

Greenheys Development Construction & Environmental Management Plan

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1. Introduction

1.1. Manchester Science Park

Manchester Science Park (MSP) is located to the South of Manchester City Centre and is broadly bound to the North by Burlington Street, to the East by Lloyd Street North, to the South by Denmark Road and to the West by Greenheys Lane. The site is operational and consists of 9 key buildings which house a community of commercial tenants from across the science and technology sectors. In close proximity to the site are places of worship, residential dwellings, a primary school, a police station, a sports centre, university buildings and a large brewery.

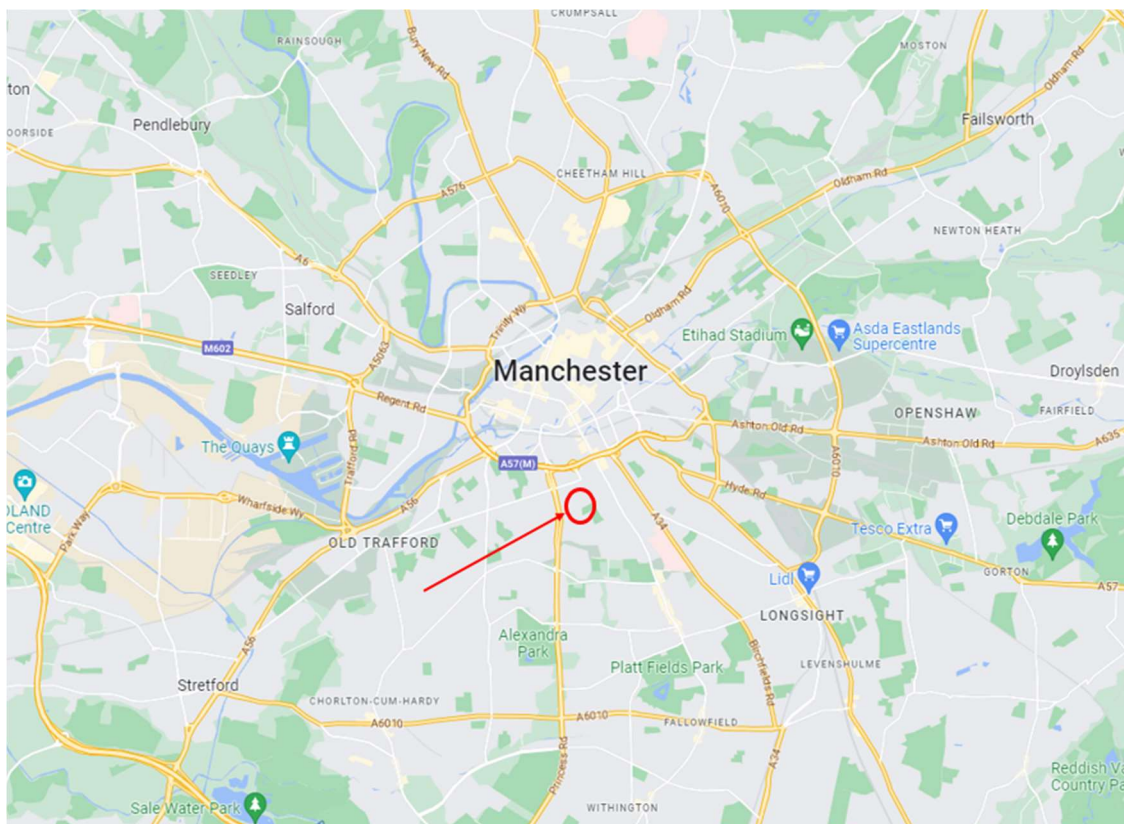


Fig1: MSP site location - M15 postcode

1.2. Development Site

The development sites consists of the existing Greenheys Business Centre, No. 7 & 9 Greenheys Lane and (part of) the Mcdougall centre along with the immediate landscape ribbon; these buildings will be demolished ahead of the new-build works commencing, and are part of a separate management plan.



Fig 2: MSP site bound by red line and Greenheys development site location shown by yellow boundary

1.3. Purpose and Implementation

This document has been produced to outline the proposed construction management strategies for the Greenheys new build project and is in place to ensure the suitable, secure and safe operation of the site, thereby protecting staff, the environment, MSP businesses, nearby communities and the environment from unnecessary harm. This document describes the site rules, security arrangements and intended methods of effectively managing impacts arising from construction activities.

The responsibility for implementation of this CEMP lies with the Principal Contractor, working in conjunction with their appointments and sub-contractors. To ensure this CEMP remains current and relevant, the Principal Contractor shall take control of the document and regularly revise/update as necessary to reflect any new information which arises from their construction activities.

1.4. Objectives

The objectives of this CEMP are to ensure that:

- All practical steps are taken to minimise disruption to occupiers of Manchester Science Park and nearby communities, caused by construction activities.
- All practical steps are taken to minimise the environmental effects of construction works.
- All activities are conducted in accordance with the CEMP, relevant legislation, Codes of Practices, guidelines and any local environmental procedures.
- Licences, permits, consents and other statutory requirements are obtained prior to works commencing and observed during works being undertaken.
- All contractors and subcontractors are aware of the environmental issues relevant to the project through the provisions of site specific information on the environmental impacts of construction and the mitigation measures to be applied during inductions, briefings and tool box talks.
- Environmental controls remain adequate throughout the duration of the project.

2. The Site

2.1. Site Specific Information

Address	Greenheys Business Centre, Manchester Science Park, Pencroft Way, Manchester M15 6JJ
Nearest Public Car Park	The University of Manchester Car Park D M13 9GR
Nearest Train Station	Manchester Oxford Road
Nearest Hospital (A+E)	Manchester Royal Infirmary, Oxford Road, Manchester M13 9WL
Working Hours	Subject to planning, expected to be as follow: Monday - Friday: 0730h - 1800h (noisy works will not commence until after 0900h) Saturday: 0800h - 1400h Sunday: By prior notice and agreement only.
MSP Site Contact	Sarah Roche - Customer Operations Manager - 07949516382 Dave Jones - Facilities Team Leader - 07967740216

2.2. Site Location, Context & Access

Vehicular access - vehicular access to the development site during construction will predominantly be off Pencroft Way with a secondary access off Greenheys Lane. The Princess Road arterial route to Manchester junctions with Greenheys Lane approx 0.5km from the development site. Contractor and staff parking for the development during the construction phase will be contained to the development site boundary, allocated parking spaces within the wider MSP campus (in designated bay) or nearby public car parks. Staff parking in nearby residential areas will be heavily discouraged and MSP's project and estates team will work closely with community groups to ensure this is suitably policed.

Pedestrian access - Manchester Oxford Road train station is a 1.0 mile walk from the development site and there is a bus-stop directly adjacent the West site boundary.



Fig 3: Site location map and key nearby features

2.3. Site Plan

The construction site will be bound on all sides by 2.4m tall solid hoarding with appropriate signage to prohibit unauthorised access. Vehicle gates along the hoarding line will be manned by security/gateman staff when in operation, and securely locked when outside of working hours. The primary vehicular entrance is anticipated to be off Pencroft Way adjacent to a suggested contractor compound location. A secondary vehicular access point to the west of the site will provide additional means of entry and servicing.

Pedestrian gates along the hoarding will be secured with a form of access control and/or manned by security personnel. The primary pedestrian access is anticipated to be in the North-west corner of the site adjacent to the suggested contractor welfare and compound location. The majority of contractor parking is expected to be provisioned in the wider MSP campus, likely in the private car-park to the west of Synergy House, and the established route between here and the construction site will be monitored by the main contractor to ensure cleanliness standards are maintained.

The site's hoarding will be designed and lit in a manner to ensure adjacent public walkways (notably to the immediate south of the site) remain safe and suitable to use.

Whilst the MSP estates team ensure a 24/7 presence on-site - via the estate staff during normal working hours and an external security contractor outside of those times - the security and segregation of the construction site will remain the sole responsibility of the appointed contractor.

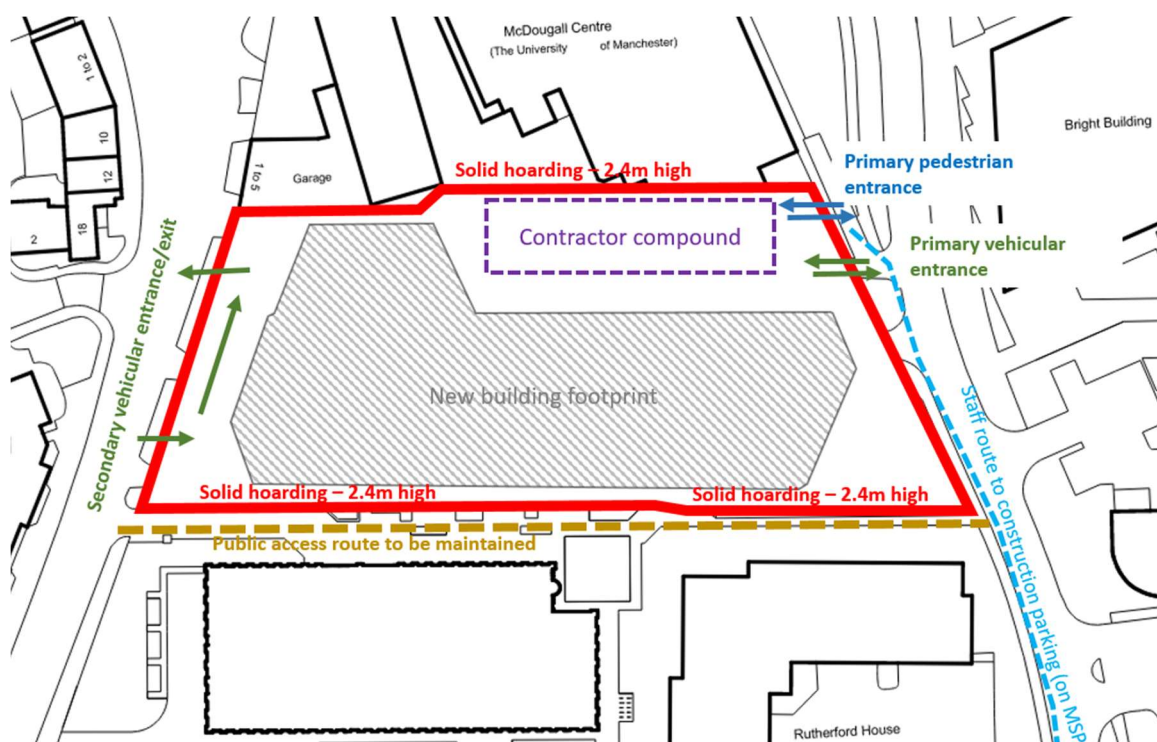


Fig 4: Indicative site layout. Locations of cranes, hoists, internal vehicle/pedestrian routes, etc. are all to be established following the appointment of a contractor.

3. Site Rules

Please see Appendix A for a copy of the MSP Contractor Rules. Whilst these rules are largely for works within occupied MSP buildings (i.e. not the scope of the Greenheys new-build), any points which relate to site impacts such as noisy works, deliveries, parking, etc. must be adhered to. Similarly, all points under the 'Contractor Code of Conduct' are mandatory and pertinent items are expected to be included in the Principal Contractor's site specific induction.

3.1. Emergencies

If an incident or accident occurs, follow the Principal Contractor's site specific procedures and contact emergency services on 999.

3.2. Security and Site Access

Access into the Greenheys construction site will be via the Principal Contractor's processes and procedures, and will be managed under the Principal Contractor's SSOW, (safe system of work).

Out of hours working - It is the responsibility of the Principal Contractor to implement appropriate procedures for any intended works on site out of hours which must also be in compliance with the local authority's rules surrounding noisy works. It is the responsibility of the Principal Contractor to act as host and to ensure that their contractors comply with all appropriate procedures. Individual contractors and subcontractors will not be allowed onto site out of hours unless they are supported and accompanied by the Principal Contractor for the duration of their works or visit.

Photography and Video recording - Photography and Video recording is not permitted without prior authorisation from the Bruntwood SciTech construction team. Any images or recordings that are to be used for external purposes also require approval from Bruntwood SciTech.

Searches - MSP Site Security are authorised to request any personnel to demonstrate the authority for carrying goods which may be the property of Bruntwood SciTech. Such requests may include requests to show the contents of (hand) bags, cases, packages and vehicles.

3.3. Site Assets and Equipment

Removal of goods from site - No items are to be removed from the site without prior written permission from the asset/equipment owner. MSP Site Security must be informed of the intent to remove any such items and contacted to agree a suitable time for removal. A copy of the authorisation to remove any items must be presented to Site Security on removal.

Security of portable electronic equipment and valuables - Items of portable electronic equipment and valuables should not be left unsecured/unattended for any length of time. Such items should be locked away securely out of sight when not in use.

Mobile Phones and Wireless technology - Use of mobile phones and wireless technology is not permitted on the construction site except in clearly identified areas. For items with built-in camera technology, please refer to the 'Photography and Video Recording' policy section above.

Personal effects brought on to site - Personal effects brought on to site remain the responsibility of the individual. Bruntwood takes no responsibility for the safeguarding of personal effects.

Tools, Work Equipment and Electrical Equipment - Tools and work equipment used on the site must be compliant with UK legislation and the user must be able to demonstrate competence prior to using the tool/equipment. This includes hand tools, office equipment, laboratory equipment, ladders etc. All electrical items plugged into the mains must be tested by a competent electrician prior to use on site.

Lost and Found - All items found on the Greenheys construction site, including cash and documents must be handed to the Principal Contractor. All items found on the MSP campus site must be handed to the MSP security team.

3.4. Use of Vehicles and Driving

Vehicles - All vehicles used and driven on the MSP site must be compliant with UK legislation and have a valid MOT, road tax and insurance where applicable.

Licence to drive or operate a vehicle on site - Any driver of a vehicle driven or operated on the construction site must be in possession of a valid licence for the type and application of a vehicle used or operated. This applies to personal, commercial, construction vehicles and plant

Parking - All contractor parking is to be either within the confines of the construction site boundary, within the designated parking spaces allocated to the main contractor by the MSP estates team or in nearby public car parks. Contractors travelling on foot between off-site car parks and the construction site must be respectful of the communities and businesses en route and avoid littering or demonstrating offensive behaviour. Contractor car parking is not allowed in nearby residential areas and the MSP estates team work closely with the local community groups to ensure this is adequately policed.

Under no circumstances are non-emergency vehicles to be parked on double lines anywhere on the MSP site or in the surrounding residential areas. No vehicles, including construction delivery vehicles, contractor vehicles or plant, can be parked in such a way as to cause impediment or hindrance to local residents, businesses and park users.

Fuel Leaks - Any fuel leak observed or detected must be reported to the Principal Contractor and MSP estates team in order to prevent contamination of the local water courses, drainage systems and to prevent ignition.

Drivers Rules

- No person is allowed to operate vehicles and plant unless trained and licensed to do so.
- No passengers are to be carried unless the vehicle is specifically designed to do so.
- No children or animals are to be brought onto the project in delivery or other vehicles.
- Drivers/operators must be familiar with all operating controls and safety devices of the particular piece of plant they are to use.
- Drivers/operators are to carry out pre-use safety checks of the unit prior to use each shift.
- All drivers/operators are to drive carefully at all times and note the presence of pedestrians on site.
- All drivers/operators are to only operate the vehicle/plant strictly in accordance with manufacturers' recommendations/instructions.
- All drivers/operators must comply fully with all local authority, MSP and Principal Contractor site safety signage including:
 - Speed limits
 - Stop signs
 - Give way signs
 - One-way signs etc.
 - Loading restriction signs
 - No parking
- Reversing is to be kept to a minimum and only undertaken when clear all round vision is available and under the direction of a trained banksman.
- Hazard warning lights or flashing beacons to be on all times the vehicle is moving.

- Seat-belt “correctly fitted” lights to be displayed at all times on site dumpers, telehandlers, etc.
- Excavations only to be approached when safe to do so and guided by a trained banksman (stop blocks or other adequate edge protection must be available).
- Outside the cab drivers must wear appropriate PPE (subject to the Principal Contractor’s SSoW) which may include:
 - Head protection
 - Foot protection
 - Eye protection
 - Hand protection
 - High visibility clothing
 - Other PPE as required by the task method statement
- Vehicles left unattended must be left in a safe condition and with the key removed or immobilised.
- No reversing onto public highways/roads.
- Vehicles exiting onto public roads must pass through a wheel wash or similar to ensure cleanliness standards of the local area are maintained. If the tracking of dirt onto local highways is evident from the construction site then the Principal Contractor is to immediately put in place a sufficient road cleaning regime.
- Open top lorries to be sheeted.
- Dumper operators must leave the unit when it is being loaded and keep a safe distance away if the cab does not have adequate debris protection.
- All roads and pedestrian routes are to remain clear from obstructions, parked vehicles, skips, etc.

Deliveries

- Deliveries and construction traffic should enter the site via Pencroft Way or Greenheys Lane through designated vehicle gates.
- Unless otherwise agreed with the MSP estates team, all deliveries should be during normal working hours.
- All reasonable measures must be taken to avoid congestion along the local road network, especially around Greenheys Lane where there are pre-existing resident concerns with the quantity of parked vehicles, 2 bus stops and frequent complaints of speeding motorists around a blind bend.
- Deliveries must be scheduled in advance through a booking system with the Principal Contractor to ensure congestion does not spill out onto the local road network.

3.5. Prohibitions

No pets or animals are permitted on the site at any time.

Gambling is not permitted on the site at any time.

Smoking (including e-cigarettes) - is not permitted in any building at any time and is subject to the requirements of UK law. Smoking must be done in designated shelters provided by the Principal Contractor which must be at least 10 metres away from any building.

Alcohol and illegal substances are not permitted to be opened or consumed on the site at any time. Illegal substances of any nature are not permitted on site. Breaches will be dealt with as a criminal offence under UK law.

Firearms and explosives including fireworks are not permitted on the site under any circumstance.

3.6. Construction

Site Boundary - Upon commencement of the works, the Bruntwood Project Manager will issue the Principal Contractor with a Transfer of Responsibility Certificate (TORC) which acts to transfer to them the SSoW management from the site owner (MSP). This TORC will include details on what specific areas, processes and systems are included in the transfer. All construction activities are to be contained within the designated development site boundary (TORC area), except for specific boundary construction works where access outside the boundary is required. Approval to proceed with these works will be required and coordinated with the Bruntwood construction team.

Permits - The Principal Contractor is to manage and operate their own permit system as part of their safe system of work (SSOW) within the defined TORC area. The processes & permits are to be located onsite and available for the Bruntwood construction team to review without any restriction or impediment.

Bruntwood Construction Inspections - Throughout the course of the project, the Bruntwood construction team and its representatives will undertake regular site inspections for the purposes of monitoring progress, workmanship & quality, health & safety standards, ensuring CDM regulation adherence and other such matters. The Principal Contractor and its appointed subcontractors are to facilitate these visits at all times without any impediment or obstruction.

Hoarding & Fencing - Hoarding is to be located on or within the site boundary. Heras fence may be required at certain times for flexibility and agility, and when installed should be double clipped with dust screen mesh and wind ports and designed to suit wind loading, etc. Daily site inspections of the hoarding and site boundary, by the Principal Contractor, and are to be logged and recorded.

Branding - All display/advertising/screening branding is to be approved by Bruntwood before installation.

Culture - All contractors are requested to attend the Bruntwood Behavioural Safety course that is held throughout the project the ambition is to ensure that all management supervision and operatives on the project have completed this two hour workshop.

4. Environment Management

4.1. Dust

The Principal Contractor's site is located within MSP, which encompasses a collection of occupied buildings and is directly adjacent to residential dwellings, places of worship and a primary school. These occupied buildings and local roads are considered to be sensitive receptors which may be adversely affected by the generation and dispersion of dust, resultant from construction activities. Nevertheless, it is also recognised that in periods of high winds the receptors affected by wind-blown dust could be areas further away than those mentioned if suitable dust mitigation measures are not implemented.

The generation of dust outside of the site boundaries is a potential source of statutory nuisance and can lead to complaints being received which may be actionable through legal proceedings. Furthermore, dust can also have an impact on human health and similarly the local ecology.

Potential sources of dust during construction activities could include:

- Site clearance
- Ground excavation and earthworks
- Earth moving operations
- Site levelling
- Vehicle movement (especially on rough ground)
- Cutting, grinding, drilling etc. operations
- Stockpiling of excavated materials
- Unintentional spillage and loss of load from vehicular transportation
- Tipping

Nuisance caused by the generation of dust could be exacerbated by prevailing winds and a prevailing climate.

It is believed that particulate dust emissions from construction activities have the potential to impact on local site users and the local ecology and as such, mitigation and control measures should be implemented to minimise or totally negate this impact.

On-going monitoring should be undertaken by construction supervisors at regular intervals to assess the level of dust which escapes the site boundaries and settles in the nearby vicinity. Any received complaints regarding fugitive dust should be logged and dealt with appropriately.

With regards to mitigation measures, the following have been identified as appropriate actions:

- Ensure construction traffic follows specifically designated routes, is limited to slow speeds and is covered if transporting loose materials.
- Introduce a wheel-wash facility for vehicles leaving site.
- Regular road sweeping should be carried out, the frequency of these will be determined by the site activities taking place.
- Damp down or enclose stockpiles as appropriate. It may be necessary to spray with chemical bonding agents to prevent the escape of fugitive dust.
- Site stockpiles away from sensitive receptors as identified above.

- Introduce enclosures where safe and practicably possible around activities which are deemed to generate high levels of dust.
- Cutting and grinding should employ dust mitigation measures where possible (i.e. wet cutting).
- Complete prohibition of burning of any materials on the site.

4.2. Noise

Similar to the ramifications of excessive dust noted above, excessive levels of noise outside the construction site boundaries can constitute a statutory nuisance and lead to complaints and potential subsequent legal action. The sensitive receptors to noise have been identified as the same as sensitive receptors for dust. Tenants, customers and users of MSP are gifted the legal right to free use and enjoyment of their relative demises which could be impeded by the intrusion of excessive noise. Additionally, excessive noise which is produced from construction activities can disrupt the balance of the nearby ecology.

A simple control measure to limit the exposure of the nearby population to noise would be to perform 'noisy' and disruptive works outside the usual working hours for the site, however, it is also imperative that construction works do not impact on the nearby domestic population. Therefore, any works which are considered to be excessively loud should be communicated to supervision and managerial staff at Bruntwood to procure a sensible and appropriate way forward.

Control measures which should be implemented, as necessary, are listed below and are based on guidance from the BRE Pollution Control Guide: Part 1- Pre-project Planning and Effective Management:

- Acoustic barriers to be implemented for static activities where necessary and practicable.
- All construction plant and machinery must comply with EU noise emission limits.
- All vehicles used for construction purposes should be fitted with effective exhaust silencers and attenuators.
- All generators should be 'sound reduced' models and fitted with acoustic covers.
- Ancillary plant should be positioned so as to cause minimum noise disturbance to identified sensitive receptors.
- Drop heights of materials should be minimised.
- No plant or machinery should be left running unnecessarily.
- The following activities are assumed to be significant noise generators and the Principal Contractor should take sufficient practicable measures to ensure noise generation is minimised/controlled as best possible:
 - Groundworks and excavations.
 - Piling.
 - Steelwork erection.
 - Cladding erection.
 - Plant operation.

4.3. Vibration

The issue of vibration and suggestive implemented measures of mitigation and control is closely linked to the above matter regarding excessive noise. As such, it is likely that by diligently controlling the emission of noise, the contractor will inherently limit the emission of vibration which could constitute a statutory nuisance if it adversely affects the nearby population or ecology.

4.4. Light Disturbance

During certain periods of the year, it will likely be necessary to unnaturally light the construction site, construction office, roads, complexes etc. for safety and accessibility reasons. It is likely that this lighting could impact the nearby population or wildlife, and needs noting that unnecessary light emission could affect drivers who pass the site if such lighting is unsuitably positioned/aimed.

A sensible mitigation measure for light related nuisance would be to limit construction activity times to daylight hours and angle all site lighting appropriately so as not to purposely aim beams of light outside of the construction site boundaries.

4.5. Waste Management

The Principal Contractor is to develop and implement a site waste management plan (SWMP) which describes the procedures for the management of waste arising from the construction activities. The SWMP shall comply with the relevant regulatory standards.

4.6. Vermin

Maintenance of a clean and tidy site including vermin control is essential. All appropriate pest control measures are to be adopted as necessary by the Principal Contractor.

4.7. Water

Under no circumstance can it be allowed for any contaminants to enter the local water courses, notably including the surface water culvert in Greenheys Lane. Regular inspections should be carried out to ensure no stored chemicals, stockpile materials, plant/machinery fluids etc. are leaking or being carried into the nearby water courses, especially during and after occasions of heavy rainfall. Appropriate spill kits, bunding, etc. shall be designed and provided to ensure that there is no risk of contamination/run-off etc, in to the canal. If it is noted that any water courses have become contaminated, this must be brought to the attention of the Bruntwood construction team immediately, and the relevant Authorities notified.

4.8. Site Roads

All vehicles leaving the construction site are to be inspected by the Principal Contractor to ensure that loads are appropriately covered/protected to prevent debris being dropped on the site road.

The principal contractor is to perform daily road inspections of the roads directly around the site which include (non-exhaustively) Greenheys Lane, Pencroft Way, Burlington Street and Denmark Road.

Any vehicle reversing off site is to be managed by a suitably qualified Banksman. No unloading of vehicles is permitted on Greenheys Lane or Pencroft Way.

Appendix A - MSP Contractor Site Rules

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Contractor Guidelines

Building Rules

1. All contractors must ensure they complete a site induction/pre-start meeting prior to undertaking works.
2. Day to day maintenance/reactive contractors can access the building via signing in at Greenheys with our FTM team where they will either receive keys or be given access by our team. Once the works are completed, contractors are required to sign out using the same process.
3. Asbestos: During the induction the contractor is to review the building asbestos register to suitably identify the location of any asbestos containing materials within the premises. They must then sign and date the asbestos acknowledgement sheet.
4. Fire Alarm: Prior to commencing works on site if required all fire detection systems should be suitably isolated and covered in agreement with the Customer Operations Manager/Facilities Team Leader and weekly fire alarm testing confirmed with the contractor during the induction process.
5. Any high risk procedures (e.g. hot works) and works that are likely to interfere with the fire alarm system must be arranged in advance with the Customer Operations Manager/Facilities Team Leader. The necessary permits to work will be produced before any procedures commence.
6. Access is limited between 6.00am – 6.00pm Monday to Friday. Out of hours works may be permitted ONLY by prior arrangement with the Customer Operations Manager/Facilities Team Leader with at least 2 working days' notice.
7. If access to occupied suites is required arrangements must be made with the Customer Operations Manager/Facilities Team Leader in advance of attendance.
8. Drilling and loud hammering will only be permitted up to 8.00am and after 6.00pm. Should you need to carry out noisy works within the working day a confirmed timeframe between 12.00pm - 2pm would need to be approved in advance with both the Customer Operations Manager/Facilities Team Leader and the customer affected.
9. Lifts must only be used with prior consent from the Customer Operations Manager/Facilities Team Leader and only with adequate protection to the lift car where necessary..
10. Deliveries are to take place as discussed in the pre-start meeting and must be signed for by the contractor.
11. All materials are to be stored in designated areas only. Materials, tools or access equipment are not to be left unsupervised at any time. Fire escapes, stairwells, landings, doorways and corridors are to be kept CLEAR AT ALL TIMES.
12. All waste is to be cleared from site as agreed in the pre-start meeting.

13. Parking on site is restricted to visitor parking bays located in Greenheys car park and is at the discretion of the Customer Operations Manager/Facilities Team Leader.
14. Food or drink must not be consumed in any part of the building except in the allocated welfare facilities.
15. There is no on-site facility for making phone calls and therefore mobile phones need to be issued if required by the contractor.

Contractor Code of Conduct

1. Staff must wear their company uniform in smart/ clean condition and wear a company name badge.
2. All relevant personal protective equipment (PPE) with the company name clearly displayed to be provided by the contractor and must be worn in designated areas at all times.
3. Smoking is strictly prohibited in any part of the building. There is no designated smoking area and you are not permitted to smoke in front of any of the entrances or around the perimeter of the building.
4. Use of radios or stereo equipment is not permitted on site at any time.
5. Welfare facilities and designated toilets will be agreed in the pre-start meeting. No other facilities are to be used. Contractors must keep these toilets in a clean and tidy condition. Misuse will result in the facility being withdrawn.
6. Unruly behavior, shouting, swearing or spitting will not be tolerated under any circumstances. We undertake regular reviews of all working areas and contractors that are found not to be adhering to the above rules may be asked to leave the site immediately.

Sarah Roche - Customer Operations Manager - 07949 516 382

Dave Jones - Facilities Team Leader - 07967 740 216

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