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Demolition Specification Greenheys Lane Production Buildings	
Client:	
Manchester Science Parks Limited	

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CONTENTS

1.0	General Requirements
2.0	Services Affected by Demolition
3.0	Demolition Work
4.0	Site
5.0	Materials Arising
Appendix A	Aerial Plan Showing Extent of Buildings to be Demolished
Appendix B	DW Consulting Inspection Report dated 14th March 2017



DEMOLITION

This Specification is to be read with all relevant Preliminaries and General Conditions of Contract

1 GENERAL REQUIREMENTS

110 DESK STUDY/ SURVEY

- Scope: Before starting demolition work, examine available all available information, carry out an external survey of the structures, site and surrounding area. Do not enter the buildings.
- Submit a report and method statements in electronic pdf format describing:
 - Form, condition and details of the existing structures, site and surrounding area.
 - Confirmation (or otherwise) that the production building and 2-storey extension / lean-to building are separate structures from the main Greenheys Building and the Mosque McDougall Prayer Hall.
 - Extent: The demolition extent is to include the existing production building, lean-to building and 2 storey extension including existing roofs, upper floor slabs and building walls to ground level.
 - Form, location and removal methods of and flammable, toxic or hazardous materials found to be present on site.
 - Form, location and removal methods of materials for reuse or recycling.
 - Type and location of adjoining or surrounding premises which may be adversely affected by noise, vibration, dust or removal of structure.
 - Identification and location of services above and below ground, including those required for the Contractor's own use. Confirm arrangements for disconnection and removal of services.
 - Type and location of features of historical, archaeological, geological or ecological importance.
 - Sequence and method of demolition
 - Arrangements for protection of personnel and the public, including exclusion of unauthorized persons.
 - Arrangements for control of site transport and traffic.
 - Proposed programme of work.
 - Special requirements.

115 EXISTING BUILDING CONSTRUCTIONS

- The main production building is of loadbearing masonry construction to the perimeter walls with a concrete mezzanine floor supported on steel beams and posts. The roof formed with large timber trusses supported on the perimeter walls, hipped at both ends and supporting timber purlins and rafters, all over-boarded and covered with a felt type sheet.
- The main building has a single storey lean-to building to the Greenheys Lane elevation along with a small, flat roofed, 2 storey extension on the same elevation. The construction of the lean-to building is formed with glazed frames and lightweight roof trusses. The 2 storey extension is of masonry construction.
- Refer to DW Consulting Structural Inspection Report dated 14th March 2017 in Appendix B for additional details.



Mezzanine floor with timber truss roof above in 2016



Mezzanine floor with timber truss roof above in 2016



Detailed view of the roof construction in 2017



Hipped construction at both ends in 2017



Existing rear (West) elevation to the car park / storage yard



Concrete mezzanine floor supported on steel beams and circular posts together with the timber roof and supporting posts to the lean-to building.

120 EXTENT OF DEMOLITION

- General:
- Demolish the 2-storey production building & extension and the lean-to building, including the roofs and all upper floor slabs down to ground floor level.

130 GROUNDWORKS

- Contaminated material: Remove and carry out remediation as instructed by the client or required by the Local Authority.

140 BENCH MARKS

- Unrecorded bench marks and other survey information: Give notice when found.
 - Do not remove or destroy.

2 SERVICES AFFECTED BY DEMOLITION

210 SERVICES REGULATIONS

- Work carried out to or which affects any existing services: Carry out in accordance with the Byelaws or Regulations of the relevant Statutory Authority and with full agreement with Manchester Science Park.

220 LOCATION OF SERVICES

- Services affected by the Works: Locate and mark positions.
- Mains services: Arrange with the appropriate authorities for location and marking of positions.
- Standard: In accordance with National Joint Utilities Group (NJUG) 'Guidelines on the positioning and colour coding of underground utilities' apparatus'.
- Demolition contractor is to carry out a services survey prior to commencing any works.

230 DISCONNECTION - ARRANGED BY CONTRACTOR

- General: Arrange for disconnection of services with the appropriate authorities for disconnection of services and removal of fittings and equipment prior to demolition as follows: Gas, Water, Electricity, Fire Alarm system, IT Cabling, Intruder Alarm system, Telephone system.
- Check with Manchester Science Parks Ltd and University of Manchester prior to undertaking ANY disconnections
- Timing: Do not start demolition until disconnections are completed.

240 DISCONNECTION OF DRAINS

- General: Locate disconnect and seal disused drain connections.
- Contractor to carry out a drainage survey prior to commencing the works (or request to ensure continuity of any on-site drainage that is to be retained).
- Sealing: Within the site and permanent.

250 DRAINS STILL IN USE

- General: Protect drains, manholes, inspection chambers, gullies, vent pipes and fittings still in use and ensure that they are kept free of debris.
- Damage: Make good damage arising from demolition work. Leave clean and in working order at completion.

270 SERVICES WHICH ARE TO REMAIN

- Damage: Give notice and notify service authority or owner of damage arising from the execution of the works.
- Repairs: Complete as directed, and to the satisfaction of the service authority or owner.

3 DEMOLITION WORK

310 WORKMANSHIP

- Standard: Demolish structures in accordance with BS 6187.
- Operatives:
 - Appropriately skilled and experienced for the type of work.
 - Holding or in training to obtain relevant CITB Certificates of Competence.
- Site staff responsible for supervision and control of work: Experienced in the assessment of risks involved and methods of demolition to be used.

320 GAS OR VAPOUR RISKS

- Precautions: Prevent fire or explosion caused by gas or vapour.

330 DUST CONTROL

- General: Reduce airborne dust by periodically spraying demolition works with an appropriate wetting agent. Keep public roadways and footpaths clear of mud and debris.
- Lead dust: Submit method statement for control, containment and clean-up regimes.

340 HEALTH HAZARDS

- Precautions: Protect site operatives and general public from hazards associated with vibration, dangerous fumes and dust arising during the course of the Works.
- The presence of hazardous materials within the buildings is currently unknown and safe access into the buildings is not currently possible. Demolition works must be carried out with supervision from asbestos specialists.
- The roof structure has been badly damaged and open for numerous years and the buildings are heavily infested with pigeon droppings and carcasses and the building has also been badly affected by substantial rainwater ingress over those years.

350 PARTLY DEMOLISHED STRUCTURES

- General: Leave in a stable condition, with adequate temporary support at each stage to prevent risk of uncontrolled collapse. Keep safe outside working hours.
- Temporary works: Prevent debris from overloading.
- Unauthorised persons: Prevent access with adequate fencing etc.

360 DANGEROUS OPENINGS

- General: Illuminate and protect. Keep safe outside working hours.

370 ASBESTOS CONTAINING MATERIALS

- General: The Contractor shall fully take into consideration any Asbestos Registers for the buildings. In the absence of any current registers and the inability to safely enter the buildings, the Contractor must be vigilant regarding any currently unknown asbestos materials within the buildings and site and the works should be supervised by an asbestos specialist and any recorded hazardous materials should be reported to the Client if found.
- Remove any asbestos containing materials found in accordance with all appropriate and statutory procedures and requirements.
- Methods for safe removal: Submit details and statutory risk assessments.

371 ASBESTOS CONTAINING MATERIALS

- Supervision: Carry out the demolition work under the supervision of asbestos specialists.
- Discovery: Give notice immediately of suspected asbestos containing materials discovered during demolition work. Avoid disturbing such materials.
- Methods for safe removal: Submit details and statutory risk assessments.

380 SURROUNDING & ADJACENT BUILDINGS

- The production buildings are immediately adjacent to the main Greenheys Building to the South which is fully occupied, some with sensitive equipment and uses that would be affected by any heavy vibrations.
- Contractor must determine if the production building and 2-storey extension are separate from the Greenheys Building prior to carrying out the demolition of any walls.
- Immediately to the North is the Mosque McDougall Prayer Hall and any works must be sensitive to particular prayer timings, as well as the normal situation as this building is also generally fully occupied.
- Contractor must determine if the production building is separate from the Mosque McDougall Prayer Hall prior to carrying out the demolition of any adjacent walls.
- In addition, residential accommodation exists on Greenheys Lane to the West along with the retained original office buildings, with a car park / storage yard to the East elevation.
- Contractor to consider any affect upon any structures to the rear of the Greenheys Lane buildings and advise the Client prior to the demolition of the lean-to and 2-storey extension buildings.
- The Contractor must carry out dilapidation surveys of all surrounding buildings and the demolition works MUST be carried out in a manner that does not cause excessive vibrations.
- The Contractor should allow for vibration monitoring to the surrounding buildings.
- Working hours must be agreed with the Client.

390 SAFE DEMOLITION METHODS

- The Contractor must produce a Safe Method of Demolition that allows the roof coverings and structure to be dismantled / removed from above, due to its poor condition and the inability to secure the roof structure from below. We would envisage that this may include a form of crane and basket arrangement, but to the contractor's own methods and design.
- The main building walls are in relatively poor condition and are restrained at eaves level by the roof structure. Therefore, the Contractors method of demolition must consider restraint to these walls during removal / dismantling of the roof structure together with restraining the walls temporarily until they are themselves demolished.

4 SITE

400 SITE ACCESS

- Permission for site access is to be obtained with liaison with University of Manchester and Manchester Science Parks Limited and no works may commence until full authorisation has been obtained from both these parties.

410 UNFORESEEN HAZARDS

- Unrecorded voids, tanks, chemicals, etc. discovered during demolition: Give notice.
- Methods for safe removal etc: Submit details.

420 OPEN BASEMENTS, ETC – None are anticipated to be found

- General: If any basements are found they are proceed as follows.
- Temporary support: Leave any cover slabs and adequate buttress walls in place or provide temporary support to basement retaining walls up to ground level.
- Safety: Make remaining sections of retaining and buttress walls safe and secure.

430 FILLING OF BASEMENTS, ETC – Again no basements are anticipated to be found

- If basements are found seek further instructions from the client.

440 SITE CONDITION AT COMPLETION

- Debris: Clear away and leave the site in a tidy condition.

442 SITE SURFACE AT COMPLETION

- Remove all materials down to ground level but retain existing floor slabs.
- Any voids, holes, open chambers of basements (if found) should be adequately covered or filled using DoT Type 2 granular material up to ground level to prevent any risk of falling.

5 MATERIALS ARISING

510 CONTRACTOR'S PROPERTY

- Components and materials arising from the demolition work: Property of the Contractor except where otherwise provided.
- Remove from site as work proceeds where not to be reused or recycled for site use.

511 CLIENTS PROPERTY

- Components and materials to remain the property of the Client: to be confirmed with Client prior to commencement. Any components or materials not required by the Client will become the property of the Contractor and shall be removed from site as noted above.

520 RECYCLED MATERIALS

- Materials arising from demolition work: May be recycled or reused elsewhere on the MSP site if so directed by the Client, subject to compliance with the appropriate specification and in accordance with any site waste management plan.
- Evidence of compliance: Submit full details and supporting documentation.
- Verification: Allow adequate time in programme for verification of compliance.

Appendix A



Extent of Demolition Works Shown Red

Appendix B

DW Consulting Inspection Report dated 14th March 2017

Report No:	Date:
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Project:	
Greenhays Lane Buildings Structural Inspection Report	
Client:	
Manchester Science Parks Limited	

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INDEX

1.0	Introduction
2.0	Description of the Buildings
3.0	Inspection
4.0	Proposed Works
5.0	Conclusions and Recommendations
Appendix A	DW Consulting Standard Terms of Reference

1.0 Introduction

- 1.1 We received instructions from Mr Rob Haynes on behalf of Manchester Science Parks Limited to carry out structural inspections of the buildings on Greenhays Lane. The purpose of the inspections was to assess any structural works required to safely 'mothball' the buildings for up to 5 years. The concerns regarding the building are mainly to ensure that no damage would be caused to surrounding properties and persons in the vicinity in the event of the buildings facing collapse or via storm damage.
- 1.2 We visited the building on Wednesday 15th February 2017. At the time of our inspection the weather was bright and dry.
- 1.3 It must be appreciated that the inspection was visual and no finishes were removed. In addition, we did not carry out an internal inspection of the old production building at the rear as it is not deemed safe to enter, but have been provided with photos taken approximately 6 months prior to our visit.

2.0 Description of the Properties.

- 2.1 The former office building on Greenhays Lane is a 2-storey former residential property. Originally this comprised a hallway with stairs to 1st floor with 'normal' living rooms. The building is generally still in its 'original' configuration with no major wall removal or modifications apparent.
- 2.2 Running parallel to the office building is a covered access route with a timber floor at 1st floor level and timber trussed pitched roof above.
- 2.3 The covered access route leads to a rear yard area with a large 2 storey former production building. This comprises a single storey 'lean-to' extension to the main 2-storey brick building. The main building incorporates a concrete first floor with timber trusses spanning between loadbearing walls, supporting purlins and a timber board roof. The ends of the roof of the building are formed with timber hip members.



Aerial view



Greenhays Lane elevation

3.0 Inspection

- 3.1 The former office building was found to be generally in good condition with no visible structural issues. Moisture damage was noted against a chimney breast at 1st floor level but this was relatively minor.



Dampness on 1st floor ceiling at chimney breast

- 3.2 The covered access way is suffering from water ingress with very wet floor boards in some locations. The water ingress appears to be long standing and previous substantial repairs have been carried out to the timber trusses above 1st floor.



Covered access – repairs to all timber truss ends



Dampness and mould spores on underside of 1st floor over access

- 3.3 Access to the rear yard leading to the former production buildings was gained through a steel gate. The lean-to building adjoining the main production building is in poor condition; the rear, mainly glazed, wall is in a partial state of collapse, as is the roof where the timber trusses have completely rotted through at the support.



Partially collapsed roof and wall to the lean-to building

- 3.4 The first floor of the main production building is of concrete construction supported on steel (or cast iron) beams and columns.



Production building first floor beams and columns. Note access ramp to left

- 3.5 Due to the very poor condition of the lean-to structure we did not enter the building to carry out further inspection. We were however provided with photos from inside the building taken by Mr Haynes during autumn of 2016.
- 3.6 The main production building roof structure comprises timber 'King Post' trusses spanning front-to-back supporting timber purlins. Both ends of the building have large timber hip members. The roof covering comprises felt covered timber boards.



King post trusses



Timber hip members with timber boards to the roof

- 3.7 There are several large holes through the roof where the rooflights have fallen in and also where the boards have rotted through. This has resulted in significant water damage to the timber roof structure together with pigeon infestation.
- 3.8 The walls to the main building are generally plumb and whilst large areas have degraded mortar joints the integrity of the walls generally appears to be intact.

- 3.9 The roof covering to the production building are visible from the rear and from steps adjacent to the lean-to building. This shows the large holes which allow unrestricted water ingress.



Rear roof to production building. Note loss of pointing to brickwork.



Enlarged view on some holes in the roof and roof coverings



Main production building roof viewed from behind lean-to building.
Note sagging of lean-to roof where it joins main building wall

4.0 Conclusions and Recommendations.

- 4.1 The original residential / office building is generally in reasonable condition and no significant works are needed in the next 5 years to retain its integrity.
- 4.2 The covered access route has ongoing issues with water ingress at roof level. The main roof structure has been repaired in the past and we consider that the integrity of the roof will not suffer significantly over 5 years if no further repairs to stop the water ingress are carried out.
- 4.3 The first floor over the access route is suffering from rotting etc. from the water ingress through the roof and it will continue to deteriorate if the water ingress isn't stopped. However, the timber joists at first floor level are supported on timber plates simply bolted to the walls on each side and should the first floor deteriorate to such a degree that it suffers a partial collapse, this would not affect the walls on either side. Should the roof over the access route not be repaired we would advise that the first floor is not accessed as it may very soon become unsafe.
- 4.4 The lean-to to the main production building is in a state of partial collapse. The lean-to does not offer any support to the main production building and we would advise that it will continue to deteriorate and collapse further. We would advise that the lean-to is totally beyond repair and should either be left to collapse on its own or, more suitably, carefully demolished under controlled conditions.
- 4.5 The main structure of the production building appears generally sound at this stage, albeit water ingress will be causing damage to the timber roof structure. We would therefore advise that, to ensure stability for the next 5 years the holes in the roof coverings should be repaired by over-sheeting the roof with metal decking securely fixed down to the timber boards & purlins. The over-sheeting does not need to extend to the full roof area but must cover the main holes affecting the main trusses and hips and extend up to, and lap over, the ridge.
- 4.6 To prevent the possibility of storm damage affecting the adjacent buildings and any bystanders we would also advise that, following the over-sheeting noted above that the main production building roof is encapsulated with security netting. The netting can be fixed to the walls at eaves level all around and to the timber boards and purlins at roof level.