

BRIDGEWATER HOUSE, CASTLEFIELD (June 2022)

Construction Methodology and Management Strategy

1.0 Introduction

The purpose of this document is to give a broad overview of the construction proposals in respect of the proposed redevelopment of Bridgewater House, which is located off Deansgate in Knott Mill. Further detailed information will be included within the Principal Contractor's Construction Management Plan, when the Principal Contractor is appointed.

The Bridgewater House site is located to the South of the City Centre, in the Knott Mill area. The site is occupied by an existing building which is not currently occupied and associated car parking area.

2.0 Scheme Overview

The proposed works include the redevelopment of the site to provide high quality residential accommodation, in the form of one and two bedroom apartments. The design is for the provision of residential apartments within the refurbished building and a new build apartment block. The regeneration of Bridgewater House involves retaining one existing building with twenty apartments being provided in it with a further thirty three apartments in a new build block.

The courtyard at the heart of the site is to be developed with a garden, as part of the landscape design.

The historic nature of the building places limits on the redevelopment of the site, including on-site space constraints that rule out the provision of on-site parking, both during construction and ultimately, and this constraint is reflected in this Strategy document.

A Phase 1 site investigation has been undertaken and a remediation strategy prepared. This investigation has been used to confirm foundations for the new building.

The procurement programme indicates a possible start date on site in the 1st quarter of 2023 with anticipated construction period of 18 months.

Both the refurbishment of the existing buildings and construction of the new block will be undertaken within this period with initial works being site set up (including welfare and security provision), creation of temporary access points and (following strip out of the existing buildings) site enabling works. The 'new build' block will be load bearing construction.

As part of the design and development process, a number of surveys have been undertaken, including:

- Geo-environmental phase 1
- Asbestos (Refurbishment and Demolition)
- Existing services
- Ecological
- Condition surveys – restricted due to inability to provide safe access
- Transport
- Heritage

A brief overview of the programme for the existing buildings is:-

- Enabling contract to provide safe access to the building
- Removal of any ACMs identified in the Asbestos R & D Survey
- Soft strip (including any temporary works which may be required)

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- Structural alterations and repairs
- Repairs and improvements to existing envelope (roof, windows etc.)
- Construction of lift shafts, stairs and structures
- Construction of apartments within existing structure
- Apartment fit out including M & E, fixtures & fittings etc.
- External works, including landscape and fit out to stores etc.

A brief overview of the proposed programme for the new building is:

- Site services and drainage
- New reinforced concrete foundations
- Loadbearing brickwork/blockwork frame construction
- Core and staircase construction
- Intermediate floor slab construction
- Envelope works (SFS/Windows, roof works, cladding etc.)
- Internal fixtures and fittings, finishes, including M&E, Lifts etc.
- Fit out works, testing & commissioning etc.
- External works, including landscape etc.

The above will be developed once a Principal Contractor is appointed and this PC will produce specific information (Construction Phase Plan, Traffic Management Plan etc.) in relation to dates and timescales for the above works on both existing and new build elements.

3.0 Access to and traffic circulation around the site

SK Transport Planning Ltd has been appointed to undertake an analysis of and make recommendations regarding, traffic parking and on street loading bays etc. SK's report and recommendations form part of the Planning Application and reference is made, to findings made in that report, within this document.

4.0 Surrounding land use and restrictions

The site is well served by public transport with several bus, train and tram routes running along neighboring roads.

The existing site has little accessible space for the bulk storage of materials, therefore all site accommodation (offices, welfare, toilets etc.) will need to be located within the footprint of the existing buildings. However, this is **not** considered to be a significant problem, save that construction materials may have to be delivered & temporarily stored using a "just in time" procurement schedule. This will be a site management issue for the Principal Contractor.

The existing buildings could offer sufficient space for storing these materials, but again this is an issue for the Principal Contractor to address, when appointed.

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There is a constant flow of traffic on the surrounding streets, which appears to be used for parking or to access off street parking for the adjacent residential tower blocks, (complete and partially complete) and this will be taken into consideration as part of the traffic management plan, particularly when deliveries to site are occurring and mobile plant is manoeuvring around the site.

5.0 Proposed works

5.1 Foundations and floors (existing buildings):-

Internal structural alterations will require some modification to the existing structure. The existing floor construction will remain but this will be modified to create service access and to provide improved acoustic performance.

5.2 Foundations and Ground Floor Slab (new building)

Typically we would anticipate the foundations for the new build at its proposed level to be strip footings and pads onto weathered sandstone with a ground bearing slab. The depth of the foundations will be determined by the site investigation proving the level of the competent sandstone.

5.3 Main Building Superstructure (existing buildings)

The Principal Building comprises basement, ground, first and second floor construction. The street elevation is punctuated by repetitive, vertical, rectangular windows with stone heads and cills.

Internally, the existing buildings have loadbearing masonry walls. There are also some brick arched floors.

5.4 Main Building Superstructure (new building)

The design of the new 4-storey building incorporates loadbearing masonry construction with brickwork cladding and lightweight fenestration. The design proposals show a single staircase with a single lift and ancillary accommodation (service ducts, stores etc.) between.

The construction access zones are to be developed further during Stage E of the scheme development. At this stage (in the absence of an appointed Principal Contractor) it is not known whether the cladding/external envelop will be installed using mast climbers or scaffold but it is envisaged that a **tower crane** will be required to construct the works.

Service risers have been located (where appropriate). All riser positions (M&E) and any required builder's work openings will be confirmed by the M&E designer prior to the start of the detailed design of the frame.

The structural engineer will detail any reinforced concrete required.

Further detail will be provided within the Principal Contractor's Construction Phase Plan and specialist sub-contractors risk assessment and method statements will also be required.

5.5 Temporary Works/Supports (applies to existing and new buildings)

The Principal Contractor will ensure that the **stability and structural integrity** of any excavations and the building is retained at all times throughout the works and in doing this will ensure where needed, that such temporary supports are **designed** and **installed**.

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Prior to commencing any civil or structural works in any area, a survey will be carried out to establish the need for temporary support works, which should also be done in conjunction with the Consultant Structural Engineer and specialist sub-contractor.

Temporary propping requirements will be designed and specified by competent person(s) to prevent any uncontrolled collapse. Design Risk Assessments and Method Statements will be provided to cover all temporary works installations. The Principal Contractor will produce a schedule of temporary works within its Construction Phase Plan.

All temporary works will be designed and approved by a competent person and where appropriate be subject to independent checks. The installation of any temporary works and the subsequent inspection, monitoring and management will be undertaken by a nominated 'competent person' identified by the Principal Contractor.

6.0 KEY INFORMATION

Commencement Date:	Currently anticipated to be first or 1 st quarter of 2023
Completion Date:	T.B.C. (anticipate 18 month construction period)
Hours of Operation	Monday to Friday 8am to 6pm and Saturday 8am to 1pm No works will occur on a Sunday or Bank Holiday.

6.1 Measures to control noise and dust

6.1.1 Dust suppression

Dust is created on the site during most stages of construction and will be managed throughout the construction phase. Measures will be taken to minimise and control dust on site through industry standard measures, i.e. dampening down etc.

Internal works – Dust will be controlled in a similar manner. The majority of dust escaping to outside locally is created from the use of waste chutes. For that reason the Principal Contractor should **not** use waste chutes, waste shall be transported in bins via a goods hoist.

Generally good housekeeping should be employed to reduce the amount of dust created. The principal contractor in conjunction with its sub-contractors shall ensure dust generated from site activities does not become a risk to others and in doing so shall assess the dust risk for each work package, ensure adequate controls are in place and review these controls with their contractors.

Measures will be taken to eliminate, or at least minimize, dust generation with consideration given to material usage, type of work equipment used and work methods applied. Where dust creation is unavoidable, dampening down techniques will be applied.

6.1.2 Noise

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As part of the pre-planning process of work activities, those works, which may bring about excessive or high levels of noise will be pre-assessed, including the impact upon construction operatives and residents/neighbours in nearby premises.

The requirements described within The Noise at Work Regulations 2005 and the British Standard BS 5228 Noise and Vibration Control on Construction and Open Sites will be adhered to fully.

In brief, The Principal Contractor will limit as much as is practical high noise operations and where this is unavoidable measures will be taken, such as the selection of plant and equipment or work processes, which does not emit high noise levels or equipment, which is fitted with silencing/anti-vibration equipment.

Also any noisy equipment will be sited as far away from occupied premises as possible and turned off when not in use. Noise paths will be restricted by the placement of enclosures/barriers where practical. The above measures will be considered as part of the assessment process, which will identify noisy hazards, estimate likely exposure to noise by construction operatives and any other persons likely to be affected, identify measures required to eliminate or reduce noise exposure, and make persons likely to be affected by noise aware of the risks and controls which are being taken.

Full liaison will occur with affected residents/neighbours as part of the pre-planning of construction work activities and every effort will be made to minimise the impact upon their work activities as described above and also to work in cooperation with tenants regarding any specific requirements they may have, including restricting high level noise during key times. (Consideration will also be given to works occurring outside of normal works hours, were noise levels cannot be satisfactorily reduced).

Noise monitoring will occur during potential noisy activities and were the action levels are exceeded as identified within the Noise at Work Regulations (see below), then appropriate action will be taken.

Lower exposure action level is a daily or weekly exposure of 80db and a peak sound pressure of 135db

Upper exposure action levels is a daily or weekly exposure of 85db and a peak sound pressure of 137db

Additionally, liaison will also occur with the local authority regarding any restrictions they have and ensuring minimal impact upon neighbours.

6.2 Further key issues, which will also be considered

- Ongoing **liaison** with affected persons pre-construction and throughout construction phase
- The site will be registered with the **Considerate Constructors Scheme**.
- **Hours of work** will be as per Local Authority guidelines.
- **Vehicle movement and deliveries** will be controlled by the Principal Contractor. A full traffic management plan for the construction phase of the scheme will be produced which will describe in detail the arrangements for vehicular movement, access/egress, parking and how this will be coordinated and controlled with personnel identified.
- **Emergency work** (where required) must be done in full liaison with City Council representatives and any other statutory persons, i.e. emergency services and HSE. The

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Principal Contractor will be expected to identify these arrangements within their construction phase health and safety plan, which must also include emergency procedures for the site.

- **Scaffolding** requirements will be assessed with appropriate permits applied for by the appointed Principal Contractor. Any scaffolding will be erected, maintained, inspected and used in accordance with the Work at Height Regulations and relevant British/European standards. Similarly, the use of mast climbers would require these same management controls.

NOTE: Scaffold on the external face(s) of the building will probably require a Licence. Scaffold design will need to take into account proximity of public roads (hoarding) and protection of any pavements passing below or adjacent. Also debris netting will probably be required. If there is a requirement for advertising on this scaffold, this will have to be taken into account in the design (wind loading). Also this may have an impact on the amount of ties inserted into the building.

- **Hoardings** will be erected, which will provide protection for members of the public from construction works, and which also prevent unauthorised access to the site. These hoardings should cause minimum disruption and impact to members of the public and will consider the needs of highway users, particularly the disabled. Hoardings may be subject to a Temporary Works design, in accordance with CDM 2015 **The Principal Contractor must apply for appropriate permits and licenses.**
- **Temporary lighting** will undoubtedly be required during winter working and this will be designed to avoid light pollution and disturbance to neighbours. External floodlighting is to be avoided wherever possible but H & S considerations will form part of Risk Assessments in this regard. The external scaffold and hoarding will require warning lights (as per normal practice).

The tower crane, which may be required for the new building, and will require lights, both to assist operation in low light levels and also warning lights because of its height. This will all be considered as part of the Risk Assessment and Method Statement (RAMS).

- **Skips and storage** area will be identified by the Principal Contractor and be within the site boundary/hoardings (or located on the separate area of land, as identified previously).

NOTE: there is no longer a legal requirement to produce a Site Waste Management Plan but the Principal Contractor will be required to include within its Construction Phase Plan (CPP), a **Waste Management Strategy**, which includes methods and modes for recycling.

- **Use of access equipment:** Mobile elevated working platforms (MEWPs) may be utilised for some areas and the Principal Contractor will need to ensure that only trained and competent persons operate this type of equipment.

6.3 Details of Site Compounds, storage of plant and materials

The arrangements for site accommodation and welfare are still to be agreed, however, the Employer's Requirements (and Tender Documentation) **will require** the Principal Contractor (when appointed) to ensure that facilities are fully compliant with the requirements of the Construction (Design and Management) Regulations 2015 in this regard.

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With respect to the storage of plant and materials, as previously detailed, this will be within the confines of the site. Careful management of materials, equipment and storage are to be followed. The delivery, storage and movement of materials around the site shall not adversely affect the day-to-day usage of surrounding land uses. Management of deliveries and the amounts brought to site on a daily basis will be considered and organised in such a way as to not have excessive amounts building up. (Consideration will be given to “Just in Time” procurement).

Suppliers and contractors will be made aware of the transport routes to be adopted. Delivery vehicles will be directed to the site entrance depending on what is being delivered. Deliveries are to be pre booked for delivery times to the site, which are co-ordinated by a site representative,

6.4 Temporary highway works or closures

At this stage it is not envisaged that any such works will be required, but liaison will occur with the Local Authority should this change at any point. The installation of a tower crane (for the new building) may require a temporary road closure and the appropriate permission(s) will be sought, as necessary.

The Traffic Management Plan (TMP) referred to above, will include any temporary measures required to address any necessary re-routing and closures.

6.5 Access for Construction Traffic

Currently, the main vehicular access to the site is achieved from Silvercroft Street. There is a constant flow of traffic on all of the surrounding streets, most of which are also used for short-term parking. This will be taken into consideration as part of the traffic management plan, particularly when deliveries to site are occurring and mobile plant is manoeuvring around the site. A separate pedestrian entrance/exit onto site will be formed.

Because of the existing physical site restrictions it is **not** envisaged that there will be any significant vehicle ingress into the actual site and consequently loading/offloading of vehicles will have to use designated loading bays for this purpose. Undoubtedly, there **will** be some vehicles within the courtyard (small JCBs, mini dumpers etc.) and the Traffic Management Plan will assess the risks arising and provide segregation of pedestrian/vehicle routes etc.

The majority of vehicles will be delivering materials, although initially there will be a number removing excavated/demolition materials, equipment and surplus-waste materials. However, because most of the ‘demolition’ type work will be internal ‘soft strip’, it is **not** envisaged there will be any requirement for large machines to be brought onto the actual site to carry out excavation/other works. Similarly, if piling work is required (e.g. for the new construction work within the courtyard) it is likely this will be small scale rotary-boring type machinery.

The types of lorries and materials will vary during the course of the construction. Initially lorries will be for waste removal and concreting activities; followed by deliveries of structural steel and concrete; followed by scaffolding, cladding and roofing; then by partitioning and plasterworks; then by internal finishing materials such as joinery items, electrical, plumbing and mechanical materials and equipment, and furniture, and eventually for the removal of scaffolding and the delivery of paving materials.

The number of lorries arriving on site will vary depending on the activities being progressed at any particular time.

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Access/egress arrangements for the site will allow for safe pedestrian and vehicular access onto site that has the least impact on members of the public and surrounding land uses.

Trained and competent banks-men will control all vehicular movement in and around the site.

Deliveries will be timed to avoid busy rush hour periods and also a build up of site traffic. Construction vehicles will not be allowed to wait on surrounding streets, save for when waiting to be unloaded/loaded in the designated loading bays.

Liaison will occur with our neighbours throughout the construction phase.

Wheel washing facilities

Because there will be no significant excavation work and no space for large vehicles to enter onto the site, there will be no requirement for wheel washing facilities or indeed any space available to provide same. However, should any excavated materials be deposited on the highway, these will be removed by the use of a road sweeper machine.

Recycling/disposing of waste

The legal requirement to produce a Site Waste Management Plan was removed in 2013, however, the Principal Contractor will be required to produce and define a waste management hierarchy of control (i.e. a Waste Management Strategy).

This should include:

- Mitigation of waste generated
- Re-use of materials where possible
- Recycling of materials
- Disposal of remaining waste at a suitable facility.

Waste produced during the construction process is to be cleared on a regular (ideally daily) basis. On each floor of the buildings, a series of paladin bins will be deposited within easy reach of the workstations. Contractors are to deposit waste in these bins during the day. The bins are then to be transported to the skip via a hoist.

Because of space limitations on this site, it is not envisaged that many skips can be positioned on site. Therefore, to reduce the amount of waste for landfill, waste is to be segregated at the waste transfer station into the following categories:

- Cat A: Hazardous waste i.e. paint tins, mastic tubes etc.
- Cat B: Metal
- Cat C: General waste / building debris

6.6 Details of temporary works to ensure that the adopted carriageway is protected from subsidence during construction

If scaffold is to be erected to the exterior elevations i.e. over the pavement or road, then investigation will be undertaken as to the existence of any services within that zone and precautions taken to ensure the design of the scaffold takes this into account. There will probably be a need to appoint a Temporary Works Designer to independently check that design.

6.7 Details of how excavated materials will be contained with the site and prevented from entering drainage network

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The Demolition Contractor will be required to undertake Risk Assessments and to prepare Method Statements before commencement, and those RAMS should identify how this issue will be addressed. CCTV surveys will be undertaken within affected drains both before (and after) demolition and construction works, and temporary protection will be provided above existing entry points. NB. this is **not** anticipated to be a significant risk in relation to the existing buildings as those 'demolition works' are effectively 'soft strip' and limited demolition of parts of the existing structure will only be undertaken to facilitate repair/reinstatement of that structure.

6.8 Details of how access to adjacent premises will be managed to ensure clear & safe routes into the buildings are maintained at all times.

The existing buildings will have Vacant Possession before any demolition or construction work commences, so we are looking at maintaining clear and safe access to the adjacent (occupied) buildings only. This would form part of the Construction Phase Traffic Management Plan, which will be a requirement of the tender documents and produced by the Principal Contractor, when appointed.

6.9 A Human Impact Management Plan

A Construction Human Impact Plan will be provided, following input from the Client and Design Team.

7.0 Summary Statement

The Construction Design and Management Regulations 2015 will apply to this project and all appropriate controls and systems will be in place to comply with the standards of the Regulations and associated guidance.

Every stage of the project will be pre risk assessed and appropriate controls applied, sub contractors will be pre vetted and will be subject to extensive pre contract requirements of information transfer and risk assessment.

A fundamental aspect of the Principal Contractor's role is the development of a **Construction Phase Plan**, which will take account of all known risks, which have been identified at pre-construction stage by the Principal Designer/CDM Consultant, the Design Team and also through site investigations.

The Construction Phase Plan will describe arrangements and procedures for managing these key risk areas in more detail, as well as any future risk, and also the resources, including personnel, which will be applied to the scheme and which will ensure the Health and Safety of all those working on or affected by the project works.

The Principal Contractor will be required to have an on-going process of monitoring health and safety standards throughout its organisation. This is normally done directly (on site) by the site management team through regular inspections, toolbox talks etc. and also via the risk assessment process both during the completion of risk assessments and then by monitoring the effectiveness of risk control measures, which have been implemented. Site managers will also undertake regular reviews of safety on site, including any accidents or incidents and any matters raised will be dealt with accordingly.

Health and safety is also incorporated as a fundamental aspect of the overall project review, which will occur and this monitoring and review process will be supported by the Principal Contractor's own safety advisors.

The Principal Contractor will at the earliest possible stage of the project enter into dialogue

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with all relevant parties, including neighbours to ensure there is effective coordination throughout all stages of construction.