



University of Manchester

FALLOWFIELD DEMOLITION

Outline Demolition Environment Management Plan





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1 INTRODUCTION

- 1.1.1. WSP UK Ltd (WSP) has been commissioned by Rider Levett Bucknall UK Ltd (RLB) on behalf of the University of Manchester (UoM) to produce an Outline Demolition Environment Management Plan (ODEMP) for the phased demolition of buildings at the Fallowfield Campus ('the Site'). The demolition works involves the demolition of a number of buildings associated with the sites use as student accommodation including halls of residence and ancillary buildings. A site location plan is included as Figure 1 (appended).
- 1.1.2. The demolition works will undertaken in three distinct phases as presented below and in Figure 2 (appended):
- **Phase 1** – Owens Park - situated in the north of the site at National Grid Reference (NGR) SJ 856 942;
 - **Phase 2** – Oak House & Woolton Hall located in the south of the site at NGR SJ 857 940; and
 - **Phase 3** – The Limes - located to the east between Owens Park and Woolton Hall at NGR SJ 858 941.
- 1.1.3. This ODEMP has been developed to support an outline planning application for the future development of the Site which incorporates the demolition of identified buildings.
- 1.1.4. The ODEMP details where possible and appropriate the specific demolition environmental risks, proposed mitigation, in accordance with legislative and other requirements and construction industry best practice.
- 1.1.5. The ODEMP describes how the demolition activities would be undertaken and managed in accordance with these commitments as well as contractual and legislative requirements, and construction industry best practice.
- 1.1.6. This version of the ODEMP contains advice on information to be included in the management plans which will make up the DEMP. It provides details of control measures to be implemented by personnel on site and to avoid, minimise or mitigate the impacts of construction works on the environment, and roles and responsibilities, monitoring and reporting procedures and emergency preparedness and response.
- 1.1.7. The ODEMP is the main reference document to identify environmental aspects, risks, and mitigation to be implemented during the works. The ODEMP will contain a record of all the sensitive environmental features that have the potential to be affected by the construction of the proposed scheme in an environmental risk register.
- 1.1.8. The appointed contractor will develop this ODEMP for each of the three demolition phases, providing a more detailed DEMP as design and demolition plans are finalised and more detailed information on environmental effects becomes available. Such that prior to commencement of demolition, the DEMP would be fully comprehensive.
- 1.1.9. The appointed contractor shall be responsible for safeguarding the environment and for mitigating the effects of the demolition works by implementing the requirements detailed in the DEMP.
- 1.1.10. A DEMP is a live document which will be updated on a regular basis to take into account the following:
- Changes in design;

- Changes in external factors such as regulations and standards;
- Any unforeseen circumstances as they arise such as new protected species or new archaeological finds;
- The result of inspections and audits; and,
- Learning points from environmental near misses and incidents.

1.1.11. The DEMP will incorporate the following elements:

- Background and description of the demolition being carried out;
- Consideration of vehicle movements;
- Environmental management considerations; and,
- Emergency preparedness.

1.1.12. All documentation in relation to the environmental management of the works shall be maintained by the Principal Contractor and made available to the Construction Project Manager and relevant third parties as required.

1.1.13. Similarly, performance against environmental objectives and targets, and in achieving effective environmental management, shall be subject to on-going review by the appointed Contractor.

1.1.14. In order to assist in implementing environmental good practice, the Contractor shall be required to register with a Considerate Constructors Scheme (CCS).

1.2 STRUCTURE OF THE ODEMP

1.2.1. This ODEMP contains the following information:

- Chapter 1: Introduction – this section includes a summary of the proposed works, the purpose of the ODEMP and key environmental constraints.
- Chapter 2: Proposed Works – this section includes a summary of the demolition programme and the main demolition methodology.
- Chapter 3: Project Team Roles & Responsibilities - this section details who is responsible for key environmental responsibilities on site.
- Chapter 4: Environmental Management Measures – this section comprises general and site-specific mitigation measures which can be applied during construction to minimise potential environmental impacts.
- Chapter 5: Emergency Preparedness – this section details the measures to be followed in the event of an emergency of an environmental incident.

1.3 KEY ENVIRONMENTAL CONSTRAINTS

1.3.1. The following points below outline the key environmental impacts that could potentially impact the works:

- Potential for contaminated land to be present;
- Potential for surface water pollution and flood risk;
- Presence of protected species including bats birds, reptiles and invertebrates; and,

- Protection of neighbouring and nearby land users and residents.

1.4 PROJECT ENVIRONMENTAL RISKS

1.4.1. The risks to the environment that have been identified during the demolition works include the following:

- Environment and ecology;
- Public interest and stakeholders including access and site security;
- Health and safety considerations to the workforce;
- Dust as a result of demolition, processing and vehicle movements in dry conditions;
- Noisy demolition activities;
- Spills of fuel, oil, chemicals or other potential hazardous substance;
- Production and management of waste as a result of the works and incorrect handling of materials;
- Earthworks and earth moving resulting in silt and mud on roads;
- Encountering unexploded ordnance (UXO); and
- Encountering contaminated material.

2 WORKS DESCRIPTION

2.1 SITE LOCATION AND WORKS DESCRIPTION

- 2.1.1. The site comprises Fallowfield Campus which is located to the south of Manchester city centre. The total area of the site is approximately 7.7 hectares (ha) in size, with a site location plan included as Figure 1 (appended).
- 2.1.2. The demolition works are split into three distinct phases as presented below and in Figure 2 (appended):
- **Phase 1** – Owens Park – situated in the north of the site at National Grid Reference (NGR) SJ 856 942;
 - **Phase 2** – Oak House & Woolton Hall located in the south of the site at NGR SJ 857 940; and
 - **Phase 3** – The Limes – located to the east between Owens Park and Woolton Hall at NGR SJ 858 941.
- 2.1.3. Each phase of demolition will be treated as a separate project of works, and will require a separate detailed DEMP which will incorporate location specific considerations.
- 2.1.4. The site is currently owned and operated by the University of Manchester (UoM). During the works, parts of the wider Fallowfield campus will remain open to UoM staff and students. The areas that will remain under UoM occupation throughout the duration of the demolition works are:
- Ashburne Hall,
 - Sheavyn House,
 - Richmond Park,
 - Unsworth Park,
 - Uttley House and
 - Firs Botanical Grounds.
- 2.1.5. During completion of demolition of Phase 1, the other buildings incorporated in Phases 2 and 3 may be occupied for the duration of the works. During Phase 2, Owens Park will be segregated and undergoing redevelopment and The Limes may remain operational.
- 2.1.6. The planned demolition works comprise the removal of hazardous materials (including asbestos), demolition, and site clearance including the buildings, associated infrastructure and foundation slabs in order to facilitate the next stage of redevelopment. The affected buildings are included as Figure 2 (appended).
- 2.1.7. The planned works are as follows:
- Installation of temporary hoarding to the boundary to a height of 2.0 – 2.4m;
 - Disconnection of existing redundant services and the protection of retained services crossing the site;
 - Removal and disposal of all asbestos containing/other hazardous materials as identified in the required Refurbishment and Demolition Surveys, and any other areas identified by the Contractor;
 - Soft stripping of all levels of individual demolition packages to include timber, partitions, false ceilings, glazing, furnishings, general rubbish, wastes, electrical equipment, plumbing, for disposal off site;

- Mitigation Works with regards to identified ecological receptors and protection of trees;
- Management and control of all drains within the site boundary;
- Demolition down to surrounding ground floor slab level or basement level where appropriate;
- Removal of all building foundations;
- Removal of all external hardstanding areas including roads, paths, paved areas;
- Processing of suitable demolition arisings to agreed engineering specification for use as fill material for site voids and site levelling purposes;
- The plugging and sealing of all redundant underground pipework/sewer connections; and,
- The clearing of site surface to be free of all deleterious materials and should be level and free of trip hazards.

2.2 ANTICIPATED DEMOLITION PROGRAMME

- 2.2.1. Demolition is anticipated to commence for the Phase 1 area (Owens Park) in Q3 2023. Phase 2 (Oak House and Woolton Hall) is expected to start Q3 2025 and Phase 3 (The Limes) TBC. A programme per demolition will be finalised once the contractor is appointed per phase.

2.3 PROPOSED KEY DEMOLITION SEQUENCE

- 2.3.1. The sequence in which demolition works will take place is outlined below, however some tasks may run concurrently:
- Completion of requisite surveys (asbestos, utilities etc.);
 - Utility disconnections;
 - Erection of tree protection measures;
 - Construction of haul roads (where required) within demolition site;
 - Soft strip of buildings;
 - Equipment / plant removal;
 - Asbestos removal;
 - Structural demolition of buildings;
 - Floor slab and building foundations removal;
 - External hardstanding and utilities removal;
 - Crushing and screening of demolition arisings; and,
 - Filling of voids and site levelling.

2.4 WORKING HOURS

- 2.4.1. The proposed works is likely to take place within normal working hours, as set out below:
- 08:00 – 18:00 Monday – Friday, with no noisy works until 09:00am; and,
 - 08:30 – 14:00 on Saturdays (if required) and no Sunday or bank holiday working.

- 2.4.2. In the instance that working outside of these hours becomes necessary, the contractor will agree additional working hours with the clients representative and planning authority.
- 2.4.3. All deliveries will be taken during normal site hours or occasionally restricted hours on certain days to support student activities. All deliveries will be received by a gateman/banksman. All suppliers will be informed of the site hours and provided a site layout plan at the time of placing order.

2.5 TRAFFIC MANAGEMENT

- 2.5.1. All deliveries will be offloaded within the site boundaries on designated UoM privately owned roads, no offloading is permitted from the public highway. Dedicated offloading and laydown areas will be arranged with a one-way traffic system and segregated from the main works area. Bulk materials, such as aggregates, will be carefully monitored for volumes and sufficient quantities can be stored on site. This will spread any delivery requirements, reducing the risk of excess construction traffic creating a gridlock.
- 2.5.2. Construction traffic will be requested to access from Wilmslow Road into the Owens Park Car Park and for larger deliveries will be through Whitworth Lane which is approached from Old Hall Lane to the north of the site for Phase 1 (see Figure 3 – Traffic Management Plan). Phase 2 and 3 are likely to be accessed via similar routes. Access for large deliveries associated with the demolition on Whitworth Lane will be restricted during rush hour periods to avoid adverse impact on residents using the road.
- 2.5.3. Access to the buildings/areas scheduled for demolition will be through the Owens Park Car Park to avoid interacting with students, pedestrians/ cyclists, UoM staff (particularly maintenance and catering staff from The Limes during Phase 1 & 2) and the nearby Armitage Sports Centre which is busy on Wednesdays and weekends.
- 2.5.4. For general site traffic such as wagon access/egress and movement of plant, the contractor will create a Site Traffic Management Plan. This will look at requirements for suitable signage, barriers, warnings, pedestrian segregation and traffic marshals.
- 2.5.5. The contractor will look to employ a full-time traffic marshal at the site entrance for elements of works that require large volumes of heavy traffic. This is as an additional traffic control measure and also for the wheel washing facilities.
- 2.5.6. Upon selection of the finalised traffic management options, it will be the responsibility of the contractor to update the DEMP so that it reflects the decision, and to incorporate subsequent details related to the functionality and specific timings of the options.
- 2.5.7. The traffic management plan will be developed to ensure the below factors are taken into account:
- Continual pedestrian, cycle and vehicular access for other site users to ensure minimal disruption;
 - Use of Chapter 8 compliant signage on public approach roads to delineate traffic routes for delivery vehicles and trucks where required;
 - That all staff and suppliers are informed of access / egress arrangements to ensure that the correct and most direct route is used at all time; and,
 - Deliveries will be scheduled to minimise potential impacts to onsite and public roads, including where possible, arranging deliveries outside of rush hours or times of high student traffic (e.g. Wednesdays afternoons).

- 2.5.8. Given the location of the demolition works there may be a requirement for traffic management operations on the public highway, however this will be minimised as far as reasonably practicable.

CONSTRUCTION LOGISTICS AND COMMUNITY SAFETY

- 2.5.9. In line with the University Estate traffic management standards the Principal Contractor must ensure all deliveries or collections by HGV shall be in compliance with the Construction Logistics Plan (CLP) relating to the project and working to the requirements of the Construction Logistics and Community Safety (CLOCS) standard. Particular attention must be given to the 'last mile' journey around the campus comprising schools and hospitals. The university campus is exceptionally busy with over 50,000 staff and students in the centre of Manchester so it is critically important that the risk of collision between HGVs and pedestrians or cyclists / motorcycles is carefully managed and mitigated against to keep everyone safe.

2.6 HIGHWAY CONDITION SURVEYS

- 2.6.1. Prior to the commencement of the demolition works, a photographic survey of the conditions of the highways surrounding the site must be completed, including but not limited to affected areas on Chancellors Way, Gunnery Lane, Wilmslow Road, Moseley Road, Old Hall Lane, and Whitworth Lane. The survey shall then be repeated monthly to ensure the roads are unaffected by the demolition works. Should the highways be deemed to be negatively impacted as a result of the demolition works, the contractor will remedy the identified defects as soon as practicable. Upon completion of the demolition works, the contractor will undertake a photographic survey to ensure any identified defects attributable to the demolition works have been resolved, and that the highways have been left in a satisfactory condition.

2.7 CONTRACTORS COMPOUND

- 2.7.1. It is anticipated that for Phase 1, the contractors compound will be located at the Owens Park Car Park with welfare facilities temporarily provided at The Mall (prior to utility disconnection/demolition). Confirmation of Phase 2 and 3 to be confirmed prior to demolition. The demolition compound for each Phase will be located within the demolition site boundary to prevent unnecessary interaction with third parties. The demolition compound is anticipated to include the following elements:

- Parking and access for construction vehicles;
- One No 32' Offices;
- One No 32' Canteen/Welfare Block;
- One No 16' toilet block;
- Two No 20' secure stores;
- Recycling and storage units; and,
- Vehicular entrance / exit and secure pedestrian entrance / exit.

CONSTRUCTION PLANT AND EQUIPMENT

- 2.7.2. The following construction plant and equipment is envisaged:
- Hoarding;
 - Heras Fencing;

- Pedestrian safety barriers;
- Traffic management signage;
- Scaffolding;
- Small Tools;
- Generators;
- Double banded fuel bowsers;
- COSHH/chemical store;
- Temporary matting;
- Excavators of various sizes with hydraulic breaker, shears and grapple attachments;
- Dumpers of various sizes;
- Cutting/grinding and other hot work equipment;
- Tipper Lorries
- Low-loader lorries;
- Concrete / brick crusher and screener;
- Various sizes of rollers and vibrating compaction plant;
- Water suppression plant, pressure washer bowsers; and,
- Wheel wash.

2.7.3. The following measures will be in place to mitigate and reduce disruption during construction:

- Materials will be stored locally to the work area to minimise plant access;
- Delivery timings will be coordinated to avoid peak time or high student traffic to alleviate congestion;
- The demolition area will be enclosed with solid timber hoarding to temporary works design with vehicle access gate that is to be locked when not in use;
- The areas of the immediate demolition areas may be enclosed with heras fencing;
- All access gates onto the working demolition area and the contractors compound will be locked during evening/ night and closed during the working day;
- Security will be provided by a specialist security firm erecting a number of CCTV cameras across the site. These will be monitored and a guard dispatched at any sign of intrusion; and,
- A daily fence inspection will be undertaken and recorded. Any issues will be rectified immediately.

3 GENERAL ARRANGEMENTS

3.1 ROLES AND RESPONSIBILITIES

- 3.1.1. In order to the Environmental commitments outlined in the DEMP and allow effective construction environmental management, it is important to provide a clear identification of roles and responsibilities. These are identified in Table 3-1.

Table 3-1 – Key Environmental Roles and Responsibilities

Activity	Responsible Person	Contact Details
Ensure resources are made available to carry out environmental responsibilities	Contractor's Project Manager	TBC following Contractor Appointment.
Ensure measures detailed in the DEMP are carried out	Contractor's Construction Manager	TBC following Contractor Appointment.
Review DEMP	Contractor's Construction Manager / Health and Safety (HSE) Manager	TBC following Contractor Appointment.
Carry out Environmental Induction Training on site (as part of overall site induction)	Contractor's Site Supervisor	TBC following Contractor Appointment.
Ensuring that all environmental standards and commitments are adhered to	Contractor's Construction Manager	TBC following Contractor Appointment.
Carrying out site specific environmental training	Contractor's Construction Manager	TBC following Contractor Appointment.
Carry out Waste Management Duties on Site	Site Waste Representative(s)	TBC following Contractor Appointment.
Carry out regular site environmental checks e.g. spills/leaks, housekeeping, materials storage	Contractor's Construction Manager	TBC following Contractor Appointment.
Ensuring Risk Assessments / Method Statements (RAMS) take into account environmental aspects and risks on site	Contractor's Construction Manager / Health and Safety (HSE) Manager	TBC following Contractor Appointment.
Review / Provide environmental input Risk Assessments / Method Statements (RAMS)	Contractor's Construction Manager	TBC following Contractor Appointment.
Identifying requirements for / inputting into / co-ordinating specific	Contractor's Construction Manager	TBC following Contractor Appointment.

Activity	Responsible Person	Contact Details
environmental RAMS for the works		
Producing specific environmental RAMS e.g. ecology, archaeology etc.	Environmental Specialists	TBC following Contractor Appointment.

ENVIRONMENTAL CLERK OF WORKS (ECOW)

3.1.2. The Contractor will assume the duty of EcoW to ensure the implementation of the DEMP and delivery of environmental commitments unless one is provided as part of the Employer team.

3.1.3. The EcoW will undertake the following tasks:

- Review, update and communicate the DEMP to all personnel on site;
- Provide advice and support to the Site Manager and the site team on all environmental matters;
- Carry out environmental training, toolbox talks and briefings. Environmental toolbox talks and briefings will be carried out every month as a minimum;
- Be the main contact point for liaison with Statutory Authorities and the Employer. Accompany Statutory Authorities and the Employer on site during environmental visits;
- Provide advice for managing waste on site;
- Carry out environmental audits and inspections and report any non-compliances on site;
- Carry out environmental incident investigations and brief out lessons learnt to the site teams;
- Take photos of good practices, any environmental issues and incidents;
- Carry out checks and implement environmental mitigation measures on a daily basis; and
- Ensure environmental compliance during the works.
- Ensure environmental responsibilities are brought to the attention of all personnel as applicable to their work, and to ensure that the DEMP is complied with.

PROJECT / SITE MANAGER

3.1.4. The Project / Site Manager will undertake the following tasks:

- Has overall responsibility for delivery of the project and for meeting environmental objectives and targets;
- Has overall responsibility for ensuring that all appropriate mitigation measures are implemented in accordance with legal and other relevant environmental requirements, planning conditions, company procedures, best practice and as advised by the Environmental Clerk of Works;
- Responsible for ensuring that adequate resources are made available for delivering environmental requirements on site;
- Ensure the competence of staff is appropriate in order to carry out their environmental duties;

- Lead by example to ensure that a high standard of environmental performance is achieved; and,
- Liaise with the EcoW with regards to environmental aspects and issues associated with the project.

PLANT MACHINE OPERATORS

3.1.5. The Plant Machine Operator will undertake the following tasks:

- Responsible for carrying out pre-use environmental checks on their equipment;
- Responsible for ensuring that plant and equipment is accompanied by the required Certification and that plant and equipment is regularly serviced and maintained;
- Ensure that all plant and equipment is appropriately silenced;
- Ensure that, as a minimum, a 15 litre spill kit is provided on all mobile plant;
- Bring to the attention of the Site Manager / Supervisor any defect in equipment so that it can be taken out of service and repaired or replaced;
- Ensure that equipment is only refuelled at designated refuelling areas;
- Ensure that drip trays/plant nappies are installed under all refuelling operations;
- Comply with site rules with regards to refuelling, use of generators and other petrol/diesel driven plant;
- Ensure that plant and machinery in intermittent use is shut down between activities, or where not practicable, throttled down to a minimum;
- Report any environmental incidents, hazards or near misses to the supervisor/manager and/or the EcoW immediately; and,
- Ensure that all work is carried out in accordance with the DEMP, associated risk assessments and method statements.

ALL SITE PERSONNEL

3.1.6. All site personnel will undertake the following tasks:

- Must carry out their duties in a way that does not have a detrimental effect on the environment;
- Responsible for carrying out activities in compliance with all regulatory standards, codes of practice and project systems and procedures;
- Responsible for reporting any environmental concerns to their supervisors;
- Must attend environmental toolbox talks and briefings as instructed;
- Responsible for reporting all environmental incidents, hazards and near misses;
- Ensure that good housekeeping is practiced at all times; and,
- Ensure that personal conduct does not detrimentally affect the image of the project.

3.2 COMMUNICATION

3.2.1. Environmental issues will be communicated on each day of construction through the following arrangements on site. All site staff will attend Health and Safety progress meetings, risk assessment / method statement briefings and environmental toolbox talks.

- 3.2.2. A monthly report will be provided to the Employer detailing the implementation of environmental commitments and mitigation measures, training delivered, environmental initiatives undertaken, proposed amendments to the DEMP, updates on environmental audits and monitoring undertaken, and any environmental incidents regarding the project. This will be shared with relevant statutory bodies as applicable.

3.3 EXTERNAL COMMUNICATION

- 3.3.1. A Contractor Representative will be made responsible for receiving, documenting and responding to any environmental communication from third parties and the local community as required and as agreed with the Employer.

COMPLAINTS PROCEDURE

- 3.3.2. The contractor will always aim to create good working relationships with stakeholders, persons and businesses that may be affected by our construction work.
- 3.3.3. A complaints register is available for recording any complaints received and are dealt with in the appropriate manner. It is essential to the success of the project to establish communication links with all external interested parties.
- 3.3.4. The Site Foreman will be the direct contact for addressing complaints, their name and contact numbers will be displayed on notice boards posted on the site hoarding with options to escalate to the Site Manager, Contracts Manager and Head Office should it be necessary.

3.4 TRAINING

- 3.4.1. Prior to starting on site all workforce will be made familiar with the site, works to be undertaken and hazards expected by way of a site induction. Operatives working on the tasks detailed in the RAMS will be briefed by the contractor's Site Supervisor and the briefing attendance sheet signed to confirm the briefing and understanding.
- 3.4.2. All Operatives will be trained to minimum of CPCS or CSCS level as appropriate.
- 3.4.3. Daily briefings will be given to Operatives prior to work commencing and Tool Box Talks will be given on a weekly basis on an appropriate topic linked to the works on site.
- 3.4.4. All required Permits will be issued on site by the contractor's Responsible Person (Manager/ Site Waste Representative(s) / Foreman or Engineer) and Operatives will be briefed on the requirements of the permit before work commences.
- 3.4.5. All personnel will be experienced and competent in the tasks that they are being asked to undertake. Due to the nature of the project, it is expected that all operatives will need to be Asbestos Awareness trained (as a minimum).
- 3.4.6. It is recommended that the management team receive environmental awareness training.

3.5 SITE AUDITING

- 3.5.1. Monthly inspections of the site will be carried out to ensure compliance with the DEMP and to minimise the risk of damage to the environment. All environmental incidents will be reported to the Contractor's Construction Manager / EcoW.

- 3.5.2. Document control will be in accordance with the Quality Management System (QMS) and copies of the environmental audit report, consents and licences will be maintained by the Contractor's Construction Manager / EcoW. These documents will be stored securely onsite and will be available for review at any time.
- 3.5.3. Internal and external environmental auditing and inspections will be complied with.
- 3.5.4. The Contractor will be responsible for investigating and addressing any non-compliance findings raised by the audit within an agreed time frame and ensuring that corrective and preventative actions have been addressed.

3.6 LOCAL LABOUR AGREEMENT / SOCIAL VALUE PLAN

- 3.6.1. The appointed demolition contractors shall be required to submit a local labour agreement / social value plan to the Client or their representative for approval. Such an agreement will be used to discharge requisite pre-commencement conditions where required and will be audited periodically throughout the works to ensure compliance with the agreement. Key Performance Indicators (KPIs) will be agreed and assessed at regular intervals to ensure adherence.
- 3.6.2. The agreement shall summarise how the appointed demolition contractor(s) shall engage with the local labour market, communities and applicable organisations whether through direct employment or use of local companies as sub-contractors to ensure:
 - Local people / companies benefit from the planned works;
 - Local people are provided with opportunities to gain skills needed for employment; and
 - The environmental impact of unnecessary travel is minimised by maximising local employment opportunities.
- 3.6.3. A local labour agreement for the first phase of the demolition works is included in Appendix B for reference.

4 ENVIRONMENTAL MANAGEMENT MEASURES

4.1 INTRODUCTION

- 4.1.1. This section refers to best practise measures to reduce environmental impacts during the construction of the scheme. This section also includes site specific mitigation under specific construction activities.

4.2 GENERAL ENVIRONMENTAL MANAGEMENT MEASURES

- 4.2.1. The following mitigation measures and best practise should be carried out throughout the whole of the construction phase (general mitigation measures per environmental topic are included in more detail between sections 4.3 – 4.11):
- Securement of Site and implementation of hoarding and any additional fencing around the site to prevent vandalism and pollution events;
 - Tool box talks to be delivered to all site personnel;
 - All machinery should use Ultra Low Sulphur Diesel (ULSD) where possible;
 - Plant should be well maintained and serviced regularly and shut down in the intervening periods between work, or throttled down to a minimum;
 - Use of noise control equipment such as jackets, hoods and shrouds on construction equipment such as generators;
 - There should be constant monitoring of dust levels and effective methods of work should be adopted to prevent dust becoming airborne at the source for example; using wet sweeping methods to prevent accumulation of dust and mud and using effective exhaust ventilation and filtering to minimise potential dust pollution;
 - Spill kits must be made available on site and personnel should be competent at deploying spill kits in the event of a spillage. In the event of a pollution incident, work should cease in the vicinity of the incident and contaminants must be cleaned up immediately. All incidents must be reported, and a Pollution Incident Report form completed. Subsequent waste material resulting from a spillage should be disposed of appropriately;
 - Minimising the exposure of bare ground and covering stockpiles; and,
 - The works should be effectively programmed in advance to avoid delays in the construction programme.
- 4.2.2. Daily site inspections will be completed by the site manager or a nominated person who will record both on-site and off-site conditions with a focus on the above points and identified key sensitive receptors. Any improvement works identified will be implemented as soon as possible and recorded within the site inspections. These will be made available to the local planning authority upon request.
- 4.2.3. Any complaints received by the contractor will be recorded, the cause identified and solutions implemented to prevent future occurrences. A record of complaints and measures implemented will be maintained throughout the project and will be made available to the local planning authority upon request. Further information relating to the reporting of incidents is included in Section 5.8.

4.3 AIR QUALITY AND DUST

4.3.1. Air quality will be managed in accordance with legal requirements and best practice guidance. The Contractor will adopt Best Practicable Means (BPM), as defined in the Control of Pollution Act 1974.

The main air quality impacts that may arise during demolition activities are:

- Dust generated from demolition activities;
- Emissions from construction plant; and,
- Emissions from vehicles associated with the construction of the Proposed Scheme, import of construction materials and removal of waste materials, accessing and leaving the Site on the local road network.

LOCAL SENSITIVE RECEPTORS

4.3.2. The site is an active student campus with student accommodation and facilities, therefore the main sensitive receptor is the Fallow student population. There are areas of Fallowfield Campus which are not within the demolition scope of works and phasing which will remain operational to students and UoM staff throughout the duration of the programme. These include Grade II listed buildings such as Ashburne Hall, Firs Botanical Grounds, Uttley House and annex, along with newer halls of residents such as Sheavyn Hall to the north, Richmond Park and Unsworth Park located to the east. Offsite sensitive receptors also include the residential properties to the north, west and south, along with The Armitage Sports Centre to the east.

MITIGATION AND SITE MANAGEMENT

4.3.3. The following mitigation measures will be implemented throughout the construction phase to minimise air quality impacts:

- Damping down surfaces during dry weather;
- Erection of appropriate hoarding and/or fencing to reduce dust dispersion and restrict public access;
- Appropriate handling and storage of materials, especially stockpiled materials;
- Covering materials stockpiles, deliveries or loads entering and leaving the construction site for the purposes of preventing materials and dust spillage;
- Stockpiles and mounds will be maintained to avoid material slippage;
- Material processing areas will be located centrally within site, to maximise distance to sensitive receptors;
- Materials stockpiles likely to generate dust should be enclosed or securely sheeted, kept watered or stabilised as appropriate;
- Use of a wheel wash, limiting of vehicle speeds to 5 mph, avoidance of unnecessary idling of engines and routing of Site traffic as far from residential, educational and commercial properties as possible;
- Fitting all equipment (e.g. for cutting, grinding, crushing) with dust control measures such as water sprays wherever possible;

- Damping down of dust-generating equipment and vehicles within the site and the provision of dust suppression in all areas of the site that are likely to generate dust;
- Plant to be serviced regularly;
- Plant should be well maintained and shut down in the intervening periods between work, or throttled down to a minimum;
- All machinery should use Ultra Low Sulphur Diesel (ULSD) where possible; and,
- Ensuring that a road sweeper is available to clean mud and other debris from hardstanding roads and footpaths.

4.3.4. To ensure that dust emissions from vehicle movements are kept at a minimum, the following control measures will be implemented on Site:

- Haul roads and associated vehicle waiting areas shall be regularly inspected and kept cleaned of mud and materials which may give rise to emissions of dust;
- Plant crossings, site accesses and egress points will be regularly swept and dampened down;
- Unpaved roads and verges shall be maintained in a compacted condition as appropriate and necessary;
- Static water sprinklers and/or bowsters will be provided to damp down haul and access roads as necessary;
- Road sweepers will be used to limit the dust and material on paved roads;
- General site traffic shall be restricted to watered or treated haul roads; and,
- Speed limits shall be established and enforced on site traffic routes (speed limits shall be reduced in the event of extreme dry conditions to further reduce the potential for the generation of dust).

4.3.5. In addition to the site access and haul roads, there is potential for the generation of dust from general site operations. The control measures to be implemented to reduce these emissions are described below:

- Burning on site of any waste arising from any construction activities is prohibited;
- Equipment likely to generate excessive quantities of dust shall be enclosed, shielded or where appropriate fitted with dust extractors, filters and scrubbers, which shall be fitted and maintained in accordance with the manufacturer's specifications;
- The number of material handling operations shall be kept to a practicable minimum;
- Drop heights of materials on to vehicles and stockpiles shall be kept to a practicable minimum;
- Where appropriate, wind breaks, netting screens or semi-permeable fences shall be used to reduce dust emissions from working areas and/or screen sensitive locations (as identified by the Project/Site Manager). Where necessary, water sprays shall be employed to control dust generated during construction of earthworks and during piling operations; and,
- Where stockpiles are retained long term onsite, they will need to be managed appropriately.

ASBESTOS

4.3.6. The following control measures will be implemented to manage the presence of Asbestos on site, and detailed in the project asbestos management plan (AMP);

- Personal and boundary air monitoring;
- Protective clothing;
- Respiratory protective equipment;
- Dust control in the form of water suppression; and
- Segregated areas.

4.4 NOISE

LOCAL SENSITIVE RECEPTORS

4.4.1. Surrounding student accommodation bordering the demolition boundaries and residential properties located offsite north, west and south.

MITIGATION AND SITE MANAGEMENT

4.4.2. The following measures will be implemented during the construction phase to ensure all general noise impacts are kept to a minimum:

- Employing and correctly operating only modern, relatively quiet and well-maintained equipment (all equipment must comply with the EC Directives and UK Regulations set out in Annex A of BS 5228:2009 Part 1);
- Noise control equipment such as jackets, hoods and shrouds will be used on construction equipment such as generators etc;
- Plant will be regularly serviced and maintained;
- Plant will be located as far as reasonably practicable away from receptors, and will be shut down when not in use;
- Consideration will be given to the use of “white noise” reversing alarms in preference to tonal reversing alarms;
- All materials (including waste materials) will be handled, stored and used in a manner that minimises noise. This will include ensuring the efficient handling of materials to avoid unnecessary double handling and to ensure drop heights are minimised. Wherever practicable, materials will be lowered and not dropped from height;
- Avoidance of unnecessary noise (such as engines idling between operations, shouting, loud radios or excessive revving of engines) by effective site management; and,
- All complaints regarding noise and / or vibration will be recorded and investigated and any corrective actions implemented.

4.5 SURFACE WATER / POLLUTION PREVENTION MEASURES

LOCAL SENSITIVE RECEPTORS

- 4.5.1. There are no watercourses within the site boundary. The closest watercourse is 60m to the south of the site (Fallowfield Brook) which is culverted. A small artificial lined pond is present approximately 70m north of the site boundary. There are another two streams within 500m of the site, one 160m to the north (Platt Brook) and the other approximately 500m south of the site (Cringle Brook). The site is in the Platt Brook water body catchment. The overall water quality rating is moderate with a failed chemical rating and moderate ecological rating.
- 4.5.2. The superficial till deposits are classified as a Secondary Undifferentiated Aquifer. This classification is given because it is not possible to define it as either a Secondary A or Secondary B Aquifer due to the variable nature of the till. The underlying Chester Pebble Beds Formation is classified as a Principal Aquifer, however, the Environment Agency rating for the groundwater body quality (in the sandstone principal aquifer) is poor. The groundwater vulnerability to pollutants discharged at the surface for both the superficial and bedrock aquifers is low.

MITIGATION AND SITE MANAGEMENT

- 4.5.3. The construction phase has the potential to impact upon the water environment through contaminated run-off, vehicular movements and / or as a result of potentially polluting substances such as fuel, oil, chemicals or wastewater. The following mitigation measures will be included within the DEMP and implemented during the construction phase.
- Sequence and method of working will be planned to minimise impact on environmentally sensitive areas. The methods of working will be clearly outlined during specific operational method statement inductions.
 - Material stockpiles and spoil heaps will be located and constructed to minimise any potential run-off. All works will be managed to minimise any harm to the environment. All adjacent water courses will be monitored to check for any changes in water quality. If any significant changes are identified, the cause will be investigated and clean up measures will be implemented.
 - In order to protect drainage systems, they will be drawn up on the Site Plan showing the nature and course of the drainage on site. Surface water drainage will be marked BLUE and foul water drainage will be marked RED. Measures will also be taken to prevent silting of such waters and pollution spill kits made available on site in case of emergency or accidental spillage. Discharges will only be made to drains and sewers with appropriate consents providers and regulators.
 - Areas with a greater risk of spillage e.g. vehicle maintenance and storage areas for hazardous materials will be carefully sited e.g. away from drains or areas where surface waters may pond;
 - Measures will be put in place to prevent pollution from construction plant, vehicles and machinery including refuelling in designated areas, on an impermeable surface, away from drains and watercourses and supervised;
 - Plant, machinery and vehicles will be maintained in a good condition, to reduce the risk of hydrocarbon leaks and spills;
 - Washing and dust suppression measures will be managed to ensure that contaminants from plant wash down do not reach surface waters (particularly in relation to works using concrete and with areas where dust and mud can build up);

- The movement of plant, machinery and vehicles and the storage of materials during the construction works will be at least 10 m from any surface or groundwater features;
- All drains within the site will be identified and labelled and measure implemented to prevent polluting substances from entering them;
- Stockpiles / excavated materials will be stored in such a way to minimise silt laden runoff and / or wind-blown particles e.g. by covering or seeding;
- All loose materials would be covered so as not to give rise to a significant increase in sediment load to the drainage network;
- Providing and maintaining spill clean-up kits on site at all times and training staff in their use;
- Work sites to be adequately protected from intruders to prevent vandalism resulting in a pollution incident; and,
- If an unexpected source of pollution is identified on site during works, demolition should cease immediately. The area around the pollution should be sealed off to prevent further spread / exposure of contaminants to workers. An appropriate environmental regulator (Natural England/ Environment Agency (EA) should be contacted for further advice.

FLOOD RISK

- 4.5.4. The site is not considered to be in an area of flood risk. Notwithstanding this, localised surface water flooding may occur after periods of heavy rainfall which may cause a nuisance to works.
- 4.5.5. To minimise disruption the following mitigation measures will be implemented:
- Location of high-risk activities such as stockpiling of materials, on higher ground where possible;
 - All chemicals, fuels or materials that could cause pollution, will be stored in such a way that they can be moved easily in the event of a flood;
 - Detailed procedures for securing the site and plant equipment before a flood event; and,
 - Checking the Met Office Flood Warning service to ensure no equipment is stored or located within the flood channel during flood events.

4.6 WASTE AND MATERIALS MANAGEMENT PLAN

WASTE MANAGEMENT PLAN

- 4.6.1. The Site Waste Representative(s) is the Coordinator of the Site Waste Management Plan (SWMP) for this contract and is responsible for ensuring implementing the plan and that all employees are aware of this plan. The Site Waste Representative(s) will ensure the effectiveness of the SWMP on site and will update the plan with waste movements, manage site waste transfer notes and copy the data to the Head Office Document Controller. The Technical Manager collates all the data received to monitor waste movements against waste reduction targets for the company and contract specific targets.
- 4.6.2. The Site Waste Representative(s) will carry out a site induction of all employees including method of handling, segregation, re-use, recycling and disposal of waste. Induction will also include details of checking waste transfer notes, spill response plan and maintenance of records. Toolbox talks on

waste management will be held at regular intervals on site to update and ensure all employees are aware of waste management issues and waste targets.

Surplus or Waste Materials arise from:

- Materials delivered to site:
 - Those generally intended for inclusion into the permanent or temporary works.
- Those generated on site:
 - Those which exist on the site such as topsoil, subsoil, trees, demolition arising's etc.
- Other considerations in relation to waste management on this site include:
 - Reduction of waste where possible (see waste hierarchy information in Figure 4-1);
 - Segregation of waste;
 - Waste disposal;
 - Monitoring and recoding of waste movements;
 - Legal compliance; and
 - Informing the workforce.

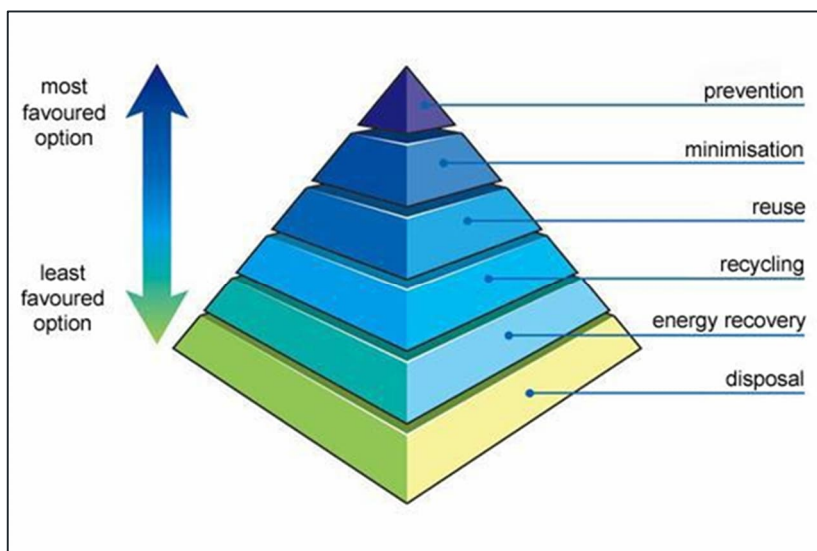


Figure 4-1 - Waste Hierarchy

SEGREGATION

- 4.6.3. A specific area shall be laid out and labelled to facilitate the separation of materials for potential recycling, salvage, reuse and return. Recycling and waste bins are to be kept clean and clearly marked in order to avoid contamination of materials. The contractor will look at adopting a Waste Colour Coding Scheme. If the skips are clearly identified the bulk of the workforce will deposit the correct materials into the correct skip. Skips for segregation of waste identified currently are:

- Wood;
- Metal;
- Paper/cardboard; and,
- Canteen waste / general construction waste.

- 4.6.4. A specific Waste Management Toolbox Talk will be held on this issue to ensure the workforce are aware of the waste management requirements on this project.

MANAGEMENT

- 4.6.5. Waste materials fall into three categories for management, these are:

- Re-use;
- Recycle; and,
- Landfill.

Re-use

- 4.6.6. If surplus materials can be used in the permanent works they are classified as materials, which have been re-used. If they are surplus to requirements and need to be removed from site and they can be removed and used in their present form, they can be removed from site for reuse.

Recycling

- 4.6.7. If the surplus material cannot be re-used in its present form but could be used in a different form, it is sent for recycling such as 50x50 timber to make chipboard.

Landfill

- 4.6.8. If either of the above cannot be satisfied then the only option left is to send the surplus materials to landfill.

4.7 FUEL AND CHEMICAL STORAGE

- 4.7.1. Fuel / oil is to be stored at least 10 m from any watercourse in suitable tanks and bunded to at least 110% of capacity. These bunds are to be protected from rainwater to prevent spillage. All refuelling points will have drip trays and spill kits adjacent. A site-specific emergency spill response plan will be developed and site personnel inducted in its use to ensure any spills are acted upon immediately and correctly. The emergency spill response plan will be tested to ensure its effectiveness. Regular inspections will ensure plant is properly maintained and locked when not in use.
- 4.7.2. Fuel / oil will be located away from access routes, drains and watercourses on flat areas of ground. COSHH data will be available for all Hazardous Substances, which will all be appropriately labelled. All COSHH materials will be stored within a suitable locked chest within the site compound.
- 4.7.3. Environmental Toolbox talks will be given to the workforce when required.

4.8 ECOLOGY

- 4.8.1. Previous survey works^{1, 2} completed at the site have identified the below constraints:

¹ University of Manchester, Fallowfield – Ecological Constraints and Opportunities Report, Buro Happold, 7th February 2023.

² Bat Dusk Emergence and Dawn Re-entry Surveys – Interim Report, Thomson Environmental, 2nd June 2023.

- A total of 22 buildings were identified to have potential to support roosting bats and therefore, further surveys are to be undertaken in accordance with best practice (Collins, 2016). Bat activity surveys, known as presence/absence surveys, can only be undertaken May to September. Buildings that have been identified to have high potential to support roosting bats will need three surveys, moderate two surveys and low one survey. The surveys are to be spaced at least two weeks apart in suitable weather. Further information in relation to bats is provided below.
- A total of six trees were identified to have low potential to support roosting bats. These trees should be retained and protected. Any development proposals will need to have a suitable offset from the trees to ensure that they are not adversely affected. Where trees require removal that have not currently been identified as having potential for bats, a precautionary inspection should be undertaken to ensure no opportunities have developed.
 - Further information in relation to bat roosts is provided below.
- The off-site pond that lies within Ashburne Hall area of the wider Fallowfield campus, outside of the redline to the north of the site boundary, was assessed as being of 'below average' suitability through the Habitat Suitability Index (HSI). The suitability of the surrounding habitat for great crested newts is considered to be poor due to the open regularly maintained other neutral grassland. The off-site areas of woodland and scrub to the north-east may offer some shelter but this is isolated from the wider landscape by A and B roads to the west and south respectively, streets to the north and east, and hardstanding that form a partial barrier to dispersal. An eDNA test was undertaken of the waterbody to identify whether they support great crested newts. The results were negative indicating that great crested newts were not present in the pond. Due to the habitats surrounding the pond and the physical barriers, it is unlikely that the pond is used by any species of amphibians.
- The woodland areas on site are designated as the most valuable habitat and should be retained and protected through future development of the site. The mature tree line between the Ashburne Hall and Owen's Park areas are also likely to offer a green link across the site and to the wider area. Development will need to be set back from the woodland edge, and tree lines, to ensure that it does not impact on the root protection area and affect the longevity of the trees on site, in line with arboriculture recommendations and best practice.
- A habitat condition assessment site visit carried out on 7th June 2023 in accordance with the UK Habitat Classification System (Butcher *et al.*, 2020) and, in line with the Biodiversity Metric requirements, to assess each habitat parcel against the respective habitat condition criteria presented within the Condition Sheets in the Biodiversity Metric 4.0 Technical Supplement document (Natural England, 2023). This information is required to carry out the baseline biodiversity net gain calculations.
- Areas of soft landscaping should be protected from potential artificial lighting impacts from the other phases undergoing construction. Additionally, during site clearance, demolition of buildings there is potential for creation of additional lighting which could disturb bats that roost in retained buildings on site during that phase of works, the mitigation roosts on trees or near to the site or use the site to commute to adjacent suitable habitat. Any night-time security lighting required on site will be positioned so as to not illuminate the features and allow for a flight route with lighting levels no higher than currently found on site. A Construction Environmental Management Plan (CEMP) should detail how lighting will be managed during the demolition phase to limit any potential effects.

- The demolition of the proposed development will remove suitable habitat on site for nesting birds such as hedgerows and trees. Additionally, vegetation removal during the nesting bird season, March – August, inclusive, could result in the destruction of active nests and the loss of eggs or chicks if mitigation measures and sensitive working practices are not applied. Therefore, any vegetation clearance required to facilitate the demolition of the proposed development should be undertaken outside the bird nesting season (March – August, inclusive). Where avoidance of the bird nesting season is not possible, a suitably experienced ecologist must carry out a nesting bird check no more than 48 hours prior to vegetation removal. If an active nest is found, this would need to be protected throughout the works, with a suitable buffer area of semi-natural habitat as defined by the ecologist, until the chicks have fledged and the nest is no longer in use.

Bat Roosts

4.8.2. Following the results of the building assessment for bats, additional emergence/ return to roost surveys are being undertaken through June and July 2023 on the 22 buildings that were identified to have bat roost potential, in accordance with best practice guidance (Collins, 2016). During the bat activity surveys carried out between 17th May and 16th June 2023, roosts have been identified in five buildings, three of them (B10, B11 and B12) were the same as those previously recorded in the 2015 surveys. A summary of the bat roost recorded is presented in Table 4-1, with building references presented in the Ecological Constraints and Opportunities Report (Buro Happold, February 2023)¹.

Table 4-1 – Summary of Bat Roosts Recorded

Building	Location within campus	No. total bats recorded (visits 1 and 2)	Confirmed roost features	Location and aspect of confirmed roost features	Bat roosts
B10	Owen's Park	19 common pipistrelle	6 roost features	Soffit box south-west corner; South and west sides; Behind drainage from loose chalking;	Common pipistrelle day roosts (considered linked/ potential satellite roost to the B11 maternity roost)
B10	Owen's Park	2 soprano pipistrelle		Centre east side; South-east side from fascia board; North end of building at south-east side from fascia board (soprano and common pipistrelle)	Soprano pipistrelle day roost
B11	Owen's Park	28 common pipistrelle	5 roost features	Fascia board – north; South end of west side; East end of south side; Centre of south side	Common pipistrelle maternity roost
B12	Owen's Park	18 common pipistrelle	2 roost features	Southwest corner fascia around balcony;	Common pipistrelle day roosts

				East and north side	(considered linked/ potential satellite roost to the B11 maternity roost)
B19	Oak House	14-16 common pipistrelle	TBC	TBC	Common pipistrelle day roosts (considered linked/ potential satellite roost to the B11 maternity roost)
B25	Woolton Hall	1 common pipistrelle	1 roost feature	South side of building into ornate vent	Common pipistrelle transitional/ occasional day roost

- 4.8.3. All roosts were identified to be utilised by common and soprano pipistrelle bats, with common pipistrelles being the main species. A maternity roost was recorded in B11, and it is anticipated that there is a network of maternity roosting sites across the campus that a colony of common pipistrelle bats are using. These are centralised around buildings B10, B11 and B12, but with additional roosting space also used in B19.

GENERAL MITIGATION MEASURES

- 4.8.4. Following the completion of requisite surveys in advance of demolition, specific mitigation measures will be designed to ensure there are no adverse impact on the identified receptors associated with the demolition works.
- 4.8.5. In addition to specific measures, general good construction site management practices should be implemented to minimise the impacts to nature conservation. The following mitigation measures will be carried out throughout the demolition works:
- General good construction site management practices will be implemented to minimise generation of excessive litter, dust, noise and vibration, and the risk of accidental spills;
 - Construction personnel would be made aware of the potential presence of protected species (bats and breeding birds) located within the site and surrounding area. They will be shown how to identify signs/evidence of each species during their induction to site and through toolbox talks. Protocol and measures that should be implemented should such species, or evidence of species, be discovered during construction will also be set out appropriately during the induction and toolbox talks;
 - Sensitive site and vegetation clearance methodologies would be followed to minimise the risk of incidental mortality of small mammals and widespread amphibian species;
 - To ensure legal compliance if a bird nest is found, no works will be undertaken in that area (approximately 10m in all directions for most bird species) until the young birds are no longer dependent on the nest site;
 - Plant movements across semi-natural habitats will be minimised;

- Trenches and holes will be covered when not being worked on to prevent entry by mammals and where this is not possible exits and escape routes such as ramps or mammal ladders will be provided;
- All chemicals, abrasives, liquids will be locked away in a secure container, and away from any watercourses / waterways in order to prevent pollution incidents;
- Spill kits will be ready to hand in the unlikely event of an oil or chemical spill;
- Materials that could be used by sheltering animals will not be stored adjacent to potentially suitable habitat, in order to ensure small mammals, reptiles and amphibians do not move onto the construction site;
- Additionally, trenches will not be left open overnight so as to ensure that animals do not become trapped;
- All pumps / generators to be set at least 10m away from watercourses, and suitably baffled to reduce the noise;
- A designated ECoW will be employed during construction activities to ensure compliance with the DEMP; and,
- The implementation of CIRIA C741 - Environmental Good Practice on Site (4th Edition) (CIRIA, 2015) will include a requirement for safe storage of all materials and machinery within compounds which would prevent injury to mammals.

4.8.6. Where invasive plant species are known or found and will be directly affected by the works, special measures must be put in place, in the first instance this means avoiding disturbing all stands. Invasive species should be mapped prior to demolition and a specialist contractor engaged.

4.8.7. In the unlikely event that new protected species establish in the construction area during construction, works will cease and the ECoW consulted for advice on how to proceed.

Bat Roosts

4.8.8. Natural England licence to be sought and approved before any demolition works on, or in proximity to confirmed bat roosts. Licence applications will be separate for each phase of demolition due to the timing delays and updated surveys being required to support Woolton Hall and Oak House demolition starting in Q3 2027. This will fully detail the mitigation measures required during the demolition process, but these are anticipated to be:

- As part of the licence application process, impacts to the roosts need to be defined and adequate mitigation for the loss of the roosts provided, where required.
- An Ecological Clerk of Works is to be appointed for the project due to the bat roosts present on site.
- Working methods to ensure the roosts are empty before they are lost and/or obstructed by the demolition works, and/or soft strip methods employed under the guidance of a licenced Ecological Clerk of Works will also need to be detailed to ensure that no bats are harmed or killed during the demolition works.
- Internal inspection by a licenced ecologist of roof voids in B10, B11, B12, B7, B8, B19 and B25 to assess potential roosting locations within the buildings prior to demolition commencing.
- Demolition on B10, B11, B12, and B19 (and potentially B7 and B8 if internally connected to B11), to be undertaken outside of the bat maternity season (May-August), and preferably in the

shoulder months of late September to October or late March to April to reduce potential impacts on any bats disturbed during the works.

- Mitigation roosts to be placed on trees near roosts to be destroyed prior to any demolition works commencing (under supervision of licenced ecologist). Mitigation roosts will be placed on mature trees in proximity to the buildings with existing roosts and will be protected from plant, material storage and demolition lighting throughout the works.
- Following provision of temporary mitigation bat roosts, and endoscope inspection of identified bat roosting features is to be undertaken by a licenced ecologist prior to their removal is to be undertaken to assess if bats are present in the features. Where possible, features can then be blocked.
- Toolbox talk to be given by the licenced ecologist to all contractors prior demolition on bat roost buildings, the potential constraints posed by bats, and actions to be taken should a roosting bat be identified during the works. This may need to be amended once the EPSL mitigation measures have been agreed with Natural England.
- Soft demolition technique removal of bat roosting features under the supervision of licensed ecologist to ensure that bats are unharmed by the demolition process. Any bats found during the works will be handled and moved to the mitigation bat roosts by the licensed ecologist only. No contractors are to handle a bat.

4.8.9. As the demolition works for Phases B and C (Oak House & Woolton Hall) are not due to commence on site until Q3 2027, updated bat surveys of the identified roosts and other features with the potential to support roosting bats at Woolton Hall and Oak House will be required.

4.9 TREES

4.9.1. Its currently anticipated that all trees will be retained as part of the demolition works. The removal of trees does not form part of the scope of the demolition, and tree removal will only be considered should there be a legitimate requirement to facilitate the demolition works and must be approved by the Client or their representative prior. The removal of trees will only be considered following a review of available options and confirmation that there are no ecological constraints. The pruning of trees to facilitate access will be permitted only with express written permission of the Client or their representative.

GENERAL MITIGATION MEASURES

- 4.9.2. All works will be completed in general accordance with *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations*.
- 4.9.3. The planning of demolition sequencing, work areas and methodology will all consider the potential impact on nearby trees and the requirement for retention.
- 4.9.4. Care should be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Any transit or traverse of plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from trees is maintained at all times.
- 4.9.5. Tree protection fencing will be installed on trees identified at particular risk by the client, their representatives or the contractor; and to any tree that is located within 2m of the boundary of a building scheduled for demolition. Once erected tree protection fencing shall remain in-situ until demolition

activities are complete on the proximal buildings and will only be removed following confirmation of the client or their representatives.

- 4.9.6. Ground protection shall be used within any area where access is required within the root protection area (RPA) of any retained tree.
- 4.9.7. The contractor shall provide a toolbox talk relating to the tree protection measures to all staff completing works in close proximities to trees.

4.10 TOPSOIL

- 4.10.1. Where the Contractor's logistics plan requires the construction of a temporary haul road across soft ground, any topsoil stripped from the surface should be handled appropriately in accordance with best practice.
- 4.10.2. All soil handling and storage procedures should conform to the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (DEFRA, 2009). This includes no soil handling being carried out when the soil moisture content is above the lower plastic limit; storing soil in designated soil storage areas; and stockpiles being no higher than 2m (CIRIA, 2006). Stockpile seeding is advised if soils are to be kept for over six months or over winter and stockpiles should be kept weed free for the duration of the contract. In these events stockpiles should be seeded with a suitable grass mix to protect against soil erosion, minimise nutrient loss and maintain its biological activity. The grass should be cut two to three times a year and removed completely before reinstatement of soil.

4.11 ARCHAEOLOGY

- 4.11.1. Works associated with the proposed demolition are considered unlikely to have a significant impact on archaeology at the site. The demolition works are effectively constrained to areas of current development (buildings, external hardstanding areas) and excavations within 'virgin ground' which have the potential to potentially damage archaeological items is not part of the scope.
- 4.11.2. Notwithstanding the above, the contractor will be provided with an archaeological toolbox to highlight potential constraints, best practice and what to do in the event that a possible item of interest is identified.

4.12 ENERGY CONSUMPTION

- 4.12.1. The contractor shall monitor, record and reduce our carbon footprint. A weekly record of each site's utility usage is recorded and then reported monthly, this includes water, electricity and diesel.
- 4.12.2. Electricity will be provided by a super-silent diesel generator supplied by a reputable hire company ensuring compliance with emissions regulations. All equipment is to be regularly maintained and kept in good working order to ensure efficiency. Where feasible, the contractor's operatives will van-share to reduce the number of vehicles on the road. Cabins are to display posters to remind operatives to be energy conscious - turning water taps and lights off when not in use. Lights with PIR (Passive Infrared) sensors should be installed in the cabins.

4.13 LIGHTING

- 4.13.1. The construction works are anticipated to be undertaken during daytime hours, therefore no additional artificial lighting will be required. However, some low-level lighting may be required for the security of

the site. This should be effectively controlled and it is recommended the lighting is on a timer/ motion detector or similar to ensure the lighting is not being used for long periods of time.

- 4.13.2. All lighting, including security lighting, needs to be face away from semi-natural habitats and to ensure dark corridors are retained. Security lighting should not adversely impact neighbouring occupied student halls of residence; and any perimeter lighting will be agreed with the Client prior to use.

4.14 ADDITIONAL CONSTRAINTS

- 4.14.1. In addition, it is likely that the following constraints will be applied during demolition works:
- Easements around statutory or other services that cross the site and are not affected by the demolition works;
 - The contractor will liaise with on-site security to establish a protocol for signing in and out of the work site and for the safe vehicular and pedestrian movements to and from the works area; and,

5 EMERGENCY PREPAREDNESS

- 5.1.1. Environmental Incidents and non-conformances will be dealt with in accordance with the following sections.

5.2 CONTROL MEASURES

- 5.2.1. All site staff are encouraged to draw attention to any environmental risk or potential environmental risk as it may arise on site. In the event of an incident the following actions will be taken:
- Stop work in the affected area;
 - Identify the cause of the hazard or incident and act to prevent it from getting worse if safe to do so;
 - Use appropriate PPE where necessary;
 - Communicate the incident immediately to the Contractor's Construction Manager / ECoW, detailing the nature, cause and location (without putting the health and safety of yourself or others at risk); and,
 - The Contractor's Construction Manager will coordinate the emergency response and inform the relevant authorities as necessary.
- 5.2.2. Any lessons learnt from the incident will be communicated to all relevant staff and action taken elsewhere on site if necessary.
- 5.2.3. The following sections provide specific guidance on potential environmental incidents.

5.3 SPILLAGE OF POTENTIALLY POLLUTING SUBSTANCE

- 5.3.1. A procedure for a general response shall be included in the Contractor's Health and Safety Plan, stating the chain of command and standby operatives, and clearly advised to all staff.

5.4 DISCOVERY OF UNIDENTIFIED PROTECTED SPECIES

- 5.4.1. Where protected species are discovered after construction work has begun the Responsible Person will carry out the following:
- Stop work immediately in the area;
 - Demarcate the area and restrict access to ensure that there is no disturbance to the habitat or species;
 - Do not attempt to disturb or remove protected species;
 - Contact the Contractor's Construction Manager / ECoW who will seek guidance on how to proceed; and,
 - Details of the incident, including photos and relevant information on the environmental Incident will be recorded and reported.

5.5 DISCOVERY OF UNIDENTIFIED ARTEFACTS, ARCHAEOLOGICAL OR HISTORICAL FEATURES

- 5.5.1. If archaeological remains are found after construction work has begun the Responsible Person will carry out the following:

- Stop work immediately in the area;
- Mark the area to avoid further disturbance;
- Protect the find by fencing/blocking it off;
- Contact the Contractor's Construction Manager / ECoW immediately; and,
- The Contractor's Construction Manager will contact the Employers archaeological representative, so that the find can be inspected and recording can be undertaken if necessary.

5.6 DISCOVERY OF UNEXPECTED CONTAMINATION

- 5.6.1. During excavation the exposed ground will be observed for visual signs of contamination e.g. noxious fumes, petrol, oils, solvents, chemical residues, odours e.g. smell of rotten eggs indicates the presence of hydrogen sulphide.
- 5.6.2. If previously unidentified contamination is suspected the Responsible Person will carry out the following:
- Stop work immediately;
 - Report the discovery to the Contractor's Construction Manager / ECoW;
 - Seal off the area to contain the spread of contaminants, as long as it is safe to do so;
 - Contaminated spoil/materials shall be stored so as to prevent escape e.g. lined skip with material covered, covered skip or container;
 - The Contractor's Construction Manager will contact the Employer if it is confirmed that contamination has been found;
 - Details of the incident, including photos and relevant information on the environmental Incident will be recorded and reported as per the procedure described in Section 5.8 below; and,
 - The Contractor or nominated person will contact the local planning authority in writing to inform of the discovery of previously unidentified contamination, and a strategy for remedial and verification works will be agreed.

5.7 DISCOVERY OF UNEXPLODED ORDNANCE (UXO)

- 5.7.1. Demolition works are confined to areas of current development which limits the likelihood of previously unidentified UXO being encountered, however the contractor should assess the risk and identify appropriate control measures based on the available information.
- 5.7.2. During the demolition phase, risk assessments will be undertaken for the possibility of Unexploded Ordnance being found within work areas. Ongoing vigilance by the Appointed Contractor will be ensured to mitigate against potential discovery of unexploded ordnance. If any suspected Unexploded Ordnance is revealed works should immediately cease and a procedure will need to be in place to ensure that advice is sought from an appropriate specialist prior to recommencement.

5.8 EMERGENCY RESPONSE PLAN

- 5.8.1. The emergency contact details for the works shall be clearly displayed at the site where the public can see them.

- 5.8.2. The DEMP will include an Emergency Response Plan which details the processes and methods to be followed in the event of an accidental release of potentially polluting materials. The Emergency Response Plan will contain the following information:
- The names and 24-hour contact details of all emergency response personnel and emergency services;
 - The procedures for reporting and documenting an emergency incident;
 - Personnel responsibilities during an emergency incident;
 - The location of on-site information on potentially polluting materials and spill containment materials; and,
 - A list of all nearby residential properties, downstream abstractors and other sensitive receptors that could be affected by an environmental incident will be compiled and maintained by the Contractor.
- 5.8.3. The Emergency Response Plan will be clearly communicated to all site staff.
- 5.8.4. Emergency procedures will be tested on a regular basis by the Construction Manager / Environmental Manager/Co-ordinator and results reported to the Project Manager.

5.9 INCIDENT REPORTING

- 5.9.1. The Employer's Project Manager will be notified within 30 minutes of the occurrence, or detection of, an environmental incident. Incidents will be reported to the relevant statutory authorities where appropriate.
- 5.9.2. Environmental incidents will be recorded by the Contractor including:
- Nature of spill/leak/incident;
 - Time/date;
 - Exact location and extent;
 - Type of material released;
 - Approximate amount/volume released;
 - Actions taken to prevent contamination;
 - Individuals reported to; and
 - Lessons learnt.
- 5.9.3. Lessons learnt will be fed back to site staff through safety and environment briefings and used by the Environmental Manager/Co-ordinator to amend procedures and update the DEMP accordingly.
- 5.9.4. The Local Planning Authority will be notified in writing upon the discovery of unexpected contamination and a suitable course of action will be taken following agreement with the regulators.

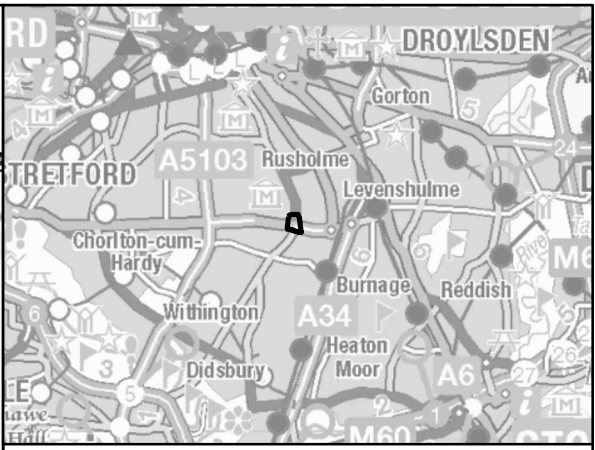
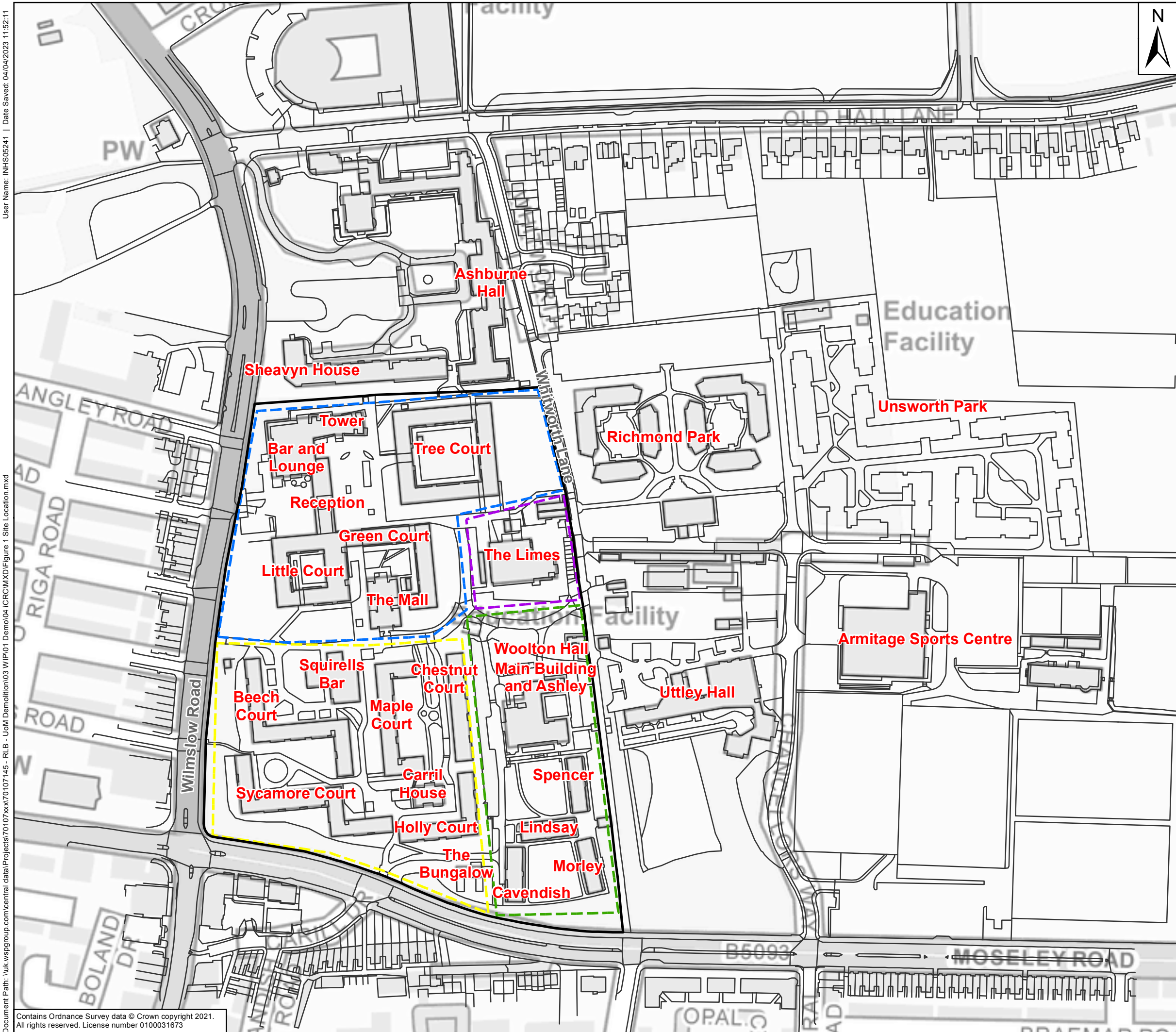
5.10 RESPONSIBLE PERSONS

- 5.10.1. Responsible persons will be identified following appointment of the demolition contractor.

Appendix A

FIGURES

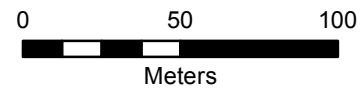




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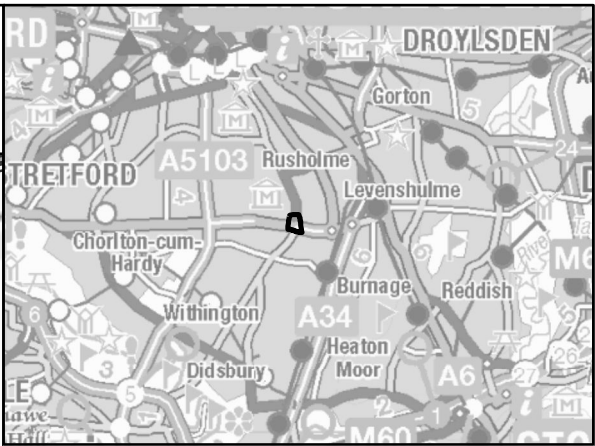
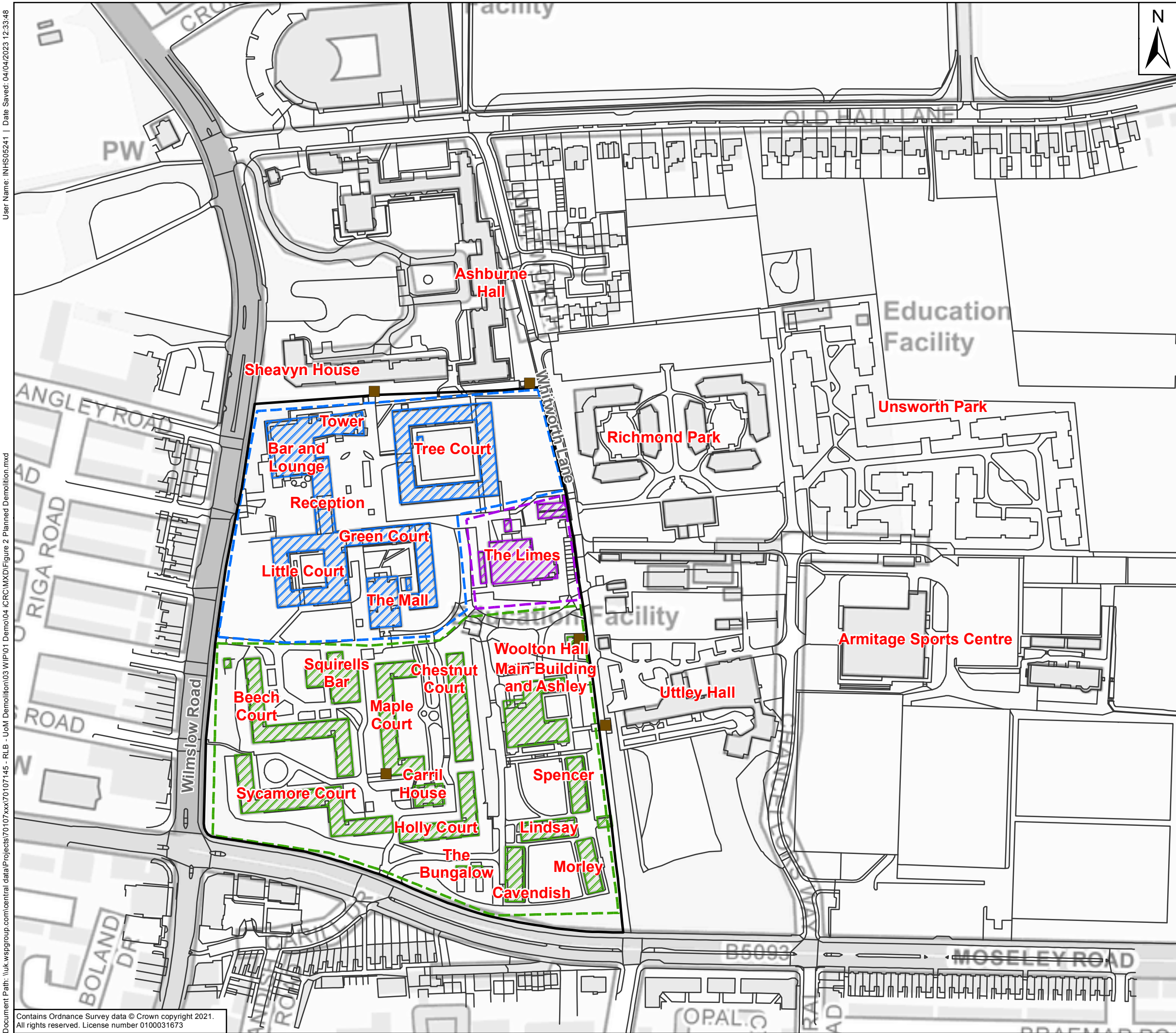
- Site Boundary
- - - Owens Park
- - - Oak House
- - - Woolton Hall
- - - The Limes

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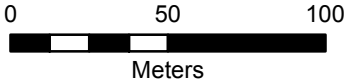
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Project:	Fallowfield Demolition		
Title:	Site Location Plan		
Drawing No:	Figure 1	Drawn:	HS
Date:	04/04/2023	Checked:	HC
Scale:	2,400 @ A3	Approved:	RE



Legend

- Substation
- Site Boundary
- Phase 1 Owens Park
- Phase 2 Oak House & Woolton Hall
- Phase 3 The Limes

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Client: University of Manchester

Project: Fallowfield Demolition

Title: Planned Demolition

Drawing No:	Figure 2	Drawn:	HS
Date:	04/04/2023	Checked:	HC
Scale:	2,400 @ A3	Approved:	RE

Appendix B

LOCAL LABOUR AGREEMENT



Local Labour Agreement

Effective and meaningful community engagement is at the heart of P.P. O'Connor's operations. We work in partnership with communities to deliver real and measurable social value to local residents, schools, businesses and all stakeholders.

P.P. O'Connor take community engagement seriously, when we undertake a scheme we are effectively a visitor to a community, with the potential of causing disruption to a communities daily lives. This is something we are mindful and also respectful of and work strenuously hard to be appreciative of.

We are recognised within the industry for the reputation of safely delivery projects, we are passionate about forging lasting relationships with our clients and their consultants. Our desire for 100% customer satisfaction is driven by the whole organisation from top down.

Social Value KPI's:

Jobs: Promote Local Skills and Employment:

More Local people in employment, More opportunities for disadvantaged people, Improved skills for local people, Improved employability of young people.

Growth: Supporting Growth of Responsible Local and Regional Business:

A workforce and culture that reflect the diversity of the local community, Ethical procurement is promoted, Social Value embedded in the supply chain, More opportunities for SMEs and VCSEs, Improving staff wellbeing.

Social: Healthier, Safer and More Resilient Communities:

Vulnerable people are helped to live independently, More working with the Community, Crime is reduced, Creating a healthier community.

Environment: Protecting and Improving Our Environment:

Air pollution is reduced, Better places to live, Sustainable Procurement is promoted, Climate impacts are reduced.

Planning Community Engagement and Measuring:

P.P. O'Connor will evaluate the Social Value and Sustainability requirements on commencement of site operations to deliver real social value objectives throughout the duration of the project and identify local stakeholders to the scheme.

In order to deliver this plan the following points need to be considered and evaluated.

- What level of participation is hoped to be achieved?
- Identify the Stakeholders
- Stages of engagement processes within project programme
- Resources to deliver community engagement and social value objectives
- Are there any limitations?
- Feedback and next steps
- Tools to choose and method of community engagement

Reporting

P.P. O'Connor is committed to continual improvement of its Social Value performance. Actively managing targets and action plans is key to achieving progress in this area.

Targets have been set with reference to the most significant impacts, P.P. O'Connor's key priorities and Key Performance Indicators. Progress against the action plan and targets is monitored by HR, SHEQ and the Directors and discussed at least once a month in the Directors meetings.



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