

CAMBERWELL UNION

**BURGESS BUSINESS PARK
SE5**

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

**DRAFT CONSTRUCTION ENVIRONMENTAL MANAGEMENT
PLAN**

**CAMBERWELL UNION, BURGESS BUSINESS PARK,
CAMBERWELL**

December 2017

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1.0 INTRODUCTION

- 1.1 This Construction Environmental Management Plan (CEMP) has been prepared on behalf of Dunnett Investments Ltd and accompanies an application for:

“Demolition of the existing buildings and redevelopment of the site to provide 505 residential units, up to 3,375sqm (GIA) of Class B1 commercial floorspace, up to 117sqm (GIA) of Class D2 leisure floorspace and up to 570sqm (GIA) of Class A1-A3 floorspace within 13 blocks of between 3-14 storeys, with basement, car and cycle parking and associated hard and soft landscaping.”

- 1.2 This CEMP outlines the overarching principles in order to minimise and mitigate the environmental effects of the works associated with the redevelopment of the site. Details of the environmental controls and safety measures to be adopted during demolition and construction of the development are provided to provide a tool to ensure the successful management of the likely environmental effects which may arise as a result of the demolition and construction activities.

2.0 APPLICATION SITE

- 2.1 The site is located within the London Borough of Southwark and comprises part of the Burgess Business Park. The site is 1.59ha in size. The main part of the site is bounded by Parkhouse Street to the north, Wells Way to the east, Cottage Green to the south and Southampton Way to the west. The smaller part of the application site (the 'northern site') extends north of Parkhouse Street and extends east adjacent to Burgess Park. A small mews joins this part of the site with Southampton Way.
- 2.2 The site currently comprises a number of buildings in office, light industrial and storage uses (Class B1a, B1c and B8). The total commercial floorspace on site is 12,559.3sqm (GIA), however only about 5,117.4sqm (GIA) is occupied, and many of the buildings are vacant and in poor condition. Full details of the size of the units and details of the land use and occupation are set out in the table below:

Building	Floorspace (GIA sqm)	Occupation/Previous Occupation
Unit 1	1,092.6sqm	Vacant. Previously in office use as confirmed in application 15/AP/3398 for a change of use (app withdrawn) and permissions 10/AP/0193 and 04/AP/1540
Unit 2	991.7sqm	Currently occupied for office use by Fruitful Office Ltd
Unit 3	1,173.8sqm	Vacant
Unit 4 (excluding basement)	1,598sqm	Previously in office use as confirmed in application 15/AP/3408 for a change of use (app withdrawn). Currently occupied by an affordable workspace provider for meanwhile use.
Unit 5	1,563.9sqm	Part occupied. 775.2sqm is in office use by Fruitful Office Ltd
Unit 6	1,260.8sqm	Part occupied for office and self-storage use by Peachtree Services Ltd. 576sqm is in use.
Unit 7	572sqm	Currently occupied for office and self-storage use by Peachtree Services Ltd.
Unit 9	677sqm	Occupied for office use by Swiss Post Solutions Ltd.
10-12 Parkhouse Street	2,104sqm	Vacant office building. Prior approval for residential use (18 units) was confirmed in correspondence from LBS on 8th June 2017 (17/AP/0590)
15-19 Parkhouse Street	1,010sqm	Currently occupied as a garage/ workshop by Olympic South Ltd.
2 Parkhouse Street	515.5sqm	Currently occupied as a car wash
45 Southampton Way	N/A	Residential use (3 flats)
Total	12,559.3sqm	
Total occupied floorspace	5,117.4sqm	

2.3 The site is not listed and is not located within a conservation area. Nos 1-3 Cottage Green are Grade II Listed and are located to the south of the site, and nos 73-77 Southampton Way are also Grade II Listed and are located to the south west.

2.4 The site has a PTAL rating of 4 within the western part of the site, which decreases to 2 across the eastern part. There are numerous bus stops along Wells Way and Camberwell Road, in close proximity to the site.

Surrounding Area

2.5 The surrounding area is characterised by a mix of building styles and land uses, including residential, commercial and light industrial. To the north and west lies warehousing and light industrial uses along Parkhouse Street and Southampton Way.

2.6 Residential properties are located to the east along Wells Way, and to the north west, along Southampton Way and the western end of Parkhouse Street. These comprises a mixture of Victorian terrace properties and larger, modern residential schemes of varying typologies.

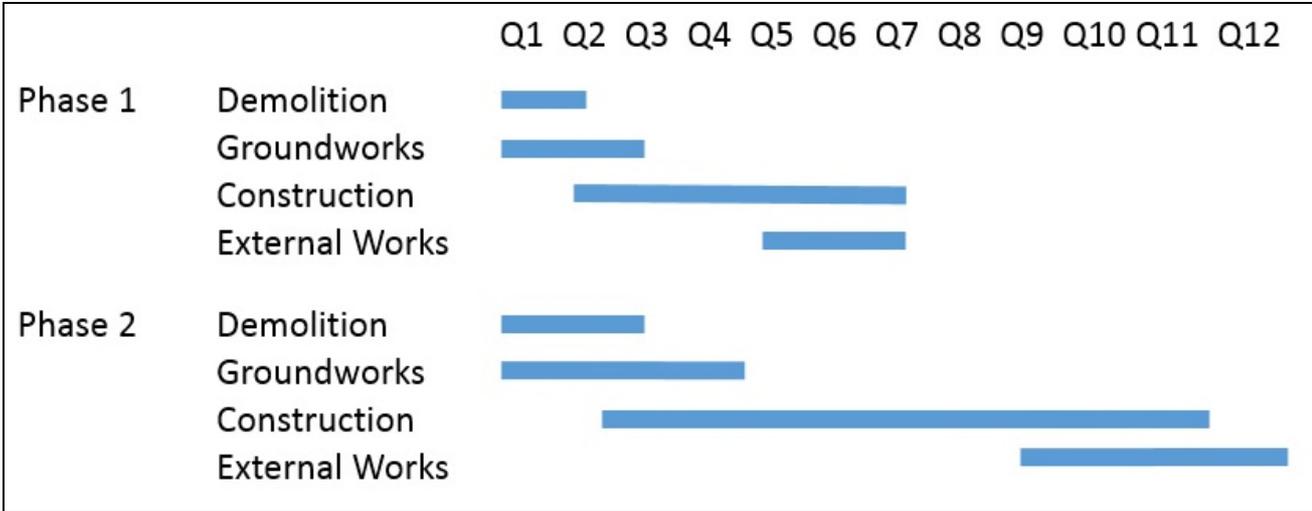
2.7 In the wider area, there are a range of building heights and typologies, and the area is one which is undergoing substantial change. Adjacent to the north east of the site is 21-23 Parkhouse Street, which is a current planning application with buildings of 7-10 storeys in height. Other taller buildings in the surrounding area include 16-21 storey towers within the Avondale Square, M house, Castlemead, Gwen Morris House, the Comber Estate and Sceaux Gardens. Emerging schemes which either have planning permission or are currently at application stage include the Aylesbury Masterplan and Camberwell Unit. The Old Kent Road Opportunity Area also has a masterplan for this area which includes buildings of up to 36 storeys in height.

2.8 Burgess Park is located to the north of the application site, which is designated as Metropolitan Open Land and a Site of Importance for Nature Conservation.

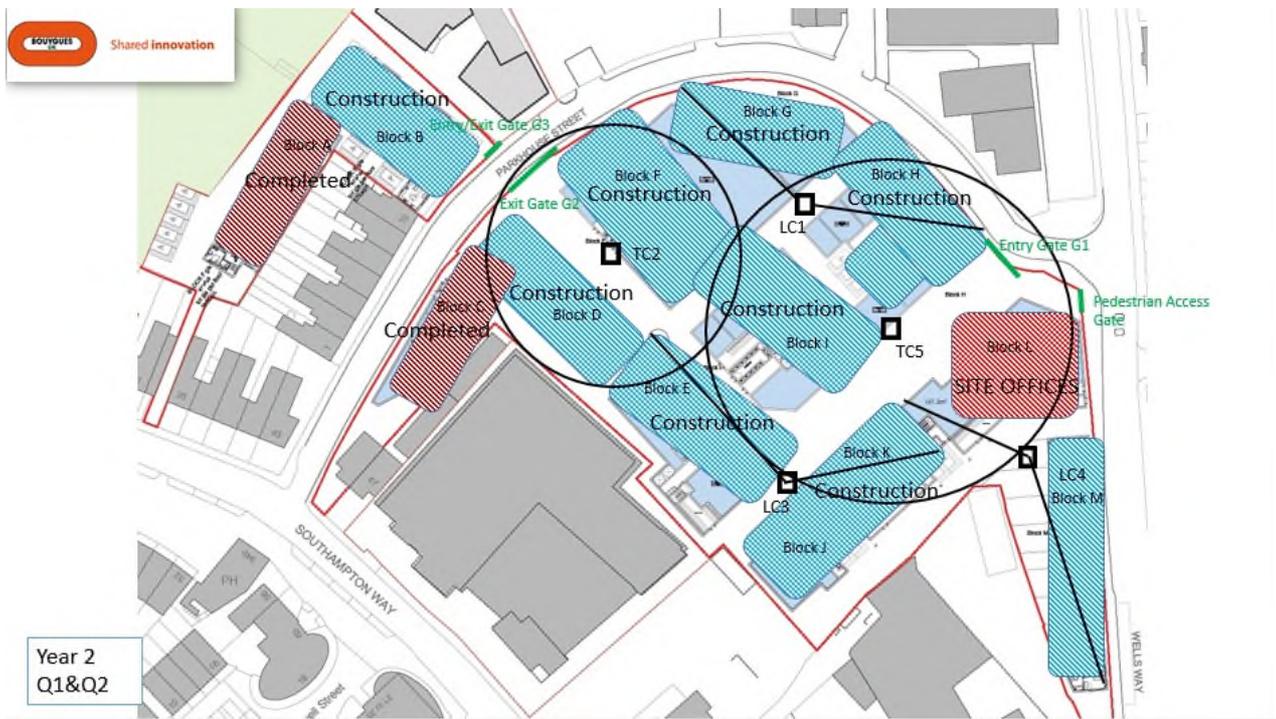
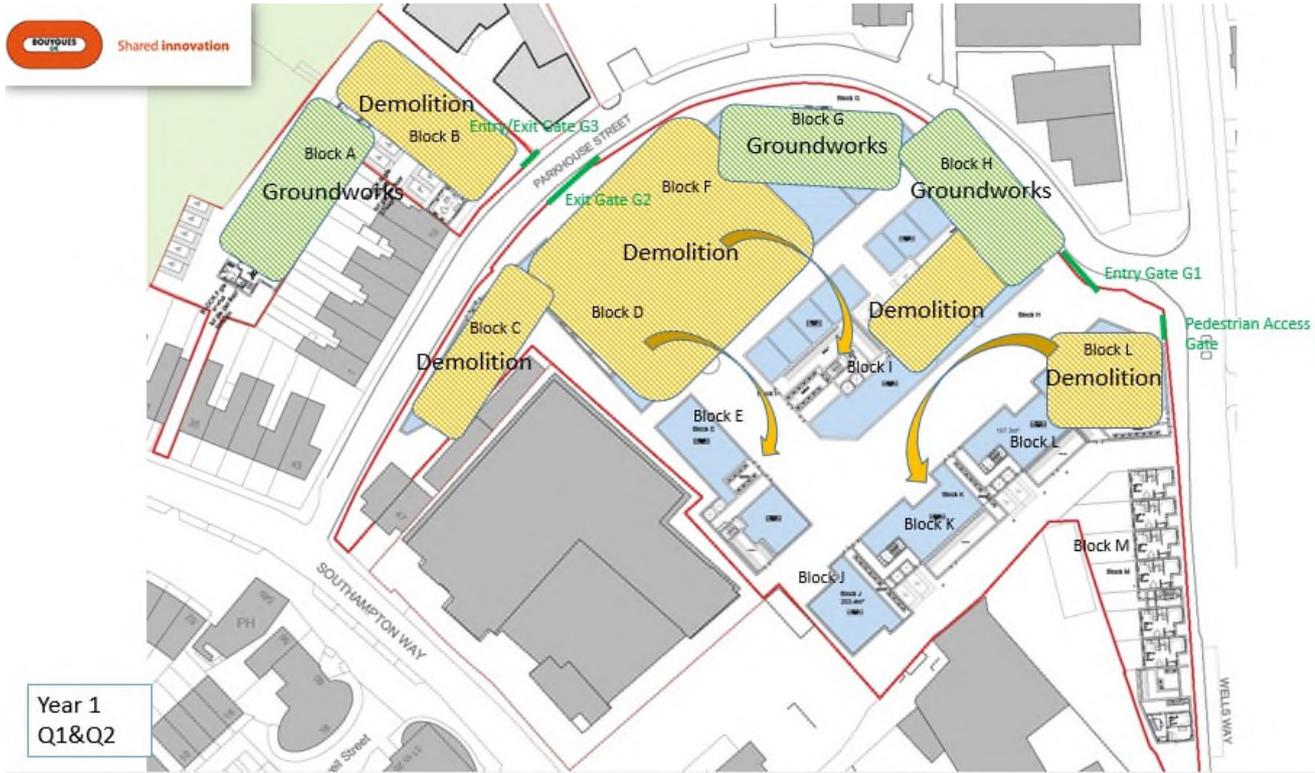
3.0 PROPOSALS

- 3.1 The figure below presents a summary demolition and construction programme. It is currently envisaged that the demolition and construction works will take approximately three years to complete and, whilst divided into two phases, ‘Phase 1’ and ‘Phase 2’, the works will be undertaken concurrently across both Phases.
- 3.2 The initial enabling work and subsequent demolition of the existing buildings and structures across the site are anticipated to take approximately 9 months.
- 3.3 Following on from demolition, the required excavation and basement/substructure construction works (‘groundworks’) are anticipated to take approximately 12 months. This works will overlap with the demolition works.
- 3.4 Construction of the above ground elements of the Proposed Development will commence whilst basement/substructure construction works are ongoing and in total are anticipated to take circa 27 months.
- 3.5 Phase 1 comprises of Blocks A and B and is expected to be completed and occupied in mid-2020. Phase 2 comprises of Blocks C to M and is expected to be completed and occupied in mid-2021.

Summary Demolition and Construction Programme



- 3.6 The figures below present two key phases of construction works (demolition and groundworks; and construction) at selected periods within the programme of works. The yellow arrows represent the direction of progress within the first 6 months of work. The anticipated crane locations for construction works are also shown.



Enabling and Demolition Works

Site Establishment

Hoarding

- 3.7 The first stage of the demolition works will be to establish the area as a demolition site. The working area will be secure, and the public will be separated from the works. Demolition compound boundaries will be made safe and secure prior to works commencing with use of solid well-maintained hoardings and screening where required. Secure access points with wheel cleaning facilities will be established at the site entrance location. A pedestrian access point will be located close to the main vehicular access gate on Wells Way with a separate pedestrian gate and footpath provided.
- 3.8 The solid timber hoarding will be decorated to an agreed colour scheme, and if required incorporate marketing graphics / logos. Daily inspections will be carried out to ensure that the integrity of the hoarding is maintained, and the hoarding will be kept clean and in a good state of decoration.

Site Office and Welfare Facility

- 3.9 During the demolition phase of the project the labour levels on site will be relatively low as it is envisaged that the buildings will be demolished using long reach mechanical plant incorporating breakers and crunchers. The extent of welfare facilities will therefore be minor; however, the workforce will require toilet, washing and changing facilities and a kitchen area.
- 3.10 As well as welfare facilities, office space will be required for the demolition contractor to administer the day to day running of the works.
- 3.11 The facilities and office space will likely comprise of several 'portakabins' possibly double stacked to reduce the area that they take up. The cabins will be connected to temporary builder's electrical and water supplies and if possible connected to an existing on site foul sewer. Where this is not practicable, a holding tank will be provided, which will be pumped out on a regular basis.
- 3.12 It is the intention to provide a main site office and welfare facility on site for the enabling and demolition works. The location of the office and welfare facility is yet to be determined and it will be identified and agreed with the LBS as part of the detailed enabling and demolition logistics programming.

Utility Diversions / Removals

- 3.13 Prior to any demolition works taking place, services locations will be identified and marked on site using utilities record drawings and on-site investigation techniques such as hand dug trial holes and scanning using a cable avoidance tool.

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- 3.14 Once the utility companies have completed their work and before any demolition and excavation works take place, the area will again be scanned, and a permit to dig issued by the principal contractor in accordance with their health and safety procedures.

Description of the Demolition Works

- 3.15 The works will consist of surveying, de-commissioning, demolishing and disposing of the existing buildings that comprise Burgess Business Park (save for in relation to 45 Southampton Way and the chimney). That will include:
- Demolition asbestos survey (formerly known as type 3 survey);
 - Isolation of all services to make them safe;
 - Isolation of the demolished building from remaining structures, including the chimney;
 - Breaking up of existing concrete slabs, using machinery such as excavators, hydraulic hammers, crushers, tippers and rollers, and stockpile crushed materials;
 - Dust suppression; and
 - Construction of the building platform and mat.
- 3.16 Demolition materials (bricks, blocks, concrete) will be re-used to level the site and create the building platform and mat for the following construction works.
- 3.17 The demolition of the existing building where Blocks A and B will sit will occur directly next to existing properties. Several measures will be implemented to keep disruption to a minimum:
- Dust prevention with the use of surrounding scaffold and sheeting;
 - Dust suppression with the use of water hose and/or sprinklers if necessary; and
 - Noise control with sound absorption blankets around noise emitting fixed machines.
- 3.18 Tree protection areas will be observed around trees to be maintained throughout construction.
- 3.19 Tree protection fencing will be erected around protected trees to serve as either the creation of a safe exclusion zone around the tree, or as a physical robust barrier to prevent accidental collision with the protected tree.
- 3.20 The retained chimney centrally located will be protected from traffic collision with a specific timber hoarding and wheel blocks.

Excavation and Basement Works

Site Establishment

Hoarding

- 3.21 The hoarding will continue as existing from the demolition phase and will be adjusted from time to time to suit the various phases of work.

Site Office and Welfare Facility

- 3.22 The site offices and welfare facilities will continue developing as the works progress and more on-site operatives are present on site at any given time. It is intended at this stage to install stacked cabins at the location of Block L (commercial block). The pedestrian access gate will be located off Wells Way.

Description of Excavation Works

- 3.23 Following the completion of the platform by the demolition contractor, excavation works will consist of digging the basement and levelling of the building platform mat.

Description of Basement Construction Works

- 3.24 On completion of the basement excavations, works will progress to the basement construction.
- 3.25 The following sequence of works are then envisaged:
- Piling works;
 - Construction of pile caps and installation of underground drain and service ducts;
 - Build up levels and introduce a waterproofing membrane to the basement structure;
 - Construction of the basement slab;
 - Construction of the basement walls to Level 0 / GF (in sections to support the sides), using the tower crane;
 - Backfilling along the basement wall;
 - Completion of the pile caps at higher level (level 0 / GF); and
 - Complete level 0 slab (core areas, podium and over the basement).

Construction Works

Site Establishment

Hoarding

- 3.26 The hoarding will continue as existing from the previous enabling/demolition/excavation phases. The hoarding will be kept in good order and appearance throughout the works.

Site Office and Welfare Facility

- 3.27 The site offices and welfare facilities will continue developing as the works progress. It is intended at this stage to install stacked cabins at the location of Block L. Following completion of Block E, it is intended to move the site offices and welfare facilities into Block E ground and first floors, which are to become commercial spaces.

Description of the Superstructure Works

- 3.28 General sequence of vertical wall and column reinforced concrete construction will follow decking of the slab, installation of lower rebar, installation of upper reinforcement and concrete placing using concrete skips and concrete pumps.

Description of the Building Envelope Works

- 3.29 The building envelope consists of brickwork, metal and glass cladding and balconies. These activities will follow on from the construction of the reinforced concrete frame and will be carried out in-situ off mast climbers or scaffold.

Craneage

- 3.30 Saddle and luffing tower cranes will be used to facilitate the construction works. Cranes will not be able to lift a load over the Public Highways and the relevant over sailing license will be obtained prior to using the cranes.

Scaffolding

- 3.31 Scaffold, mast climbers and hoists will be required to complete the facades and dispatch materials internally to complete the internal fit-out.

Description of the Fit-Out Works

- 3.32 The fit-out works will commence once the area is water-tight, clean and dry. The general sequence of trades will include mechanical and electrical installation and commissioning, drylining, plastering, carpentry, joinery, painting, kitchen installation and flooring.

Description of the External / Landscaping Works

- 3.33 External works will consist in creating new public realm and hardscaped pedestrianized squares as well as a podium providing a communal garden and shared amenities.

Access Routes

- 3.34 Routes from construction traffic will be agreed with LB Southwark Highways. It is proposed that the construction vehicle movements will be restricted to the main arterial routes and specific arrangements will be required to ensure vehicles do not pass through predominantly residential areas, where possible.
- 3.35 It is anticipated that there will be two entry gates and two exit gates off Parkhouse Street to the main site (phase 2 of works), and one entry/exit gate to the site area to the north of Park House Street (phase 1 of works), as shown in the figure below.



Hours of Work

- 3.36 Standard hours of work for construction activities will be:
- 08:00 – 18:00 Monday to Friday, and
 - 08:00 – 13:00 Saturdays.
- 3.37 No work shall take place Sundays or Bank Holidays.
- 3.38 If works are required outside of the core hours, this will be agreed with the LBS prior to the commencement of such works.
- 3.39 To maintain the above working hours, the Principal Contractor may be required at certain times a period of up to one hour before and after normal working hours to start and close activities (this will not include works that are likely to exceed agreed maximum construction works noise levels). Specialist Construction operations and deliveries may also be required to be carried outside these core hours in agreement with the LBS and other relevant parties. The Contractors will not carrying carry out physical works during start and close of daily activities.

Health & Safety and Emergency Response

Site Security

- 3.40 Operatives and any site visitors will need to access the site through a security checkpoint / turnstile and be required to sign in at the start of the day and sign out when leaving. In the unlikely event of a need to evacuate the site, this log would be used to account for all personnel.

Emergency and Fire Routes

- 3.41 Before construction works commence on site, emergency procedures and fire exit routes from the site will be identified within the fire safety plan. Throughout the course of the construction works these will be regularly inspected and maintained. The fire safety plan will be updated regularly as construction works progress, particularly as areas become progressively completed, and as the means of escape from the evolving building change. Fire alarm points and extinguishers will be situated at each floor of the buildings at the stair cores and within main corridors.
- 3.42 Site management, operatives and any visitors to the site will undergo an induction to ensure they are briefed on what actions to take in case of an emergency.
- 3.43 All necessary measures will be taken to reduce the risk of fire on the site. All designated work areas will be non-smoking and no open fires will be allowed on site.
- 3.44 Firefighting equipment will be present on site at all time.

Lighting

- 3.45 As outlined within Section 35 of The CDM Regulations (2015), the development site must be provided with suitable and sufficient lighting, which must be, so far as is reasonably practicable, by natural light. This relates to both the construction site as well as the approach and traffic route to the development site.
- 3.46 Site lighting will be at the minimum luminosity necessary to enable the safety and security of the construction site. Where appropriate, lighting to site boundaries will be provided and illumination will be sufficient to provide a safe route for the passing public. In particular, precautions will be taken to avoid shadows cast by the site hoarding on surrounding footpaths, roads and amenity areas.
- 3.47 In determining any temporary construction lighting arrangements for the site, due consideration will be given to residents and other sensitive receptors.
- 3.48 Artificial site lighting will be sensitivity positioned and directed, taking into account the proximity of surrounding residential buildings and Burgess Park.

4.0 ENVIRONMENTAL CONTROL MEASURES

Traffic Management and Road Cleanliness

- 4.1 To minimise the likelihood of congestion during the demolition and construction works, strict monitoring and control of vehicles entering and egressing the site will be implemented through the CLP.
- 4.2 Construction deliveries will also be carefully planned with delivery times agreed with each contractor using a booking system. Delivery schedules will be produced to look at the profiles of up and coming deliveries and to regulate deliveries and eliminate bottle necks.
- 4.3 Over the 3-year construction period, it is anticipated that there will be two entry gates and two exit gates off Parkhouse Street to the main site (phase 2 of works), and one entry/exit gate to the site area to the north of Park House Street (phase 1 of works).
- 4.4 Consideration has been given to reducing the number of vehicle movements by:
- The possible reuse of crushed concrete produced during demolition works;
 - Reuse of excavated material for filling (based on its suitability);
 - The use of reusable hoardings where they can be used in non-aesthetic locations; and
 - The potential for the use of prefabrication techniques and modern methods of construction where practical and viable to do so without compromising quality.
- 4.5 Notices and details of traffic management proposals associated with works to the highway and footpaths will be given under the Highway Acts 1980 and Road Traffic Act 1988.
- 4.6 Effective wheel cleaning facilities will be provided at the site gates together with a concrete hard standing. Recycled water will be used wherever possible. Supplementary cleaning will be provided as necessary using Effective wheel cleaning facilities will be provided at the site gates together with a concrete hard standing. Recycled water will be used wherever possible. Supplementary cleaning will be provided as necessary using suitable means to keep the surrounding highway clean. Collected debris will be disposed of as controlled waste at a licensed waste disposal facility.
- 4.7 It is considered that the demolition and construction phase will have the greatest potential to contribute to cumulative effects, specifically in relation to road traffic movements. It is not unusual however for construction to take place on more than one site near each other, particularly in London. Therefore, the Principal Contractor will undertake regular liaison meetings and reviews with neighbouring sites and the LBS to plan works so that they do not cause unnecessary disruption.

Road Closures

- 4.8 Road closures are not anticipated however Temporary Road Orders (TRO's) may be required along Wells Way and Parkhouse Street.

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- 4.9 TROs will also be required to establish and remove the tower cranes or to deliver large items of building plant and infrastructure items. This will be agreed with the LBS prior to commencement.
- 4.10 Notices regarding any planned TROs and diversion of either roads or footpaths shall be given by the principal contractor to the LBS, the police, fire brigade and other emergency services sufficiently in advance of the required closure or diversion.

Car Parking and Travel to the Site

- 4.11 There will be a general policy of not providing any car parking on the site and the site labour force will be encouraged to use public transport. Provisions will be made within the site for essential on-site parking if required for emergencies etc. The use of bicycles as a form of transport will be encouraged with bicycle storage and shower facilities made available on site.

Pedestrian and Cycle Routing and Amenity

- 4.12 Demolition and construction personnel and visitors to the demolition and construction site will be directed into the site through the access control gate located on Wells Way. There will be dedicated cycle park areas provided.

Noise and Vibration

- 4.13 Best Practicable Means (BPM) as defined in Section 72 of the Control of Pollution Act 1974 will be employed to keep the level of noise and vibration generated on site as low as reasonably practicable. Measures to be considered in implementing best practicable means will be consistent with recommendations of British Standard (BS) 5228-1:2009+A1:2014¹ and will include but not be limited to:
- Careful programming to ensure activities which may generate significant noise are planned well in advance and SRs are notified of the works;
 - Identification and use of low noise techniques. For example, equipment that breaks concrete by munching or similar, rather than by percussion. Where construction plant which is known to generate significant levels of noise then it is to be used sparingly and the construction activity is closely monitored to minimise noise levels;
 - All plant brought on to Site should comply with the relevant EC/UK noise limits applicable to that equipment or should be no noisier than would be expected based on the noise levels quoted in BS 5228. Plant should be properly maintained and operated in accordance with manufacturers' recommendations;
 - Where feasible, all stationary plant should be located so that the noise at all occupied SRs is minimised and, if practicable, every item of static plant when in operation should be sound attenuated using methods based on the guidance and advice given in BS 5228 (e.g. local screening);

¹ BSi, (2009); BS 5228-1:2009+A1:2014. Code of practice for noise and vibration control on construction and open sites

² BSi, (2014); BS 5228-2:2009+A1:2014. Code of practice for noise and vibration control on construction and open sites

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- Items of plant on the Site operating intermittently should be shut down in the intervening periods between use;
 - Adoption of a noise monitoring regime and the establishment of noise Action Levels in consultation with LBS, above which consideration would be given to the use of alternative techniques and/or other means of controlling noise levels;
 - Use of hoarding to the required height and density appropriate to the noise sensitivity of the Site; and
 - Implementation of a Construction and Logistics Plan (CLP) to pre-plan and manage traffic associated with the works to minimise disturbance to SRs. The CLP would include aspects such as operation of a 'Just in Time' policy for the delivery and supply of materials for the work to minimise the disruption to the local community.

4.14 In order to ensure compliance with BS 5228 regular noise monitoring will be undertaken by the appointed contractor over the duration of the works. Noise and vibration thresholds will be applied at each of the monitoring locations and if reached, will trigger alerts to ensure timely action can be taken to control noise. The noise monitoring locations and trigger levels will be agreed with the Environmental Health Officer prior to works commencing on a specific construction phase.

Air Quality – Dust

4.15 A preliminary Dust Risk Assessment (DRA) has been undertaken of the demolition and construction works associated with the Proposed Development (refer to Chapter 9: Air Quality of the ES (Volume 1)). The DRA has been undertaken in accordance with the Institute of Air Quality Management (IAQM) guidance and SPG on The Control of Dust and Emissions during Construction and Demolition³.

4.16 The DRA identifies the following magnitude of dust impact associated with the various work stages:

- the dust emission magnitude class for demolition are considered to be large;
- the dust emission magnitude class for earthworks is considered to be large;
- the dust emission magnitude class for construction is considered to be large; and
- the dust emission magnitude class for trackout is considered to be large.

4.17 The area surrounding the site is considered to be of 'high' sensitivity to dust soiling for both the on site works and due to trackout. In terms of human health, the area surrounding the site is of 'low' sensitivity due to on site works, and 'medium' sensitivity due to trackout.

4.18 The dust emission magnitudes have been combined with the sensitivities of the area in order to assign a risk category to each activity. The Table presents the risk of impact.

³ Mayor of London, (2014); The Control of Dust and Emissions During Construction and Demolition Supplementary Planning Guidance (SPG) (July 2014).

Summary of Risk of Dust Impacts Without Mitigation

Source	Dust Soiling	Human Health
Demolition	High Risk	Medium Risk
Earthworks	High Risk	Low Risk
Construction	High Risk	Low Risk
Trackout	High Risk	Medium Risk

- 4.19 The IAQM guidance does not provide a method for assessing the significance of effects before mitigation, and advises that pre-mitigation significance should not be determined. With appropriate mitigation in place, the IAQM guidance is clear that the residual effect will normally be ‘not significant’.
- 4.20 Measures to mitigate dust emissions will be required during the demolition and construction works of the Proposed Development in order to minimise effects upon nearby sensitive receptors.
- 4.21 The GLA’s SPG on The Control of Dust and Emissions During Construction and Demolition **Error! Bookmark not defined.** describes measures that should be employed, as appropriate, to reduce the impacts, along with guidance on what monitoring should be undertaken during the construction phase. This reflects best practice experience and has been used, together with the professional experience of the consultant who has undertaken the dust impact assessment and the findings of the assessment, to draw up a set of measures that should be incorporated into the specification for the works. These measures are described below.

Site Management

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site;
- develop a Dust Management Plan (DMP);
- display the name and contact details of person(s) accountable for air quality pollutant emissions and dust issues on the site boundary;
- display the head or regional office contact information;
- record and respond to all dust and air quality pollutant emissions complaints;
- make a complaints log available to the local authority when asked;
- carry out regular site inspections to monitor compliance with air quality and dust control procedures, record inspection results, and make an inspection log available to the Local Authority when asked;
- increase the frequency of site inspections by those accountable for dust and air quality pollutant emissions issues when activities with a high potential to produce dust and emissions are being carried out and during prolonged dry or windy conditions;
- record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and ensure that the action taken to resolve the situation is recorded in the log book; and

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- hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.

Preparing and Maintaining the Site

- Plan the site layout so that machinery and dust-causing activities are located away from receptors, as far as is 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;
- install green walls, screens or other green infrastructure to minimise the impact of dust and pollution;
- avoid site runoff of water or mud;
- keep site fencing, barriers and scaffolding clean using wet methods;
- remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below;
- cover, seed, or fence stockpiles to prevent wind whipping;
- carry out regular dust soiling checks of buildings within 100 m of site boundary and provide cleaning if necessary;
- provide showers and ensure a change of shoes and clothes are required before going off-site to reduce transport of dust;
- put in place real-time dust and air quality pollutant monitors across the site and ensure they are checked regularly;
- agree monitoring locations with the Local Authority; and
- where possible, commence baseline monitoring at least three months before work begins.

Operating Vehicle/Machinery and Sustainable Travel

- Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone;
- ensure all Non-road Mobile Machinery (NRMM) comply with the standards set within the GLA's Control of Dust and Emissions During Construction and Demolition SPG. This outlines that, from 1st September 2015, all NRMM of net power 37 kW to 560 kW used on the site of a major development in Greater London must meet Stage IIIA of EU Directive 97/68/EC (Directive 97/68/EC of the European Parliament and of the Council, 1997) and its subsequent amendments as a minimum. From 1st September 2020 NRMM used on any site within Greater London will be required to meet Stage IIIB of the Directive as a minimum.
- 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;

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- impose and signpost a maximum-speed-limit of 10 mph on surfaced haul routes and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where appropriate);
 - produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials; and
 - implement a Travel Plan that supports and encourages sustainable staff travel (public transport, cycling, walking, and car-sharing).

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;
- ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using recycled water where possible and appropriate;
- use enclosed chutes, conveyors and covered skips;
- minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate; and
- ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Reuse and recycle waste to reduce dust from waste materials; and
- avoid bonfires and burning of waste materials.
- Measures Specific to Demolition
- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust);
- ensure water suppression is used during demolition operations;
- avoid explosive blasting, using appropriate manual or mechanical alternatives; and
- bag and remove any biological debris or damp down such material before demolition.
- Measures Specific to Earthworks
- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;
- use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and
- only remove the cover from small areas during work, not all at once.

Measures Specific to Construction

- 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;

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- 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
 - for smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.

Measures Specific to Trackout

- Regularly use a water-assisted dust sweeper on the access and local roads, as necessary, to remove any material tracked out of the site;
- 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 log book;
- install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems or mobile water bowsers, 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);
- ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits;
- access gates should be located at least 10 m from receptors, where possible; and
- apply dust suppressants to locations where a large volume of vehicles enter and exit the construction site.

4.22 These mitigation measures shall be written into a dust management plan (DMP).

4.23 Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material. There will not be any excessive use of water.

Air Quality – Non- Road Mobile Machinery (NRMM)

4.24 Demolition and construction plant emissions are a small, insignificant and temporary emission sources relative to ambient conditions. However, suitable best practice mitigation measures for site plant will be adhered to as follows to reduce the likelihood of significant adverse air quality effects from NRMM throughout the demolition and construction works:

- No vehicles or plant will be left idling unnecessarily;
- NRMM will be well maintained. Should any emissions of dark smoke occur (except during start up) then the relevant machinery will be stopped immediately, and any problem rectified before being used again;
- Engines and exhaust systems will be regularly serviced according to manufacturer's recommendations and maintained to meet statutory limits/opacity tests;
- Plant will be located away from the boundaries close to residential areas, where possible;

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- Use of diesel or petrol-powered generators will be avoided by using mains electricity or battery powered equipment where possible and if safety concerns can be overcome, where possible; and
 - All NRMM will meet the emission standards required by the Mayor of London's SPG on The Control of Dust and Emissions during Construction and Demolition.

Surface and Groundwater

- 4.25 The Principal Contractor will take precautions during works to protect the drainage system and nearby watercourses and groundwater from siltation or pollution.
- 4.26 The following mitigation measures will be implemented to protect the water environment and surface water quality during all construction activities:
- All tanks will be adequately bunded to prevent spillages and drip trays will be used under stationary plant.
 - During refuelling activities, spill kits will be on hand to address any minor incidents during these activities;
 - To minimise the risk of ground contamination all plant operators will be required to clean up any small fuel or oil spillage immediately;
 - Existing and new surface water drains will be kept clear of silt or weed build-up;
 - Roads and hard surfaces will be kept clean, to prevent a build-up of mud and sediment that could contaminate surface water; and
 - Implementation of a monitoring schedule to ensure that measures taken to protect water resources are effective.

Ground Contamination

- 4.27 All the workers on-site will be made aware of potential contamination issues on the site and will use best practice techniques during all construction activities. The following mitigation measures will be implemented to protect the water environment and surface water quality during all construction activities
- Construction vehicles and plant will be regularly maintained and supplied with spill kits and drip trays to reduce the risk of contamination;
 - Refuelling would be undertaken in specified areas. Drip trays will be installed to collect leaks from diesel pumps;
 - The handling, use and storage of hazardous materials will be undertaken in line with the current best practice;
 - Adequate bunded and secure areas with impervious walls and floors will be provided for the temporary storage of fuel, oil and chemicals on site during construction;
 - Provision of spill containment equipment such as absorbent material on site; and
 - Store all construction, oil, fuel and diesel materials as far from the nearby water bodies and drainage as possible.

Ecology and Invasive Species

- 4.28 The requirements of the Wildlife and Countryside Act 1981 (as amended)⁴ the Countryside and Rights of Way Act 2000⁵, the Conservation (Natural habitats etc.) Regulations 1994⁶, and other relevant legislation and policy guidance in respect of areas of nature conservation interest and protected species will be complied with.
- 4.29 All reasonably practicable measures will be taken to minimise harm and disturbances to wildlife or their habitats caused by any work, light, noise, dust and vibration.
- 4.30 To mitigate potential impacts upon breeding birds, the clearance of the vegetation and buildings will be undertaken outside the bird-breeding season (i.e. between August and February inclusive). However, should this not be practicable, and if it is necessary to undertake these works between the months of March to July inclusive, then a survey for all nesting birds will be undertaken by an experienced ornithologist, prior to clearance, to check for the presence/absence of any bird's nests.
- 4.31 In the unlikely event bats are encountered during any of the proposed works, then all works would be halted immediately, and advice sought from a licensed bat ecologist.
- 4.32 A single stand of Japanese knotweed, listed on schedule 9 of the Wildlife and Countryside Act 1981 (as amended)⁷, is present in the site on the eastern boundary.
- 4.33 Appropriate site management and waste disposal will be undertaken in accordance with relevant management guidance to prevent the spread of invasive plant species.

⁴ HMSO, (1981); Wildlife and Countryside Act 1981 (as amended)

⁵ HMSO, (2000); Countryside and Rights of Way Act 2000

⁶ HMSO, (1994); The Conservation (Natural Habitats, &c.) Regulations 1994

⁷ HMSO, 1981; 'Wildlife and Countryside Act.'

5.0 WASTE MANAGEMENT

- 5.1 In line with the five-step Waste Hierarchy, introduced in the EU Waste Framework Directive in 2008⁸, a primary aim during demolition and construction works will be to reduce the quantities of waste generated and exported from site. This is consistent with the UK Government's 'Waste Strategy 2000'⁹. As per the five-step Waste Hierarchy, the 'disposal' of waste will be treated as the least attractive waste management measure, with the other steps prioritised from the top to the bottom of the Hierarchy.
- 5.2 Where waste materials are disposed, the waste or other materials removed from the site will be disposed of in accordance with the requirements of all relevant legislation, including:
- The Environmental Permitting (England and Wales) Regulations 2016⁹ ;
 - Defra's Waste Management Plan for England (2013)¹⁰
 - The Waste (England and Wales) (Amendment) Regulations 2014¹¹;
 - The Waste Management (England and Wales) (Amendment) Regulations 2006¹²;
 - Clean Neighbourhoods and Environment Act 2005¹³;
 - Control of Pollution Act (COPA) 1974¹⁴;
 - Hazardous Waste (Amendment) Regulations 2016¹⁵; and
 - Additionally, although The Site Waste Management Plans Regulations 2008¹⁶ were repealed on 1 December 2013, contractors will be encouraged to adopt the principals of these Regulations as good working practice.
- 5.3 It is anticipated that 100% of the concrete and mainly brick arisings will be reused on site as a piling mat. The material will be stored locally within the site area.
- 5.4 The remaining other demolition materials will be removed from site.
- 5.5 Any waste effluent will be tested and where necessary, disposed of at the correctly licensed facility by a licensed specialist contractor/s.
- 5.6 Waste disposal sites and routes will be identified in consultation with LBS and presented in the CLP. The mode of waste transportation, and alternatives to reduce the potential for likely significant adverse environmental effects, will be considered when assessing the most suitable waste disposal sites and route options for landfill disposal. In line with the 'Proximity Principle' transport times will also be considered, as well as landfill capacity.

⁸ European Parliament and the Council of the European Union, (2008); 'Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on Waste and Repealing Certain Directives'.

⁹ HMSO, (2016); The Environmental Permitting (England and Wales) Regulations 2016

¹⁰ Defra, (2013); Waste Management Plan for England

¹¹ HMSO, (2014); The Waste (England and Wales) (Amendment) Regulations 2014

¹² HMSO, (2006); The Waste Management (England and Wales) (Amendment) Regulations 2006

¹³ HMSO, (2005); Clean Neighbourhoods and Environment Act 2005

¹⁴ HMSO, (1974); Control of Pollution Act 1974 (as amended 1989)

¹⁵ HMSO, (2016); Environmental Permitting (Amendment) Regulation 2016.

¹⁶ HMSO, (2008); Contractors will be encouraged to adopt the principals of The Site Waste Management Plans Regulations 2008

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- 5.7 Trade contractors involved in the demolition and construction phase of the Proposed Development will be required to investigate opportunities to minimise and reduce waste generation, by implementing the following, where possible:
- A 'just-in-time' material delivery system to avoid materials being stockpiled;
 - Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme;
 - Attention to material quantity requirements to avoid over-ordering and generation of waste materials;
 - Re-use of materials wherever feasible, in line with the Waste Hierarchy, e.g. re-use of concrete for construction/landscaping purposes (concrete will be taken off site for crushing prior to re-use). As detailed in the Directive 2008/98/EC and Defra's 2013 Waste Management Plan for England, there is a 70% target for the re-use, recycling and material recovery of demolition and construction waste. Contractors will be required to maximise the proportion of materials recycled, and in keeping with best practice, contractors will aim to meet the 70% target, where possible;
 - Segregation of waste at source where practical;
 - 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);
 - Skips will be colour coded and signposted to reduce risk of cross contamination and covered to prevent dust and debris blowing around the site, these will be cleared on a regular basis; and
 - Burning of wastes or unwanted materials will not be permitted on-site.
- 5.8 Intrusive site investigation work will be undertaken to identify any significant areas of contamination. It is likely that the intrusive site investigation work will comprise soil chemical testing to further characterise soil material for disposal, including Waste Acceptance Criteria (WAC) analysis. Where possible, the project will seek to maximise the reuse of suitable soils on-site, to minimise waste disposal.
- 5.9 Risk of infestation by pests or vermin will be minimised by making adequate arrangements for the disposal of food and other material that may attract pests.

6.0 MONITORING

6.1 Scheduled monitoring of environmental performance and compliance with this CEMP will be conducted throughout construction activities.

6.2 The proposed monitoring programme includes weekly and monthly based inspections.

Weekly Inspections

6.3 Routine weekly visual inspections will be carried out on all construction activities and work areas in order to check compliance with this CEMP and regulatory conditions. The results of these inspections shall be recorded.

Monthly Inspection and Reporting

6.4 A monthly environmental monitoring report shall be prepared and submitted for review to the Developer. The report shall include a summary of environmental issues and actions during the period to ensure compliance with the CEMP, including details of any action item requests, complaints received, incidents and associated investigations and corrective actions, and environmental inductions and awareness training provided during the period.

Reporting to LB Southwark

6.5 Monthly environmental monitoring reports should be made available to LB Southwark Environmental Health as required and agreed with Officers.

CEMP Review

6.6 The Principal Contractor will ensure that controls outlined in this CEMP are properly implemented and regularly monitored to ensure their effectiveness. Changes to the controls will be instigated if they are not achieving their objectives. The CEMP shall be reviewed and refined in consultation with the LB Southwark, as required, to ensure it remains consistent with environmental regulatory requirements and conditions of planning approval.