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Grain to Tilbury

Document Title

Construction Environmental Management Plan – Gravesham Borough Council Planning

FBJV Document Number:

GRR-FBJ-PM-GRRS4-ZP-ZE-000001

NG Document Number

n/a

Purpose of Issue

For Approval

Document Suitability

S5 - For Review &
Acceptance

Date Revision

09/07/2025
P05

Asite Task ID

N/A

Details correct at time of upload to ASITE. Check ASITE for current document status, and Workflows Approval

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Revision History			
Rev No	Date	Summary of Changes	Section or Page Number
P01	21/01/2025	First Issue	Whole Document
P02	29/01/2025	Updates following Planning Application conditions	All
P03	13/05/2025	Internal Review	Several
P04	17/06/2025	National Grid comments addressed	Several
P05	09/07/2025	National Grid comments addressed	Several

Table of Contents

ISSUE AND REVISION CONTROL	2
TABLE OF CONTENTS.....	3
1 OVERVIEW.....	5
1.1 Introduction.....	5
1.2 Purpose.....	5
2 SUMMARY OF PLANNING CONDITIONS RELEVANT TO THE CEMP	6
3 ENVIRONMENTAL MANAGEMENT SYSTEM	8
4 PLANNING.....	8
4.1 Management Policies	8
4.2 Environmental Register.....	8
5 CONSTRUCTION PROGRAMME.....	9
6 RESOURCES.....	10
6.1 Management Structure and Responsibilities	10
6.2 Environmental and Sustainability Manager	10
6.3 FB JV Roles and Responsibilities.....	10
6.4 Induction and Training.....	13
6.5 Internal Communication on Environmental Matters.....	14
6.6 External communication on environmental matters.....	15
7 OPERATIONAL CONTROL	15
7.1 Construction Traffic Management	15
7.2 Security	16
7.3 Working Hours	16
7.4 Storage of plant and materials.....	16
7.5 Location and Height of Cranes and Scaffolding.....	20
7.6 Lighting.....	23
7.7 Air Quality	28
7.7.1 Smoke management	29
7.7.2 Odour control.....	30
7.8 Noise and Vibration	30
7.9 Site Waste Management.....	33
7.9.1 Unexpected Contamination	34
7.10 Ecology.....	34
7.11 Ground Water and Surface Water.....	35
8 POLLUTION PREVENTION	35
8.1 Soil and Groundwater Contamination	36
8.2 Site Surface Water and Wastewater	36
8.3 Concrete Washout	36
8.4 Storage of Oil, Fuel and Chemicals	38

8.5	Spill Response Procedure	40
8.6	Spill kits	41
8.7	Refuelling of Plant and Equipment	42
9	CHECKING	44
9.1	Environmental Monitoring	44
9.2	Audits and Inspections.....	44
9.3	Environmental Incidents.....	45
9.4	Community Relations	46
9.5	Consents Management.....	46
9.6	Procurement of Materials and Equipment	46
9.7	Subcontractor Assurance	46
9.8	Records	47
9.9	Document Control	47
9.10	Environmental Management Review	47

1 Overview

1.1 Introduction

The Grain to Tilbury tunnel replacement project (the Project) involves the replacement of the existing 1960s Thames Cable Tunnel beneath the Thames between Tilbury and Gravesend. The existing tunnel was built in 1969 and houses 400 kilovolt (kV) transmission cables as part of National Grid's high voltage transmission network.

The Project was formally granted planning permission by Gravesham Borough Council on the 4th March 2025. The Project will be approximately 2.2km long and able to accommodate the installation of new cabling, and the construction of two headhouses at either end of the tunnel, enabling National Grid to strength the network to power all homes and businesses with green energy by 2030.

National Grid (NG) has appointed FBJV as the Design and Construction (D&C) Contractor responsible for undertaking the detailed design and construction of the Project all in accordance with the constraints and parameters of the Planning Permission and NG specifications. FBJV is a joint venture formed between Ferrovial Construction (UK) Ltd and BEMO Tunnelling GmbH.

1.2 Purpose

The Construction Environmental Management Plan (CEMP) sets a framework, integral to the Environmental Management System (EMS), that establishes the environmental management, mitigation and controls requirements during the construction phase of the proposed development. The controls and procedures contained within it are the practical means by which the mitigation commitments made in the Environmental Statement (ES) are to be adhered. The objectives of these controls and procedures are to:

- i. Provide a mechanism for ensuring that measures to mitigate potentially adverse environmental effect are implemented;
- ii. Endeavour the adoption of environmental good practices throughout the construction phase;
- iii. Aim a prompt response if any unacceptable adverse impact is identified, with the provision of appropriate additional mitigation measures as required;
- iv. Provide a means for mitigating effects that may not be anticipated or become apparent until construction is underway;
- v. Establish a mechanism for compliance auditing such that mitigation measures are effectively implemented and maintained through construction; and
- vi. Enable full compliance to be maintained with all relevant legislation.

Additionally, the CEMP includes the roles and responsibilities of those within FBJV in respect to the relevant construction environmental management content of the documents listed below:

- i. Design and Construction Agreement between FBJV and NG;
- ii. All relevant environmental legislation (and other requirements);
- iii. Transferred Planning Permission Functions;
- iv. Environmental Statement;

- v. Environmental Policy;
- vi. Sustainability Policy;
- vii. Carbon Policy; and
- viii. EMS Manual.

The CEMP covers the works required to design and construct the Project, including enabling works, main works and commissioning.

In order to ensure its measures remain effective, the CEMP will be reviewed, and if deemed necessary, updated by the FBJV Environmental and Sustainability Manager every 12 months or when it is identified that additional measures are required to effectively control; the environmental aspects of the project – e.g. to incorporate the learnings following an environmental incident. The CEMP will be supported by subsidiary management plans that focus on specific site areas and/or specific specialist topics as required.

2 Summary of Planning Conditions Relevant to the CEMP

Condition 3 of Planning permission 20231313, dated 4th March 2025 states the following:

“No development approved by this permission shall be commenced until a comprehensive Construction Environmental Management Plan (CEMP) and all associated appendices covering all environmental impacts of this development is submitted to and approved in writing by the Local Planning Authority in consultation with the Environment Agency, Local Highway Authority and GBC Environmental Protection. The development hereby permitted shall be carried out in accordance with the approved Construction Environmental Management Plan (CEMP). For the avoidance of doubt the Construction Environmental Management Plan (CEMP) shall, where practical, include but not exclusively cover the following:”

It is noted that that the wording of the condition within the decision letter appears truncated, however, with reference to an earlier drafting of the condition, we have identified further constituent elements that were likely intended to fall within the condition. These are included within Table 1 below, together with an indication as to the key part of this document which provides the requisite information.

Table 1 Likely elements of planning condition 3 subject to approval by Gravesham Borough Council

Planning condition ref.	Planning condition	CEMP Section
3a	Details of Construction Logistics Plan (CLP)	7.1 (additionally, a Construction Traffic Management Plan will be submitted to discharge Condition 6)
3b	Storage of plant and material	7.4
3c	Dust management controls;	7.7
3d	Location and height of cranes and scaffolding;	7.5
3e	Measures of minimising the impact of noise and, if appropriate, vibration arising from construction activities;	7.8
3f	Predicted noise and, if appropriate, vibration levels for construction using methodologies and at locations agreed with the Local Planning Authority;	7.8
3g	Scheme for monitoring noise and if appropriate, vibration levels using methodologies and at points agreed with the Local Planning Authority;	7.8
3h	Scheme for location and appearance security fencing/hoardings, depicting a readily visible 24-hour contact number for queries or emergencies;	7.2
3i	Details of disposal of waste arising from the construction programme, including final disposal points (the burning of waste on the site at any time is specifically precluded);	7.9
3j	Hours of operation;	7.3
3k	Smoke management controls;	7.7
3l	Odour controls; and	7.7
3m	Any other matters relevant to this particular site.	Various

3 Environmental Management System

FBJV will adhere to the requirements of ISO 14001:2015 Standard. The EMS provides a framework for environmental management across all design and construction activities, identifying key environmental aspects and how they will be managed. It details arrangements for monitoring legal and other relevant requirements and makes provisions for record keeping and ensuring staff competency.

The FBJV EMS will be subject to an audit against ISO 14001:2015 in 2025.

4 Planning

4.1 Management Policies

The Environmental Policy, Sustainability Policy and Carbon Policy sets the scene for how FBJV will seek to achieve effective environmental management in the delivery of the project and is the basis upon which the EMS has been developed. The EMS provides a context that promotes the sustainable development of Project and accords with the Sustainability Action Plan developed by National Grid as part of the Planning Application.

4.2 Environmental Register

FBJV will comply with all legislation and regulations relating to the environment. maintain various Environmental Registers, using a number of sources of information including the planning permission, corporate legal registers and contractual requirements. These registers are kept as live documents, being modified as appropriate to project requirements and developments in legislation. The Environmental and Sustainability Manager communicate the requirements of the registers to all FBJV personnel and supply chain, as appropriate. The registers comprise the following:

- i. Environmental Legal Register; and
- ii. Aspects and Impacts Register;

There are also several other registers that sit outside the Environment Registers that the Environment Team contribute towards including:

- i. Risk and Opportunities Register;
- ii. Sustainability Opportunities Register; and
- iii. Consents Register.

The JV Environmental Team have identified a number of environmental risks and opportunities and contributed to the population and update of the FBJV Risk and Opportunities Register. In line with the review and update of the Environmental Registers a review of the environmental entries will be undertaken when new risks are identified or in the event of actualising any of the risks or opportunities. The Consent Register is managed directly by the Consent team. The JV Environmental Team will actively support in providing contributions, updates and any other relevant input as required.

The Environmental Legal Register is maintained by the JV Environmental Team. The base legal register is derived from the Barbour Consolidated (formerly Cedrec) Legislation subscription service provided by Ferrovial and updated through notifications from that service. Members of the JV Environmental Team are notified through email of any changes to environmental

legislation by Ferrovia as required. A check is then run against the existing register for any relevant changes. At the top of the register is a “Last Reviewed” date box that allows the Environment Team member to input the date the update check was performed. An automated formula in an adjacent cell provides a visual reminder as to whether a check has been performed within the last 30 days to signify the register is as up to date as practicable. There is “comments” column that shall be used to make note of any changes and any specific action taken. Any corresponding changes will be briefing out to the wider FBJV team as required.

The Aspects and Impacts Register is maintained by the JV Environmental Team. It has been developed to encompass all the earliest site activities and will be updated as later site activities are planned out in fuller detail. For each activity in each relevant location the key environmental aspects and the potential impacts, both negative and positive have been identified. A significance calculation is undertaken pre-mitigation and post mitigation to establish whether the site control measures described adequately reduce the likelihood of any negative impacts occurring and increase the likelihood of any positive impacts occurring. The final columns identify how the site control measures have integrated into the FBJV EMS via relevant plans, procedures and forms.

The Obligations Register is maintained by the JV Environmental Team. It has been developed to capture all of the environmental requirements emanating from the contract, the ES and Planning Permission Functions in order to ensure that these requirements are integrated within the EMS. It identifies how the requirement will be fulfilled and the evidence that will be collected to evidence compliance. The Environmental Performance Plan is maintained by the JV Environmental Team. It has been developed to capture all the environmental performance-based requirements and the plan established to achieve them and monitor compliance against them.

The Environmental Registers will be subject to yearly reviews or updates whenever there is a significant change in the type of construction activity. Environmental aspects and impacts related to activities, products and services that FBJV control and may have an influence over shall be reviewed where changes to the scope of works takes place. They will also be reviewed annually as a minimum. Legal and other requirements will be audited as part of the ISO 14001 Standard in line with the Audit Schedule (established in adherence to the Ferrovia EMS). The controls used will be a mix of formal plans, procedures, method statements and risk assessments. The processes will be subject to review and improvement, based upon feedback from users, clients and subcontractors.

5 Construction Programme

Construction at the site will commence in 2025 and run until approximately 2029. The indicative construction programme is shown below:

Table 2 Indicative Construction programme

Activity	Start	Finish
Initial Surveys	Q1 2025	Q4 2025
Site Set-up	Q2 2025	Q3 2025
Shaft Sinking – Gravesend	Q1 2026	Q3 2026
Tunnel Construction	Q1 2026	Q4 2026
Mechanical, Electrical and Plumbing (MEP) works	Q3 2026	Q1 2029
Completion	Q1 2029	

6 Resources

6.1 Management Structure and Responsibilities

The FBJV Project Director is ultimately responsible for the environmental management performance achieved on the Project however all members of FBJV have responsibility for elements of environmental management appropriate to their function, experience and seniority.

6.2 Environmental and Sustainability Manager

The Environmental and Sustainability Manager will provide the principle environmental reporting role and will report into the Project Director as part of the FBJV Leadership Team.

The Environmental and Sustainability Manager is responsible for:

- i. Establishing, maintaining and implementing the CEMP and all other environmental plans related to the works;
- ii. Provisioning an internal monitoring, audit and reporting regime;
- iii. Leading the appointment of environmental specialists and ensuring that all specialist staff employed are appropriately qualified and suitably experienced to undertake the required tasks;
- iv. Identifying and reviewing training needs and recording environmental training delivered to personnel within the project team;
- v. Setting up a programme for environmental audits and site inspections working to ensure that identified and appropriate control measures are effective;
- vi. Aiming the design and construction of the Works to be carried out in compliance with the CEMP.

6.3 FBJV Roles and Responsibilities

The following environmental responsibilities of FBJV staff are as described in Table 3.

Table 3 Roles and Responsibilities

Role Title	Responsibilities
Project Director	Overall responsibility and accountability for compliance to the transferred planning permission functions, ES, and contractual environmental requirements.
Project Manager	- Coordinating the delivery of all elements of the proposed development including ensuring conformance with the CEMP and other management plans, as well as any incident investigation required. - Facilitating the dissemination of generic environmental requirements to the project team. - Oversee the implementation and review of environmental procedures throughout the project. - Monitoring the environmental performance of the project through maintaining an overview of incidents, inspections and audits.

Role Title	Responsibilities
	- Aiming that environmental considerations form an integral part of design and implementation of the works and to include environmental reviews as part of regular project meetings. - Review environmental matters with Environmental and Sustainability Manager/ Advisor on a regular basis and as per project requirements. - Liaise with Environmental and Sustainability Manager on all environmental issues as appropriate. - Endeavour that all environmental incidents are reported to Environmental Manager according to agreed procedures. - Nominate individual project team members to support National Grid in public relations and community liaison activities, including local community meetings.
Environment and Sustainability Manager	- Leads on environmental compliance with transferred planning permission functions, ES, and contractual environmental requirements, as well as any incident investigation required. - Aims that this CEMP and associated plans and procedures are updated as required. - Aims that the implementation of the provisions of the CEMP for protection of the environmental interest identified. - Identifies environmental resourcing and training requirements within Ferrovial-Bemo CJV. Facilitating the dissemination of generic environmental requirements to the project team. - Oversees the appointment and management of subcontractors. - Monitoring the environmental performance of the project through maintaining an overview of incidents, inspections and audits. - Endeavouring that environmental considerations form an integral part of design and implementation of the works and to include environmental reviews as part of regular project meetings. - Liaises with Project Managers on all environmental issues as appropriate; - Aims that all environmental incidents are reported according to agreed procedures.
Senior Environmental Advisor	- Provides support to Environmental Manager on all matters. Leads on the development and implementation of the Environmental Management System. - Aims that the implementation of the provisions of the CEMP and the mitigation measures. - Inspection to ensure compliance with environmental standards and requirements.
Environmental Advisors / Graduates	- Site Environmental Advisors will support the Environmental and Sustainability Manager; engineering, design and site teams; and subcontracted design and construction teams to ensure compliance with CEMP. - Undertake site audits and inspections. To ensure compliance with environmental standards and requirements.
Environmental Auditor	The Environmental Auditor(s) will undertake environmental audits of the EMS including legal and contractual requirements.

Role Title	Responsibilities
Consents Manager	Manage discharge of Planning Permission conditions and obtain and maintain appropriate licences for all activities, ensuring monitoring is delivered on time. The Consents Manager will work with NG's team to ensure timely delivery of key information to support the consenting process and to create documents and plans to be signed off by key authorities.
Ecological Clerk of Works	- The Ecological Clerk of Works (ECoW) will endeavour that the ecological interests of areas that may be affected by the works are safeguarded. The ECoW will oversee works and recommend action as appropriate. - The ECoW will aim that the implementation of the provisions of the CEMP for protection of the ecological receptors identified and the mitigation contained within the ES and may assist the technical specialist advisors on specific ecological subjects. - ECoW will be consulted (as necessary) to prevent lighting having adverse impacts upon ecological receptors. - ECoW will deliver toolbox talks on ecology matters and sensitivities to the appropriate staff prior to works being undertaken. - Inspections of works to ensure that mitigation measures incorporated into the design / construction phases have been implemented to minimise the impact of the ecology features. - ECoW will provide effective ecological monitoring regime.
Technical Specialist Advisors	The Technical specialist advisors will support the JV environmental team and delivery team on specific environmental subjects, for example, ecology, noise, air quality or water environment where required throughout construction
Site Manager	- Endeavour the works are undertaken in accordance with agreed methods and briefings. - Ensure significant ecological / environmental aspects identified for the Project, over which they are deemed to have influence and control, are managed appropriately. - Comply with environmental incident investigation and reporting procedures as appropriate. - Assign specific environmental duties to the workforce. - Instigate a programme of regular environmental inspections. - Carry out corrective actions resulting from any non-conformances, and reporting of near incidents, near misses and observations using the appropriate systems.
Site Construction Team	- Aim all personnel for whom they are responsible are aware of the CEMP and implement the relevant requirements. - Endeavour significant environmental aspects identified for the Project, over which they are deemed to have influence and control, are managed appropriately. - Assign specific environmental duties to competent team members. - Aim timely and efficient reporting of environmental and sustainability data. - Aim all personnel undergo suitable and sufficient environmental induction before starting work on the project.

Role Title	Responsibilities
	- Monitor performance of personnel and activities under their control and ensure that arrangements are in place, so all personnel can work in a manner which minimises risks to themselves and the environment. - Identify the competence of all contractors and suppliers and ensure they are made aware of, and comply with, the CEMP, project specific management procedures and any documentation requirements. - Comply with environmental incident investigation and reporting procedures as appropriate. - Instigate a programme of regular environmental inspections. - Implement environmental performance measurement, review and reporting requirements. - Promote the continual improvement of environmental performance and co-operate with auditors during environmental audits. - Carry out corrective actions resulting from any non-conformances, and reporting of near incidents, near misses and observations using the appropriate systems.
All employees	- Being familiar with and demonstrating commitment to the implementation of the Environmental Policy and CEMP. - Co-operating with FBJV in fulfilling its legal obligations. - Conforming to the applicable requirements of relevant Environmental Management Plans. - Monitoring their workplace for potential environmental risks and alerting their immediate line manager if any are observed, assisting FBJV in its pursuit of continual improvement in environmental performance. - Endeavouring site staff are fully aware of environmental legislative controls, protected species and consents.

FBJV will carry out corrective actions resulting from any non-conformances, and reporting of near incidents, near misses and observations using the appropriate systems.

6.4 Induction and Training

FBJV shall produce an environmental communication and training plan, as part of the Project Wide Training Plan, that will apply to all members of JV, key subcontractor personnel and other related parties to promote environmental awareness throughout the proposed development. The primary objective shall be to ensure that environmental protection is supported by all. In addition, there shall be a provision on improving environmental performance and seeking environmental innovation. The FBJV Environmental and Sustainability Manager will be responsible for overseeing the implementation of the environmental training. The JV Environmental Team will provide environmental information and training to staff and operatives at all levels (and, when appropriate, to others involved in or affected by work activities) to achieve and maintain a high standard of environmental awareness and risk control. Training needs will be determined by the team the individual is based within to ensure that personnel performing specific tasks are appropriately informed to undertake/plan that task to both safeguard the environment and/or promote environmental enhancement.

All those working FBJV or on behalf of FBJV shall undertake an induction that includes an introduction to the key aspects of environmental management such as minimum:

- i. Waste management;
- ii. Concrete management;
- iii. Ecology (including species and/or habitat protection);
- iv. Working in or near watercourses;
- v. Surface water and groundwater pollution and control;
- vi. Spill response;
- vii. Dust management;
- viii. Noise management (prevention of nuisance); and
- ix. Environmental incident and emergency response procedures.

In addition to the site induction, relevant FBJV personnel will be trained on general site good practice and emergency procedures. Training will be provided by a suitably qualified person on regular basis. Training and awareness raising will include, but will not be limited to:

- i. Briefing staff on the relevant environmental control plans through presentations;
- ii. Toolbox Talks on site specific issues (further details provided below);
- iii. Method Statements which will include environmental elements including, but not limited to, (as appropriate) surface water management (including appropriate sediment control methods), task specific risk assessments, biosecurity, and reinstatement methods;
- iv. Pollution prevention training to include practical element for site-based staff (including the practical use of spill kits and training on the consideration and selection of appropriate sediment mitigation installation); and
- v. Emergency training to include fire prevention techniques particularly for land cable operators.

A Schedule of Toolbox Talk will be maintained by FBJV Environmental and Sustainability Manager or Advisor. The schedule will be a live document and coordinate with the programme of works. Additional toolbox talk will be added to the schedule as required based on circumstances such as unforeseen risks, repeated observation of bad practices, perceived lack of awareness, pollution event, etc.

An environmental risk map, showing all sensitive areas, exclusion zones, wash out areas, watercourses, refuelling locations and waste management facilities will be displayed on the site notice board(s). In addition, a map showing the spill kit locations will be also displayed. The maps will remain live and will be updated throughout the lifetime of the project and re-issued as required. An electronic version will be accessible to all site staff via a shared project site.

6.5 Internal Communication on Environmental Matters

Internal communication will be an established part of the EMS. Outputs will include:

- i. Inductions;
- ii. Briefings;

- iii. Environmental Policy;
- iv. RAMS;
- v. Ensuring environmental aspects are addressed in coordinated/progress meetings;
- vi. Management review meetings;
- vii. Consultation with local authorities and other regulatory bodies;
- viii. Toolbox talks; and
- ix. Posters.

The Environmental and Sustainability Manager will ensure that communications are prepared and delivered by competent persons and that the frequency of delivery is sufficient to meet environmental objectives and requirements. The induction, which will be attended by all personnel, will include environmental issues relevant to environmental behaviours that are expected of all personnel, including suppliers and subcontractors. Environmental issues will be included as an item on the agenda during internal progress meetings to ensure due consideration is given to environmental aspects of construction. Onsite communications, such as daily shift and activity briefings, will be used to advise the site workforce of environmental matters. This will include constraints (e.g., working hours) and information obtained from the community regarding aspects such as noise generation and access. Toolbox talks and posters will be used as a means to disseminate information to the workforce on a routine basis. The workforce, both FBJV and subcontractors, will be encouraged to put forward any environmental initiative or improvement measure that will have a beneficial impact on environmental performance.

6.6 External communication on environmental matters

FBJV will work closely with the appointed stakeholder engagement consultant. FBJV will assist the NG representative by supplying any relevant information to help any queries or any environmental complaints received. Appropriate action will be taken and recorded. FBJV will endeavour that complains/queries are acknowledged and responded to with the timeframe specified by the NG's process. Should pollution incidents occur due to construction activities, FBJV will report details to relevant authorities in accordance with the Emergency Plan.

In the event that passers-by/members of the public approach members of staff on site to make an enquiry, they will be handed a 'contact card' - provided details to contact the project for a response. A number of these contact cards will be retained by operatives frequently staffing locations on the perimeter of the working areas.

7 Operational Control

7.1 Construction Traffic Management

The details of the logistics plan will be included in the comprehensive Construction Traffic Management Plan (CTMP), which is submitted as part of Condition 6 of the Decision Notice 20231313.

Key logistic aspects of the Construction Traffic Management Plan (CTMP) which have the potential to influence the projects interaction with the environment include:

- i. Routing of construction and delivery vehicles to and from site;

- ii. Timing of deliveries;
- iii. Temporary traffic management/signage;
- iv. Timings of HGV movements to cause minimum disruption;
- v. Waiting areas to avoid conflicting HGV movements;
- vi. The impact on highway trees and shrubs of the abnormal loads; and
- vii. Permitted construction traffic arrival and departure times.

7.2 Security

Efficient security measures will prevent unauthorized access that could lead to vandalism, theft, or accidental damage. This is crucial to avoid severe environmental consequences (i.e. mishandled or released hazardous materials due to lack of security, can contaminate soil and water sources, affecting local wildlife and ecosystems).

- i. Maintaining secure storage areas will help in preventing pollution and mitigating risks associated with improper disposal of waste and chemicals.
- ii. Implementing security protocols, the Project will adhere to environmental standards and promote sustainable practices, preserving the natural habitat and ensuring safety for both the public and the environment.

FBJV will endeavour that construction compounds including offices are adequately secured to protect the public and prevent unauthorised entry to or exit from the site; and will aim that action is taken to securely store project plant and equipment so as not to attract opportunist thieves. Valuable materials, or those that are hazardous or attractive to thieves, will be stored in a secure area, out of sight of the public.

There will be 24-hour security of the construction compounds. Readily visible 24-hour contact number for queries or emergencies will be displayed at the access of the site.

Compound hoarding will consist of closed type minimum 2.4 metres height fixed panels with manned security and lockable heavy-duty gates on any access points (Figure 12 below).

Effective lighting will be strategically installed along the hoarding to enhance security and safety during the construction period with care to minimise potential for light spillage beyond the site, especially where there are known populations of sensitive species.

CCTV systems with data recording function will be installed covering the compound access points and will be monitored by the manned security team.

7.3 Working Hours

Standard construction working hours will be 0800-1900 daily, though certain activities including shaft construction and tunnelling are anticipated to be undertaken over 24 hours, with agreement made (as necessary) with the Local Planning Authority.

7.4 Storage of plant and materials

Every supplier of machinery, equipment, chemical products or hazardous materials will be carefully selected to ensure that the services they provide do not adversely affect the safety, health, or environmental standards of the project. The necessary documentation will be

requested for safe handling, storage and use of the equipment or machinery, chemicals, or hazardous materials.

Designated storage areas will be established away from watercourses and sensitive habitats to ensure environmental protection. Figure 1 shows the overview layout. Figures 2 to 4 illustrate the specific storage areas.

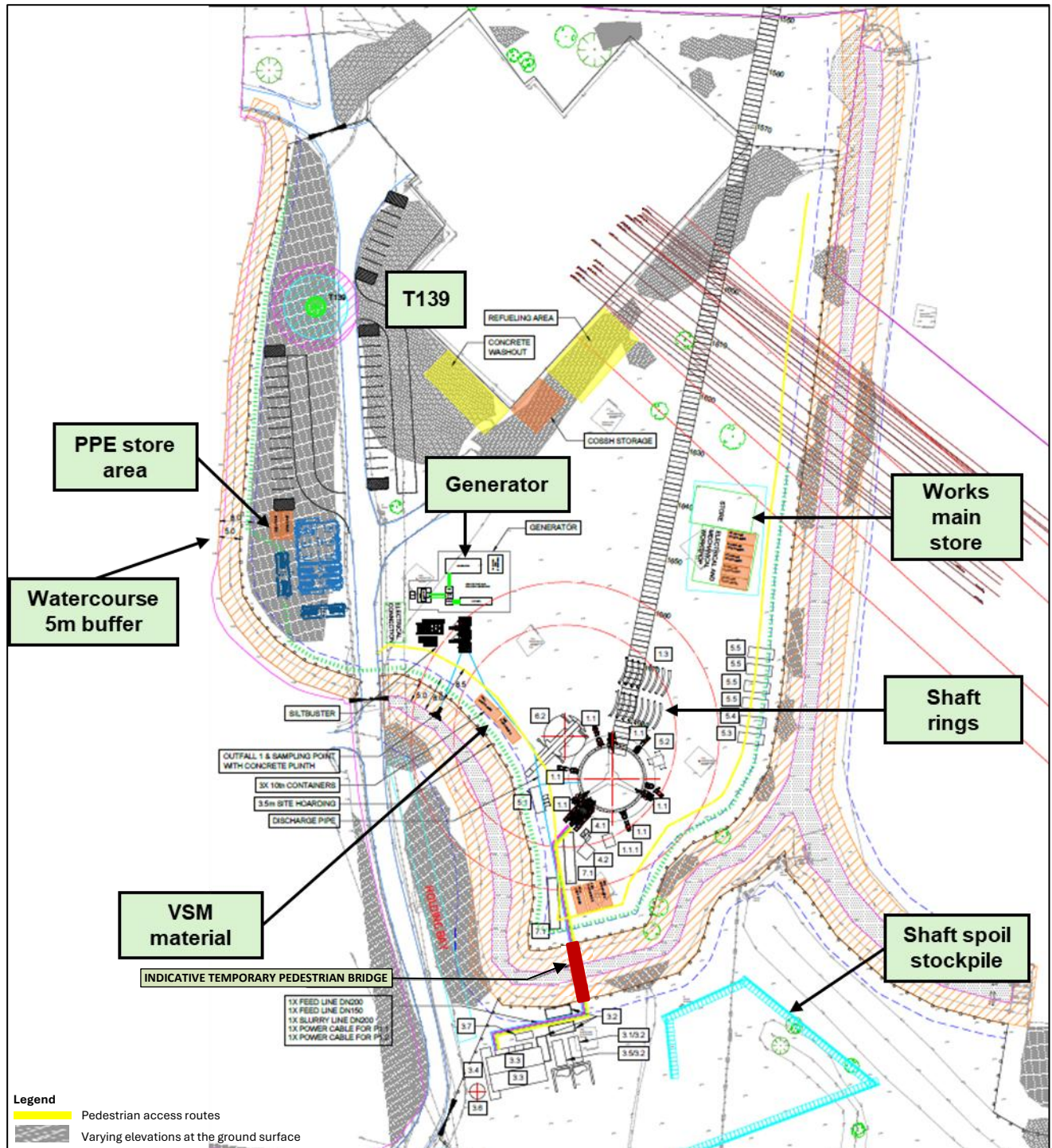


Figure 1 Indicative overview layout of storage areas within Gravesend operating boundary

PPE storage containers will be located next to welfare further than 5m from the nearest watercourse, as identified within Figure 2 below.

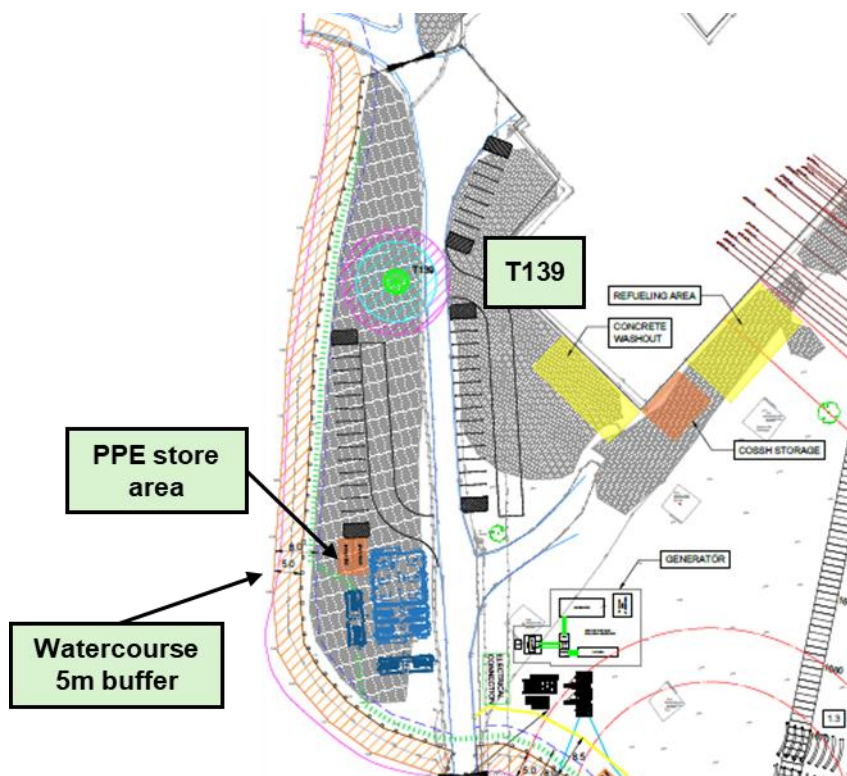


Figure 2 Indicative PPE storage containers location.

The main storage cabins will be located next to welfare further than 5m from the nearest watercourse, as identified within Figure 3 below.

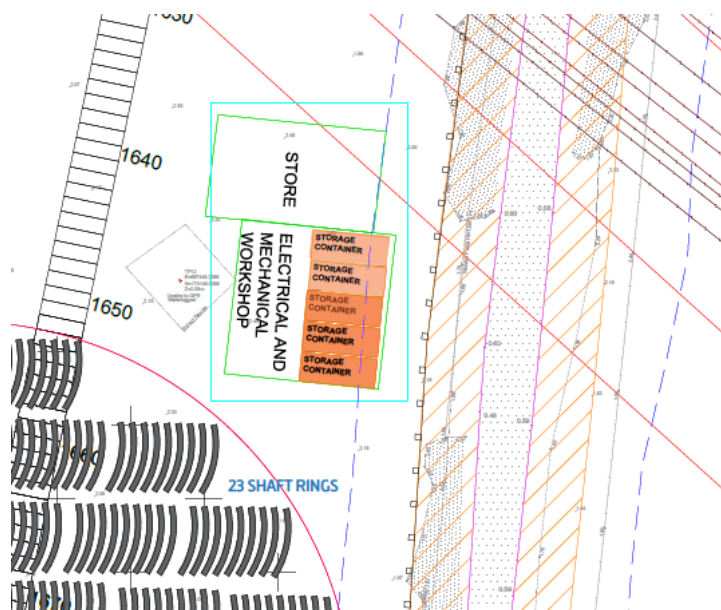


Figure 3 Works main storage cabins location.

Precast rings and Vertical Sinking Machine (VSM) materials will be stored around the shaft during the excavation period only, located more than 5m from nearest watercourse as indicated within Figure 4 below.

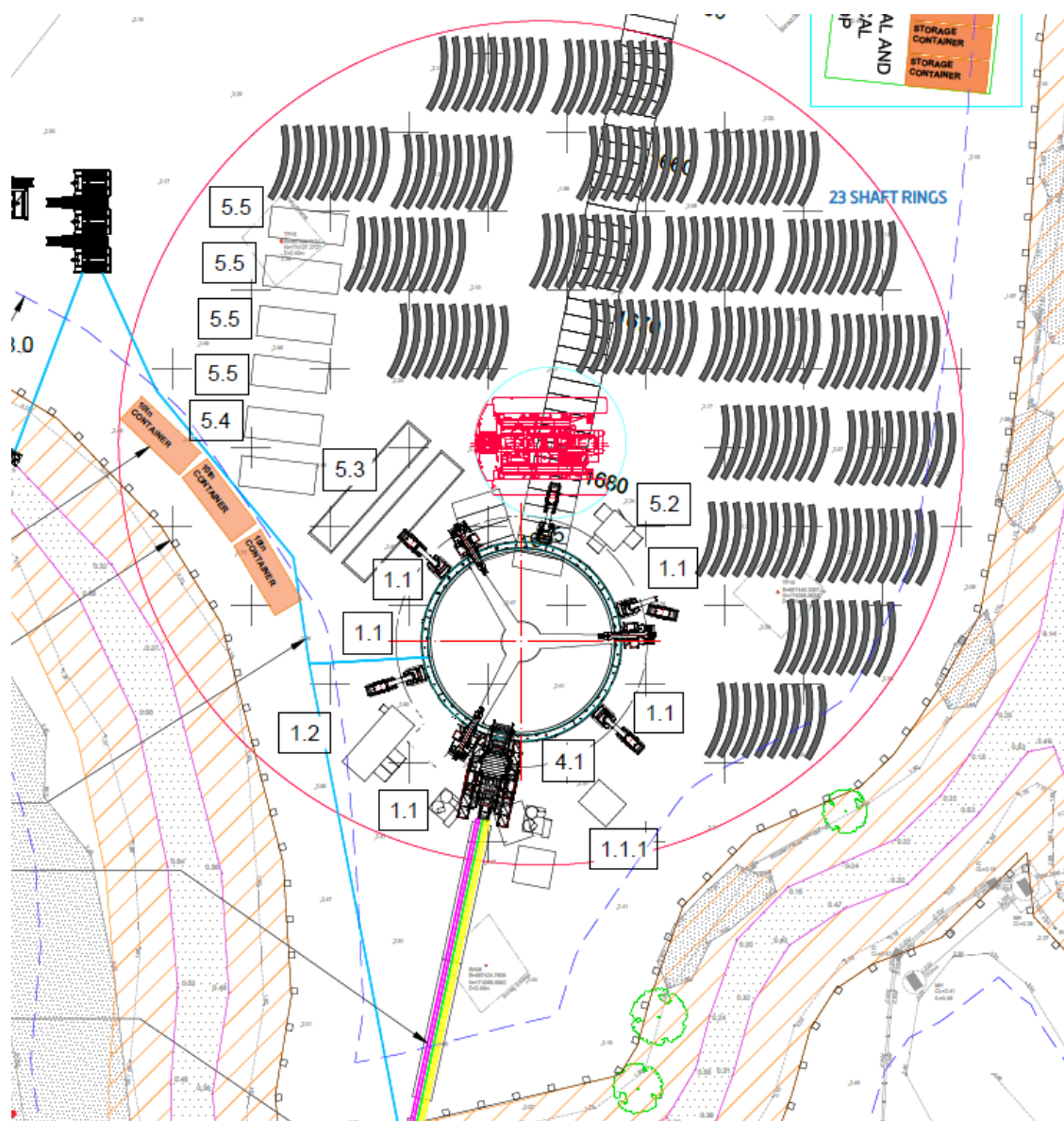


Figure 4 Segments and VSM materials area location

Materials will be stored in a manner that prevents contamination and ensures their suitability for use. This includes using appropriate containers, labelling hazardous materials clearly, and keeping incompatible substances separate. Additionally, waterproof covering will be employed to protect the materials. Further details are provided within Section 8.4.

Regular inspections will be conducted to ensure compliance with storage protocols. These inspections will include:

- i. Checking the integrity and condition of storage containers;
- ii. Ensuring proper labelling and documentation of materials;
- iii. Verifying that storage areas are kept clean, organised, and free from obstructions; and

- iv. Confirming that hazardous materials are stored following specific safety guidelines.

All plant equipment will be securely stored when not in use. This includes routine checks in line with manufacturers guidance to confirm that machinery is properly maintained and operational. Equipment that is idle will be protected from the elements to prevent rust and corrosion.

Security measures will also be enhanced around storage areas to deter theft and vandalism, ensuring that all stored materials and equipment are safeguarded.

7.5 Location and Height of Cranes and Scaffolding

Cranes will be strategically positioned considering the operational efficiency and accessibility required for the construction activities. Due to the location of the working area, at no times during construction will craneage or scaffolding be placed upon or over sail public highway or other public rights of way.

During the shaft and headhouse civil works a crawler crane will assist the construction works. This crane will be position north of the shaft as per Figure 5 below.

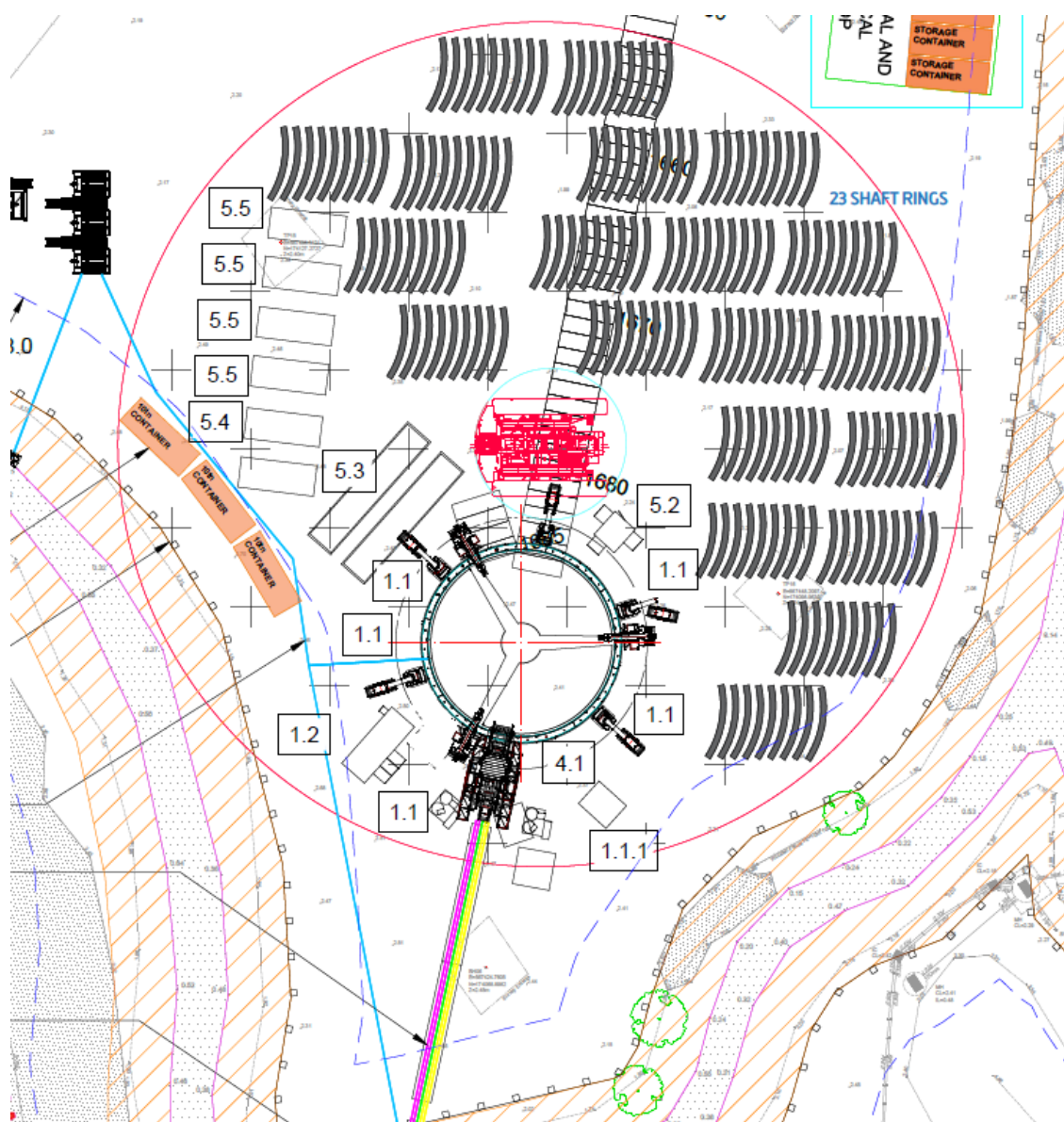


Figure 5 Crane Position

For the shaft VSM works and removal, a 300tn crawler crane or similar will be used as indicated within Figure 6 below:

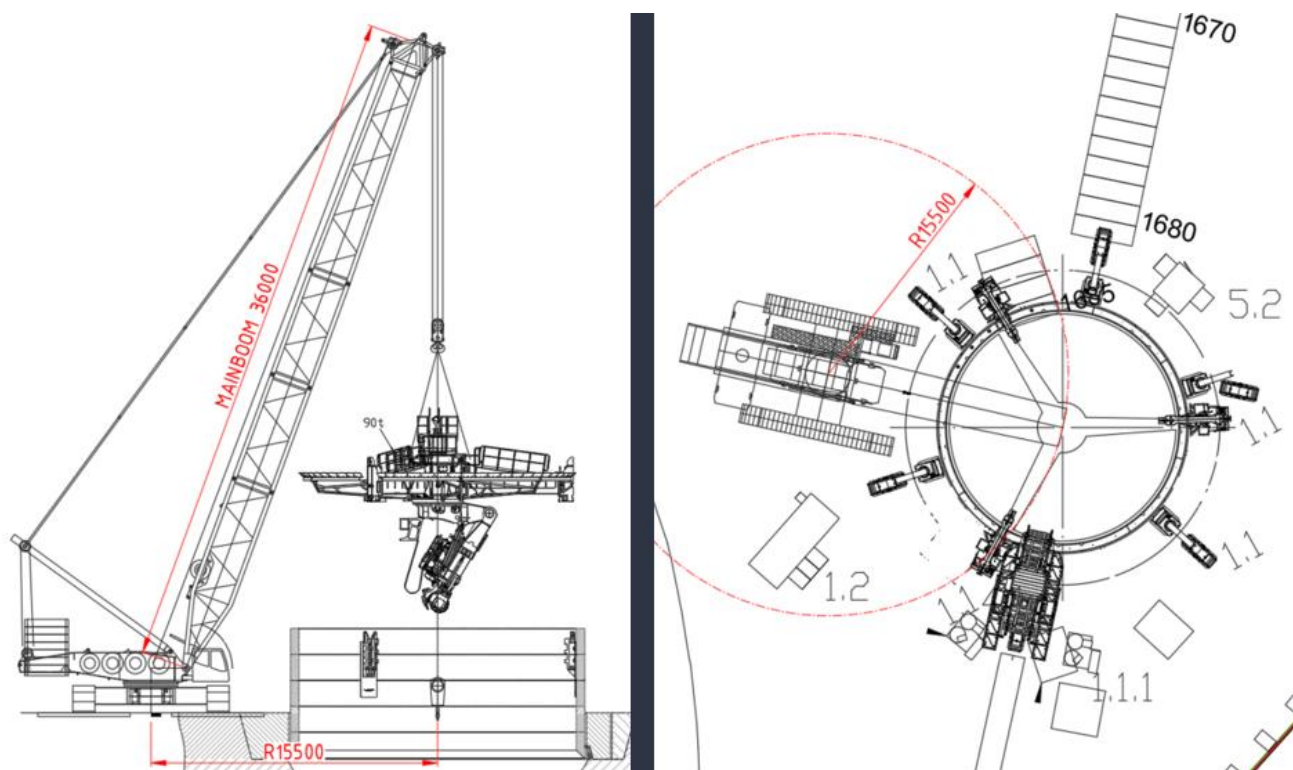


Figure 6 300tn crawler crane position

For the removal of the Tunnel Boring Machine (TBM) shield, a larger crane is required which will be similar to the LTM1800 crane shown in Figure 7 below:

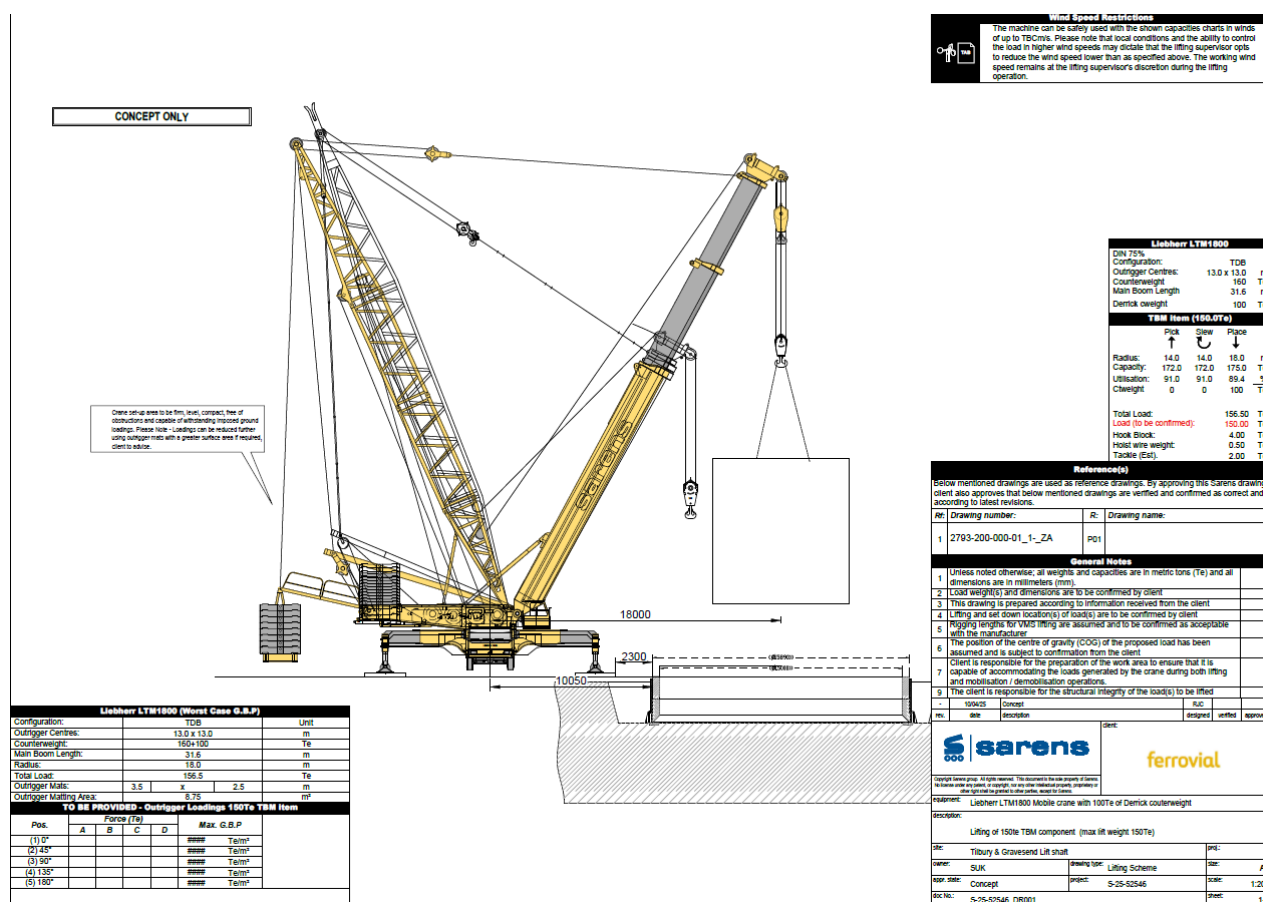


Figure 7 LTM1800 crane

During the Mechanical, Electrical and Plumbing (MEP) phase a substantive scaffold structure is required to be erected within the compound. This scaffold is required to complete the cable jointing to the high voltage terminals. Due to the height of the high voltage terminals, a 19m high scaffold is required to ensure the stable and proper working conditions are maintained during this operation. An indicative scaffolding design is provided within Figure 8 below.

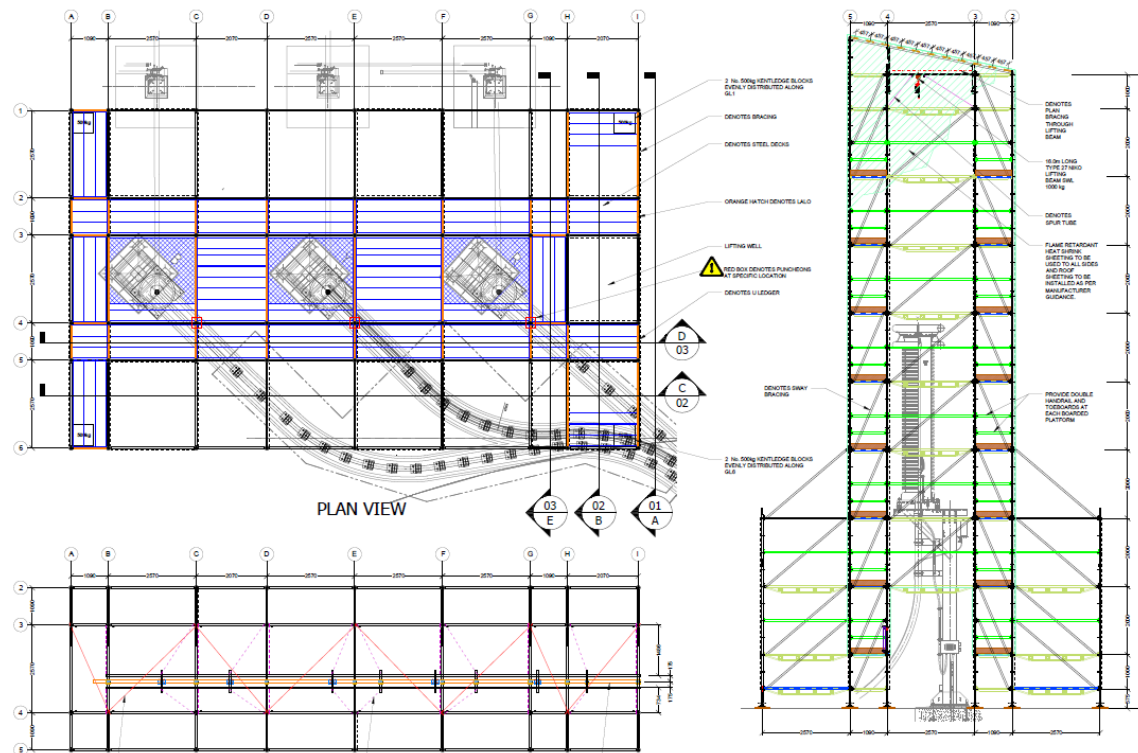


Figure 8 Indicative scaffolding detail

7.6 Lighting

FBJV will implement the necessary temporary lighting controls for security and safety reason. In particular, no light spill from permanent external artificial lighting into the watercourse or adjacent river corridor habitat. To achieve this, lighting levels within 8.5 metres of the top of bank of the watercourse are maintained at background level (0-2lux) – Condition 11 Gravesham Borough Council Decision Notice 20231313.

Lighting has been designed with reference to the Institute of Lighting Professionals Guidance Notes (in particular GN-8: Bats and Artificial Lighting which was produced in collaboration with the Bat Conservation Trust, and GN-1: Reduction of Obtrusive Light) in so far as it is reasonably practicable.

Lighting will be used only when required and will comprise lighting of work areas and access and egress with low level directional lighting. Motion sensor lighting will be used in areas of high security risk and access and egress.

Where practicable activities will be undertaken by use of natural light and will be supplemented with artificial light during periods where the days are shorter, with nighttime lighting of sites mostly limited to that required for security reasons.

Artificial light spill will be directed away from ecological receptors such as water voles, bird nesting areas, ditch area, or dark vegetated areas potentially used by wildlife. An adequate buffer zone extent (i.e. to provide good forage and shelter for water voles) will be identified. Existing vegetation will be retained as far as possible to provide a natural screen to site activities.

FBJV's ECoW will be consulted (as necessary) to prevent lighting having adverse impacts upon ecological receptors.

The receptors listed within Table 4 are likely to be present in the vicinity of some or all the areas FBJV will be working within and therefore shall be considered when designing and establishing temporary lighting.

Table 4: Sensitive Receptors

Receptor	Impact
Bats	Artificial lighting is known to have a detrimental effect on a wide range of mammals; however, it is believed to be most clearly seen in bats. Light falling on a bat roost exit point, regardless of species, will delay bats from emerging, shortening the amount of time available to them for foraging. As the main peak of nocturnal insect abundance occurs at and soon after dusk, a delay in emergence means this vital time for feeding is missed. At worst, the bats may feel compelled to abandon the roost. Lighting can be particularly harmful if it illuminates important foraging habitats such as river corridors, woodland edges and hedgerows used by bats. Artificial lighting also impacts upon bat's prey - lamps with a high ultraviolet (UV) content can "hoover" up to 75% of the insects from a habitat. This is called the vacuum effect. Around one third of these insects will die.
Invertebrates	Disruption to natural light patterns disrupts invertebrate feeding, breeding and movement. Invertebrates such as moths are attracted to the light which can cause disorientation and confusion consequently making them vulnerable to predators. The polarisation of light by reflective surfaces attracts insects, particularly egg laying females away from water. Reflected light has the potential to attract pollinators and impact on their populations, predators and pollination rates.
Reptiles	Disruption due to their reliance on natural light cues for foraging, thermoregulation, and predator avoidance. Artificial lighting may disrupt their circadian rhythms, disorient movement, and alter habitat use.
Aquatic species	Direct lighting onto watercourses can inhibit the movement of photophobic species. Ultra-violet lighting can have an adverse impact on phytoplankton populations.
Occupants of nearby Police training building	Potential for artificial lighting to cause nuisance to occupants of nearby police training centre – in particular users of temporary overnight accommodation at the centre. Could affect sleep and potentially impact upon health and wellbeing of those around the site.
Water voles	Excessive artificial lighting near watercourses can indirectly affect their behaviour by altering vegetation structure along riparian corridors.
Pedestrians	Potential for site hoarding(s) to cast a shadow on footpaths and create poorly lit, dark areas which could lead to security and/or safety issues.

The following measures will be applied by the design for any lighting provided at or above ground level:

- Lights installed will be of the minimum brightness and/or power rating capable of performing the desired function.
- Light fittings will be used that reduce the amount of light emitted above the horizontal (reduce upward lighting).
- Light fittings will be positioned correctly and directed downwards to minimise potential for light spillage beyond the site, especially where there are known populations of sensitive species (typically at an angle of approximately 70°, unless there is a particular safety requirement).

- iv. Passive Infra-Red (PIR) controlled lights (motion sensors) will be considered for use where appropriate as these may be more acceptable to neighbours than those which are controlled by a time switch or are on all the time. These will be given particular consideration in areas of high security risk and access and egress. Due to the proximity of access and egress gate to the watercourse, these sensors will be moved to the further from the watercourse to where the existing National Grid headhouse gate is located.
- v. Unnecessary lights will be switched off.

Glare will also be reduced by ensuring that lighting column heights are as low as practicable to reduce beam angles. Fitted with baffles and cowls where necessary to prevent light spill beyond site boundary.

Screening will be used on site, where practicable, to limit any unavoidable impacts arising from light spill, sky glow and visibility from nearby receptors. It will also be used as a last resort where directed lighting is not practicable.

Figures 9 and 10 below provide an indication of the specification of the lighting units proposed, whilst Figure 11 provides an indicative overview of the intended placement of these lighting units. As can be seen from these figures, two different types of lights are specified to be installed.

- i. The 110V LED Emergency lights will be installed along the hoarding and emergency boundaries (green dotted line within Figure 12 below), always pointing towards the working areas. Emergency lights will be carefully positioned to maintain background lux levels near the watercourse, adjusting the hoarding layout as necessary.
- ii. The LED floodlight will be installed on scaffold tubes at 5m height, positioned at strategic locations such as:
 - a. Around the compound hoarding;
 - b. Cabins roof;
 - c. Shaft perimeter (pointing inwards);
 - d. Muck bay walls;
 - e. Both sides of the crane.

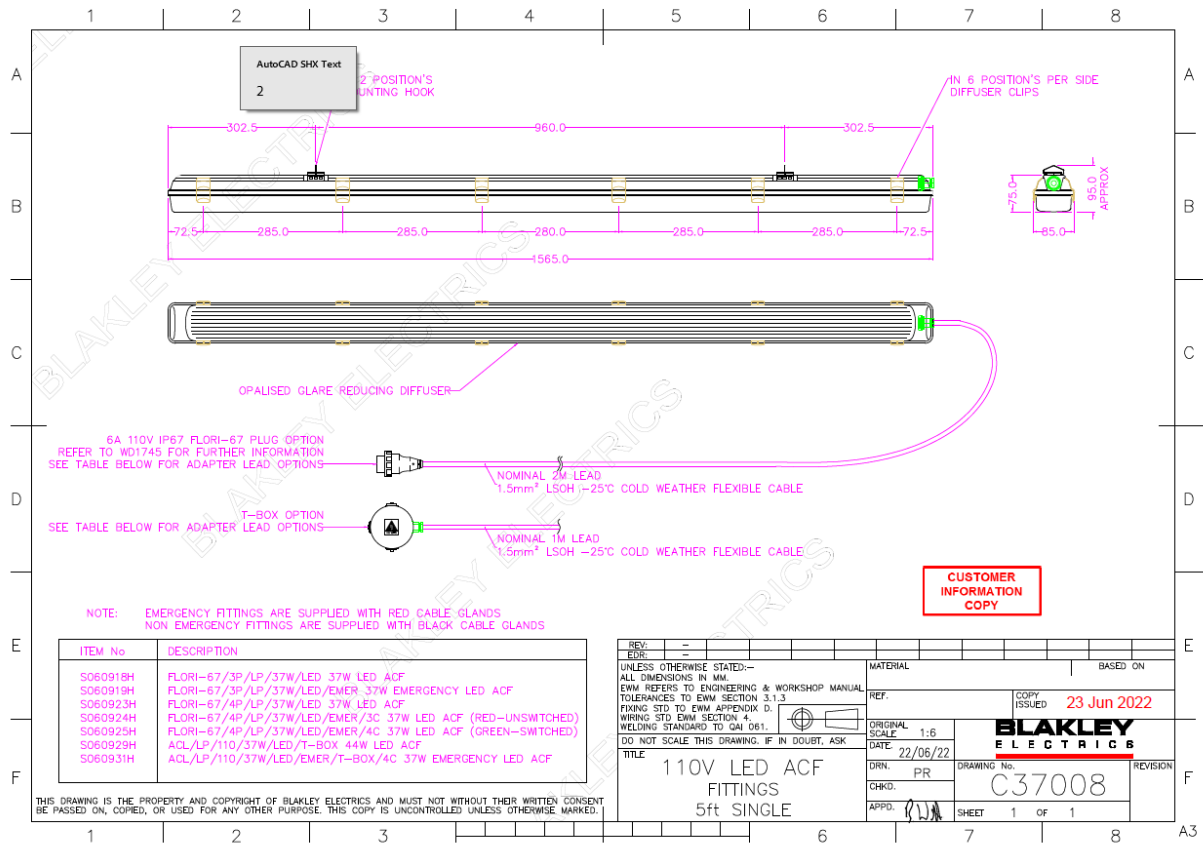


Figure 9 Emergency light.

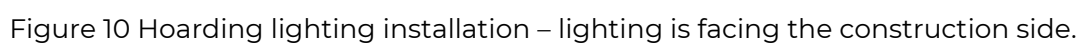




Figure 11 Indicative lighting points within site boundary – Note that the figure is an indicative scheme of the lighting array. The lighting will be installed on the internal face of the hoarding, directed away from the watercourse, and designed as per condition 11.

Method statements will include lighting arrangements and any mitigation measures that will be adopted to minimise light obtrusion.

Precautions will be taken to avoid shadows cast by the site hoarding on surrounding pedestrian footpaths, road.

7.7 Air Quality

Appropriate mitigation measures will be implemented to mitigate any air quality impacts due to the construction of the Project. These mitigation measures are designed to protect human health, avoid dust nuisance, and mitigate impacts to surrounding ecological habitats and species for instance by preventing the smothering of vegetation and limiting the deposition of dust that

may be re-animated beyond the site boundary or become mixed with run off (creation of silty water). Exhaust gases contain oxides of nitrogen which can also alter the nutrient status of surrounding habitats when deposited in sufficient quantities. Specific measure include:

- i. Minimising vegetation clearance in controlling air quality impact. Careful planning will be undertaken to ensure that existing vegetation is preserved where feasible. There will be no vegetation clearance within 5m of watercourses;
- ii. The use of water sprays, dust suppression equipment, or temporary cover to suppress dust on-site will be implemented to mitigate airborne particles;
- iii. 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;
- iv. Used covered skips, where practicable and beneficial;
- v. Minimise drop-heights from loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate;
- vi. Aim that the local road network will be maintained such that any debris build up from vehicles exiting the site is cleaned/removed regularly;
- vii. All vehicles switch off engines when stationary - no idling vehicles;
- viii. Speed limits will be in place to reduce the risk of creating airborne dust;
- ix. Avoid scabbling (roughening of concrete surfaces) where practicable;
- x. 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; and
- xi. An occupational hygienist will undertake occupational hygiene risk assessments which includes identifying any potential dust risks and providing measures to mitigate these along with a robust monitoring programme.

7.7.1 Smoke management

Specific measure include:

- i. Green energy will be used wherever practical and where we need to use fossil fuels, we will only use low-emission fuels for construction equipment and vehicles to reduce smoke production.
- ii. All equipment will be maintained in line with manufacturers guidance and best practice meaning all equipment will be regularly serviced and maintained to ensure it operates efficiently and maintained to reduce emissions of exhaust gases and particulate matter. This may include catalytic converters and scrubbers. Pre user checks will be undertaken on a daily basis;
- iii. All suppliers and delivery vehicles will meet high standards (i.e. FORS Silver for 12 tonne+ Heavy Goods Vehicles), in order to minimise the adverse environmental impacts of operations and exhaust gases emission;
- iv. No burning or waste materials on-site is permitted and will be upcycled where possible or disposed of correctly in line with current legislation via an approved licenced contractor, in

line with our waste management plan.

Designated Smoking Areas will be established away from sensitive zones and properly managed.

7.7.2 Odour control

Odour control will involve identifying potential sources, such as waste materials, chemicals, and machinery, and implementing measures to prevent or reduce emissions. Techniques such as catalytic converters, and scrubbers will be used. Specific strategies will involve covering waste materials, applying odour-neutralising agents, and maintaining equipment properly.

Containment methods such as enclosures and barriers will be used to isolate odour sources when necessary.

A ventilation system will be established within the tunnel and shaft to provide fresh air for workers and disperse any odours produced.

Procedures will be in place to address incidents promptly, including immediate actions and long-term solutions.

Odour control information will be included in inductions and other training methods, such as toolbox talks and posters, to emphasise its importance and outline specific measures to follow.

7.8 Noise and Vibration

The site is approximately 750 metres from the nearest residential properties in Denton and Chalk. The rest of the surrounding area is rural, featuring scattered farmsteads and isolated properties to the southeast.

Best practice guidance given in BS 5228: 2009 “Code of Practice for Noise and Vibration Control on Construction and Open Sites” will be adhered to during all works. As relevant the mitigating measures derived from BS5228 together with other measures as specified within this section will be implemented during the works via adoption within Risk Assessment Method Statements (RAMS) for each activity, as well as for the layout and planning of the working areas.

The effective management of potential construction noise and vibration impacts on sensitive receptors will be accomplished by the adoption of Best Practicable Means (BPM) as defined under Section 72 of the Control of Pollution Act 1974. BPM controls will develop as the construction methodologies develop. The FBJV Environment Team will work with the Construction Team and appointed subcontractors to include specific BPM controls within approved method statements with special consideration of the effects of pollution on sensitive ecology receptors. These will include, but not be limited to:

- i. Ensuring that all appropriate processes, procedures and measures are in place to minimise noise before works begin and throughout the construction programme;
- ii. Where reasonably practicable, noise and vibration will be controlled at source:
 - a) using silenced equipment, in particular silenced power generators and pumps;
 - b) using the most modern equipment available where possible and maintaining and operating equipment properly by trained staff;
- iii. The designed hoarding (Figure 12) will help with mitigating the noise dispersion and it will be 2.4m height as per below drawing:

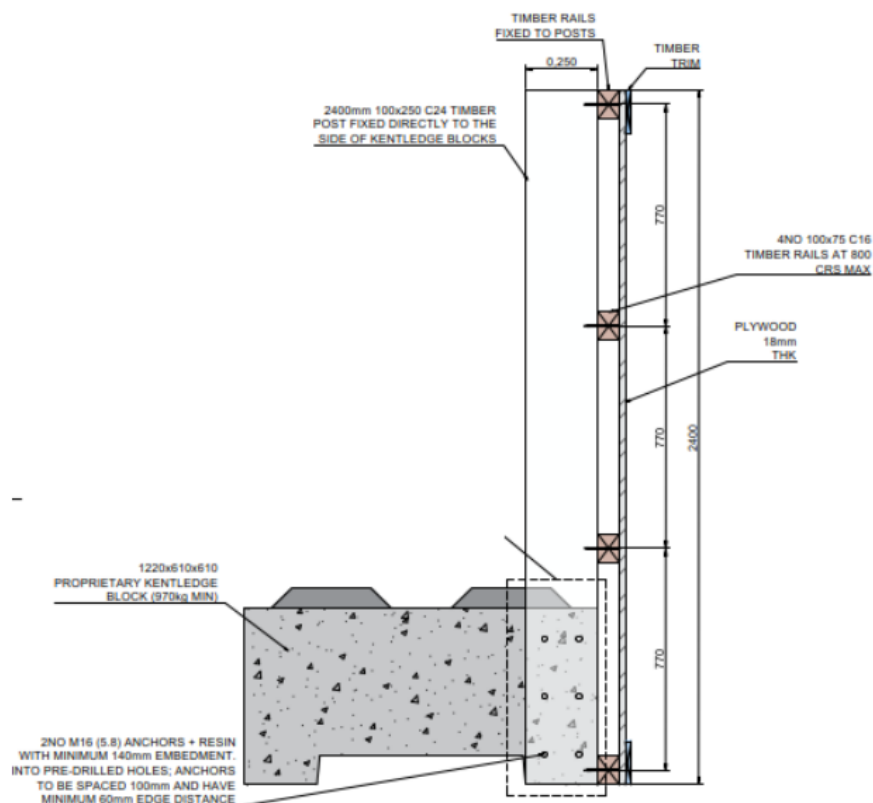


Figure 12: General layout – standard fence section.

- iv. Review of the construction programme and methodology to consider quieter methods, consideration of the location of equipment on-site and control of working hours;
- v. Providing contact details to nearby organisations using adjacent land areas for a site representative in the event that disturbance due to noise or vibration from the construction works occurs;
- vi. Keeping site access routes in good condition and well maintained with no potholes or other significant surface irregularities;
- vii. Unnecessary revving of engines will be avoided, and equipment/plant will be turned off when not in use;
- viii. Maintaining all vehicles and mobile plant such that loose body fittings or exhausts do not rattle or vibrate;
- ix. Locating static plant, including generators, as far away from noise sensitive receptors as is feasible for the particular activity;
- x. Speed limits of to reduce the effect of construction traffic noise;
- xi. Locating static noisy plant, including generators, as far away from noise sensitive receptors as is feasible for the particular activity;
- xii. Speed limits of to reduce the effect of construction traffic noise;

- xiii. Aiming that the most efficient plant and equipment, techniques and working practices available are selected and used; and
- xiv. No music or radios would be played on site.

A pre-construction survey to identify the background noise levels present at the site is under development. Using this data, a noise modelling assessment will be conducted to determine the control measures to implement based on site conditions and ecologically sensitive receptors, during the noisiest phase of the construction works (identified as the use of the Vertical Shaft Machine (VSM)) aligned with the construction time of year (Q1 – Q3 2026) that this activity is due to be undertaken. It is noted that due to the location of the site there are generally no other types of noise sensitive receptors (i.e. human) likely to be impacted by the works.

Any material breach of acceptable noise levels notified to the Environmental and Sustainability Manager will be addressed immediately to ensure no recurrence.

Figures 14 indicates location of the sources of continuous noise (i.e. slurry treatment plant (STP), as well as generators, which will be strategically positioned as far as practicable given the site constraints from noise-sensitive receptors). This placement ensures that the disturbance to these sensitive areas is minimised.

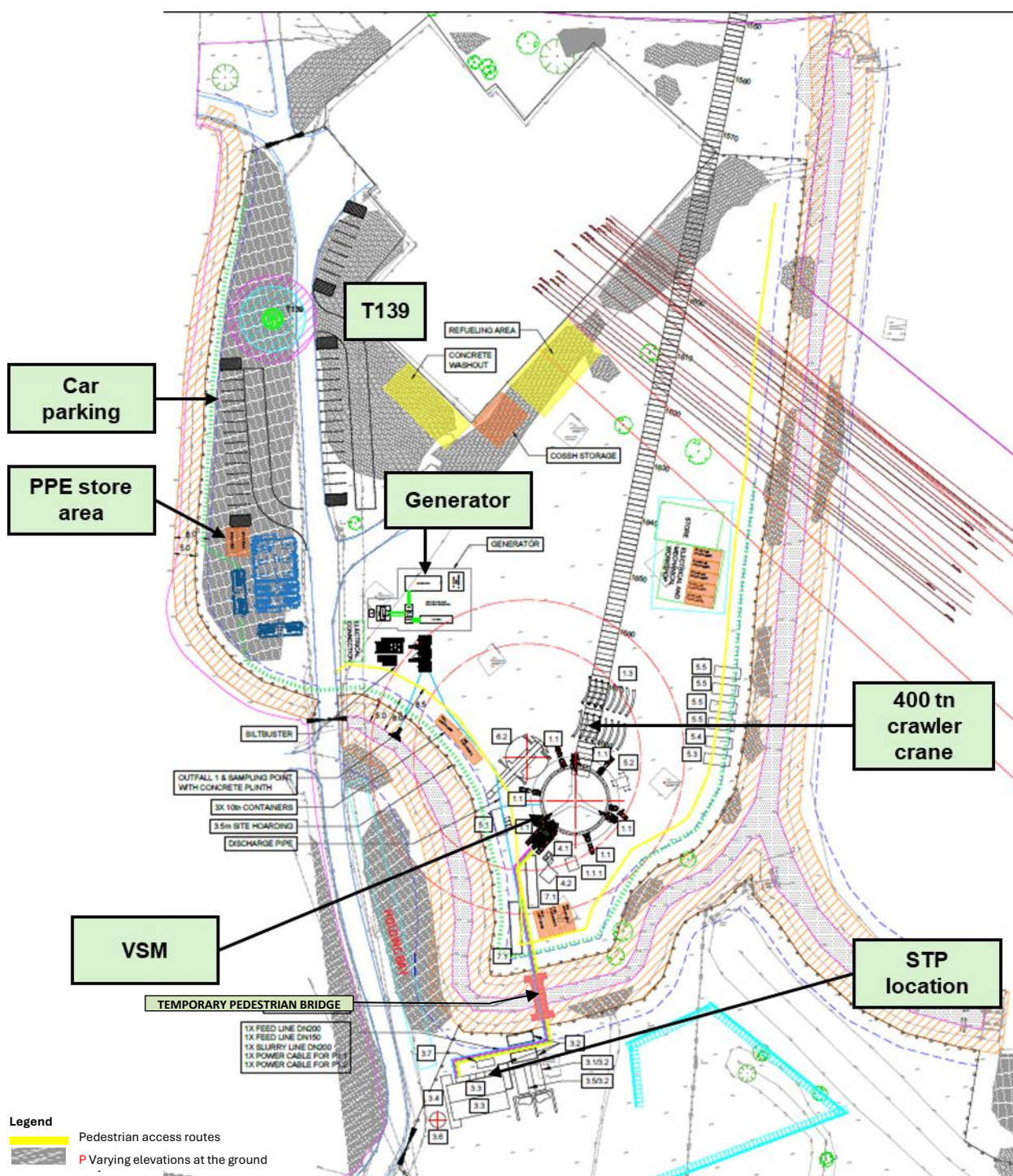


Figure 13: Overview VSM, STP and generator locations within the operating site boundary.

7.9 Site Waste Management

The volume of excavated material from construction of the Gravesend shaft will be approximately 20,000 tonnes. The composition of the shaft spoil will be a mix of chalk, Made Ground, Alluvium and River Terrace Deposits.

The selection of receiving facilities for disposal is currently underway. This selection process will be conducted with a firm commitment to achieving beneficial re-use and maximising ecological benefits. It will involve close collaboration with consultees such as Natural England (NE), as part

of the decision-making process. The objective is to establish environmentally oriented criteria for site selection, ensuring that disposal methods adhere to sustainability objectives and regulatory standards.

For the purpose of managing waste, the Gravesend site is classified as 'green field', and the site-won arisings are anticipated to be classified as non-hazardous, inert. All arisings will need to meet the requirements of the designated receptor site.

Following excavation spoil may be stored temporarily within the site boundary. Appropriate measures will be implemented to ensure stored materials do not pose a nuisance and to prevent ponding of water or errant discharge out of the site extents, as follows:

- i. Undertake visual inspections regularly to review potential dust generation, odour, and material loss during wind or rain events;
- ii. Stockpile sides and top to be battered back during/ following completion using tracked plant and bucket to prevent dust release;
- iii. To prevent ponding of water, avoid creating dips on top, and protect it from rain and runoff. Plastic sheeting to be considered as required;
- iv. Materials must be stored at least 16 metres away from surface watercourses or flood zones to reduce the risk of causing environmental harm to water;
- v. Stockpiles will be kept a suitable distance from any boundary fence to prevent damage to boundary fencing and to prevent unauthorised access the site by means of the stockpiles; and
- vi. Separate stockpile areas will be allocated for materials of differing status and to accommodate potential excess quantities for a given area.

7.9.1 Unexpected Contamination

FBJV will monitor excavation works to check for unexpected or unusual materials with a contaminative potential. This material may consist of but not be limited to soil or groundwater with an unusual colour or odour, or other evidence of contamination. If contamination is suspected, work will be paused, and the affected area made safe.

Site specific training in the form of Toolbox Talks will be carried out to highlight likely contamination risks. Monitoring of the site for unexpected contamination will be undertaken through continuous visual and olfactory assessment by site operatives and supervisors undertaking excavation works.

Should significant contamination be confirmed following/during assessment, then the appropriate regulatory authority will be contacted to agree a way forward with any remedial actions.

7.10 Ecology

A comprehensive Landscape and Ecological Management Plan (LEMP) has been developed as part of Condition 11 of Decision Notice 20231313. In addition to condition 11, there are further ecological/biodiversity related conditions within the decision notice, these being:

- Condition 10 - Construction Ecological Method Statement.
- Condition 12 – Ecological Design Strategy.

- Condition 16 – Offsite Biodiversity Measures.

The LEMP also contains information to discharge these further obligations.

The LEMP has been prepared based on information collected by the Environmental Statement (ES) and supported by additional surveys which informs the appropriate mitigation measures to be implemented.

The key relevant aspects of the LEMP are:

- i. Details of treatment of operational site boundaries and/or buffers around water bodies; an adequate buffer zone extent (i.e. to provide good forage and shelter for water voles) to be identified and demarked on a scaled map;
- ii. Details demonstrating how the buffer zone will be protected during development;
- iii. Details of how any permanent proposed footpaths, fencing, lighting, and other aspects of the development may interact with the wetland or ditch habitats. Artificial light spill should be directed away from ecological receptors, sensitive lighting;
- iv. No light spill from permanent external artificial lighting into the watercourse or adjacent river corridor habitat. To achieve this the specifications, location and direction of external artificial lights should be such that the lighting levels within 8.5 metres of the top of bank of the watercourse are maintained at background level (background levels are considered to be a Lux level of 0-2).

FBJV will adhere to all relevant pollution prevention measures detailed in the LEMP in order to reduce the impacts on adjacent habitats including water bodies and vegetated areas.

7.11 Ground Water and Surface Water

FBJV will implement the best practice working methods to protect surface water and groundwater from pollution.

A Groundwater Monitoring and Maintenance Plan has been developed and will be submitted to Gravesham Borough Council for approval (Condition 5 Decision Notice 20231313). The plan provides the details of measures for the monitoring of baseline, construction and post construction effects on groundwater and water features. Pre-construction baseline monitoring will be undertaken and construction phase monitoring will commence at the early stage of the works. The preconstruction monitoring will establish a baseline that informs the setting of alert and trigger levels, for both water quality and groundwater elevations, against which the construction phase monitoring will be compared.

A Water Management System will be produced to ensure compliance with relevant UK legislation(s), and industry best practices, prevention of environmental damage to water courses. Surface site drainage will meet the effluent standards required the Environment Agency (EA) as appropriate by use of settlement tanks, separators and other measures as required. All drainage shall be maintained to ensure efficient operation. Where possible temporary site drainage will be put in place to retain surface water within operating limits and any water entering excavations will be suitably cleaned prior to discharge as in accordance with an applicable consent from the EA. Copies of consent documents will be kept and maintained by the delivery team.

8 Pollution Prevention

Best practice guidance will be adhered to during all works to prevent pollution and manage contamination risks effectively.

Pollutants on site:

- i. Quantities of diesel, petrol and lubricants will be kept on site in the hazardous material store and all stored in appropriately bunded containers.
- ii. Potential contamination from COSHH on site.
- iii. Potential contamination from concrete washout. and
- iv. Potential water pollution derived construction activity.

Sensitive receptors include:

- i. Site staff;
- ii. Sensitive ecological receptors (i.e. reptiles, badgers, water voles); and
- iii. Ditch and watercourse.

8.1 Soil and Groundwater Contamination

FBJV will adopt measures such as regular monitoring, controlled storage, and careful handling of excavated materials to minimise contamination risks. Additionally, site surface water and wastewater will be managed to ensure compliance with relevant regulations, with effluent either treated on-site or transported to a licensed facility for disposal.

8.2 Site Surface Water and Wastewater

FBJV will implement best practices to control site effluent or wastewater and to ensure water is discharged as in accordance with an applicable consent or taken away for disposal by a registered waste carrier to a licensed receiving facility. The following measures will take place:

- i. All wash down of vehicles and equipment will take place in designated areas.
- ii. Where boot wash is installed adjacent to site compound, these will be self-contained, will recycle wash water as much as possible and will not directly discharge to the environment.
- iii. No effluent or site water will be allowed to discharge directly onto the ground or water course.
- iv. A specialist wastewater contractor will be employed to dispose of any hazardous liquid wastes found on site and disposed of in accordance with those regulations.

8.3 Concrete Washout

Where onsite concrete washout is required, this will be prohibited within a minimum of 10m of any body of water, including ditches and ponds. Where concreting is required within 10m of a watercourse this will be agreed with National Grid in advance of the works.

Areas which have been identified with important habitats or species will also be avoided.

Further control measures will be implemented and will be detailed within the RAMS of the corresponding activity.

Designated areas for concrete washout will be clearly demarcated. If skips are to be used for concrete washout, they will be contained within a specially bunded area to prevent any

accidental spillage reaching ground, and will be inspected on delivery to site, and frequently during the works to ensure they are undamaged. A concrete washout area is planned to be installed next to the existing headhouse from National Grid as shown on Figure 14:

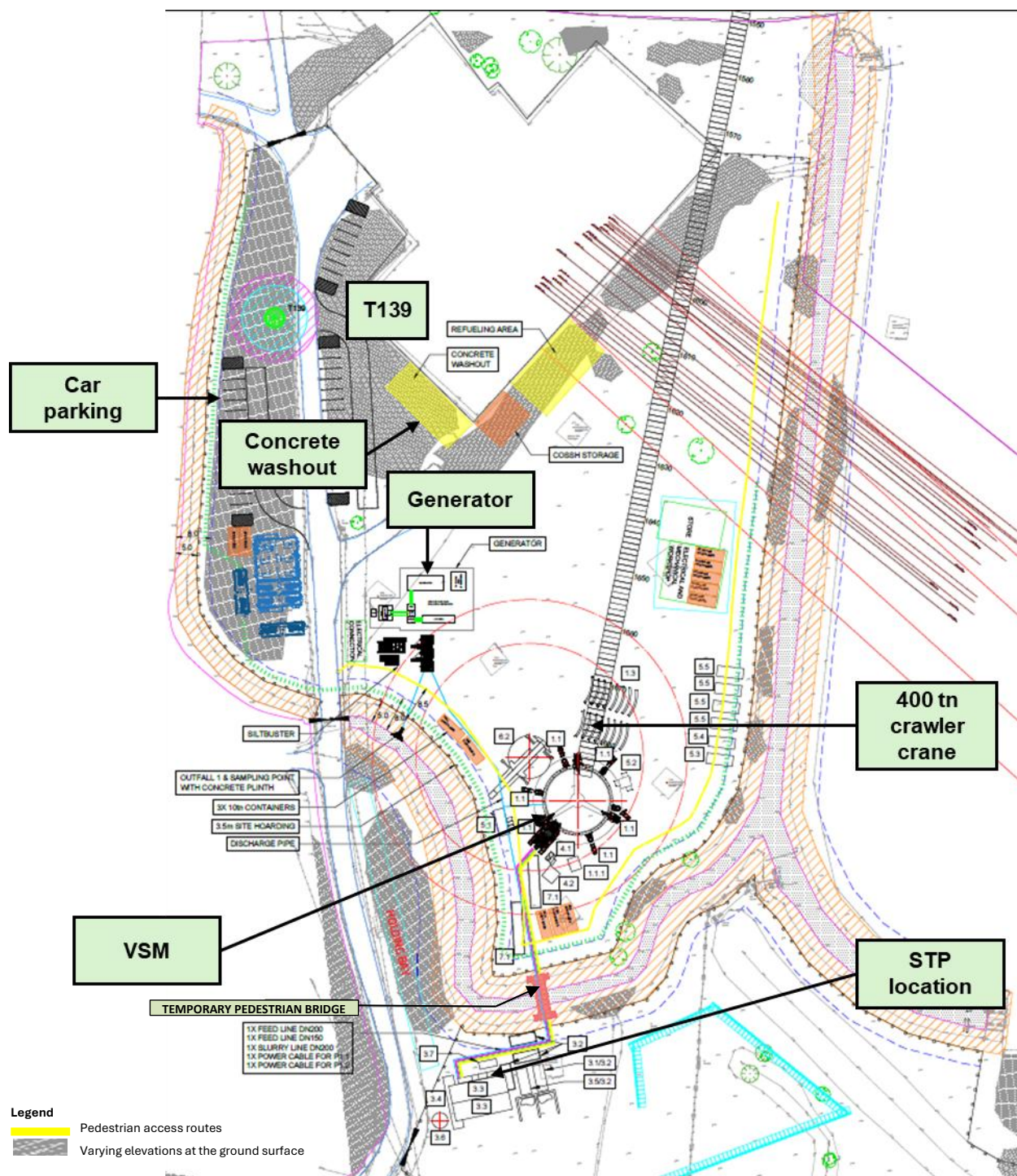


Figure 14 Concrete washout area within the operating site boundary.

The skips to be used for washout will be inspected on delivery to site, and frequently during the works to ensure they are undamaged.

8.4 Storage of Oil, Fuel and Chemicals

Oil, fuel and chemical storage location points will be identified in within a plan (posted on notice/ RAMS boards) and clearly advertised with signage.

All containers will be clearly marked as to their contents in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations.

Storage areas will be located away from watercourses and drains wherever possible due to site constraints (at least 10m from surface waters and 50m from any borehole or well). The planned COSHH storage area is next to the existing headhouse from National Grid as shown on Figure 15 below:

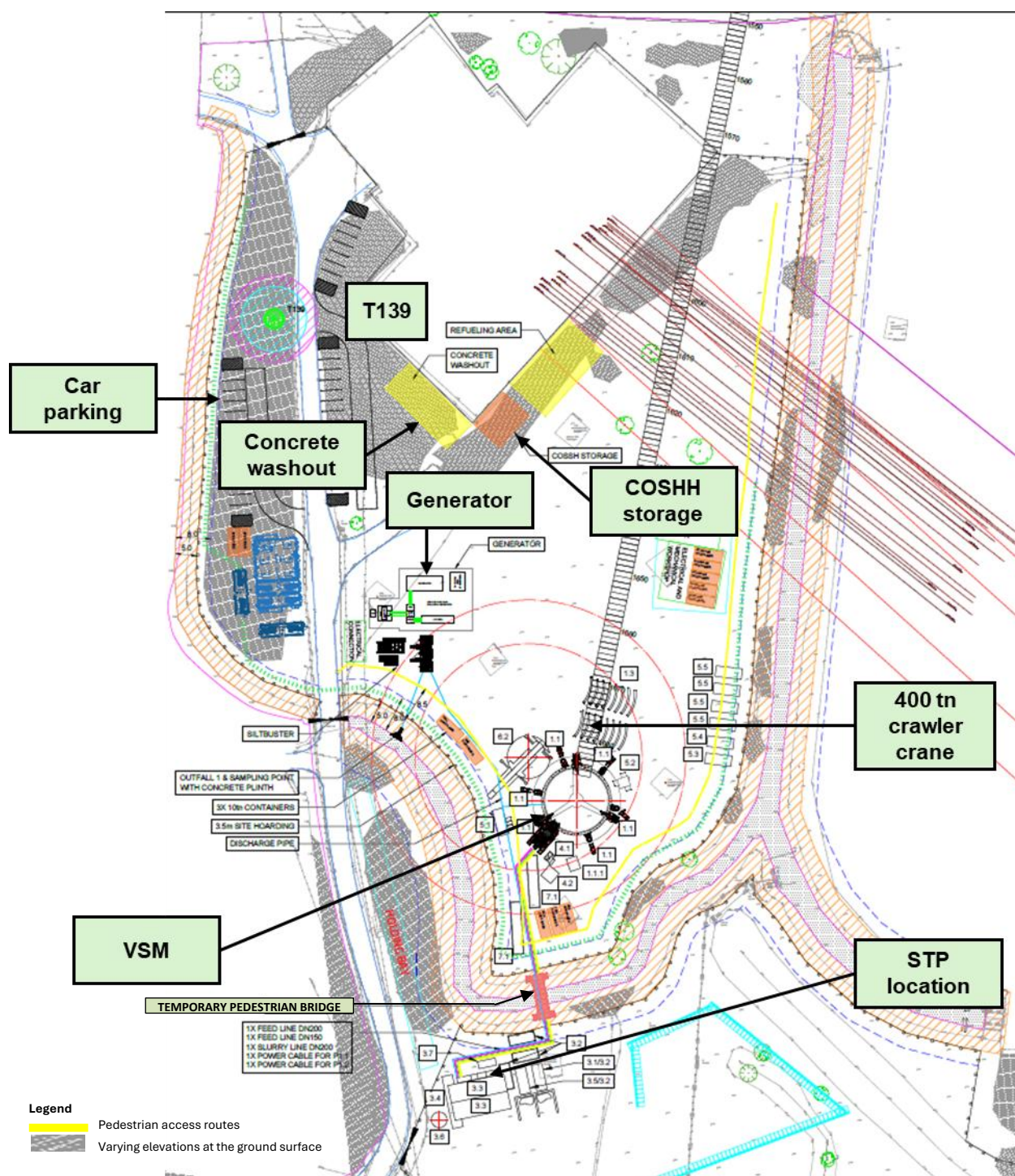


Figure 15 COSHH storage area within the operating site boundary.

Storage will also be away from ecologically sensitive sites.

Storage areas will be also located in areas free from vehicles movements to minimise the risk of collision damage.

In all cases, containers used for oil, fuel and chemical storage (including waste oils) will be:

- i. Compliant with the oil storage regulations (OFS T100/T200 standard).

- ii. Structurally sound and strong enough to prevent leakage.
- iii. Labelled with the contents and volume clearly displayed.
- iv. Stored in an upright position within a secondary containment area.
- v. Locked and secured when not in use.

Bunds for static tanks and mobile bowzers will be impermeable to oil and water and capable of holding 110% of the tank capacity. Oil drums with a capacity of greater than 25 L will be stored within secondary containment capable of containing at least 25% of the volume.

Ancillary equipment such as sigh gauges, valves, vent pipes, refuelling hoses and triggers will be:

- i. Contained within the bund and returned to the bund when not in use.
- ii. Fitted with automatic shut off valves in case of failure.
- iii. Locked when not in use.

In all cases where bunded fuel tanks feed into site generators, the whole set up will be contained within an impermeable bund which can hold 110% of the combined capacity of both the generator and fuel tank bunds.

Spill kits and drip trays will be provided for all equipment and at locations where any liquids are stored and dispensed. Spill kits will be located and maintained at all oil storage and refuelling locations.

To prevent the risk of spills, runoff, and wind-blown emissions the following measures will be put in place:

- i. Storage facilities will be provided for solid materials, including waste soils, to prevent deterioration of the materials and their escape (via surface run off or wind blow);
- ii. Storage facilities will be kept secure to prevent acts of vandalism that could result in leaks or spills; and
- iii. All containers of any size will be correctly labelled indicating their contents and any hazard warning signs.

8.5 Spill Response Procedure

Persons working on the contract will be made aware of the need to prevent spillage pollution caused by any substances.

A Spill Response training will be developed to ensure all workforce is trained in the event of a pollution incident. Spill Response Plan will be displayed at site notice boards and high-risk areas such as refuelling areas.

Spill kits will be available on the site. There will be regularly checked during the site inspections, especially after use. Spill kits will be replaced following use and spill kit materials used disposed of appropriately.

Spillages or leaks (including fuel, oils, chemicals and silty run-off) will be reported to JV Environmental team. Notifiable incident will be reported to the Project Manager for further action.

In the event of a spill or a leak, the flow of pollution must be stopped and contained immediately if it is safe to do using spill kits, sand or polythene to prevent pollution reaching drains and watercourse, or from soaking into the ground. All Method Statements will identify emergency procedures for each operation.

Spillages will not be washed into drainage systems or watercourses and detergents will not be used.

Surface water drains on local roads or stockpiling areas will be identified and where there is a risk that fine particulates or spillages could enter them, they will be protected (e.g., covers or sandbags).

Any containers of contaminating substances (e.g., fuel) onsite will be leak-proof and kept in a safe and secure building or compound from which they cannot leak, spill or be open to vandalism. The containers would be protected by temporary impermeable bunds (or drip trays for small containers) with a capacity of 110% of the maximum stored volume. Areas for transfer of contaminating substances (including refuelling areas) would be similarly protected.

Used absorbent materials and contaminated spoil must be swept up, or dug out, and contained in an appropriate container and arrangements made with an appropriately licensed waste contractor for disposal according to management procedures;

Reporting requirements will be as per the Incident Response Plan (IRP) and in agreement with National Grid.

Any plant, machinery or vehicle will be regularly inspected and maintained as per maintenance plan to ensure they are in good working order and clean for use in a sensitive environment.

8.6 Spill kits

Spill kit stations will be located in vulnerable areas, and as a minimum they will be located at refuelling areas, chemical/oil storage areas, mobile plant and in areas where work is in close proximity to water (Figure 16).

Spill kit location points will be identified on a drawing (posted on notice boards and compound). Spill kit locations and requirements will also be detailed in RAMS.

Spill kits must be contained in a suitable, labelled, weather-proof receptacle which can also be used to contain and transport contaminated soil and absorbent materials.

Spill kits will consist of a selection of items appropriate to the nature of the works;

- Absorbent booms (Floating)
- Absorbent granules
- Heavy-duty plastic bags
- Leak Sealing Putty
- Hazardous waste bags
- Absorbent pads, rolls, socks and sweeps
- Shovels

- Gloves
- Drain seals
- Hammer and stakes

8.7 Refuelling of Plant and Equipment

Refuelling areas will be at designated points on site. These will be located away from watercourses, including ditches, or surface water drains and on areas of hard-standing wherever possible. Refuelling area is planned to be located next to the existing National Grid headhouse, being one of the furthest points from the watercourses on site – as indicated below within Figure 16).

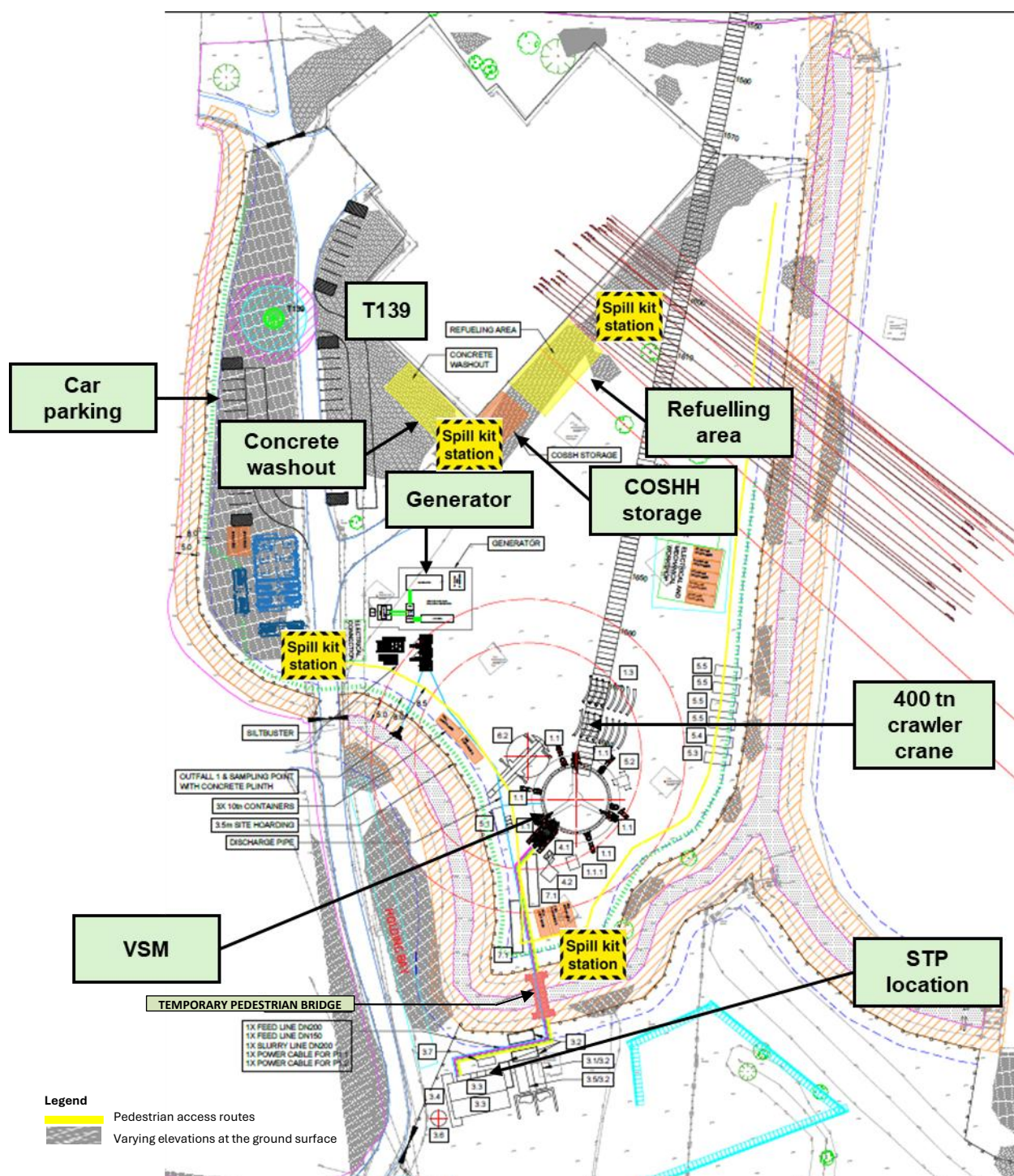


Figure 16 Refuelling area within the site boundary and indicative location of spill kits.

Refuelling will be only carried out by suitably trained designated personnel.

All refuelling, oiling and greasing activities will take place above drip trays or on impermeable surfaces (e.g. plant nappy) with sealed drainage or an oil interceptor, which provides protection to underground strata and watercourses, and away from drains as far as is reasonably practicable.

Vehicles and plant will not be left unattended during refuelling. Only construction equipment and vehicles free of oil/fuel leaks which could cause material contamination will be permitted on site.

Drip trays will be placed below static mechanical plant. It is the responsibility of the Storekeeper to ensure that spill kits, drip trays and plant nappies are continuously stocked and that sufficient supplies are maintained in stores.

Plant or equipment will not be stored/ placed/ parked directly over the site drainage system.

All fuel will be safely stored within double skinned fuel bowzers located at predetermined points on site for safe and easy access by plant but away from any drainage access points.

Other items such as hydraulic oils etc. will also be stored in appropriate storage containers, clearly labelled and stored in a secure container or bunded area by the COSHH Co-ordinator. As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in, on or over watercourses.

For fuel bowser refilling, the fill pipe must be situated within the secondary containment system of the bowser, or if not, a drip tray must be used during delivery to the tank.

All drip trays for static Plant refuelling and servicing will be of sufficient size to retain 10% of the total volume of liquids being 'handled'. Interceptor drip trays will only be used for oil-based products; they are ineffective for water soluble products.

For larger items of Plant or mobile Plant such as excavators etc, where the continuous use of drip trays is not practical, the Plant will undergo daily inspections by a competent person to check for defects, such as leaking hoses, interference by others etc. Records of inspections will be maintained and held on file by the Plant Manager.

Emergency arrangements will be defined for accidental oil spills including the provision of emergency products and equipment appropriate to the level of risk, size and type of site and volume of oils stored. The site manager contacts an emergency spill contractor to ensure they can provide adequate coverage for the site if required.

Emergency procedures will be documented, communicated to site personnel and drilled regularly to ensure preparedness.

9 Checking

9.1 Environmental Monitoring

Environmental monitoring will be undertaken to verify compliance of work activities with the various permits, licences, consents, objectives, and targets for the works at site level. Environmental inspections and audits will be undertaken to check compliance with site-specific requirements, including commitments. All operations and activities with the potential to have a significant impact on the environment will be monitored regularly. FBJV will monitor environmental performance throughout the contract, to ensure compliance with all legal and contractual requirements. Environmental monitoring results will be used to inform corrective action accordingly. FBJV will record monitoring results electronically and share them with relevant authorities whenever required. Environmental Record Forms will be used to record site visits and observations made on site by the Environment Team to keep a consistent record on site presence of the team.

9.2 Audits and Inspections

Prior to construction a pre-construction audit will be undertaken by the Environmental and Sustainability Manager to ensure that any specific requirements of this CEMP and relevant legislation, licenses and consents have been met. This audit will determine the adequacy of the system set up for management, mitigation and monitoring measures related to waste, pollution

and the environment.

All internal audits will be led by fully trained and qualified personnel and recorded in an online database. When non-conformances or improvement opportunities are raised, they will be actioned to a named individual for closure.

The audit frequency will be determined on a risk basis. Audits will distinguish between non-compliances (failure to adhere to an Act or its Regulations) and non-conformances (failure to comply with a requirement, standard or procedure). If a non-compliance is raised, the Environmental and Sustainability Manager will be responsible for undertaking an investigation to determine root causes and appropriate close out actions. The subsidiary environmental management plans will include procedures to address specific non-conformances. Site operations will be inspected and monitored by the environmental specialists or other members of the JV Environmental Team to ensure compliance with this CEMP.

Bi-weekly environmental inspections will be carried out and recorded on an online database and actions closed out with utmost promptness. Completed inspections will be stored as environmental records and circulated to individuals depending on actions identified. Environmental inspections will verify that environmental controls are implemented effectively.

The Environmental and Sustainability Manager will retain responsibility for ensuring that procedures are implemented and will review the effectiveness of procedures at the Environmental Management Review, where analysis of site inspections, audits, incidents and non-conformities will inform revisions to procedures.

9.3 Environmental Incidents

Environmental incidents will fall into three categories:

- i. Category 1 - Notifiable Environment Incident: major environmental incident is a breach of the planning permission consent or other legislation that will result in likely prosecution or a restriction of works. It will generally be non-routine and large scale.
 - o formal enforcement action;
 - o significant pollution event; and
 - o significant environmental damage i.e. injured or killed wildlife.
- ii. Category 2 - Significant Incident: an event that impacts the environment and requires remedial action beyond the site boundaries or is a significant 'non-compliance' with the EMS, environmental permits or other agreements.
 - o potential EMS non-compliance;
 - o potential consent non-compliance; and
 - o minor pollution event.
- iii. Category 3 – Minor incident / Near Miss: incident only has localised impacts that can readily be controlled by site operatives and site management.
 - o poor environmental practice on site with potential for incident; and
 - o third party environmental enquiry/complaint.

9.4 Community Relations

FBJV will establish and maintain good relationships with neighbours and National Grid stakeholders' engagement consultant, informing them of upcoming works, how FBJV will manage unplanned works (including emergencies), and providing an overview of the programme.

9.5 Consents Management

The FBJV Consents Manager will manage consents in accordance with the FBJV Consents Register. Works will be undertaken in accordance with the obligations of appropriate planning, environmental and traffic consents. The Consents Manager will oversee the process of obtaining consents and will ensure that consents requirements are incorporated in works planning, preparation of Risk Assessments and Method Statements, and site supervision.

9.6 Procurement of Materials and Equipment

Environmental and sustainability criteria will be considered in the procurement of equipment and materials for temporary works in accordance with our:

- i. Sustainability Policy; and
- ii. Responsible Procurement Plan.

Most equipment and materials will be procured by the FBJV supply chain. Subcontractors will identify requirements, which they will assess in accordance with the above documents, with support from our Environment and Procurement teams, as required. FBJV will prioritise non-hazardous, reused, refurbished, recycled, and recyclable equipment and materials, and those made from renewable sources with low(er) embodied energy, carbon footprint and water footprint.

Further details of the sustainability aspects of procurement are set out in the Responsible Procurement Plan. Designers will provide forecasts of materials for environmental and sustainability reporting data.

9.7 Subcontractor Assurance

Subcontractors providing products or services to FBJV will be required to pass through a Pre-Qualification Questionnaire (PQQ) stage with environmental components, produce Risk Assessments and Method Statements that adhere to CEMP and participate in Pre-Start Meetings to ensure all environmental considerations have been addressed prior to the commencement of site activities.

Subcontractors will appoint senior staff as principal points of contact and will be required to provide suitably qualified/experienced environmental personnel for all environmental management matters. FBJV will assure the commitments of the contract undertaken by the subcontractor through environmental site inspections and audits. FBJV will prepare an Inspection and Audit Schedule for subcontractors' activities. Subcontractors will be provided with details of the objectives, targets and KPIs to which their works will contribute. All FBJV obtained licences and consents received for the worksite relevant to the subcontractor will be briefed before any work starts. Subcontractors will be involved in the preparation of consent submissions to ensure that applications appropriately facilitate the scope of the work undertaken, and that subcontractors are committed to their obligations.

9.8 Records

The following records will be maintained to demonstrate conformance to the CEMP:

- i. Induction and training records;
- ii. Site inspection reports;
- iii. Incident Reports;
- iv. Supplier and contractor records;
- v. Audit reports on 3rd parties; and
- vi. Licenses / permits.

9.9 Document Control

A document management system will be used by FB JV to process and manage documents associated with the Project. The system processes documents throughout their life cycle from inception through creation, review, storage and distribution, archiving or destruction.

9.10 Environmental Management Review

9.10.1 The Environmental and Sustainability Manager will meet with senior team members, including the Project Director, Quality Manager, and Engineering Manager, at least annually for formal management reviews. They will review all aspects of the EMS, including the CEMP and subsidiary plans. These reviews will not preclude more frequent intermediate reviews, as required. FB JV will agree Improvement Plans for any underperforming areas and record any actions generated during the management review and manage those to closure. The Environmental and Sustainability Manager will issue all review attendees with a report including the following items before the meeting:

- i. Performance against KPIs and objectives;
- ii. Adequacy of environmental resourcing;
- iii. Training undertaken and planned;
- iv. Analysis of site inspections, audits, incidents and non-conformities;
- v. Recurring issues and time taken to complete actions;
- vi. Follow-up actions from previous management review; and
- vii. Recommendations for improvement.