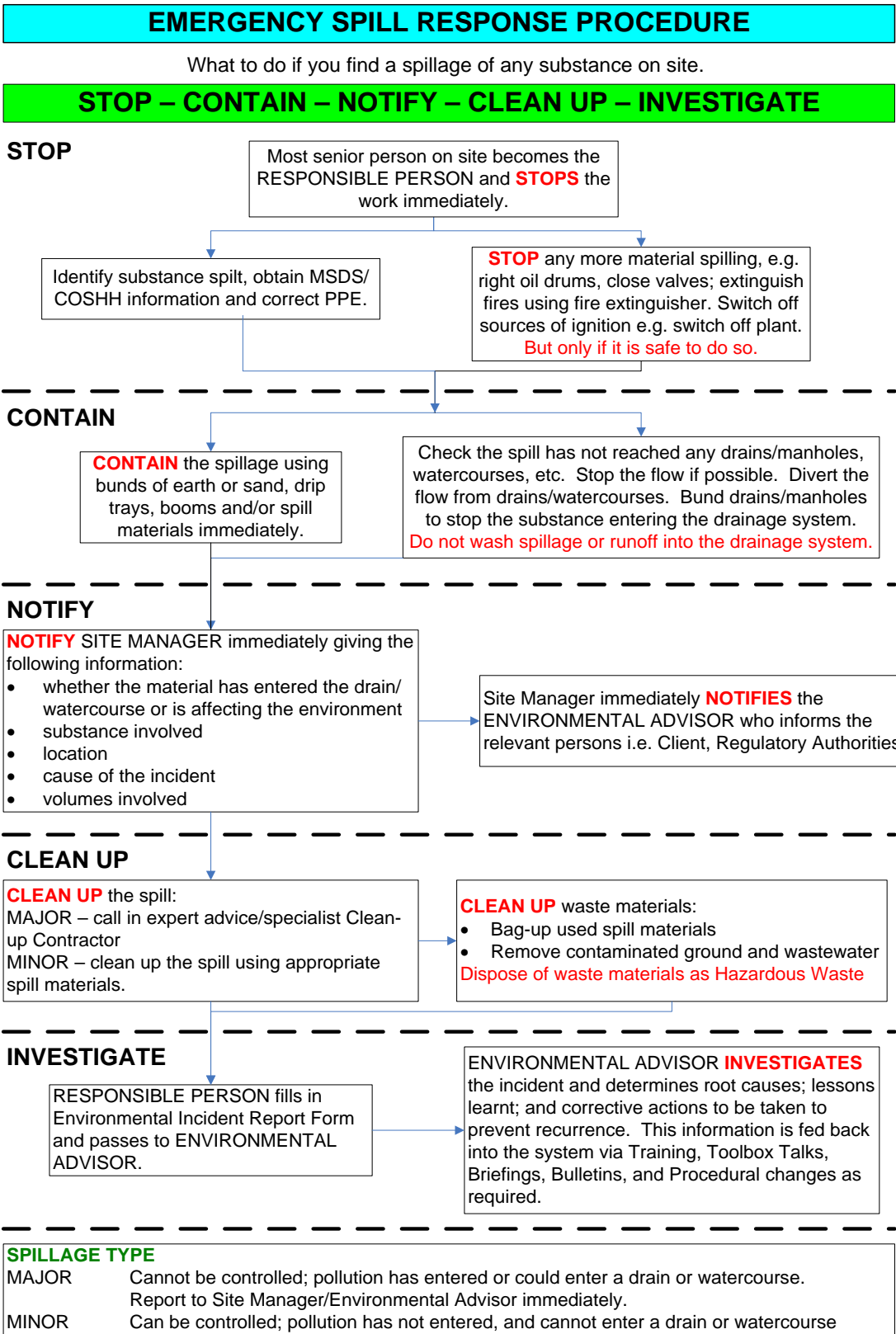
2.9 Method Statements

- 2.9.1. Method statements will be completed by the PC or sub-contractor by trained engineers or other appropriately experienced personnel, in consultation with on-site staff and, where necessary, environmental specialists. Their production will include a review of the environmental risks and commitments, so that appropriate control measures are developed and included within the construction/demolition process.
- 2.9.2. Method statements will be reviewed by the PC or sub contractor's appointed Environmental Manager and, where necessary, by an appropriate environmental specialist (e.g. ecologist). As a minimum, method statements will contain the following:
- Location of the activity and access/egress arrangements.
 - Work to be undertaken and methods of construction.
 - Plant and materials to be used.
 - Labour and supervision requirements.
 - Health, safety and environmental considerations.
 - Any permit or consent requirements beyond those already obtained (including the DCO).
- 2.9.3. Due to the nature of works and environment specific risks associated with the demolition activities required under this contract, a site specific Demolition Method Statement forms part of this CEMP (section 3).

2.10 Incident Response

- 2.10.1. An Incident Response Plan will be developed to highlight the potential pollution receptors specific to each works location and the activities taking place there. Each document will be in place within the first month of construction activities commencing, and will be available for viewing and be briefed to the workforce on site. They will be updated at least every six months. The key components of each Incident Response Plan be:
- A brief scope of works taking place on site.
 - Types of environmental incident that have the potential to occur (however low the risk).
 - Types of hazardous material likely to be present on site.
 - A list of pollution receptors and maps showing their location relation to the site.
 - The procedure for responding to environmental incidents, reporting them and investigation (including spill or leak events).
 - Key contact numbers for reporting of environmental incidents.
 - Recommendations to help reduce the likelihood of environmental incidents.

2.10.2. In the event of a spill or leak, the following process will be followed. This will be included in the incident response plan, and this will be briefed to the workforce and displayed on site notice boards.



3 DEMOLITION METHOD STATEMENT

3.1 Purpose of Method Statement – Applicable for Stage 0

- 3.1.1. The purpose of the Demolition Method Statement (DMS) is to define the works scope, method of working and procedures to be implemented by the Demolition Contractor (DC) and its subcontractors for the demolition works required to be undertaken on the Proposed Scheme.
- 3.1.2. All activities are reviewed throughout the demolition planning and delivery phases by the DC and client to ensure that the works continue to be undertaken safely. All operatives and supervisors will be briefed on this DMS as well as any specific task briefings for the works area prior to them being allowed access to the demolition site. A copy of the resulting signed briefing sheet will be kept on site.

3.2 Reference Documents

- 3.2.1. Works plans and supporting documentation relevant to this DMS are outlined as follows:
- Project specific Health and Safety Plan.
 - Project specific demolition phase method statements and associated risk/Control of Substances Hazardous to Health (COSHH) Regulations 2002 assessments, including but not limited to:
 - Site set up (welfare, fencing and hoarding, access, fire plan, parking etc.).
 - Disconnection of services.
 - Emergency procedures.
 - Erection of fencing and hoarding.
 - Soft strip.
 - Asbestos removal.
 - Hot works.
 - Demolition.
 - Environmental protection and monitoring.
 - Completion works.

3.3 Work Location

- 3.3.1. A description of the works location will be included in the approved CEMP.

3.4 Description of Work

- 3.4.1. This DMS details the works to be carried out at as part of the Site Reconfiguration Works, in order to demolish the existing units outlined in Section 3.3 of this CEMP, whilst causing minimal or no disruption to the adjacent stakeholders and assets (local businesses, residents, neighbouring properties and the surrounding natural environment). In outline, the demolition works will generally comprise:
- Disconnection of services by the client.
 - Asbestos survey.
 - Site establishment, including erection of fencing and hoarding.
 - Implementation of pollution prevention and waste control measures.
 - Soft strip.
 - Removal of cables.
 - Removal of asbestos.

- Demolition of buildings and other above ground structures.
- Breaking up of floor slabs and removal of footings, where required.
- Processing of demolition rubble to produce a re-usable product.
- Transport of demolition materials off-site for recycling or disposal.
- Making good the ground and level excavated areas.

3.5 Task Methodology and Sequence of Events

Prior to Demolition

- 3.5.1. Prior to demolition, an appropriate refurbishment/demolition survey of the existing structures within the site boundary will be conducted and presented within the report referenced in Section 3.2 above. Additionally, a survey of the existing utility services will be undertaken. This is to ensure that a baseline is established for this DMS and the controls to be implemented.
- 3.5.2. All demolition work will be undertaken in accordance with the current best practice, British Standard Code of Practice for Demolition 6187, the ICE Demolition Protocol and other applicable standards and legislation.

Consents and Notices

- 3.5.3. All necessary consents and notices will be obtained from the granting bodies prior to the start of the demolition works. These include:
- Section 80 of the Building Act 1984 for demolition works and disconnection of utilities.
 - Section 61 of the Control of Pollution Act 1974.
 - Ordinary Watercourse Consent under Section 23 of the Land Drainage Act 1991.

Permits

- 3.5.4. No demolition, including asbestos removal, of any building or structure shall commence until a permit to demolish is approved by the DC's Demolition Manager.
- 3.5.5. A permit to demolish shall be completed and submitted to the client for approval prior to demolition commencing. This is to satisfy the client that all appropriate health, safety, quality and environmental requirements have been met prior to carrying out work.

Exclusion Zones and Safe Systems of Control

- 3.5.6. The demolition works will be contained and secured within the existing site fencing, supplemented by heras fencing and solid hoarding where appropriate, to prevent unauthorised access. Solid hoarding will be erected along the northern edge of the Power Generation Plant site during demolition activities.
- 3.5.7. Signage will also be placed on fencing highlighting the exclusion zone is a demolition area and unauthorised entry is prohibited.

Sequence of Events

Removal of Contents

- 3.5.8. The contents of the buildings and structures will be removed prior to starting demolition works, except where buildings are to be retained to facilitate works in the early stages.

Dismantling

3.5.9. Where possible, equipment, internal and external furnishings will be removed. This will be particularly important for old piping systems which may still contain gases and fluids. Asbestos surveys will be required for buildings and structures to identify any presence and appropriate removal.

Demolition

3.5.10. To safely demolish the structure(s) without causing temporary instability the following method must be employed:

- Structures to be demolished will be inspected by the site supervisor and machine operator to identify all sensitive areas and ensure appropriate safety measures are adopted. Reference will be made to the structural survey report when it is available.
- The installation of temporary bracings or supports may be necessary for some structures to avoid disproportionate collapse.
- Where the reduction of structures is required, this will be progressive and taken down in sections.
- For some structures, it will be necessary for loads to be removed.
- During all structural reduction works, sufficient bracing will be retained to maintain stability and enable the reduction of building elements in a piecemeal manner.

3.5.11. It must be noted that the above demolition sequence is based on information available at the time of production of this revision of the CEMP and may be subject to change following further surveys/inspections.

3.6 Demolition Environmental Management

Overview

3.6.1. This section of the DMS provides details on environmental management and mitigation measures to be implemented as part of the demolition works. Any mitigation detailed in this section will be implemented in addition to the general mitigation measures that are outlined in section 4 of the CEMP.

Housekeeping

3.6.2. Good housekeeping practices will be maintained at all times. The importance and methods of housekeeping shall be relayed to the workforce during briefings for the demolition tasks they will be carrying out on any given day. The demolition contractor will ensure compliance by the workforce.

Waste Management

3.6.3. The disposal of waste material shall be in accordance with the relevant statutory requirements and the DC/client waste management policies.

3.6.4. A target of 95% diversion of demolition waste from landfill has been set, and this will be monitored as part of the Site Waste Management Plan (SWMP), see section 4 for further details.

3.6.5. The steps taken to achieve this are documented in the SWMP. The SWMP will be formulated using the Waste and Resources Action Programme (WRAP) template to assist the project in maintaining legal and contractual compliance. Reference should also be had to section 4.10

of this CEMP for further detail regarding the aims and objectives of waste management for the Proposed Scheme.

- 3.6.6. A designated waste management area will be set-up at an appropriate location on site with appropriate skips for the main waste streams, as forecast and identified in the SWMP. The waste management areas may also consist of holding areas for debris/rubble that is to be removed via lorry. All major waste streams will be segregated as far as reasonably practicable to ensure hazardous/non-hazardous wastes do not mix and to improve recycling. A target of 90% diversion of demolition waste from landfill has been set for the Proposed Scheme.
- 3.6.7. Where possible, priority will be to remove waste rubble/debris direct to lorries for removal from site to prevent double handling.
- 3.6.8. A copy of authorised licenses to remove waste materials shall be kept by the DC in electronic or hardcopy format and be available upon request by the client or regulating authority. Records will also be included within the SWMP as set out in section 4.10.
- 3.6.9. Full records of all waste removed from site shall be maintained and submitted to the designated clients' representative as required.
- 3.6.10. The SWMP will be completed, agreed and approved prior to the commencement of the main works on site. The DC will check that the following documentation is available and valid:
- A valid waste management licence for the transfer station/disposal sites being used.
 - A copy of the waste carrier's registration or licence.
 - Copies of all transfer notes for non-hazardous and inert waste.
 - Copies of all consignment notes for hazardous wastes.

Pollution Prevention

- 3.6.11. Surveys and testing will be commissioned by the DC prior to demolition to identify any potentially hazardous materials within the structures to be demolished. If hazardous material is identified, the demolition strategy will be reviewed to ensure any pollution pathways to the wider environment are eliminated. Any elements of the structures that are likely to result in hazardous waste will be removed prior to the main demolition works taking place and the following measures implemented:
- Any hazardous wastes will be removed via a licensed contractor to a site/facility that has the appropriate permits to accept the waste.
 - Polluting wastes will be segregated where possible and in a sealed or covered area to prevent dispersion to the wider environment.
 - Where possible, hazardous waste will be removed immediately, to prevent on-site storage.
- 3.6.12. During demolition activities, there will be a number of mechanically operated plant and equipment in use. As such, there will be a risk of oil/fuel leaks and therefore standard pollution prevention measures will need to be put in place (these are as per section 4.5 of the CEMP).

Nuisance

Noise and Vibration

- 3.6.13. Due to the nature of demolition works, there is likely to be an increase in noise/vibration emanating from the site as result of the activities taking place on site. Any demolition activities,

plant to be used, mitigation measures to be employed and working times will be agreed through a Section 61 Construction Noise Consent (under Section 61 of the Control of Pollution Act 1974) with the Local Authority if required. Controls on the hours of construction working are secured by a requirement in Schedule 2 to the draft DCO. Further details of noise and vibration management to be employed can be found in Section 4.2 of this CEMP.

Dust

3.6.14. Demolition work, by its nature, inherently can produce a significant amount of dust. As such, where reasonably practical the following measures will be enforced during demolition activities:

- Solid hoarding will be erected on the northern edge of the site.
- Use of water as a dust suppressant.
- Cutting equipment shall use water as a dust suppressant or incorporate suitable extraction/ventilation.
- Use of enclosed shuts and skips where applicable.
- Prolonged storage of debris on-site, in temporary stockpiles will be avoided.
- Vehicles removing demolition or site clearance materials will have their loads effectively sheeted on all sides.
- Crushing of demolition material for reuse, transportation or disposal shall be undertaken as far away as possible from sensitive receptors.

3.6.15. More specific dust management strategies that should be employed during demolition can be found in section 4.3 of this CEMP.

Ecology

3.6.16. Buildings and structures due to be demolished have the potential to support roosting bats and nesting birds which are protected by UK and EU legislation.

3.6.17. The demolition of the buildings will be undertaken under a European Protected Species derogation licence, to be obtained from Natural England, with demolition completed in accordance with the Method Statement accompanying that licence. Avoidance and deterrent measures to be detailed within an Ecological Management Plan will be implemented to minimise the risk of encountering nesting birds.

3.6.18. Compensatory roosting and nesting habitat will be provided, in the form of a purpose built bat mitigation structure and bat and bird boxes. Refer to the Outline Landscape and Biodiversity Strategy (Document Reference 6.4) for further details.

3.6.19. Demolition of buildings known to be used by breeding birds will either take place outside the breeding bird season, or will be preceded by blocking potential nesting locations in the winter prior to demolition.

3.7 Programme

Authorisation to Start Work

3.7.1. Authorisation to commence demolition works will be provided by the PC/client once all approvals have been granted.

Pre-Start Activities

- 3.7.2. All personnel are to report to the site manager/supervisor prior to commencing work and to be inducted on basic site safety rules and emergency procedures. Supervision will be on site at all times when work is taking place.
- 3.7.3. All personnel shall sign the induction log after completing the site safety induction and will be issued with a list of emergency contact numbers. Records of all inductions will be kept on site.
- 3.7.4. This DMS will be communicated to all Task Briefing authors. Task Briefings will then be written in accordance with the appropriate method statement and communicated to the workforce once approved. A record of these communications will be kept on site.

Hold / Inspection Points

- 3.7.5. Responsible persons shall be in accordance with the principle contractor's health and safety guidelines, which outlines and assigns responsibilities within the construction team. Those individuals responsible for checking progress and ensuring the activities are taking place in line with the task methodology, sequence and programme will be in place prior to the commencement of demolition activities.

3.8 Health and Safety Control Measures

- 3.8.1. The following subsections provide an overview of the likely health and safety control measures to be employed during the demolition phase. For avoidance of doubt however it is noted that this section is not intended to fulfil the purpose of an occupational health and safety plan, which the DC will be legally required to prepare and implement throughout the demolition phase.

Workforce Identification

- 3.8.2. A full list of staff competencies and training will be maintained by the DC within a Demolition Phase Plan, which will be prepared prior to the commencement of demolition. Amongst other roles, it will identify the following supervisory roles within the demolition work package (including personnel names and contact details):
- Demolition Site Manager.
 - Asbestos Removal Site Manager.
 - Demolition Site Supervisor.
 - Asbestos Removal Site Supervisor.
 - First Aiders (minimum of one in relation to demolition and one in relation to asbestos).

Plant and Equipment

- 3.8.3. The plant and equipment required to undertake the demolition works may include, but not be limited to:
- 360o excavators fitted with either shears, selector grab or bucket attachments.
 - A tractor and towable water bowser and jet spray(s) for dust suppression.
 - A mobile crushing plant.
 - Roll on off skips for general waste, timber and scrap steel.
 - Hand tools.
 - Tower/podium scaffold units of varying size for access.

- Site office, existing canteen facilities, toilets, existing shower block, generator and bunded fuel tank.

3.8.4. Plant certificates will be obtained for all equipment used and copies of the certificates retained on site.

Mandatory Staff Training

3.8.5. The following table lists the required training and its frequency for all operatives on site specific to the demolition work package:

Table 3-1 - Required training and frequency for all demolition site operatives

Training Required	Frequency
Asbestos Awareness	Prior to commencement and once a year if necessary
Demolition	Toolbox talk (intermittently)
Being a good neighbour	Toolbox talk (intermittently)
Dust	Toolbox talk (intermittently)
Waste management	Toolbox talk (intermittently)

Personal Protective Equipment (PPE)

3.8.6. The following PPE will be required as standard when working on site:

- Hard hat.
- High visibility top.
- High visibility trousers.
- Eye protection.
- Gloves.
- Steel toe-cap boots with ankle and mid-sole protection.

3.8.7. Additional PPE may be required as follows for those working in high risk areas:

- Dust mask.
- Ear defenders.

Emergency Arrangements

3.8.8. In the case of an emergency reference should be had to the Emergency Preparedness Plan (EPP), which will detail the immediate actions to be taken. The client is to be notified of all accidents and incidents via the correct channels.

Nearest Hospital

- 3.8.9. The nearest hospital with an Accident and Emergency unit is located approximately 14.9 miles away at:

*Doncaster Royal Infirmary
Thorne Road
Doncaster
Yorkshire
DN2 5LT*

- 3.8.10. A map will be displayed on office notice boards with key contacts and emergency service details.

Accident, Incident, Near Miss and Environmental Incident Reporting

- 3.8.11. All incidents must be reported immediately to the DC management. If a serious accident, incident or dangerous occurrence occurs, all supervisors and operatives shall remain on site until authorised to leave by an authorised person.

- 3.8.12. The DC will notify the client's project manager within 30 minutes of the occurrence, or detection of, an environmental incident. The DC will report any incident to the relevant statutory authorities where appropriate. Major environmental incidents will be reported to the Environment Agency by calling the following hotline number 0800 80 70 60.

First Aid

- 3.8.13. The DC will ensure that HSE Approved First Aid at Work trained personnel will be provided at a ratio of 1:20. The First Aid personnel will be identified within a Demolition Phase Plan to be prepared by the DC prior to the commencement of demolition, as described in 'Workforce Identification' above.

- 3.8.14. First Aid equipment will be provided on site and in the site welfare facilities and will be suitably stocked and contained in a recognised first aid box. As a minimum standard the contents of the first aid box will be as follows:

- A leaflet giving general guidance on first aid (for example, HSE's leaflet Basic advice on first aid at work).
- Individually wrapped sterile plasters (assorted sizes), appropriate to the type of work (hypoallergenic plasters can be provided if necessary).
- Sterile eye pads.
- Individually wrapped triangular bandages, preferably sterile.
- Safety pins.
- Large sterile individually wrapped unmedicated wound dressings.
- Medium-sized sterile individually wrapped unmedicated wound dressing.
- Disposable gloves

- 3.8.15. If an ambulance is required then the emergency services will be called using the standard 999 telephone number and procedure. The nearest hospital will be displayed on the office notice board.

3.9 Risk and COSHH Assessment

- 3.9.1. Risk assessments will be carried out by the DC to document all identified risks arising from the operations to be carried out. 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.
- 3.9.2. The DC will prepare COSHH assessments to cover substances brought to or arising from the works, such as, propane, mineral oils, concrete and brick dust and hygiene materials. Additional assessments will be prepared for any residual materials contained within the buildings and encountered during the works.

4 CONSTRUCTION PHASE – PROPOSED SCHEME ENVIRONMENTAL MANAGEMENT PLANS

4.1 Introduction

- 4.1.1. This section of the CEMP outlines specific environmental management in relation to the construction of the Proposed Scheme. The structure of this section is broken down into the relevant environmental topics, with each topic setting out specific issues and environmental management measures for all work elements.
- 4.1.2. The environmental management measures set out in this section may also be relevant to the general management of the demolition works and may not be explicitly outlined in the DMS (section 3). In these instances, the DMS refers to the relevant subsection within section 4 and general environmental management and BPM will also be applied.

4.2 Air quality and dust management plan

- 4.2.1. This section outlines the potential sources of air pollution created by construction works and the methods of mitigation proposed to limit these impacts which will be adopted. The following provides an outline of the processes which shall be employed in order to reduce dust and exhaust emissions during construction/demolition. This section constitutes the site specific Dust Management Plan.
- 4.2.2. Construction/demolition activities associated with the greatest potential for dust generation are:
- Earthworks including excavation of topsoil, handling on site and deposition.
 - Handling and storage of materials (including loading and unloading).
 - Wind blow across disturbed/exposed site surfaces and materials.
 - Mechanical operations such as crushing, drilling, concrete mixing and cutting.
- 4.2.3. Best practicable means (BPM) will be employed to minimise the risk of adverse effects from construction/demolition dust and causing nuisance or damage to flora and fauna. Specific control measures for limiting nuisance dust and exhaust emissions during construction may include the following:
- General communication:
 - The name and contact details of person(s) accountable for air quality and dust issues should be displayed on the Site Boundary. The head or regional office contact should also be displayed.
 - All dust and air quality complaints should be recorded and causes identified. Appropriate remedial action should be taken in a timely manner with a record kept of actions taken including of any additional measures put in-place to avoid reoccurrence. The complaints log should be made available to the local authority on request. Any exceptional incidents that cause dust and/or air emissions, either on- or off-site should be recorded, and then action taken to resolve the situation recorded in the log book.

- Site Management:
 - All dust and air quality complaints should be recorded and causes identified. Appropriate remedial action should be taken in a timely manner with a record kept of actions taken including of any additional measures put in-place to avoid reoccurrence.
 - The complaints log should be made available to the local authority on request.
 - Any exceptional incidents that cause dust and/or air emissions, either on- or offsite should be recorded, and then the action taken to resolve the situation recorded in the log book.
- Monitoring:
 - Daily on-site and off-site inspections should be undertaken, where receptors (including roads) are nearby to monitor dust. The inspection results should be recorded and made available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary.
 - The frequency of site inspections should be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
 - Dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations should be agreed with the Local Authority. Where possible baseline monitoring should start at least three months before work commences on site or, if it a large site, before work on a phase commences.
- Preparing and maintaining the site:
 - Plan the site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable.
 - Where practicable, erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
 - Where practicable, fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
 - Avoid site runoff of water or mud.
 - Keep site fencing, barriers and scaffolding clean using wet methods.
 - 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 appropriately.
 - Where practicable, cover, seed or fence stockpiles to prevent wind whipping.
- Operating vehicle/machinery and sustainable travel:
 - Ensure all vehicle operators switch off engines when stationary - no idling vehicles.
 - Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.

- A Construction Logistics Plan should be produced to manage the sustainable delivery of goods and materials.
- A Construction Worker Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing) will be provided in line the DCO requirement.
- Operations:
 - 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.
 - Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
 - Use enclosed chutes and conveyors and covered skips.
 - Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
 - 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.
- Waste management:
 - Avoid bonfires and burning of waste materials.
- Measures Specific to Demolition:
 - 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.
 - Avoid explosive blasting, using appropriate manual or mechanical alternatives.
 - Bag and remove any biological debris or damp down such material before demolition.
- Measures Specific to Earthworks:
 - Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
 - Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
 - Stockpile surface areas should be minimised (subject to health and safety and visual constraints regarding slope gradients and visual intrusion) to reduce area of surfaces exposed to wind pick-up.
 - Where practicable, windbreak netting/screening should be positioned around material stockpiles and vehicle loading/unloading areas, as well as exposed excavation and material handling operations, to provide a physical barrier between the Application Site and the surroundings.

- Where practicable, stockpiles of soils and materials should be located as far as possible from sensitive properties, taking account of the prevailing wind direction.
 - During dry or windy weather, material stockpiles and exposed surfaces should be dampened down using a water spray to minimise the potential for wind pick-up.
 - Measures Specific to Construction:
 - 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.
 - 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 overfilling during delivery.
 - All construction plant and equipment should be maintained in good working order and not left running when not in use.
 - Measures Specific to Trackout:
 - 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 in frequent use.
 - Avoid dry sweeping of large areas.
 - Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
 - Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
 - Access gates to be located at least 10 m from receptors where possible.
- 4.2.4. The PC will have responsibility on a day to day basis for determining if either the nature of the activities on site or weather conditions would be likely to result in the unacceptable transfer of dust off site. In cases where this is anticipated, action will be taken to minimise emissions, including the application of appropriate control measures, or if necessary, the temporary suspension of works.
- 4.2.5. Good site management practices during the construction/demolition works will help to prevent the generation of airborne dust. It will be the responsibility of the PC/DC and site managers to ensure that sufficient precautionary measures to limit dust generation are carried out through appropriate method statements, taking account of the risks and mitigation measures outlined in this CEMP.

4.3 Noise and vibration

- 4.3.1. This section outlines the potential sources of nuisance noise created by construction of the Proposed Scheme, and the methods of mitigation that will be adopted to limit these impacts.
- 4.3.2. Best Practicable Means (BPM) will be adopted during construction/demolition to manage noise and vibration as outlined in BS 5228 "Noise and Vibration Control on

Construction and Open Sites”. It details the legislative background to noise control, along with the recommended procedures for effective liaison between developers, site operators and local authorities. Methods of how to minimise the impact of site noise on workers and local residents are also provided.

- 4.3.3. The main mitigation measure to limit impacts of nuisance noise on human receptors is to ensure noise levels do not exceed the noise thresholds set out in the ES and to undertake noise monitoring during construction to make sure these agreed thresholds are not breached.
- 4.3.4. During the construction phases, it is expected that standard working hours will be Monday to Friday from 07:00 to 19:00; personnel will work a 9 hour period within this timeframe. Start-up and shutdown activities would take place on the Existing Drax Power Station Complex during a 1 hour window either side of standard working hours. Therefore, all construction worker related trips will arrive on site between 6.00 and 10.00 and depart the site between 16:00 and 20:00. On Saturdays, standard working hours will be 07:00 and 13:00.
- 4.3.5. It is likely that some construction activities and deliveries will be required to be 24 hours at certain times. Where work is required outside of core construction hours this will be agreed in advance with Selby District Council.
- 4.3.6. If works are required outside of core construction hours then method statements and risk assessments will be required to be submitted to the Local Authority for approval. Further, the PC will be required to inform potentially affected residents and occupiers. The residents will also be provided with a point of contact for any queries or complaints.
- 4.3.7. The PC and all sub-contractors working on-site have a general duty to take all reasonably practicable measures to minimise nuisance from noise and vibration that has the potential to impact on the local community or environment. To achieve this and avoid the potential for construction works to give rise to consequences that would otherwise be statutory nuisances, BPM as defined in section 79(9) (a) of the Environmental Protection Act 1990 will be used, as follows:
 - Appropriate selection of plant, construction methods and programming. Only plant conforming with relevant national and international standards, directives or recommendations on noise or vibrations emissions will be used.
 - Construction plant will be operated and maintained appropriately, having regard to the manufacturer’s written recommendations or using other appropriate operation and maintenance programmes which reduce noise and vibration emissions.
 - All vehicles will be switched off when not in use.
 - Approved routes and programming for the transport and construction materials, spoil and personnel to reduce the risk of increased noise and vibration impacts due to the construction of the Proposed Scheme.
 - Vehicle and mechanical plant used for the purpose of the works shall be fitted with effective exhaust silencers, where practicable. These will be maintained in good working order and operated in such a manner as to be minimise noise

emissions. The contractor shall use plant items that comply with the relevant EU/UK noise limits applicable to all equipment.

- Ancillary pneumatic percussive tools would be fitted with mufflers or silencers as recommended by the manufacturer.
- Ancillary plant such as generators, compressors and pumps would be positioned so as to cause minimum noise disturbance (e.g. as far away as practicable from residential receptors). If necessary, temporary acoustic barriers or enclosures would be provided.
- The positioning of construction plant and activities to minimise noise at sensitive locations.
- Equipment that breaks concrete by munching or similar, rather than by percussion, shall be used as far as is practicable.
- Where practicable, rotary drills actuated by hydraulic or electrical power shall be used for excavating hard materials.
- The use of non-reciprocating construction plant where ever practicable.
- The use, where possible, of effective sound reducing enclosures.
- The use, where possible, of noisy work at times which minimise disturbance; and
- To prevent risk of damage to adjacent structures, demolition and construction activities will be carried out in accordance with Part 2 of BS7385:1993 (Evaluation and Measurement for Vibration in Buildings).
- Inherently quiet plant items will be selected, wherever practicable. Acoustic lagging and low noise trims will be fitted to all pipe-work and noise generating valves.
- Standard 2.2 m high site hoarding should be erected along the Gas Pipeline boundary.
- Acoustic enclosures will be considered for plant items where practicable, not overlooking smaller plant items such as compressors and pumps; measures will be set out in the CEMP.
- When non-normal and emergency operations lead to noise levels in excess of the agreed planning limits, the operator will inform the local authority and residents as soon as practicable of the reasons for these operations, and the anticipated emergency period.

4.4 Biodiversity

- 4.4.1. Relevant works to protect/mitigate impacts on ecology and biodiversity will be outlined in the CEMP as well as the Landscape and Biodiversity Strategy (Document Reference 6.7). The final Landscape and Biodiversity Strategy will be informed by the completion of a pre-construction ecological constraints survey to confirm the ecological status of the worksite areas prior to demolition and construction works commencing. Appropriate regard for the protection of local habitats and protected species during the construction works will be included within the CEMP and the Landscape and Biodiversity Strategy. However, general measures to protect against damage and disturbance during construction or demolition activities will be as follows:

- As far as is practicable, work compounds and access tracks will not be located in, or adjacent to, areas that maintain habitat value or are within areas supporting protected species.
- Clear demarcations to fence off construction footprints to prevent plant machinery and personnel damaging or disturbing retained habitats and/or areas that may support protected species. Sheer sided excavations greater than 50 cm deep will be securely fenced and escape ramps fitted to minimise the likelihood of incidental capture of mammals such as badger and otter.
- During construction, the working width will be minimised as far as possible, to reduce impacts and losses.
- Dust mitigation measures will be implemented (in accordance with section 4.2) to minimise dust deposition on adjacent areas of habitat.
- Briefings and instruction will be given to contractors regarding the biodiversity issues associated with the site and protocols and contingency plans will be established to deal with incidents should they arise including in relation to storage of potentially dangerous materials.
- Where required, the demolition of buildings will be undertaken under a European Protected Species derogation licence, to be obtained from the EA, with demolition completed in accordance with the Method Statement accompanying that licence.
- Sensitive vegetation clearance of methodologies would be followed to minimise the risk of incidental mortality of small mammals and widespread amphibian and reptile species.
- Where possible, all vegetation clearance prior to construction should take place between September and February (depending on climatic conditions in a given year), to prevent damage or disturbance of any nests of breeding birds.
- Where vegetation cannot be removed outside of the nesting season, pre-clearance checks must be undertaken by an experienced ecologist to identify if any birds are nesting within or close to the vegetation due to be removed.
- To ensure legal compliance if a bird nest is found, no works will be undertaken in that area (approximately 10 m in all directions for most bird species) until the young birds are no longer dependent on the nest site.
- Contaminants will not be stored near areas of hydrological sensitivity.
- Avoidance of any obstructions to established otter paths and access to open water.
- The marking of, and adherence to, 30 m exclusion zones around any holts and shelters identified as a result of updated survey. If otters are known or suspected to be breeding, the exclusion zone would be extended to at least a 200 m radius. However, it could be reduced to 100 m depending on the nature of works, topography and natural screening (for example flood defence bunding along the banks of the River Ouse. This will require judgement from an experienced ecologist.
- Trenches and holes will be covered when not being worked on to prevent entry by mammals and where this is not possible exits and escape routes such as ramps or mammal ladders will be provided.
- The capping of any exposed pipe systems when contractors are off site, and providing exit ramps from any exposed trenches or holes (to prevent otters entering and becoming trapped).

- Screen with fencing or planting of thicket-type vegetation to reduce noise and visual disturbance to other commuting routes during operation.
- Screening with fencing or planting of thicket-type vegetation to reduce noise and visual disturbance to other commuting routes.
- All vegetation clearance and reinstatement will be undertaken in line with the Landscape and Biodiversity Strategy (Document Reference 6.7).
- A construction lighting strategy will be prepared. This is secured by a requirement in Schedule 2 to the draft DCO (see section 4.9 for further details).

4.4.2. Where invasive plant species are found and will be directly affected by the works, special measures must be put in place, in the first instance this means avoiding disturbing the invasive / pest species. These measures will be identified in the working method statements and the Invasive Species Management Plan (or invasive non-native species management strategy) and include:

- Localised containment of waste to ensure spreading of invasive species does not occur.
- Excavation and removal, by specialist contractor, to suitably licensed landfill site (least preferred option).
- Use of appropriate herbicides where necessary.
- Segregation of weeds using fencing and signage.
- Cleaning of tools, plant, skips, boots following work in invasive species areas.

4.4.3. In the unlikely event that new protected species establish in the construction area during construction, works will cease and an ecologist consulted for advice on how to proceed.

4.4.4. A method statement for the protection of the nearby protected areas will be produced in addition to this CEMP. This will include a detailed soil management plan (see Appendix B for a draft), and will contain measures to prevent line rush establishing through inappropriate soil handling and to ensure the risk of pollution incidents affecting water quality is minimised.

4.4.5. A sensitive clearance strategy will be prepared and form part of the CEMP. This will contain measures to avoid the incidental killing or injury of reptiles during vegetation and site clearance.

4.5 Archaeology and cultural heritage

4.5.1. A review of the sites' potential archaeological, built and cultural heritage interest was completed as part of the ES. This information has been used to inform any further actions required before construction work commences.

4.5.2. A programme of mitigation has been devised in consultation with the North Yorkshire County Council Planning Archaeologist (NYCC PA). This programme includes a strip, map and record excavation will be undertaken prior to construction at the location of the Above Ground Installation (AGI) (Work Number 6). It also includes a programme of archaeological monitoring (or watching brief) to be undertaken during the excavation of the pipe trench, easements and also during ground moving activities associated with the installation of the temporary compound/laydown area (Development Parcel A / carbon capture readiness

reserve space), the gas receiving facility (GRF) and the passing place at the Rusholme Lane Area.

- 4.5.3. A written scheme of investigation for this fieldwork will be produced. The WSI (including the strip, map and record excavation and watching brief) are secured by a requirement in Schedule 2 to the draft DCO.

4.6 Landscape and Visual Amenity

- 4.6.1. The following mitigation measures, as outlined in the ES, will be implemented during the construction phase in order to specifically limit impacts on landscape and visual amenity of the surrounding area:

- The retention and management of existing vegetation as outlined in the Landscape and Biodiversity Strategy (Document Reference 6.7).
- Planting, hard landscaping and other mitigation substantially in accordance with the Landscape and Biodiversity Strategy (Document Reference 6.7).
- The impact of the development on existing trees would be reviewed by an arboriculturalist to determine the condition and quality of trees and the extent root protection areas. Current best practice should be followed including:
 - British Standard (BS) 5837:2012 Trees in relation to design, demolition and construction – Recommendations (Ref. 10.16); and
 - National Joint Utilities (NJUG) Guidelines for the Planning, installation and Maintenance of Utility Apparatus in Proximity of Trees (Ref. 10.23).
 - Energy Network Association Technical Specification 43-8, Issue 4 2015 (Ref 10.24)
 - Working areas would be offset from existing and retained landscape features and associated habitat.
- Temporary storage of topsoil and any other material considered of value for retention. Where practical stores would be sited to screen the construction works.
- The use of agreed site access points.
- Maintenance of tidy and contained site compound.
- Where feasible, perimeter planting will be undertaken in advance of the works to be effective on completion of the construction works.
- Where practicable storage of topsoil will take place, with siting, to screen and/or provide a physical buffer between the construction works and more sensitive receptors.
- Temporary protection (in accordance with BPM) of any boundary vegetation to be retained.
- The design and layout of site construction areas will reduce adverse impacts arising from temporary security fencing and lighting.
- The removal of all temporary structures and stockpiles when no longer required.
- Spreading of topsoil, reseeding and planting within the Project Site and adjoining areas that are to be reinstated as soon as possible after sections of work are complete.
- Management of all reinstated area(s) in accordance with a 25 year aftercare plan detailed in the outline Landscape and Biodiversity Strategy (Document

Reference 6.7) to help ensure full and successful establishment of the planting in the opinion of the planning authority.

- The prompt reinstatement of temporary construction areas when no longer required, notably upon completion of the Gas Pipeline installation.

4.7 Contaminated Land and Groundwater

4.7.1. A phase 2 ground investigation will be undertaken at the site prior to construction, which will further define the exact nature of ground conditions. These investigations are required to be carried out by a requirement in Schedule 2 to the draft DCO.

4.7.2. Professional standards and guidance relating to contamination will be consulted to provide advice on best practice mitigation measures which will be employed during the construction/demolition phase.

4.7.3. The PC will produce a risk assessment and written scheme detailing how to deal with the contamination of any land, including groundwater. During the production of the written scheme, consultation with the applicant will take place and be approved by the Planning Authority prior to commencement of construction. Once agreed, any mitigation, management or remediation set therein will be carried out during construction. More generally, work will also be undertaken in accordance with the following:

- Compliance with the mitigation measures set out in the following documents:
 - Protection of Workers and the general public during the development of contaminated land (HSE 1991).
 - If applicable, a guide to safe working on contaminated sites R132 (CIRIA 1996).
 - Defra's construction code of practice and a materials management plan.
- Construction workers will wear appropriate personal protective equipment (PPE) for the nature of works being undertaken. This will involve standard site PPE, plus overall, gloves and eye protection.
- Eating, drinking and smoking will be limited to a designated 'clean' area of the site.
- Site welfare facilities will be made available.
- All workers will be required to wash their hands and remove overalls/boots when moving from 'dirty' to 'clean' areas of the site.
- There will be no access to construction areas by the general public.
- The site will be secured to avoid unauthorised access and contact with contaminated soil or groundwater.
- Provision of hardstanding for construction plant.
- Use of sediment traps, cut-of ditches.
- Covering of stockpiles.
- A soil management plan will be provided (a draft of which can be found in Appendix B).
- The provision of bunds and bunds and emergency spill kits.
- The CEMP should include a soils and earthworks control plan and a water control and pollution plan.

- 4.7.4. In the case that unexpected contamination showing visual or olfactory evidence is uncovered during construction, the following procedure will be applied:
- Stop work immediately.
 - Report the discovery to the construction manager.
 - Seal off area to contain the spread of contaminants.
 - Clear the area to ensure that there is nothing that could cause fire or explosion.
 - Contact the applicant once it is confirmed that contamination is found.
 - Arrange for testing to be carried out and agree changes to the existing contamination strategy.
 - Record details of the incident, including photos and relevant information on the Environmental Incident Report Form.
- 4.7.5. Any material which is excavated and free from visual and olfactory evidence of contamination will be reported to site management and stockpiled and tested for metal (and other determinants) for reuse on site. Any soils which are considered to be contaminated hotspots (either identified through testing or through visual or olfactory evidence of contamination on site) will be removed and disposed of by a suitably licensed carrier or treated on-site (with approval from the EA).
- 4.7.6. Any contaminated land excavated that requires removal will be disposed of by a licensed carrier to an appropriate site with the necessary permits to accept the material. Wherever possible, priority will be given to sending all contaminated soils to licensed soil washing facilities rather than sending to landfill.
- 4.7.7. All water from dewatering activities shall either be transported off site by a suitably licensed contractor or treated on site. Any proposed discharges to existing land drains (or other surface water bodies) will be undertaken in accordance with the requirements of the EA Regulatory Position Statement on temporary water discharges from excavations.
- 4.7.8. Where soils are imported onto the site then they shall be subject to testing to ensure contaminated soils are not being brought onto the site.
- 4.7.9. Precautions will be undertaken in accordance with EA's Pollution Prevention Guidance to ensure that silt laden runoff, arisings or chemicals are not allowed to enter watercourses. Measures will include, testing of arisings to see whether they are suitable for reuse on site, siting stockpiles well away from watercourses, covering stockpiles in inclement weather, use of impermeable liners and use of fixing agents.
- 4.7.10. Construction activities will seek to minimise the requirement to disturb, remove or dispose of contaminated land. They will also seek to minimise the introduction of pollution pathways. This will include appropriate testing, analysis, production of test reports and subsequent segregation of potentially contaminated materials through use of non-permeable membrane barriers and storage vessels. If contaminated land becomes mobilised this will be covered to prevent rainwater from washing contaminants into water systems.

- 4.7.11. During construction, if piling is required to the depth of the secondary aquifer, mitigation measures will be prepared and agreed with the EA in order to manage potential pollution pathways. These measures will be in line with the National Groundwater and Contaminated Land Centre's report NC/99/73 on "Piling and penetrative ground improvement methods on land affected by contamination guidance on pollution prevention."
- 4.7.12. Water inflows to excavated areas will be minimised by the use of lining materials, good housekeeping techniques and by the control of drainage and construction materials in order to prevent the contamination of ground water. Site personnel will be made aware of the potential impact on ground associated with certain aspects of the construction works to further reduce the incidence of accidental impacts.
- 4.7.13. Measures will be taken to avoid/minimise the potential for fuel and chemical spills. A spill response procedure will also apply on-site (refer section 2.9).

4.8 Surface Water and Groundwater

- 4.8.1. Minimising the risks associated with water pollution from construction activities will be highlighted in workforce briefings at each site. Across the project worksites, the following general actions will be taken to protect surface waters:
- Site infrastructure will be designed in accordance with EA Pollution Prevention Guidelines (<https://www.gov.uk/government/collections/pollution-prevention-guidance-ppg>) (withdrawn, but still relevant and followed as good practice) and industry best practice, including
 - CIRIA 113 Control of Groundwater for Temporary Works.
 - Environmental Good Practice on Site, CIRIA.
 - CIRIA C532- Control of Water Pollution from Construction Sites.
 - BS 6031: 2009 Code of Practice for Earthworks.
 - BS 8004: 1986 Code of Practice for Foundations.
 - Pollution Prevention Guide (PPG) 1 – general guide to the prevention of water pollution.
 - PPG 2 – Above ground oil storage tanks.
 - PPG 5 – Works in, near or liable to affect watercourses.
 - PPG 6 – Working at construction and demolition sites.
 - Where the works pass over a designated watercourse, temporary consent in the form of Ordinary Watercourse Consent will be applied for and obtained prior to commencement of construction in accordance with Section 23 of the Land Drainage Act 1991;
 - Oil storage will be undertaken in accordance with the Control of Pollution (Oil Storage) (Wales) Regulations 2016. Storage tanks will be located on an impervious base provided with bund walls to give a containment capacity of the greater of 110 % of the largest tank volume within the bund or 25% of the total storage capacity of all tanks within the bund. All valves and couplings will be contained within the bunded area.
 - Any surface water which has the potential to be contaminated by hydrocarbons (e.g. from car parks), which are used during the construction phase, to be passed through oil interceptor(s) prior to discharge.

- Measures will be taken to ensure that no leachate, or any surface water that has the potential to be contaminated, will be allowed to enter directly or indirectly into any water course, underground strata or adjoining land.
- Provisions will be made so that all existing drainage systems continue to operate such as use strategically placed soil bunds so that drainage catchments are not diverted or altered.
- If necessary, temporary drainage routes/silt fences will be constructed (of geotextile).
- Water inflows to excavated areas will be minimised by the use of lining materials, good housekeeping techniques and by the control of drainage and construction materials in order to prevent the contamination of ground water. Site personnel will be made aware of the potential impact on groundwater and surface water associated with certain aspects of the construction works to further reduce the incidence of accidental impacts.
- Refuelling of construction vehicles and equipment will be restricted to a designated area with properly designed fuel tanks and bunds and suitable operating procedures;
- All static plant and any hazardous materials stored at the Power Station Site will be located within specifically designed areas with an impermeable base and with secondary containment designed to contain 110% of the maximum stored material (in accordance with EA PPG 2).
- Drainage of these areas will incorporate oil separators designed and manufactured in accordance with BS EN 858-1 to ensure no contaminated runoff enters the surface water sewer or drains to a watercourse.
- A detailed emergency response plan will be prepared which will be enacted in the event of a spill of hazardous material to minimise the risk of environmental impacts.
- Construction access roads and compound areas will be designed to ensure no increased flood risk or silt production. The development will be completed in line with a detailed Surface Water Drainage Scheme, to be submitted in substantial accordance with the Outline Surface Water Drainage Strategy (section 6.0 of the Flood Risk Assessment (Document Reference 6.8), which will take into account the findings of the Flood Risk Assessment submitted as part of the DCO Application. The Surface Water Drainage Scheme is secured by a requirement in Schedule 2 to the draft DCO.
- Provision of wheel wash facilities. Runoff from wheel wash facilities will be collected and removed or treated prior to discharge.
- If deemed necessary, measures such as temporary drainage routes silt fences and silt bunds will be constructed to prevent heavily silted discharge to surface waters and to attenuate high flows.
- The British Standard Code of Practice for Earthworks BS 6031:1981 and British Standard Code of Practice for Foundations BS 8004:1086 contains detailed methods that will be adopted during construction.
- Provision of settlement tanks or lagoons for surface water runoff generated in the site to allow sediment to settle before water is discharged to a water feature.
- Use of water on the Proposed Scheme will be limited to use in welfare facilities, concrete washout facilities, mixing of concrete (when not using pre-mixed) and

damping down of dust, therefore the opportunities for water reduction are minimal. Where practicable welfare facilities will be procured that provides water harvesting, push-stop taps and half-flush toilets. If there is sufficient provision on site for rainwater collection this will be implemented and used for concrete washout/mixing of concrete. Operatives will be briefed on efficient water consumption during the project via inductions, toolbox talks and alerts.

- Topsoil and other construction materials will be stored outside the 1 in 100 year (undefended) floodplain extent.
- Appropriate interceptors will be incorporated in the on-site drainage systems.
- Spill containment equipment will be stored on Site.
- Hazardous substances, oil and fuel will be store in bunded areas, which will not be located within 10 m of water bodies or drainage lines.
- Refuelling of machinery will be undertaken in bunded areas, which will not be located within 10 m of water bodies or drainage lines.
- Drip trays used for diesel pumps and standing plant will be regularly maintained to prevent leaks.
- Storage and bunded areas will be constructed of impervious floors and walls with the capacity for the contents of the storage tank and an additional 10% safety margin.
- Construction materials, such as cement, will be mixed in designated areas located away from water bodies and drainage lines.
- No stockpiling and minimal use of machinery within 10 m of any surface water feature or drainage lines.
- Minimise land clearance in the vicinity of surface water features.
- Only removing vegetation when necessary and keep gradients as shallow as possible to prevent large amounts of earth being washed away during periods of heavy rainfall and areas which are exposed will be reseeded or surfaced as soon as practicable.
- Provision of cut off ditches along the perimeter of the site to capture any runoff from the site.
- Using straw bales during works near or within the drains to capture potential increased sediment load and other pollutants.
- Cut off ditches and appropriate drainage system should be used to manage site runoff.
- Minimise period of time required for construction works near/within watercourses as far as practicable.
- Dust management procedures such as damping down and usage of anti-dust netting will be used during demolition works to suppress the creation of dust.
- Perimeter fences and tight control of materials and waste will be implemented during construction works to minimise the risk of debris entering water bodies.

4.8.2. In addition to those measures already outlined above, specific measures for the Gas Pipeline construction will include:

- Pre- and post-construction agricultural underdrainage schemes will be designed and installed to an agreed specification to ensure similar surface water flows pre- and post-construction and to ensure no increase in sediment, silt or nutrient runoff;

- A Soil Management Plan (a draft of which is in Appendix B) will be formulated, including a programme of soils de-compaction, loosening and aftercare aligned to the drainage schemes. This will facilitate soil structure recovery and natural drainage pathways to return soil water retention / storage to pre-construction status;
- Care will be taken to ensure that silt laden water does not enter watercourses. This will be done by plugging existing drains, intercepting surface water above the working width and where appropriate by leaving filter strips of unstrapped topsoil along main watercourses / ditches.
- The crossings of the Gas Pipeline with the watercourses will be constructed using trenchless crossing techniques to minimise impact on the watercourses.
-
- Topsoil will be replaced over post-construction drains as soon as possible to prevent site water from getting into drains.
- Any de-watering pumping will be undertaken using an appropriately sized pump at such a rate to avoid disturbance or erosion of stream banks.
- If temporary pumping of groundwater in excavations will be required, appropriate consents will be obtained from the Selby Area IDB and the EA;
- The PC will ensure de-watering pipes are carefully positioned and will be required to regularly inspect all pumps, pipes and connections.
- Temporary lagoons, siltation tanks or filter membranes may be considered at sensitive outfall locations or where deeper excavations are proposed.
- Any stockpiled material will be located away from watercourses to avoid pollution runoff and best practice working guidelines will be followed to avoid spillages near watercourses.

4.8.3. The construction works will be also undertaken in accordance with the following requirements of the Selby Area IDB:

- The pipe crossings with a watercourse will be installed a minimum of 1 m below the bed level of this watercourse.
- The position of each crossing will be marked by marker posts, one on each bank.
- New outfalls will be set back from the bank and not protrude into the watercourse. The velocity of the discharge will be considered and suitable protection provided to prevent erosion of the bank, where necessary. A marker post will be provided near a new outfall to highlight the presence of the outfall for maintenance operatives.
- Temporary pumping of groundwater in excavations will require a separate consent. The quantity of temporary pumping will be monitored as a payment is likely to be required per cubic metre of pumped water as part of the temporary consent.
- A new discharge consent will be obtained from the Selby Area IDB for any new discharge into the IDB's watercourse.
- Appropriate consent for works in and within the 8 m of the channel of a watercourse will be obtained from the Selby Area IDB.
- No temporary or permanent structures will be placed within 7 m of the edge of watercourses without previous consent from the Board.

4.8.4. Again, measures will be taken to avoid/minimise the potential for fuel and chemical spills. A spill response procedure will also apply on-site; as shown in section 2.9.

4.9 Artificial Lighting

4.9.1. The site will require artificial lighting during construction to provide a safe working site during hours of darkness. A requirement in Schedule 2 to the draft DCO requires a lighting strategy to be approved and implemented for the purposes of construction of the Proposed Scheme (to be in accordance with the principles set out in chapter 9 (Biodiversity) and chapter 10 (Landscape and Visual Amenity) of the ES). General design objectives that will be used to ensure that adverse effects of lighting associated with demolition and construction of the project are minimised are listed below:

- Use appropriately designed luminaires for the task at hand.
- The lighting will be designed to reduce unnecessary spill outside the Site Boundary and avoiding unnecessary sky glow. Use louvres and shields to prevent undesirable light break-out.
- Demolition and construction lighting shall be directed away from all sensitive receptors;
- Preference shall be given to several, lower lighting units rather than tall, wide beam lighting units to illuminate large areas as it will limit light trespass, glare and sky glow from the plant.
- Vehicle lights shall be properly directed (conforming to MOT requirements) and lenses must be intact to prevent un-necessary glare and light intrusion.
- Lighting shall be reduced or switched off when not required for safety purposes. Security lighting shall be kept at the minimum level needed for visual and security protection.
- If appropriate, the use of infra-red floodlighting and CCTV systems shall be considered for security to reduce the need for visible lighting outside working hours.
- If and when lighting is required for surveys or early / enabling works or close-down it will be erected and utilised taking due regard for all sensitive receptors (including local residents and ecological receptors such as bats).
- No lights will shine directly into or onto property that is not within the boundaries of the Site, nor will it cause confusion to operators or drivers of any vehicle.
- Lighting levels must be sufficient for works to take place without causing unnecessary light pollution or nuisance.
- Specific working hours, particularly during night working, would be agreed with the Local Authority and the local communities made aware of this.
- A construction lighting strategy will be prepared.

4.10 Waste Management

Aims and Objectives

4.10.1. The PC/DC and the Applicant are committed to reducing and minimising waste generation and waste to landfill. The production of a Site Waste Management Plan (SWMP), using the WRAP template represents best practice for management of

waste at all stages of a construction/demolition project, such as the Proposed Scheme. In practice, this will be a supplementary document to the CEMP that is prepared and maintained by the PC Environmental Manager. An explanation of how the SWMP works and the overarching principles of the SWMP are set out in the following subsections.

Site Waste Management Plan Structure

4.10.2. The SWMP is set out in a series of spreadsheets, making it easier to analyse data and provides a structure which is simpler to manage and maintain. Each spreadsheet within the workbook is split into the following areas:

- Project Homepage.
- Basic Details.
- Design or Pre-Construction Phase.
- Actions.
- Forecast Waste.
- Construction Phase.
- Specify Waste Carriers.
- Plan Waste Destinations.
- Actual Waste Movements.
- Standard, Good and Best Practice (SGBP) Levels.
- Compliance.
- Post Completion.
- Key Performance Indicators (KPIs).
- Reporting.

Project Homepage

4.10.3. This provides an overview of the Proposed Scheme in terms of what phase the Proposed Scheme is currently at and where the Proposed Scheme is currently compliant with standard requirements of a SWMP. Additionally, there is an overview of what targets have been set for the project in key areas to manage waste production throughout the construction of the Proposed Scheme.

Basic Details

4.10.4. This section provides all the overarching information relating to the Proposed Scheme, including those individuals and stakeholders with key responsibilities for the implementation and management of waste throughout the Proposed Scheme. Here, targets are set such as recycling rates or total waste produced.

4.10.5. The targets that have been set for waste management on this Proposed Scheme are as follows:

- At least 90% of construction waste to be diverted from landfill.
- At least 95% of excavation waste to be diverted from landfill.

Design

4.10.6. The principle designer (PD) will actively seek ways of reducing the volume of waste produced during construction and maximising the ability to reuse / recycle through the design. The designers will assess and document the volume of waste likely to

be produced during works by waste type and assess how much of each waste type could be reused, recycled, recovered or disposed of.

- 4.10.7. All the measures assessed during the design phase and how much waste is likely to be produced will be outlined in the Actions and Forecast Waste sections of the SWMP. These sections of the SWMP will be populated prior to construction / demolition work commencing on site when forecasts and waste actions can be discussed with the assigned PC.

Construction

- 4.10.8. During the course of construction and demolition, waste will be produced. There will be five standard waste streams to consider:

- Waste from vegetation clearance (e.g. cuttings, mulch).
- Spoil from excavations / site clearance (e.g. soil, stones, existing concrete bases).
- Demolition Waste (e.g. rubble, concrete, bricks, mixed metals).
- Construction Waste (e.g. packaging, off cuts).
- Domestic/Municipal Waste (e.g. from site facilities: canteen, office and toilets).

- 4.10.9. Following the waste hierarchy, efforts will be made to reduce the amount of waste produced and reuse waste where possible. Examples may include:

- Limiting vegetation clearance to construction and laydown areas.
- Minimising excavations.
- Obtaining an exemption for using waste in construction from the EA. This will allow for the reuse of suitable spoil in re-grading construction areas.
- Suitable materials and offcuts that otherwise would constitute construction wastes will be reused on site.

- 4.10.10. Material from construction and domestic waste will be recycled. Where possible this will be undertaken by segregating wastes into recyclable waste streams (e.g. wood, metals, paper, plastics, WEEE) and arranging separate removal of wastes to suitable recycling facilities. Where site constraints make this unmanageable (e.g. where sites are too small for multiple receptacles) wastes will be segregated as much as possible before being sent offsite to facilities that separate and recycle mixed wastes. Waste may need to be stored at a location controlled by the waste producer prior to transfer to a disposal site as per Non Waste Framework Directive (NWFD) Exemption 3 (<https://www.gov.uk/guidance/waste-exemption-nwfd-2-temporary-storage-of-waste-at-a-place-controlled-by-the-producer>).

- 4.10.11. Appropriate facilities for storing waste will be provided. These will be:

- Within secure boundary with controlled access, providing a secure location.
- Located away from receptors.
- Suitable containers; covered, no leaks.

- 4.10.12. Any asbestos present in the existing buildings at the Drax Power Station which are to be demolished as part of the construction works, will be removed and disposed of by a suitably licensed asbestos contractor. All works would be subject to a detailed

working method statement and work would adhere to the “Control of Asbestos Regulations 2012” and associated guidance.

- 4.10.13. Any waste removed from site will be removed by a licenced waste carrier. Any disposal site utilised will be a licensed site. The contractor will check all licences and hold a copy of the relevant reference number.

Soil Testing

- 4.10.14. To ensure that spoil is taken to the correct disposal site it will be categorised by soil testing. The waste producer, carrier and disposal site will confirm waste acceptance prior to transfer.

Recording Waste Actions

- 4.10.15. Any instance in which waste is removed from site, a Waste Transfer Notice (WTN) is to be completed. In the case of hazardous material a hazardous waste Consignment Note (CN) will be completed.

- 4.10.16. WTN/CN is to detail as a minimum:

- Date the waste was removed from site.
- Type of waste removed from site, as per European Waste Classification (EWC).
- Quantity of waste removed.
- Name and address of Waste Carrier.
- Name and Address of Waste Producer.
- Address of the site that the waste was removed from.
- Address of the site that the waste was removed to.
- Reference number of waste carrier licence.
- Weighbridge tickets from disposal sites will be sought where appropriate.

- 4.10.17. In the case that contractor staff authorise the removal of the waste from site the WTN/CN is to be held by the Site Manager in the site office and a copy sent to the Environmental Advisor/Manager. It may be that the waste carrier provides an online documentation system; in this case the Environmental Advisor/Manager will obtain the documentation directly from the online system. If the waste removal is authorised by a sub-contractor the WTN/CN is to be held by the sub-contractor. A copy of all sub-contractor WTN/CN must be forwarded to the contractor’s Environmental Advisor/Manager on a monthly basis.

- 4.10.18. All details of every waste carrier, disposal site, dates and quantities for all movements will be recorded in the sections entitled Specify Waste Carriers, Plan Waste Destinations and Actual Waste Movements. The SWMP will be updated every month when construction works commence and will be reviewed on a six monthly basis by the PC/DC. During these reviews, the SWMP will intuitively highlight when licences for waste carriers and disposal sites are due to expire, to ensure that the PC conducts further checks to verify that these suppliers are still compliant.

Compliance and Standards

- 4.10.19. To ensure waste processes are managed in accordance with legislation and appropriate industry standards there are additional sections within the SWMP to

assess how the Proposed Scheme is expected to perform. Within the compliance section, the client and assigned PC will review statements relating to the pre-construction, construction and post-completion phases of the Proposed Scheme and confirm that they are operating in accordance with these statements. Furthermore, the standards by which the client and construction management team expects to perform to, will also be assessed in key areas including policy / target setting, training, monitoring and reporting. As a minimum the project will be performing to at least the standard level in all categories.

Key Performance Indicators and Reporting

- 4.10.20. To assist with analysing how the Proposed Scheme is progressing against those targets that have been set (as set out in the Basic Details section), the SWMP has a number of functions which collate the data entered. The will allow the PC to review performance and report back to the client and any other relevant stakeholders on how waste is being managed.
- 4.10.21. As the Proposed Scheme draws to a close, it will be possible to review performance and analyse the figures to identify where improvements can be made for future projects.

APPENDIX A – RISK REGISTER (TO BE COMPLETED)

Aspect	Impact	Risk Rating	Mitigation
e.g. earthworks and excavation	e.g. temporary increase of local noise levels		e.g. silencers will be fitted to exhausts where possible

APPENDIX B – SOIL MANAGEMENT PLAN

The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Soil Management Plan



The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009 – Regulation 5(2)(q)

Drax Power Limited

Drax Repower Project

Applicant: DRAX POWER LIMITED
Date: May 2018
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1 INTRODUCTION

Drax Power Station is a large power station, comprising originally of six coal-fired units. It was originally built, owned and operated by the Central Electricity Board and had a capacity of just under 2,000 MW when Phase 1 was completed in 1975. Its current capacity is 4,000 MW after the construction of Phase 2 in 1986.

Drax Power Limited (the Applicant) is making an application for a Development Consent Order (DCO) to the Planning Inspectorate (PINS). The DCO will authorise the applicant to construct and operate the repower of up to two existing coal-fired units with gas. In order to repower to gas, a new gas pipeline needs to be constructed from Drax Power Station to the National Transmission System (NTS). The Drax Power Station is located near Selby in North Yorkshire.

1.1 Purpose and scope

- 1.1.1. This Soil Management Plan (SMP) forms an Appendix to the Proposed Scheme's Construction Environmental Management Plan (CEMP).
- 1.1.2. The Proposed Scheme is to repower up to two existing coal-powered generating units (Units 5 and 6) at the Existing Drax Power Station Complex with new gas turbines that can operate in both combined cycle and open cycle modes. The repowered units (which each constitute a new gas fired generating station) would have a new combined capacity of up to 3,600 MW in combined cycle mode (1,800 MW each), replacing existing units with a combined capacity to generate up to 1,320 MW (660 MW each).
- 1.1.3. The Proposed Scheme can be divided into the following work elements:

Table 1-1 - Work Elements

Work No.	Title of the works
1	An electricity generating station (Unit X) fuelled by natural gas and with a gross electrical output capacity of up to 1,800 megawatts
2	An electricity generating station (Unit Y) fuelled by natural gas and with a gross electrical output capacity of up to 1,800 megawatts.
3	Up to two battery storage facilities with a combined gross storage capacity of up to 200 megawatts, housed in a single building
4	Up to two new gas insulated switchgear banking buildings
5	A natural gas receiving facility
6	Above ground gas installation(s)
7	A gas pipeline
8	Electrical connections
9	Temporary construction laydown areas
10	Carbon capture readiness
11	Retained landscaping
12	Decommissioning and demolition of sludge lagoons and construction of replacement sludge lagoons
13	Removal of existing 132 kilovolt overhead line and associated towers and foundations
14	Passing place on Rusholme Lane

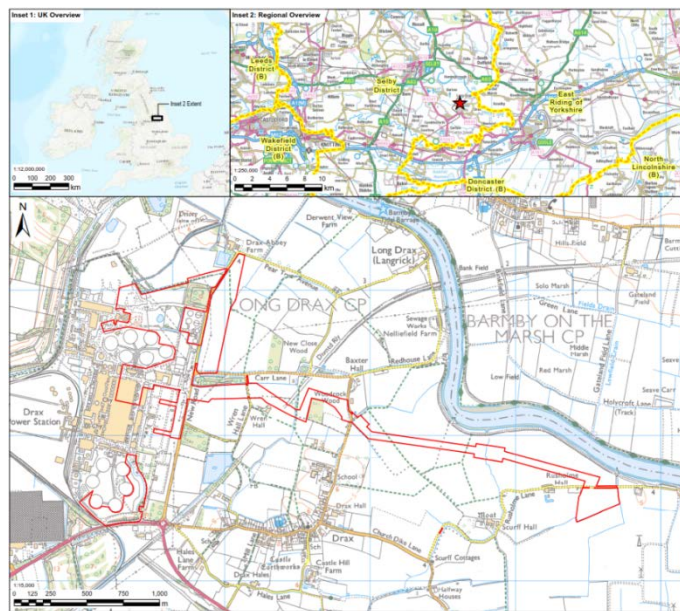
Work No.	Title of the works
15	Site reconfiguration works

- 1.1.4. Full details on the works can be found in Chapter 3 (Site and Project Description) of the Drax ES.
- 1.1.5. The purpose of this SMP is to describe how risks to soils associated with the Proposed Scheme will be managed during construction. It provides measures for the management of soils, sediment and erosion during construction to mitigate potential risks to the environment.
- 1.1.6. This plan has been prepared to address the requirements of the ES, and all applicable legislation.
- 1.1.7. It is to be read in conjunction with:
- Drax Repower CEMP.
 - Drax ES Chapter 3 (Site and Project Description).
 - Drax ES Chapter 5 (Transport).
 - Drax ES Chapter 11 (Ground Conditions).
 - Defra's 'Construction Code of Practice for the Sustainable Use of Soils on Construction sites'.

1.2 Background

- 1.2.1. The Site comprises land both within and adjacent to the operational boundary of the Existing Drax Power Station Complex. It lies entirely within the administrative boundary of Selby District Council, which in turn lies within the boundary of North Yorkshire County Council. The location of the Existing Drax Power Station Complex and the Proposed Scheme is shown in Figure 1.
- 1.2.2. The major feature within the study area is the Existing Drax Power Station Complex, which remains operational in 2018. Drax is a large coal-fired power station which includes three units already converted to biomass located south of the River Ouse. The site is 'lower tier' classified under Control of Major Accident Hazards (COMAH).

Figure 1 – Location of Existing Drax Power station and proposed Drax Repower development.



- 1.2.3. Selby District is a relatively small rural district with a population of approximately 82,000. It is the most southerly district in North Yorkshire and covers an area of approximately 6,190 km² to the south of York and broadly contained by the A1(M)/A1 to the west and the River Derwent to the east. Neighbouring authorities are York, Leeds, Doncaster, Harrogate, Wakefield and the East Riding of Yorkshire.
- 1.2.4. Much of the District is relatively flat and low-lying and is characterised by open, sparsely wooded landscapes, including extensive areas of agricultural land. The more sensitive higher quality landscapes are generally confined to the limestone ridge, which runs north-south along the western side of the District.

1.3 Objectives

- 1.3.1. The key objective of the SMP is:
- Ensure that impacts to soil are minimised.

1.4 Relevant Legislative Requirements and Guidelines

- 1.4.1. Legislation relevant to the management of soils is included in Table 2-1 below.

Table 1-2 - Key Legislation

Legislation/Policy	Relevance
National Planning Policy Framework (NPPF)	States that the planning system should contribute to and enhance the natural and local environment by protecting and enhancing geological conservation interests and soils (paragraph 109). It also instructs the prevention of new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by

Legislation/Policy	Relevance
	unacceptable levels of soil or water pollution or land instability (paragraph 109).
Waste Management Plan for England (2013)	Provides an analysis of the current waste management situation in England and fulfils the mandatory requirements of Article 28 of the revised Waste Framework Directive (WFD).
Control of Pollution (Oil Storage) (England) Regulations 2001.	Require a person having custody or control of oil to carry out certain works and take certain precautions and other steps for preventing pollution of any waters which are controlled waters for the purposes of Part III of the Water Resources Act 1991.
EU Waste Framework Directive	Sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery. It explains when waste ceases to be waste and becomes a secondary raw material (so called end-of-waste criteria), and how to distinguish between waste and by-products.
DMRB Volume 11, Section 3, Part 11 Geology and Soils, Highways Agency, June 1993	Guidance for environmental assessment in relation to potential impacts of development on both the soil and the underlying rocks.
Environmental Permitting (England and Wales) Regulations 2007	Designed to regulate higher risk activities that are defined either in terms of the waste types they accept, the volumes of waste they treat, or the complexity of the process itself.
Agricultural Land (Removal of Surface Soil) Act 1953	This places restrictions on the removal of surface soil from agricultural land without planning permission.
Clean Neighbourhoods and Environment Act 2005	Deals with problems affecting the quality of the local environment, including (amongst other things) waste.
Environmental Liability Directive 2004	This imposes obligations on operators of activities which cause or threaten to cause environmental damage to ensure the remediation of damage to (amongst other things) soil, through the restoration of the environment to its baseline condition.
Environmental Protection Act 1990	This includes Part IIA on Contaminated Land which requires local authorities to identify contaminated land which poses a risk of harm significant to human health and the wider environment.
Groundwater Regulations 1998	Ensure proper control over the use and disposal of substances on land which could directly or indirectly pollute groundwater. These are categorised as List I and List II substances.
The Infrastructure Planning (Environmental	The Planning Act 2008 (PA2008) process streamlines the decision-making process for granting of Development Consent Orders for major infrastructure projects.

Legislation/Policy	Relevance
Impact Assessment Regulations 2017	
Water Resources Act 1991	This contains the primary provisions relating to the pollution of controlled waters, applicable to soil on constructions sites where operations result in erosion and runoff into a local watercourse.
EA Waste Protocols Project: Contaminated soils	Outlines best practice procedure for contaminated soils.
EA Waste Protocols Project: uncontaminated topsoil	Outlines best practice procedure for topsoils.
PPG6 – Working at construction and demolition sites	Guidance on how to prevent pollution and comply with environmental law at construction and demolition sites
PPG 5 – Works in, near or liable to affect watercourses.	How to prevent pollution and comply with the law when planning construction, maintenance or other works in, near or over watercourses.
The Definition of Waste: Development Industry Code of Practice (DoWDICoP) September 2008	Provide a clear and concise process to determine whether excavated materials on a development site constitute waste in the first instance, and to identify the point when treated waste can no longer be considered as waste.
Code of Practice for the Sustainable Use of Soils on Construction Sites	To help protect and enhance the soil resources on site.
Good practice guide for handling soils (MAFF, 2000)	Provide comprehensive advice on soil handling to operators, soil moving contractors, consultants and planning authorities dealing with soil handling and management on mineral extraction and waste sites.
British Standard specification for topsoil and requirements for use (BS3882: 2007)	Specifies the requirements for topsoils (natural or manufactured) that are moved or traded.
British Standard code of practice for general landscape operations (excluding hard surfaces) (BS4428: 1989)	Contains recommendations for the following general landscape operations: preliminary investigations (including soil), land drainage, grading and cultivation, seeding of grass areas, turfing, amenity tree and woodland planting, and planting of shrubs, herbaceous plants and bulbs.

1.5 Conditions Of Approval

- 1.5.1. This SMP has been written in response to the Inspectorate's comment regarding the Scoping Report Section 6.1.3: Agricultural land, which:

“...acknowledges the temporary loss or severance of best and most versatile (BMV) agricultural land from construction of the gas pipeline.”

- 1.5.2. This plan addresses the proposed mitigation measures to be implemented to maintain the integrity of the soil, and manage the impact on the land.
- 1.5.3. In addition, this plan addresses comments made by North Yorkshire County Council and Selby District Council as part of the section 42 consultation on the Preliminary Environmental Impact Report.

1.6 Responsibilities

- 1.6.1. Key Contractor personnel responsible for implementation of the measures set out in this SMP are:
 - Project Manager.
 - Site Manager.
 - Site Supervisor.
 - SHE Advisor.

2 IDENTIFICATION AND ASSESSMENT

2.1 Existing Environment

- 2.1.1. Made ground is expected beneath large areas of the study area, chiefly associated with construction of the power station and subsequent demolition/construction activities. The study area contains rural and agricultural land and may therefore contain localised areas of artificial ground. For full details see: Drax ES, Chapter 11 (Ground Conditions).

Superficial Deposits

- 2.1.2. In 1:50,000 scale geological mapping published by the BGS, the majority of the study area is underlain by the Hemingbrough Glaciolacustrine Formation (glacigenic silty clay) and the Brighton Sand Formation (fluvial and aeolian sands). These units were formed up to two million years ago in the Quaternary Period in a local environment characterised by ice age conditions. Stratigraphical information published by the BGS indicates the Hemingbrough Glaciolacustrine Formation is older than and therefore underlies the Brighton Sand Formation where it is present.

Bedrock Geology

- 2.1.3. The study area is located on the East Midlands Shelf. On 1:50,000 geological mapping published by the BGS, the study area is shown underlain by the Sherwood Sandstone Group (SSG). This is sedimentary bedrock formed approximately 229 to 271 million years ago in the Triassic and Permian Periods in a local environment previously dominated by rivers.

Soil Quality

- 2.1.4. The Agricultural Land Classification (ALC) map for the 'Yorkshire & The Humber Region' (ALC003) published by Natural England in August 2010 (based on data obtained between 1967 and 1974) shows agricultural land within the Study Area of ALC Grade 3 'Good to Moderate', Grade 2 'Very Good' and Grade 1 'Excellent'. However, the majority of the study area is non-agricultural land.
- 2.1.5. Soil leaching potential within the study area is high (H1) and intermediate (I1). Generic descriptions of these soil classes are provided as follows:
- H1 - Soils that readily transmit liquid discharges because they are either shallow, or susceptible to rapid by-pass flow directly to rock, gravel or groundwater.
 - I1 - Soils which can possibly transmit a wide range of pollutants.

Hydrogeology

- 2.1.6. The geological units within the study area are assigned the following aquifer classifications by the EA:
- The Hemingbrough Glaciolacustrine Formation is an aquiclude.
 - The Brighton Sand Formation is a Secondary A Aquifer.
 - The Alluvium is a Secondary A Aquifer.
 - The Warp is a Secondary A Aquifer.
 - The Sherwood Sandstone Group is a Principal Aquifer.
- 2.1.7. The direction of groundwater flow is likely to be to the east and northeast towards the River Ouse. The majority of the study area is located within a groundwater Source Protection Zone

(SPZ) 3 (total catchment). The protected groundwater sources are located to the south at Carlton. In groundwater flood susceptibility mapping published by the BGS, the majority of the study area has a 'limited potential for groundwater flooding to occur'.

Hydrology

- 2.1.8. The nearest major surface water feature is the River Ouse, located approximately 1.5 km northeast of the Existing Drax Power Station Complex. This flows eastwards into the Humber Estuary. The River Ouse is a 'main river' as defined by the EA. There are a number of field drains and other minor river channels within the study area, including Carr Dyke drain in the north of the study area, a pond associated with Drax Abbey Farm, and a pond to the east of the Existing Drax Power Station Complex approximately 0.2 km east of New Road.
- 2.1.9. There are three landfills situated within the study area; Camblesforth By-Pass Tipping Site, New Road Landfill Site, and Barlow Mound Ash Disposal Site.

2.2 Construction Activities and Potential Soil Impacts

- 2.2.1. The construction activities that could impact on soil are included in Table 2-1 below.

Table 2-1 - Construction Activities and Potential Impacts on Soil

Activity	Effect	Potential Impact
Topsoil stripping*	Exposure of soil horizons and construction materials that are susceptible to erosion	<ul style="list-style-type: none"> Erosion of exposed areas Erosion of stockpiles Eroded sediment deposited in waterways increasing turbidity and smothering benthic habitat and organisms Carriage of nutrients to waterways causing algal growth and eutrophication
Earthworks*	Exposure of soils and construction materials that are susceptible to erosion	<ul style="list-style-type: none"> Erosion of exposed areas Retaining vegetation removed or damaged and soils eroded Eroded sediment deposited in waterways increasing turbidity and smothering benthic habitat and organisms Exposure of contaminated soil
	Tracking of sediment onto public roads	<ul style="list-style-type: none"> Sediment washed from roads causing increased turbidity and/or sediment loads in receiving waters
	Accidental spillage of fuels, lubricants and chemicals	<ul style="list-style-type: none"> Pollution in local waterways Altered groundwater quality Soil contamination
Paving Storage, refuelling and	Accidental chemical spills, washouts and equipment malfunction	<ul style="list-style-type: none"> Runoff of chemicals

Activity	Effect	Potential Impact
use of compounds including fuel, lubricants and chemicals	Increased surface runoff from hard surfaces	<ul style="list-style-type: none"> Pollution of local waterways
	Incorrect storage or accidental spillage	<ul style="list-style-type: none"> Soil contamination

2.2.2. *The method for stripping, stockpiling, re-spreading and improving the soils will be outlined in the relevant Method Statement.

2.3 Spoil And Fill

2.3.1. This section details the following:

- Types of spoil and fill.
- Spoil and fill quantities.
- Stockpile locations.
- Proposed haulage routes.

Types of spoil

2.3.2. During construction, excavated spoil will be generated during trenching works and through excavation.

2.3.3. It will be classified into the following major categories:

Topsoil

2.3.4. Soil from the top 5-20cm in the soil profile. Exposed layer of the earth's surface, including vegetation. Restored on site for landscaping or to support growth of vegetation to control erosion.

Earth (sub-soil)

2.3.5. Layer of soil immediately under the topsoil and on top of rock. Used to construct embankments and foundations.

Bedrock (Igneous, Sedimentary, or Metamorphic)

2.3.6. Solid mineral material that cannot be excavated without drilling and blasting.

Muck

2.3.7. Material that contains an excessive amount of water and undesirable soil. Its consistency is determined by the percentage of water contained.

Unclassified

2.3.8. Combination of topsoil, earth, rock, and muck.

2.3.9. In addition, the following category encompasses all types outlined above:

Potentially contaminated material

2.3.10. It is assumed that the Made Ground within the study area is a potential source of a wide range of contaminants including metals, hydrocarbons and asbestos. Agriculture is considered a potential general source of diffuse contaminants associated with the use of fertilisers,

pesticides and herbicides. In addition, the historic railway, depot, sewage works, historic tipping sites and Existing Drax Power Station Complex are all considered a potential source of contaminants.

Types of fill

2.3.11. Fill material utilised on site will consist of fill generated by excavation works and reused elsewhere on site.

2.3.12. Fill material generated by excavation activities and reused onsite will include:

- **General fill**- the main source of general fill during the works will be excavated spoil from trenching works and cuttings within the main site.
- **Topsoil** –topsoil reclaimed and stockpiled from trenching works will meet the project demand.

Spoil and fill quantities

2.3.13. The indicative excavation and filling quantities for the Proposed Scheme are detailed in Table 2-2 below.

Table 2-2 - Spoil Generation and Fill Demand [to be completed prior to the commencement of construction]

Location	Type of spoil	Cut (m3)	Fill (m3)	Net (m3)

Stockpile Locations

2.3.14. Soil and topsoil stockpile locations will be confirmed and recorded in the final SMP.

After Use

2.3.15. The following table will be used to detail the after-use of **all** spoil (including contaminated).

Table 2-3 - Spoil After-use [to be completed prior to the commencement of construction]

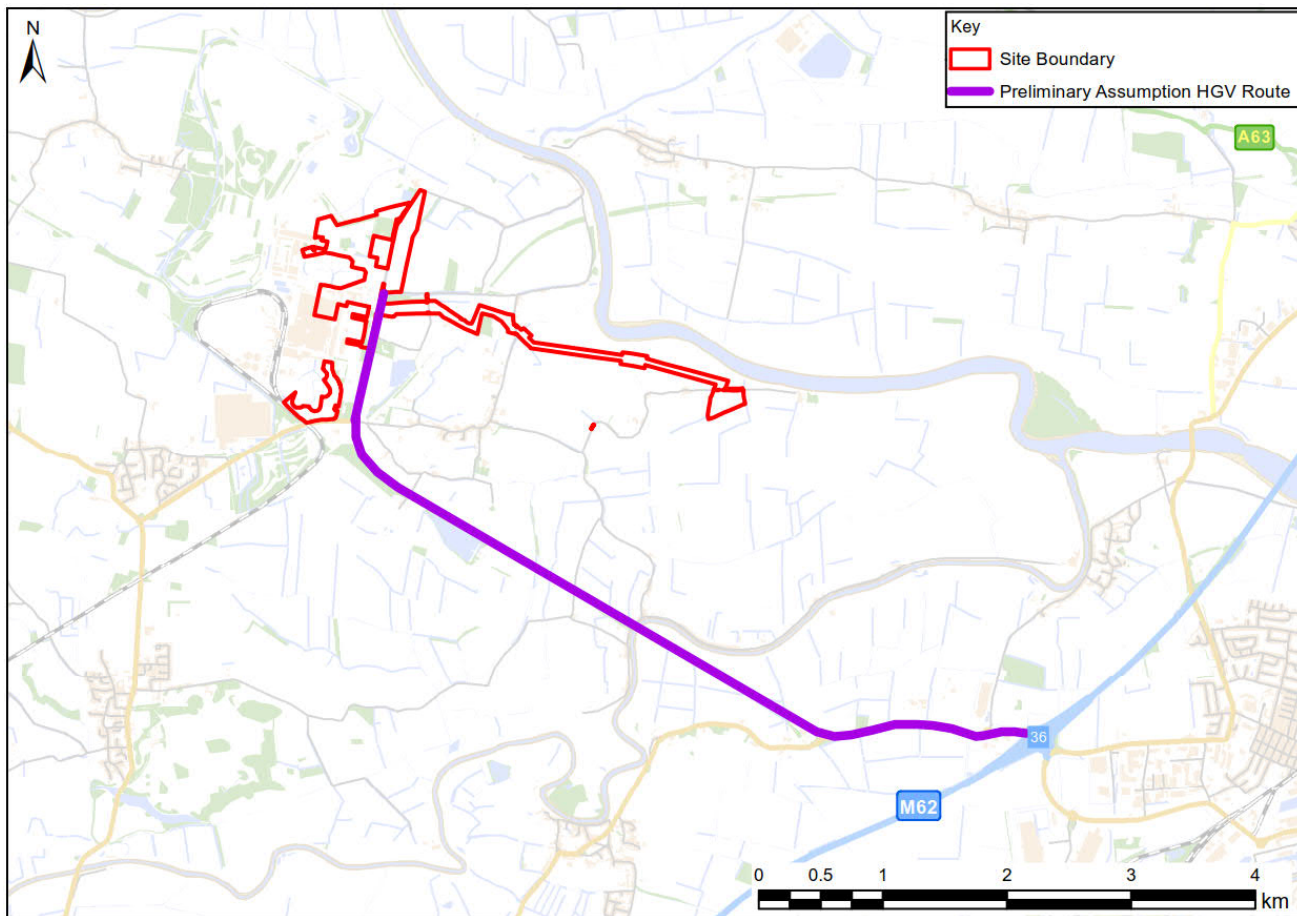
Spoil type	Quantity (m3)	After-use	
		On-site	Off-site

Haul Roads

2.3.16. The Existing Drax Power Station Complex is located to the south of the town of Selby, it is accessed from the A645 to the south of the Site. The A1041 and the A645 serve to connect the Existing Drax Power Station Complex to the wider road network.

2.3.17. The Proposed Scheme lies to the north of the M62, with access via Junction 36 and the A614, A645, and New Road, which are single carriageways and adopt the national speed limit. The A1041 lies adjacent to the Site connecting to the town of Selby to the North and Snaith in the South. Figure 2 below shows the proposed HGV route.

Figure 2 – HGV Route



- 2.3.18. HGVs are distributed on fixed routes to and from the Site on the M62, A614 and A645, as agreed with Highways England.
- 2.3.19. Abnormal Indivisible Loads (AILs) will be routed via the M62, A614 and A645 also. The routes of AILs will be subject to final agreement between the haulage company responsible for transporting large loads, and the Local Highway Authority and Highways England.
- 2.3.20. For further details see: Drax ES Chapter 5 (Transport).

3 CONSULTATION AND COMMUNICATIONS

3.1 Stakeholder Consultation

- 3.1.1. WSP Ltd has consulted with Drax during preparation of this outline SMP, which will be updated once the Principal Contractor (PC) is appointed. The PC will continue consultation with Drax and any relevant stakeholders (i.e. Selby District Council and North Yorkshire Country Council) during construction works.

3.2 Training And Awareness

- 3.2.1. All project personnel, sub-contractors and consultants attending site will be required to complete induction training. This will include a soil management component to reinforce the important management issues and the measures that will be implemented to protect the soil. Ongoing toolbox talks will highlight specific environmental requirements associated with activities underway at the time.
- 3.2.2. Examples of topics that may be covered during project induction and tool box talks include:
- Basic erosion and sediment control principles.
 - Emergency response measures in high rainfall events.
 - Spill response.
 - Refuelling systems.
 - Chemical handling procedures.
 - Erosion and sediment controls.
 - Import and export of soils.
 - Stockpile location criteria; and identification of potentially contaminated spoil and fill material.

4 IMPLEMENTATION OF CONTROLS

4.1 Soil Management Measures

- 4.1.1. Project mitigation measures and responsibilities associated with groundwater management are outlined in Table 4-1. These mitigation measures have been developed to ensure compliance with relevant legislation and best practice.

Table 4-1 – Soil Management Measures

Activity	Action	Responsibility
General Control Measures	<p><u>Diversion drains</u></p> <ul style="list-style-type: none"> • Diversion drains shall be constructed as necessary to divert surface water drainage away from soil stockpiles, excavations or other disturbed areas. • Design drains to minimise water velocities. • Install sediment capture device, such as silt fences and bunding, down slope of exposed soil and soil stockpiles. 	Site Supervisor
	<p><u>Stockpiles</u></p> <ul style="list-style-type: none"> • Soil stockpiles shall be constructed in accordance with the Good Practice Guide for Handling soils, MAFF April 2000. • Ordinarily stockpiles shall have a maximum height of 3 m and be battered to a maximum slope of 2 (H):1(V). However, stockpiles of topsoil are to have a maximum height of 1 m to maximise viability of the seedbank for rehabilitation purposes. • In the event of likely significant movement of material from the stockpile due to rainfall or wind, additional containment measures (i.e. covering of stockpiles) shall be implemented as directed by the Project Director. • Minimise duration of subsoils (including stockpiles) exposure to weather. • Provide wind-breaks (or equivalent control measures) around exposed areas and stockpiles to prevent wind erosion. • Place soil stockpiles upslope of excavations and not in drainage lines. 	Site Supervisor
	<p><u>Batters (walls)</u></p> <ul style="list-style-type: none"> • The batters of completed embankments shall be less than 3(H):1(V). • Immediately following completion of earthworks, batters shall be stabilised and disturbed areas shall be re-vegetated. 	Site Supervisor
	<p><u>Silt Fences</u></p>	Site Supervisor

Activity	Action	Responsibility
	<ul style="list-style-type: none"> • Silt fences as appropriate shall be installed when required to minimise sediment movement • Silt fences shall be installed around the down-slope perimeter of stockpiles or disturbed areas where potential for significant sediment migration. • No area requiring silt fences shall be left overnight without silt fences unless approved by the Site Manager, or delegate. • Ensure silt fences are in vertical position and securely fixed and remove sediment or residue behind sediment control barriers. 	
	<p><u>Excavation Rehabilitation</u></p> <ul style="list-style-type: none"> • Excavations will be backfilled, compacted; topsoil replaced, and re-vegetated as soon as practicable. Re-vegetation will be restricted to grasses that can be maintained consistent with the ongoing inspection and maintenance requirements of the pipeline. 	Site Supervisor
	<ul style="list-style-type: none"> • Concrete mixers and pump trucks are not to be washed out onsite. 	Site Supervisor
	<ul style="list-style-type: none"> • Store contaminated soils capable of producing leachate within lined bunds. 	Site Supervisor
	<ul style="list-style-type: none"> • Used licenced contractors to collect, transport and dispose of hazardous materials such as waste solvents, paints, hydrocarbons etc. to a licenced off-site facility in accordance with EA guidelines. 	Site Supervisor
	<ul style="list-style-type: none"> • Remove wastewater and sewage from site by an EA licenced operator for treatment at an EA approved wastewater treatment facility. 	Site Supervisor
	<ul style="list-style-type: none"> • Select construction equipment to minimise the disturbance to soils. 	Site Supervisor
	<ul style="list-style-type: none"> • Secure disturbed bare soil by re-spreading topsoil, revegetating or applying geotextile fabric, as soon as practicable after reinstatement of earthworks. 	Site Supervisor
	<ul style="list-style-type: none"> • Revegetate exposed soils as soon as possible to reduce potential for sediment-laden runoff. 	Site Supervisor
Access roads	<ul style="list-style-type: none"> • Preference will be given to the use of formed roads as primary access tracks. • Speed limits along unsealed access roads will be limited to 10 mph and watering down will be used to prevent dust generation and loss of soil. • Treat construction tracks to minimise surface degradation, e.g. compaction or topping with gravel. 	Site Supervisor

Activity	Action	Responsibility
Trenching	<ul style="list-style-type: none"> • Spoil from trenches shall be temporarily placed adjacent to the trench on the upslope side of the trench where possible • Topsoil and fill materials should be stockpiled separately from each other, and from underlying subsoils • During periods of string winds trenching works may need to be reduced or temporarily ceased to prevent dust generation and loss of soil. • The trench should be backfilled as soon as possible using the excavated spoil. The spoil should be placed back, with the subsoils at the base, and topsoil at the surface. • Where fill materials are present, these should be placed between the subsoil and topsoil, unless they appear significantly contaminated, in which case they should be disposed of to landfill. 	Site Supervisor
Trenching	<ul style="list-style-type: none"> • If the trench can't be backfilled on the day of excavation, consideration should be given to upslope protection of the stockpiled spoil. Such protection may be in the form of cut-off drains to divert surface water from the stockpiled soil, or silt fencing. Measures should also be implemented to prevent the stockpiled soil falling into the trench. • During and immediately following rain events, trenching activities should be minimised to essential works only. • Storm water caught in the trench may be used for dust suppression on adjacent areas. • Storm water may be discharged across adjacent vegetated areas where grasses are sufficient to act as a natural filter. • Storm water shall not be discharged to existing waterways. • During the backfilling of trenches, the soil must be contoured without a camber to maintain natural water flow. • Excess soil which cannot be used to backfill the trench or any other onsite activities must be exported offsite in accordance with the requirements outlined below (exportation of soil from site). 	Site Supervisor
Unexpected Finds	<ul style="list-style-type: none"> • If during the works, material is encountered which appears to be potentially contaminated and/or appears to be different from the soils described in previous reports, the following procedure should apply: 	Site Supervisor

Activity	Action	Responsibility
	<ul style="list-style-type: none"> ○ Suspicious material/soil which has already been excavated should be banded and separately stockpiled on polyethylene sheet of at least 0.25 mm thickness, protected from erosion and seepage retained. ○ Excavation works at that part of the site where suspicious material (soil) was encountered should cease until inspection is carried out by an Environmental Consultant. ○ Based on visual inspection, the Environment Consultant will provide interim advice on H&S of workers, soil storage and soil disposal to allow work to proceed if possible. ○ Based on sampling and analysis of the material, the Environment Consultant will provide advice as to remedial/ management requirements for the material. <p>In the context of the above, “suspicious” material would include fibrous, oily or odorous materials, drums, metal or plastic chemical containers or brightly coloured material etc.</p>	
Importation of soil to site	<p>It is unlikely that soil will need to be imported to site for the works.</p> <p>All soil imported for fill onto site must be demonstrated to be clean and fit for the intended use based on:</p> <ul style="list-style-type: none"> ○ Records of nature and source of material. ○ Test reports and certificates. ○ Be in accordance with the relevant testing standard. ○ Fit for purpose. ○ Comply with the WRAP Quality Protocol. 	Site Supervisor
Exportation of soil from site	<p>Material from the site could be used in one of two ways:</p> <ul style="list-style-type: none"> ● Beneficial reuse on another site not associated with the project. ● Disposal to landfill. <p>Material that is proposed for beneficial re-use on other sites would need to fall into one of the following categories:</p> <ul style="list-style-type: none"> ○ Waste exemption (i.e. U1, U10, U11, U12, U13, U14). ○ WRAP Quality protocol. ○ CL:AIRE (Contaminated Land Applications in Real Environments), Definition of Waste: Development Industry Code of Practice (Materials Management Plan). 	Site Supervisor

Activity	Action	Responsibility
	Material that is to be disposed to landfill would need to be assessed in accordance with the EA's Waste sampling and testing for disposal to landfill guidance.	

5 MONITORING AND REVIEW

- 5.1.1. Erosion and sediment control measures installed during construction will be inspected weekly and after each rainfall event that causes runoff to occur from the site to ensure the controls are working efficiently and effectively.
- 5.1.2. Assigned personnel will provide guidance on improving sediment control measures on-site and may train personnel in erosion and sediment control, assist in developing plans, supervise installation of erosion and sediment controls and monitor the effectiveness of these controls following storm events.
- 5.1.3. A Soil Officer will be appointed to act as liaison between landowners to ensure all site specific issues are dealt with before, during and after construction.

5.2 General Monitoring, Inspection And Reporting

- 5.2.1. Inspection of identified potential soil impacting activities will occur for the duration of the construction of the Proposed Scheme.
- 5.2.2. Daily visual inspections of the construction site will be undertaken by relevant personnel to identify actual or potential soil management risks. Documented weekly environmental inspections that include monitoring of erosion and sediment control devices, including sediment fences and will also be undertaken and documented. These inspections will also be undertaken following a rainfall event of 10 mm or greater (unless there has been significant preceding rainfall), or within 24 hours of cessation of a rainfall event causing runoff to occur from the site premises. This will include auditing of construction work practices to ensure there is no adverse impact to soil. These inspections will be documented on a weekly checklist.
- 5.2.3. The soil inspection and reporting programme is listed in Table 5-1 below.

Table 5-1 - Soil Inspection and Reporting Programme

Activity	Area	Resources	Responsibility	Frequency	Reported to
Routine Inspections:					
Daily Environmental Inspection	All	Site diary	[Contractor to insert position title]	Daily	[Contractor to insert position title]
Weekly Environmental Inspection	All	Weekly Environmental Inspection Checklist	[Contractor to insert position title]	Weekly	[Contractor to insert position title]
Quarterly Internal Audits	All	CEMP/sub plans	[Contractor to insert position title]	Quarterly	[Contractor to insert position title]
Quarterly External Audits	All	External Audit checklist	Drax' Environment Manager	Quarterly	Drax senior management team
Drax Audits	All	External Audit Checklist	Drax	Six monthly or as	[Contractor]/ Drax

Activity	Area	Resources	Responsibility	Frequency	Reported to
				determined by the Auditor	
Reporting:					
Monthly Environmental reports	All	Weekly Environmental checklist	[Contractor to insert position title]	Monthly	[Contractor to insert position title]
Six monthly Compliance Tracking report	All	Six monthly Compliance Tracking report	[Contractor to insert position title]	Six monthly	[Contractor to insert position title]
Six monthly performance against targets	All	Six monthly performance report	[Contractor to insert position title]	Six monthly	Drax

5.2.4. Inspection and monitoring requirements are included in Table 5-2.

Table 5-2 - Monitoring and Inspection Requirements

Management Practice	Monitoring	Responsibility	Timing
Keep working face and areas of open excavation to a minimum.	Daily inspections during work	[Contractor to insert position title]	During construction
Stabilise all disturbed areas as soon as possible.	Weekly inspections	[Contractor to insert position title]	During construction
Minimise stockpiling by coordinating excavation, spreading, regrading, and compaction activities.	Weekly inspections	[Contractor to insert position title]	During construction
Cover/vegetate stockpiles where material is to remain exposed for a long period of time.	Daily inspections of stockpiles	[Contractor to insert position title]	During construction
Prevent the movement of sediment away from stockpiles and construction areas by installing temporary erosion and sediment control structures.	Inspections weekly and after rain events	[Contractor to insert position title]	During construction
Restrict traffic to defined roads.	Daily inspections	[Contractor to insert position title]	During construction
Minimise on-site vehicle activity on disturbed surfaces during and	Daily inspections during and for a	[Contractor to insert position title]	During construction

Management Practice	Monitoring	Responsibility	Timing
immediately after rain events.	period after rain events		
Construct upslope diversion drains to collect and divert water around the works areas.	Weekly and after rain events	[Contractor to insert position title]	During construction
Regularly inspect and maintain erosion control structures, diversion drains and bunded areas.	Weekly and after rain events	[Contractor to insert position title]	During construction
Regularly inspect hazardous material containment facilities to ensure their integrity.	Daily inspections	[Contractor to insert position title]	During construction
Monitor soil quality around project works prior to and during construction to ascertain the presence of contaminated soil.	Daily inspections	[Contractor to insert position title]	During construction
Manage potential soil contamination by: <ul style="list-style-type: none"> ○ Appropriate and timely disposal of any contaminated spoil, water or waste generated during construction; ○ Decontamination of plant and equipment prior to leaving construction site; ○ Removing accidental spills of soil or other materials; ○ Bunding of refuelling areas; and ○ Providing spill kits on site. 	As required	[Contractor to insert position title]	During construction
Implement unexpected finds procedure (See Table 3) if potentially contaminated material is encountered.	As required	[Contractor to insert position title]	During construction
Record keeping: The following records relating to soil management	Daily Weekly As required	[Contractor to insert position title]	During construction

Management Practice	Monitoring	Responsibility	Timing
<p>and monitoring are to be maintained:</p> <ul style="list-style-type: none"> ○ Incident reports by sub-contractors (i.e. records of spills or other related incidents); ○ Records of daily/weekly inspections during construction; ○ Records of soil re-use or disposal (i.e. landfill waste docket); and ○ Records of appropriate soil importation. <p>All records are to be maintained in compliance with record keeping requirements as outlined in the CEMP.</p>			

5.3 Auditing

- 5.3.1. Quarterly internal audits for compliance against relevant licences and approvals will be undertaken, as shown in Tables 4 and 5 above, and will include an audit of the worksite and sub-contractor to assess compliance with this Plan, including environmental management aspects related to soil.
- 5.3.2. The Contractor will be responsible for managing and implementing actions from these audits.
- 5.3.3. In addition, the Client's Environment Manager will oversee the implementation of the CEMP (including all sub plans) and will audit construction activities periodically.

6 INCIDENT MANAGEMENT

- 6.1.1. All environmental incidents occurring on the Proposed Scheme will be managed by the Contractor, as detailed in Section 2.10 of the CEMP, and the Incident Response Plan which will be prepared prior to construction commencing. This includes incident notification, recording, reporting and response processes.

