

Appendix: Demolition and Construction

Annex 1: Outline Construction Environmental Management Plan

Appendix: Demolition and Construction

Annex 1: Outline Construction Environmental Management Plan

OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Northfleet Harbourside

SEPTEMBER 2022



CONTENTS		page
1.0	INTRODUCTION	3
2.0	THE FINAL CEMP	5
3.0	GENERAL FRAMEWORK AND ADMINISTRATION	8
4.0	PROJECT OUTLINE	10
5.0	CONSTRUCTION OVERVIEW	18
6.0	THE CONSTRUCTION SITE	25
7.0	SITE LOGISTICS	27
8.0	TRAFFIC MANAGEMENT	29
9.0	SITE WASTE MANAGEMENT	33
10.0	NOISE AND VIBRATION	35
11.0	AIR QUALITY	39
12.0	GROUND CONDITIONS	42
13.0	SURFACE WATER MANAGEMENT	44
14.0	ECOLOGY	46
REFERENCES		48

1.0

INTRODUCTION

This Outline Construction Environmental Management Plan (OCEMP) has been prepared by Blue Sky Building and is submitted in support of an Outline planning application with all matters reserved, except for the primary means of access, for a mixed-use redevelopment involving the demolition of existing buildings and structures including site preparation / remediation works, and the development of residential units (Use Class C3), Use Class E floorspace including floorspace for retail, food and beverage, office floorspace and flexible Class E floorspace, floorspace for a new multi-use stadium with associated business and leisure facilities, floorspace for a hotel (Use Class C1), floorspace for community uses (Use Class F2) and other sui generis uses, delivery of open space and the realignment of the A226 Galley Hill Road / Stonebridge Road with hard / soft landscaping, car and cycle parking, highways works, infrastructure works, ancillary and associated works.

The purpose of the CEMP is to outline how the Northfleet Harbourside project will avoid, minimise or mitigate effects on the environment and surrounding area.

It is anticipated that the Final CEMP will be considered a ‘living’ document. As such, the document will be subject to regular reviews and updates to reflect the actual activities associated with the construction works, particularly where they change throughout the works. This will be prepared by the appointed Contractors.

Framework of this Outline CEMP

This Outline CEMP aims to provide an overarching and strategic framework for the management of environmental effects and the implementation of measures prior to, and during, the construction phase of the Proposed Development. It is based on established good management principles. It includes the following information:

- Information pertaining to data management, roles and responsibilities, structure, mitigation and monitoring, auditing, and non-compliance and corrective actions;
- Information pertaining to staff training, health and safety, community liaison;
- Information relating to the Site and the Proposed Development;
- Outline of the construction works timing and duration;
- Environmental management measures, for the following elements:
 - Transport;

- Noise and Vibration;
- Air Quality;
- Waste;
- Ground Conditions;
- Ecology;
- Surface Water Management; and
- Schedule of Environmental Legislation.

2.0

THE FINAL CEMP

Principal Contractor Requirements

The Contractor will identify in the Final CEMP how compliance with the requirements of Gravesham Borough Council (GBC) Environmental Health officers will be achieved.

There is a large body of environmental and safety requirements relevant to construction projects, in the form of primary legislation (Acts of Parliament), secondary legislation (Statutory Instruments, including Regulations and Orders), statutory guidance and Codes of Practice. The Contractors will be responsible for identifying new legislation and regulation and complying with all prevailing legislation at the time of construction including any requirements under Health and Safety regulations.

In addition to the environmental requirements described, the Contractors will be responsible for obtaining licences from GBC before erecting any scaffolding, hoardings, gantries, temporary crossings or fences or depositing a skip on the highway.

A suitably qualified environmental professional will be appointed by the Principal Contractor to prepare the Final CEMP.

Document Control

The Final CEMP will be held and maintained electronically, with the latest revisions identified with a document reference.

Site Management – Roles and Responsibilities

An outline of the anticipated key roles and responsibilities are listed overleaf in Table 1.

Mitigation and Management Measures

The mitigation and management measures outlined in the following sections are to be included within the Principal Contractor’s CEMP unless measures which have a greater level of environmental protection are proposed.

Table 1 Summary of Anticipated Key Roles and Responsibilities relating to the Implementation of the CEMP

Role	Key Responsibilities
Northfleet Central 1 Limited. (Client)	Responsibility for appointment / allocation of the Principal Contractor, Project Manager and Environmental Manager,
TBA (Principal Contractor)	Responsibility for the enabling and construction activities and holds overall responsibility for the activities on site and implementation of the Final CEMP. Responsibilities include: - Ensuring that the works are carried out in accordance with the Final CEMP and contract documentation, including the implementation of mitigation and management measures, environmental monitoring, environmental auditing, and other matters covered in this Outline CEMP; - Ensuring the appointed contractors / subcontractors are appropriately qualified and competent; - Ensure environmental awareness training for all workers, including an induction for all site workers / contractors which includes environmental elements pertaining to the implementation of the Final CEMP; - Monitor the performance of contractors / sub-contractors and provide direction as necessary; - Liaise regularly with the Environmental Manager; - Complete a monthly audit of the Final CEMP and report findings, with follow up on identified actions as required; and - Undertaking corrective actions in the event of breaches of the CEMP or applicable environmental legislation. - Ensuring that resources are appropriately allocated to allow for the inclusion of the actions included in the Final CEMP for the duration of the project. - Responsible for the actions of management of contractors / sub-contractors associated with the construction works and ensuring that they appropriately comply with the requirements of the Final CEMP and applicable environmental legislation.
Environmental Manager	Co-ordinate monitoring and reporting of the Final CEMP implementation, through liaison with the Principal Contractor and other parties as appropriate, to ensure that the works are implemented in accord with the commitments in the Final CEMP. Responsibilities include: - Undertake environmental monitoring and reporting as specified in the Final CEMP; - Undertaking environmental audits in conjunction with the Principal Contractor as specified in the Final CEMP. Reporting of audit findings is to occur on a monthly basis. - Regularly review the Final CEMP to ensure it accurately reflects the construction works occurring on site, at a frequency of no less than six months (unless significant changes to the enabling and construction methodology occurs); - Ensure that all relevant environmental consents, licences, permits etc. are in place prior to the commencement of the relevant works. Ensure the requirements of these permits are included in the Final CEMP and are adhered to; - Act as the first point of contact for environmental issues associated with the Proposed Development; - Undertake environmental training (including toolbox talks) as required, to ensure that enabling and construction staff are aware of the environmental requirements; - Ensure that the objectives of the Final CEMP are being achieved and that are not contrary to any relevant legal requirements;

	Engage with the Principal Contractor on environmental issues identified during the construction works, and issue Corrective Notices where required. Follow-up on such notices is to be undertaken in conjunction with the Principal Contractor to ensure non-compliances have been appropriately rectified.
Environmental Consultant	Advise Client on environmental related matters as requested.
Contractor(s) / Sub-Contractor(s)	- Work to agreed plans, methods and procedures to minimise environmental impacts; - Commit to undertaking works associated with the Project in accordance with the Final CEMP; - Undertake the site induction training (which is to include an environmental management element); - Report all environmental incidents immediately to their line manager; and - Monitor the workplace for potential environmental risks and alert their line manager if any are observed.

Key Contacts

The following Table outlines the Key Contacts for Northfleet Harbourside Development.

Table 2 Key Project Contacts

Role	Name	Contact Details
Northfleet Central 1 Limited. (Client)	TBC	TBC
(Principal Contractor)	TBC	TBC
Structural Engineer	TBC	TBC
Environmental Consultant	TBC	TBC
Project Manager	TBC	TBC
Site Manager	TBC	TBC
Environmental Manager	TBC	TBC
Health and Safety Officer	TBC	TBC
Community Liaison Manager	TBC	TBC

3.0

GENERAL FRAMEWORK AND ADMINISTRATION

Public Liaison

The Contractor should provide GBC Environmental Health Department with a full programme of key activities for the development before it starts.

The specific measures to be implemented by the Contractor will include:

- The Contractor will liaise with GBC Environmental Health Department on a regular basis, agreeing routine arrangements for each site's activities and ensuring compliance with the Final CEMP.
- The Contractor will be responsible for establishing and maintaining contact with GBC and local residents; keeping them informed of construction matters likely to affect them.
- This liaison will include the regular and frequent distribution of Newsletters and attendance at meetings at the request of GBC with representatives of local businesses and residents' groups. (See under community relations below).
- The Contractor will provide an information and reporting telephone 'Hot Line' staffed throughout working hours. Information on this facility shall be prominently displayed on site hoardings. The Contractors' nominated persons will attend monthly reviews with GBC Environmental Health Department, or otherwise as requested.
- The Contractor will facilitate GBC Environmental Inspectors to undertake regular planned inspections of the site to check compliance and associated records.
- The Contractor will provide GBC with a full programme, providing detail on the nature and timing of the main site activates. The contents of this programme are specified in the following section.

Community Liaison

Contact with neighbours and the public throughout the construction programme will be pro-actively maintained, with regular update meetings on no less than a quarterly basis and the issuing of a brief news sheet on progress. Update sheets will be displayed on site hoardings.

The Contractors will nominate community relations personnel, who will be focussed on engaging with the local community. The Contractor will ensure that occupiers of nearby properties and residents are informed in advance of works taking place,

including the estimated duration. The Contractor will inform local businesses and residents likely to be affected by such activities at least 14 days prior to undertaking the works, as well as applying for the appropriate permits and licences, (e.g. hoardings and crossovers).

Neighbour and Public Relations Strategy

To successfully develop and implement a ‘Neighbour and Public Relations Strategy’, the following actions will be undertaken:

- Initial Contact: Once full planning permission has been obtained and contractors have been appointed, formal contact will be established with the nearest neighbours and those who could potentially be affected by the construction works; and
- Contact during Works Period: A single point of contact for neighbour and public relations will be established, with a senior member of the project staff nominated for the role. Contact details for this single point of contact will be displayed on the site hoarding. Outside normal working hours, site security will act as the main point of contact via a dedicated phone number. Security will alert the staff contact if necessary (available 24 hours). Should there be any complaints, these will be logged, fully investigated and reported to the relevant department within GBC as soon as possible. The complainant will be informed as to what action has been taken.

Emergency Incident Communication

In the case of work required in response to an emergency, GBC and all neighbours will be advised as soon as reasonably practicable that emergency work is taking place. Potentially affected occupiers will also be notified of the ‘hotline’ number, which will operate during working hours.

Construction Staff and Training

All site construction staff to be made aware of the requirements of the CEMP and will be made responsible for its implementation. Regular training is to be implemented where deemed appropriate, and in response to non-compliance incidents.

Health and Safety

The Principal Contractor will prepare and implement a project specific Construction Phase Plan, in accordance with The Construction (Design and Management) Regulations (CDM Regulations). This Plan is to be provided to, and agreed with, GBC (and other relevant parties as required).

4.0

PROJECT OUTLINE

The Site

The site is 19ha in size, centred on Ordnance Survey National Grid Reference: TQ 61457 75002, within the administrative boundary of GBC. While fully within the Gravesham Borough Council (GBC) boundary, the site immediately adjoins the Ebbsfleet Development Corporation administrative boundary to the east and west and the Dartford Borough Council administrative boundary to the west.

The site is currently occupied by Ebbsfleet Football Stadium, industrial land uses including active aggregates/concrete handling and processing sites operated by Aggregate Industries and Brett Aggregates, and smaller industrial units as well as a (Shell) petrol station. The A226 (Stonebridge Road) runs through the site. Open spaces on-site are largely covered by concrete surfacing and areas of hardstanding. There is little to no amenity landscaping on site.

Adjacent to the northern extent of the site is Seacon Terminals which provides handling and storage of construction project material and forest material (including timber, paper and wood pulp). Further to the north, but outside of the site, lies Swanscombe Peninsula, which is designated as a Site of Special Scientific Interest (SSSI). This site has been designated in recognition of its national importance for plants, geology, birds and invertebrates .

The River Thames borders the site to the north-east and along the eastern boundary of the site lies Robins Creek.

Northfleet Train Station and Ebbsfleet International Train station, along with railway infrastructure, are located to the south-east of the site. These stations provide Southeastern train services to London and the surrounding area, with Ebbsfleet International providing Eurostar services to Paris and Brussels in 2023.

Adjacent to the western of land boundary along Taunton Road, Robinson Way and Black Eagle Drive lies residential dwellings. Beyond these residential properties and the railway infrastructure, to the west of the site, lies green space and the village of Swanscombe.

Location Plan



Overview of the Proposed Development

Northfleet Central 1 Limited (the Applicant) is seeking outline planning permission for the proposed redevelopment of an area of land ('the site'), currently comprising predominantly industrial uses (including aggregate works) and Ebbsfleet United Football Club, bounded by the River Thames to the north-east; industrial land to the west, south and north (including the Seacon Terminals); Botany Marshes to the north-west; and residential land to the south-east and west.

Full details are submitted with regards to primary means of access into and out of the site via the A226 (to the south), B2175, Grove Road, Galley Hill Road (A226), Northfleet Industrial Estate, Lower Road and Seacon Terminals (as illustrated in the Highway Access Parameter Plan and shown in **ES Volume 1, Chapter 4: The Proposed Development**), with matters of amount, layout, scale, appearance, and landscaping of the Proposed Development reserved.

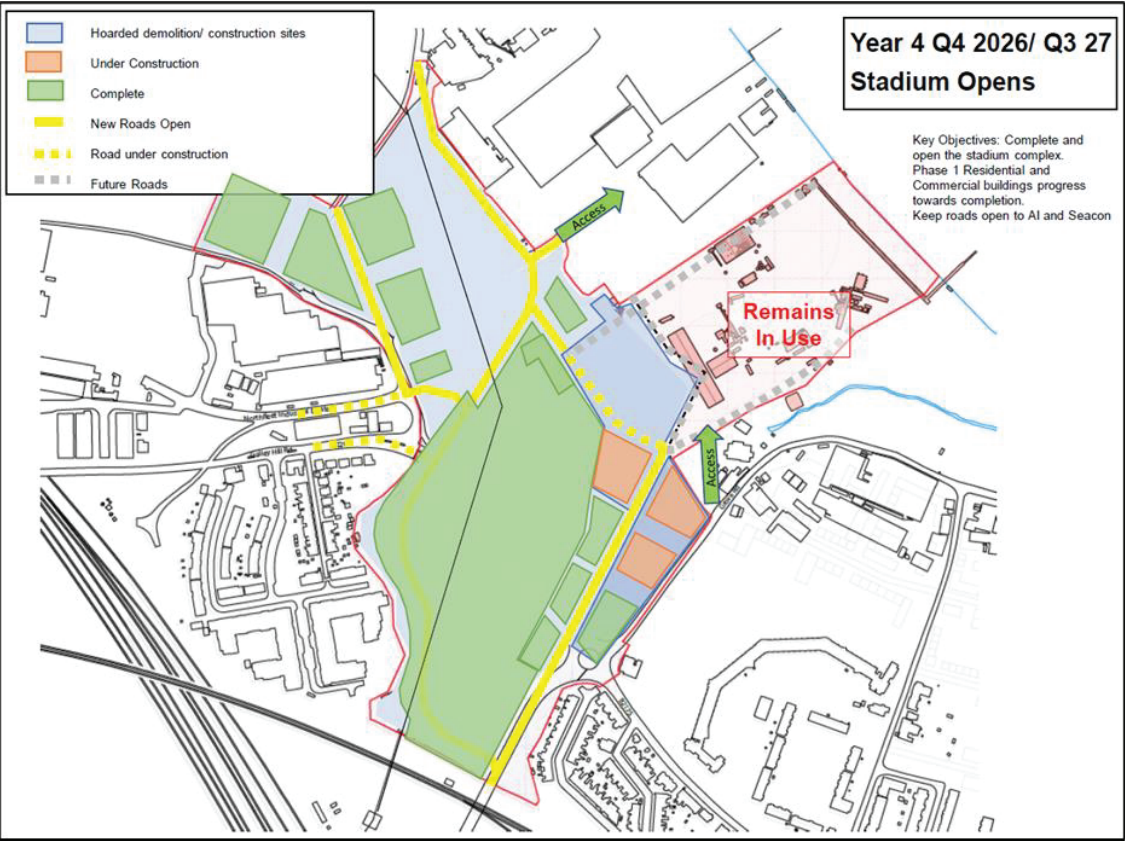
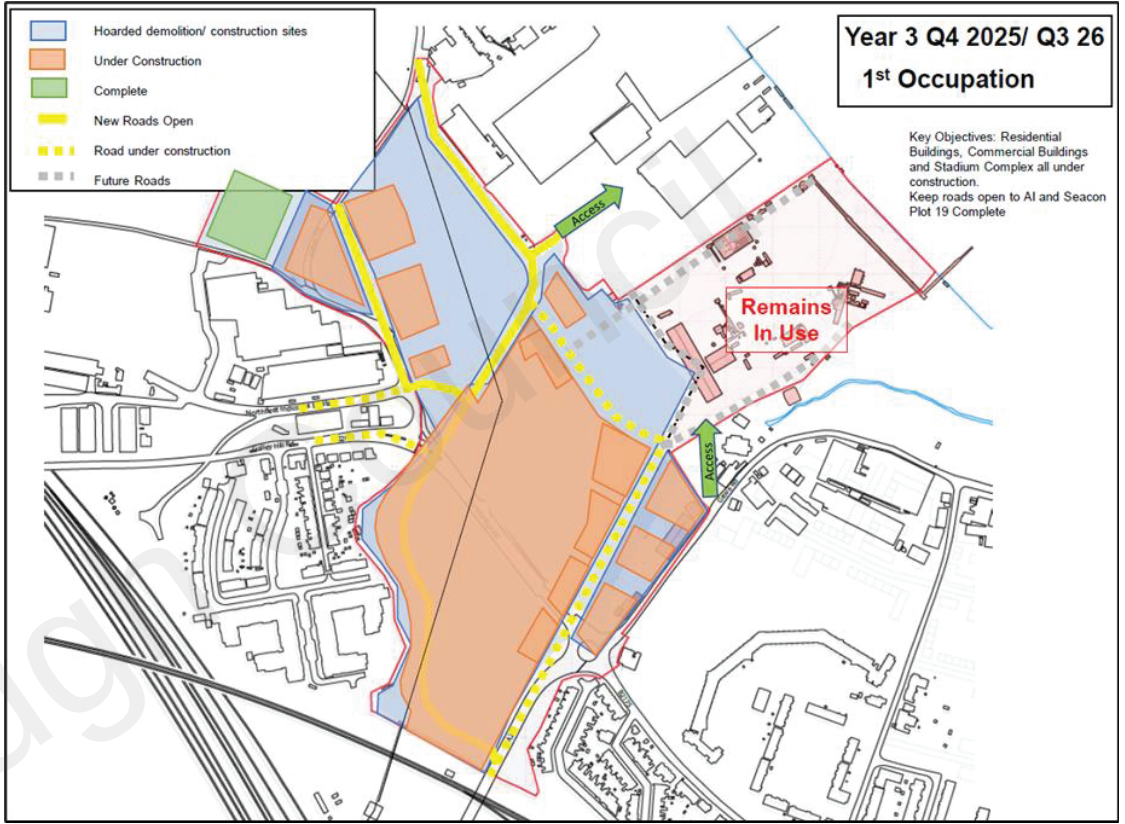
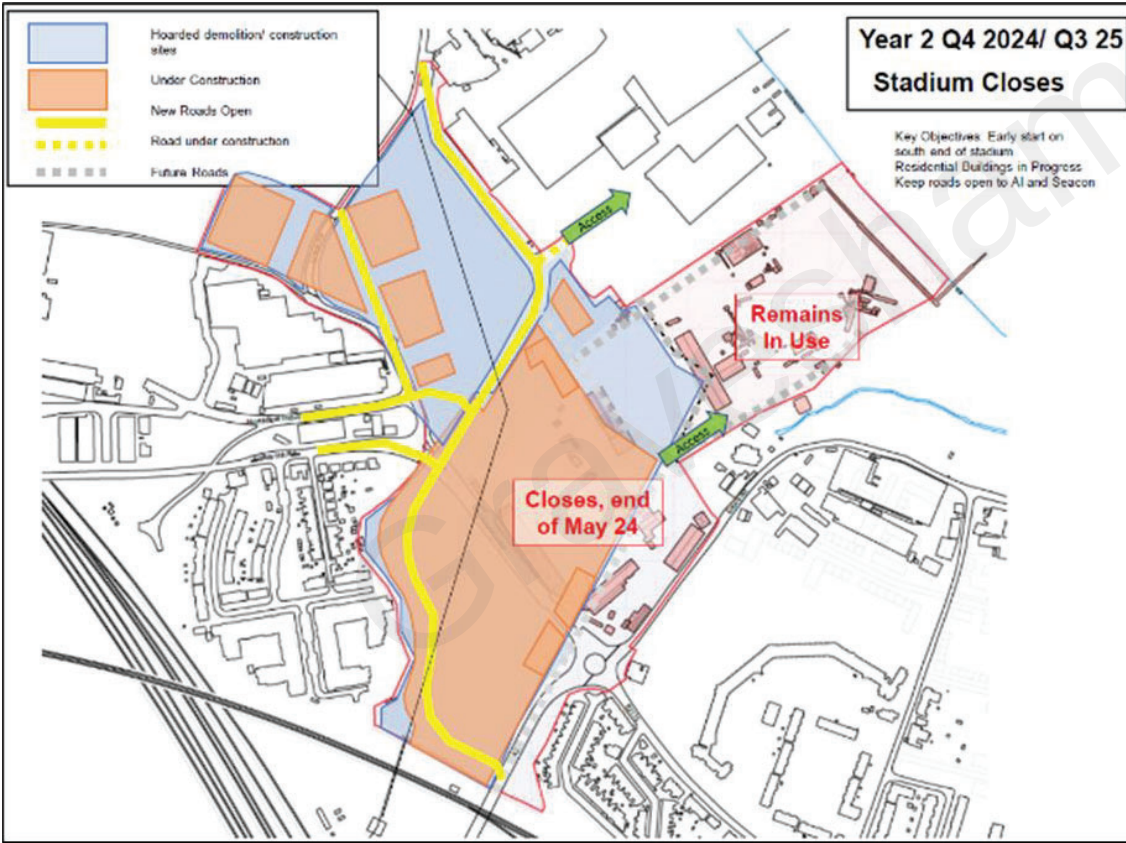
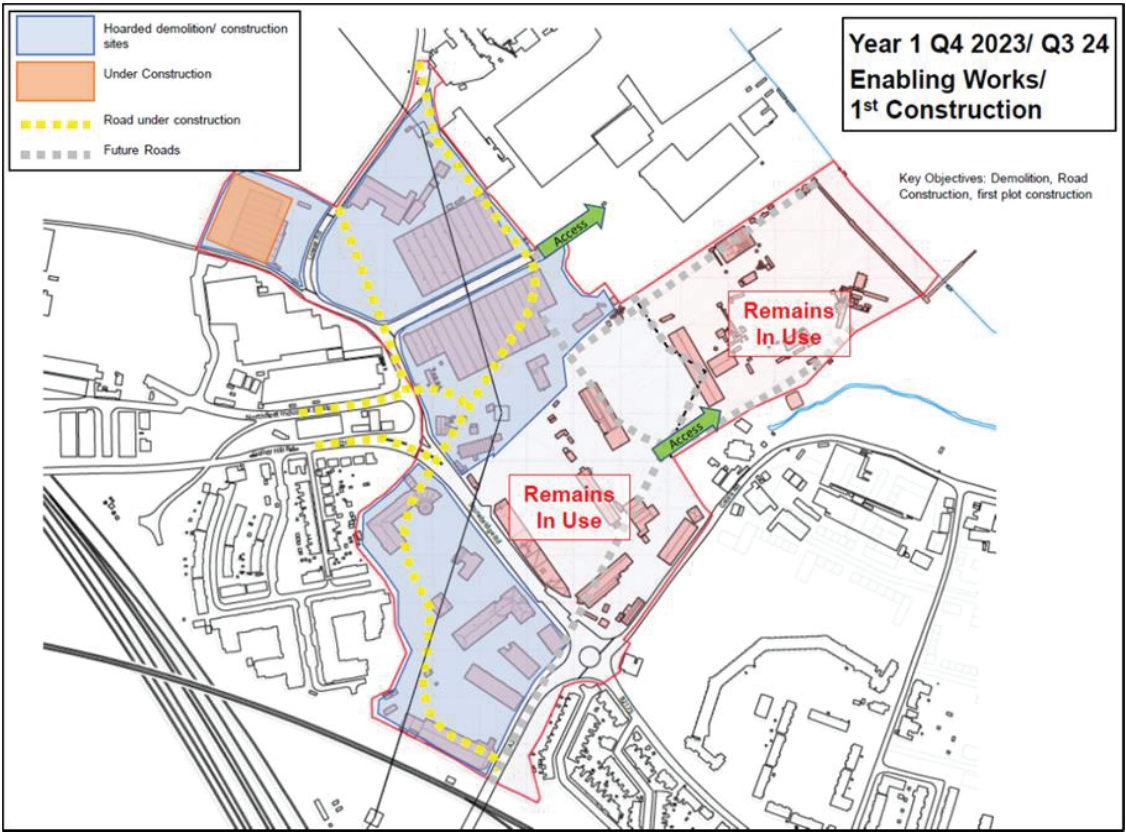
Proposed Plot Boundaries

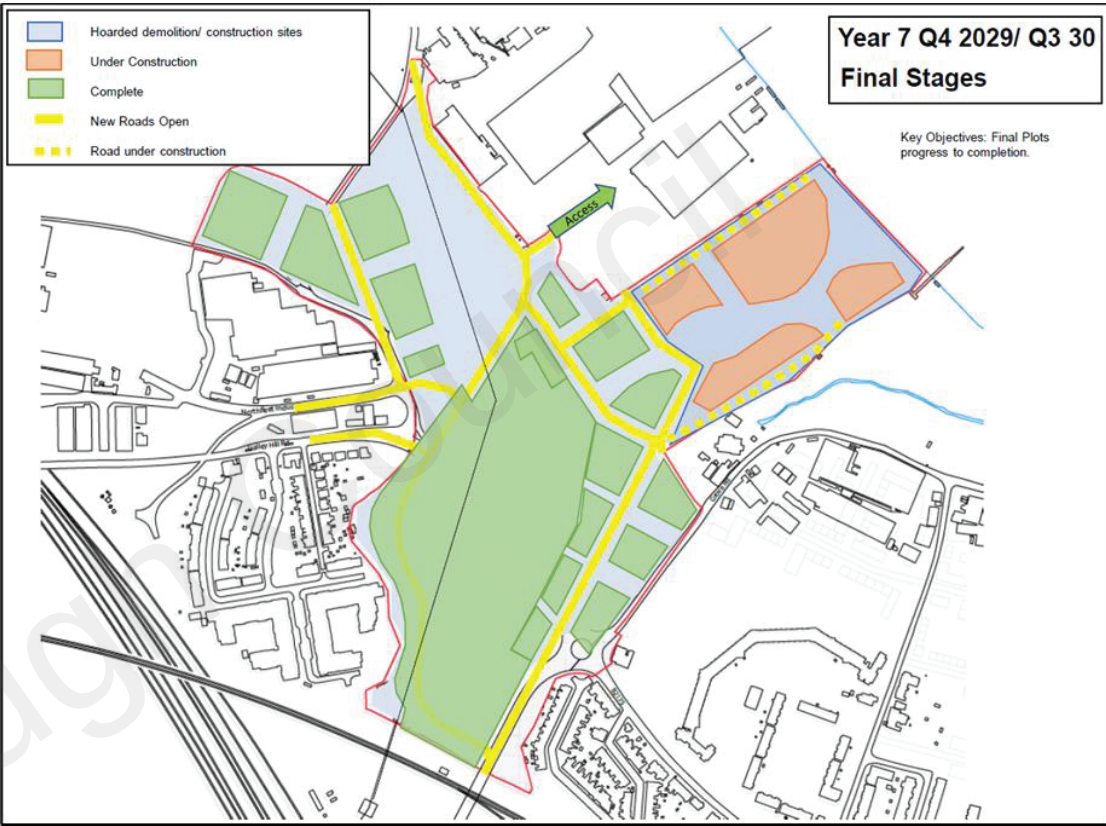
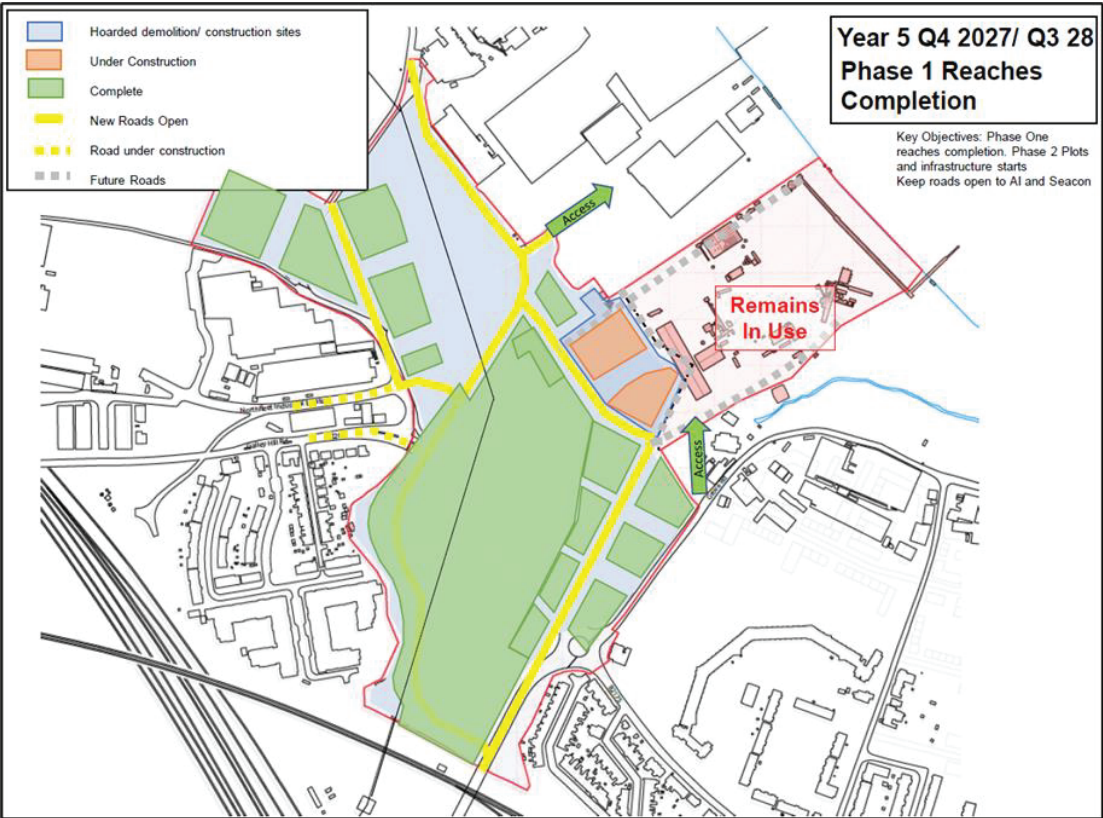


Construction Sequence

The Proposed Development will come forward in two main phases – 'Phase 1' comprises the delivery of Plots 1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 18, 19; and 'Phase 2' comprises the delivery of Plots 9, 10, 11, 12, 13, 14.

Public realm and highways works will be completed within each phase to suit the occupation sequence.





Project Programme

The current expectation is that the demolition and construction works would take approximately 96 months (8 years) over 9 calendar years. Phases may be constructed in an overlapping sequence. The Contractor is to provide the Environmental Health Department with a full programme. This will include:

- detailed method statement for works and activities affecting the highway
- detailed method statements for specific activities in line with the principles identified in this report
- details of site traffic movements showing the projected number of vehicles; what is being delivered, when peaks in activities occur, traffic marshalling arrangements.
- routes to site for deliveries.
- The Contractor will agree detailed schedules of work with the Inspectors acting on behalf of GBC prior to commencement of development to assess the potential for nuisance.

Indicative Construction Timetable:

Construction Task / Activity	Duration	Start Date (Quarter and Year)	Completion Date (Quarter and Year)
Phase 1: Site Establishment/ Demolition	15 months	Q4 Year 1	Q4 Year 2
Phase 1: Infrastructure - Highways	12 months	Q4 Year 1	Q4 Year 2
Phase 1: Plots 1&2	22 months	Q4 Year 2	Q3 Year 4
Phase 1: Plot 19	24 months	Q1 Year 2	Q4 Year 3
Phase 1: Plot 18	28 months	Q3 Year 2	Q4 Year 4
Phase 1: Plot 17	29 months	Q4 Year 2	Q2 Year 5
Phase 1: Plot16	29 months	Q1 Year 3	Q3 Year 5
Phase 1: Plot 15	28 months	Q2 Year 3	Q3 Year 5
Phase 1: Plot 3	20 months	Q3 Year 3	Q1 Year 5
Phase 1: Plot 4	26 months	Q3 Year 3	Q3 Year 5
Phase 1: Plot 5	27 months	Q4 Year 3	Q4 Year 5
Phase 1: Plot 6	18 months	Q1 Year 4	Q2 Year 5
Phase 1: Plot 7	20 months	Q1 Year 4	Q4 Year 5
Phase 1: Plot 8	20 months	Q2 Year 4	Q4 Year 5
Phase 2: Site Establishment/ Demolition	6 months	Q1 Year 6	Q2 Year 6
Phase 1: Infrastructure - Highways	6 months	Q1 Year 6	Q3 Year 6
Phase 2: Plot 14	27 months	Q2 Year 6	Q2 Year 8
Phase 2: Plot 9	26 months	Q3 Year 6	Q3 Year 8
Phase 2: Plot 13	24 months	Q4 Year 6	Q4 Year 8
Phase 2: Plot 10	25 months	Q1 Year 7	Q1 Year 9
Phase 2: Plot 12	34 months	Q4 Year 6	Q3 Year 9
Phase 2: Plot 11	27 months	Q2 Year 7	Q3 Year 9
Public Realm, Landscape and Green space improvements	Completed in respective plots to suit building completions		

5.0

CONSTRUCTION OVERVIEW

This section of the document will identify the expected construction methodology of the project. Much of the design is at an early stage and more detailed construction planning will be carried out as the individual building designs become more advanced

The construction of the Proposed Development will comprise the following key stages, overlapping across the phased construction sequence:

1. Site establishment;
2. Demolition;
3. Infrastructure Services;
4. Highways Works
5. Substructures/ Foundations;
6. Superstructures;
7. Building Envelope;
8. Fitting Out; and
9. Landscaping (sequenced to suit the completion of each phase).

Pre-construction Planning

Prior to commencement of works on site a period of pre-construction planning and activities are required to ensure works can commence.

- Production of a detailed CEMP including:
- Neighbour liaison before the commencement on site to explain the nature of works.
- Liaison with the project teams of potentially ongoing local developments to agree shared and combined logistics issues.
- Condition survey of boundary walls and fences.
- Condition survey of highways.
- Existing statutory services surveys.
- Ecological surveys to facilitate site clearance.
- Unexploded ordnance checks.
- Formulation of project Construction Phase Plan and risk assessments.
- Formulation of detailed Site Waste Management Plans and environmental plans as per the current DEFRA guidelines.
- Development of project specific method statements.
- Production of detailed works programmes and sequencing.
- Hoarding and scaffold licences for works on the perimeter boundary.
- Section 80 demolition notices.
- Health and Safety Executive (HSE) F10 Notification.

- Notices for works on the highway in accordance with the Highways Act 1980 and Road Traffic Act 1998.
- Asbestos surveys of the buildings to be demolished (after full vacant possession).
- Liaison with the National Grid (NG) and development of safety protocols under Technical Guidance Note TGN 287: Third-party guidance for working near National Grid Electricity Transmission equipment.
- Port of London Authority liaison for River Wall Repairs
- Connections to existing statutory services and main sewers.
- Licence for discharge of water from the site into the public sewer
- Baseline movement & environmental monitoring establishment
- Submission of section 61 Prior Consent application
- Register the project under the Considerate Constructors Scheme.
- Mobilisation of selected plant and operators

Site Establishment

Construction site areas will be made safe and secure prior to works commencing and the public will be separated from the works, with the use of solid and well maintained, 2.4m high hoardings. Secure access points with wheel cleaning facilities will be established at all site access and egress locations. Pedestrian access points for operatives will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided. Public access to neighbouring buildings will be safeguarded and will be entirely separate from construction areas.

Site offices and associated welfare facilities for the workforce may initially be established in existing buildings prior to their demolition (subject to suitability and to planning permission). As works proceed, appropriate facilities will be established within each plot. Contractors' offices and welfare facilities will be established in temporary cabins as works progress. The locations will be identified in advance and agreed with the LPA as part of the detailed construction and demolition logistics programming and approval of the DMS, CMS and CEMP(s). It is anticipated that further information and details on this will be submitted, pursuant to planning conditions in relation to construction and demolition management.

Perimeter demolition scaffolding with Monarflex sheeting will be designed to ensure that safe access for both pedestrians and vehicles accessing the retained neighbouring buildings and surrounding streets.

Safety Protocols in accordance with TGN 287 and NG agreements will be implemented. These are likely to include

barriered safety zones for tall plant at ground level, no go zones adjacent to pylons and nonconducting goalposts on site roads

Specific Site Establishment activities will include:

- Hoardings will be 2.4m high, decorated, with clear pedestrian warning signs and the required notices of Contractors Contact details. Bulkhead lighting to be provided in accordance with GBC licence.
- Vehicle and pedestrian access to the works will be via separate entrances controlled by fully trained gatemen and traffic marshals.
- Installation of site temporary electrics, lighting, water and fire alarms. The site will operate from connections to the permanent utility supplies rather than generators.
- Establishment of site security provisions to ensure that the site is protected against unauthorised or unlawful entry and potential theft from site.
- Wheel cleaning facilities will be established at all site access and egress locations.
- Establish project offices in temporary cabins located inside the construction boundary hoardings.

Demolition

The majority of existing buildings are industrial sheds constructed of steel frames and metal cladding. They will be demolished by "High Reach" machines as described below. The site includes extensive hardstandings of concrete or bituminous road materials.

The first areas of demolition will focus on both the Plot 2 highways area and Plot 19 residential construction areas. Building plots will be secured, hoarded and prepared for demolition by high reach methods.

A "Soft Strip" will entail the removal of all internal furnishings, windows and plant, and will include the safe removal of asbestos within the existing buildings by a specialist contractor. Advanced building surveys will be carried out as part of the pre-demolition process following vacant possession of each building, including a full Refurbishment & Demolition (R&D) survey of materials containing asbestos. Waste arising from the soft strip will be separated on site into recyclable waste streams for processing off site.

The High Reach method of demolition entails demolishing in a step like manner working through the structural bays on each floor using excavators fitted with long reach arms. Arisings on the floors will be scraped off periodically to keep the weight on the slabs to a minimum. Independent scaffolding and Monarflex will be used on key elevations and water hoses fed up through the machine arm assists dust suppression. Arisings on the

ground will be processed for crushing using standard height machines.

The buildings will primarily be dismantled using a combination of machine mounted pulverisers, crushers and shears. Water dousing will be carried out using recycled water where possible, to control dust. Noise levels will be controlled using best practice controls and management including the provision of screening where required. It is anticipated that the concrete materials recovered from the demolition process will be crushed, graded and stockpiled on site, and then ultimately reused on site where practical. In the event of contaminated material being identified, the contaminated material will be segregated and removed from site to a suitable landfill.

Infrastructure Services

A strategy of new and temporary provision of utilities and sewers will be agreed as the design is further developed, notably for electrical substations where phased provision of new substations will be planned, ensuring existing services are maintained.

Various utilities and services exist on the site. To eliminate the risks associated with live services, existing services will be identified and terminated prior to demolition commencing. Temporary services will be installed in advance of these terminations as necessary. All new cables and services will be clearly marked, located and identified. Safe working protocols for crane management will be adopted as required when working close to the existing pylons and overhead cables in accordance with TGN 287.

Repair works or strengthening of the River Wall to Robins Creek and the Thames are potentially required, subject to further investigation and design. Specific safe working methodologies will be agreed in advance with the Port of London Authority to consider and address work faces and protection for these barriers.

Highways Works

The Proposed Development includes the realignment of the junction of the A226 (Stonebridge Road) into an underpass below the podium of the new stadium complex. The highways alterations will commence early in Phase 1. The new road and underpass are proposed to open in Year 2 to allow closure of the existing route and development of the new stadium.

The alignment of the A226 represents the key element of highways works. New roads serving Phase 1 and Phase 2 of the Proposed Development will be constructed to suit the overall sequence, ensuring access remains available to

adjacent businesses and properties. Road junction connections will be managed in phased operations to ensure continuity of traffic flows.

Earthworks, Piling and Foundations

The proposed buildings are founded at ground level. New piled foundations will be required to support the new construction. Design is at an early stage and remains subject to further site investigations. Continuous Flight Auger (CFA), or other augured solutions will be favoured but sizes and depths remain subject to ground investigations and future design development.

Substructure Construction Methodology

When demolition works are complete to each plot, a piling platform will be constructed using compacted crushed demolition arisings that will have been stockpiled for this purpose. Pile probing for below ground obstructions will be undertaken prior to forming the piling platform.

Piling will be undertaken from a piling platform at the existing ground level. Excavation for below ground drainage, ground beams and pile caps will follow piling operations. Basement (if applicable) and ground level slabs will then be cast.

Multiple piling rigs are likely to be on site in the early stages of each phase. Piling will be serviced by small crawler cranes and 360° excavators. Concrete will be delivered by ready mix trucks and placed directly from the vehicle's placement chute where possible.

Fixed tower cranes, needed for building each superstructure, will be erected during the piling works and will be used to service the remaining substructure construction. Cranes will generally be positioned within the footprint of each of the taller buildings. Low rise structure will be constructed using smaller mobile cranes.

Superstructure

The superstructures to the residential buildings are likely to be reinforced concrete (RC) framed with ribbon columns and flat slab floors. The concrete cores may be constructed ahead of the main frame by slip-forming or jump-forming. Consideration will be given in the detailed construction planning to utilising prefabricated elements, such as columns and staircases. Balconies will need to be carefully considered as the final detailing can dictate method and sequencing of the superstructure frames. It is envisaged that the final balconies design will allow a 'clip-on' approach, fixed to the external cladding.

Commercial buildings and the stadium complex will likely include elements of pre-cast concrete and steel frames, with plank or composite RC floors.

Fixed tower cranes will be used to assist with construction of the superstructures in a conventional manner on a floor by floor basis. Concrete will be placed by concrete pumps and placing booms.

Access and edge protection will be incorporated in the design of the falsework system which could include climbing screens to contain construction operations for the taller buildings.

The lifting equipment (e.g. mobile cranes, tower cranes, other lifting equipment such as elevated working platforms or forklifts etc) that will be required throughout the construction works is yet to be determined in detail. However, as part of the DMS and CMS, a lifting strategy will be developed and prepared in accordance with the detailed design and statutory obligations. The LPA will be consulted throughout preparation of the lifting strategy to ensure an appropriate proposal is put forward for consent. All necessary permits and licenses (e.g. permits and over sailing licenses (where applicable) for tower cranes) will be secured, and risk assessments and safe working instructions prepared and approved, ready for implementation by the contractor prior to the use of this type of equipment on site.

Envelope / Cladding

The new cladding will be a mixture of components for which specific methodologies will be developed once the design has been further developed. For the purposes of construction planning at this stage, it has been assumed that the inner skin of the perimeter walls to residential blocks would ideally be a Metsec, or similar SFS (Steel Framing System) which will allow earliest creation of a watertight environment for fit out works to commence.

For the lower rise buildings traditional scaffolding would be erected as concrete frames near completion for the construction of SFS, windows and membranes; followed by hand laid brickwork, or rendered rainscreen panels. For the taller buildings mast climber platforms may be used for access rather than scaffolding.

Cladding of commercial buildings and the stadium complex may include metal and glass curtain walling which will include prefabricated panels and elements to assist construction.

Materials will be transported vertically by platform hoists and tower cranes. Mortar would be delivered as dry ready mix and stored on site in silos for daily preparation and use.

The final operations for tower cranes will be to deliver roof materials, plant and equipment, after which they will be dismantled and removed. External hoists will remain in position throughout the envelope construction and to move fit out materials. Hoists will remain in position until permanent lifts are operational.

Fit-Out and External Works

Finishes and services fit out will commence once a level of temporary or permanent water tightness has been achieved, working from the lower floors upwards. The fit-out works will comprise the complete installation of finishes and services to the residential units, common areas and cores. The timing of fitting out of Commercial buildings will be subject to tenancy agreements.

As each building nears completion the construction site area will be reduced, and the local hard and soft landscaping areas released. Finally, the temporary site facilities and hoardings will be cleared, and the final landscaping completed for the public realm.

6.0

THE CONSTRUCTION SITE

This section outlines the requirements relating to site management practices, ranging from the location of accommodation and equipment to the operation of equipment on site. It outlines procedures that should be implemented during site operations. These relate to working hours, site layout & appearance, and good housekeeping.

Representatives from the Contractors and GBC should regularly inspect the construction site to ensure that these procedures are followed. The Contractors must follow a 'good housekeeping' policy at all times.

The specific measures to be implemented by the Contractors will include:

Working hours

Working Hours will be:

08.00 to 18.00 Monday to Friday
08.00 to 13.00 Saturday
No working on Sundays, Bank or Public Holidays

To ensure that the impact of the enabling and construction is kept to a minimum we propose that the contractors should submit a Section 61 Prior notice application to GBC.

Good housekeeping

The Contractors will:

- ensure considerate site behaviour of the Contractors' staff;
- ensure the noise from lorry reversing alarms and the like are kept to minimum levels;
- prohibit open fires;
- ensure that appropriate provisions for dust control and road cleanliness are implemented;
- remove rubbish at frequent intervals, leaving the site clean and tidy;
- frequently inspect, repair and re-paint as necessary all site hoardings to comply with the conditions of GBC Licence – all flyposting and graffiti is to be removed as soon as reasonably practicable and within 24 hours of notice from authorities;
- maintain toilet facilities and other welfare facilities for its staff;
- remove food waste;

- prevent vermin and other infestations; and
- undertake all loading and unloading of vehicles inside the site boundary.

Public information

The site hoarding will display all necessary health & safety material.

Security

The Contractors will ensure that the site is secure and will prevent unauthorised entry to or exit from the site. Site gates will be closed and locked when there is no site presence. Alarms will incorporate an appropriate cut-out period. Access and egress will be via controlled security gates.

Hoardings, site layout and facilities

The site will be completely secure to deter public access. The hoarding and gates will be constructed in accordance with GBC licencing requirements. It is intended to provide protection from noise and dust at all times through the erection of encapsulating scaffolds, climbing screens and physical barriers as appropriate to the task.

Site welfare arrangements will be maintained in temporary accommodation in modular cabins.

Emergency planning and response

The Contractors will develop a plan for emergencies to incorporate:

- Emergency procedures including emergency pollution control to enable a quick response.
- Emergency phone numbers and the method of notifying GBC and statutory authorities. Contact numbers for the key staff of the Contractors will also be included. The Contractors will display a 'contact board' on the hoarding identifying key personnel with contact addresses and telephone numbers, so that members of the public know who to contact in the event of a report or query.
- London Fire Commissioner requirements for the provision of site access points.
- Site Fire plan and management controls to prevent fires.
- A plan to reduce fire risk and potential fire load during construction, operation and subsequently during maintenance or repair. The project will comply with any third-party requirements as may be appropriate.

Materials Handling & Cranes

Materials handling is a major logistics exercise for large projects. Prefabrication will be adopted extensively with components being brought to site in large sections where possible. Large volumes of materials will be required at times calling for the highest levels of delivery and handling management. Delivery vehicles will enter the sites as shown on the site logistics drawing and leave in forward gear.

GBC approvals will be sought for tower crane locations. Luffing jib cranes will be used such that oversailing of neighbouring property can be ruled out by computer limiter. Cranes will be positioned ensuring that out of service radii do not extend beyond the site boundary.

Considerate Constructors Scheme

The site will be registered with the 'Considerate Constructors Scheme'. This scheme ensures that contractors carry out their operations in a safe and considerate manner with due regard to neighbours, passing pedestrians and road users.



7.0

SITE LOGISTICS

The efficient management of the site logistics will be vital to the success of the project. A key strategy of logistics for a construction project is to ensure that the products and materials arrive on site at the time and in the quantities that are required.

The Contractor will ensure that the necessary pre-planning is undertaken and that the quality of the communication between those planning the project and those supplying the products and materials is maintained throughout the duration of the project.

The overall logistics plan for the plots will be developed in due course, incorporating the following key features:

- Sites to be fully hoarded throughout the demolition and construction periods;
- Safe segregated access to adjacent properties maintained;
- All vehicle access via gates which will be kept closed between vehicle movements;
- All loading and unloading to be within the site boundary;
- Access and egress to be controlled by fully manned security gates;
- Tower cranes to be selected and located to ensure no oversailing outside the plot boundaries.

8.0

TRAFFIC MANAGEMENT

This section highlights the measures by which the Contractor will avoid nuisance to the public that may arise from increases in traffic flows and temporary rearrangements of the road network associated with the construction works. Measures have been considered in relation to access routes, site access, timing of movements, environmental standards, vehicle registration and parking.

The Contractor will maintain existing public access routes and rights-of-way during construction. Any operations requiring vehicle manoeuvring or interruptions to the footway will be planned, notified and controlled. Condition surveys of highways and footpaths will be undertaken and agreed with GBC before demolition and construction works are undertaken.

From summer 2015 the SLS (TfL & London Councils Safe Lorry Scheme) required almost all HGVs, irrespective of current exemptions, over 3.5 tonnes that drive in Greater London to be fitted or retrofitted with:

- Side guards (also known as “lateral protection devices”) irrespective of vehicle type; and
- Both Class V and VI mirrors, irrespective of vehicle age or registration date.

The contractor will ensure that all sub-contractors and suppliers delivery vehicles comply with the scheme and any non-complying vehicles are turned away from site.

In the event that any hazardous loads are required for transportation then all packaging and containment will be provided in line with the Vehicle Certification Agencies Dangerous Good Office procedures and requirements for UK roads. Vehicles will be loaded on site with the responsibility for the safe transit of the good of the haulier or client under the European Agreement concerning International Carriage of Dangerous Goods by road.

CLOCS Compliance

The project will adopt Construction Logistics and Community Safety (CLOCS) standards for all delivery vehicles. (CLOCS Standard for construction logistics, V1.2 2014) Fleet Operator Recognition Scheme (FORS) Silver accreditation as a minimum will be a contractual requirement, FORS Gold operators will be appointed where possible. Where FORS Silver operators are appointed, written assurance will be sought from contractors that all vehicles over 3.5t are equipped with additional safety

equipment (as per CLOCS Standard P13), and that all drivers servicing the site will have undertaken approved additional training (e.g. Safe Urban Driving + 1 x e-learning module or Work Related Road Risk Vulnerable Road User training + on-cycle hazard awareness course + 1 x e-learning module etc.). CLOCS Compliance will be included as a contractual requirement.

Desktop checks will be made against the FORS database of trained drivers and accredited companies as outlined in the CLOCS Standard Managing Supplier Compliance guide. These will be carried out as per a risk scale based on that outlined in the CLOCS Managing Supplier Compliance guide.

Checks of FORS ID numbers will form part of the periodic checks and will be carried out as per an appropriate risk scale. Random spot checks will be carried out by site staff on vehicles and drivers servicing the site at a frequency based on the aforementioned risk scale. These will include evidence of further training, license checks, evidence of routing information, and checks of vehicle safety equipment. Results from these checks will be logged and retained and enforced upon accordingly.

Collision reporting data will be requested from operators and acted upon when necessary.

Access routes

The Contractor will use designated construction traffic

routes for deliveries to the site and removal of waste etc.

Access routes to and from the site to be used by heavy goods vehicles (HGVs) will be agreed with GBC prior to initiation of the construction programme, to minimise disruption to the road and pedestrian network. The Strategic Road Network (SRN) will be used as far as possible to reach the site. The main site access gate locations will vary as the plots develop with construction traffic access mostly being from the A206/ A226.

At this stage we do not know which direction specific traffic will approach from but that will become clearer once the materials are better known, and ultimately when contractors can place supply orders. Detailed traffic management plans will be developed as part of the contractor's Final CEMP, when procurement will be further advanced, and more knowledge of vehicle origination and routes can be planned. Main access routes are however likely to be as follows.

From the south, vehicles will access the Site from the A2, joining the A2260 Ebbsfleet Gateway and A226 London Road.

From the north and east, vehicles will leave the M25/ A282 on to the A2 or A206 Crossways Boulevard.

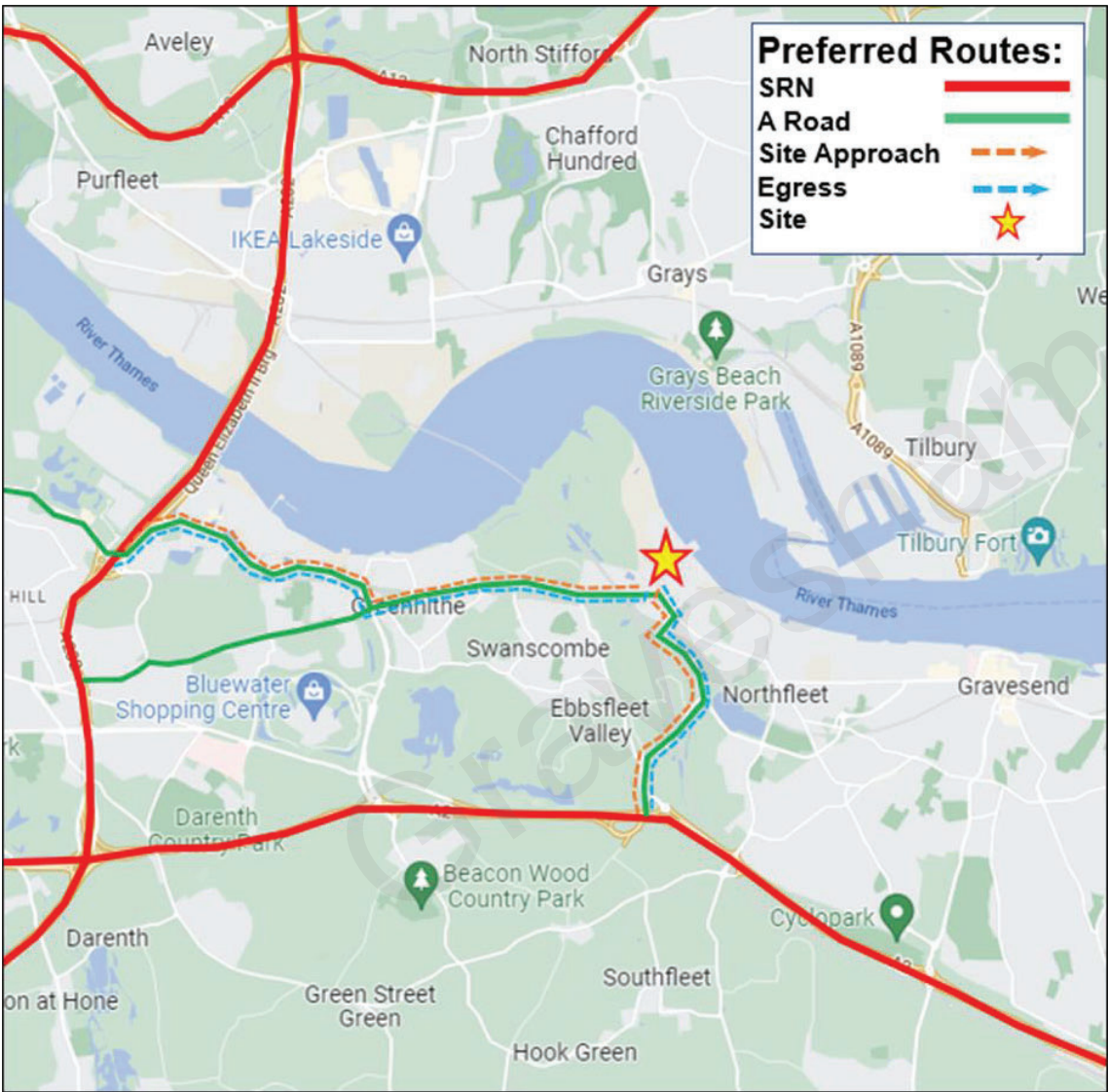
Preferred routes are indicated on the route map overleaf.

As the demolition and construction programme progresses, construction haul roads within the site boundary will be relocated around the site to serve efficiently the parts of the sites “under construction” and to minimise disturbance to existing surrounding sensitive receptors.

Secure access points with wheel cleaning facilities will be established at each site when excavation and groundworks are taking place. Pedestrian access points for construction workers will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided.

To minimise the likelihood of congestion during the construction period, strict monitoring and control of vehicles entering and egressing the sites will be implemented. Construction deliveries will be carefully planned with delivery times agreed with each sub-contractor and supplier using a booking system. Delivery schedules will be produced in order to look at the profiles of up and coming deliveries, and to regulate deliveries and eliminate bottle necks.

Specific time slots will be allocated to the sub-contractors and suppliers for the use of cranes and hoists, to ensure that the main plant will be utilised efficiently, and that deliveries are not queued.



Construction Traffic Forecast

The number of lorry movements, hours of operation and any lorry holding areas will be agreed in advance with GBC. The Contractor will maintain an up-to-date log of all drivers that will include a written undertaking from them to adhere to approved routes for construction traffic.

There will be no daytime or overnight parking of lorries within the vicinity of the construction site.

Estimated numbers of construction related vehicle journeys for the construction period will be calculated based on volumes of excavated waste material, imported concrete, brickwork, cladding and fit out materials when designs are further advanced.

Operatives Journeys to Work

Operatives should be encouraged to come to work by public transport or cycle. Limited and managed parking will be permitted on site.

Bike parking and showers should be provided on site.

9.0

SITE WASTE MANAGEMENT

The Contractor will use working methods that minimise waste. Any waste arising from the site will be properly categorised and dealt with in accordance with appropriate legislation. Opportunities for re-using or recycling construction or demolition waste should be explored and implemented.

The Contractor will carry out the works in such a way that, as far as is reasonably practicable, the amount of spoil and waste (including groundwater, production water and run-off) to be disposed of is minimised.

The disposal of all waste or other materials removed from the Site will be in accordance with the requirements of the Environment Agency, Control of Pollution Act (COPA), 1974, Environment Act 1995, Special Waste Regulations 1996, Duty of Care Regulations 1991 and the Waste Management Regulations 2011.

In general, and in accordance with the principles of the UK Government’s ‘Waste Strategy 2010’, a principal aim during enabling works and construction will be to reduce the amount of waste generated and exported from the Development site.

This approach complies with the waste hierarchy whereby the intention is first to minimise, then to treat at source or compact and, finally, to dispose of off-site as necessary. All relevant Contractors will be required to investigate opportunities to minimise and reduce waste generation, such as:

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme.
- Implementation of a ‘just-in-time’ material delivery system to avoid materials being stockpiled, which increases the risk of their damage and disposal as waste.
- Attention to material quantity requirements to avoid over-ordering and generation of waste materials.
- Re-use of materials wherever feasible (e.g. re-use of crushed concrete from demolition for the piling platform; re-use of excavated soil for landscaping).
- The Government has set broad targets for the use of reclaimed aggregate, and in keeping with best practice, Contractors will be required to maximise the proportion of materials recycled.
- Segregation of waste at source.

- Re-use and recycling of materials off-site where re-use on-site is not practical (e.g. through use of an off-site waste segregation facility and re-sale for direct re-use or re-processing). Our expectations in this regard are shown in the following table.

The Final CEMP is to include the full environmental management requirements specified in a Site Waste Management Plan (SWMP). Should the SWMP be reviewed and updated, the waste management measures detailed here should be updated to reflect any changes.

Material	Target	Probable Location
Architectural salvage	100% re-used	Several architectural salvage companies in London.
Structural steel for re-use	100% re-used	Steel used in temporary works is likely to be previously used and will be retained for subsequent re-use. Whole steel members removed in the demolition may be similarly re-use on this or subsequent projects
Metals	100% recycled	Every effort will be made to recycle these materials. Waste and off-cut metals will be segregated on site and taken for recycling to a waste transfer station.
Hard-core (crushed concrete, masonry etc.)	100% recycled	Crushed on site and reused in the construction of piling platforms and subbase for hardstandings.
Excavated material/ clay etc.	100% recycled	Clay – 100% processed for re-use (subject to analysis).
Timber	Up to 80% re-used The amount re-used will depend on the material	The contractor will attempt to salvage any re-useable timber for hoardings, battening, shuttering etc. for possible use on site with the balance being retained for use elsewhere.
Glass (non-tempered, non-laminated and non-bomb proofing film etc.)	100% recycled	Processing facility in Greenwich.
Plasterboard	100% recycled	Processing plants via British Gypsum
Mixed waste	The amount recycled will depend on the material	An absolute minimum will remain for transport to landfill.
Asbestos	100% landfill	Taken to a licensed site.

10.0

NOISE AND VIBRATION

The Contractor will discuss and agree with GBC whether to seek their formal consent in accordance with Section 61 of Control of Pollution Act 1974 to his proposed methods of work and to the steps he proposes in order to minimise noise. Notwithstanding this, the Contractor will discuss in detail and agree the proposed noise and vibration control measures with the Local Authority.

Best Practicable Means

Best Practicable Means (BPM) of noise control will be applied during construction works to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors arising from construction activities.

Designated site-based staff shall have the authority to take the steps necessary on behalf of the contractor to ensure noise and vibration is adequately controlled and managed, according to the circumstances associated with each worksite. At the commencement of their appointment on the project (or prior to start of works on site), all site staff are to be briefed on their responsibilities to the application of BPM to minimise construction noise and vibration and the content of any planning consents, codes of construction or other legal agreements. The performance of the training should then be regularly reviewed and repeated throughout the construction programme as appropriate.

The general principles of noise management are given below:

Control at source:

- Equipment – noise emissions limits for equipment brought to site.
- Equipment – method of directly controlling noise e.g. by retrofitting controls to plant and machinery.
- Equipment - indirect method of controlling noise e.g. acoustic screens.
- Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.
- Follow manufacturer's guidance and measures to operate plant and equipment and use it in a manner which minimises noise.
- Equipment - indirect method of controlling noise e.g. benefits and practicality of using alternative construction methodology to achieve the objective as opposed to more conventional but noisier techniques; selection of quieter tools/machines; application of quieter processes.

- Reduce loading / unloading heights for muck away and material movement to mitigate impact noise.
- Handle all material in a manner that minimises noise
- Use all plant and equipment only for tasks for which it has been designed for.
- Maximise screening from existing features / structures or employ the use of full or partial enclosures for fixed plant. The enclosures should be well maintained. Fixed plant can include generators, compressors, pumps, batching plant and ventilation plant.

Control across site by:

- Administrative and legislative control,
- Control of working hours,
- Control of delivery areas and times,
- Careful choice of compound location,
- Locate the site access away from noise sensitive receptors. Keep internal haul routes well maintained.
- Limit material and plant loading and unloading to normal working hours.
- Physically screening site,
- Control of noise via Contract specification of limits,
- Noise Monitoring, to check compliance with noise level limits, cessation of works until alternative method is found.
- Many of the activities which generate noise can be mitigated to some degree by careful operation of machinery and use of tools. This may best be addressed by toolbox talks and site inductions.

Noise control

The Contractor's environmental team will undertake a noise assessment as part of the Construction Noise and Vibration Report, to predict noise levels at adjoining properties. This noise assessment will be carried out in accordance with BS5228-1: 2009+A1: 2014 'Code of Practice for noise and vibration on construction and open sites'.

This assessment allows the Contractor to select the most appropriate tools, methodology and controls to minimise disruptions of buildings at close proximity of the adjacent structures (sensitive receptors) and in particular live and occupied premises during the enabling, piling and excavation periods.

Noise levels will be monitored by the Contractor during the works. GBC shall be given access to all noise readings if required as soon as they become available.

Although the noise levels to be included in a formal agreement between the Contractor and GBC are the maximum to be allowed, at sensitive locations the Contractor will be requested to achieve, where practicable, noise levels lower than the specified limits.

Noise Control Measures

The Contractor shall comply with the recommendations set out in BS5228:2009 and in particular with the following requirements:

- Vehicles and mechanical plant will be maintained in a good and effective working order and operated in a manner to minimise noise emissions. The contractor will ensure that all plant complies with the relevant statutory requirements;
- HGV and site vehicles will be equipped with broadband, non-tonal reversing alarms;
- Compressor, generator and engine compartment doors will be kept closed and plant turned off when not in use;
- All pneumatic tools will be fitted with silencers/mufflers;
- Care would be taken when unloading vehicles to avoid unnecessary noise;
- The use of particularly noisy plant will be limited, i.e. avoiding use of particularly noisy plant early in the morning;
- Restrict the number of plant items in use at any one time;
- Plant maintenance operations will be undertaken at distance from noise-sensitive receptors;
- Reduce the speed of vehicle movements;
- Ensure that operations are designed to be undertaken with any directional noise emissions pointing away from noise-sensitive receptors;
- When replacing older plant, ensure that the quietest plant available is considered;
- Drop heights will be minimised when loading vehicles with rubble;
- Vehicles should be prohibited from waiting within the site with their engines running or alternatively, located in waiting areas away from sensitive receptors;
- Local hoarding, screens or barriers should be erected to shield particularly noisy activities;
- Temporary noise screens will be used to reduce noise from particularly noisy activities and the height of perimeter hoarding will be extended where this would assist in reducing noise disturbance at sensitive receptors; and
- Hours of operation should be strictly enforced and any deviations other than those previously identified will be with the consent of the local authority;
- Limiting of high impact activities (including breaking out or piling works) to specific times of the day. For example, this may include 2 hours on – 2 hours off, or the restriction of such activities to between 09:00-12:00 and 14:00-17:00;
- Piling will be carried out with the method that minimises both noise and the transmission of vibration to sensitive receptors;
- Vehicles, plant and equipment will undergo regular servicing and maintenance to prevent irregular noise levels;

- The location of stationary plant in areas which will have a minimized impact on occupied residential and commercial properties, where feasible;
- Static plant, when in operation, is to be sound attenuated using methods based on the guidance and advice in the BS 5228, where practical;
- Implementation of Best Practice Means (as defined in Section 72 of the COPA) by trade contractors at all times, and are to carry out all work in such a manner as to reduce disturbances from noise and vibration;
- Preference for electrically powered plant, to mechanically powered alternatives, where practical;

Construction Traffic

The Contractor will incorporate the following measures into the scheme to avoid noise related impacts from construction traffic:

- Vehicles will not wait or queue up with engines running on the site or the public highway;
- Vehicles will be properly maintained to comply with noise emissions standards;
- Deliveries will be restricted to be within working hours of the site; and
- Design and routing of access routes will minimise vehicle noise and the need to perform reversing manoeuvres.

Vibration control

Vibration is a particular risk during the demolition, piling and excavation stages. The measures taken to reduce the acoustics of these two operations will also assist in mitigating the effects of vibration on neighbours and their property.

A digital seismograph measuring device will be used to measure the amount of vibration produced during the works. Where elevated levels are recorded the source will be investigated and, where possible, alternative techniques employed to reduce the levels.

The Contractor will comply with the vibration levels established by agreement with GBC, which will consider BS 5228-2.

11.0

AIR QUALITY

The Contractors will, as far as reasonably practical, seek to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from tools and equipment used on site and dust from construction activities.

The contractors should undertake a Dust Risk assessment and Dust Management Plan under the final CEMP for GBC approval identifying proposed dust control measures before work starts. Special precautions must be taken when materials containing asbestos are encountered.

Throughout the project, the Contractors will ensure the following:

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site
- Display the name and contact details of person(s) accountable for air quality and dust issues on the Site boundary. This may be the environment manager/engineer or the site manager
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the GBC.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken
- Make the complaints log available to the GBC when asked
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
- Hold regular liaison meetings with other high-risk construction sites within 500m of the Site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised
- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the GBC when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary

- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on site
- 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 hoarding, 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
- Cover, seed or fence stockpiles to prevent wind whipping
- Ensure all vehicles 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
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials
- 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
- 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
- Avoid bonfires and burning of waste materials
- Ensure effective water suppression is used during breaking out operations. Handheld 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 breaking out
- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable
- Only remove the cover in small areas during work and not all at once
- Avoid scabbling (roughening of concrete surfaces) if possible
- 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
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust
- Use water-assisted dust sweeper(s) on the access and local roads, if required
- Avoid dry sweeping of large areas
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowzers and regularly cleaned.
- 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 10m from receptors where possible

12.0

GROUND CONDITIONS

This section is to be updated by the Principal Contractor in the Final CEMP when surveys of ground conditions are further advanced.

The preparation of a Remedial Statement will direct any environmental management, monitoring and other requirements.

The contractor is also to include the management of groundwater, and potential impacts associated with the construction works.

Some of the proposed management measures are outlined below.

The management of infiltration and promotion of leaching to groundwater is to occur with regards to the following:

- Completion of a Foundation Works Risk Assessment, informed by a site investigation;
- Implement measures to minimize infiltration to groundwater (Principal and Secondary Aquifer);
- Avoid stockpiling of contaminated soil;
- Any stockpiled material is to be covered and placed on an impermeable surface.
- Remove / treat any gross contamination if identified.
- Waste characterisation (as part of the pre-commencement investigations)
- Groundwater is to be managed during excavation works. Proper maintenance of demolition/construction vehicles in accordance with good site practices to reduce the risk of hydrocarbon contamination and will only be active when required;
- Construction materials will be stored, handled and managed with due regard to the sensitivity of the local aquatic environment and thus the risk of accidental spillage or release will be minimised;
- Any existing debris located within the area of the proposed works would be removed before the start of construction and after completion of the proposed works;
- Any excavated material or spoil stored on site will be located within an area surrounded by a bund to ensure that, should a heavy rainfall event occur, then there will be no risk of soil washout entering the river via a surface water flow pathway;
- In accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001, any tanks storing more than 200 litres of oil will have secondary bunding and any above

ground storage tanks will be located on a designated area of hardstanding;

- Oil interceptors will be regularly inspected, cleaned and maintained. Full records will be kept of inspections, maintenance works and measures undertaken to sustain equipment performance. These provisions should ensure no significant impacts occur on water quality. The use of settlement facilities will aid the removal of any contaminated particulate material that might be derived from construction materials;
- During each phase of the Proposed Development, a construction compound will implement a drainage system designed and managed to comply with BS6031:2009 'The British Standard Code of Practice for Earthworks', which details methods that should be considered for the general control of drainage on construction sites. Further advice is contained within the British Standard Code of Practice for Foundations (BS8004: 2015). All necessary drainage works would be installed to ensure that there would be no increase in surface water runoff. As each element of the Proposed Development is constructed, surface water attenuation measures will be implemented at the same time to ensure that there will be no uncontrolled increase in surface water discharge during construction;
- The risk of redistributing any potential contamination around the site (i.e. from residual soil contamination or similar on construction vehicles) will be minimised by designating clean and dirty work areas to prevent cross-contamination;
- Vehicles and equipment will be washed down in specially designated areas and ensuring that areas of hard standing at access and egress points are cleaned at appropriate intervals and wash off into the ground or surface waters is prevented;
- Good site working practices for construction and maintenance workers will be enforced such that impacts from potential contamination are minimised. The contractor on site will be responsible for implementing these requirements. This will include requiring the use of appropriate Personal Protective Equipment (PPE) and provision of welfare facilities to assist in maintaining good hygiene levels with segregation of certain activities (such as eating and drinking) from the designated dirty areas; and
- Dust suppression measures will be outlined within the CEMP such as ensuring sand and other aggregates are stored in bunded area and, where possible, not allowed to dry out, avoid dry sweeping of large areas and ensure surfacing equipment is only operated with any manufacturer's dust measurements in place.

13.0

SURFACE WATER MANAGEMENT

This section sets out the requirements on the Contractors for managing the environmental impacts of constructing the development, associated with surface water management.

The contractor will prepare a detailed Surface Water Management Plan and site-specific Erosion and Sediment Control Plan, which will minimise discharge of potentially polluted site water to nearby drains and overland flow routes;

- No polluted water is to be discharged from the site;
- Sediment and erosion controls are to be regularly inspected to ensure sufficient capacity;
- Wheel washes are to be implemented on site;
- Drainage of surface runoff and de-watering effluents to settling tanks to remove suspended solids prior to discharge to sewer or removal by a suitably licenced waste operator;
- Storage of chemicals and hazardous materials within bunded areas, with adequate capacity (of 110%);
- Bunded areas are to be regularly inspected to ensure that sufficient capacity is available;
- Prevention of spills and leaks.

Key Site Activities Using Water		
Activity	Water Use	Source: Potable or Non-Potable
Site Cabins	Drinking, Kitchen, Canteen	Potable
	Toilets and urinals, showers and hand washing	Non-potable
Drainage	Flushing	Both
General Cleaning	Tool rinsing, boot washing, plant & equipment washing	Non-Potable
Site Dust Suppression	Dampening (bowzers) and misting	Non-Potable
Concrete Production	Mixing	Non-Potable
Masonry	Mortar mixing	Both
Screeds	Laying	Both
Concrete wash out	Plant wash out	Non-Potable
Commissioning	M&E pipe and plant testing	Both (as appropriate to system)

Key Options for Water Sustainability	
Activity	Options to Reduce Potable Water Demand
Site Cabins	Efficient showers, taps, toilets and urinal controls. Trigger controls on catering taps and use of vessels for washing rather than under running taps. Rainwater capture for toilet flushing. Waterless urinals
Drainage	Reuse water collected from dewatering, e.g. dewatering Use water from attenuation tanks or rainwater harvest tanks
General cleaning	Fill containers rather than use running taps or open hoses Trigger operated spray guns Use of a closed water recycling system for wheel washing.
Site Dust Suppression	Use of control systems to allow damping activities to be altered for different applications. Use of water efficient road sweepers. Use water collected from elsewhere for dust suppression (e.g. from attenuation tanks).
Masonry	Use water butts as opposed to long hose runs when mixing mortar in remote areas of the site
Screed	Apply in early morning/ late afternoon for natural cooling (reduced need for damping) Use ready mix
Concrete Production	Consider water storage where water for cleaning could be blended with potable for production.
Concrete Wash out	Consider collecting wastewater filtering and reusing

14.0

ECOLOGY

This section is to be updated upon the completion of further ground conditions investigations. The Ecology section of the construction-phase CEMP for the Proposed Development will outline the procedures that will be put into place to control and limit disturbance to areas of nature conservation interest and protected species in accordance with relevant legislative requirements and accepted industry practice, as appropriate. The following measures are to be implemented:

- Details on the location of appropriate fencing, agreed in conjunction with a suitably qualified ecologist, to protect off-site habitats (such as the adjacent Priority Habitat mudflats) where appropriate to prevent effects associated with the encroachment of construction vehicles and plant;
- Pollution prevention measures including procedures for oils, chemicals and other potentially contaminative construction material storage designed to prevent the release of any accidental spillages and effects associated with contaminated surface run-off;
- Supervision of delivery of fuel and oils with pipelines and fuelling points protected from vandalism and unauthorised interference;
- Use of drip trays when filling smaller containers from tanks or drums to avoid drips and spills from entering the ground or drainage systems and watercourses to prevent effects associated with contaminated surface run-off;
- Controlling works with concrete and washing out ready-mix concrete wagons in 'safe areas' away from waterbodies and retained habitats to prevent effects associated with contaminated surface run-off;
- Procedures for emergency environmental incidents such as pollution events;
- Measures to minimise vibration and dust arisings, including, when necessary, regular damping down of the site by spraying with water and covering stockpiled material within a contained area, where required, to enable run-off to be treated;
- Informed by the Invasive Species Management Plan, the CEMP(s) will define the areas of land likely to be contaminated by Japanese knotweed rhizomes, exclusion zones and a methodology for on-site treatment or appropriate removal of contaminated land. Measures will be implemented through the construction works (such as the adoption of an appropriate biosecurity protocol) to safeguard against the spread of any invasive non-native species. The main contractor will ensure that all materials imported or exported from the site are not contaminated and monitoring

will take place post-construction to ensure that invasive species do not colonise the site.

- Visual and noise barriers may be required to prevent disturbance to the birds on the mudflats to the north and east of the site on the south bank of the River Thames and at Robin’s Creek during the breeding season (May to August inclusive), when works cannot be phased outside of this time period. Visual and noise barriers in winter along the mudflats will be used if determined by the 2022-2023 winter bird surveys;
- On site vegetation clearance activities should be undertaken between October and February, inclusive, to avoid any potential impacts to breeding birds during their main breeding season (March – September). If site clearance during the breeding season is unavoidable, then a check for nesting black redstart will be carried out prior to demolition by a suitably qualified ecologist. If black redstart are confirmed to be breeding on-site then a 300m buffer zone must be implemented around each nest until the nest is confirmed as inactive by a suitably qualified ecologist. If black redstart are confirmed to be breeding on site then black redstart surveys must be undertaken at the start of each breeding season of each year of construction where black redstart breeding habitat remains on site;
- If black redstart are confirmed to be breeding on site then a 300m buffer zone must be implemented around each nest until the nest is confirmed as inactive by a suitably qualified ecologist. If black redstart are confirmed to be breeding on site then black redstart surveys must be undertaken at the start of each breeding season of each year of construction where black redstart breeding habitat remains on site;
- Appropriate management of construction lighting to avoid light spill to adjoining habitats;
- Soft starts and other methods such as the use of low impact machinery to limit noise and vibration disturbance will be used for noising works such a pilling if undertaken during the breeding season and will be detailed in the CEMP and Precautionary Working Method Statement.
- Toolbox talks and training to be given to the site teams by a suitably qualified ecologist to provide the site teams with key information on the mitigation measures detailed in the PWMS.
- Noisy or disturbing works to avoid sensitive periods of the year where possible through phasing. Sensitive areas include:
 - Around Robin’s Creek during the key Cetti’s warbler breeding season- April to July;
 - Around the shingle beach area on the mudflats in key little ringed plover nesting season May- July; and
 - Around any areas on site where black redstart are confirmed to be breeding in further surveys in the key breeding season – March to August.

REFERENCES

The contractor shall comply with all relevant legislation, standards, codes of practice, and guidance for the works being carried out including (but not exclusive to) those listed in this section.

Legislation

- The Explosives Regulations 2014
- Clean Air Act 1993
- Public Health Act 1961
- Health and Safety at Work, etc. Act 1974
- Control of Pollution Act 1974
- Control of Pollution (Amendment) Act 1989
- Environmental Protection Act 1990
- New Roads and Street Works Act 1991
- Lifting Operations and Lifting Equipment Regulations 1998
- Special Waste Regulations 1996
- Control of Lead at Work Regulations 2002
- Control of Asbestos Regulations 2012
- Ionising Radiations Regulations 2017
- Electricity at Work Regulations 1989
- Control of Noise at Work Regulations 2005
- Controlled Waste (Registration of Carriers & Seizure of Vehicles) Regulations 1991
- Environmental Protection (Duty of Care) Regulations 1991
- Management of Health & Safety at Work Regulations 1999
- Provision & Use of Work Equipment Regulations 1998
- Personal Protective Equipment at Work Regulations 1992
- Construction (Design & Management) Regulations 2015
- Control of Substances Hazardous to Health Regulations 2002
- Work at Height Regulations 2005
- Dangerous Substances and Explosive Atmosphere Regulations 2002
- Manufacture and Storage of Explosives Regulations 2005

British Standards

- BS 5228 Code of Practice for noise control on construction and open sites
- BS 5607 Code of Practice for safe use of explosives in the construction industry
- BS 6187 Code of Practice for demolition
- BS 7121 Safe use of cranes

Guidance

- HSE Guidance booklets:
- HSG 47 Avoiding danger from underground services
- L21 Management of health and safety at work
- L101 Safe work in confined spaces

HSE Guidance Notes

- GS 6 Avoidance of danger from overhead electric lines
- CS 15 The cleaning and gas freeing of tanks containing flammable residues
- EH 40 Occupational exposure limits (revised annually)

HSE Construction Information Sheet

- No.45 Establishing exclusion zones when using explosives in demolition.

Asbestos Removal

Legislation

- The Health and Safety at Work etc. Act 1974
- The Control of Pollution Act 1974
- The Special Waste Regulations 1996
- The Personal Protective Equipment at Work Regulations 1992 (as amended)
- The Control of Asbestos Regulations 2012
- Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009
- The Construction (Design and Management) Regulations 2015

Approved Codes of Practice

- L21 Management of health and safety at work: Management of Health and Safety at Work Regulations 1999 (second edition)
- L24 Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992
- L25 Personal protective equipment at work (Second edition). Personal Protective Equipment at Work Regulations 1992 (as amended). Guidance on Regulations
- L64 Safety signs and signals. The Health and Safety (Safety Signs and Signals) Regulations 1996
- L87 Safety representatives and safety committees (third edition)
- L95 A guide to the Health and Safety (Consultation with Employees) Regulations 1996
- L127 The management of asbestos in non-domestic premises (second edition)
- L143 Work with materials containing asbestos. Control of Asbestos Regulations 2012
- L144 Managing health and safety in construction: Construction (Design and Management) Regulations 2015

British Standards

- BS 8520-1:2009 Equipment used in the controlled removal of asbestos-containing materials. Controlled wetting equipment. Specification
- BS 8520-2:2009 Equipment used in the controlled removal of asbestos-containing materials. Negative Pressure Units
- BS 8520-3:2009 Equipment used in the controlled removal of asbestos-containing materials. Operation, cleaning and maintenance of class H vacuum cleaners
- BS EN ISO 13982-1:2004+A1:2010 Protective clothing for use against solid particulates. Performance requirements for chemical protective clothing providing protection to the full body against airborne solid particulates (type 5 clothing)
- BS EN ISO/IEC 17020:2012 General criteria for the operation of various types of bodies performing inspection

- BS EN ISO/IEC 17024:2012 Conformity assessment. General requirements for bodies operating certification of persons
- BS EN ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories

HSE Guidance Booklets & Leaflets

- HSG189/2 Working with asbestos cement
- HSG210 Asbestos essentials task manual. Task guidance sheets for the building, maintenance and allied trades
- HSG213 Introduction to asbestos essentials. Comprehensive guidance on working with asbestos for the building, maintenance and allied trades
- HSG227 A comprehensive guide to Managing Asbestos in Premises
- HSG247 Asbestos: The licensed contractor's guide
- HSG248 Asbestos: The analyst's guide for sampling, analysis and clearance procedures
- HSG264 Asbestos: The survey guide
- INDG188 Asbestos alert (pocket card) for building maintenance, repair and refurbishment workers
- INDG223 A short guide to managing asbestos in premises. (Rev 3)
- INDG255 Asbestos dust kills – keep your mask on (Rev 1)
- INDG289 Working with Asbestos in Buildings
- OC 282/28 Fit testing of respiratory protective equipment face pieces.

**INTRODUCING BLUE SKY BUILDING
FOUNDED ON EXCELLENCE**

In 2012, Julian Daniel, our Founder and Managing Director spotted the opportunity to create a company of his own, Blue Sky Building, which would embody the enthusiasm and passion he feels for the industry.

Blue Sky Building is an innovative construction management company which delivers unique solutions. Our founding directors boast a combined experience of over eight decades, uniting their background in the delivery of bespoke construction with the expertise and skills needed to manage complex engineering and construction projects, particularly in the midst of the kind of city centre environment prevalent in London and the South East.

We act as a trusted collaborator, setting the kind of standards other constructors aspire to, by offering our clients quality, professionalism and innovation. We've built our reputation upon offering a bespoke service each time, tailored to meet the individual needs of each client.

We know our industry and understand how the construction process works. We study our clients' business and we understand the wider business climate, bringing all three together in a pursuit of excellence which is as relentless as it is refreshing.

At Blue Sky Building, no resource is more valuable than the people charged with delivering our vision. The principles we work around are excellence, quality and safety and the values underpinning our work are intelligence, honesty, integrity and trust.

Our Promise:

- A focus on the client;
- Clarity of leadership and direction;
- Accessible and practical advice;
- Input and ownership up to Director level;
- Appropriate and timely communication;
- Simple solutions to complex issues;
- Advice which is independent and maintains the integrity of the clients' procurement process;
- In depth knowledge of the market and links to key trade contractors; and
- Value added throughout - from design, through procurement and on to construction.

OUR SERVICES
CONSTRUCTION DELIVERY
PRECONSTRUCTION
PROJECT MANAGEMENT
CONSULTANCY

OUR VALUES
INTELLIGENCE
HONESTY
INTEGRITY
TRUST