P644
One Medlock Street, Manchester
Construction & Environmental Management Plan

HG CONSTRUCTION

Issue: Rev 01
Issue Date: 27.02.24

AMMENDMENT RECORD

DATE	DESCRIPTION	BY	SIGNED
03.01.2024	First Draft	NC	N CARTER
27.02.24	Revised to remove Section 3b (hours of work) & 5a (noise & vibration)	NC	*N Carter*

INDEX

CONTENTS..... 3

1. INTRODUCTION..... 4
A. PROJECT DETAILS 5
B. NEIGHBOURING STAKEHOLDERS.....6
C. OVERALL PROGRAMME 6

2. ENVIRONMENTAL MANAGEMENT STRUCTURE 7
A. ROLES AND RESPONSIBILITIES.....7

3. CONSTRUCTION METHODOLOGY.....10
A. SCOPE OF WORK.....10
B. METHOD OF WORKS.....10
C. CYCLIST SAFETY.....11
D. SITE ESTABLISHMENT & LOGISTICS.....11
E. SUBSTRUCTURE WORKS.....12
F. SUPERSTRUCTURE WORKS.....13

4. TRAFFIC MANAGEMENT PLAN.....17
A. SITE LOGISTICS 17
B. ABNORMAL LOADS.....18
C. SITE ESTABLISHMENT.....18
D. TRIP GENERATION.....19

5. ENVIRONMENTAL CONSIDERATIONS.....21
A. DUST AND AIR QUALITY 21
B. WASTE MANAGEMENT.....25
C. WATER RESOURCES 26
D. URBAN ECOLOGY 26
E. LIGHTING.....27
F. EMERGENCY PROCEDURES.....27

6. COMMUNITY RELATIONS.....28
A. LIAISON WITH OTHER SITES.....28

7. APPENDIX 1 – SITE WASTE MANAGEMENT PLAN.....29

8. APPENDIX 2 - LOGISTIC PLANS.....30-31

1. INTRODUCTION

The Construction & Environmental Management Plan (CEMP) provides an outline of the management framework planning required for the delivery of construction related activities in accordance with planning conditions and environmental commitments of the project. The purpose of the CEMP is to illustrate how the project delivery team aims to reduce the risks of adverse impact arising from construction activities that may affect sensitive environmental receptors and how they will minimise disturbance to local residents and businesses.

This Construction & Environmental Management Plan has been produced to outline the proposed construction works due to take place at **One Medlock Street, Manchester, M15 5FJ**, which forms part of the wider First Street Development Framework. Within this document the key areas are addressed for each phase of the construction works, ensuring that environmental management is addressed and incorporated in all project delivery decision-making and with the main priority being the protection of the public and minimisation of disruption to local stakeholders is a consistent consideration throughout.

Implementation of methods and measures contained in this, and other related documents shall ensure compliance with all relevant Guidance for Demolition and Construction and, in turn allow for the successful completion of the works whilst minimising impact upon the surrounding environment and local stakeholders.

The plan has been produced using information currently available and the experience of the applicant based on work methods developed for city centres, applicable for a development of this type. As the design and constraints develop/change throughout the construction phase, the proposals included within this CEMP will be developed in more details to best suit the on-going operations. Good management, planning, regular meetings with EHO, Greater Manchester Fire Rescue Service, Highways & Manchester City Council (MCC) representatives and good community engagement with local stakeholders will ensure that best practices are adopted, and any changes are communicated and managed through the appropriate channels.

The project environmental objectives are:

- To minimise, as far as reasonably practicable, adverse effects on the environment.
- To promote good standards of environmental awareness.
- To develop environmental awareness and responsibilities amongst site personnel at all levels.
- To maintain a safe and healthy working environment for the workforce.
- To prevent nuisance to the local community/business' and avoid damage to the environment.
- To implement a policy of potential reuse of all waste with disposal off site being a last resort.
- Enable full compliance to be maintained with all relevant legislation.

This document aims to mitigate anticipated environmental impacts of the project and sets out approaches and procedures to do so. The project team, suppliers and consultants will comply with this CEMP. This will promote a culture of environmental responsibility, self-regulation and encourage sustainability and good neighbourhood.

A. Project Details

The site is located at the corner of Medlock Street (A5103) and River Street, with site access off River Street, in the Deansgate area of Manchester. The site is immediately north of the A57(M) Mancunian Way. The local area is currently being heavily redeveloped as part of the wider First Street Development.

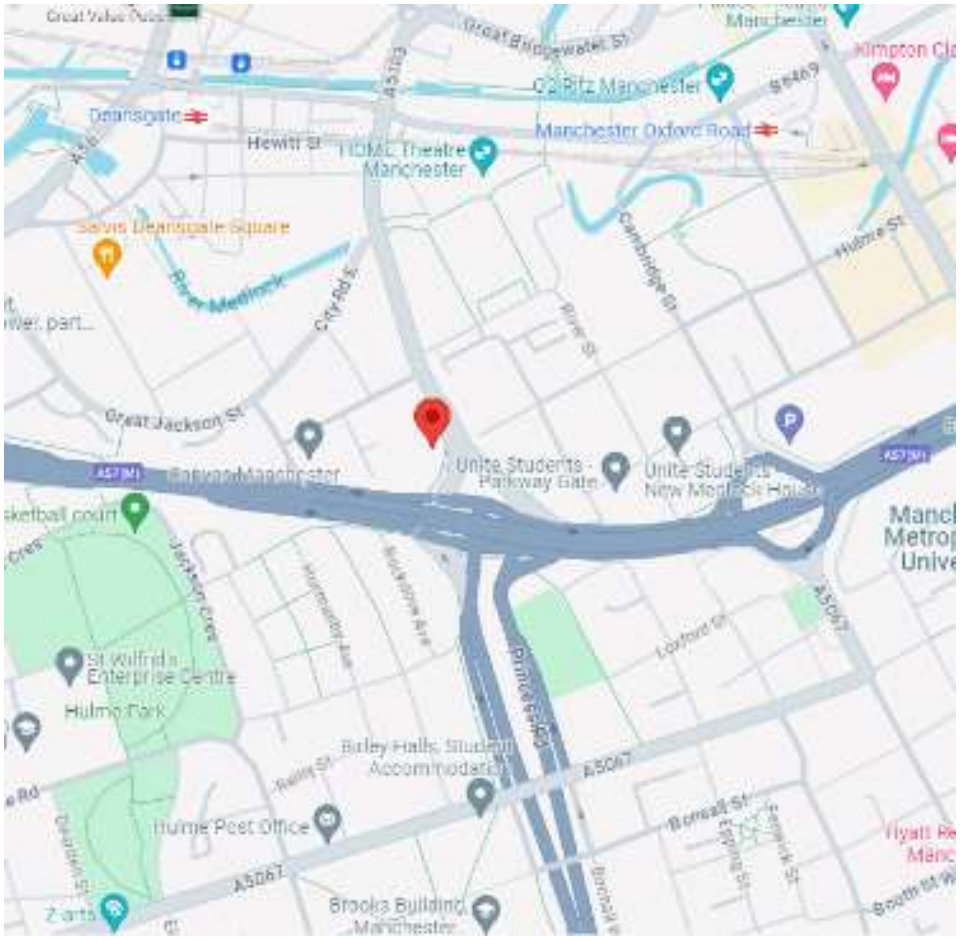
The demolition element of the development is currently being completed by another contractor and the site will be vacant awaiting construction works to start from Mid February.
This will involve the construction of 1014 no bed spaces in a 37 storey PBSA block along with:

- New sub-station,
- Bike & bin stores,
- Private & communal amenity spaces incl study spaces, meeting rooms and a gym.

The proposed building façade will mainly be a unitised curtain wall system with large areas of glazing and some Pre-cast cladding elements on one elevation.

Construction is expected to start in early 2024 with any required site remediation and piling works.

FIG.1.1 – Site location



B. Neighbouring stakeholders

The site is just under a mile south of Manchester city centre.

As would be expected from an inner city site like this, the immediate neighbourhood is an eclectic mix of residential properties, commercial businesses and leisure facilities.

As has been mentioned previously, the local area is dominated by the First Street Development which One Medlock Street will be the latest scheme.

Approximately half a mile to the south east is the Manchester Metropolitan University and University of Manchester campuses.

During the construction stage of the project HGC will keep all neighbouring properties, businesses and stakeholders updated with progress and any activities which may have an effect on them.

C. Overall Programme

At project commencement, demolition works would have been completed by another contractor and the site will be ready for the piling mat to be installed. The scope of works will then follow as per:

- Phase 1: Substructure
- Phase 2: Superstructure
- Phase 3: Internal Fit out

On site period:

Substructure Construction -
February 2024 to November 2024

Superstructure Construction –
November 2024 to May 2027

Internal Fit Out –
April 2025 to July 2027

2. Environmental Management Structure

a. Roles and Responsibilities

Clear definition and communication of roles and responsibilities are required to facilitate effective environmental management and a successful project delivery.

It is essential that all disciplines and functions work as an integrated team during design and construction to enable compliance with this CEMP, contractual requirements, and relevant planning requirements.

All employees are responsible for supporting the HG Construction environmental policies and project CEMP. Specific roles and responsibilities are defined below.

The Project Director is responsible for:

- Ensuring the implementation of environmental management, policies and objectives on the project
- Responsibilities to manage IMS with support from Environmental Specialist Consultants
- Approval of the CEMP and control measures as well as designation of responsibility for controls during the works
- Establishing effective lines of communication with all employees
- Ensuring environmental induction, training and awareness is undertaken for all levels of employees.
- Review environmental matters regularly with project team meetings and report to the employer in liaison with client's representative / agent.
- Ensuring adequate resources are available.

The Project Manager is responsible for:

- Assess the significant environmental impacts and control measures at beginning of the project.
- Having overall day-to-day responsibility for Health and Safety, Environmental and Quality performance throughout the construction period
- Ensure appropriate resources are made available and necessary environmental controls or mitigation measures are implemented.
- Maintain communication between site and health, safety & environmental manager.
- Report all near miss and non-conformances. Implement emergency preparedness and response procedures. Put in place corrective and preventative actions.
- Carry out induction, training and awareness assessment of all operatives.
- Assess environmental performance of subcontractors.
- Promote waste minimisation and sustainability. Establish procedures for recycling and disposal of waste with the project health, safety & environmental manager and quantity surveyor.
- Implement the Site Waste Management Plan and ensure that waste carrier licenses and environmental permits are obtained for all contractors managing waste from the project.
- Ensure that data on waste and recycling is collected to help setting and monitoring targets.

The Health, Safety and Environmental Manager is responsible for:

- Manage and advise on project environmental matters and monitor the performance of the project against statutory requirements and the agreed environmental standards.
- Review the CEMP and specialist procedures and identify any areas for Improvement.
- Identify the environmental competence of all contractors working on the Project and advise the Project Manager as to their suitability.
- Review method statements for environmental aspects and advise of any suggested improvements prior to work starting.
- Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the CEMP.
- Act as a main point of contact between the Main Contractor and the Client's Project Team on environmental issues.
- Collate all reportable environmental incident and non-conformance data and review corrective and preventative actions.
- Carry out and promote environmental awareness and training activities.
- Liaise with project team, clients, local authorities and other statutory authorities on environmental matters as required.
- Organisation of regular reporting of environmental data – including waste, fuel use, energy use, water consumption, CO2 data, material use and monitoring records (Noise, Vibration and Air Quality)

The Site Waste Manager is responsible for:

- Overall waste management issues arising from the project.
- Implementation and monitoring of waste minimisation, segregation, and safe disposal measures.
- Dissemination of waste reduction and waste management procedures to all relevant personnel on site
- Identification of waste in line with the European Waste Classification (EWC) Codes

The Environmental Representatives are responsible for:

- Ensuring that environmental considerations are included in risk assessments, Method Statements and work instructions.
- Carrying out weekly environmental inspections of the site, initiating actions and completing a weekly environmental inspection report.
- Act as a main point of contact between the Sub Contractor and Main Contractor on environmental issues.

All employees are responsible for:

- Be familiar with the project's objectives, targets and environmental requirements detailed within this plan and help with its implementation.
- Cooperate in fulfilling compliance obligations, pollution prevention and achieving continuous improvement to reducing emissions on site.
- Demonstrate a responsibility to the environment and commitment to implementation of the Environmental Policy
- Raise environmental matters or risks to their manager or supervisor at the earliest opportunity.

The Main Contractor and any subcontractors would be required to employ environmental specialists to support the Project as required to:

- Provide the mitigation measures described both in the CEMP and in response to particular construction activities that may otherwise present an environmental risk.
- Undertake the detailed mitigation design within their specialist field, oversee its implementation, maintenance and monitoring throughout the construction period.

Environmental inspections are to be part of on-going senior management Health and Safety reviews and site inspections.

3. Construction Methodology

a. Scope of Work

HG Construction have been employed to carry out the substructure, superstructure, fit out works and external finishes for the scheme known as One Medlock Street.

The substructure works include piled foundations, reinforced concrete ground beams and pile caps, surface and foul water drainage and service installations.

The superstructure works will include the reinforced concrete frame, unitised façade and waterproofing works to the roof areas.

An outline programme has been produced at early stages, although an adaptable approach is needed for the programming and logistics following trade contractor inputs and to ensure that best practices are allowed for.

HG Construction will carry out all necessary site investigations prior to commencing works. Works will commence only once all approvals are in place and instruction to proceed has been received from the client.

b. Method of Works / Vehicle & Plant Movements On/Near Site

All materials for the works and deliveries will be via the site entrance on River Street, as per the Traffic Management Plan. This location will provide the ability for deliveries/collections to be carefully managed.

Due to lack of parking facilities on site at any time throughout the construction phase, site personnel will be encouraged to use public transportation which is widely available and in close proximity to site.

Off-loading and delivery strategy is to be agreed and will be shared with MCC Highways for their comment and approval.

Upon commencement of construction phase, access to site will be limited for both general vehicles as well as plant. Any access that is afforded will be from the River Street end of the development.

It is anticipated that deliveries and construction traffic will be approaching the site from either the A57 Mancunian Way or the A5103 Princess Road to the south which will lead on to Medlock Street and River Street.
Delivery vehicles will then be off loaded on site and when leaving site will turn left on River Street and will then be directed onto Garwood Street followed by Great Jackson Street which will lead back to the A57(M).

Whilst accessing the site, the following principles will apply:

- Where possible all traffic to travel in a forward direction.
- Reversing of vehicles and plant to be carried out in designated areas only, with a banksman in attendance at all times.
- All relevant vehicles to be fully covered with a specifically designed tarpaulin prior to leaving site.

- Exclusion zones to be established around longer duration activities, for example piling rigs, lorry un-loading areas, and concrete wagon discharge.
- Wheel washing and damping down to prevent dust dispersion during the substructure phase of the scheme.

c. Cyclist Safety

The roads around the site are very busy during commuting hours with a large number of cyclists and there is a dedicated cycle network to the southeast corner of the site around the A57 / A5103 junction. Throughout the One Medlock Street project, the interference with all elements of the public will be closely managed, with cyclist safety being an integral part.

There are four main areas of cyclist safety that will need to be addressed regarding the construction activities at One Medlock Street:

- Road layout
- Vehicle safety measures
- HGV driver training and awareness
- Cyclist awareness

The highway layout, including measures to facilitate cyclists, will be agreed with MCC Highways as part of the logistics arrangements.

d. Site establishment and logistics

The hoarding will be minimum 2.4 metres in height and clearly display publicity material including information on the site programme, the telephone contacts for complaints and /or enquiries, the name of the site manager (daytime) and an emergency out of hours contact. This hoarding will be erected by others prior to HGC commencing on site.

Site establishment is the preparation of the site to carry out the construction process.

The following activities will comprise the site establishment:

- Securing the project boundaries in accordance with the programme, with the erection of the full height close boarded hoarding, including the exposed area of fencing along the Network Rail boundary.
- Establishment of a vehicular entrance gate on River Street and personnel entrance located adjacent to the welfare facilities.
- Vehicle and pedestrian access to the works will be controlled by fully trained gatemen and Traffic Marshals.
- Installation of site temporary electrics, lighting, fire alarms etc.
- Establishment of out of hours alarm against unauthorised or unlawful entry and potential theft from each area of the site.
- Isolations and diversions of existing services/ utilities and systems within the site.
- Site welfare arrangements will be established inside welfare cabins to the northern end of the site, accessed from River Street.

Deliveries, Offloading, and Storage

The principal delivery route to the site will be directly off River Street. The offloading of materials will occur in dedicated offloading zones inside the site. Vehicles exiting the site will be routed out to the main road on the A57(M) via River Street, Garwood Street and Great Jackson Street as noted above.
All entrances to the site will be managed by trained traffic marshalls to segregate and organise all vehicle movements on and off the site.
Due to limited storage space on-site, the site will operate in a manner where materials are delivered when reasonably practicable, on a basis of 'on-time' delivery.

Loading Areas

Piling works shall be carried out with direct access onto the site from River Street for all plant, machinery and materials.

Once construction of structure commences, and rises above ground level, deliveries will take place in the offloading zone on site. As soon as conditions allow, once substructures and drainage works are completed, a temporary road will be formed on site to the east of the new building to allow a one way system to be put in place on site for all delivery vehicles, to mitigate the need for vehicles to be reversed back out of site onto the public highway.

All delivery/collections vehicles will be managed by a nominated logistics manager, banked into position by the traffic marshalls.
All deliveries of materials are to be booked strategically to manage delivery vehicle influx, according to available storage space, and installation date. Unexpected and unscheduled lorries will be turned away.

e. Substructure works

The substructure works at One Medlock Street include the following key activities:

- CFA Piling,
- Bulk excavation of the ground levels down to formation level,
- Formation of pile caps, ground beams, crane bases and drainage,
- Construction of reinforced concrete slab for frame to be erected.

f. Superstructure works

Concrete Frame

- Ensure formwork and falsework drawing are worked to and are approved for construction.
- Refer to manufacturer's instructions of erection manual/guides.

1. The lift and stair cores will be formed using a slip form construction technique.
   The frame will then follow on behind this with the formation of floor slabs and columns.

2. Clear working area.

- Ensure no materials are stacked adjacent to slab edges or next to edge protection. Do not store materials in pedestrian access routes.

3. Set out base lines as per manufacturer / designers beam/prop spacings and props drawing.

4. Lift in equipment for the working area.

- The components will be lifted into the working area using the tower crane. A slinger / signaller will sling & control all loads. The ply panels will be lifted using the designated lifting pallets, either in pallets of 48 or 14. The drop heads will be lifted in stillages and the beams will be lifted either as packs chocked with slings or in pallets.

5. Erect formwork / falsework.

- The first bay will be used to set the whole system from, the manufacturer / designers erection procedure must be adhered to and is typical for whichever system is being used. Once work platform is established, boards will be placed from above with designed harness and fall restraint.

6. Infill around perimeter edges and column heads.

- For a large decked area the carpenters can install or erect the combisafe edge protection. The section foreman or charge hand must control this. To do this span set horizontal working lines will be set up off the starter bars of columns. A perpendicular working line will be attached to this to which the harness and short lanyard can be attached. this will enable the carpenter to work with fall restraint and safely install the edge protection to the decking. The carpenters doing this operation will be competent and trained to use fall restraint equipment. Care must be taken when working around column infills.

7. Installation of columns to be poured with slab. (where applicable)

- The carpenters must scribe the decking around the column head or the column box formwork. It should be noted that some columns will be formed using the skydeck as a working platform and support for the column formwork. If this is done the rapidobat/column formwork must be supported using scaffold tubes box tied. The base of the column box will be located on a plywood template pinned in position using round wire nails wedged into a pre-drilled hole. With the column formwork in the correct position the plywood column head infills 21mm thick can be scribed in and supported off of SRT or timber trimming beams.

8. Striking.

- Obtain permit to strike. Erect or establish restriction zones and display warning signage. Once concrete has reached sufficient strength, release and remove multi-props.

This method of works will continue until all proposed slabs are constructed.

All lifting operations will be carried out within the site boundaries. No lifts will encroach over adjacent pedestrian and vehicle routes.

Access to the working area by others during the erection of the steel frame will not be permitted. Without prior agreement from the Erection Supervisor and Site Manager. Ensure exclusion zone is set up around crane and lifting zone, and ensure coordination between crane and other plant that might be on site.

Access for all activities above ground level will be by means of Mobile Elevating Work Platforms (MEWP`s). Only IPAF trained and competent persons shall operate MEWP`s, certificates for which will be available for inspection at all times and entered in the site register. All operators using boom type MEWP's will wear a full restraint safety harness with 1m restraint lanyard attached to the basket anchor point. In the event of an emergency the Erection Supervisor will lower the basket via the Base control panel on the MEWP.

Fig 3.1

PROPOSED ELEVATIONS

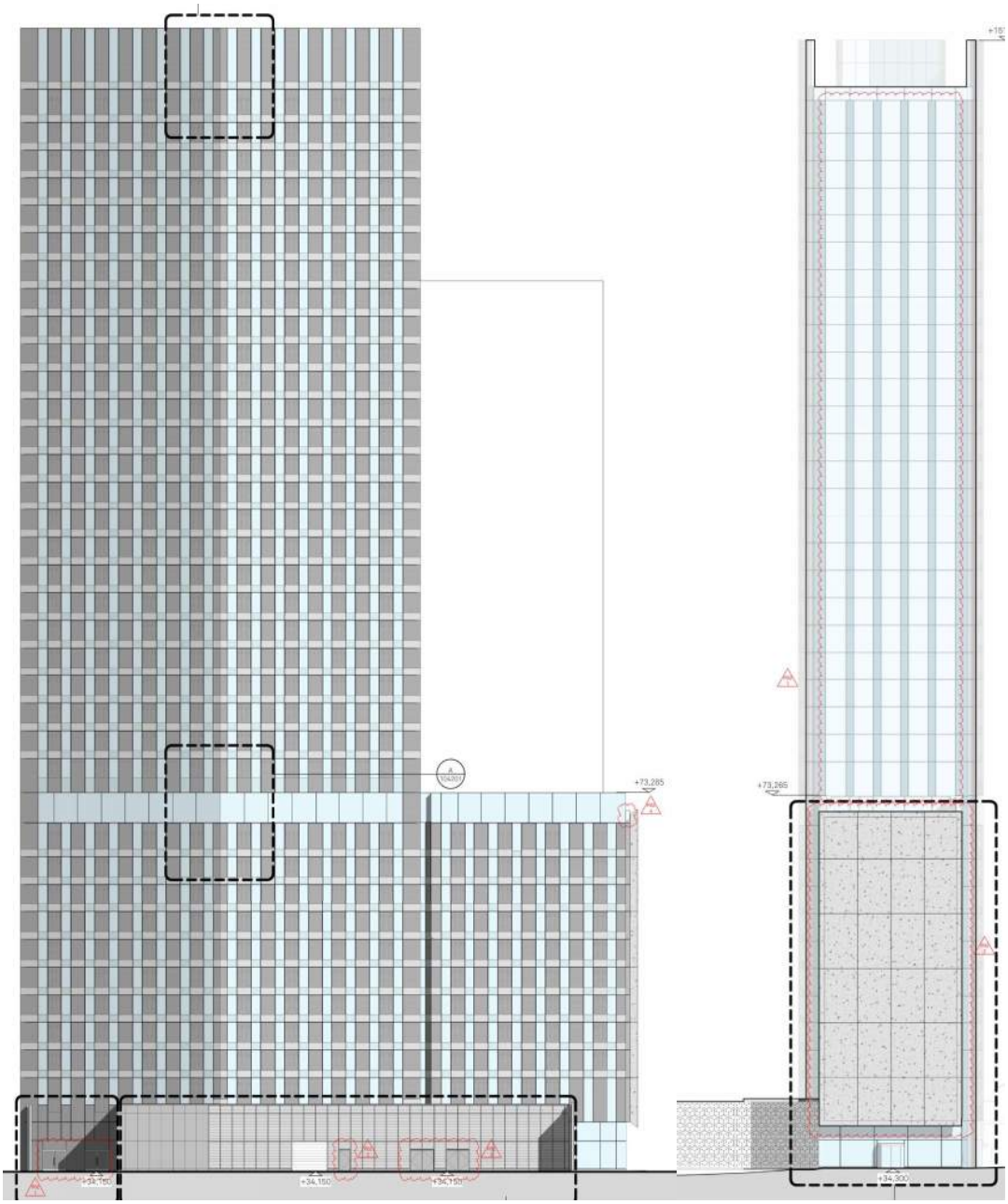
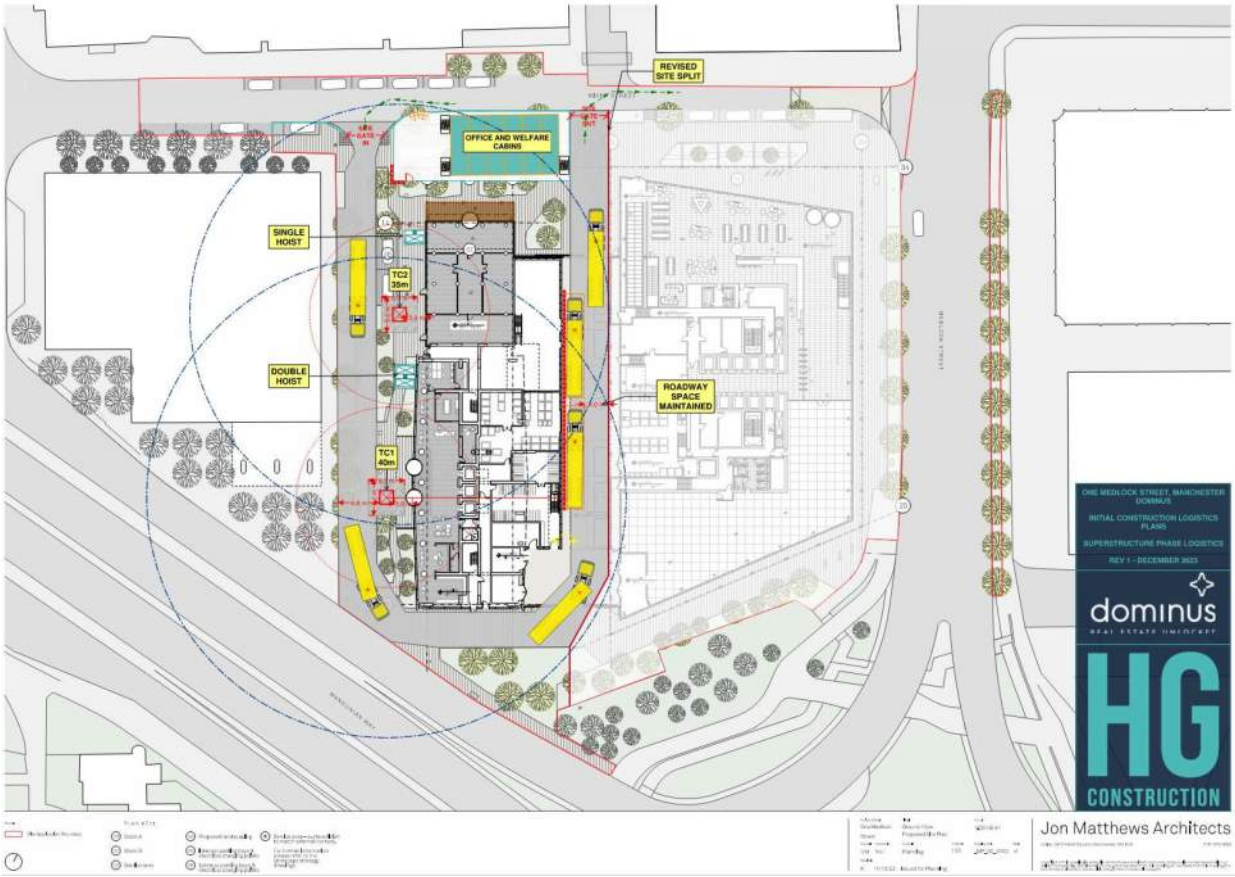


Fig 3.2 Site Logistics Outline Plan – Main Build phase



4. Traffic Management Plan

a. Site Logistics

This section is to be read in conjunction with the logistic plans contained within Appendix 2. Delivery times will be defined and planned to reduce nuisance to local neighbours. HG Construction will ensure that all site-related traffic and deliveries do not block local roads and the project is serviced with minimal disruptions.

There are parking restrictions on the surrounding neighbourhood roads. Parking is strictly limited to designated parking. Public transport and cycling will be encouraged as the only means of transport for all employees and contractors.

A review of the scheme from a logistics point of view has been carried out as detailed below and further amendments will be included in the Project's Logistics and Traffic Management Plan that will be agreed with MCC Highways team. The plan will comply with the Health & Safety Executive publication: HSG 144 Safe Use of Vehicles on Construction Sites and describes how the movement of vehicles, segregation of pedestrians, loading and unloading of materials, distribution of materials around site and access to and from the site will be managed. *See Appendix 2 Figure 2 for details.*

To ensure the safety of all road users including pedestrians and cyclists, the existing one-way systems will be utilised to minimise disruption. Vehicles that need to reverse will be banked at all times. The chosen vehicle route will be discussed and agreed with MCC to ensure that disruption and congestion is minimised.

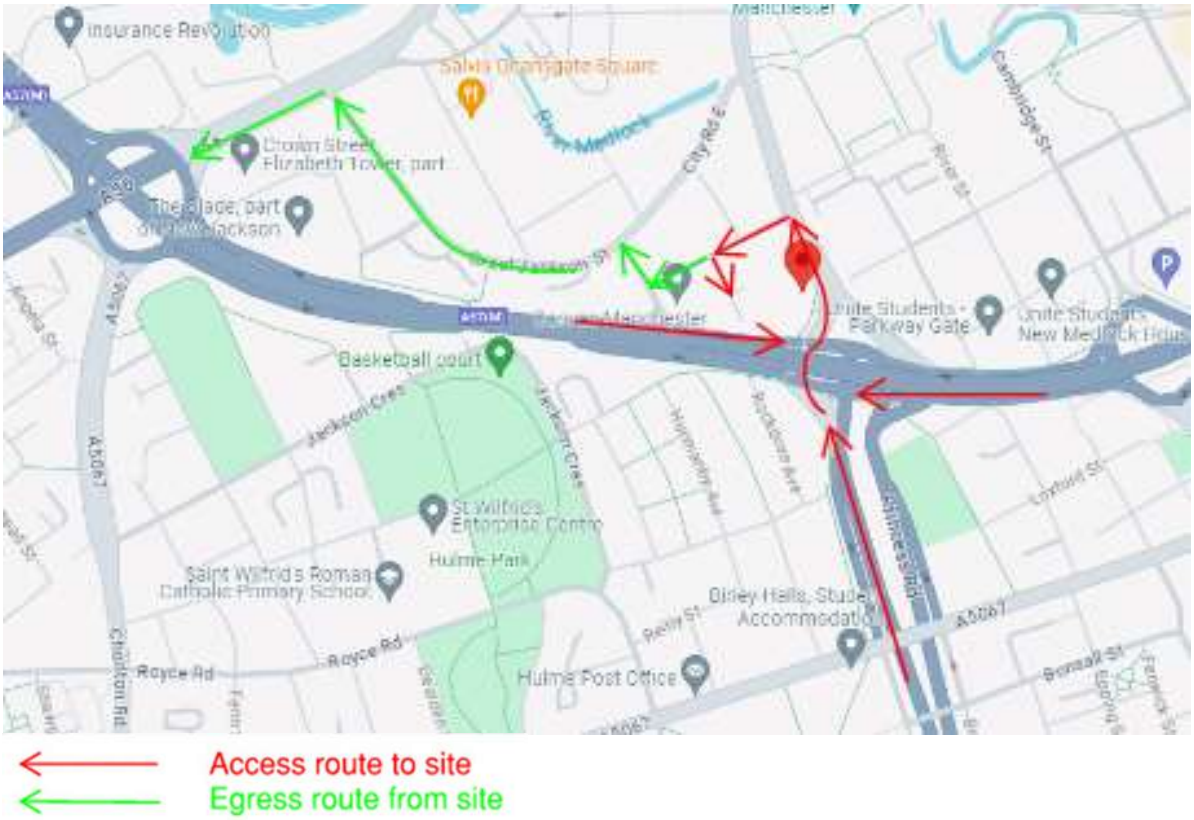
Competent Traffic Marshals will manage all HGV movements at site entrance. Wheels of vehicles leaving site loading area will be cleaned using wet methods as necessary. The site will be enclosed and secured by specific constructed hoarding and Monarflex secured to the scaffold. All site gates will open inwards to site or will slide parallel within the site (gates will not open out on to the street).

All vehicles will be booked using a just in time delivery system. All vehicles given a 1-hour time slot and book in 72 hours in advance. This process will be managed by HG's Site and Logistics Manager. A daily briefing will be given to the logistics team to ensure all deliveries are managed correctly and offloaded suitably. Where required a warning notice system will be administered for couriers and companies not abiding by the delivery time slot. This will be in the form of a yellow and red warning system, to be managed by HG logistics Manager.

All lorries accessing site to be a minimum of Fleet Operator Recognition Scheme FORS Silver, the Construction Logistics and Community Safety standards will also be adhered to. This will help protect all vulnerable road users.

During the construction of One Medlock Street, two tower cranes will be utilised for the superstructure works as shown within Appendix 2.

Figure 4.0 – Main access and egress route



b. Abnormal Loads

HG Construction will ensure that large or abnormal loads are discussed with Manchester Council and the Police and all relevant applications and notifications are made. Routes for abnormal load movements will occur in accordance with movement orders as necessary and abnormal loads that require escort may be delivered outside the sites core working hours in accordance with the Abnormal load order.

c. Site Establishment

Welfare and an office facility will be provided on the site, the location of welfare can be seen on the logistics plan. The site accommodation will be positioned within welfare cabins near the entrance to site during the early stage works, then will transfer into the building as the work nears completion.

The site accommodation will initially be sized to suit activities on site and will be developed as the programme progresses. The site set up will consist of the following as a minimum:

- Main contractor offices;
- Canteen;
- Drying room;
- Toilets – male and female;

Designated pedestrian access gates and segregated route to the offices and welfare will be used for both the workforce and visitors and will be set up to minimise pedestrian / vehicle interface. There will be an internal smoking area set up and operatives will be prohibited from loitering at the site entrance points.

The buildings will be fully enclosed by a sheeted perimeter scaffold during the works. Physical barriers will be maintained at all times between public footways and roadways and offloading activities. All offloading activities will be undertaken by trained slinger/banksman, with full edge protection in place to all delivery trailers prior to access. All personnel responsible for directing traffic on the streets will be wearing high-visibility clothing.

A vehicle holding area may be required for the management of deliveries to site. The location and management of a holding area will be agreed with MCC Highways Team if required.

d. Trip Generation

The number and frequency of vehicle movements will depend upon the phase of the works.
We have set out below a schedule of the anticipated weekly number and type of vehicle movements for each period of the project.

Period - Week number	Tipper	Skip	Ready Mix lorries	Articulated vehicles	Flat bed / Covered lorries	Transit
1-4	4	1	0	0	0	3
5-8	4	1	12	1	1	3
9-12	4	3	12	1	3	3
13-16	4	3	4	2	3	3
17-20	5	2	4	2	3	3
21-24	5	3	4	4	3	3
25-28	5	3	10	4	3	3
29-32	5	3	10	4	3	4
33-36	4	3	10	4	5	4
37-40	4	3	18	4	5	4
41-44	3	3	18	4	5	6
45-48	2	3	18	2	5	6
49-52	0	2	18	5	8	6
53-56	0	2	18	5	8	6
57-60	0	2	18	6	8	10
61-64	0	2	18	6	8	10
65-68	0	3	18	5	10	15
69-72	0	3	18	5	10	15
73-76	0	3	18	5	10	15
77-80	0	3	18	5	12	15
81-84	0	3	18	5	12	20
85-88	0	4	18	5	12	20

Period - Week number	Tipper	Skip	Ready Mix lorries	Articulated vehicles	Flat bed / Covered lorries	Transit
89-92	0	4	18	5	12	20
93-96	0	5	18	5	18	20
97-100	0	5	18	5	18	20
101-104	0	5	18	4	18	20
105-108	0	5	18	3	15	20
109-112	0	5	12	2	16	18
113-116	0	5	10	2	16	18
117-120	0	5	0	2	12	18
121-124	0	6	0	2	12	15
125-128	0	6	0	2	12	15
129-132	0	6	0	2	12	15
133-136	0	6	0	2	10	15
137-140	0	6	0	2	8	15
141-144	0	6	0	3	15	20
145-148	0	6	0	2	16	18
149-152	0	4	0	2	16	18
153-156	0	3	0	2	12	18
157 -160	0	4	0	2	12	15
161 – 164	2	4	2	2	12	15
165 – 168	2	4	2	2	12	15
169 -172	2	4	2	2	8	15
173 – 176	2	2	0	2	8	15
177 – 180	0	2	0	0	5	12

Please see the attached traffic management plan for further details on the proposed routes.

5. Environmental Considerations

a. Dust and Air Quality

Dust

It is an offence under the Environmental Protection Act 1990 to cause nuisance to the inhabitants of the neighbourhood by generating dust. In cases where the Local Authority has received complaints or has reason to believe that dust may be generated, and nuisance is likely to occur, an Abatement Notice may be served.

There is the potential for fugitive dust emissions to arise during the duration of the project, therefore HG Construction will develop a Plan, with appropriate dust control procedures to ensure that construction dust does not pose a nuisance threat to nearby properties.

Construction dust may be generated as a consequence of ground excavation works in preparation of the foundations for the development, and if the weather is dry during the construction period, then dust may be generated by the movement of vehicles on the site, remediation works, site clearance and grading works.

The potential for unacceptable impacts resulting from the deposition of construction dust is primarily dependent on the duration of exposure (i.e. construction duration) and separation distance from the source to receptor.

To prevent unacceptable impact from dust re-suspended by construction vehicles, mitigation measures will be employed if necessary (on the road network, for example). These would include as appropriate: damping down dusty surfaces; controlling the speed of mobile plant crossing un-surfaced areas; mechanical road sweeper on public road; covering HGVs carrying dusty materials. The residual impact at the nearest residential properties is expected to be negligible. These procedures will be written into the plan.

Should any activity associated with the project cause or appear likely to cause visible dust to be carried towards any sensitive boundary, particularly at nearby residential properties, the activity giving rise to the emissions will be modified or suspended until the conditions giving rise to the emissions have been resolved. Similar procedures already apply to windblown litter that may arise on site.

The following specific mitigation measures may be appropriate for the control of fugitive dust emissions at this site:

I. Emphasis should be placed on the following to minimise the risk of air pollution:
   i. Using processes which do not generate hazardous fumes and hazardous dust.
   ii. Ensuring that airborne hazards do not escape from the site to affect members of the public and surrounding environment.

II. Buildings or structures being demolished, or small areas of land being prepared for development, should be damped down using high pressure hoses which are adequate in size and number for this purpose. Depending upon weather and site conditions this may need to be a continual task with one or more personnel dedicated to it.

III. Suitable water bowsers should be used on large areas and on-site roads.

IV. Existing features of the site, such as boundary walls, should be utilised to provide screening where practicable. The erection of suitable screening may also need to be considered.
V. On sites where a large amount of dust has been generated and is laying on the ground, the services of a specialist vehicle to remove dust (by vacuuming) prior to damping down should be employed.
VI. Stockpiles of earth shall be damped down or otherwise suitably treated to prevent the emission of dust from the site. Stockpiles should be planned and sited to minimise the potential for dust generation. The handling of spoil should be kept to a minimum and when materials are deposited onto a stockpile it should be from the minimum possible height.
VII. Where plant movements generate dust, effectively managed speed limits should be imposed, and work rescheduled, if necessary. If the nature of the development is such that numerous plant movements are planned across open land, a suitable made-up track should be constructed to minimise the amount of dust generated.
VIII. HG Construction will ensure that the area around the site, including the public highway, is regularly and adequately swept to prevent any accumulation of dust and dirt. Wheel washing may be necessary to prevent dirt and dust from being spread onto roads near the site.
IX. All cutting and grinding operations should incorporate the best available techniques to suppress dust. Standard angle grinders, without appropriate water suppression should not be used to cut materials, such as bricks, slabs and tiles or to rake out mortar joints
X. If chutes are used to drop materials to ground level they should be enclosed and skips covered. Regular water spraying shall be undertaken where necessary to prevent dust emission.
XI. Skips and waste removal vehicles shall be properly covered when leaving the site. Spoil should be handled in such a way so that it does not give rise to excessive dust.

Air Quality

The site is located in an area which falls under an Air Quality Management Areas (AQMA) because of potential for exceedances of the National Air Quality Strategy objective for nitrogen dioxide (NO2). An increase in fugitive dust and particulate matter would be perceivable to surrounding residential and commercial neighbours and would be considered a nuisance.

The works will be carried out in accordance with and taking guidance from Manchester City Council's Clean Air Plan, Best Practice Guidance on Dust from Construction and Demolition sites and applying HG Construction's past experience monitoring and controlling air quality and dust on similar projects.

Exhaust emissions (NOx, Ozone, CO, CO2 etc.) from construction plant combined with dust during construction are main impacts on air quality. All eligible non-road mobile machinery (NRMM) will be recorded on the NRMM website and maintained to comply with emissions standards in the IAQM guidance.

In addition to the IAQM guidance, MCC recommends that NRMM used on site within Manchester city centre should meet Stage IV of EU directive 97/68/EC, and Stage IIIA as a minimum.

Control measures will be included in task-specific method statements for works considered to present a specific risk. Best Practicable Means (BPM) will be used to ensure nuisance is not caused by air quality impacts or dust and these topics will be covered in training and Toolbox Talks.

The following best practice measures will be implemented to ensure air quality and dust generation during the works are minimised:

- Enclosing work areas where dust is created
- Damping-down dusty activities (using recycled water if possible)
- Limiting speeds on haul roads and access and egress points maintained to minimise mobilisation of dust and mud
- Ensuring excess mud is removed from vehicle tyres and road sweepers employed where necessary to maintain internal / external haul roads. During adverse weather and ground works this will be completed throughout the day and left as found at the end of each working day. During superstructure works this will be completed when required if the road is soiled or dusty at a minimum of once a week. The highway during construction phase will be cleaned when required and a minimum of once a week. HG will ensure the highway as the end of each working day is clean and presentable.
- Vehicles covering potentially dusty materials to or from site are to be sheeted
- Minimising grinding, sawing and cutting by design / prefabrication where reasonably practicable
- Only use cutting, grinding or sawing equipment fitted with or used in conjunction with suitable dust suppression techniques such as water sprays or local extraction
- Regularly sweeping the loading areas and adjoining streets
- Drop heights will be minimised as far as possible and waste removed from site as quickly as possible
- Stockpiles minimised, materials stored away from the site boundary and dampened down or sheeted if necessary
- Fitting and maintaining plant and equipment to manufacturer specification with regular servicing and operated to minimise emissions to air
- The Project Manager will ensure that the perimeter of site is patrolled twice a day to ensure that the footway is kept clear of any construction debris.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Avoid bonfires and burning of waste materials.

Vehicle emissions will be minimised by adhering to the following:

- All Non-Road Mobile Machinery (NRMM) will comply with IAQM guidance. Where not possible machinery will be fitted with particle traps and / or catalytic exhaust treatment.
- All NRMM will be serviced regularly and records kept of maintenance and details of all NRMM and emissions levels.
- Deliveries are to be coordinated and consolidated to reduce number of trips to site and waiting time
- Engines will be switched off when not in used and not left to idle
- No parking provision will be made onsite or surrounding roads for personnel involved in the development, use of public transport will be encouraged

Regular inspections will be carried out to ensure that Best Practicable Means (BPM) is being employed and any significant dust incidents recorded with actions taken.

A Boundary guardian system to be installed in agreed locations to provide live noise and dust readings to ensure we comply with section 61. Site will receive real time text and emails should the noise or dust reach the predetermined and agreed trigger levels. This will stay in place until new external envelope is complete. See details and plan below.

BOUNDARY Guardian

BOUNDARY Guardian is a system for monitoring noise and dust levels helping contractors in assuring that they comply with Section 61 restrictions by providing real time information and email or text alerts should limits be exceeded so that prompt action can be taken.

The system collects noise and dust data from appropriate positions on site and uploads them via the mobile network to a web based display with access restricted to the user.

BOUNDARY Guardian is fully automated and presents real time information in a simple format either on screen or through reports avoiding the need for time consuming daily site surveys or expensive consultancy fees.

The system is simple to install requiring only fixing points and a power supply from the client, our technicians will attend site pre installation to agree suitable positions for the units and then install the pre configured units.

BOUNDARY Guardian provides a hassle free monitoring system to ensure compliance with regulations backed with data to protect the user should an issue be reported by neighbours during operations.

Suitable for:

- Demolitions
- Waste transfer stations
- Construction sites
- Boundaries (fence-line) at manufacturing sites
- Roadside/traffic monitoring
- General compliance monitoring
- Section 61 compliance
- PPG24 compliance

Technical Specifications

Noise	
Accuracy:	Class 1 to IEC61672-1
Parameters:	LAeq, LAmax, LA10%, LA90%
Measurement range:	20-140dB RMS
Total noise floor:	19dB(A) Class 1
Calibration:	Via provided acoustic CEL-120/1 calibrator (supplied)

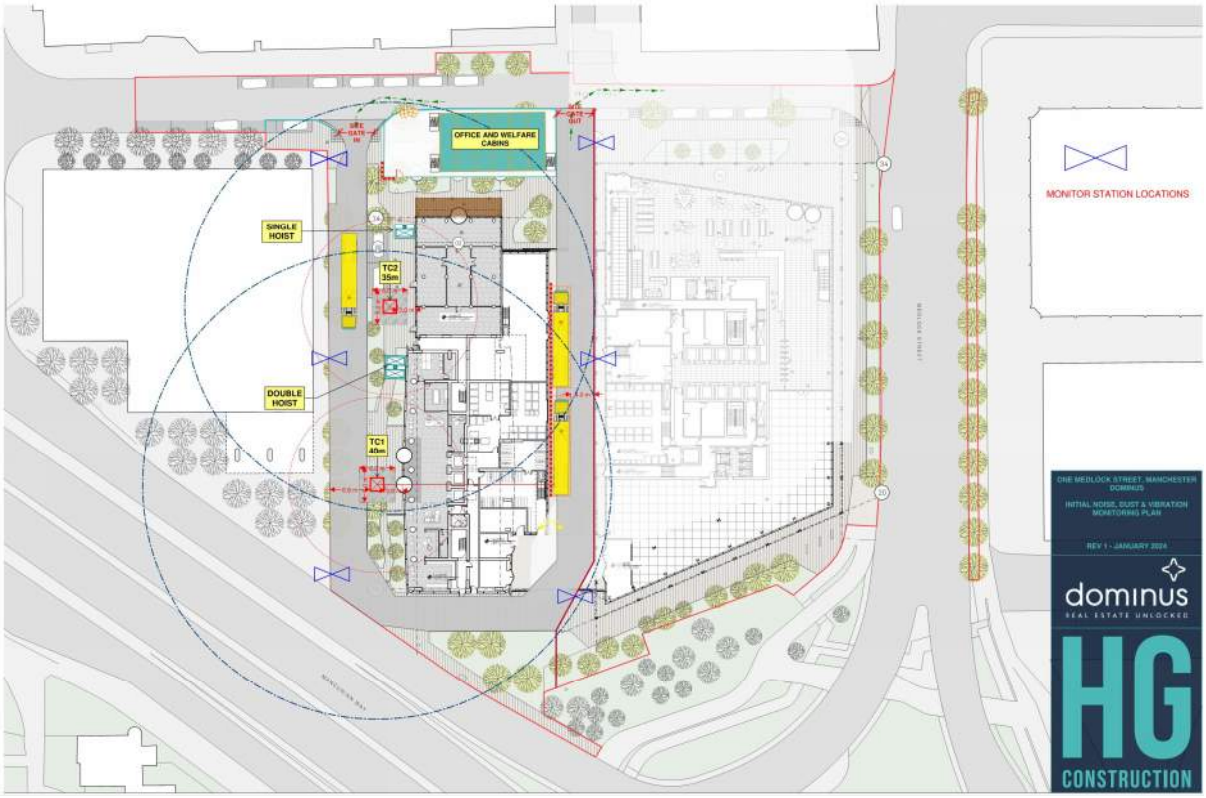
Particulate	
Sensitivity:	1ug/m3
Zero stability:	+/-2ug/m3
Size fractions:	TSP, PM10 or PM2.5 selectable via PUF filters
Inlet:	Heated to prevent moisture affecting measurements
Calibration:	Insert provided for onsite calibration

Wind Speed and Direction Sensor	
Wind speed:	0-60m/s
Accuracy:	+/-2%
Resolution:	0.01m/s
Threshold:	0.01m/s
Wind direction:	0-359° (No Deadband)
Accuracy:	+/-3%
Resolution:	10C

General	
Protection class:	IP65
Operating temp:	-10 to +40C
Operating humidity:	<5% to 100%
Logger:	Inbuilt logger data transmission via GPRS
Power:	220-240VAC or 110V
Mounting:	Wall or pole mounted (50mm pole)*

* Must be specified at time of order

DUST AND VIBRATION MONITORING PLAN



b. Waste Management

A pre-commencement waste quantity audit will be produced prior to construction works commencing on site. The main waste streams, nearest waste management facilities and re-use and recycle opportunities will be recorded and incorporated into the waste management process.

Construction and demolition waste will be segregated onsite where possible and stored in a designated area before collection and disposal by a licenced contractor to an appropriately licenced waste destination in accordance with the Duty of Care and all other relevant environmental legislation. If segregation onsite isn't possible the waste will be taken offsite for segregation by a specialist contractor.

Cardboard, Plastic and Canteen Waste will be sent off site using a compactor to reduce the number of waste vehicles transiting to and from site.

All waste sent offsite will be recorded, with quantities of which is reused, recycled, recovered or landfilled reported. Opportunities for designing out waste, using materials with a recycled content and re-use and recycling will be considered with the design team.

Licenced contractors will remove any hazardous waste arising in accordance with applicable environmental and health and safety regulations and a consignment note obtained. If contaminated materials are found during piling and excavation works, they will be stored, tested and disposed of in accordance with relevant best practise guidance and legislation.

A Site Waste Management Plan (SWMP) will be developed for the project to identify methods of waste minimisation, management and recycling as well as methods of recording and reporting. All waste transfer notes, consignment notes and waste contractor licences will be retained onsite, waste transfer notes for two years and all hazardous waste consignment notes for three years.

Containers and skips will be covered with sheeting during transit to prevent waste escaping onto the public highways when leaving site.

c. Water Resources

Water consumption shall be minimised as far as possible during the works through monitoring, recording and reporting. The possibility of using grey water sources will be explored where practicable. Construction phase operations will be carried out in accordance with guidance contained within the Environment Agency Pollution Prevention Guidelines.

Nothing except clean uncontaminated rainwater will be allowed to enter foul or surface water drains without gaining appropriate consents. All site discharges will be done in compliance with the relevant consent, with regular monitoring and testing conducted as specified by the conditions of consent. Settlement tanks will be utilised where necessary for any dewatering operations. Non-compliant discharges will be stopped immediately and controls or alternative disposal sought until the discharge becomes compliant again.

Surface and groundwater will be managed using best practice to avoid risk of pollution during the development.

- Fuel, oil and chemicals will be stored in compliance with Oil Storage Regulations and away from drains and watercourses.
- Plant and vehicles will be maintained in good working order to prevent leaks
- Drip trays and plant nappies will be used under static plant and at refuelling locations
- Emergency response procedures would be established to deal with instances of leakages or spillages of potentially contaminating substances
- Emergency spill kits will be located in strategic locations and personnel trained in their effective use.

Water shall be prevented from entering excavations via rain/runoff where possible and a sump area in excavations may be utilised. If dewatering is required, a period for settlement will allow silt content to be minimised or a settlement tank and water sample analysis method may be required to comply with the conditions of a discharge permit.

The Environment Agency would be consulted prior to any temporary works that may interfere with the bed, banks or floodplains of any watercourse.

d. Urban ecology

Disturbance to protected species and areas of conservation will be minimised and HG Construction will comply with all relevant statutory requirements.

HG Construction will work with contractors and others on the site to ensure compliance with the relevant statutory provisions in respect of the protection of areas of nature conservation interest, protected species and priority species named on UK or Manchester Biodiversity Action Plans.

Any disturbance to such areas and such species must be controlled and limit as far as reasonably practicable. All relevant licences and consents will be obtained prior to commencing works and if any protected species are discovered, works will stop immediately and the client informed.

All buildings, trees and shrubs will be inspected for any invasive or protected species such as nesting birds prior to any works that commencing. Regular monitoring will be undertaken during the development to ensure impacts on ecology are minimised and operatives involved with work activities with potential to have significant ecological impacts will be provided with work briefings and Toolbox talks.

HG Construction shall ensure that the risk of infestation by pests or vermin is minimised. Adequate arrangements for disposing of food waste or other material attractive to pests must be implemented. If infestation occurs the nominated representative must ensure that such action to deal with it as required by the Council's Environmental Health Officer is taken.

e. Lighting

Site lighting will enable safe and efficient working conditions whilst also preventing light spillage into neighbouring properties to avoid nuisance or effects on amenity.

Lights will be positioned to face away from the boundaries to prevent nuisance to surrounding occupants. Where this is not possible due to physical or safety restraints then local screening shall be provided.

Lighting other than security lighting, which must remain on at all times, will be turned off at the end of the working day.

f. Emergency Procedures

The Project Environmental Incident Response Procedure will establish the emergency procedure, outline the control for any incidents and ensure that the works comply with all applicable legislation, Code of Practice and Client requirements.

If an environmental incident occurs on the project, all work will stop and emergency response procedures will be initiated.

Any sensitive areas such as drains or waterways will be protected and any health and safety controls such as fire risk or helping any injured personnel will be dealt with first. Next the incident shall be contained, for example using a spill kit to contain a chemical spill, and then the source of the incident rectified.

All environmental incidents and near misses will be recorded and reported to the environmental health, safety & environmental manager.

6. Community Relations

The project will be registered with the Considerate Constructors Scheme (CCS) and will be monitored against a Code of Considerate Practice. The Code is designed to encourage best practice beyond statutory requirements and is concerned with impacts on the general public, the workforce and the environment. The project will follow best practice guidance and Manchetser Council's Construction Code of Practice.

Where appropriate a Project Community Liaison Plan would be established to provide a framework for managing communications with local residents and interested parties. Prior to any works starting, we will inform occupiers of all properties which may be affected by noise, dust or vibration arising from construction works of the nature of the works, proposed hours of work and their expected duration. Regular community newsletters will be issued and meetings will be held with any concerned stakeholders as required, such as holding resident groups and meetings.

The behaviour and language of all o n site shall reflect the sensitivity of the site and show respect and consideration for all our site neighbours. Disciplinary action will be taken against anyone found to be behaving inappropriately.

Barriers / Hoarding to reduce any negative visual impact of the site for the site neighbours will be suitably placed along the site perimeter. Screening will be regularly inspected for damage and maintained in good order. Lighting will enable efficient and safe working conditions but also prevent/ minimise light spillage into neighbouring buildings.

The Project Manager will establish and coordinate recommendations & complaints procedures with the client and associated development phases. HG Construction will contribute to community consultations and forums as required by the client.

When an environmental complaint is received relating to the project, the project Environmental Coordinator will investigate and work closely with the relevant project team members to ensure appropriate action is carried out and is resolved. Complaints as well as noise, vibration and dust monitoring exceedances above the action levels will be dealt with as soon as practically possible and the Council shall be notified within 48 hours via email. All complaints, enquiries, compliments and responses are logged and recorded on a complaints register.

Site signage around site and on the project's hoarding will display the 24 hour contact details for the project, as well as the site working hours along with any pertinent news and progress updates. Newsletter will be circulated monthly to local residents and business keeping them abreast of short to medium term activity.

a. Liaison with Other Sites

Construction activities taking place around and adjacent to the project will be monitored and coordination meetings will be held where possible prior to works commencing to determine any cumulative impacts and reduce as far as reasonably practicable. Early liaison with the highway and traffic authorities will ensure impact on congestion to the local area will be minimised.

Appendix 1 – Site Waste Management Plan

To be completed once project is Live (See attached example)

Appendix 2 – Logistics Plans

Figure 1. Substructure Phase Logistics

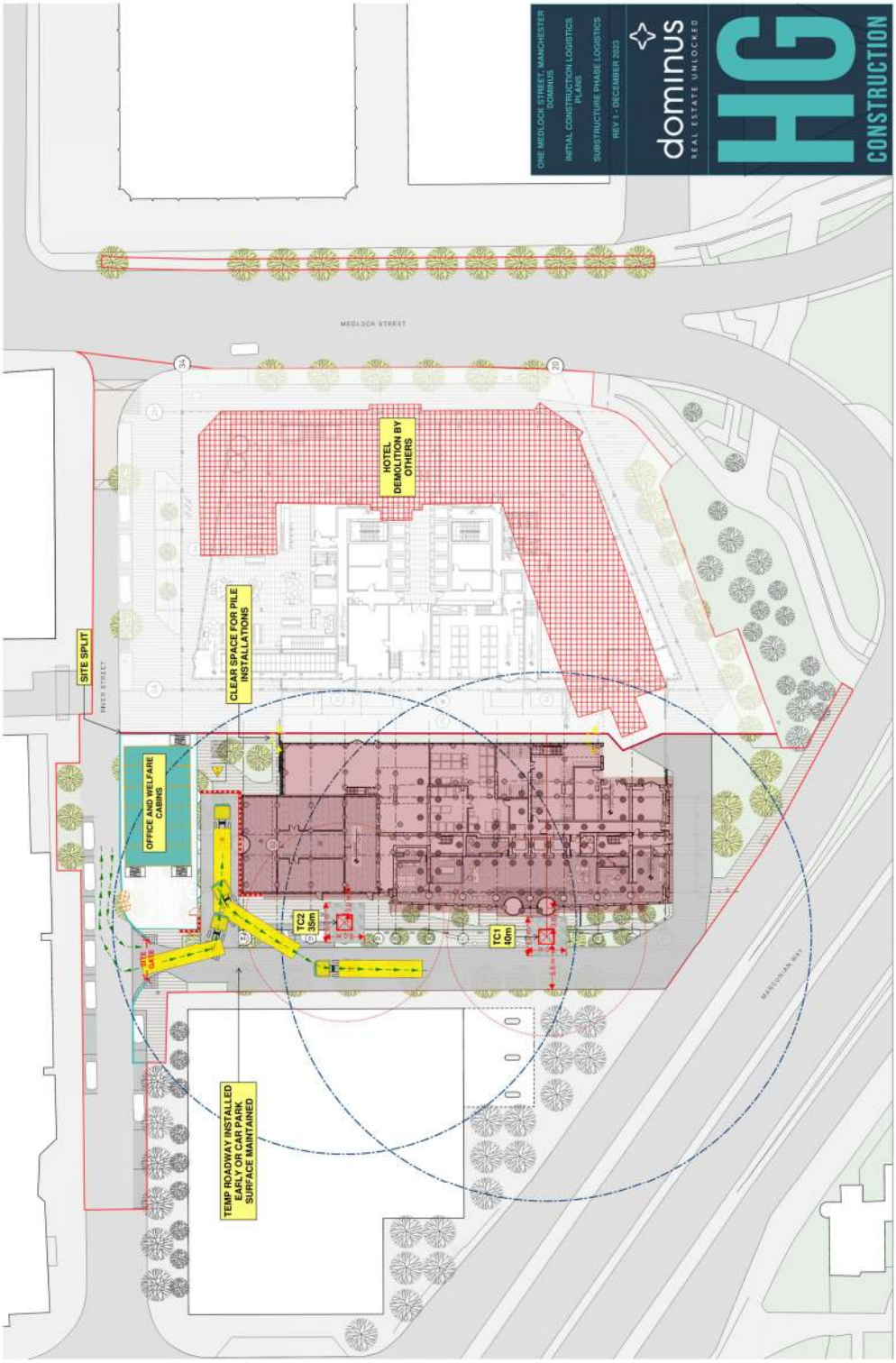
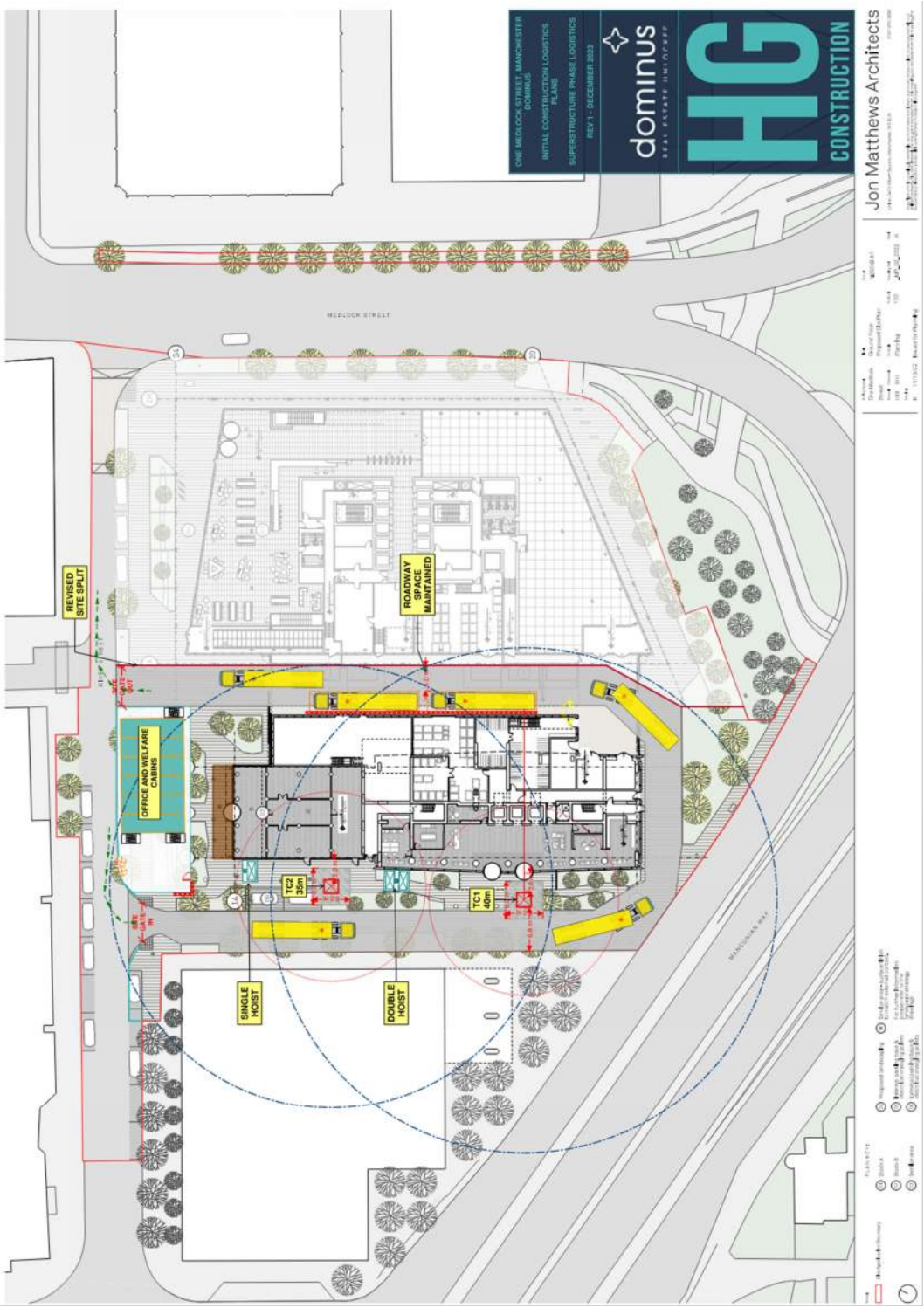



Figure 2. Superstructure Phase Logistics