Construction Management Plan

pro forma v2.2

Camden

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Revisions & additional material

Please list all iterations here:

Date	Version	Produced by
01/05/2019	Draft	Markides Associates
21/06/2019	Revised Report	Markides Associates
28/06/2019	Minor Amendment	Markides Associates

Additional sheets

Please note – the review process will be quicker if these are submitted as Word documents or searchable PDFs.

Date	Version	Produced by

Introduction

The purpose of the **Construction Management Plan (CMP)** is to help developers to minimise construction impacts, and relates to both on site activity and the transport arrangements for vehicles servicing the site.

It is intended to be a live document whereby different stages will be completed and submitted for application as the development progresses.

The completed and signed CMP must address the way in which any impacts associated with the proposed works, and any **cumulative impacts of other nearby construction sites**, will be mitigated and managed. The level of detail required in a CMP will depend on the scale and kind of development. Further policy guidance is set out in Camden Planning Guidance **(CPG)** 6: Amenity and **(CPG)** 8: Planning Obligations.

This CMP follows the best practice guidelines as described in Transport for London's (TfL's Standard for Construction Logistics and Community Safety (**CLOCS**) scheme) and Camden's Minimum Requirements for Building Construction **(CMRBC)**.

The approved contents of this CMP must be complied with unless otherwise agreed with the Council in writing. The project manager shall work with the Council to review this CMP if problems arise in relation to the construction of the development. Any future revised plan must also be approved by the Council and complied with thereafter.

It should be noted that any agreed CMP does not prejudice or override the need to obtain any separate consents or approvals such as for road closures or hoarding licences.

If your scheme involves any demolition, you need to make an application to the Council's Building Control Service. Please complete the "**Demolition Notice.**"

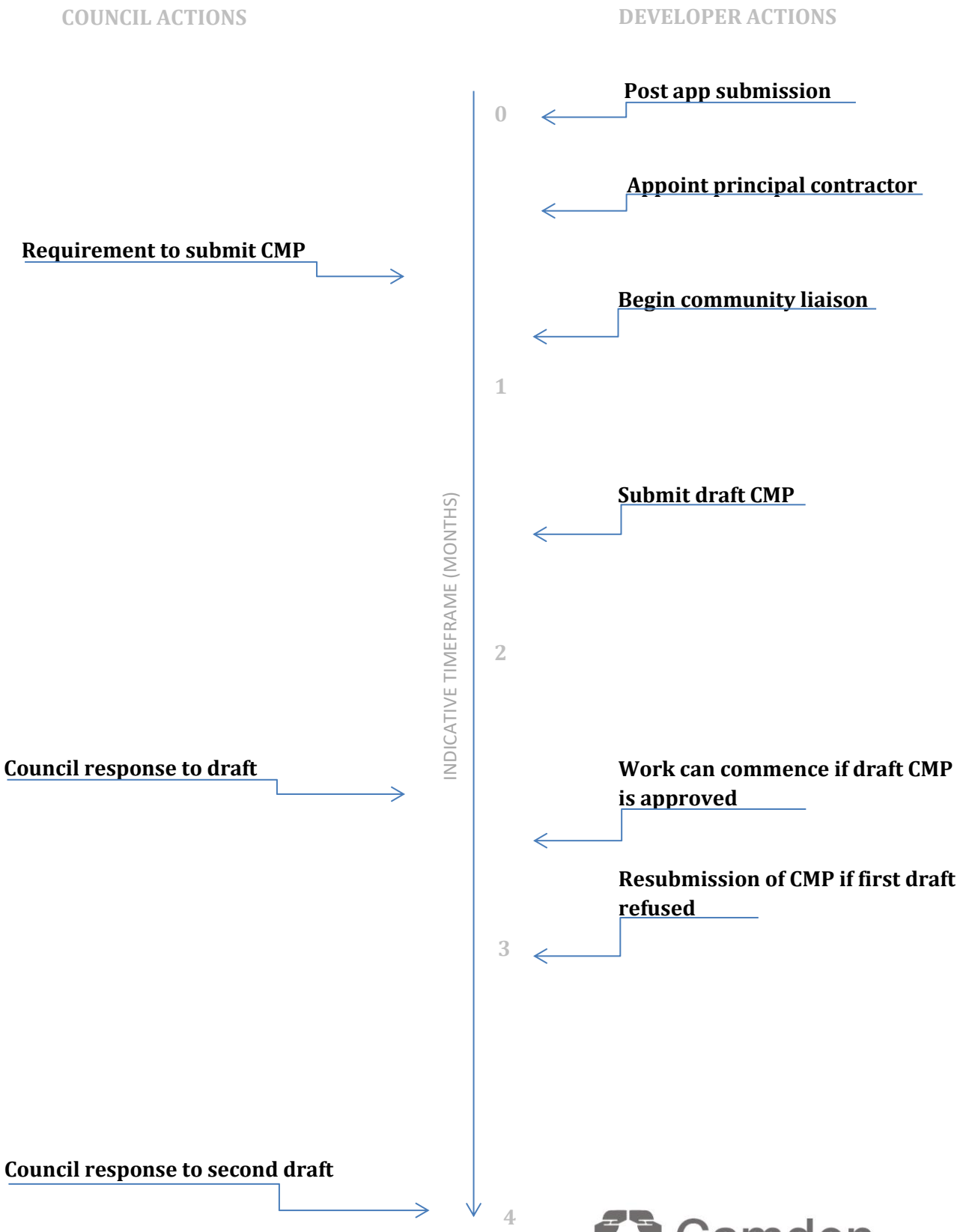
Please complete the questions below with additional sheets, drawings and plans as required. The boxes will expand to accommodate the information provided, so please provide as much information as is necessary. **It is preferable if this document, and all additional documents, are completed electronically and submitted as Word files to allow comments to be easily documented. These should be clearly referenced/linked to from the CMP.**

Please notify that council when you intend to start work on site. Please also notify the council when works are approximately **3 months from completion.**

(Note the term 'vehicles' used in this document refers to all vehicles associated with the implementation of the development, e.g. demolition, site clearance, delivery of plant & materials, construction, etc.)

Revisions to this document may take place periodically.

Timeframe


COUNCIL ACTIONS
DEVELOPER ACTIONS
Post app submission
0
Appoint principal contractor
Requirement to submit CMP
Begin community liaison
1
Submit draft CMP
INDICATIVE TIMEFRAME (MONTHS)
2
Council response to draft
Work can commence if draft CMP is approved
Resubmission of CMP if first draft refused
3
Council response to second draft
4

Contact

1. Please provide the full postal address of the site and the planning reference relating to the construction works.

Address:

17 & 25-27 Ferdinand Street, London, NW1 8EU

Planning reference number to which the CMP applies:

2015/0925/P

2. Please provide contact details for the person responsible for submitting the CMP.

Name: Simon Hikmet, Designated Contractors Ltd.

Address: 46, Great Marlborough Street, London W1F 7JW

Email:

Phone: +44 7788 780677

3. Please provide full contact details of the site project manager responsible for day-to-day management of the works and dealing with any complaints from local residents and businesses.

Name: Simon Hikmet, Designated Contractors Ltd.

Address: 46, Great Marlborough Street, London W1F 7JW

Email:

Phone: +44 7788 780677

4. Please provide full contact details of the person responsible for community liaison and dealing with any complaints from local residents and businesses if different from question 3. In the case of **Community Investment Programme (CIP)**, please provide contact details of the Camden officer responsible.

Name: Simon Hikmet, Designated Contractors Ltd.

Address: 46, Great Marlborough Street, London W1F 7JW

Email:

Phone: +44 7788 780677

5. Please provide full contact details including the address where the main contractor accepts receipt of legal documents for the person responsible for the implementation of the CMP.

Name: Simon Hikmet, Designated Contractors Ltd.

Address: 46, Great Marlborough Street, London W1F 7JW

Email:

Phone: +44 7788 780677

Site

6. Please provide a site location plan and a brief description of the site, surrounding area and development proposals for which the CMP applies.

6.1 A location plan is included as **Drawing 19043-01-100** at the end of this report, which identifies the red line boundary and details of the local highway.

6.2 The site is located at 17,25 & 27 Ferdinand Street, Camden, and has planning permission (Ref: 2015/0925/P) for the erection of additional 4th and 5th floors, 5 storey extension to courtyard (west) elevation, single storey extension to east elevation all at 17 and 27 Ferdinand Street and redevelopment of 25 Ferdinand Street to create 5 storey building to provide 10 additional residential units (9 units already in situ) and Class B1a office floorspace. Permission was granted in November 2015.

6.3 The proposed site is located in the Chalk Farm area and directly accesses Chalk Farm Road to the south. The area immediately surrounding the development site has a wide range of land uses. The development site is accessed from Ferdinand Street which feeds onto the A502 (Chalk Farm Road) to the south, between the junctions with Belmont Street to the west and Harmood Street to the east.

6.4 Ferdinand Street is within the LBC's Controlled Parking Zone CA-F (NW). Parking on the surrounding roads is currently restricted and all public parking within this area is Pay and Display and there is no free car parking within the vicinity of the site.

6.5 Kentish Town West railway station is situated approximately 450m to the northeast of the site (5-6 minutes' walk) and Kentish Town railway station is situated approximately 1.1km to the northeast of the site (13-14 minutes') walk. Chalk Farm underground station is situated approximately 420m walking distance to the west of the site and is served by the Edgeware branch of the Northern Line. Frequent services (approximately every two to five minutes) are provided towards Edgware, High Barnet (requiring a change at Camden Town) and Euston.

6.6 There are bus stops approximately 100m from the development site and the nearest access point onto the London Cycle Network (LCN) is LCN Route 27 on Kentish Town Road (A400) which is situated approximately 600m to the east of the site via Chalk Farm Road (A502) and Hawley Road (A502). LCN Route 27 runs in a north-south direction and accesses Kentish Town railway station and Highgate to the north.

6.7 Pedestrian facilities in the vicinity of the site are good. The development site can be accessed easily from a number of public transport links in the area, including by bus, overground and underground rail transport links. The development also provides easy access to facilities and amenities along Chalk Farm Road and within Camden Town centre, including those along the High Street.

6.8 The locations of bus stops, stations, cycle routes and key facilities have been included on Figure 1, and further details of the site and its accessibility are contained within the Transport Statement associated with the application.

Figure 1 – Site Location Plan

7. Please provide a very brief description of the construction works including the size and nature of the development and details of the main issues and challenges (e.g. narrow streets, close proximity to residential dwellings etc).

7.1 The phasing of the construction works is as follows:

- Phase 1 – Demolition and Site Clearance
- Phase 2 – Foundations
- Phase 3a – Construction of steel frame and cores
- Phase 3b – External Cladding
- Phase 3c – Internal Walls, fixtures and fittings
- Phase 3d – Installation of green roof, finishes and landscaping

7.2 The use of a crane will be required to assist construction. A 30T mobile crane will be employed during construction when required.

7.3 The total construction programme will take approximately 19 months to complete. Approximately two months have been allowed for the demolition and site clearance works and a further one month for the laying of foundations and other preliminary work. Approximately 16 months has then been identified for the building construction and completion. Please refer to **Appendix A** for the construction programme.

8. Please identify the nearest potential receptors (dwellings, business, etc.) likely to be affected by the activities on site (i.e. noise, vibration, dust, fumes, lighting etc.).

8.1	There are retail/commercial units fronting Ferdinand Street to the east of the site, and additional units fronting Chalk Farm Road to the south. The site is bound by residential units located at Mead Close to the north. The location of local sensitive receptors are highlighted on **Figure 1.**

9. Please provide a scaled plan detailing the local highway network layout in the vicinity of the site. This should include details of on-street parking bay locations, cycle lanes, footway extents and proposed site access locations.

9.1	A scaled plan is included as **Drawing 19043-01-100**, appended to this report.

10. Please provide the proposed start and end dates for each phase of construction as well as an overall programme timescale. (A Gantt chart with key tasks, durations and milestones would be ideal).

10.1	A Gantt Chart of the construction programme is included as **Appendix A.**

11. Please confirm the standard working hours for the site, noting that the standard working hours for construction sites in Camden are as follows:

- 8.00am to 6pm on Monday to Friday
- 8.00am to 1.00pm on Saturdays
- No working on Sundays or Public Holidays

11.1 In accordance with the hours recommended in the LBC 'Noise from Construction Sites', the hours of work are proposed to be:

- Monday to Friday 08:00 – 18:00;
- Saturday 08:00 – 13:00; and
- No work to be carried out on Sundays or Bank Holidays unless necessary, whereby a license will be obtained from London Borough of Camden.

11.2 It is proposed that to minimise traffic impact and help vehicle movements on the Ferdinand Street residents, all deliveries to be limited to between the hours of 10.00am – 4.00pm.

11.3 Should there be any requirement for works to be carried out outside the construction hours outlined above, the construction site management will approach the LBC and TfL prior to this taking place.

11.4 The hours proposed are therefore in accordance with Camden policy.

12. Please indicate if any changes to services are proposed to be carried out that would be linked to the site during the works (i.e. connections to public utilities and/or statutory undertakers' plant). Larger developments may require new utility services. If so, a strategy and programme for coordinating the connection of services will be required. If new utility services are required, please confirm which utility companies have been contacted (e.g. Thames Water, National Grid, EDF Energy, BT etc.) You must explore options for the utility companies to share the same excavations and traffic management proposals. Please supply details of your discussions.

12.1 The Site is currently connected to gas and electricity as there are presently 9 units on the site. At the time of writing of this report, the extent of new connections is unknown, and no new main connections are considered necessary. Utility companies will be contacted as and when any additional information is made available.

Community Liaison

A neighbourhood consultation process must have been undertaken prior to submission of the CMP first draft. This consultation must relate to construction impacts, and should take place following the granting of planning permission in the lead up to the submission of the CMP. A consultation process specifically relating to construction impacts must take place regardless of any prior consultations relating to planning matters. This consultation must include all of those individuals that stand to be affected by the proposed construction works. These individuals should be provided with a copy of the draft CMP, or a link to an online document. They should be given adequate time with which to respond to the draft CMP, and any subsequent amended drafts. Contact details which include a phone number and email address of the site manager should also be provided.

Significant time savings can be made by running an effective neighbourhood consultation process. This must be undertaken in the spirit of cooperation rather than one that is dictatorial and unsympathetic to the wellbeing of local residents and businesses.

These are most effective when initiated as early as possible and conducted in a manner that involves the local community. Involving locals in the discussion and decision making process helps with their understanding of what is being proposed in terms of the development process. **The consultation and discussion process should have already started, with the results incorporated into the CMP first draft submitted to the Council for discussion and sign off.** This communication should then be ongoing during the works, with neighbours and any community liaison groups being regularly updated with programmed works and any changes that may occur due to unforeseen circumstances through newsletters, emails and meetings.

Please note that for larger sites, details of a construction working group may be required as a separate S106 obligation. If this is necessary, it will be set out in the S106 Agreement as a separate requirement on the developer.

Cumulative impact

Sites located within high concentrations of construction activity that will attract large numbers of vehicle movements and/or generate significant sustained noise levels should consider establishing contact with other sites in the vicinity in order to manage these impacts.

The Council can advise on this if necessary.

13. Consultation

The Council expects meaningful consultation. For large sites, this may mean two or more meetings with local residents **prior to submission of the first draft CMP**.

Evidence of who was consulted, how the consultation was conducted and a summary of the comments received in response to the consultation should be included. Details of meetings including minutes, lists of attendees etc. should be appended.

In response to the comments received, the CMP should then be amended where appropriate and, where not appropriate, a reason given. The revised CMP should also include a list of all the comments received. Developers are advised to check proposed approaches to consultation with the Council before carrying them out. If your site is on the boundary between boroughs then we would recommend contacting the relevant neighbouring planning authority.

Please provide details of consultation of draft CMP with local residents, businesses, local groups (e.g. residents/tenants and business associations) and Ward Councillors.

13.1	This CTMP in draft has been circulated to local residents and neighbours by means of an electronic dropbox. It has been available for a minimum of 2 weeks and enabled so that comments could be collected to inform the further development of the Plan.
13.2	Liaison is continuing with the manager of the adjoining Ferdinand St Estate and letters have been distributed to other neighbours.
13.3	At the time of writing (20th July), not responses has been received from any residents via the dropbox or in response to letters issued.

14. Construction Working Group

Please provide details of community liaison proposals including any Construction Working Group that will be set up, addressing the concerns of the community affected by the works, the way in which the contact details of the person responsible for community liaison will be advertised to the local community, and how the community will be updated on the upcoming works i.e. in the form of a newsletter/letter drop, or weekly drop in sessions for residents.

14.1	In cooperation with Considerate Constructors, the Site has been registered and signage ordered for the construction period. These include public notifications of Code of Considerate Practice and banner signage. The invoice for these items is included in **Appendix B.** Contact information will be posted on the hoarding and letters have been circulated to neighbours. Further letters will be distributed as necessary to update neighbours of works that may affect them.

15. Schemes

Please provide details of your 'Considerate Constructors Scheme' registration, and details of any other similar relevant schemes as appropriate. Contractors will also be required to follow the "Guide for Contractors Working in Camden" also referred to as "Camden's Considerate Contractors Manual".

15.1	The site is registered with Considerate Contractors; the site registration fee has been paid and the evidence of this is included in **Appendix B**. The Manuals referenced above are acknowledged and will be followed during the construction period.

16. Neighbouring sites

Please provide a plan of existing or anticipated construction sites in the local area and please state how your CMP takes into consideration and mitigates the cumulative impacts of construction in the vicinity of the site. The council can advise on this if necessary.

16.1	No neighbouring or anticipated construction sites are known of. If sites emerge during the construction process, mitigation will be considered as part of the Live phase of this CMP and LBC will be consulted if necessary.

Transport

This section must be completed in conjunction with your principal contractor. If one is not yet assigned, please leave the relevant sections blank until such time when one has been appointed.

Camden is a CLOCS Champion, and is committed to maximising road safety for Vulnerable Road Users (VRUs) as well as minimising negative environmental impacts created by motorised road traffic. As such, all vehicles and their drivers servicing construction sites within the borough are bound by the conditions laid out in the CLOCS Standard.

This section requires details of the way in which you intend to manage traffic servicing your site, including your road safety obligations with regard to VRU safety. It is your responsibility to ensure that your principal contractor is fully compliant with the terms laid out in the CLOCS Standard. It is your principal contractor's responsibility to ensure that all contractors and sub-contractors attending site are compliant with the terms laid out in the CLOCS Standard.

Checks of the proposed measures will be carried out by the council to ensure compliance. Please refer to the CLOCS Standard when completing this section. Guidance material which details CLOCS requirements can be accessed here, details of the monitoring process are available here.

Please contact CLOCS@camden.gov.uk for further advice or guidance on any aspect of this section.

Please refer to the CLOCS Overview and Monitoring Overview documents referenced above which give a breakdown of requirements.

CLOCS Contractual Considerations

17. Name of Principal contractor:

17.1	The name of the principal contractor is J. O'Doherty Haulage Limited, and the relevant CLOCS certification is included as **Appendix C.**

18. Please submit the proposed method for checking operational, vehicle and driver compliance with the CLOCS Standard throughout the duration of the contract (please refer to our CLOCS Overview document and Q18 example response).

18.1	Operational, vehicle and driver compliance with the CLOCS Standard will be checked as per the method set out in the CLOCS Standard V3 (January 2019) under Sections 5 and 6 of that document.
18.2	This includes the implementation of this CMP in its live form and the completion of a site assessment and rating using the CLOCS Handbook as per Section 7.1 of that document. Drivers and vehicles will be checked through general observation and frequent spot checks that they meet the requirements of the CLOCS Standard and that the specified route has been followed. Non-compliance shall be immediately risk-assessed, appropriately mitigated, and addressed through contract management. Similarly, there will be regular reports to monitor compliance against the CLOCS standard including the performance of both fleet and site operations.
18.3	All drivers of vehicles over 3.5t will have undertaken Safe Urban Driver training, and all vehicles over 3.5t in the construction fleet will be fitted with blindspot minimisation equipment (Fresnel lens/CCTV) and audible left turn alerts.
18.3	The fleet and operator has accredited Gold FORS Standard and the certification for this is included in **Appendix C.** It is understood that Gold standard FORS is already CLOCs compliant and no further action is required.

19. Please confirm that you as the client/developer and your principal contractor have read and understood the CLOCS Standard and included it in your contracts. Please sign-up to join the CLOCS Community to receive up to date information on the standard by expressing an interest online.

I confirm that I have included the requirement to abide by the CLOCS Standard in my contracts to my contractors and suppliers:

19.1 The above CLOCS Standards is acknowledged, understood, and agreed to.

_____ (Signed) Simon Hickmet (Name)

Please contact CLOCS@camden.gov.uk for further advice or guidance on any aspect of this section.

Site Traffic

Sections below shown in blue directly reference the CLOCS Standard requirements. The CLOCS Standard should be read in conjunction with this section.

20. Traffic routing: *"Clients shall ensure that a suitable, risk assessed vehicle route to the site is specified and that the route is communicated to all contractors and drivers. Clients shall make contractors and any other service suppliers aware that they are to use these routes at all times unless unavoidable diversions occur."* (P19, 3.4.5)

Routes should be carefully considered and risk assessed, taking into account the need to avoid where possible any major cycle routes and trip generators such as schools, offices, public buildings, museums etc. Where appropriate, on routes that use high risk junctions (i.e. those that attract high volumes of cycling traffic) installing Trixi mirrors to aid driver visibility should be considered.

Consideration should also be given to weight restrictions, low bridges and cumulative impacts of construction (including neighbouring construction sites) on the public highway network. The route(s) to and from the site should be suitable for the size of vehicles that are to be used.

a. Please indicate routes on a drawing or diagram showing the public highway network in the vicinity of the site including details of how vehicles will be routed to the Transport for London Road Network (TLRN) on approach and departure from the site.

20.1 The A400 Camden High Street and the A503 Camden Road form the most suitable link in the strategic road network for construction vehicles. Primary routes providing connections to the A400 are the A501 Euston Road and the A1 Holloway Road. These will therefore form the main approach routes to the site. A plan showing the construction traffic routeing is included as **Figure 2.**

20.2 Construction traffic will access and egress the proposed development site via the A502 one-way system to/from the A400 and A503 to the east of the site. It should be noted that these roads form part of TfL's Strategic Road Network (SRN) as well as the local distributor network, which is suitable for the construction traffic associated with the proposed development.

20.3 At certain hours or if there are unusual traffic conditions on Chalk Farm Road creating congestion, smaller vehicles may be routed so as to continue along Chalk Farm Road to Haverstock Hill, right along Prince of Wales Road and finally along Ferdinand Street entering the site from the North. This route is not possible for large tippers, but it is anticipated that these vehicles will make less frequent movements outside of peak hours. In the event that a larger vehicle attempts to access the site and cannot make the manoeuvre without waiting on or blocking the highway due to unusual traffic conditions on Ferdinand Street, the vehicle will not wait, but progress north along Ferdinand Street, and take the alternate route in reverse to renter Ferdinand Street from the south for a second attempt.

20.4 The Site Manager or other appointed person will be in communication with drivers as they approach the site to advise on the appropriate action and to respond to on-street conditions accordingly if an unusual situation arises.

Figure 2 – Routeing Plan

b. Please confirm how contractors, delivery companies and visitors will be made aware of the route (to and from the site) and of any on-site restrictions, prior to undertaking journeys.

20.3 **A contractor's handbook** will be prepared as an addendum to this CLP which will include details of requirements including:

- Safety toolbox talk – setting out how and when these will take place, including frequency and duration and an outline of topics to be included that will be environmental and safety orientated.
- Anti-idling toolbox talk – setting out how and when these will happen for all drivers, including frequency and duration.
- Vehicle routing and delivery scheduling system – an explanation to contractors of the routing and delivery system in use, contractors' access and their requirement to utilise the schedule deliveries system.
- Driver training – an outline of how and when this will happen during the contract, and the company that will carry out the training.
- The safety and environmental standards to be upheld in relation to the project.

20.4 **A driver's handbook** will also be prepared as an addendum to this CLP that will include:

- Details of the authorised routes to and from the site as described in this report;
- The site opening times;
- Booking and scheduling information;
- The site entry and exit points, and other information relating to access;
- Anti-idling policy; and
- Vulnerable road user safety information and details relating to access from the east near the public foot/cycleway.

20.5 Data that will be recorded with the handbooks will include the following items:

- Number of vehicle movements to site in total
- By vehicle type/size
- Time spent on site
- Origin and destination of vehicles arriving at or leaving site
- Delivery/collection accuracy compared to schedule
- Any reported breaches or complaints
- Any reported community concerns about construction activities
- Vehicle routeing
- Instances of any unacceptable queuing
- Instances of any unacceptable parking
- Compliance with safety and environmental standards and programmes
- Low Emissions Zone (LEZ) compliance
- Anti-idling
- Safety
- Logistics-related incidents
- Record of associated fatalities and serious injuries
- Methods by which staff are travelling to site
- Any instances of vehicles and operators failing to meet safety requirements

21. Control of site traffic, particularly at peak hours: *"Clients shall consider other options to plan and control vehicles and reduce peak hour deliveries"* (P20, 3.4.6)

Construction vehicle movements are generally acceptable between 9.30am to 4.30pm on weekdays and between 8.00am and 1.00pm on Saturdays). If there is a school in the vicinity of the site or on the proposed access and/or egress routes, then deliveries must be restricted to between 9.30am and 3pm on weekdays during term time. (Refer to the *Guide for Contractors Working in Camden*).

A delivery plan should ensure that deliveries arrive at the correct part of site at the correct time. Instructions explaining such a plan should be sent to all suppliers and contractors**.** Consideration should be given to the location of any necessary holding areas for large sites with high volumes of traffic. Vehicles must not wait or circulate on the public highway. Whilst deliveries should be given set times to arrive, dwell and depart, no undue time pressures should be placed upon the driver at any time.

a. Please provide details of the typical sizes of all vehicles and the approximate frequency and times of day when they will need access to the site, for each phase of construction. You should estimate the average daily number of vehicles during each major phase of the work, including their dwell time at the site. High numbers of vehicles per day and/or long dwell times may require vehicle holding procedures.

21.1 The typical vehicles required are expected to be the following types:

- Small skip lorry (Phase 1 &2);
- Large tipper (Phase 1& 2);
- Concrete mixer (Phase 2 & 3); and
- 7.5T panel van (Phase 2).

21.2 Deliveries will operate 8.00am to 6pm on Monday to Friday, 8.00am to 1.00pm on Saturdays, with no working on Sundays or Public Holidays for all phases. The largest vehicles will not deliver during peak hours 08:00 – 09:00 and 17:00 – 18:00.

b. Please provide details of other developments in the local area or on the route.

21.3 No other development is known of local to the site.

c. Please outline the system that is to be used to ensure that the correct vehicle attends the correct part of site at the correct time.

21.4 A delivery booking system will be produced and operated by the contractor's site traffic manager. The system will aim to mitigate the following:

- Queuing outside the site;
- Arrival of unscheduled deliveries;
- Deliveries arriving late due to supplier despatch misunderstandings;
- Deliveries failing to arrive;
- Wrong quantities or materials arriving by mistake, requiring the vehicle to be sent away, or an additional 'part-load' vehicle delivery to make up delivery requirements;
- Delivery vehicles arriving early in the hope that they will be dealt with out of turn; and
- No staff or equipment being available on-site to unload the vehicle.

21.5 Mitigation of the above will avoid unnecessary vehicle movements to and from the site. It will also importantly reduce the possibility of construction vehicles queuing outside of the site waiting to be processed.

21.6 The delivery booking system will decrease and mitigate any potential negative environmental and/or social impacts that construction traffic may have on the surrounding area.

21.7 The delivery booking system will be operated by the construction site traffic manager. Banksmen will ensure the efficient and safe movement of vehicles into and out of the site. The banksmen will be coordinated by the site traffic manager and will organise both the Ferdinand Street and the service yard access points as required. Sufficient banksmen will be appointed to ensure the safe access and egress of vehicles and to manage any other access requirements to properties adjacent to the site, including pedestrians. It is anticipated that due to the narrow access, it will be operated with priority control so that no person or traffic can enter whilst a vehicle is egressing or vice versa.

21.7 Access will be monitored and in certain phases of the development, particularly those with higher levels of traffic, parking may be suspended on Ferdinand Street where required to provide space for construction traffic entering and to ensure the free-flow of traffic along Ferdinand Street. This will be implemented via the TRO mechanism. However, it is not expected that construction traffic entering the site will typically require any suspension of parking. It should be noted that development has been undertaken by the same developer at 21a Ferdinand Street, and 10a Belmont Street, both neighbouring the site. 10a Belmont Street comprised a larger development of a 5-storey extension and new basement. No congestion or queuing back onto Chalk Farm Road was attributed to those works as a result of vehicle attempting to access construction sites, despite these being similarly narrow in access. On this basis, the potential risk of queuing as a result of construction access to the proposed development is considered negligible.

d. Please identify the locations of any off-site holding areas (an appropriate location outside the borough may need to be identified, particularly if a large number of delivery vehicles are expected) and any measures that will be taken to ensure the prompt admission of vehicles to site in light of time required for any vehicle/driver compliance checks. Please refer to question 24 if any parking bay suspensions will be required for the holding area.

21.9	No off-site holding area is proposed. The delivery booking system will be implemented to ensure that vehicles arrive as per the schedule and drivers will be in communication with site management to ensure that vehicles are not arriving or departing at the same time. Sufficient time will be allowed on the schedule to ensure that vehicles needing to depart the site can do so prior to new deliveries arriving.
21.10	Following correspondence with LBC, the access arrangement for the site has been agreed but equally, it has been agreed that these vehicle access arrangements will be kept under review. Access arrangements will be amended should this be deemed necessary – i.e. if it becomes apparent that bays do need to be removed to allow vehicles to wait on approach to site.

e. Please provide details of any other measures designed to reduce the impact of associated traffic (such as the use of construction material consolidation centres).

21.11	N/A

22. Site access and egress: *"Clients shall ensure that access to and egress from the site is appropriately managed, clearly marked, understood and clear of obstacles."* (P18, 3.4.3)

Vehicles entering and leaving the site should be carefully managed, using gates that are clearly marked and free from obstacles. Traffic marshals must ensure the safe passage of all traffic on the public highway, in particular pedestrians and cyclists, when vehicles are entering and leaving site, particularly if reversing.

Traffic marshals, or site staff acting as traffic marshals, should hold the relevant qualifications required for directing large vehicles when reversing. Marshals should be equipped with 'STOP – WORKS' signs (not STOP/GO signs) if control of traffic on the public highway is required. Marshals should have radio contact with one another where necessary.

a. Please detail the proposed access and egress routes to and from the site

22.1 Site access arrangements and frequency of construction vehicle movements will vary across the three construction phases. The differences are outlined below.

Phase 1

22.2 Vehicle access will be minimal. All deliveries will arrive and leave via Ferdinand Street. Skips will be delivered and positioned close to the building access and removed by tippers. Rigid skip lorries will be used initially prior to the demolition of the connection between 17 and 27 Ferdinand Street. They can approach the site from Ferdinand Street and load materials whilst waiting in the vehicle waiting area outside the building. Following demolition of the connecting section, all other vehicles will be able to approach the site and use the service yard. No vehicles will be required to reverse into the site from Ferdinand Street.

22.3 The process will require a temporary closure of a small section of Ferdinand Street to vehicular traffic. To minimise disruption and reduce the impact on parking, bus movements and traffic flow along Ferdinand Street, the crane delivery will be managed by a banksman and scheduled to take place 'out of hours'. The road closure is only envisaged to last for less than half a day and will be arranged and agreed with the LBC prior to the event taking pace.

Phase 2

22.4 Vehicle access will be minimal, with deliveries able to arrive and leave via Ferdinand Street. Concrete mixers and tipper lorries will enter the service yard in a forward gear and reverse within it before exiting back onto Ferdinand Street. Vans and skip lorries will be able to use both the service yard and the vehicle waiting area outside of the building. No vehicles will be required to reverse into the site from Ferdinand Street.

Phase 3

22.5 Throughout the construction phase, access to the development will be via Ferdinand Street. All deliveries will be made by vehicles able to access the site in a forward gear and turn around in the service yard before exiting the site.

Overall

22.6 Throughout all phases, the use of larger vehicles will be very infrequent, and it is not expected that any articulated or flatbed loaders will be required. Deliveries will be managed around the use of the adjacent southbound bus stop. The number of deliveries required to be made by large vehicles will therefore be kept to a very low minimum during this phase. If a larger delivery is required, or with regards to the large tipper access, which can only approach from the south, parking will be suspended where appropriate to facilitate access and ease congestion during certain phases of the build out. This will be implemented via a TRO.

22.7 With regards to the potential for congestion to build up, it should be noted that development has been undertaken by the same developer at 21a Ferdinand Street, and 10a Belmont Street, both neighbouring the site. 10a Belmont Street comprised a larger development of a 5-storey extension and new basement. No congestion or queuing back onto Chalk Farm Road was attributed to those works as a result of vehicle attempting to access construction sites, despite these being similarly narrow in access. On this basis, the potential risk of queuing as a result of construction access to the proposed development is considered negligible.

Overall Cont.

22.8 As previously mentioned, traffic marshals, or site staff acting as traffic marshals, will be appointed to the site access from Ferdinand Street and inside the site access. For larger vehicles and if required to control traffic on the public highway, 4 traffic marshalls will be used overall to hold traffic whilst the vehicle enters or egresses the site. These staff will hold the relevant qualifications and utilise 'Stop-Works' signs. Radio contact will be available at all times between marshals, especially between those at each end of the access road.

22.9 It is proposed that two marshalls are on-duty at each end of the access road at all times to manage the access and ensure the safe access for all users.

b. Please describe how the access and egress arrangements for construction vehicles will be managed.

22.6 As mentioned, marshalls will be stationed at the site access on Ferdinand Street itself and at the service yard access throughout the construction period to assist construction vehicles to enter and exit the site safety, whilst minimising inconvenience to other traffic using the access road. A minimum of 2 marshalls will be present at all working hours to manage vehicle access and to oversee pedestrian access where required. Pedestrian access will be prioritised whenever possible, excepting where the risk of impediment to the operation of Ferdinand Street and the bus stop opposite.

c. Please provide swept path drawings for any tight manoeuvres on vehicle routes to and from the site including proposed access and egress arrangements at the site boundary (if necessary).

22.7 Swept path analysis has been undertaken for all phases and likely vehicles and is included in **Appendix D**. The drawing list is as follows:

- Drawing 19043-01-100 – Site Layout
- Drawing 19043-01-102 – Small Skip Lorry (Phase 2)
- Drawing 19043-01-103 – Large Tipper (Phases 1 & 2)
- Drawing 19043-01-104 – Concrete Mixer (Phases 2 & 3)
- Drawing 19043-01-105 – 7.5T Panel Van (Phase 2)

d. Provision of wheel washing facilities should be considered if necessary. If so, please provide details of how this will be managed and any run-off controlled.

22.8 Wheel washing facilities are unlikely to be necessary.

23. Vehicle loading and unloading: *"Clients shall ensure that vehicles are loaded and unloaded on-site as far as is practicable."* (P19, 3.4.4)

If this is not possible, Traffic Marshalls must ensure the safe passage of pedestrians, cyclists and motor traffic in the street when vehicles are being loaded or unloaded.

Please provide details of the parking and loading arrangements for construction vehicles with regard to servicing and deliveries associated with the site (e.g. delivery of materials and plant, removal of excavated material). This is required as a scaled site plan, showing all points of access and where materials, skips and plant will be stored, and how vehicles will access and egress the site. If loading is to take place off site, please identify where this is due to take place and outline the measures you will take to ensure that loading/unloading is carried out safely. Please outline in question 24 if any parking bay suspensions will be required.

23.1 Site layout plans are included in **Appendix E.** For details of Parking Bay Suspensions, please refer back to Q22.

Highway interventions

Please note that Temporary Traffic Orders (TTOs) and hoarding/scaffolding licenses may be applied for prior to CMP submission but won't be granted until the CMP is signed-off.

If the site is on or adjacent to the TLRN, please provide details of preliminary discussions with Transport for London in the relevant sections below.

- **24. Parking bay suspensions and temporary traffic orders**

Please note, parking bay suspensions should only be requested where absolutely necessary. Parking bay suspensions are permitted for a maximum of 6 months, requirement of exclusive access to a bay for longer than 6 months you will be required to obtain Temporary Traffic Order (TTO) for which there is a separate cost.

Please provide details of any proposed parking bay suspensions and TTO's which would be required to facilitate construction. **Building materials and equipment must not cause obstructions on the highway as per your Considerate Contractors obligations unless the requisite permissions are secured.**

Information regarding parking suspensions can be found here.

24.1	For details on necessary Parking Bay Suspensions, please refer back to Q22.

25. Scaled drawings of highway works

Please note that use of the public highway for storage, site accommodation or welfare facilities is at the discretion of the Council and is generally not permitted. If you propose such use you must supply full justification, setting out why it is impossible to allocate space on-site. You must submit a detailed (to-scale) plan showing the impact on the public highway that includes the extent of any hoarding, pedestrian routes, parking bay suspensions and remaining road width for vehicle movements. We prefer not to close footways but if this is unavoidable, you should submit a scaled plan of the proposed diversion route showing key dimensions.

- a. Please provide accurate scaled drawings of any highway works necessary to enable construction to take place (e.g. construction of temporary vehicular accesses).

25.1 The pedestrian footway directly adjacent to the site boundary will be unaffected by the construction works, but will be maintained and managed by the site banksman in order to ensure safe passage of any pedestrians. Appropriate signage and hoarding will be used to advise pedestrians of the ongoing construction works, and safe routes.

25.2 Pedestrian access to the rear service area will remain but will be maintained and managed by the site banksman in order to ensure safe passage of any pedestrians. Appropriate signage and hoarding will be used to advise pedestrians of the ongoing construction works, and safe routes.

25.3 No LCN cycle routes will be affected by the construction. Details of the hoarding line are included in the phased drawings in **Appendix E.**

b. Please provide details of all safety signage, barriers and accessibility measures such as ramps and lighting etc.

25.6 A signage and lighting plan will be prepared in due course and appended to this CMP once completed.

26. Diversions

Where applicable, please supply details of any diversion, disruption or other anticipated use of the public highway during the construction period (alternatively a plan may be submitted).

26.1 No pedestrian or cycle diversion are expected.

26.2 No public transport infrastructure or routes will be affected by the construction. However, route 24 runs along Ferdinand Street, serving stops outside Broomfield House and Rugmere House, north of the access road to the development. Although the proposed development will not directly impact bus operation, the largest vehicles reversing into the access road will need to use some of the road space currently occupied by the southbound bus cage for route 24. This will be a short-term use and only during the reversing movement by the largest vehicles during Phase 3 of the development. Banksmen will be present on site during these vehicle movements to mitigate against any impact on the bus services at the time.

27. VRU and pedestrian diversions, scaffolding and hoarding

Pedestrians and/or cyclist safety must be maintained if diversions are put in place. Vulnerable footway users should also be considered. These include wheelchair users, the elderly, those with walking difficulties, young children, those with prams, the blind and

partially sighted. Appropriate ramping must be used if cables, hoses, etc. are run across the footway.

Any work above ground floor level may require a covered walkway adjacent to the site. A licence must be obtained for scaffolding and gantries. The adjoining public highway must be kept clean and free from obstructions. Lighting and signage should be used on temporary structures/skips/hoardings etc.

A secure hoarding will generally be required at the site boundary with a lockable access.

a. Please provide details describing how pedestrian and cyclist safety will be maintained, including any proposed alternative routes (if necessary), and any Traffic Marshall arrangements.

27.1	Pedestrian access for authorised site personnel will be from Ferdinand Street and along the access road. This will provide access to the residential development of 17 Ferdinand Street.
27.2	For impact on existing pedestrian routes please refer back to Q.25.

b. Please provide details of any temporary structures which would overhang the public highway (e.g. scaffolding, gantries, cranes etc.) and details of hoarding requirements or any other occupation of the public highway.

27.3	No items will be stored on the public highway or expected to overhang the public highway.
27.4	The use of a crane will be required to assist construction. A 30T mobile crane will be employed during construction when required.
27.5	There are communication service covers on the footway on the junction of the access road with Ferdinand Street which are not carriageway specification. Whilst the risk of overrun is low, it is proposed to upgrade these covers in the first phase of development to reinforced covers to safeguard these utilities through all phases of the development. The developer is working to identify the owner of the utilities and details of the upgrade proposals will be issued to LBC once these have been agreed with the owner.

Environment

To answer these sections please refer to the relevant sections of **Camden's Minimum Requirements for Building Construction (CMRBC).**

28. Please list all noisy operations and the construction method used, and provide details of the times that each of these are due to be carried out.

28.1 A Demolition and Construction Noise and Vibration Assessment has been prepared and is included in **Appendix F.** Please refer to this document for the relevant information pertaining to noisy works and timings.

29. Please confirm when the most recent noise survey was carried out (before any works were carried out) and provide a copy. If a noise survey has not taken place please indicate the date (before any works are being carried out) that the noise survey will be taking place, and agree to provide a copy.

29.1 Environmental noise measurements have been undertaken by 24 Acoustics between 28th February and 6th March 2019. These are contained within the Assessment in **Appendix F.**

30. Please provide predictions for noise and vibration levels throughout the proposed works.

30.1 The predictions for the proposed works are included in **Appendix F** and shown in the table below:

Construction Stage	Description	Typical Noise Levels at Receptors dB $L_{Aeq,\ 10\ hour}$
Demolition	Demolition	74 to 77
Substructure	Piling and Excavation	77 to 80
Superstructure	Steel Frame	71 to 75
	External Cladding	71 to 74

31. Please provide details describing mitigation measures to be incorporated during the construction/demolition works to prevent noise and vibration disturbances from the activities on the site, including the actions to be taken in cases where these exceed the predicted levels.

31.1 A Construction Dust Assessment and Dust Management Plan have been prepared and are included as **Appendix G**, and a noise impact assessment as **Appendix F.** The following mitigation measures shall be employed, in order to minimise the impacts of noise and vibration:

- Careful selection of plant, construction methods and programming. Only plant conforming with relevant national or international standards, directives and recommendations on noise and vibration emissions will be used;
- Design and use of site hoardings and screens, where practicable and necessary, to provide acoustic screening at the earliest opportunity;
- Construction plant will be located, as far as is reasonably practicable, away from adjacent occupied buildings or as close as possible to noise barriers or site hoardings where these are located between the plant and the buildings;
- Static and semi-static plant/equipment (e.g. compressors and generators) will be fitted with suitable enclosures where practicable;
- Site personnel will be instructed on BPM to reduce noise and vibration as part of their induction and training will be provided as required prior to specific work activities;
- When plant is not being used, it shall be shut down and not left to idle;
- Local screening to equipment during key phases with suitably heavy materials if necessary (or other suitable materials such as acoustic blankets);
- Where practicable, to phase the works to ensure that the noisier activities are not carried out concurrently (within the same site);
- Floors to be carefully removed during demolition, working back from a free edge into the structure;
- Construction vehicles and deliveries will be co-ordinated on a time slot basis, with a booking system in place to avoid peak hours;
- There will be no vehicles waiting on the public highway with their engines running;
- Vehicle access and egress from the site will be managed by qualified banksmen;
- Continuous noise monitoring will be undertaken.

32. Please provide evidence that staff have been trained on BS 5228:2009

32.1	The Contractor has a policy that all staff who will work on site must be trained on BS 5228:2009. The individual staff have yet to be identified, and evidence/certification will be forwarded to LBC with the Live phase of this CMP and as that information is made available.

33. Please provide details on how dust nuisance arising from dusty activities, on site, will be prevented.

33.1	A Construction Dust Assessment and Dust Management Plan have been prepared and are included as **Appendix G.**

34. Please provide details describing how any significant amounts of dirt or dust that may be spread onto the public highway will be prevented and/or cleaned.

34.1	A Construction Dust Assessment and Dust Management Plan have been prepared and are included as **Appendix G.**

35. Please provide details describing arrangements for monitoring of noise, vibration and dust levels. (See overleaf)

35.1 A Construction Dust Assessment and Dust Management Plan have been prepared and are included as **Appendix G.**

35.2 Due to the proximity of the nearest residential properties, it is recommended that noise and vibration monitoring be undertaken throughout the project. Continuous monitoring is recommended during the noisiest periods (e.g. demolition and piling), which should incorporate a trigger alert system.

35.3 The noise and vibration monitoring locations shall consider the nearest and most-affected properties. The number of and exact locations are to be determined on the basis of site constraints, with a minimum of two locations for noise and two locations for vibration. Indicative locations for monitoring are shown in Figure 2.

35.4 It is appropriate to compare noise levels at the nearest receptors with fixed limits of 75 dB LAeq, 10 hour (Monday to Friday) and 75 dB LAeq, 5 hour (Saturday), which is consistent with other sites in Camden and more widely in London.

35.5 BPM and noise mitigation shall be employed throughout the works, alongside regular communication with neighbours. The proposed threshold level does not permit a relaxation of BPM at any time and as such, lower daily noise levels would typically be expected, during the later stages of the construction in particular (e.g. internal fit-out works).

35.5 Noise monitoring, with a trigger alert system, will provide an effective means of noise management throughout the works. It is proposed to adopt a maximum construction noise level of 75 dB LAeq, 10 hour outside the nearest noise sensitive receptors. The two-stage alert strategy described in Table 5 (based on hourly values) is recommended to regulate noise levels.

Measured Noise Level at the Site Boundary	Recommended Action
> 75 dB $L_{Aeq, 1hr}$	Amber alert issued to the lead contractor and actions taken as appropriate to control noise levels over the 10 hour daytime period
> 80 dB $L_{Aeq, 1hr}$	Red alert issued to the lead contractor who will take immediate action to reduce noise levels.

Table 5 - Recommended Two-Stage Alert for Construction Noise

35.6 Noise and vibration monitoring with a trigger alert system will be used to communicate to key construction staff who in turn can take action to limit operations on site. Where a trigger event is considered to be genuine, the contractor will identify the source of the noise or vibration that triggered the alert. The Contractor will undertake a risk assessment to determine the likelihood that the activity that generated the alert might generate further noise.

35.7 If a risk of increasing noise or vibration levels from the activity is identified, the Contractor will review the working method and machinery to determine whether alternatives are available that reduce the risk. The Contractor's Expert may be consulted for an external view on whether the best practicable means to minimise noise and vibration levels have been proposed and adopted.

35.6 In any event, noise levels will be kept under close scrutiny as the activity continues until such time as the risk of exceedance becomes negligible.

36. Please confirm that a Risk Assessment has been undertaken at planning application stage in line with the GLA policy. The Control of Dust and Emissions During Demolition and Construction 2104 (SPG), that the risk level that has been identified, and that the appropriate measures within the GLA mitigation measures checklist have been applied. Please attach the risk assessment and mitigation checklist as an appendix.

36.1	A Construction Dust Assessment and Dust Management Plan have been prepared and are included as **Appendix G.**

37. Please confirm that all of the GLA's 'highly recommended' measures from the SPG document relative to the level of risk identified in question 36 have been addressed by completing the GLA mitigation measures checklist.

37.1	A Construction Dust Assessment and Dust Management Plan have been prepared and are included as **Appendix G.**

38. If the site is a 'High Risk Site', 4 real time dust monitors will be required. If the site is a 'Medium Risk Site', 2 real time dust monitors will be required. The risk assessment must take account of proximity to sensitive receptors (e.g. schools, care homes etc), as detailed in the SPG. Please confirm the location, number and specification of the monitors in line with the SPG and confirm that these will be installed 3 months prior to the commencement of works, and that real time data and quarterly reports will be provided to the Council detailing any exceedances of the threshold and measures that were implemented to address these.

38.1	A Construction Dust Assessment and Dust Management Plan have been prepared and are included as **Appendix G.**

39. Please provide details about how rodents, including rats, will be prevented from spreading out from the site. You are required to provide information about site inspections carried out and present copies of receipts (if work undertaken).

39.1	A Pest Control Survey has been undertaken and is included as **Appendix H.**

40. Please confirm when an asbestos survey was carried out at the site and include the key findings.

40.1	The buildings are still tenanted, and an asbestos survey cannot be yet undertaken. 25 Ferdinand Street will be vacated in the next 2/3 months and an asbestos survey will be undertaken prior to demolition. The results of this survey will be included in this report as an addendum.

41. Complaints often arise from the conduct of builders in an area. Please confirm steps being taken to minimise this e.g. provision of a suitable smoking area, tackling bad language and unnecessary shouting.

41.1	The Contractor will implement good conduct as per standard working policy and a smoking area will be identified. Activity on site will be monitored by general observation.

42. If you will be using non-road mobile machinery (NRMM) on site with net power between 37kW and 560kW it will be required to meet the standards set out below. The standards are applicable to both variable and constant speed engines and apply for both PM and NOx emissions.

From 1st September 2015

(i) Major Development Sites – NRMM used on the site of any major development will be required to meet Stage IIIA of EU Directive 97/68/EC

(ii) Any development site within the Central Activity Zone - NRMM used on any site within the Central Activity Zone will be required to meet Stage IIIB of EU Directive 97/68/EC

From 1st September 2020

(iii) Any development site - NRMM used on any site within Greater London will be required to meet Stage IIIB of EU Directive 97/68/EC

(iv) Any development site within the Central Activity Zone - NRMM used on any site within the Central Activity Zone will be required to meet Stage IV of EU Directive 97/68/EC

Please provide evidence demonstrating the above requirements will be met by answering the following questions:

a) Construction time period: **(10/18 – 07/20)**

b) Is the development within the CAZ? (Y/N): **N**

c) Will the NRMM with net power between 37kW and 560kW meet the standards outlined above? (Y/N): **Y**

d) Please provide evidence to demonstrate that all relevant machinery will be registered on the NRMM Register, including the site name under which it has been registered: **All NRMM machinery will be registered and this information will be appended to this report once available.**

e) Please confirm that an inventory of all NRMM will be kept on site and that all machinery will be regularly serviced and service logs kept on site for inspection: **Y**

f) Please confirm that records will be kept on site which details proof of emission limits, including legible photographs of individual engine plates for all equipment, and that this documentation will be made available to local authority officers as required: **Y**

SYMBOL IS FOR INTERNAL USE

Agreement

The agreed contents of this Construction Management Plan must be complied with unless otherwise agreed in writing by the Council. This may require the CMP to be revised by the Developer and reapproved by the Council. The project manager shall work with the Council to review this Construction Management Plan if problems arise in relation to the construction of the development. Any future revised plan must be approved by the Council in writing and complied with thereafter.

It should be noted that any agreed Construction Management Plan does not prejudice further agreements that may be required such as road closures or hoarding licences.

Please notify that council when you intend to start work on site. Please also notify the council when works are approximately 3 months from completion.

Signed: .....

Date: 21 June 19.

Print Name: SIMON HAMBT

Position: DIRECTOR.

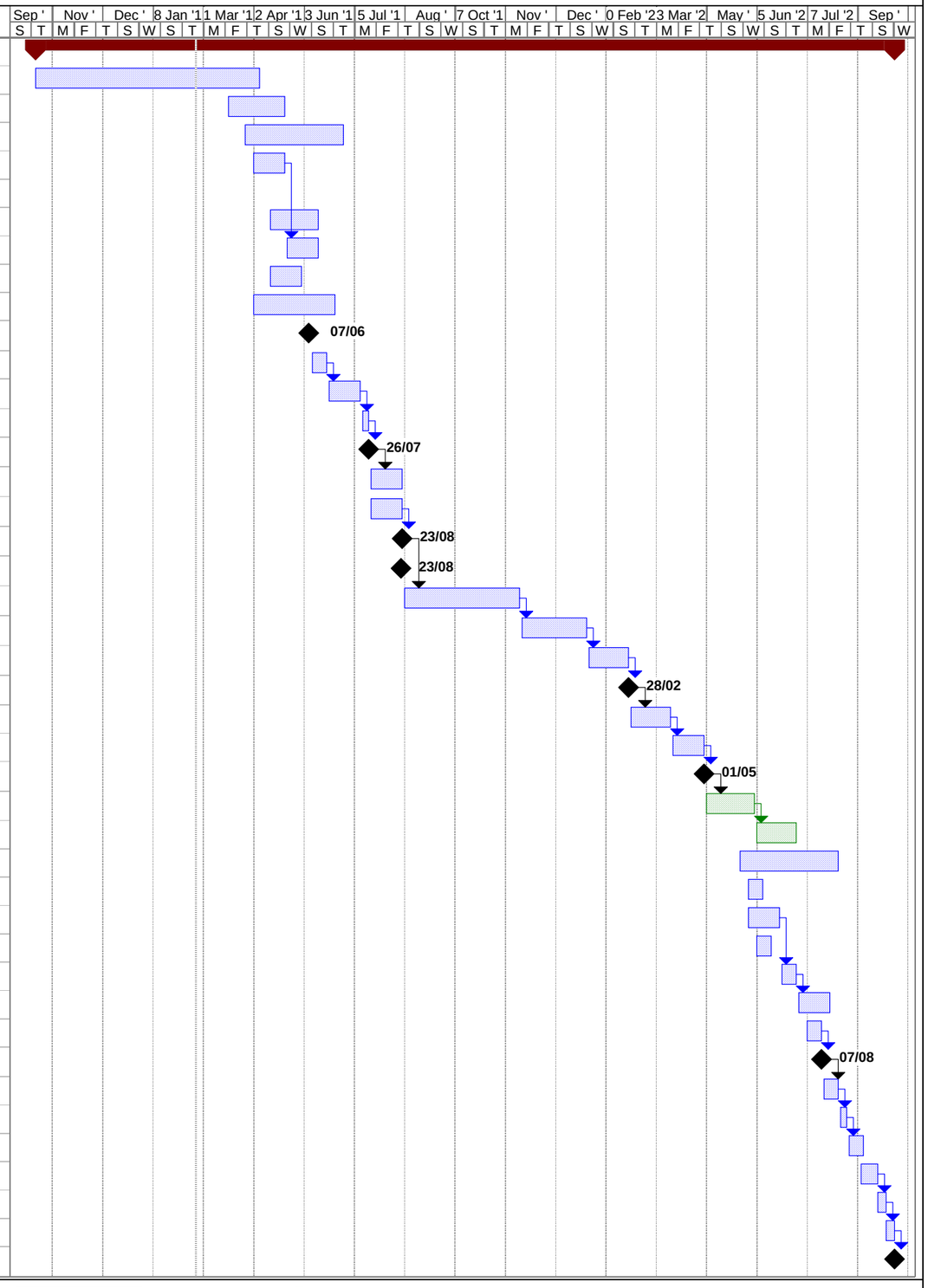
Please submit to: planningobligations@camden.gov.uk

End of form.

APPENDIX A – CONSTRUCTION PROGRAMME

17,27 & 25 Ferdinand Street, Camden, London NW1
Residential Development
Construction Programme March 2019

ID	Task Name	Duration	Start	Finish	Predecessors
0	**Ferdinand Street Construction Programme 04-03-2019**	**513 days**	**Mon 22/10/18**	**Wed 07/10/20**	
1	Single storey East Extension currently under construction	27 wks	Mon 22/10/18	Fri 26/04/19	
2	Demolition Tender	7 wks	Mon 01/04/19	Fri 17/05/19	
3	Party Wall Matters	12 wks	Mon 15/04/19	Fri 05/07/19	
4	Sub-Structure Detail Drawing Package	4 wks	Mon 22/04/19	Fri 17/05/19	
5	Structural Engineers Foundation Design	2 wks	Mon 22/04/19	Fri 03/05/19	
6	Structural Engineers RC Frame Design	6 wks	Mon 06/05/19	Fri 14/06/19	5
7	Services Engineers Drainage Design	4 wks	Mon 20/05/19	Fri 14/06/19	4
8	ME Engineers Design	4 wks	Mon 06/05/19	Fri 31/05/19	
9	Construction Detail Drawing Package	10 wks	Mon 22/04/19	Fri 28/06/19	
10	**Phase 1 - Site Clearance**	**0 days**	**Fri 07/06/19**	**Fri 07/06/19**	
11	Scaffold Instalation	2 wks	Mon 10/06/19	Fri 21/06/19	
12	Demolition	4 wks	Mon 24/06/19	Fri 19/07/19	**11**
13	Setting out Survey	1 wk	Mon 22/07/19	Fri 26/07/19	12
14	**Phase 2 - Foundation to West Extension**	**0 days**	**Fri 26/07/19**	**Fri 26/07/19**	**13**
15	Foundation to West Extension	4 wks	Mon 29/07/19	Fri 23/08/19	**14**
16	Reinforce existing building section foundation	4 wks	Mon 29/07/19	Fri 23/08/19	
17	**Phase 3 - Construction Stages**	**0 days**	**Fri 23/08/19**	**Fri 23/08/19**	**16**
18	**Construction Stage 1**	**0 days**	**Fri 23/08/19**	**Fri 23/08/19**	
19	Super-Structure Construction of New Wings	14 wks	Mon 26/08/19	Fri 29/11/19	**17**
20	Frame Structure above Existing Building Section	8 wks	Mon 02/12/19	Fri 24/01/20	**19**
21	New Roof above Existing and Proposed Building	5 wks	Mon 27/01/20	Fri 28/02/20	**20**
22	**Construction Stage 2**	**0 days**	**Fri 28/02/20**	**Fri 28/02/20**	**21**
23	External Brickwork Cladding to New building Wings	5 wks	Mon 02/03/20	Fri 03/04/20	22
24	External Glass Frame Cladding to New Proposed Top Floors	4 wks	Mon 06/04/20	Fri 01/05/20	23
25	**Construction Stage 3**	**0 days**	**Fri 01/05/20**	**Fri 01/05/20**	**24**
26	Frame Structure Construction of Glass Link	6 wks	Mon 04/05/20	Fri 12/06/20	25
27	External Glass Frame Cladding to New Proposed Links	5 wks	Mon 15/06/20	Fri 17/07/20	26
28	All Internal Fittings	12 wks	Mon 01/06/20	Fri 21/08/20	
29	Electric Distributions	2 wks	Mon 08/06/20	Fri 19/06/20	
30	Heating & Water Distributions	4 wks	Mon 08/06/20	Fri 03/07/20	
31	BT Cable Distributions	2 wks	Mon 15/06/20	Fri 26/06/20	
32	Gas Boiler Installations	2 wks	Mon 06/07/20	Fri 17/07/20	30
33	Final Internal Residential and Commercial Fit out	4 wks	Mon 20/07/20	Fri 14/08/20	32
34	Mechanical Lift Installations	2 wks	Mon 27/07/20	Fri 07/08/20	
35	**Construction Stage 4**	**0 days**	**Fri 07/08/20**	**Fri 07/08/20**	**34**
36	Green Roof Installations	2 wks	Mon 10/08/20	Fri 21/08/20	35
37	Removal of Scaffold and Site Office	1 wk	Mon 24/08/20	Fri 28/08/20	36
38	External Landscaping	2 wks	Mon 31/08/20	Fri 11/09/20	37
39	Hard Surface Block Paving Entrance and Service Yard	2 wks	Thu 10/09/20	Wed 23/09/20	
40	Final Building Inspections	1 wk	Thu 24/09/20	Wed 30/09/20	39
41	Building Operation Manual	1 wk	Thu 01/10/20	Wed 07/10/20	40
42	**Building Completion & Handover**	**0 days**	**Wed 07/10/20**	**Wed 07/10/20**	**41**



Project: 17,27 & 25 Ferdinand Street
Date: 10th February 2015

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

APPENDIX B – CONSIDERATE CONTRACTORS

Site Ref: 116003
Your Ref: Camden
Online Order Ref: 70433
VAT REG NO.: 807 1629 35

Tax point date: 17 April 2019

Accounts Department
Designated Contractors Ltd
46 Great Marlborough Street
London
W1F 7JW

Administration Office:

Considerate Constructors Scheme
PO Box 75
WARE
SG12 0YX

Telephone: 01920 485959 Fax:01920 485958
enquiries@ccscheme.org.uk
www.ccscheme.org.uk

PAID VAT Invoice 204641 / 70433

PAID WITH THANKS

Item Description:

Site Registration

1 x Registration Fee @ £480 each
1 x Cartoon Poster @ £0 each
1 x A3 Code Of Considerate Practice Poster @ £0 each
1 x Small Banner Classic @ £0 each
3 x A1 Poster @ £0 each
1 x CIH A2 Poster @ £0 each
1 x Go Construct A1 Poster @ £0 each

For Project:

25 Ferdinand Street		**£480.00**
	VAT 20%	**£96.00**
	TOTAL	**£576.00**
		DO NOT PAY

This invoice has been paid by BACS

Receive Invoices by email:

We are now able to email our invoices directly to your Accounts Department

If you would like to receive your invoices in this way, please email your accounts email address (and accounts contact name if required) to accounts@ccscheme.org.uk

APPENDIX C – CERTIFICATIONS

CLOCS | Looking out for vulnerable road users

CLOCS Champion

This certificate is warded to

J. O'Doherty Haulage Ltd

for commitment to impro / ng road safety for vulnerable road users

CLOCS CHAMPION
Looking out for vulnerable road users

FORS
FLEET OPERATOR
RECOGNITION SCHEME

FORS Gold

J O'Doherty Haulage Ltd

has been assessed and has met the gold level requirements of the Fleet Operator Recognition Scheme (FORS).

Single Operating Centre Accreditation applies to the following location only: N18 3BH

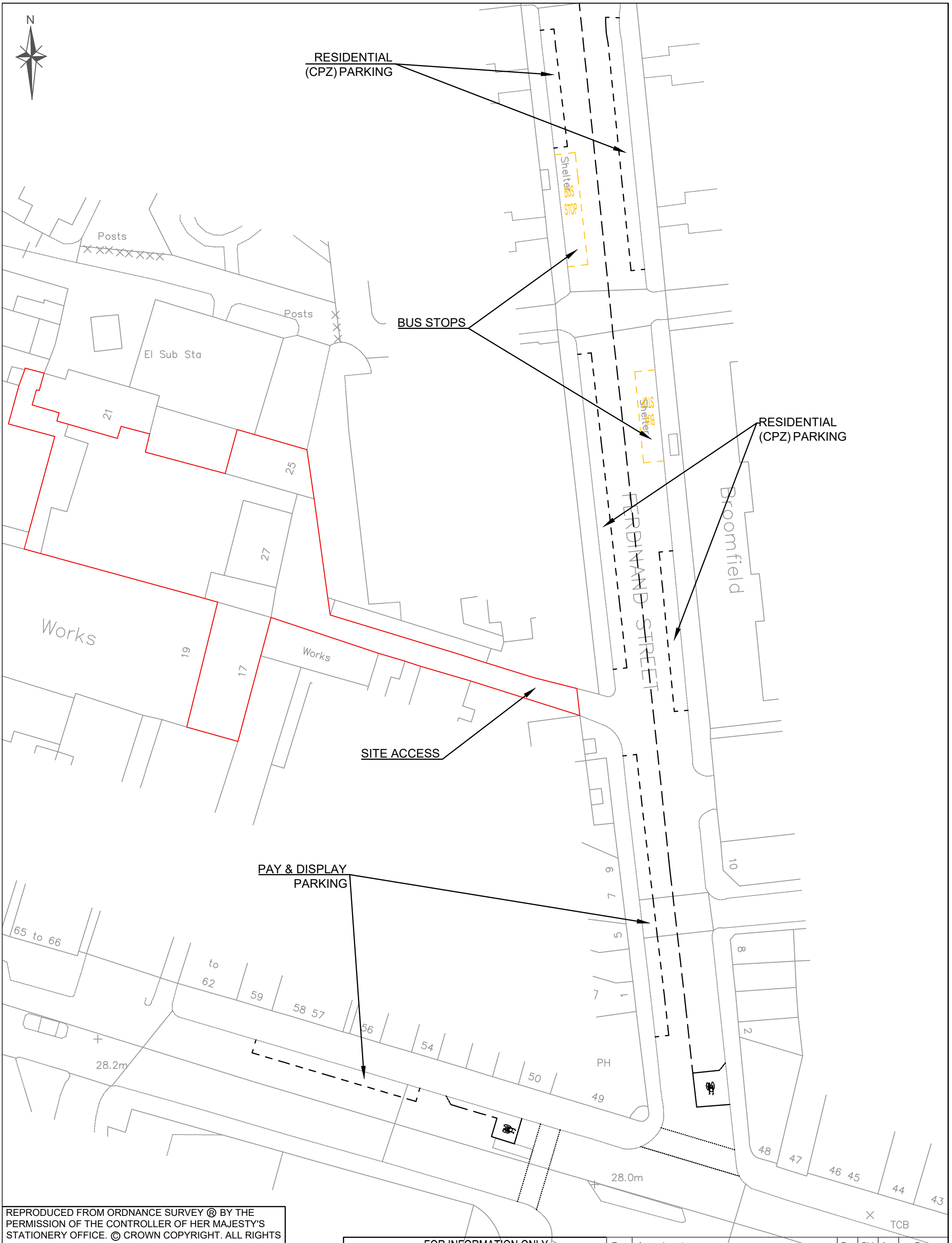
This certificate is valid from 18/06/2018 to 17/06/2019 and remains valid as long as FORS requirements continue to be maintained.

Kevin Richardson
on behalf of the Fleet Operator Recognition Scheme

FORS ID : 000657

APPENDIX D – TRACKING DRAWINGS

- Drawing 19043-01-100 – Site Layout
- Drawing 19043-01-102 – Small Skip Lorry (Phase 2)
- Drawing 19043-01-103 – Large Tipper (Phases 1 & 2)
- Drawing 19043-01-104 – Concrete Mixer (Phases 2 & 3)
- Drawing 19043-01-105 – 7.5T Panel Van (Phase 2)



FOR INFORMATION ONLY

Rev	Amendments	Drn	Chk	App	Date

MARKIDES ASSOCIATES
TRANSPORT PLANNING AND ENGINEERING

9th Floor,
The Tower Building,
York Road
London
SE1 7NX

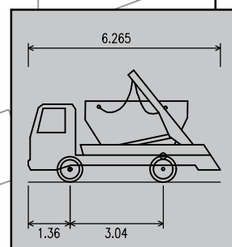
Telephone: 0207 442 2225

E: enquiries@markidesassociates.co.uk
W: www.markidesassociates.co.uk

Job Title: FERDINAND STREET, CAMDEN	Scale: 1:500@A3	Date: FEB'19	Designed: SK	
Drawing Title: SITE LAYOUT	Drawn: SK	Checked: SC	Approved: DT	
Client: DESIGNATED CONTRACTORS LTD	Job No: 19043-01	Drawing No: 19043-01-100	Rev: -	

PHASE - 1 DEMOLITION, 25 FERDINAND STREET

EXISTING GROUND FLOOR



Small Skip Lorry	
Overall Length	6.265m
Overall Width	2.500m
Overall Body Height	3.650m
Min Body Ground Clearance	0.396m
Max Track Width	2.435m
Lock to Lock Time	6.00 sec
Kerb to Kerb Turning Radius	6.340m

FOR INFORMATION ONLY

Rev	Amendments	Drn	Chk	App	Date

MARKIDES ASSOCIATES
TRANSPORT PLANNING AND ENGINEERING

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Job Title
FERDINAND STREET
CAMDEN

Drawing Title
SMALL SKIP LORRY (PHASE 1)
AUTOTRACK ANALYSIS

Client
DESIGNATED
CONTRACTORS LTD

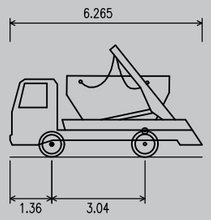
Scale	Date	Designed
1:500@A3	FEB'19	SK
Drawn	**Checked**	**Approved**
SK	SC	DT
Job No	**Drawing No**	**Rev**
19043-01	19043-01-101	-

CONSTRUCTION PHASE

PROPOSED GROUND FLOOR

PHASE - 2 DEMOLITION, 17 FERDINAND STREET

EXISTING GROUND FLOOR



Small Skip Lorry	
Overall Length	6.265m
Overall Width	2.500m
Overall Body Height	3.650m
Min Body Ground Clearance	0.396m
Max Track Width	2.435m
Lock to Lock Time	6.00 sec
Kerb to Kerb Turning Radius	6.340m

FOR INFORMATION ONLY

Rev	Amendments	Drn	Chk	App	Date

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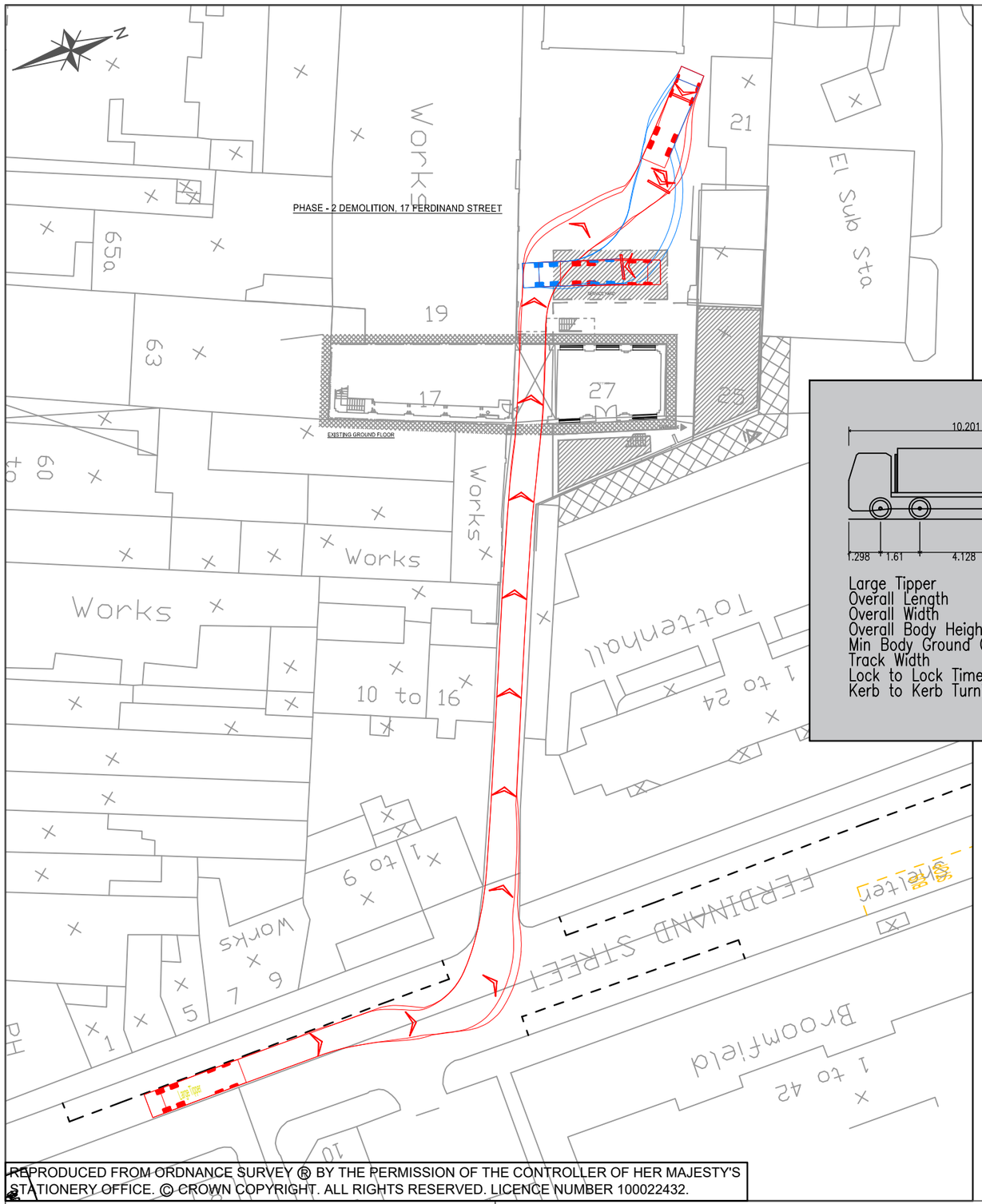
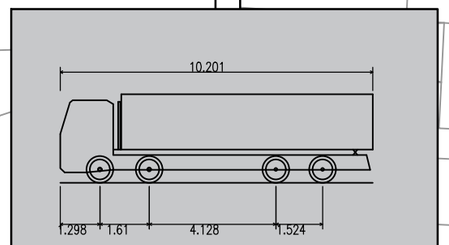
Job Title
FERDINAND STREET
CAMDEN

Drawing Title
SMALL SKIP LORRY (PHASE 2)
AUTOTRACK ANALYSIS

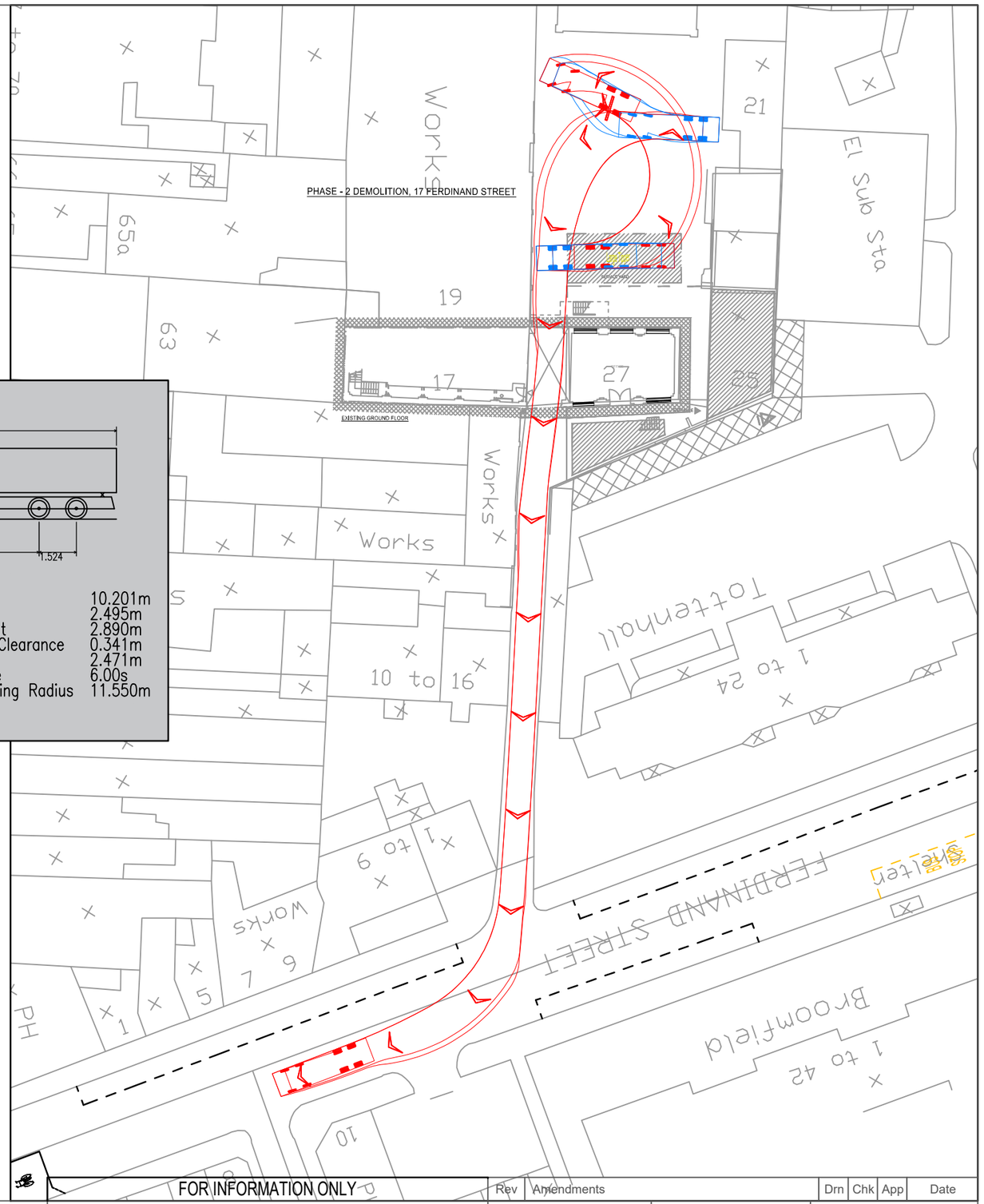
Client
DESIGNATED
CONTRACTORS LTD

Scale	Date	Designed
1:500@A3	FEB'19	SK
Drawn	**Checked**	**Approved**
SK	SC	DT
Job No	**Drawing No**	**Rev**
19043-01	19043-01-102	-





Large Tipper	
Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.890m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	11.550m



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Rev	Amendments	Drn	Chk	App	Date

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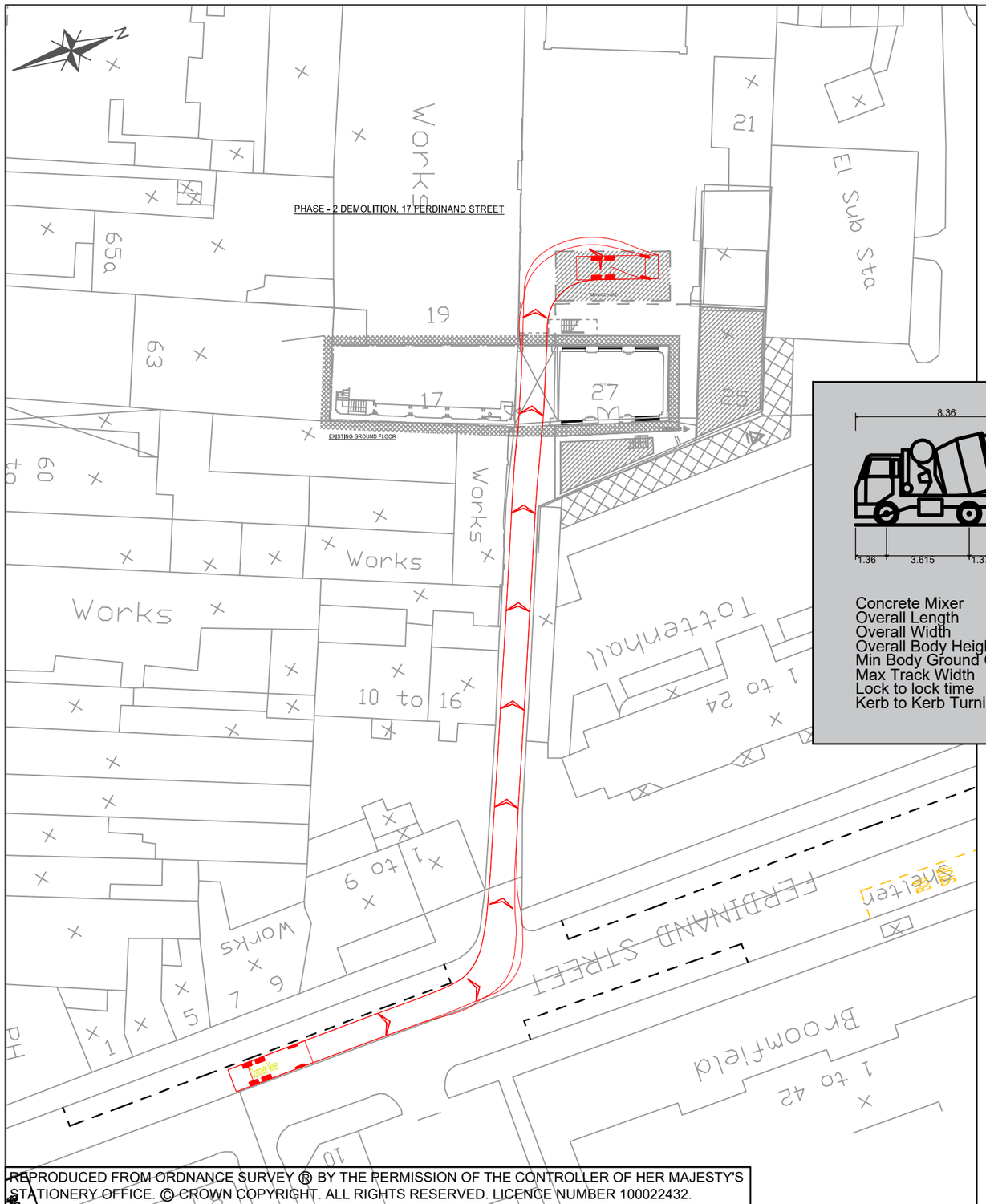
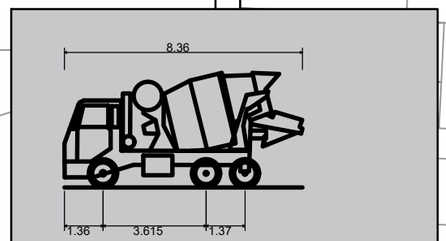
Job Title
FERDINAND STREET
CAMDEN

Drawing Title
SMALL SKIP LORRY (PHASE 1&2)
AUTOTRACK ANALYSIS

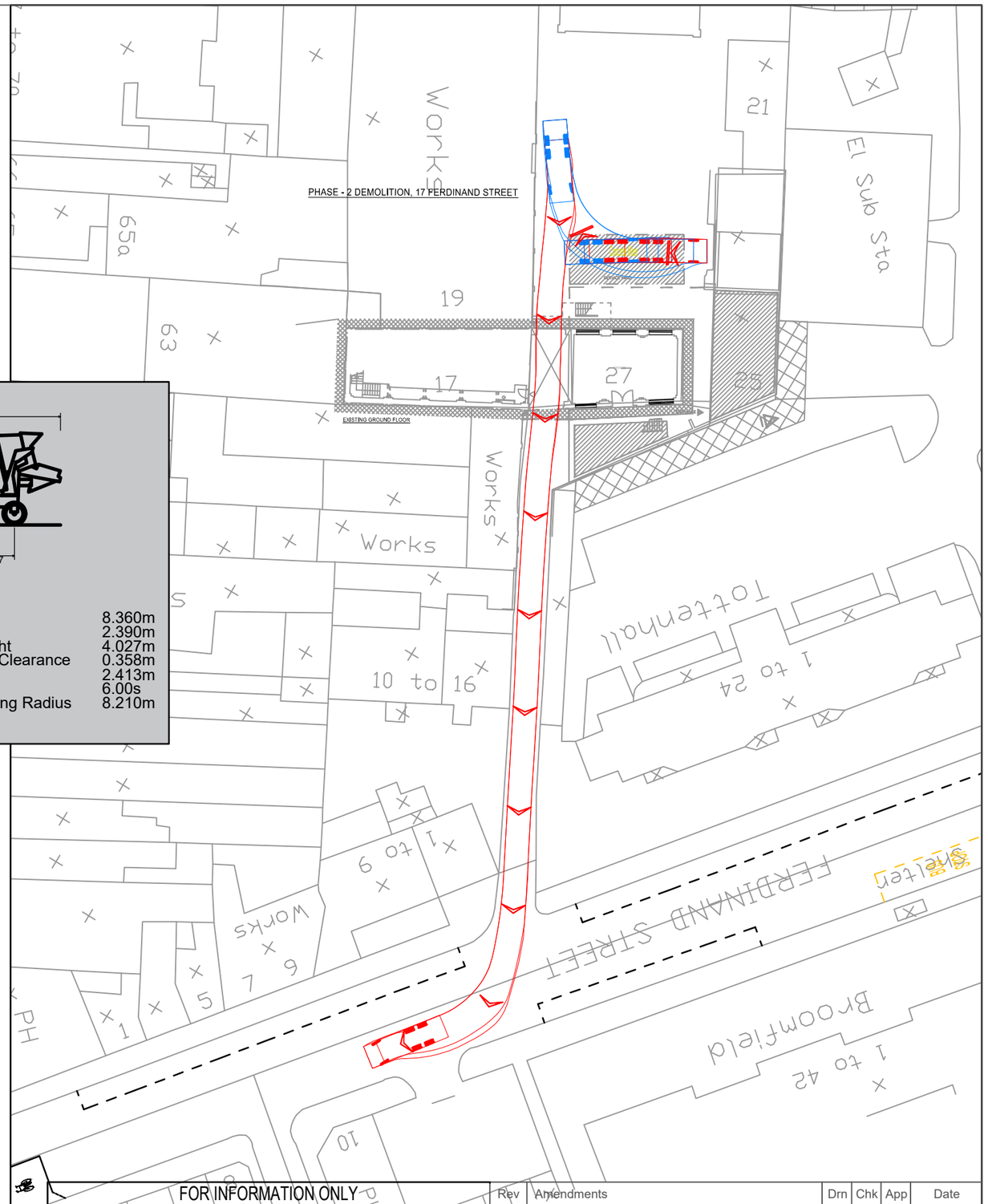
Client
DESIGNATED
CONTRACTORS LTD

Scale	Date	Designed
1:500@A3	FEB'19	SK
Drawn	**Checked**	**Approved**
SK	SC	DT
Job No	**Drawing No**	**Rev**
19043-01	19043-01-103	-





Concrete Mixer	
Overall Length	8.360m
Overall Width	2.390m
Overall Body Height	4.027m
Min Body Ground Clearance	0.358m
Max Track Width	2.413m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	8.210m



FOR INFORMATION ONLY

Rev	Amendments	Drn	Chk	App	Date

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Job Title
FERDINAND STREET
CAMDEN

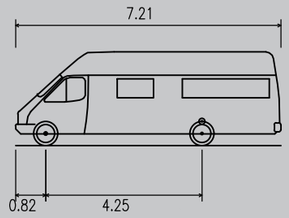
Drawing Title
CONCRETE MIXER (PHASE 2&3)
AUTOTRACK ANALYSIS

Client
DESIGNATED
CONTRACTORS LTD

Scale	Date	Designed
1:500@A3	FEB'19	SK
Drawn	**Checked**	**Approved**
SK	SC	DT
Job No	**Drawing No**	**Rev**
19043-01	19043-01-104	-

PHASE - 2 DEMOLITION, 17 FERDINAND STREET

EXISTING GROUND FLOOR



7.5t Panel Van	
Overall Length	7.210m
Overall Width	2.192m
Overall Body Height	2.544m
Min Body Ground Clearance	0.316m
Track Width	1.865m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	7.400m

FOR INFORMATION ONLY

Rev	Amendments	Drn	Chk	App	Date

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Job Title
FERDINAND STREET
CAMDEN

Drawing Title
7.5T PANEL VAN (PHASE 2)
AUTOTRACK ANALYSIS

Client
DESIGNATED
CONTRACTORS LTD

Scale	Date	Designed
1:500@A3	FEB'19	SK
Drawn	**Checked**	**Approved**
SK	SC	DT
Job No	**Drawing No**	**Rev**
19043-01	19043-01-105	-

APPENDIX E – SITE LAYOUT DRAWINGS

PHASE 1 - DEMOLITION 25 FERDINAND ST

HIGH LEVEL SCAFFOLD

SCAFFOLD

LINE OF HOARDING

Skip

Site Entrance

Temporary Vehicle waiting area

WCs

Drying Room

Site Office

Canteen

HIGH LEVEL SCAFFOLD

1 to 24

Tottenham

Works

19

17

Works

Works

10 to 16

0 1 2 3 4 5 10m

REVISIONS

Rev.	Date	By

PARTY WALL ISSUE

ALL DIMENSIONS TO BE CHECKED ON SITE
WORK TO FIGURED DIMENSIONS ONLY
REPORT DISCREPANCIES TO THE ARCHITECT
AT ONCE BEFORE PROCEEDING

Contemporary Design Solutions

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Telephone: 020 7494 9000 Fax: 020 7494 4944

Client

WARMHAZE LTD

Project Title

Mixed-use B1/C3 new build
17, 27 & 25 Ferdinand Street,
LONDON NW1

Drawing Title

PHASE 1

Scale	1: 200@A1, 400@A3	Date	April 2019
Drawn	LV	Checked	-
Drawing No.			Rev.

181130-A(GA)001

CAD plot date: 01 May 2019 - 04:07pm

PHASE 2 - ROOF ATTIC DEMOLITION 17-27 FERDINAND ST

HIGH LEVEL SCAFFOLD

SCAFFOLD

LINE OF HOARDING

Skip

Site Entrance

Temporary Vehicle waiting area

Visitors Entrance

WCs

Drying Room

Site Office

Canteen

HIGH LEVEL SCAFFOLD

Works

19

17

Works

Works

10 to 16

1 to 24

Tottenham

0 1 2 3 4 5 10m

REVISIONS

Rev.	Date	By

PARTY WALL ISSUE

ALL DIMENSIONS TO BE CHECKED ON SITE
WORK TO FIGURED DIMENSIONS ONLY
REPORT DISCREPANCIES TO THE ARCHITECT
AT ONCE BEFORE PROCEEDING

Contemporary Design Solutions

46 Great Marlborough Street
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Telephone: 020 7494 9000 Fax: 020 7494 4944

Client

WARMHAZE LTD

Project Title

Mixed-use B1/C3 new build
17, 27 & 25 Ferdinand Street,
LONDON NW1

Drawing Title

PHASE 2

Scale	1: 200@A1, 400@A3	Date	April 2019
Drawn	LV	Checked	-
Drawing No.			Rev.

181130-A(GA)002

CAD plot date: 01 May 2019 - 04:07pm

I:\01 Warmhaze\Projects\181130 - 17-27-25 Ferdinand Street - Extensions\06 Design\01 CAD\XREF Hoarding_plan.dwg > layout Phase2

PHASE 3 - CONSTRUCTION PHASE

HIGH LEVEL SCAFFOLD

Skip

Load and Unload

Temporary Vehicle waiting area and Mobile Crane Position

SCAFFOLD for New 25 Ferdinand St

LINE OF HOARDING

SCAFFOLD for Yard Extension

Site Entrance and Site Safety Signage

HIGH LEVEL SCAFFOLD for Upper Floors Construction

Works

19

17

Works

Works

10 to 16

1 to 24

Tottenham

0 1 2 3 4 5 10m

REVISIONS

Rev.	Date	By

PARTY WALL ISSUE

ALL DIMENSIONS TO BE CHECKED ON SITE
WORK TO FIGURED DIMENSIONS ONLY
REPORT DISCREPANCIES TO THE ARCHITECT
AT ONCE BEFORE PROCEEDING

Contemporary Design Solutions

46 Great Marlborough Street
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Client

WARMHAZE LTD

Project Title

Mixed-use B1/C3 new build
17, 27 & 25 Ferdinand Street,
LONDON NW1

Drawing Title

PHASE 3

Scale	1: 200@A1, 400@A3	Date	April 2019
Drawn	LV	Checked	-
Drawing No.			Rev.

181130-A(GA)003

CAD plot date: 01 May 2019 - 04:08pm

I:\011 Hallmark Projects\181130 - 17-27-25 Ferdinand Street - Yard Extension\06 Design\01 CAD\XREF\Hoarding_plan.dwg > layout Phase3

HIGH LEVEL
SCAFFOLD

Skip

Load and
Unload

SCAFFOLD

LINE OF HOARDING

Site
Entrance
and Site
Safety Signage

HIGH LEVEL
SCAFFOLD

Works

19

17

Works

Works

10 to 16

1 to 24

Tottenham

REVISIONS

Rev.	Date	By

PARTY WALL ISSUE

ALL DIMENSIONS TO BE CHECKED ON SITE
WORK TO FIGURED DIMENSIONS ONLY
REPORT DISCREPANCIES TO THE ARCHITECT
AT ONCE BEFORE PROCEEDING

Contemporary Design Solutions

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W1F 7JW
Telephone: 020 7494 9000 Fax: 020 7494 4944

Client

WARMHAZE LTD

Project Title

Mixed-use B1/C3 new build
17, 27 & 25 Ferdinand Street,
LONDON NW1

Drawing Title

Proposed Hoarding Plan

Scale	1: 200@A1, 400@A3	Date	April 2019
Drawn	LV	Checked	-
Drawing No.			Rev.

181130-A(GA)000

0 1 2 3 4 5 10m

CAD plot date: 01 May 2019 - 04:05pm

APPENDIX F – NOISE AND VIBRATION ASSESSMENT

24Acoustics

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3 Bassett Avenue
Southampton
SO16 7DP

T: 02381 555000

17, 25 & 27 FERDINAND STREET LONDON

DEMOLITION AND CONSTRUCTION NOISE AND VIBRATION ASSESSMENT

Technical Report: R7794-1 Rev 0

Date: 10th April 2019

For: Designated Contractors Ltd
46 Great Marlborough Street
London
W1F 7JW

24 Acoustics Document Control Sheet

Project Title: 17, 25 & 27 Ferdinand Street, London
Demolition and Construction Noise and Vibration Assessment

Report Ref: R7794-1 Rev 0

Date: 10th April 2019

	Name	Position	Signature	Date
Prepared by	Neil McLeod Ba(Hons) MIOA	Senior Consultant		10/04/2019
Reviewed & Approved by	Stephen Gosling BEng MIOA	Principal Consultant		10/04/2019
For and on behalf of 24 Acoustics Ltd				

Document Status and Approval Schedule

Revision	Description	Prepared By	Reviewed & Approved By
0	Approved for issue	Neil McLeod	Stephen Gosling

DISCLAIMER

This report was completed by 24 Acoustics Ltd on the basis of a defined programme of work and terms and conditions agreed with the Client. The report has been prepared with all reasonable skill, care and diligence within the terms of the Contract with the Client and taking into account the project objectives, the agreed scope of works, prevailing site conditions and the degree of manpower and resources allocated to the project.

24 Acoustics Ltd accepts no responsibility whatsoever, following the issue of the report, for any matters arising outside the agreed scope of the works.

This report is issued in confidence to the Client and 24 Acoustics Ltd has no responsibility of whatsoever nature to third parties to whom this report or any part thereof is made known. Any such party relies upon the report at their own risk.

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1.0 INTRODUCTION

1.1 24 Acoustics Ltd has been retained by Designated Contractors Ltd to undertake an assessment of the potential noise and vibration impact from the demolition and construction works associated with the redevelopment of No. 17, 25 & 27 Ferdinand Street, London, NW1 8EU.

1.2 This assessment has been undertaken with reference to the build programme provided by Designated Contractors Ltd, relating to the proposed phases of demolition and construction.

1.3 The purpose of this report is to assist with the completion of the relevant sections of the Construction Management Plan, in accordance with the requirements of the London Borough of Camden in relation to noise and vibration.

1.4 All sound pressure levels quoted in this report are in dB relative to 20 µPa. A glossary of the acoustic terminology used in this report is provided in Appendix A.

2.0 CRITERIA

Local Authority Requirements and Correspondence

2.1 The London Borough of Camden's Minimum Requirements for Building Construction and Demolition Sites [Reference 1] sets out the Borough's expectations in relation to noise, vibration and dust from construction works. This includes permitted working hours, the use of appropriate mitigation measures, community liaison and monitoring requirements.

2.2 Camden's requirements refer to the use of British Standard (BS) 5228: 2009 for the assessment and control of noise and vibration from construction sites.

British Standard 5228 Part 1: Noise

2.3 British Standard (BS) 5228:2009 'Code of practice for noise and vibration control on construction and open sites' [Reference 2] Part 1 provides guidance on the control of noise from construction and open sites. The standard provides recommendations for basic methods of noise control relating to construction and open sites where work activities/ operations generate significant noise levels. The standard also provides means of assessing the potential significance of noise through fixed noise limits or by assessing the change in noise level.

BS5228 Part 2: Vibration

2.4 Advice on assessing vibration from construction activities is given in Part 2 of BS 5228. The standard provides an empirical method for predicting ground-borne vibration from construction works. Table B.1 of the standard provides guidance on the potential effects of vibration and is reproduced below as Table 1.

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

Table 1 - Guidance on effects of Vibration Levels

2.5 Subject to good communication with the nearest affected parties, an upper trigger value of 1mm/s at or within neighbouring residential properties is considered appropriate. An upper trigger value of 2mm/s would be suitable for neighbouring commercial units.

3.0 SITE DESCRIPTION AND PROPOSED WORKS

3.1 The development comprises the demolition and replacement of no. 25 Ferdinand Street and the construction of new floors above 17 and 27 Ferdinand Street, for residential use.

3.2 Figure 1 provides a plan of the site and surroundings, showing the buildings that are to be developed and nearby sensitive receptors.

3.3 The nearest potential receptors likely to be affected by noise and vibration associated with activities on site include the following properties:

- 17 and 27 Ferdinand Street (these residential properties will be occupied during the demolition of no. 25 Ferdinand Street only)
- 21, 21a and 23 Ferdinand Street (Residential)
- 10, 10a and 12 Belmont Street (Residential)
- Other commercial units on Ferdinand Street
- Properties in Tottenhall (Residential)

3.4 The overall demolition and construction phases, with reference to the project's construction programme, are summarised in Table 2.

Construction Stage	Description	Approximate Duration	Typical Activities
Demolition	Demolition of No. 25	6 weeks	Demolition from roof to ground floor slab
Substructure and Structural Adaptations	Foundations	4 weeks	Breakout basement slab, excavation, piling, concreting
	Structural Adaptations / Strengthening	4 weeks	Reinforce existing building section foundation
Superstructure and Cladding	Framing works	22 weeks	New wings, frame above existing
	Roof	5 weeks	New roof above existing and new build
	External Envelope	9 weeks	Brick cladding and glass cladding
Internal Services and Finishes		14 weeks	Services and finishes, Lifts, Plant areas, fit-out
External Works		12 weeks	Remove scaffold, green roof, frontages, landscaping

Table 2 - Summary of Demolition and Construction Phases

3.5 In accordance with Camden Council's requirements, construction working hours will, where practicable, be between 08:00 and 18:00 hours Monday to Friday and 08:00 to 13:00 hours on Saturdays. There will be no works on Sundays or Public Holidays. These hours are more stringent than the typical hours referred to in BS 5228-1.

3.6 There may be occasions when certain activities which are measurable beyond the site boundary need to take place out of hours. This situation will typically only occur if required for safety reasons i.e. the activity would present an unacceptable level of risk to site operatives/public if undertaken during core hours. These instances are expected to be rare and the Contractor will ensure that notification will be provided to Camden and residents ahead of such works.

3.7 Based on the proposed schedule of works, airborne noise will be generated from site activities throughout the project. During the demolition phase, there is the potential for structure-borne noise to be transmitted to adjacent properties that are structurally attached. The impact of structure-borne noise will therefore need to be carefully managed by the demolition contractor.

4.0 ENVIRONMENTAL NOISE MEASUREMENTS

Measurements

4.1 Environmental noise measurements have been undertaken by 24 Acoustics between 28th February and 6th March 2019. Ambient noise levels were measured using the following equipment:

2 x Rion precision sound level meter	Type NL-32
Brüel & Kjær acoustic calibrator	Type 4231

4.2 The free-field survey locations are described below and shown in Figure 1:

- Location 1 – On the fire escape on the western façade of no. 27 Ferdinand Street facing the courtyard, at a height of approximately 3.5 metres above ground level
- Location 2 – On the eastern façade of no. 27 Ferdinand Street, facing Tottenhall, at a height of approximately 1.5 metres above ground level

4.3 The instrumentation was configured to continuously measure and store overall A-weighted statistical parameters including L_{Aeq}, L_{Amax} and L_{A90} (all measured on fast response) over short time intervals. Measurements were made in accordance with BS 7445: 1991 "Description and measurement of environmental noise Part 2 - Acquisition of data pertinent to land use [Reference 9].

4.4 The instrumentation was equipped with an environmental microphone and an extension cable. The instruments were powered by external batteries and stored in a weatherproof case. The calibration of all instrumentation was verified before and after the tests and no significant signal variation occurred. Calibration of 24 Acoustics' equipment is traceable to National Standards.

4.5 The weather during the site visits was generally dry with winds not exceeding 5 m/s. The weather during the surveys was variable, with some periods of precipitation. Noise from nearby construction activity also affected noise levels at Location 2. Periods of rain and construction activity have been omitted from the following assessment.

Results

4.6 The measured noise levels at Locations 1 and 2 are shown graphically in Appendix B. The average (L_{eq}) data values have been averaged to generate the overall daytime and night-time noise levels.

4.7 The overall average (L_{eq}) levels during site operational hours (08:00 to 18:00 hours) are described in Table 3 (excluding periods of rain and construction activity).

February and March 2019	**Daytime Average Level (08:00 - 18:00 hours) dB $L_{Aeq,\ 10\ hour}$**	
	Location 1	**Location 2**
Thu 28	65	51
Fri 01	59	52
Sat 02	63	55
Sun 03	49	49
Mon 04	63	53
Tue 05	59	51
Wed 06	55	-
Typical Level	**62**	**52**

Table 3 - Overall Noise Levels – Site Operational hours

4.8 Excluding construction noise, the prevailing ambient noise levels at the measurement locations are determined by local road traffic and commercial activity.

4.9 The above noise levels are consistent with those expected by 24 Acoustics at the nearest noise sensitive properties.

5.0 CALCULATIONS AND ASSESSMENT

5.1 An assessment of the likely noise impact has been undertaken in accordance with the guidance of BS 5228 and noise levels from construction activities have been calculated at a number of differing distances to quantify the likely range of noise levels to which the receptors could be exposed.

Noise Assessment

5.2 Calculations of the potential noise levels generated by the demolition and construction works have been carried out using the guidance of BS 5228. The level of noise generated by the demolition and construction activities will depend upon a range of factors, which include plant to be used, distance between source and receptor, acoustic screening (where present) and percent on-time for each item of plant.

5.3 Calculations have been undertaken for each of the identified phases and for the typical distance between the site and the nearest receptors.

5.4 Precise details are not yet available for the proposed demolition and construction methodology and specific plant equipment to be used. Reasonable assumptions have therefore been made with reference to the construction programme and information from other similar construction projects.

5.5 The use of Best Practical Means, as defined in the Control of Pollution Act 1974 [Reference 3] has been included for all calculations and the Contractor has committed to this approach.

5.6 Source-term noise data for the plant has been taken from the database contained in BS 5228. Example calculations are provided in Appendix C and the results summarised in Table 4.

Construction Stage	Description	Typical Noise Levels at Receptors dB $L_{Aeq,\ 10\ hour}$
Demolition	Demolition	74 to 77
Substructure	Piling and Excavation	77 to 80
Superstructure	Steel Frame	71 to 75
	External Cladding	71 to 74

Table 4 - Summary of Predicted Noise Levels

5.7 Given the close proximity of the nearby residential and commercial properties, there is the potential for significant noise levels to be produced. The following measures will, therefore, be critical:

- To apply Best Practicable Means at all times
- To ensure good levels of communication with residents
- To provide continuous noise monitoring

5.8 These mitigation measures, including upper threshold values for noise are detailed in Section 6.

5.9 From the calculations in Appendix C, it can be seen that the worst-affected properties are likely to be the residential properties located in no. 23 Ferdinand Street and no. 25 Ferdinand Street (during demolition only). The commercial properties immediately adjacent to the development will also be significantly affected by noise from site activity.

5.10 The predicted noise levels in Table 4 and Appendix C relate to airborne noise generated from site works. Structure-borne noise levels cannot be accurately predicted and have not been considered in this assessment.

Vibration Assessment

5.11 Consideration has been given to vibration levels due to construction operations. The primary activities with the potential to produce significant levels of vibration are demolition and piling.

5.12 During the demolition phase, there is an increased risk of the transmission of vibration to adjacent properties that are structurally attached. It is of benefit to the project that the piling phase is relatively short (approximately 4 weeks) but the impact of vibration on nearby receptors will need to be carefully managed by the demolition contractor.

5.13 If practical, it is recommended that rotary bored piling methods be adopted, which will reduce the risk of sustained vibration arising from site activities, compared to driven piling methods.

5.14 It is not possible to accurately predict vibration levels due to demolition and construction operations. However, subject to appropriate mitigation measures and good site management, it is considered that vibration levels from site activities are not likely to exceed 1 mm/s at the nearest residential properties and 2mm/s at the nearest commercial properties.

6.0 MITIGATION

Communication and Best Practicable Means

6.1 Due to the anticipated noise levels at nearby receptors, it will be necessary to ensure regular communication with residents and businesses, as stated in BS 5228-1. When particularly noisy activities are expected (e.g. obstructions or works on the boundary of adjacent properties) then the neighbours will be contacted to agree a mutually convenient time for both parties.

6.2 Best Practicable Means (BPM, as defined in Section 72 of the Control of Pollution Act 1974) shall be employed throughout the demolition and construction phases.

6.3 The following mitigation measures shall be employed, in order to minimise the impacts of noise and vibration:

- Careful selection of plant, construction methods and programming. Only plant conforming with relevant national or international standards, directives and recommendations on noise and vibration emissions will be used
- Design and use of site hoardings and screens, where practicable and necessary, to provide acoustic screening at the earliest opportunity
- Construction plant will be located, as far as is reasonably practicable, away from adjacent occupied buildings or as close as possible to noise barriers or site hoardings where these are located between the plant and the buildings
- Static and semi-static plant/equipment (e.g. compressors and generators) will be fitted with suitable enclosures where practicable
- Site personnel will be instructed on BPM to reduce noise and vibration as part of their induction and training will be provided as required prior to specific work activities
- When plant is not being used, it shall be shut down and not left to idle
- Local screening to equipment during key phases with suitably heavy materials if necessary (or other suitable materials such as acoustic blankets)
- Where practicable, to phase the works to ensure that the noisier activities are not carried out concurrently (within the same site)
- Floors to be carefully removed during demolition, working back from a free edge into the structure
- Construction vehicles and deliveries will be co-ordinated on a time slot basis, with a booking system in place to avoid peak hours

- There will be no vehicles waiting on the public highway with their engines running
- Vehicle access and egress from the site will be managed by qualified banksmen

Noise and Vibration monitoring

6.4 Due to the proximity of the nearest residential properties, it is recommended that noise and vibration monitoring be undertaken throughout the project. Continuous monitoring is recommended during the noisiest periods (e.g. demolition and piling), which should incorporate a trigger alert system.

6.5 The noise and vibration monitoring locations shall consider the nearest and most-affected properties. The number of and exact locations are to be determined on the basis of site constraints, with a minimum of two locations for noise and two locations for vibration. Indicative locations for monitoring are shown in Figure 2.

Noise Threshold Values

6.6 It is appropriate to compare noise levels at the nearest receptors with fixed limits of 75 dB $L_{Aeq,\ 10\ hour}$ (Monday to Friday) and 75 dB $L_{Aeq,\ 5\ hour}$ (Saturday), which is consistent with other sites in Camden and more widely in London.

6.7 BPM and noise mitigation shall be employed throughout the works, alongside regular communication with neighbours. The proposed threshold level does not permit a relaxation of BPM at any time and as such, lower daily noise levels would typically be expected, during the later stages of the construction in particular (e.g. internal fit-out works).

6.8 Noise monitoring, with a trigger alert system, will provide an effective means of noise management throughout the works.

Noise Monitoring Trigger Levels

6.9 It is proposed to adopt a maximum construction noise level of 75 dB $L_{Aeq,\ 10\ hour}$ outside the nearest noise sensitive receptors. The two-stage alert strategy described in Table 5 (based on hourly values) is recommended to regulate noise levels.

Measured Noise Level at the Site Boundary	Recommended Action
> 75 dB $L_{Aeq, 1hr}$	Amber alert issued to the lead contractor and actions taken as appropriate to control noise levels over the 10 hour daytime period
> 80 dB $L_{Aeq, 1hr}$	Red alert issued to the lead contractor who will take immediate action to reduce noise levels.

Table 5 - Recommended Two-Stage Alert for Construction Noise

Vibration

6.10 Vibration threshold values will be determined once the monitor locations have been determined and a similar two-stage alert strategy will be adopted.

Trigger Actions

6.11 Noise and vibration monitoring with a trigger alert system will be used to communicate to key construction staff who in turn can take action to limit operations on site.

6.12 Where a trigger event is considered to be genuine, the contractor will identify the source of the noise or vibration that triggered the alert. The Contractor will undertake a risk assessment to determine the likelihood that the activity that generated the alert might generate further noise.

6.13 If a risk of increasing noise or vibration levels from the activity is identified, the Contractor will review the working method and machinery to determine whether alternatives are available that reduce the risk. The Contractor's Expert may be consulted for an external view on whether the best practicable means to minimise noise and vibration levels have been proposed and adopted.

6.14 In any event, noise levels will be kept under close scrutiny as the activity continues until such time as the risk of exceedance becomes negligible.

6.15 All noise and vibration monitoring equipment will comply with the Class 1 specification of BS EN 61672-1 (IEC 61672-1).

Structure-borne Noise

6.16 During the demolition phase, the impact of structure-borne noise to adjacent properties will need to be carefully managed by the demolition contractor. The implementation of BPM and the following mitigation measures will assist to minimise the impact of structure-borne noise:

- Floors to be carefully removed during demolition, working back from a free edge into the structure
- Careful selection of working methods, plant and equipment to minimise the transmission of structure-borne noise
- Communication with neighbours, to advise when activities generating structure-borne noise are to be expected

7.0 CONCLUSIONS

7.1 24 Acoustics Ltd has been retained by Designated Contractors Ltd to undertake an assessment of the potential noise and vibration impacts from the demolition and construction works associated with the redevelopment of Stephenson House, Hampstead Road, London.

7.2 The demolition and construction noise assessment has predicted high noise levels at the nearest residential and commercial properties. Mitigation measures have been put in place and it will be necessary to ensure close and effective communication with local neighbours.

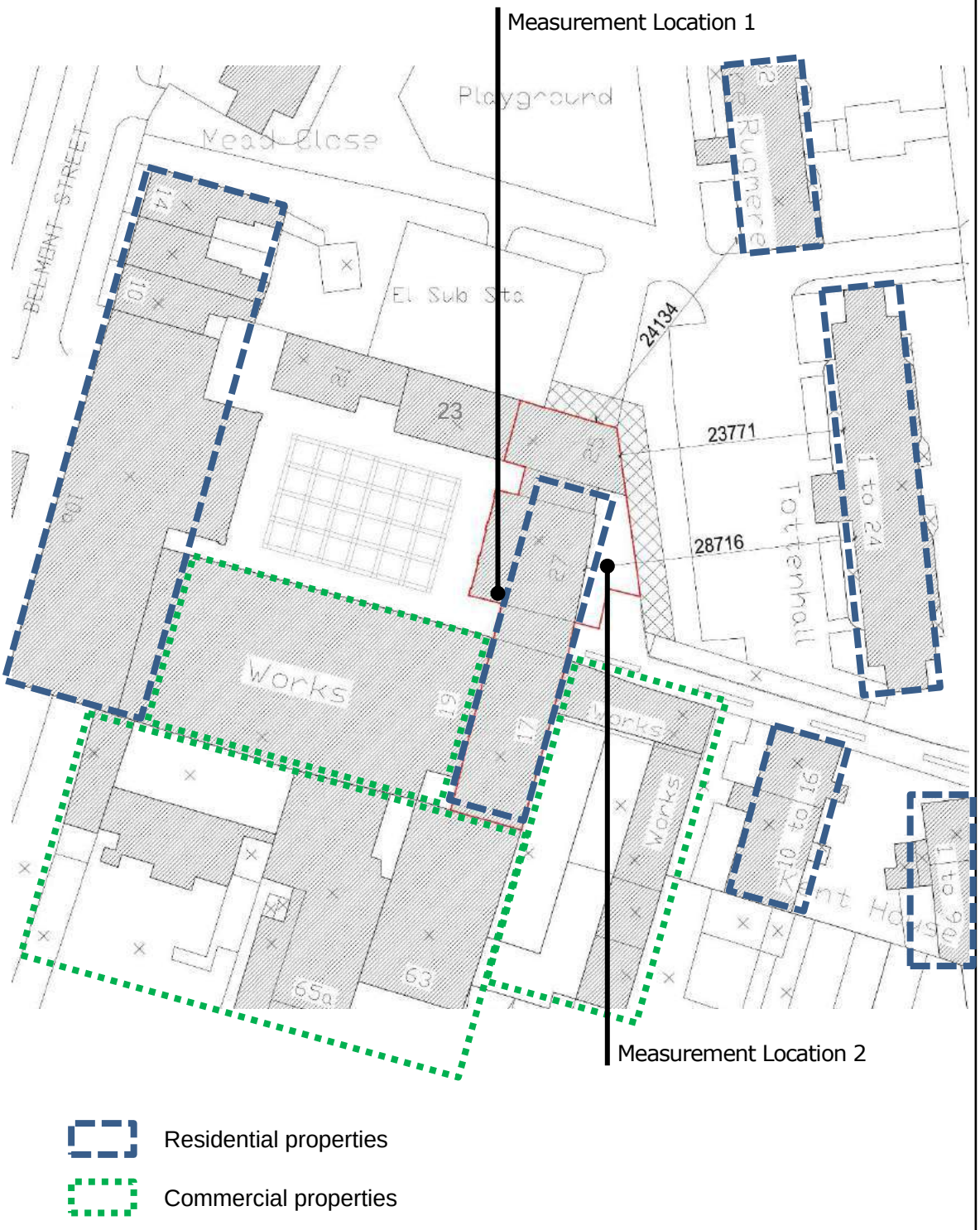
7.3 The Contractor has committed to Best Practical Means and the proposed mitigation measures will provide a means to regulate noise and vibration levels. Continuous monitoring will be provided during the highest risk activities and the recommended trigger alerts would allow the contractor to react quickly to reduce noise and vibration levels in the event of a complaint or trigger level being exceeded. Accordingly, two-stage trigger levels have been recommended to regulate noise levels at residential properties.

REFERENCES

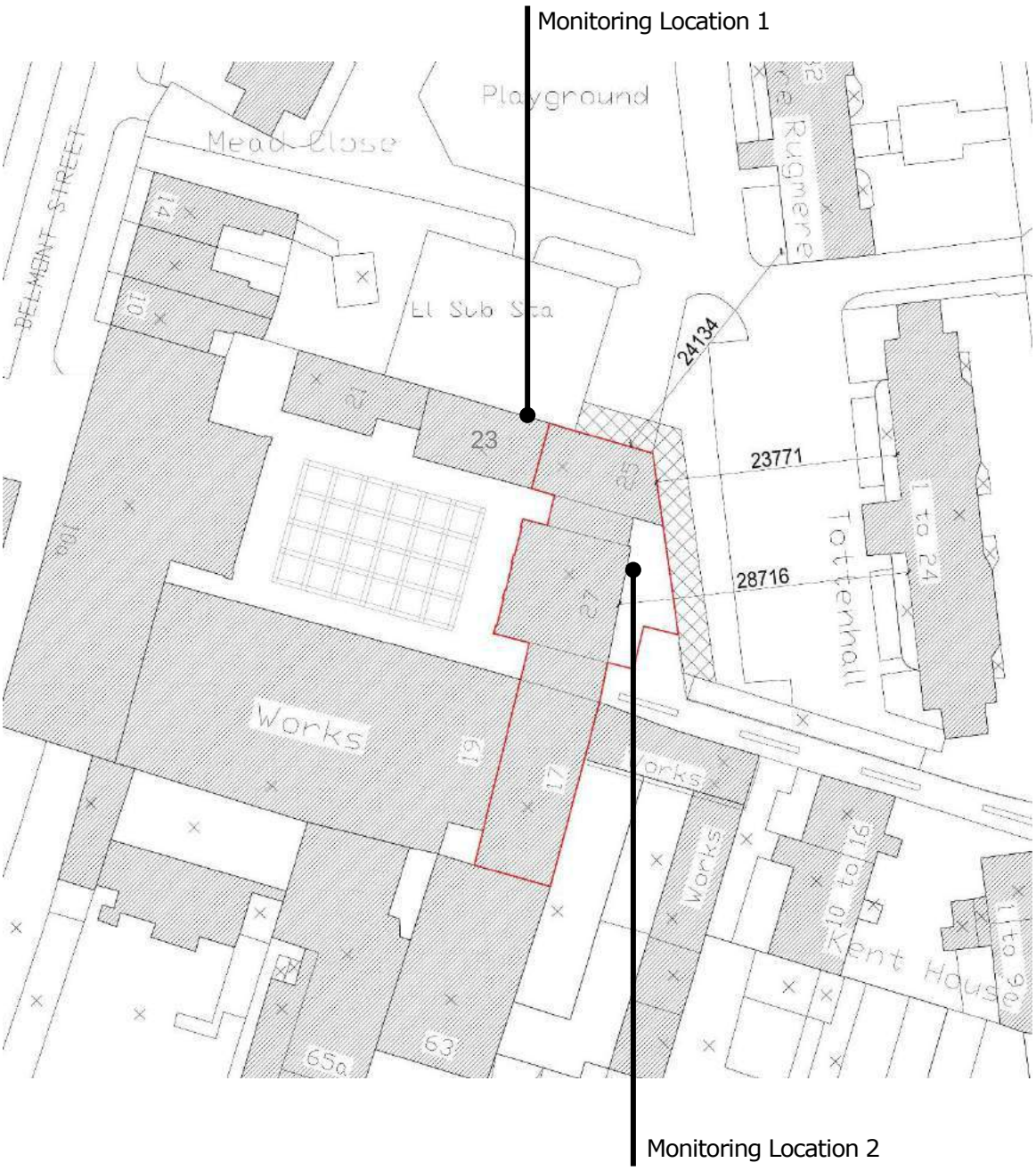
1. London Borough of Camden, Minimum Requirements for Building, Construction and Demolition Sites (CMR242430)

2. British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. Parts 1 & 2, 2009 + A1: 2014

3. Control of Pollution Act, 1974



Project: 17, 25 and 27 Ferdinand St, London	**Title:** Proposed Site Plan and Measurement Locations	
DWG No: Figure 1	**Scale:** N.T.S.	**Rev:** A
Date: April 2019	**Drawn By:** NM	**Job No:** 7794-1



Project: 17, 25 and 27 Ferdinand St, London	**Title:** Proposed Site Plan and Indicative Noise and Vibration Monitoring Locations	
DWG No: Figure 2	**Scale:** N.T.S.	**Rev:** A
Date: April 2019	**Drawn By:** NM	**Job No:** 7794-2

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APPENDIX A: ACOUSTIC TERMINOLOGY

Noise Levels

Noise is defined as unwanted sound. The range of audible sound is from 0 to 140 dB. The frequency response of the ear is usually taken to be around 18 Hz (number of oscillations per second) to 18000 Hz. The ear does not respond equally to different frequencies at the same level. It is more sensitive in the mid-frequency range than the lower and higher frequencies and because of this, the low and high frequency components of a sound are reduced in important by applying a weighting (filtering) circuit to the noise measuring instrument. The weighting which is most widely used and which correlates best with subjective response to noise is the dBA weighting. This is an internationally accepted standard for noise measurements.

For variable sources, such as traffic, a difference of 3 dBA is just distinguishable. In addition, a doubling of traffic flow will increase the overall noise by 3 dBA. The 'loudness' of a noise is a purely subjective parameter, but it is generally accepted that an increase/ decrease of 10 dBA corresponds to a doubling/ halving in perceived loudness.

External noise levels are rarely steady, but rise and fall according to activities within an area. In attempt to produce a figure that relates this variable noise level to subjective response, a number of noise indices have been developed. These include:

i) The L_{Amax} noise level

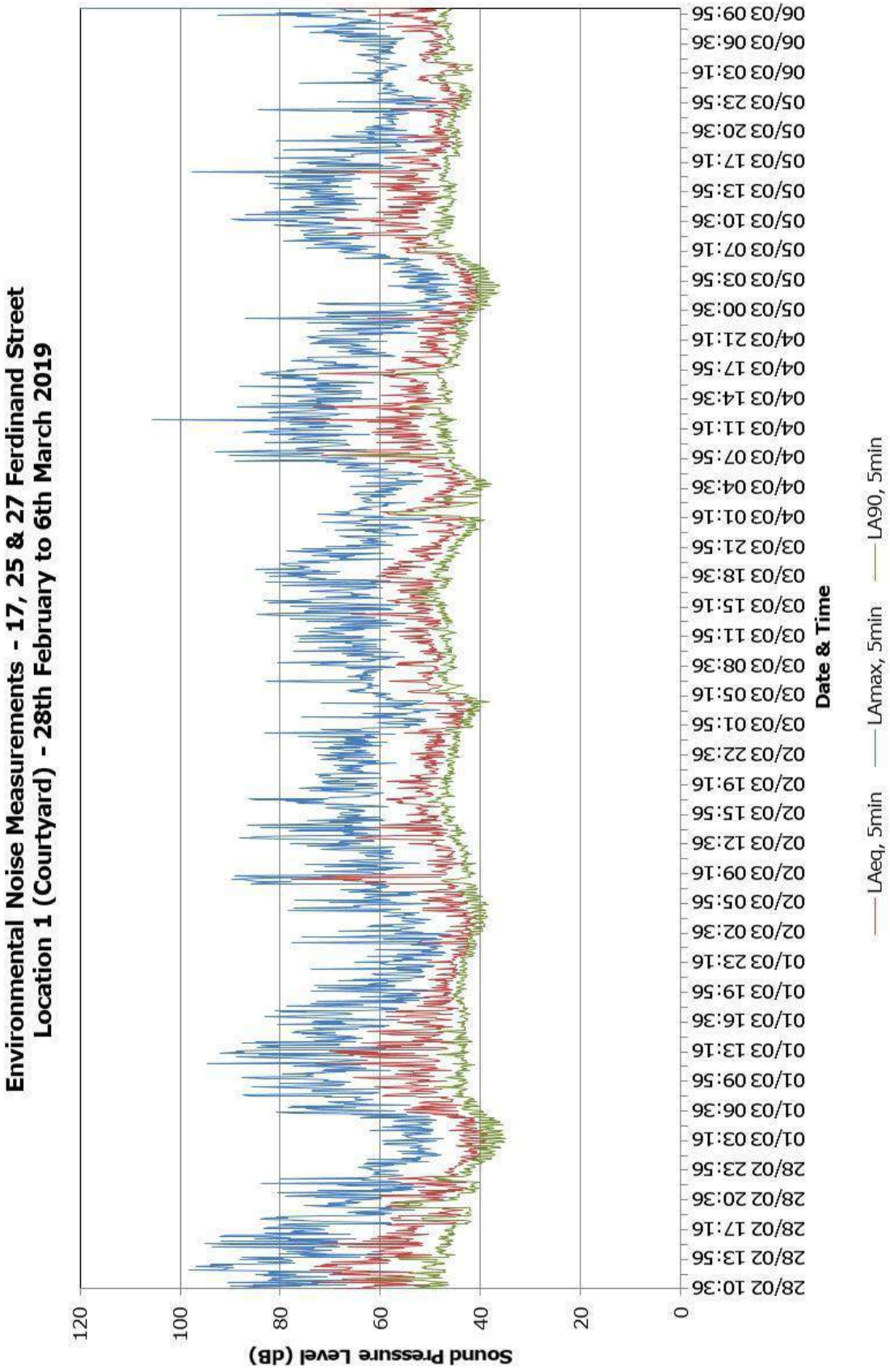
This is the maximum noise level recorded over the measurement period.

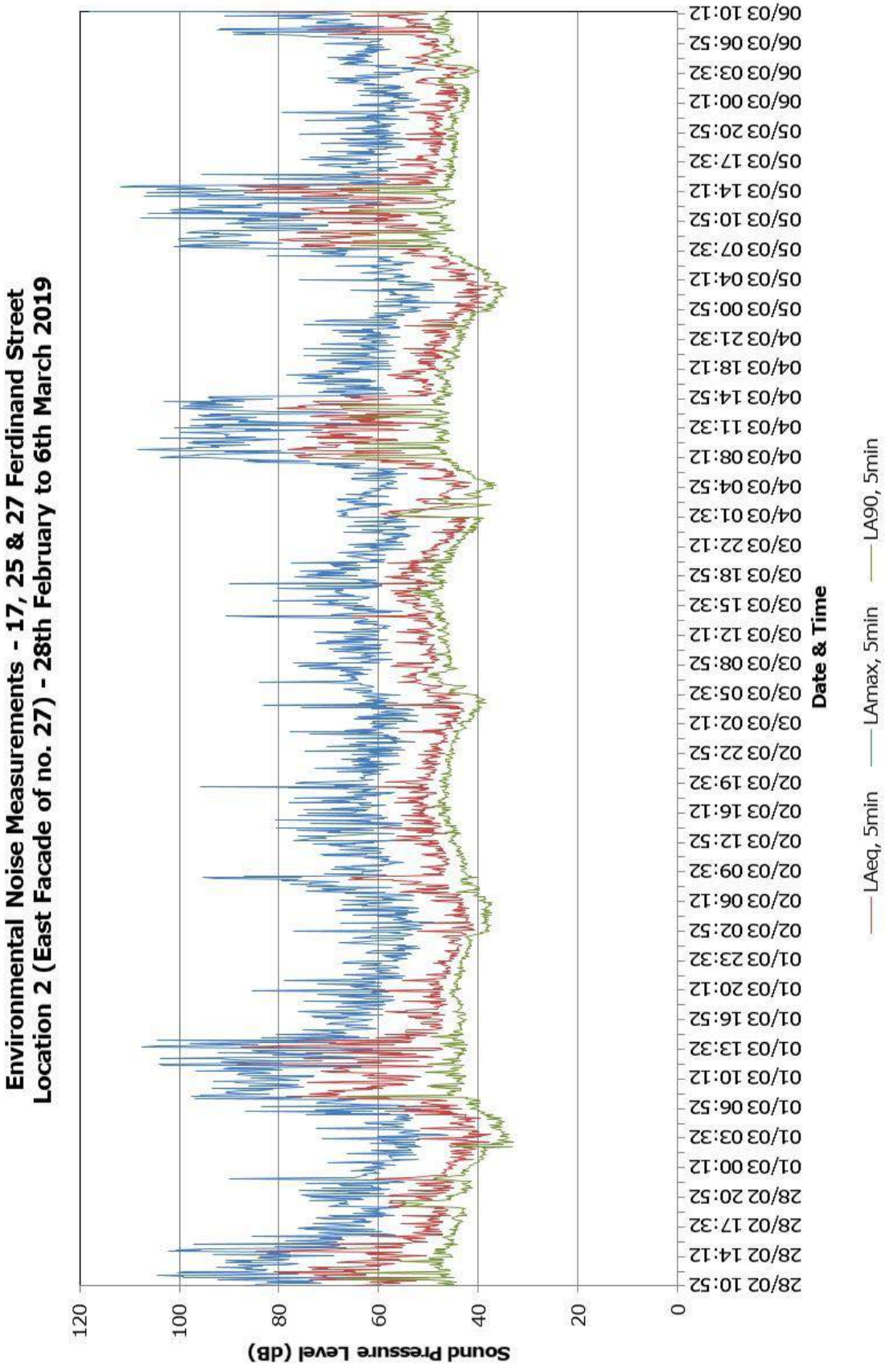
ii) The L_{Aeq} noise level

This is "equivalent continuous A-weighted sound pressure level, in decibels" and is defined in British Standard BS 7445 as the "value of the A-weighted sound pressure level of a continuous, steady sound that, within a specified time internal, T, has the same mean square sound pressure as a sound under consideration whose level varies with time".

It is a unit commonly used to describe construction noise and noise from industrial premises and is the most suitable unit for the description of other forms of environmental noise. In more straightforward terms, it is a measure of energy within the varying noise.

APPENDIX B: ENVIRONMENTAL NOISE MEASUREMENTS




Environmental Noise Measurements - 17, 25 & 27 Ferdinand Street
Location 2 (East Facade of no. 27) - 28th February to 6th March 2019
Sound Pressure Level (dB)
120
100
80
60
40
20
0
Date & Time
28/02 10:52
28/02 14:12
28/02 17:32
28/02 20:52
01/03 00:12
01/03 03:32
01/03 06:52
01/03 10:12
01/03 13:32
01/03 16:52
01/03 20:12
01/03 23:32
02/03 02:52
02/03 06:12
02/03 09:32
02/03 12:52
02/03 16:12
02/03 19:32
02/03 22:52
03/03 02:12
03/03 05:32
03/03 08:52
03/03 12:12
03/03 15:32
03/03 18:52
03/03 22:12
04/03 01:32
04/03 04:52
04/03 08:12
04/03 11:32
04/03 14:52
04/03 18:12
04/03 21:32
05/03 00:52
05/03 04:12
05/03 07:32
05/03 10:52
05/03 14:12
05/03 17:32
05/03 20:52
06/03 00:12
06/03 03:32
06/03 06:52
06/03 10:12
LAeq, 5min
LAmax, 5min
LA90, 5min

APPENDIX C: EXAMPLE CONSTRUCTION NOISE CALCULATIONS

DEMOLITION

1. No 27 (Residential)

Plant item	LwA	Distance (m) To centre of site	Distance loss (G=1) To centre of site	On-time (%)	On-time Correction	Screening loss	Reflection Correction	LAeq site centre
Lump hammer	97	10	-28.0	25	-6.0	-5	0	58
Hand held pneumatic breaker	111	10	-28.0	25	-6.0	-5	0	72
5t excavator	93	10	-28.0	50	-3.0	-10	0	52
Breaker mounted on excavator	118	10	-28.0	25	-6.0	-10	0	74
Pulverizer mounted on excavator	105	10	-28.0	25	-6.0	-10	0	61
Wheeled Loader	98	10	-28.0	50	-3.0	-10	0	57
Mobile Crane	99	10	-28.0	50	-3.0	0	0	68
Conveyor	97	10	-28.0	50	-3.0	-5	0	61
Gas Cutter	107	10	-28.0	25	-6.0	-10	0	63
							Overall 10-hour LAeq	**77 dBA**

2. No 23 (residential)

Plant item	LwA	Distance (m) To centre of site	Distance loss (G=1) To centre of site	On-time (%)	On-time Correction	Screening loss	Reflection Correction	LAeq site centre
Lump hammer	97	10	-28.0	25	-6.0	-5	0	58
Hand held pneumatic breaker	111	10	-28.0	25	-6.0	-5	0	72
5t excavator	93	10	-28.0	50	-3.0	-10	0	52
Breaker mounted on excavator	118	10	-28.0	25	-6.0	-10	0	74
Pulverizer mounted on excavator	105	10	-28.0	25	-6.0	-10	0	61
Wheeled Loader	98	10	-28.0	50	-3.0	-10	0	57
Mobile Crane	99	10	-28.0	50	-3.0	0	0	68
Conveyor	97	10	-28.0	50	-3.0	-5	0	61
Gas Cutter	107	10	-28.0	25	-6.0	-10	0	63
							Overall 10-hour LAeq	**77 dBA**

3. Tottenhall (residential)

Plant item	LwA	Distance (m) To centre of site	Distance loss (G=1) To centre of site	On-time (%)	On-time Correction	Screening loss	Reflection Correction	LAeq site centre
Lump hammer	97	24	-35.6	25	-6.0	-5	0	50
Hand held pneumatic breaker	111	24	-35.6	25	-6.0	-5	0	64
5t excavator	93	24	-35.6	50	-3.0	-10	0	44
Breaker mounted on excavator	118	24	-35.6	25	-6.0	-10	0	66
Pulverizer mounted on excavator	105	24	-35.6	25	-6.0	-10	0	53
Wheeled Loader	98	24	-35.6	50	-3.0	-10	0	49
Mobile Crane	99	24	-35.6	50	-3.0	0	0	60
Conveyor	97	24	-35.6	50	-3.0	-5	0	53
Gas Cutter	107	24	-35.6	25	-6.0	-10	0	55
							Overall 10-hour LAeq	**70 dBA**

4. Units to south and east (commercial)

Plant item	LwA	Distance (m) To centre of site	Distance loss (G=1) To centre of site	On-time (%)	On-time Correction	Screening loss	Reflection Correction	LAeq site centre
Lump hammer	97	15	-31.5	25	-6.0	-5	0	54
Hand held pneumatic breaker	111	15	-31.5	25	-6.0	-5	0	68
5t excavator	93	15	-31.5	50	-3.0	-10	0	48
Breaker mounted on excavator	118	15	-31.5	25	-6.0	-10	0	70
Pulverizer mounted on excavator	105	15	-31.5	25	-6.0	-10	0	57
Wheeled Loader	98	15	-31.5	50	-3.0	-10	0	53
Mobile Crane	99	15	-31.5	50	-3.0	0	0	64
Conveyor	97	15	-31.5	50	-3.0	-5	0	57
Gas Cutter	107	15	-31.5	25	-6.0	-10	0	59
							Overall 10-hour LAeq	**74 dBA**

PILING AND EXCAVATION

2. No 23 (residential)

Plant item	LwA	Distance (m) To centre of site	Distance loss (G=1) To centre of site	On-time (%)	On-time Correction	Screening loss	Reflection Correction	LAeq site centre
Rotary bored piling rig	104	10	-28.0	50	-3.0	0	0	73.0
Excavator	105	10	-28.0	50	-3.0	0	0	74.0
Dump Truck	104	10	-28.0	50	-3.0	0	0	73.0
Concrete pump	106	10	-28.0	50	-3.0	0	0	75.0
Compressor	100	10	-28.0	50	-3.0	0	0	69.0
							Overall 10-hour LAeq	80 dBA

3. Tottenhall (residential)

Plant item	LwA	Distance (m) To centre of site	Distance loss (G=1) To centre of site	On-time (%)	On-time Correction	Screening loss	Reflection Correction	LAeq site centre
Rotary bored piling rig	104	24	-35.6	50	-3.0	0	0	65.4
Excavator	105	24	-35.6	50	-3.0	0	0	66.4
Dump Truck	104	24	-35.6	50	-3.0	0	0	65.4
Concrete pump	106	24	-35.6	50	-3.0	0	0	67.4
Compressor	100	24	-35.6	50	-3.0	0	0	61.4
							Overall 10-hour LAeq	73 dBA

4. Units to south and east (commercial)

Plant item	LwA	Distance (m) To centre of site	Distance loss (G=1) To centre of site	On-time (%)	On-time Correction	Screening loss	Reflection Correction	LAeq site centre
Rotary bored piling rig	104	15	-31.5	50	-3.0	0	0	69.5
Excavator	105	15	-31.5	50	-3.0	0	0	70.5
Dump Truck	104	15	-31.5	50	-3.0	0	0	69.5
Concrete pump	106	15	-31.5	50	-3.0	0	0	71.5
Compressor	100	15	-31.5	50	-3.0	0	0	65.5
							Overall 10-hour LAeq	77 dBA

APPENDIX G – CONSTRUCTION DUST ASSESSMENT AND DUST MANAGEMENT PLAN

Construction Dust Assessment & Dust Management Plan	
Ferdinand Street, Camden	
Job number:	J0303
Document number:	J0303/1/F1
Date:	22 March 2019
Client:	Designated Contractors Ltd
Prepared by:	Mr Bob Thomas

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1 Introduction

1.1. Proposed Development

1.1.1 Air Quality Assessments Ltd (AQA) has been commissioned by Designated Contractors Ltd to undertake an air quality and construction dust risk assessment and to prepare an Air Quality and Dust Management Plan (AQDMP) for the consented development at 17 & 25-27 Ferdinand Street, London, NW1 8EU. The development is for the erection of additional 4th and 5th floors, 5 storey extension to courtyard (west) elevation, single storey extension to east elevation all at 17 and 27 Ferdinand Street and redevelopment of 25 Ferdinand Street to create 5 storey building to provide 10 additional residential units (9 units already in situ) and Class B1a office floorspace.

1.1.2 The development site is located to the west of Ferdinand Street, approximately 40 m to the north of Chalk Farm Road (see **Figure 1**).

1.2. Scope of Assessment

1.2.1 The relevant air quality legislation and the background air quality are presented to provide context with regard to fine particulate matter (PM_{10}).

1.2.2 The construction dust risk assessment describes the potential for construction activities to impact upon existing properties. The main pollutants of concern related to construction activities are dust and PM_{10}. The risk assessment has been prepared taking into account all relevant local and national guidance and regulations and follows the methodology in the London Plan SPG on The Control of Dust and Emissions During Construction and Demolition (GLA, 2014), as agreed with Ealing Council. The risk assessment forms part of, and informs, the AQDMP.

1.2.3 The AQDMP is a working document that sets out the management and control procedures that will be put in place at the site to manage air quality and dust during the construction phase. The AQDMP aims to ensure that dust assessment forms part of daily inspection, and that dust is primarily controlled by good operational practices, with appropriate measures undertaken to prevent dust beyond the site boundary. The AQDMP includes the following:

- A general description of the site, its location and the on-site operations during the construction phase;
- A description of the likely dust sources, pathways and receptors and the outcome of the construction dust risk assessment;
- The control procedures used to manage dust at the site on a daily basis;
- The roles and responsibilities of site personnel;
- Trigger levels and risk factors and the corrective actions to be taken during abnormal conditions;
- The monitoring and auditing of the effectiveness of the control procedures; and
- Details and responsibilities regarding record keeping, and the implementation and maintenance of the AQDMP.

1.2.4 The references and a glossary of common air quality terminology used in this assessment are shown in **Section 6** and **Section 7** respectively.

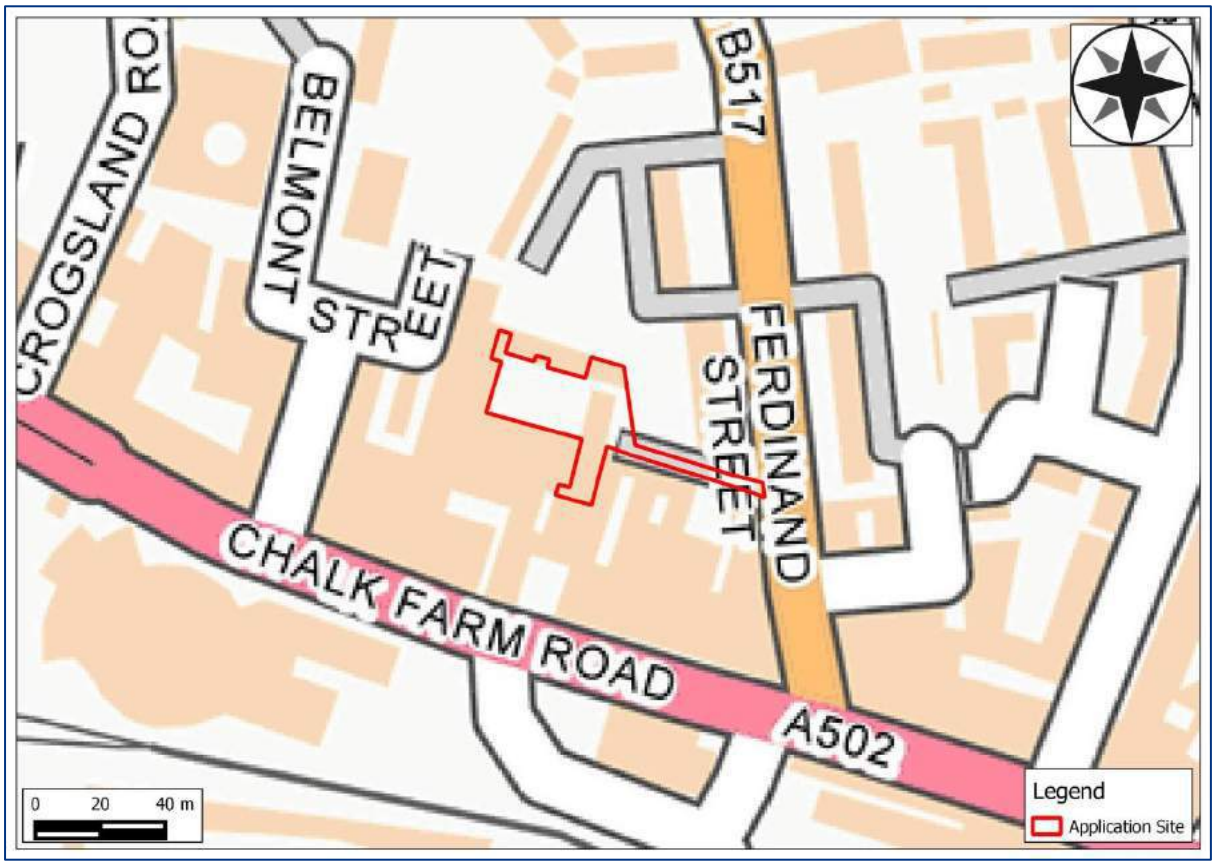

Figure 1: Site Location
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2 Air Quality Legislation

2.1. EU Limit Values

2.1.1 The European Union's Directive on ambient air quality and cleaner air for Europe (European Parliament, Council of the European Union, 2008) set legally binding limit values for PM_{10}. The Air Quality Standards Regulations 2010 (The Stationary Office, 2010) implement the EU Directive limit values in English legislation. Achievement of the limit values is a national obligation rather than a local one.

2.1.2 The limit values are the same as the objective values (see **Table 1**) however, the compliance dates differ, and the limit values apply at all locations (apart from where the public does not have access, where health and safety at work provisions apply and on the road carriageway). The PM_{10} limit value applied from 2005.

2.2. Clean Air Strategy

2.2.1 The Clean Air Strategy (Defra, 2019a) provides an overview of the actions that the government will take to improve air quality and promises new legislation that will tackle air pollution.

2.2.2 Part IV of The Environment Act 1995 requires the UK Government to prepare an Air Quality Strategy. The original Air Quality Strategy set out air quality standards and objectives intended to protect human health and the environment (Defra, 2007).

2.2.3 Standards are the concentrations of pollutants in the atmosphere, below which there is a minimum risk of health effects or ecosystem damage; they are set with regard to scientific and medical evidence. Objectives are the policy targets set by the Government where the standards are expected to be achieved by a certain date; they take account of economic efficiency, practicability, technical feasibility and timescale.

2.2.4 The original Air Quality Strategy also describes the system of Local Air Quality Management (LAQM), as introduced in Part IV of the Environment Act 1995, which requires every local authority to carry out regular review and assessments of air quality in its area. Where an objective has not been, or is unlikely to be achieved, the local authority must declare an AQMA, and prepare an action plan which sets out appropriate measures to be introduced in pursuit of the objectives.

2.2.5 The objectives for PM_{10}, as prescribed by the Air Quality (England) Regulations 2000 and the Air Quality (England) (Amendment) Regulations 2002 (The Stationary Office, 2000; The Stationary Office, 2002), are shown in **Table 1**. The objectives for PM_{10} were to have been achieved by 2004, and continue to apply in all future years thereafter.

Table 1: The Objectives for PM_{10}

Pollutant	Concentration Measured As	Objective
PM_{10}	24-hour Mean	50 µg/m^3 not to be exceeded more than 35 times a year
	Annual Mean	40 µg/m^3

2.2.6 The objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed for a period of time appropriate to the averaging period of the objective. Examples of where the objectives should apply are provided in the London Local Air Quality Management Technical Guidance (Mayor of London, 2016). The annual mean PM_{10} objectives should apply at the building façades of residential properties, schools, hospitals, care homes etc.; they should not apply at the building façades of places of work, hotels, gardens or kerbside sites. The 24-hour mean PM_{10} objective should apply at all locations where the annual mean objective applies, as well as the gardens of residential properties and hotels.

3 Air Quality and Dust Risk Assessment

3.1. Introduction

3.1.1 Without mitigation, there is a risk that the construction phase of the development will lead to dust soiling and elevated concentrations of PM_{10}. These impacts may occur during demolition, earthworks and construction, as well as from trackout of dust onto the public highway, as vehicles leave the construction site.

3.2. Existing Conditions

LAQM Review and Assessment

3.2.1 Camden Council has declared the entire borough an air quality management area (AQMA) due to exceedences of the annual mean nitrogen dioxide and 24-hour mean PM_{10} objectives.

Local Air Quality Monitoring

3.2.2 Camden Council operates four automatic monitoring sites within its area that measure PM_{10} concentrations. Measured data from the closest monitoring site, at Swiss Cottage, approximately 1.7km to the west of the construction site, are shown in **Table 2,** and the monitoring site location is shown in **Figure 2**.

Table 2: Summary of PM_{10} Monitoring Data (2009 to 2018) [a]

Site Name	Site Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Annual Mean (µg/m^3)											
Swiss Cottage	Kerbside	25	26	27	23	21	22	20	21	20	21
Objective		**40**									
Number of Days > 50 µg/m^3											
Swiss Cottage	Kerbside	25	26	31	21	8	12	8	7	8	4
Objective		**35**									

a The data have been taken from Camden Councils latest LAQM report and the London Air Quality website (London Borough of Camden, 2018; ERG, Kings College London, 2019)

3.2.3 The data in **Table 2** show that the annual mean and 24-hour mean objectives for PM_{10} have been achieved at the kerbside monitoring site at Swiss Cottage between 2009 to 2018. The monitoring site is located adjacent to the heavily trafficked Finchley Road (A41) close to a congested junction. The area of development at the construction site is approximately 40m from any significant road traffic sources and PM_{10} concentrations at the site are likely to be lower.

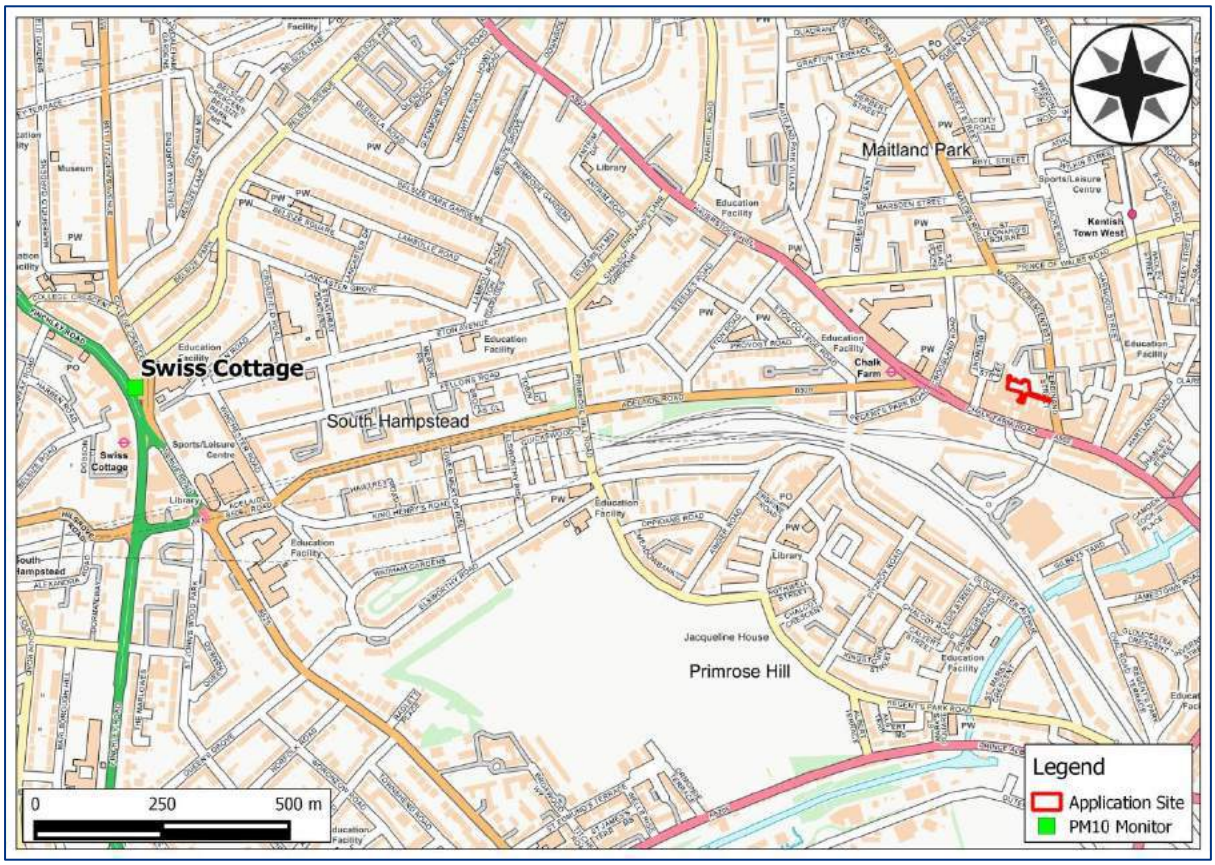

Figure 2: Camden Council's Swiss Cottage PM_{10} Monitoring Site
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Background Concentrations

3.2.4 The estimated annual mean background concentration of PM_{10} at the construction site, taken from background pollutant concentration maps published by Defra (Defra, 2019b), are shown in **Table 3**. The estimated background concentration is well below the annual mean objective.

Table 3: Estimated Annual Mean Background Concentrations in 2019 (µg/m^3)

Grid	PM_{10}
528500,184500	18.5
Objective	**40**

3.3. Methodology

3.3.1 A construction dust risk assessment has been undertaken following the guidance in the London Plan SPG on The Control of Dust and Emissions During Construction and Demolition (GLA, 2014), which utilises the methodology in the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (IAQM, 2014).

3.3.2 The guidance divides activities on construction sites into four main types: demolition, earthworks, construction and trackout. The methodology is based on a sequence of steps. Step 1 screens the requirement for more detailed assessment; if there are no receptors within 50 m of the site boundary, or within 50 m of roads used by construction vehicles, then there is no need for further assessment. Step 2 assesses the risk of dust impacts from each of the four activities, considering the scale and magnitude of the works (Step 2A), and the sensitivity of the area (Step 2B). Site-specific mitigation for each of the four activities is then determined based on a dust risk category defined at Step 2C. **Appendix A1** sets out the construction dust assessment methodology in more detail.

3.4. Dust Sources and Pathways

Potential Dust Sources

3.4.1 Dust emissions may arise from the following activities:

- The demolition of buildings;
- The stripping out of materials from the retained buildings;
- The loading of waste materials being removed from the site and the unloading of materials being delivered to the site;
- Stockpiles of materials;
- Works undertaken to restore and redevelop the retained buildings;
- The movement of earth during remodelling and landscaping;
- Resuspension of dust as vehicles move around the site; and
- Vehicles tracking dust off the site on their wheels.

3.4.2 The existing building at 17 Ferdinand Street will be retained; however, the buildings at 25 and 27 Ferdinand Street will be demolished and replaced with two new blocks. The site clearance and demolition works will last approximately two months, with construction expected to be completed within 1 year and 3 months. Full details of the programme of works are available in the Construction Traffic Management Plan (URS Scott Wilson, 2015).

3.4.3 Construction traffic will access the site via an existing tarmac access road off of Ferdinand Street.

3.4.4 The standard working hours for all construction activity will be from 08:00 to 18:00, Monday to Friday, and 08:00 to 13:00 on Saturdays. There will be no Sunday or Bank Holiday working, unless otherwise agreed with Camden Council beforehand.

3.4.5 The likely magnitude of the dust emissions during each phase of construction are considered in the Risk Assessment (see **Section 3.5**).

Pathways

3.4.6 The transport of fugitive dust in the air is dependent on the prevailing meteorological conditions. Receptors downwind of the dust emissions source, with regard to the prevailing wind, will be exposed to dust more frequently than those located upwind. The 13 year average wind rose from the Heathrow meteorological station (**Figure 3**) and the data in **Table 4** show that the prevailing wind direction is

from the southwest; however, buildings around the application site are likely to affect the direction of the wind.

3.4.7 There is a risk that dust will be entrained from the ground even when no dust generating activities are taking place. Wind speeds greater than 5 m/s are considered strong enough to initiate the suspension of dust from the ground, and the risk is increased on dry days, i.e. when <0.2 mm of rainfall are recorded over a 24 hour period. The prevailing wind data in **Table 4** show that, for approximately 69% of the time, wind speeds are likely to be below 5 m/s, when dust is unlikely to become suspended in the air.

Table 4: 10 Year Average Wind Direction Heathrow (2005 to 2017)

Direction	Sectors (° From North)	Frequency (%)	Frequency >5 m/s (%)
N	340-20	10.0	1.0
NE	30-60	11.1	1.9
E	70-110	7.6	1.6
SE	120-150	5.6	1.3
S	160-200	13.8	5.5
SW	210-240	20.1	11.2
W	250-290	21.4	7.6
NW	300-330	9.4	1.1
Calms (<0.5 m/s)	-	1.0	-
Total	**-**	**100**	**31.2**

3.4.8 Analysis of average rainfall data for the area shows that, over the 30 year period from 1981 to 2010, an average of 150-160 days will be wet days, i.e. rainfall will be greater than 0.2 mm (Met Office, 2019). Therefore, for approximately 42% of the time, daily rainfall will be greater than 0.2 mm, when there will be natural dust suppression.

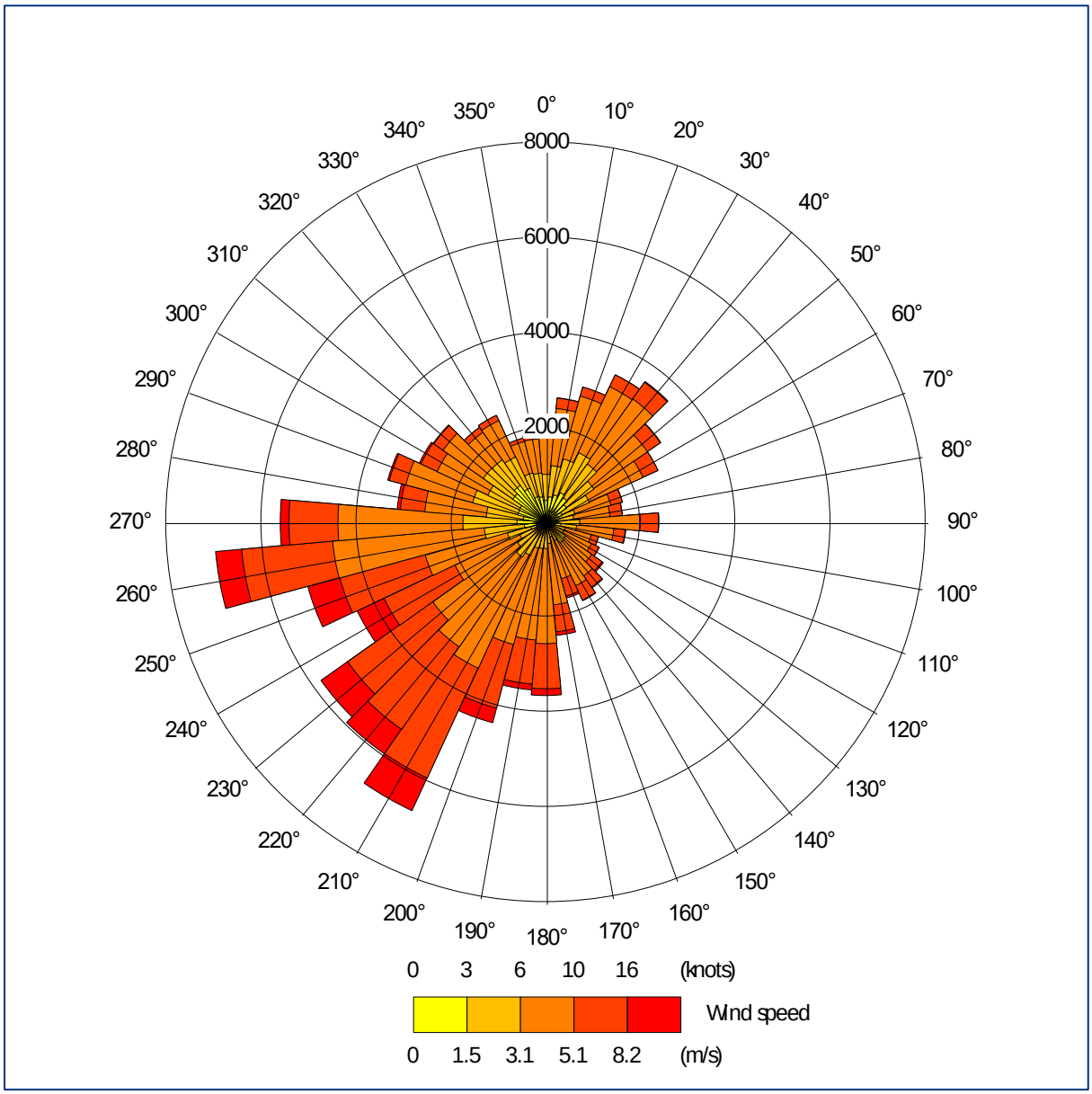

Figure 3: 13 Year Average Wind Rose Heathrow (2005 to 2017)

3.5. Risk Assessment

Screening

3.5.1 There are human receptors within 50 m of the construction site to the north, east, south and west. There are also receptors within 50 m of the route used by construction vehicles on the public highway, up to 500 m from the site entrance. Therefore, further assessment of the construction phase impacts is necessary. There are no known ecological receptors within 50 m of the construction site, and the effects on ecology will not be considered further.

Risk of Dust Impacts

Potential Dust Emission Magnitude

3.5.2 Buildings with a total volume of around 2,000 m^3 will need to be demolished. These buildings are made of potentially dusty materials, such as brick and concrete; however, given the low volume of the buildings to be demolished and based on the example definitions in **Table A1** in **Appendix A1**, the dust emission class for demolition is considered to be small.

3.5.3 Earthworks are likely to take place during preparation of the ground for construction and the improvements to the service yard; however, the area of earthworks will be small, with the entire site around 1,240 m^2. Data from the UK Soil Observatory have been used to determine that the soil at the site has a clayey loam to silty loam texture, and may be prone to suspension when dry (NERC, 2019). Based on the example definitions in **Table A1** in **Appendix A1**, the dust emission class for earthworks is considered to be small.

3.5.4 The new buildings will have a total volume of around 4,700 m^3, significantly less than 25,000 m^3. Piling will be used; however, given the small scale of the construction, and based on the example definitions in **Table A1** in **Appendix A1**, the dust emission class for construction is considered to be small.

3.5.5 The maximum number of daily outward heavy duty vehicle (HDV) movements from the site during the construction phase has been estimated at 15 over a 25 day period during the site clearance and demolition phase. For the rest of the construction phase, there are expected to be no more than 10 daily outward HDV movements. None of the vehicles leaving the site will travel over unmade ground as a hard-surfaced loading area will be provided in the service yard, which will minimise any trackout; therefore, based on the example definitions in **Table A1** in **Appendix A1**, the dust emission class for trackout is considered to be small.

3.5.6 A summary of the likely dust emission magnitudes is shown in **Table 5**.

Table 5: Likely Dust Emission Magnitudes

Source	Dust Emission Magnitude
Demolition	Small
Earthworks	Small
Construction	Small
Trackout	Small

Sensitivity of the Area

3.5.7 The sensitivity of the area depends on the specific sensitivities of local receptors, the proximity and number of receptors, local PM_{10} background concentrations and other site specific factors, e.g. natural screening by trees.

Sensitivity of the Area to Dust Soiling

3.5.8 Residential properties are considered to be 'high' sensitivity receptors to dust soiling (see **Table A2** in **Appendix A1**).

3.5.9 There could be more than 100 residential properties within 20 m of the application site; therefore, with reference to **Table A5** in **Appendix A1**, the area is considered to be of high sensitivity to dust soiling.

3.5.10 **Table 5** shows that the dust emission magnitude for trackout is medium; therefore there is a risk of material being tracked up to 200 m from the site exit. Site traffic will leave the site and travel south along Ferdinand Street and then east on Chalk Farm Road. There could potentially be over 100 residential properties within 50 m of the roads along which material could be tracked. With reference to **Table A5** in **Appendix A1**, the area is thus considered to be of high sensitivity to dust soiling from trackout.

Sensitivity of the Area to the Health Effects of PM_{10}

3.5.11 Residential properties are considered to be 'high' sensitivity receptors to the health effects of PM_{10} (see **Table A3** in **Appendix A1**).

3.5.12 The construction site is around 40m from any significant PM_{10} emissions sources (i.e. road traffic), and air quality at receptors near the site is likely to be close to background levels, with annual mean PM_{10} concentrations of around 18.5 $\mu g/m^3$ (see **Table 3**). With reference to **Table A6** in **Appendix A1**, the area is thus described to be of medium sensitivity to the health effects of PM_{10}.

3.5.13 Annual mean PM_{10} concentrations adjacent to the roads along which material could be tracked are likely to be similar to those measured at the Swiss Cottage automatic monitoring site, i.e. around 21 $\mu g/m^3$. Therefore, with reference to **Table A6** in **Appendix A1**, the area adjacent to the surrounding roads along which material could be tracked is described to be of medium sensitivity to the health effects of PM_{10}.

3.5.14 A summary of the sensitivity of the area to the effects of the construction works is shown in **Table 6**.

Table 6: Summary of the Area Sensitivity

Potential Effect	Sensitivity of the Area	
	On-site Works	Trackout
Dust Soiling	High	High
Health	Medium	Medium

Risk of Impact and Significance

3.5.15 The dust emission magnitudes in **Table 5** have been combined with the area sensitivities in **Table 6** and a risk category has been assigned to each construction activity using the matrix in **Table A8** in **Appendix A1**. The resultant risk categories,

shown in **Table 7**, have then been used to determine the appropriate level of mitigation necessary.

Table 7: Summary of the Risk of Impacts Without Mitigation

Construction Activity	Dust Soiling	Health
Demolition	Medium	Low
Earthworks	Low	Low
Construction	Low	Low
Trackout	Low	Negligible

4 Air Quality and Dust Management Plan

4.1. Mitigation

4.1.1 The application site has been identified as a low-medium risk site for dust soiling, and a negligible-low risk site for health effects during the construction phase, as set out in **Table 7**. The dust risk categories have been used, along with the professional judgement of the consultant, to determine the appropriate level of mitigation at the site. The professional experience of the consultant preparing the report is set out in **Appendix A2**.

4.1.2 The mitigation measures, taken from the London Plan SPG on The Control of Dust and Emissions During Construction and Demolition (GLA, 2014), 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;
- 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 and dust are being carried out, and during prolonged dry or windy conditions; and
- Record any exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, and the action taken to resolve the situation in the log book.

Preparing and Maintaining the Site

- Plan the site layout: machinery and dust-causing activities should be located away from receptors;
- Erect solid screens or barriers around dust activities or the site boundary that are, at least, as high as any stockpiles on site;
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials from site as soon as possible;
- Cover, seed or fence stockpiles to prevent wind whipping; and

- Carry out regular dust soiling checks of buildings within 100 m of site boundary and cleaning to be provided if necessary.

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 London Plan SPG on The Control of Dust and Emissions During Construction and Demolition;
- Ensure all vehicles switch off their engines when stationary – no idling vehicles;
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery-powered equipment where possible;
- Impose and signpost a maximum-speed-limit of 10 mph on surfaced haul roads 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 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 mitigation (using recycled water where possible);
- 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
- No 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;
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil; and
- Only remove secure covers in small areas during work and 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;
- 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.

4.2. Non-Road Mobile Machinery (NRMM)

4.2.1 All NRMM of net power between 37kW and 560 kW used at the construction site will comply with Stage IIIA of EU Directive 97/68/EC (as amended), unless it can be demonstrated that the machinery is not available or that comprehensive retrofit to meet emission standards is not feasible. Where the use of compliant NRMM is not possible, the local planning authority will be consulted and the least polluting alternative will be used where an exemption is possible.

4.2.2 An inventory of all NRMM will be kept on-site stating the emission limits for all equipment. The Site Manager will also sign up for the GLA's NRMM database at https://nrmm.london/ and maintain an online inventory of NRMM at the site.

4.3. Roles and Responsibilities

4.3.1 Designated Contractors Ltd is committed to the effective management of dust emissions from the construction site. The day-to-day operations at the site will be the responsibility of the Site Manager. All operational staff member are responsible

for minimising any dust emissions from the site. When abnormal dust emissions are observed, operators are instructed to report this to the Site Manager without delay.

4.3.2 It is the responsibility of the Site Manager to organise action to mitigate emissions of fugitive dust.

4.4. Training and Competence

4.4.1 All operational staff at the construction site will be trained in their responsibilities with regard to dust control at the site. Management will maintain a statement of training requirement for each operational position, and a record will be kept detailing the training received by each operator.

4.5. Monitoring

Dust Monitoring

4.5.1 All site personnel will be responsible for reporting dust problems to the Site Manager immediately, on an on-going basis.

4.5.2 A twice-daily visual inspection of the site will be carried out by the Site Manager, or an appropriately trained operator. The inspection will consist of a walk around entire perimeter with observations made of any dust emissions detected. Particular attention will be paid to any areas where there is a greater risk of dust emissions. If significant dust is identified beyond the site boundary, a Dust Event Form should be completed (an example of which is provided in **Appendix A3**) and immediate investigation/remedial action will be taken, as outlined in **Section 4.6**. The Site Manager will review Dust Event Forms regularly to ensure that any necessary actions have been implemented, and to identify problem areas where more may need to be done to mitigate against further dust emissions.

4.5.3 During adverse meteorological conditions, additional inspections shall be carried out downwind of any dust generating activities.

4.5.4 The local authority shall be informed if dust emissions are likely to have an effect on the local community.

Weather Monitoring

4.5.5 A wind sock will be installed at the site to provide an indication of wind speed and direction. The wind sock will be monitored throughout the day by the Site Manager in order to alert staff to potential adverse conditions that may trigger the requirement for the additional mitigation measures outlined in **Section 4.6**. Meteorological conditions at the time of any significant dust emissions beyond the site boundary will be recorded in the Dust Event Form.

4.6. Trigger Levels, Risk Factors and Corrective Action

Trigger Levels

Dust

4.6.1 A daily inspection of the site will be carried out by the Site Manager, or an appropriately trained operator, to make observations on the meteorological conditions and dust emissions.

4.6.2 In the event that the following conditions are experienced on site, additional mitigation measures will be employed:

- Wind speeds of above 9 m/s, i.e. a fresh breeze (9-11 m/s); and
- Observations of dust extending beyond the site boundary due to construction site operations.

4.6.3 The additional measures will include:

- Immediate identification of the source of the dust;
- The liberal use of water suppression; and
- Covering or sheeting sources of unacceptable dust emissions.

4.6.4 In the event that unacceptable dust emissions continue, despite the additional mitigation measures, consideration should be given to modifying site operations, in liaison with the local authority, and temporarily suspending site operations until the issue can be resolved.

4.6.5 The following risk factors have also been identified as occurrences that may arise that will need contingency action in order to prevent dust emissions.

Equipment Failure

4.6.6 In the event of a failure of the dust control mechanism on any tools or equipment, water suppression will be utilised where appropriate, or the use of the tools/equipment will cease until the dust control mechanism has been repaired.

4.6.7 In the event of disruption to the water supply during dry weather, all dust generating activities will cease until the water supply has been restored.

Adverse Weather

4.6.8 During extreme weather conditions, such as long periods of dry weather and/or high wind speeds, there is a risk that dust may be entrained and dispersed over a greater distance from the construction site.

4.6.9 Water suppression will be used liberally in order to prevent dust emissions beyond the site boundary.

4.6.10 Short-term weather forecasts should be used to plan future site operations, and hard standing and the haul road should be wetted before winds blow towards sensitive receptors to prevent dust annoyance.

4.7. Record Keeping and Auditing

Complaints Log

4.7.1 Should a complaint be made directly to the site, the Site Dust Complaint Form will be completed (an example of which is provided in **Appendix A4**), and the Site Manager informed. The dust emission source will be investigated immediately and remedial

action taken. The Site Manager will determine appropriate actions to prevent further occurrences.

4.7.2 Any complaints received through the Designated Contractors Ltd customer service team, or through the local authority, will be logged and reviewed in line with Designated Contractors Ltd procedures.

4.7.3 The Site Manager will try to establish what on-site activity was going on at time the complaint was made, and review the meteorological conditions at the time of the complaint. The Site Manager will then determine appropriate actions to prevent further occurrences.

4.7.4 Records of complaints and investigations will be stored by the Site Manager, and made available to the local authority to examine on request.

Communications

4.7.5 Following investigation of the complaint, feedback will be provided to the complainant outlining the findings of the investigation, and the remedial actions taken, as well as apologising and explaining the commitment to prevent further occurrences. A record of the feedback given will be retained.

4.7.6 Camden Council will be informed of any complaints received relating to operations at the construction site.

AQDMP Audit

4.7.7 The Site Manager will review the AQDMP once every three months, in light of any complaints or issues that have been identified during the previous year. The following issues will be considered during the review:

- Effectiveness of mitigation measures employed;
- Additional mitigation measures implemented within the previous 12 months;
- Complaints received in relation to dust impacts at offsite receptors;
- Review of any dust events recorded within the previous 12 months;
- Review of the effectiveness of the visual monitoring scheme; and
- Review of the effectiveness of personnel training on dust awareness.

4.7.8 Should any control measures be shown to be failing, or should a need for further control measures be identified, new controls will be agreed and implemented in an updated AQDMP.

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6 Glossary

AQMA	Air Quality Management Area
Defra	Department for Environment, Food and Rural Affairs
Exceedence	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
HDV	Heavy Duty Vehicles (> 3.5 tonnes)
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
µg/m^3	Microgrammes per cubic metre
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
PM_{10}	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal

7 Appendices

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A1 Air Quality and Dust Risk Assessment Methodology

A1.1. Introduction

A1.1.1 The London Plan SPG on the Control of Dust and Emissions During Construction and Demolition (GLA, 2014) divides activities on construction sites into four types to reflect their different potential impacts:

- demolition;
- earthworks;
- construction; and
- trackout.

A1.1.2 A series of steps then consider the potential impact due to:

- the risk of health effects from an increase in exposure to PM_{10} and $PM_{2.5}$;
- annoyance due to the deposition of dust;
- harm to the natural environment.

A1.2. Step 1: Screen the Need for a Detailed Assessment

A1.2.1 An assessment is required where there is a human receptor within 50 m of the site boundary, and/or within 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s), or where there is an ecological receptor within 50 m of the site boundary, and/or within 50 m of the route(s) used by construction vehicles on the public highway, up to 500 m from the site entrance(s).

A1.2.2 Where the need for a more detailed assessment is screened out, it can be concluded that the level of risk is negligible, and any effects will be not significant.

A1.3. Step 2: Assess the Risk of Dust Impacts

A1.3.1 A site is allocated to a risk category based on two factors:

- the scale and nature of the works, which determines the potential dust emissions magnitude (Step 2A); and
- the sensitivity of the area to dust impacts (Step 2B).

A1.3.2 These two factors are combined at Step 2C to determine the risk of dust impacts from each type of construction activity, with no mitigation applied.

Step 2A: Potential Dust Emissions Magnitude

A1.3.3 The dust emission magnitude is classified as small, medium or large. Examples of how the potential dust emission magnitude for each activity can be defined are shown in **Table A1**.

Table A1: Examples of How the Dust Emission Magnitude can be Defined

Class	Example
Demolition	
Large	Total building volume >50,000 m^3, potentially dusty construction material (e.g. concrete), on site crushing and screening, demolition activities >20 m above ground level.
Medium	Total building volume 20,000 m^3 – 50,000 m^3, potentially dusty construction material, demolition activities 10-20 m above ground level.
Small	Total building volume <20,000 m^3, construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10 m above ground, demolition during wetter months.
Earthworks	
Large	Total site area >10,000 m^2, potentially dusty soil type (e.g. clay, which will be prone to suspension when dry to due small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds >8 m in height, total material moved >100,000 tonnes.
Medium	Total site area 2,500 m^2 – 10,000 m^2, moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of bunds 4 m – 8 m in height, total material moved 20,000 tonnes – 100,000 tonnes.
Small	Total site area <2,500 m^2, soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds <4 m in height, total material moved <20,000 tonnes, earthworks during wetter months.
Construction	
Large	Total building volume >100,000 m^3, piling, on site concrete batching; sandblasting.
Medium	Total building volume 25,000 m^3 – 100,000 m^3, potentially dusty construction material (e.g. concrete), on site concrete batching.
Small	Total building volume <25,000 m^3, construction material with low potential for dust release (e.g. metal cladding or timber).
Trackout [a]	
Large	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length >100 m.
Medium	10-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50 m – 100 m.
Small	<10 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50 m.

a These numbers are for vehicles that leave the site after moving over unpaved ground.

Step 2B: Define the Sensitivity of the Area

A1.3.4 The sensitivity of the area takes account of:

- the specific sensitivities of receptors in the area;
- the proximity and number of those receptors;
- in the case of PM_{10}, the local background concentrations; and
- site-specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust.

A1.3.5 The specific sensitivities of different types of receptor to dust soiling and PM_{10} are shown **Table A2**, **Table A3** and **Table A4**. Professional judgement should be used to identify where on the spectrum of sensitivity a receptor lies, taking account of specific circumstances, i.e. the first occupants of residential units on a phased development may be expected to be less sensitive to dust soiling.

A1.3.6 The sensitivity of the area is then determined from the specific sensitivities of the receptors using the matrices set out in **Table A5**, **Table A6** and **Table A7**. Professional judgement should be used to determine the final sensitivity of the area, taking account of:

- any history of dust generating activities in the area:
- the likelihood of concurrent dust generating activity on nearby sites;
- any pre-existing screening between source and receptors;
- any conclusions drawn from analysing local meteorological data which accurately represents the area; and if relevant, the season during which the works will take place;
- any conclusions drawn from local topography;
- duration of the potential impact, as a receptor may become more sensitive over time; and
- any other known specific receptor sensitivities.

Step 2C: Define the Risk of Impacts

A1.3.7 The dust emission magnitude determined at Step 2A is combined with the sensitivity of the area determined at Step 2B to determine the risk of impacts with no mitigation applied. The level of risk for each activity is determined using the matrix in **Table A8**.

A1.4. Determine Site Specific Mitigation

A1.4.1 The dust risk category determined at Step 2C has been used, along with the professional judgement of the consultant, to determine the appropriate level of mitigation at the site. The highly recommended and desirable mitigation measures set out in the London Plan SPG form the basis of the mitigation set out in **Section 4.1**.

A1.4.2 The mitigation measures will inform an Air Quality and Dust Management Plan (AQDMP), which will be submitted to the local authority for approval prior to works commencing on-site.

A1.4.3 The London Plan SPG is clear that the primary aim of the risk assessment is to identify site specific mitigation that, once adopted, will ensure that there will be no significant effect.

Table A2: Sensitivities of People to Dust Soiling

Class	Principles	Examples
High	Users can reasonably expect enjoyment of a high level of amenity; or the appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected a to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.	Dwellings, museum and other culturally important collections, medium and long term car parks and car showrooms.
Medium	Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; or the appearance, aesthetics or value of their property could be diminished by soiling; or the people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.	Parks and places of work.
Low	The enjoyment of amenity would not reasonably be expected; or property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; or there is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.	Playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads.

Table A3: Sensitivities of People to PM_{10}

Class	Principles	Examples
High	Locations where members of the public may be exposed for eight hours or more in a day.	Residential properties, hospitals, schools and residential care homes.
Medium	Locations where the people exposed are workers, and where individuals may be exposed for eight hours or more in a day.	Office and shop workers, but will generally not include workers occupationally exposed to PM_{10}
Low	Locations where human exposure is transient.	Public footpaths, playing fields, parks and shopping streets.

Table A4: Sensitivities of Receptors to Ecological Effects

Class	Principles	Examples
High	Locations with an international or national designation and the designated features may be affected by dust soiling; or locations where there is a community of a particularly dust sensitive species.	Special Areas of Conservation (SAC) with dust sensitive features.
Medium	Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or locations with a national designation where the features may be affected by dust deposition.	Sites of Special Scientific Interest (SSSI) with dust sensitive features.
Low	Locations with a local designation where the features may be affected by dust deposition.	Local Nature Reserves with dust sensitive features.

Table A5: Sensitivity of the Area to Dust Soiling Effects on People and Property[1]

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<350
High	**>100**	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	**>1**	Medium	Low	Low	Low
Low	**>1**	Low	Low	Low	Low

Table A6: Sensitivity of the Area to Human Health Effects[1]

Receptor Sensitivity	Annual Mean PM_{10}	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<350
High	**>32 µg/m^3**	**>100**	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32 µg/m^3	**>100**	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28 µg/m^3	**>100**	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24 µg/m^3	**>100**	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	-	**>10**	High	Medium	Low	Low	Low
	-	**1-10**	Medium	Low	Low	Low	Low
Low	-	**>1**	Low	Low	Low	Low	Low

[1] For demolition, earthworks and construction, the distances are measured from the dust source, or the application site boundary. For trackout, the distances are measured from the side of the roads used by construction traffic. Without site-specific mitigation, trackout may occur from roads up to 500 m from large sites, 200 m from medium sites and 50 m from small sites, as measured from the site exit. The impact declines with distance from the site, and it is only necessary to consider trackout impacts up to 50 m from the edge or the road.

Table A7: Sensitivity of the Area to Ecological Effects[1]

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Table A8: Defining the Risk of Dust Impacts

Sensitivity of the Area	Dust Emission Magnitude		
	Large	**Medium**	**Small**
Demolition			
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Earthworks			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Construction			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible
Trackout			
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

A2 Professional Experience

Bob Thomas, BSc (Hons) PgDip MSc MIEnvSc MIAQM CSci

Bob Thomas is a Director at AQA, with over eleven years' experience in the field of air quality management and assessment. He has carried out air quality assessments for a wide range of developments, including residential, commercial, industrial, minerals and waste developments. He has been responsible for air quality projects that include ambient air quality monitoring of nitrogen dioxide, dust and PM_{10}, the assessment of nuisance odours and dust, and the preparation of Review and Assessment reports for local authorities. He has extensive dispersion modelling experience for road traffic, energy centre and industrial sources, and has completed many stand-alone reports and chapters for inclusion within an Environmental Statement. Bob has worked with a variety of clients to provide expert air quality services and advice, including local authorities, planners, developers, architects and process operators, and has provided expert witness services at public inquiry. He is a Chartered Scientist, a Member of the Institute of Air Quality Management and a Member of the Institution of Environmental Sciences.

A full CV for Bob Thomas is available at http://aqassessments.co.uk/about

A3 Dust Event Form

Dust Event Form	
Name of author	
Description of event [a]	
Time / Date	
Activities taking place at time of event	
Dust mitigation employed to control event	
Summary of weather conditions at time of event [b]	
Details of corrective actions to prevent repeat of event	
Notes	

[a] e.g. complaint registered (name and address) or visible dust crossing site boundary during visual assessment.

[b] wind speed, wind direction, dry/wet, prolonged spell of dry weather etc.

A4 Site Dust Complaint Form

Site Dust Complaint Form			
Site		**Operator**	
Complaint Ref.		**Time and Date**	
Complainant Details			
Name			
Address			
Telephone			
Complaint Details			
Time, date and duration of offending dust			
Location of dust			
Complainants description of dust			
Intensity of dust (light, moderate, strong, persistent)			
Other comments about dust			
Weather conditions at time of dust			
For Completion by Site Manager			
Have any other complaints been made relating to this location			
Have any other complaints been made relating to this dust episode			
On-site activities at time the dust occurred			
Remedial action taken			
Corrective action planned			
Corrective action completed			
Completed by		**Date**	

APPENDIX H – PEST SURVEY

Barratt & Sons Pest Control

Site Pest Control Survey

A walk through visit was carried out today 22/11/2018.
17, 25, and 27 Ferdinand St. London. NW1 8EU

No evidence of pest activity was found at time of visit.

No gnawing, burrowing, smear marks, foot prints, tail swipes, droppings or evidence of insect activity apparent in the areas inspected.

All drain covers were in situ. Open pipes capped off appropriately. No dry toilets found.

Possible risks

Rodent ingression. (The most common pest issue on building sites).

Client advice

Maintain high standard of hygiene and housekeeping.
Keep all drain covers in place at all times.
Fit interceptor caps or one way traps in any open pipe as soon as they are opened.
Keep all surfaces free from food debris.
Store any edible items in sealed plastic containers (Tupperware).
Store rubbish in sealed bins.
Consider routine pest control visits in order to monitor for possible pest problems.

Kind Regards
Cass Barratt
Barratt and Sons Pest Control
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