

Code of Construction Practice

Guru Nanak Darbar Gurdwara

Clarence Place



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3925 Clarence Place Code of Construction Practice

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1.0 Introduction

The purpose of this Code of Construction Practice (CoCP) is to outline how this project will be managed given the location of the site in Gravesend with consideration to ensuring the works cause the minimum amount of disruption and disturbance to residents. This document will comment on any site constraints, their impact and measures to mitigate them.

2.0 Project Overview

Clarence Place was previously the Guru Nanak Darbar Gurdwara temple, and the intention is to redevelop the building and repurpose it to accommodate 14 residential apartments with ancillary cycle and bin storage facilities. The Client shall retain ownership of the property and privately rent out the apartments.

Site address: Clarence Place, Gravesend, DA12 1LD

Area: 0.07ha/740m²

The proposed redevelopment plot sits in one of Gravesham's conservation areas and appears within the brown hatched area from the Council's Local Plan Core Strategy Policies Map 2014 Fig.1.

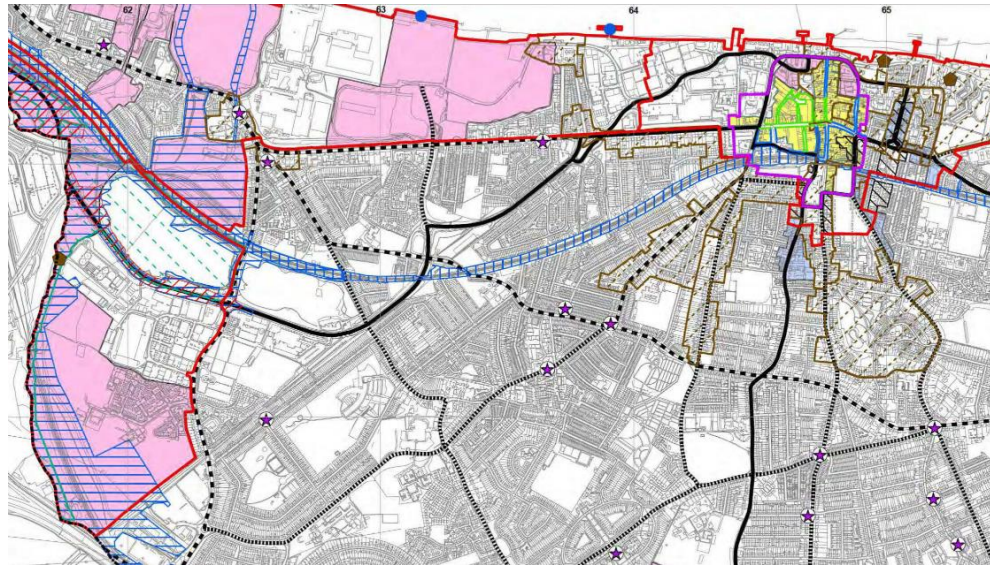


Fig. 1 Gravesham Council Local Plan Core Strategy Policies Map 2014

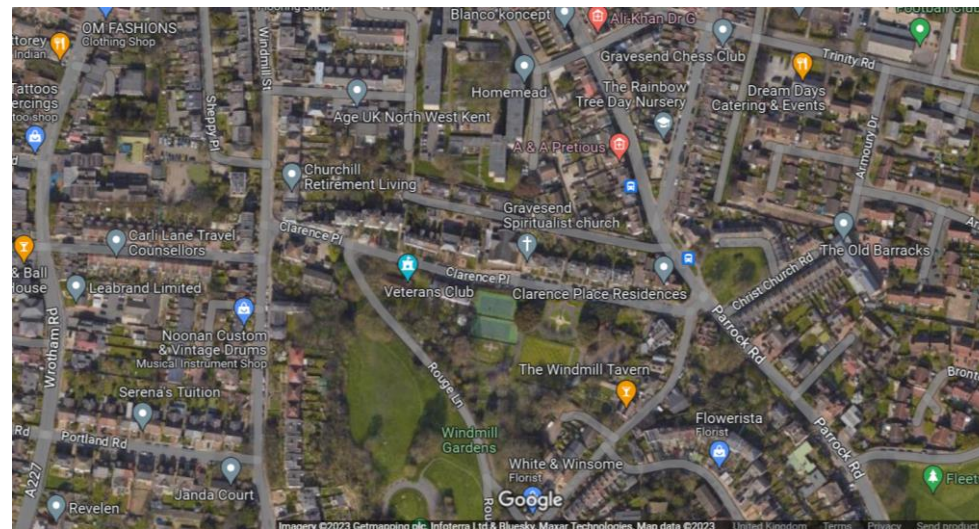


Fig.2. Aerial View of the proposed site.

3.0 Proposed Works

The redevelopment will comprise of 14 self-contained apartments, a library, cycle storage and bin storage facilities

The contract is likely to be a JCT Traditional Contract and it is worth noting that a contractor has not yet been appointed and there not being sufficient time between their appointment and mobilisation for the Principal Contractor to coordinate this document.

Access

The frontage to Clarence Place is close to the road, constraining the site and space is limited. It is intended to demolish the two wings early in the project which could provide more space. To improve access to the site from Clarence Place the existing wall and gates are in a poor state and are planned to be demolished. To allow for the swing of vehicles and for deliveries the double yellow lines and parking bays opposite the site may need to be temporarily suspended and for the safety of the general public the adjacent path closed. All vehicle reversing and manoeuvring should be directed by a competent banksman.



Fig.3. View of the front of the property on Clarence Place looking west.



Fig.4 Rear view of property looking east along William Street.

Construction Phase and Sequencing of Works

It is vital that the Principal Contractor incorporates and adheres to all of the elements of this Code of Construction Practice (CoCP) into their Construction Phase Plan.

Enabling Works, Demolition and Temporary Works

A full dilapidation survey (with photographs) shall be carried out by the Contractor with the Highways Inspector at the beginning of the works to include:

- Neighbouring properties
- Kerbs and pathways surfaces
- Roadway surface
- Street surfaces including street lights, bollards and signposts

Copies are to be kept by the Contractor and Client and a copy sent to the Highways Inspector and Project Manager.

Prior to commencement of the demolition of the two wings, a demolition methodology and programme will be produced by the Principal Contractor detailing the expected duration of the works.

It is proposed that the existing wings will be soft stripped and then taken down piecemeal by machine and by hand; waste will be appropriately separated and removed from site. Scaffolding will only be used for as long as necessary. Temporary works will be managed by a competent Temporary Works Coordinator provided by the Principal Contractor. Dust suppression measures shall be used during the demolition.

Site Preparation

Once the existing wings have been removed, the ground will be made good and provide additional construction space and prior to completion be landscaped. The Principal Contractor will monitor ground vibration. Excavations and trenching for services shall have adequate edge protection, battering and shoring, covers and vehicle stops.

Material Delivery

Materials will be delivered via the Clarence Place entrance. These deliveries will be timed to avoid busy periods at either end of the day, after 0930 and before 1500.

Scaffolding

Demolition of the two wings will enable full sized scaffolding to be erected. Scaffolding needs to be erected on all 4 elevations of the site to the full height of the roofscape of the proposed development. It will enable works to the upper floors and roof to be carried out as an early stage. This will also allow new windows to be fitted and may require adaptations to the lifts. Scaffolding will only be in place for as long as it is required.

The Principal Contractor will secure the scaffolding to deter unauthorised access. The Structure shall be wrapped to reduce noise and manage dust.

Operating hours

Restricted working hours will be to Gravesham Borough Council's controlled hours of 8am – 6pm (Monday – Friday) and 8am – 1pm (Saturdays). There will be no working on Sundays or Bank Holidays.

Programme and Sequencing

The overall construction period (RIBA Stage 5 work) will be approximately 80 weeks, starting with the demolition of the 2 wings, erection of the scaffolding for high level repairs and window installs, internal refurbishment and external landscaping.

4.0 Site Set-up/Security

The site will be accessed via Clarence Place and the site boundary shall be secured with hoarding and a set of lockable gates with warning signs to deter unauthorised access. The site office and welfare accommodation shall be double stacked to utilise available space. There will be a vehicle bay located inside the gates for deliveries and waste collections and adjacent area for materials storage. Waste streams will be removed regularly to prevent arson and materials, equipment and plant will be left in a safe condition to prevent injury and theft. The site will be occupied as per the working times and CCTV cameras installed to cover key parts of the site. Refer to Figure 1 below for a visual representation.



Fig.5. Outline Site Logistics Plan

Only materials for immediate use shall be stored on site, to reduce the risk on the visual impact of the environment. To deter theft, tool vaults will be utilised and located inside the building, no materials or equipment shall be left on site unless absolutely necessary.

The Principal Designer will make regular site visits to ensure compliance.

5.0 Neighbourly Relations

The site is situated in a residential area within a Conservation Area; therefore the works will be managed accordingly considering the constraints of the site without impeding neighbouring properties. The selected contractor shall sign up to the Considerate Constructors Scheme and apply the principals as set-out by the scheme to the project, these are:

1. Respect the Community

Constructors must manage their impact on their neighbours and the public to support a positive experience, by:

- Ensuring courteous and respectful language and appropriate behaviour in and around the construction activity
- Providing a safer environment, preventing unnecessary disturbance, and reducing nuisance for the community from their activities
- Proactively maintaining effective engagement with the community to deliver meaningful positive impacts.

2. Care for the environment

Constructors must minimise their impact and enhance the natural environment, by:

- Prioritising environmental issues to protect the natural environment and minimising negative impacts
- Optimising the use of resources, including minimising carbon throughout the value chain
- Engaging with the community to improve the local environment in a meaningful way.

3. Value the workforce

Constructors must create a supportive, inclusive, and healthy workplace, by:

- Actively encouraging and supporting an inclusive and diverse workplace
- Proactively supporting safe working, mental and physical wellbeing at work
- Providing workplaces that are, well maintained, clean and secure from physical and biological hazards.

As part of the scheme the contractor shall be visited periodically by a Scheme Monitor and assessed and awarded an overall score. This will highlight areas requiring improvement and any non-conformances and reward appropriately for innovation and best practice.

Starting with a letter drop, regular communication to the neighbouring residents and any community groups shall be maintained by the contractor throughout the duration of the works. The contractor will provide updates on scheduled works and any changes that may occur as a result of unforeseen circumstances. Any reasonable issues raised by local residents shall be recorded and where possible actioned, details of any unresolved actions shall also be kept.

A display board shall be mounted in a prominent position providing details on the nature of the works, a contact name and telephone number (including a number to be used outside normal working hours).

6.0 Construction Traffic Management

Routing of site traffic and access

- Site traffic will approach the site from either Windmill Street from Singlewell Road or Parrock Road via Valley Drive and Whitehall Lane and it is suggested avoiding the A227 Wrotham Road as both Portland Road and Wingfield Road are not suitable for construction vehicles.
- Collections and deliveries will be restricted to times between 0930 and 1500.
- Vehicles shall manoeuvre only under the control and escort of a banksman, with segregation of vehicle and pedestrian routes being clearly marked with directional signage on site. Any crossovers are to be clearly indicated and suitable barriers installed in order to protect site operatives and members of the public.
- Wheel washing facilities will be located inside the gates into Clarence Place fed from the existing building, run-off is to be directed via the onsite drainage system via the manhole in the delivery area.
- All vehicle loads and skip lorries will be covered to avoid materials falling off.
- Air quality on site will be continually measured.
- It is envisaged that there will be on average 3 deliveries or collections daily during the peak of the works.

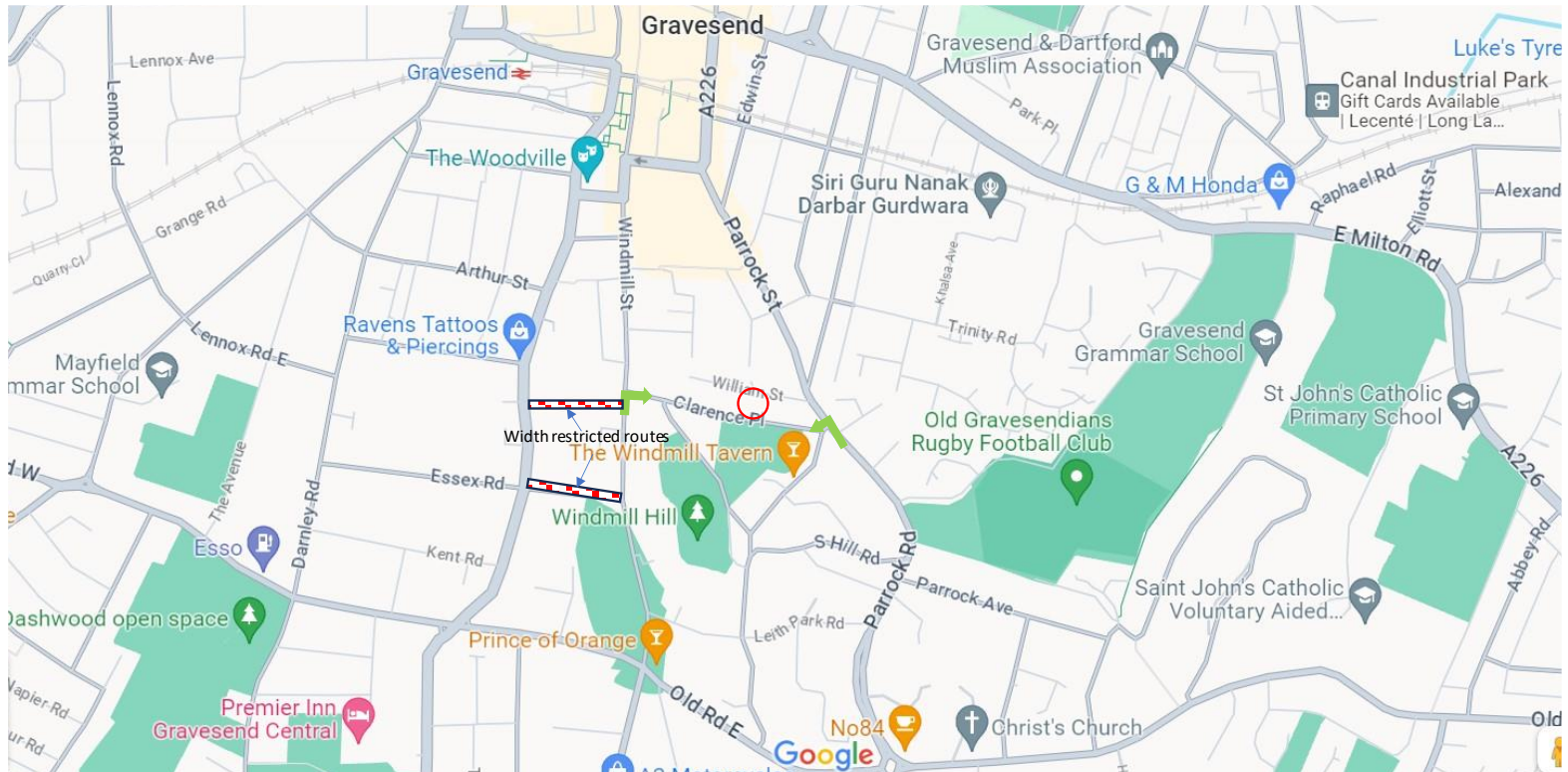


Fig.6 Site Location and Traffic Route in General

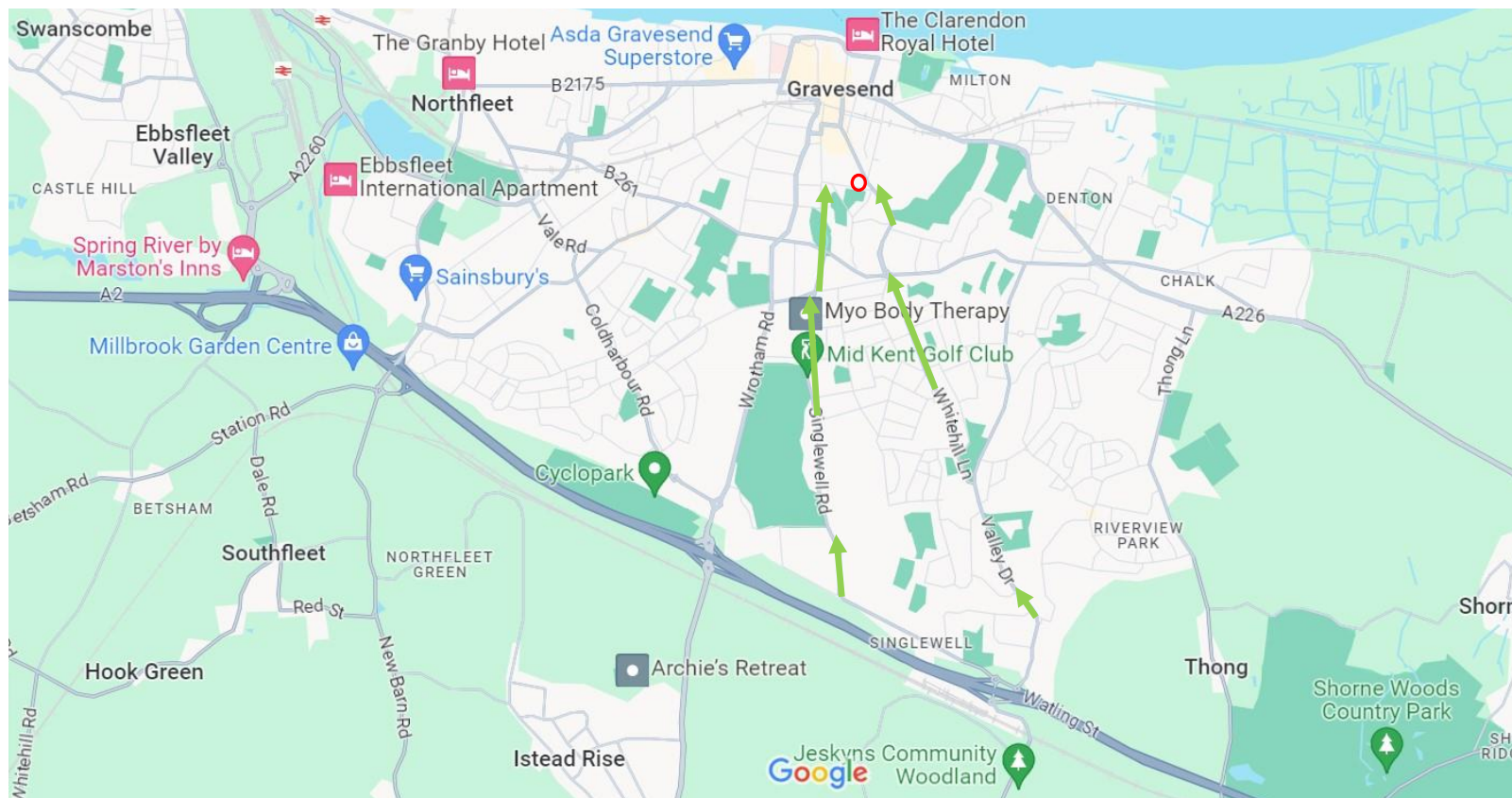


Fig.7 Construction Traffic Routing in Detail

- To protect the members of the public, all vehicles will be escorted by a competent banksman and directed into the site. They shall also be escorted from site; a banksman's station is provided just inside the gates. Wheel washing facilities will be located inside the gates at Clarence Place fed from the existing adjacent building, run-off is to be directed via the onsite drainage system via the manhole in the delivery bay.

All vehicles are to reverse into the site in order to exit in a forward direction as per the swept path diagram in Figure 4. All vehicle reversing and manoeuvring should be directed by a competent banksman.

Working Hours

Restricted working hours will be to Gravesham Borough Council's controlled hours of 8am – 6pm (Monday – Friday) and 8am – 1pm (Saturdays).

There will be no working on Sundays or Bank Holidays.

7.0 Environmental Management Plan

Waste

Waste material storage on site will be kept to a minimum; waste types will be sorted and segregated. Due to the spatial constraints of the site, waste will be disposed of regularly of by a contractor with a valid waste carrier licence.

Emissions

Where practicable, operatives shall be encouraged to arrive on-site via public transport.

All deliveries or collections will be scheduled to avoid peak hour traffic and minimise congestion.

Dust Management Plan

Principles of control hierarchy will be employed through the demolition and construction processes to mitigate the impacts of dust on the surrounding neighbouring properties and to avoid causing ill-health effects to site operatives. We refer the Principal Contractor to the IAQM Guidance on the Assessment of dust from demolition and construction and the procedure for undertaking of dust impact assessments and the appropriate project controls implemented. More than one assessment may be necessary and will include an initial assessment of nearby receptors such as neighbours, neighbouring properties and cars, trees, wildlife, users of the park and tennis courts.

The assessment will include the 4 activities that require a separate risk assessment:

- Demolition works, i.e. the demolition of the two wings and waste materials
- Earthworks and excavations, this will include any excavated materials from trenching works

- Construction works to include cutting, sanding, drilling and the use, transport, storage and disposal of waste construction products e.g. cement, sand, plaster, scaffolding will be wrapped to control dust.
- Trackout from construction vehicles

The assessment looks at the following separate dust impacts:

- Annoyance and nuisance of dust soiling
- The risk of ill-health effects from an increased exposure to particulate matter
- Harm to local ecology

Baseline monitoring of air quality levels (PM) using typical equipment (shown in Figure 8) will be undertaken before works commence and monitoring will continue through the works.

To control levels of fugitive dust, water suppression or water sprinkler systems (illustrated in Figures 9 & 10) shall be utilised during the demolition phase to control fugitive dust, any ecological stress on surrounding vegetation. Depending on the wind direction at the time, the main building may act as a barrier when either of the wings is demolished.

Any waste chutes and skips shall be covered to prevent dust migration.

Hoarding and dust screening around the site will be erected to minimise dust migration to neighbouring properties. Any stockpiles of material shall be covered with tarpaulins and secured and where necessary dampening down of materials or areas traversed by construction vehicles to avoid trackout. Clarence Place/William Street will be swept by road sweeper when required.

Wheel washing facilities will be located inside the gates into Clarence Place fed from the existing adjacent building, run-off is to be directed via the onsite drainage system via the manhole in the delivery bay.

Vacuum cleaners using the appropriate filter classification (H or M) shall be used for cleaning up during other phases of construction work and exposure limits to dust adequately managed and controlled.

	Step 1	Step 2a dust emission magnitude	Step 2b sensitivity rating	Step 2c risk rating	Step 3 site specific mitigation / controls	Step 4 residual effects and adequacy of controls
Demolition 254m ³	Neighbours, neighbouring properties (c30) and cars in close proximity less than 50m, trees, wildlife within 50m users of the park and tennis courts	Small Area for buildings to be demolished <12,000m ³	High 28 properties within 20m of boundary	Medium	Only 2 small wings due for demolition. Site hoarding and dust screening. Dust suppression equipment and monitoring. Dampening down, cover waste materials and dispose of regularly. Soft strip. Piecemeal method of demolition. Use covered chutes	Monitor and review. Carry out site inspections. Measure and keep records. The works are sequenced to reduce cumulative effects. The site will display the contact details of the site manager. Develop and implement a DMP. Keep records of complaints and actions taken.
Earthworks The site sits on made ground, and Thanet beds. SI reports states the soils to be grey sandy silty clay between 0.6-1.2m below ground		Small Area less than 18,000m ²	High 28 properties within 20m of boundary	Low	New foundations to wings and localised trenching for services ducts. Dampening down, cover excavated materials.	Monitor and review. The works are sequenced to reduce cumulative effects.
Construction Building volume <12,000m ³		Small	High 28 properties within 20m of boundary	Low	Majority of works internal refurbishment, good housekeeping and regular use of vacuum with H or M filters. Windows and doors kept closed. Waste materials covered and disposed of regularly. Use of cutting stations. Engines switched off when not in use. Use mains power. No burning of waste see PCI Pack. Scaffolding to be wrapped.	Monitor and review. The works are sequenced to reduce cumulative effects.
Trackout Space for small <3.5t vehicles only Area is hard surface.		Small	High 28 properties within 20m of boundary	Low	Limited space for vehicles movement due to physical site constrictions, the site sits on nearly the whole footprint, and adjacency to neighbouring properties. All vehicles to be ULEZ compliant. Trackways to be covered and dampened down. Loads covered.	Monitor and review.

Table 1 Summary of Outline of the Dust Management Plan Assessment

Based on IAQM Guidance Assessment of dust from demolition and construction

The additional Step 5 is the preparation of a dust impact report, it is suggested that a DP is commissioned to be carried out by a specialist and submitted to Planning. A specialist will be able to determine the concentration of PM and determine the dust impacts on human health, ecological receptors and dust soiling further.



Fig. 8 Air Quality (Dust) Monitoring Equipment



Fig. 9 Cannon Mister Dust Suppression System



Fig. 10 Dust Sprinkler Kit

The site will display the contact details of the site manager

Noise & Vibration Mitigation

Principles of control hierarchy will be employed through the demolition and construction processes to mitigate the impacts of noise and vibration on the surrounding neighbouring properties and to avoid causing ill-health effects to site operatives.

- Scaffolding will be wrapped.
- Local electricity supply will be used to avoid the use of generators.
- All openings (i.e. doors and windows) where practicable, will be sealed and radios will not be permitted.
- Plant shall be utilised with noise and vibration mitigation measures engineered into their design.
- The building itself shall be demolished via careful soft stripping and piecemeal methods of demolition (from the top down) to further mitigate noise, dust and vibration.
- The opening and closing of the site entrance will be kept to a minimum and coordinated with deliveries and collections.

Predicted noise outputs can be assessed by appropriate software operated by the Clients contact Campbell Associates <https://www.campbell-associates.co.uk/>.

Baseline monitoring of both noise and vibration shall be undertaken before works commence using similar equipment as illustrated in Figures 11 & 12. This equipment will monitor noise and vibration through the demolition, piling and construction phases of the project, incorporating data collection, beacons and alarms in the site office. The equipment shall be used to alert the site manager who shall act as the monitoring officer as and when levels are exceeded. In the of an amber trigger the contractor shall investigate to determine the source of the significant level of noise and reduce these levels as far as reasonably practicable. All works to cease upon reaching the red trigger level.

The limitations are:

Parameter	Trigger (Amber)	Action (Red)
Noise Level	75db (A)Leq,15min(short term)	80dB(A)Leq,15min(short term)
	70dB(A)Leq,10hr (08:00 to 18:00)	75dB(A)Leq,10hr (08:00to18:00)

Table 1 – Critical Noise Level Limits



Fig.11 Noise Monitoring Equipment



Fig. 12 Vibration Monitoring Equipment

BS5228-2:2009+A1:2014 provides guidance on both noise and vibration control on construction sites, part 2 deals with vibration and the nuisance it causes to neighbouring properties. Early demolition of the 2 wings suggests monitoring equipment is located in an appropriate position to neighbouring properties. Annex B Part B.2 states that the threshold of perception being typically in the peak particle velocity range (PPV) of 0.14mm.s^{-1} to 0.3mm.s^{-1} . Above these values they can disturb occupants in premises.

Vibration Level (mm.s^{-1})	Effect
0.14	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.3	Vibration might be just perceptible in residential environments.
1.0	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.
10	Vibration is likely to be intolerable for any more than a very brief exposure to this level in most building environments.

Odour Control

Offensive odours interfere with people's normal enjoyment and can cause feelings of revulsion, nausea and general annoyance to being detrimental to people's health and wellbeing in and around a construction site.

Odours on a construction site may arise from the following sources:

- Waste materials (rotting organic materials, VOCs from chemicals)
- Construction products such as solvents, paints, sealants, roofing tar, sprays
- Construction processes from hot works and welding, mixing, spraying and applying
- Plant and equipment such as diesel emissions, portable gas, other fuels and lubricants
- Site welfare accommodation such as portable toilets
- Existing drains and drainage, underground tanks, cess pits and stagnant water
- Spilt materials that have not been stored in a bund

These are to be managed by:

- Identifying those receptors at risk, operatives, members of the public, neighbouring residents, users of the park etc
- Appropriate risk assessment to include distinctions between unsafe, unwelcome, innocuous; sensitivity rating and likelihood.
- Application of hierarchy of control, i.e. the elimination or replacement with a less odorous product, reduction of exposure etc
- Good housekeeping and regular removal of waste, waste is not to be burnt on site.
- Careful specification of materials, chemicals and paints
- Restricting vehicle movements
- Using mains power rather than diesel generators, use of battery powered equipment and minimise use of petrol/diesel plant and vehicles
- Routine emptying of portable toilets
- Keeping an eye on meteorological factors such as wind direction and wind speed
- Increase distance of source of odour from receptor where possible
- Use of ventilation, extraction and filtration systems to dispose of or distribute odours such as Air Scrubbers see Figs. 14 and 15.
- Use of buildings and other physical barriers
- Adequate training, information, instruction and supervision of operatives
- The availability and adherence of material safety data sheets
- Keep records of the use of residual sources of odorous
- Keep records of complaints and actions taken

Good housekeeping

- The site will be kept in a clean and safe condition at all times.

- The adjacent areas shall be routinely checked and monitored, and all rubbish removed. Skips will be kept covered and any graffiti shall be removed from hoardings.
- Wheel washing facilities shall be located within the Clarence Place entrance.

Pollution Control

It is not envisaged that the demolition and construction processes pose potential for pollution or the need for significant use of hazardous chemicals. Any chemicals that are required for use on site will be kept to a minimal volume and accommodated in 110% bund and a spill kit supplied containing absorbent socks, pads and bags.

Smoke Control

At the design phase, the design team have attempted to 'design out' or minimise the risk of fire and smoke starting during the construction phase through the use of a hazard identification list.

The development has been designed to Approved Document B of the Building Regulations (B1-B5) and a fire strategy by a fire consultant for when the building is occupied.

The principal contractor will be responsible for the site fire plan and updating it throughout the project. An assessment of the risks of fire (and the production of heat, hot gases and smoke) from any activities during the works will be undertaken and included as part of their Construction Phase Plan.

Fire procedures will be adhered to with all operatives being given induction training on:

- The fire procedures
- Temporary early detection and warning systems (wireless) – see Fig. 13
- Actions on raising the alarm and alarm call points
- Firefighting equipment
- Escape routes, fire exits and assembly points
- Any hot works procedure
- Safe use of abrasive wheels
- Smoking
- Checks on tools, plant and equipment
- The reporting of defects and taking items out of service
- Promote good housekeeping

Where operatives are trained in their use firefighting equipment such as appropriate extinguishers will be on hand to tackle any outbreaks. Waste will be removed regularly; all materials will be appropriately stored on site.

The site is unoccupied and will be secured out of hours to prevent unauthorised access and arson.

There are two types of smoke control systems including mechanical smoke control and passive smoke control. Where the risks of smoke migration are significant, additional fans will be used to blow or extract smoke and hot gases away from neighbouring properties as illustrated in Figs. 14 and 15. In some instances, the building itself will act as a passive smoke control system by providing compartmentation and a physical barrier.



Fig. 13 Temporary Building Site Fire Alarms



Fig. 14 Air movement fan



Fig. 15 Air Scrubber

8.0 Fire and Emergency Procedures

The Principal Contractor shall implement fire and emergency procedures as part of their construction phase plan. These will include the following:

- Management of materials, waste and ignition sources
- Means of alert and fire-fighting equipment
- Evacuation plan
- Pollution control measures
- Maintain access for emergency services
- Trained site first aiders and first aid equipment
- Details of nearest A&E – Darent Valley Hospital 6 miles away.

9.0 Health & Safety

Prior to works commencing the Principal Contractor shall, in their construction phase plan, detail measures outlined in this document to mitigate health and safety risks to site operatives, site visitors and members of the public from demolition and construction processes. These will include:

- Risk assessments and method statements
- Traffic management plan
- Fire and emergency procedures
- Site security plan
- Dust, noise and vibration control

The site will be managed by a site manager, all operatives, members of the design team and visitors to site will receive a health and safety induction, an amount of PPE shall be made available for visitors.

10.0 Construction Management Plan

The Principal Contractor shall incorporate all of the elements of this Code of Construction Practice (CoCP) into their Construction Phase Plan (CPP). The CPP shall be reviewed by the Principal Designer in order to ensure compliance with the CMP.

The content of this CoCP and the requirements of the Principal Contractor's CPP shall be communicated to all operatives, sub-contractors and visitors as part of the site induction. Copies of these documents and other health and safety information shall be prominently displayed in the site welfare area.

The Principal Designer shall visit site to ensure that the elements of the CoCP and CPP are adhered to by the Principal Contractor.