Greggs Bakery / Twickenham

Construction Environmental Management Plan

Prepared by London Square

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CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

Greggs Bakery, Twickenham

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1.0 INTRODUCTION

1.1 Background

1.1.1 The Construction Environmental Management Plan (CEMP) is to be submitted to The London Borough of Richmond in support of the application by London Square Developments Limited to redevelop the site for a residential led mixed use scheme.

1.1.2 The CEMP outlines a series of strategies, standards, best practice techniques and procedures that will be observed through the construction process in order to ensure compliance with environmental legislation, regulation and London Square policies.

1.2 Site Description and the Proposed Development

Application Site and Setting

1.2.1 The Site comprises 1.16ha and is situated on the corner of Gould Road and Crane Road in Twickenham in the London Borough of Richmond upon Thames.

1.2.2 The Site itself comprises 3 main factory buildings ranging from 1-2 storeys and a single storey office building fronting that were used in the manufacture of bakery produce for Greggs Bakery.

1.2.3 The Site has access points on the corner of Gould Road and Crane Road and another on Edwin Road. The river Crane and the South Western railway bound the site on the Northern boundary. The site is bounded on the East and West boundaries by Victorian terraced housing.

Address: Gould Road, Twickenham, London, TW2 6RT.

The Proposed Development

1.2.4 Demolition of existing buildings (with the retention of a single dwelling at Gould Road) and redevelopment of the site to provide 116 residential units and 175 sqm commercial floorspace; landscaped areas; with associated parking and highways works and other works associated with the development.

1.3 Construction Works

1.3.1 The construction works associated with the development site will include, but are not limited to, the following:

- *Demolition of the existing building*
- *Establishment of site offices and welfare facilities*

- *Establishment of a secure holding compound*
- *Groundworks*
- *Construction of permanent development infrastructures (pathways, roads and drainage)*
- *RC superstructure to apartment blocks*
- *Traditional superstructure to houses*
- *Facades*
- *Fit Out*
- *Laying and construction of landscaping*

1.4 Management Plan Aims

1.4.1 The aims of this CEMP is to consider the key issues of the development site and to provide a series of strategies, standards, best practice techniques and procedures that will be observed through the construction process to ensure compliance with environmental legislation and regulations. This will ensure minimal disruption and nuisance from the construction process to the existing communities and facilities in the surrounding area.

1.4.2 The standards, procedures and programmes set out in the CEMP will be reviewed and updated as the design and the scheme progresses.

1.5 The Approach to the CEMP

1.5.1 The CEMP is structured into five sections which follow the Section 1 - Introduction.

Section 2 Construction Site Layout

A review of the location of the main site compound facilities including the provision of a secure compound to enable deliveries of construction materials.

Section 3 Construction Activities

Provides a strategy for ensuring that the adverse effects of construction activity on residential amenity and the environment are minimised.

Section 4 Environmental Issues

Describes the best construction practices and methods that will be used in executing the construction works so as to minimise the impact of the works on the environment.

Section 5 Construction Methods

Sets out the sustainable approach to construction that will be adopted in the development.

2.0 CONSTRUCTION SITE LAYOUT

2.1 Contractor's Site Compound

2.1.1 The location of all site compounds (London Square and Subcontractors), plant and machinery will be located, designated and operated to minimise noise, smell, dust, visual or other adverse impacts on existing residents and surrounding buildings.

2.1.2 The site construction logistics plan details the location of the site compound and storage facilities.

2.1.3 Regular inspections will be carried out to ensure that good housekeeping measures are maintained at all times.

2.1.4 The welfare facilities will be located within the application site boundary.

2.1.5 The facilities will comprise of offices, drying room, toilets and canteen facilities.

2.1.6 Foul sewerage from contractor's compounds will be disposed of by suitable and approved means.

2.1.7 The site welfare facilities for London Square Development staff will be procured in line with the London Square Standards, to ensure our facilities meet the group requirements.

2.2 Screening and Hoarding

2.2.1 Where necessary to ensure safety, individual locations within the site where hazardous activities are being carried out will be secured with the installation of herras fence panels. The site perimeter will be delineated and will be provided with warning signs to inform of the dangers of construction sites and advise against unauthorised access.

2.2.2 Site hoarding will be located at the main unsecured areas of the site boundary, mainly at the entrances. Existing boundary treatments will be maintained in all other areas.

2.3 Wheel Washing

2.3.1 In line with our best practice initiatives on site, the point of entry and exit from site onto a public highway will provide suitable wheel washing facilities. No vehicle that is likely to deposit mud or other material on the road surface will be permitted onto the public highway.

3.0 CONSTRUCTION ACTIVITIES

3.1 Interaction with Public Highways

3.1.1 Contractors will be required to take all necessary measures to ensure that public roads are maintained clear from construction debris. Measures will include:

- Vehicles carrying loose aggregate and workings to the site are always to be sheeted;
- Vehicles carrying contaminated material to off-site licenced hazardous waste facilities are to be fully sheeted;
- The provision of wheel washing facilities for all construction vehicles;
- Regular monitoring and maintenance of the wheel cleaning facilities;
- The daily inspection of the on and off-site routes and employing road sweepers.

3.1.2 The need for lorries to reverse onto public highways will not normally be allowed, but if it is required, will be carried out under the strict control of a traffic marshal.

3.1.3 All construction deliveries will be coordinated with the site delivery booking management system. All contractors and suppliers will be required to book a slot on the online system to ensure a flow of deliveries and to avoid congestion on the local road network.

3.1.4 To reduce the road danger associated with the construction of new development and enable the use of safer vehicles, appropriate schemes such as CLOCS (Construction Logistics and Community Safety) or and FORS (Fleet Operator Recognition Scheme) or equivalent will be utilised to plan for and monitor site conditions.

3.2 Protection Measures for Pedestrians and Cyclists

3.2.1 The site access will be manned by a banksman who will ensure that vehicles entering and exiting the site, all of which will be Work Related Road Risk compliant, are considerate of pedestrians and cyclists using the public highway.

3.3 Existing Access

3.3.1 Access to the site will be from Gould Road and Edwin Road, with a large gate for commercial deliveries (All delivers will be booked in on the sites online system) at both entrances and a pedestrian access to site offices from a turnstile/gate on Gould Road.

3.2.2 There will be minimal on-site parking for LSQ staff and visitors. There will be no parking on site for construction operatives. Operative will be expected to access the site via the train or public transport.

3.4 Public Liaison

3.4.1 Procedures will be implemented to ensure effective liaison with the neighbouring properties, adjacent residents and local community through the utilisation of such means:

- Any circulated newsletters will be displayed outside the site entrance, along with letter drops to nearby residents when construction activities are likely to affect the local residents.
- Information boards mounted at the site entrance which will provide details of the following information:
    - Developer/ Contractor details
    - Local Authority details
    - Nature and duration of the project
    - Principal milestones of the project
    - Site operating time and
    - Site management names and contact details

3.5 Considerate Constructors Scheme (CCS)

3.5.1 Before starting works, the site will be registered to the Considerate Constructors Scheme to ensure an external audit is carried out at regular intervals. This will enable the construction process to be monitored with the aim of maintaining the highest possible standards of the site within the construction industry.

3.5.2 The Code of Considerate Practice commits the site to care about appearance, respect the community, protect the environment, secure everyone's safety and value their workforce.

3.5.3 One of the London Square's commitments relating to 'Our Vision' commits all live construction sites registered with CCS to achieve a minimum score of 38 points in each site audit.

3.6 Complaints Procedure

3.6.1 Any site person receiving a concern or complaint from adjacent properties or passing pedestrians shall refer the matter immediately to the site manager, who will record the fact and refer the matter to the management team who will subsequently carry out an investigation.

3.6.2 Any complaints will be recorded and categorised by the site management team into the following categories: Noise; Dirt and Dust; Parking; Safety; Inconsiderate Behaviour; Road Conditions and Vehicle Movements; Environmental Concerns; Pedestrian Access Obstruction; Property Damage; Site Lighting; Working Hours and Other Issues.

3.6.3 The site management team will record the date, time and reason for the complaint and what action has been taken to investigate and respond to the complaint.

4.0 ENVIRONMENTAL ISSUES

4.0.1 All contractors and sub-contractors shall be provided with an appropriate induction and ongoing briefings and tool box talks (TBT) regarding management of environmental issues (i.e. dust mitigation measures required from the works they are carrying out, etc.).

4.0.2 Potential effects to Construction workers will be mitigated by adhering to mandatory health and safety requirements under the Construction (Design and Management) Regulations 2015, Control of Substance Hazardous to Health (COSHH) Regulations 2002, the Confined Space Regulations 1997 and the Control of Asbestos Regulations 2012. Site workers will therefore be required to use appropriate personal protective equipment (PPE) and respiratory protective equipment (RPE), thereby minimising the risk of exposure to potentially contaminated soils, dust, ground gas and vapours. Adherence to legislative requirements and good practice will significantly reduce the potential health and safety risk posed to construction workers from ground contamination and elevated concentrations of ground gas and vapours.

4.0.3 Protocols will be implemented on site in stances of emergencies and environmental incidences.

4.1 Air Quality

4.1.1 During the construction phase, suspended and re-suspended fugitive dust emissions from demolition/construction activities and vehicular emissions from construction traffic, including re-suspended dust from HGV movements may affect the air quality around the site.

4.1.2 The site will be following 'best practice' measures in accordance with GLA Guidance which will be agreed with the Local Authority prior to the commencement of demolition and construction works as appropriate:

General Management

- Solid barriers in the form of hoarding to be erected around the site boundaries
- No unauthorised burning of any material anywhere on site
- Hard surface to be provided to haul roads
- A trained and responsible manager on site during working hours to maintain a logbook and carry out site inspections

Construction Traffic

- Use wheel washers and other appropriate means for vehicles leaving the site where appropriate to minimise the amount of mud and debris deposited on the roads
- All vehicles carrying contaminated material to off-site tips to be fully sheeted
- Use of dust-suppressed tools for all operations
- Ensuring that all construction plant and equipment is maintained in good working order and not left running when not in use
- On-road vehicles to comply to set emissions standards
- Hard surfacing and effective cleaning of haul roads and appropriate speed limit around site
- Regular water spraying and sweeping on surfaced and unsurfaced roads to minimise dust and remove mud and debris
- All construction deliveries are pre-booked in using an online delivery management system implemented by our chosen logistics contractor

Earthworks and Stockpiles

- Completed earthworks will be covered or vegetated as soon as is practicable
- Dampening of exposed soil and material stockpiles, if necessary using sprinklers and hoses
- Minimise surface areas of stockpiles to reduce area of surfaces exposed to wind pick-up
- Concrete crushed during the demolition stage to be used for hard surfaces for haul roads or fill material to reduce the amount of vehicle trips

Cutting, Grinding and Sawing

- Dust extraction techniques to be used where appropriate
- All equipment to be fitted with water suppressant systems
- Local exhaust ventilation to be used as necessary and
- All fans and filters to be regularly serviced to ensure that they are properly maintained

Chutes and Skips

- All skips are to be securely covered during construction and the transportation of skips
- Drop heights are to be minimised to control the fall of materials by use of chutes
- Areas where skips are to be stored are to be on a hard surface
- Skips will be labelled according to segregated waste streams on site consisting of; metal, timber, plasterboard and general waste

4.2 Noise Controls

4.2.1 The preferred approach for controlling construction noise is to reduce source levels where possible, but with due regard to practicality. The simplest and most effective method of reducing noise at nearby receptors is to ensure that noisy plant is located as far from receptors as practicable and screened using temporary barriers.

4.2.2 Noise experienced by receptors can also be reduced by limiting the daily time that noisy equipment is operated; however, it is acknowledged that sometimes a greater noise level may be acceptable if the duration of the activity, and therefore length of disruption, is reduced.

4.2.3 Noise shall be minimised by adopting Best Practicable Means (BPM) as standard working practices across the site to ensure that noise is reduced whenever practicable. The following provisions are examples of BPM and will be adhered to where practicable throughout the construction programme:

- Plant is to be properly maintained and operated in accordance with manufacturer's recommendations. Electrically powered plant is preferred, where practicable, to mechanically powered alternatives
- Where feasible, all stationary plant would be located so that the noise effect at all occupied residential and commercial properties is minimised and, if practicable, every item of static plant when in operation is to be sound attenuated using methods based on the guidance and advice given in BS 5228
- Trade contractors would at all times apply the principle of BPM as defined in Section 72 of the COPA and carry out all work in such a manner as to reduce any disturbance from noise and vibration to a minimum
- The timing of building operations will be critical in avoiding noise and vibration nuisance to surrounding areas and premises. The contractor would identify particularly sensitive periods in the works so that the potential problems can be minimised and that early and good public relations with the adjacent occupants of buildings are maintained.

Construction Traffic

4.2.4 The following measures are to be employed as best practice to ensure that construction traffic noise effects remain insignificant:

- Vehicles employed for any activity associated with the construction works will, where reasonably practicable, be fitted with effective exhaust silencers and shall be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable;
- Time slots are adopted for deliveries to ensure that convoys of vehicles do not arrive simultaneously and avoid unnecessary idling on-site;
- Strict control to prevent temporary parking on kerbsides in the vicinity of noise sensitive receptors; and
- The use of sufficient clear signage to ensure that construction vehicles use only designated routes.

4.2.5 Consideration will be given to monitoring of ambient noise levels at particular points in the works programme, where it is felt that there is the potential for most disturbance.

4.2.6 Where noise levels are exceeded London Square will review the operation taking place and what alternative plant and equipment measures can be utilised. London Square will also review the timings that activities are taking place and liaise with neighbours to ensure disruption is kept to a minimum.

4.3 Vibration

4.3.1 British Standard 5228:2009 Part 2 provides guidelines on the acceptable vibration levels during the construction works. Construction works will be carried out in such a manner as to minimise the likelihood of vibration levels which may cause disturbance.

4.4 Pollution Control

4.4.1 To eliminate the risk of any potential ground, water course or drainage contamination from the various liquids which are used on site and from generated effluents, the following control measures and best practice will be implemented on site;

- All diesel fuel for the site plant will be stored on hard-standing areas, with 110% double bunded bowsers. They will be located at prearranged points for easy access and a refuelling procedure will be communicated to all site operatives to prevent any pollution incidents. Lorries and other vehicles normally used on public roads will not be refuelled on site.
- The plant refuelling areas will have spill kits readily available in case of any diesel spillage, which will be cleaned up immediately. Any spill over 5 litres will be reported to the Sustainability Advisor for an investigation and review.
- Other items requiring storage on site such as hydraulic oils etc. will be stored in a fuel storage area with a 100% surrounding bunded area, secure fixings and the contents name and capacity labelled on it.

- All site welfare facilities and sewerage discharge will be disposed of and collected by suitable and approved means, to a sewerage treatment facility.
- All active drainage points within and adjacent to the site will be clearly identified and where necessary drain protection will be installed.
- At no time will any dust control water sprays be allowed to generate a flow of runoff water into surrounding drains. All such water spray operations will be controlled and managed by appointed site personnel at all times.
- Dust suppression water run-off and all other waste washers will be disposed of in accordance with the requirements of the Environment Agency and appropriate licences will be obtained.
- All on-site drainage systems and those adjacent to the site boundary will be regularly inspected to ensure that they are maintained in an efficient state of repair and remain free of contamination and are not providing a potential means of wildlife access.
- All hazardous waste will be segregated and stored in a COSHH area on site. A specialist waste contractor will be employed to dispose of any hazardous wastes found on site and disposed of in accordance with regulations.
- The foundation methodology and design will be such that there will be no risk of polluting underground water sources. This will be incorporated into the foundation design to be submitted.

4.5 Temporary Lighting

4.5.1 To ensure the impact of visual intrusion from temporary lighting on adjacent areas is controlled; lighting of the site will be kept at the minimum luminosity necessary for adequate security and safety. In addition, lighting will be located and directed such that it does not cause undue intrusion to adjacent properties

4.5.2 All working areas and emergency escape route will be lit to ensure there is adequate lighting sufficient for the site operative to safely carry out the site activities.

4.5.3 When the site is closed all unnecessary site lighting will be turned off and only adequate security lighting will be maintained.

4.6 Ecology

4.6.1 If building demolition is delayed beyond the start of the next bat active season (April / May), as a precautionary measure, a Bat Survey should be conducted, just before demolition begins.

4.6.2 If a bat is observed during the building demolition, works must stop immediately, and a suitability qualified ecologist consulted immediately. In this situation, a Natural England licence would be required prior to the re-start of works. Additional surveys may be required, and replacement roosts may also be needed, to ensure the favourable conservation status of the species is maintained.

4.6.3 Prior to the start of works, the contractor should be fully briefed on the potential to encounter bats and other protected species by means of a 'Toolbox Talk' provided by a suitably qualified ecologist (SQE).

4.6.4 Pre-clearance Ecological Walkover: As the status of protected species can change over time, its recommended that a site walkover is undertaken by suitably qualified Ecologist(s), prior to the start of any site construction.

4.6.5 Given the potential for birds, such as pigeons, to nest on the building (particularly on the balconies and roofs) its recommended that building demolition should ideally be undertaken outside the bird nesting season, i.e. from September to February inclusive (note that birds can nest within this period in good weather and are also protected). Use of bird deterrents should be considered.

4.6.7 If buildings demolition works are not undertaken outside the bird nesting season, they must be checked by a suitably qualified Ecologist for nesting birds, prior to removal. If an active nest(s) is found, a suitably qualified Ecologist should delineate a 'work exclusion buffer' around the structure containing the nest(s). No works are to take place within this buffer until after young have fledged.

5.0 CONSTRUCTION METHODS

5.1 Sustainability

5.1.1 The proposed development in Twickenham will adhere to the sustainable principles outlined in the London Square Sustainability Policy as well as the requirements set out in the Code for Sustainable Homes, which will involve;

- Creating a sustainable community in Twickenham that incorporates a range of uses and tenure appropriate to local socio-economic needs.
- The regeneration and development of a brown field site, to provide more homes and community space for the town.
- Enhancing the local environments by incorporating amenity and landscapes areas.
- Making efficient use of natural resources and consider the long-term environmental impacts.
- Developing successful partnerships with our stakeholders and engaging with them in our work towards sustainability.
- Working with our suppliers and subcontractors to develop sustainable relationships.
- Managing the construction site in a manner that mitigates environmental impact.

5.1.2 London Square will be targeting BREEAM to all non-residential areas.

5.1.3 One of London Square's commitments is to undertake site sustainability assessments that will formally assess the site by monitoring:

- Waste Management
- Ground and Water Pollution Prevention
- Fuel/COSHH Storage and Handling
- Materials Storage and Housekeeping
- Energy and Water Efficiency
- Dust and Noise
- Ecology
- Transport Management
- CCS and Community Involvement
- Sustainability Paperwork

5.1.4 During construction, regular visits will be made by the sustainability advisor to monitor the sites performance against these criteria and advise the site management team on improvements or innovative ideas.

5.2 Reduction, Re-Use and Recycling of Construction Waste

5.2.1 The disposal of waste, including excess soil, will be managed to maximise the environmental and development benefits from the use of surplus material and to reduce any adverse effects of disposal.

5.2.2 A Site Waste Management Plan (SWMP) will be implemented to encourage the principles of the waste hierarchy which are to reduce > reuse > recycle > dispose of waste. Our commitment as a division is to recycle waste. Our commitment as a division is to recycle a minimum of 85% of the waste that will be removed from site. The following measure will be implemented;

- Ensuring that all contractors are contractually obliged to participate in reducing waste from site, which is included in our Sustainability Policy
- Reduction of materials wastage through efficient buying, good storage and handling
- Use of *Modern Methods of Construction for a significant proportion* of the development, allowing significant reductions in waste and facilitating greater recycling
- Entering into agreements with suppliers for recovery and disposal of their products including plasterboard offcuts, insulation offcuts and timber pallets
- Ensuring that all suppliers of materials provide returnable practicably recyclable packaging
- Providing sustainability training, including waste minimisation, for all of the London Square site team
- Regular toolbox talks throughout the construction phase to raise awareness of the importance of minimising; segregating and recycling wastes during the construction process
- Ensuring adequate waste storage facilities are provided for both raw materials and waste streams generated (e.g. Timber, Metal, Plasterboard and General Waste)
- Ensuring adequate security measures are in place

5.2.3 To minimise the demand for primary agreements, it is intended to recycle suitable demolition material for use on site in the redevelopment works wherever possible. For example, the inert materials from the demolition works will be crushed on site and reused in the permanent works to form hard surfaces for haul roads or fill material.

5.3 Plant

Plant	Site Enabling Works	Demolition	Excavation	Substructure	Superstructure	Fit Out	Roads and Landscaping
Bulldozers	✓	✓	✓	✓			
Compaction plant				✓			
Cranes and hoists				✓	✓	✓	
Cutters, drills and small tools	✓	✓		✓	✓	✓	✓
Crushers		✓	✓				
360º excavators		✓	✓				
Floodlights	✓	✓	✓	✓	✓	✓	
Fork lift truck		✓		✓	✓	✓	✓
Generators	✓	✓	✓	✓	✓	✓	✓
Hydraulic benders and cutters		✓		✓	✓	✓	
HGVs/lorries/vans	✓	✓	✓	✓	✓	✓	✓
Scaffolding and mobile hydraulic access platforms	✓	✓			✓	✓	✓
Ready-mix concrete lorry				✓	✓	✓	
Concrete pump				✓	✓	✓	
Mortar batching plant					✓	✓	
Water Pump			✓	✓			
Temporary Supports			✓	✓	✓	✓	

6.0 CONCLUSION

6.1 The Construction Environmental Management Plan (CEMP) will be submitted to the London Borough of Richmond upon Thames in support of the application by London Square Developments (Ltd) to redevelop the site for a residential led scheme.

6.2 The CEMP outlines the construction site layout, construction activities, environmental issues and construction methods that will occur during the development of the former Greggs site, Twickenham in order for the site to dutifully manage the environmental responsibilities.

APPENDIX