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architects

Wittington
INVESTMENTS (PROPERTIES) LIMITED

Replacement chiller plant and decorative screening installation

1 Balloon Street, Manchester | Design and Access Statement

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1.0 | Introduction

1.1 Introduction to the Design and Access Statement

This Design and Access Statement has been prepared by Bridge Architects on behalf of Wittington Investments (Properties) Limited to support a Planning Application for:

Installation of new, replacement chiller plant and associated supporting structure within existing plant compound and new decorative perforated metal screening at 1 Balloon Street, Manchester.

The statement serves to describe the design development process and demonstrates that the proposals have emerged from a full assessment of the site's unique circumstances and characteristics.

1.2 Project Team

Client

Wittington
INVESTMENTS (PROPERTIES) LIMITED

Wittington Investments (Properties) Limited

Wittington Investments (Properties) Limited owns various investment properties in Manchester including The Express Building, 40-46 Princess Street offices and the subject property 1 Balloon Street.

Wittington Investments (Properties) Limited is a privately owned British investment company. It is 79.2% owned by the Garfield Weston Foundation, which is one of the UK's largest grant-making trusts, with the remainder owned by the Weston family. Wittington Investments Limited manages investments in a wide range of asset classes. Its main investment is a majority holding in Associated British Foods plc (ABF). Other holdings include commercial investment and development real estate portfolio, strategic land holdings and 100% holdings in retailers Fortnum & Mason and Heal's.

Design Team

Project Management	Colliers
Architect	Bridge Architects
Structural & Civils Engineer	Clancy
M&E Consultant	Colliers

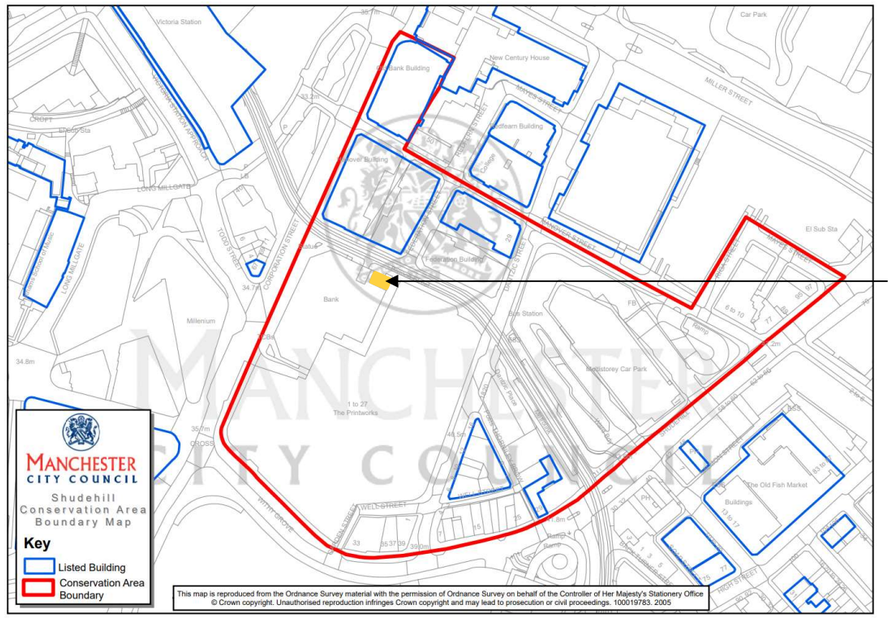
2.0 | Site Analysis, Context and Infrastructure

2.1 Site location

No.1 Balloon Street is located on Corporation Street within Manchester City Centre, close to Victoria Station. The application proposals relate to the existing external plant compound located at ground level within the site boundary off Balloon Street.

The site is bounded by Corporation Street to the north-west and Balloon Street to the north-east. Two access routes to The Printworks entertainment complex bound the southern and eastern edges of the site, the first, a private vehicular entrance and the second, a public-pedestrian route. The National Football Museum faces the site across Corporation Street. Victoria Station is located further along Corporation Street to the north.

The office accommodation is accessed via a main entrance off Corporation Street. There is a service access on Balloon Street, and a roof terrace at second floor level.



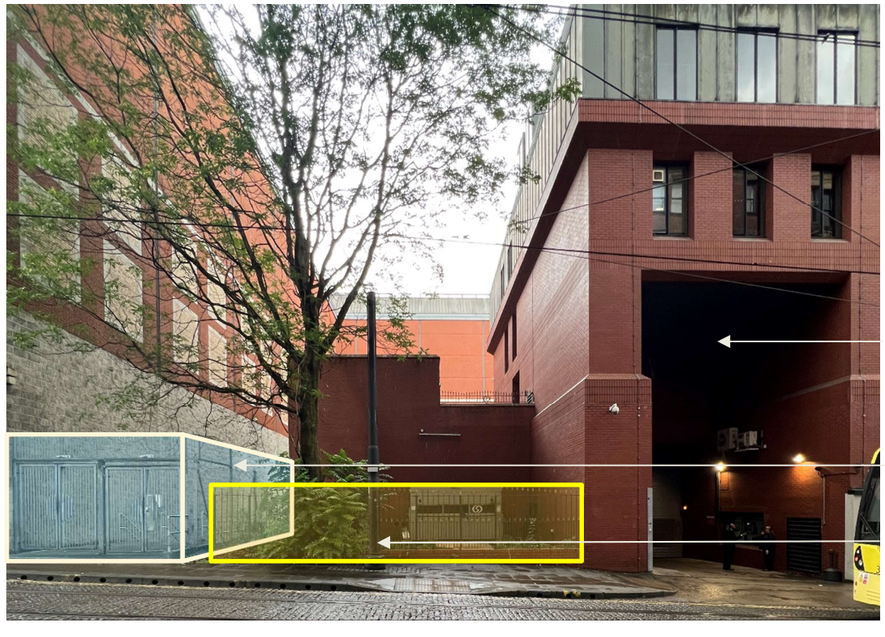
2.2 Site context

The site sits within the Shudehill Conservation Area, and immediately borders the Cathedral Conservation Area and the Noma masterplan. The masterplan covers the majority of the historic Co-op estate of buildings which are in various stages of conversion and refurbishment.

The building is a freestanding office with multiple occupiers and a retail unit at ground floor level. It is located directly adjacent to the rear of The Printworks leisure complex.

The application site lies within the site boundary of 1 Balloon Street, and relates to an existing plant compound situated at ground floor level. The compound is located off Balloon Street and next to the service access/loading bay of the building. Decorative metal railings are located to the northern boundary alongside the public footpath. Means of escape routes associated with the Printworks leisure and entertainment complex border the application site to the eastern boundary.

Both Balloon Street and Corporation Street are existing tram routes which connect into Victoria Station, Shudehill and Exchange square.



2.3 Existing building and historic context

No.1 Balloon Street was originally constructed in 1979 as the new headquarters of the Cooperative Bank. It is a seven-storey office building, originally comprising red brick and aluminium cladding to the three upper floors which are set inward in a mansard style.

The building is broadly rectangular on plan and occupies the majority of the plot. Servicing access is provided via an opening off Balloon Street which gives access to the building basement. The upper floors are U-shaped on plan and set back from the southern site boundaries to form a roof terrace and two plant areas at second floor level.

Wittington have owned the building since 2013. The building underwent interior and exterior refurbishment in 2022 (consented under planning application reference: 132101/FO/2021), after the CoOp Bank surrendered their lease on the majority of the office space.

The works included; external aluminium overcladding at ground floor level facing Corporation Street and Balloon Street, enhancements to the building's main entrance, adapting an existing fire escape to a secondary entrance, and the removal of a (non-original) conservatory building located at second floor level at the rear of the building, and its replacement with a single storey pavilion extension. The works also included upgrade of the building interior spaces and common parts.



No1 Balloon Street, following 2021 refurbishment.

The existing building is one of the youngest parts of the Co-operative Group's historic building estate within Manchester city centre. The building is not Listed; however, it sits in close proximity to other listed structures including; Hanover House(Grade II), Old Bank (Grade II), New Century House & Hall (Grade II), Redfern (Grade II), Dantzic (Grade II), CIS Tower (Grade II) and Holyoake House (Grade II).

2.4 Existing building – current status

The building is currently in use; as office accommodation and a Cooperative Food convenience store at ground floor, opening out on to Corporation Street.

The 3rd floor is vacant and a lease has recently been signed on the 4th floor.

All proposed works are to be undertaken with tenants in situ, with the building remaining fully operational.

2.5 Background to the application proposals

Existing plant and equipment status and constraints

Mechanical Services Overview

The mechanical services supporting the property's HVAC systems comprise gas-fired heating, chilled water cooling, and mechanical ventilation via central air handling units.
Cooling is provided by three 'Industrial Frigo' dual-circuit, air-cooled chillers, each with a capacity of 482kW and utilising R290 refrigerant.

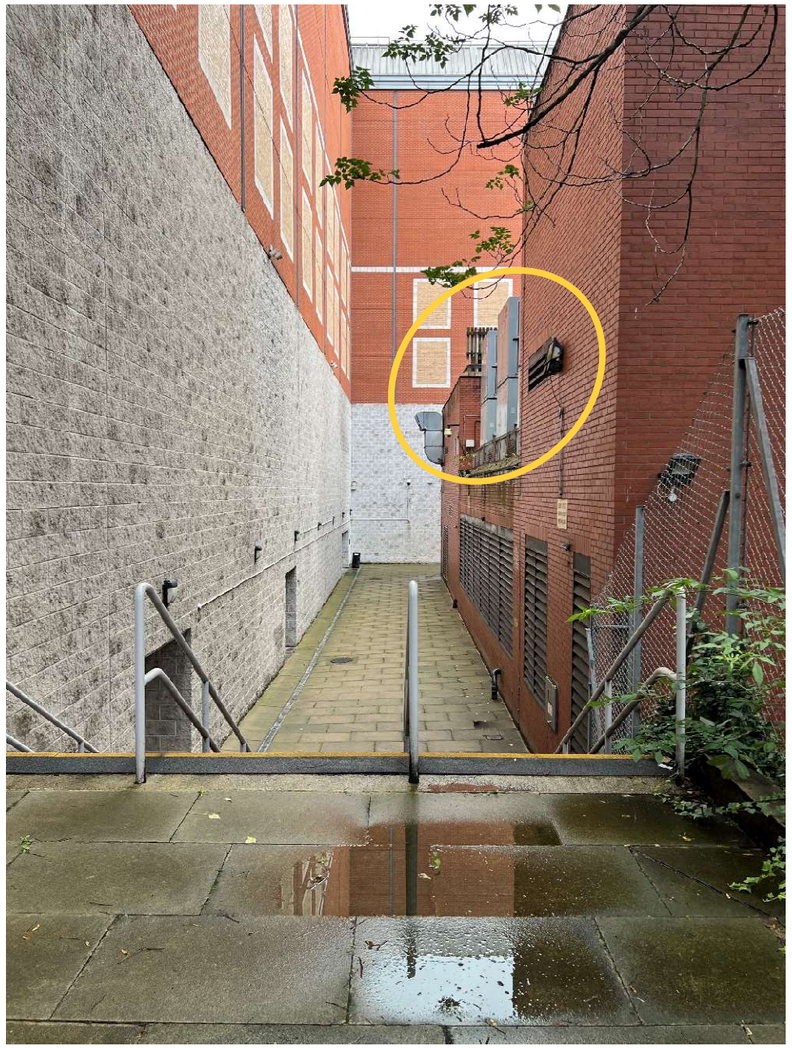
These units are located within a high-level external plant well situated between One Balloon Street and the emergency exit route of the adjacent Printworks building. The three chillers are mounted on secondary steelwork, with access facilitated by removable steel flooring panels.

Access Constraints

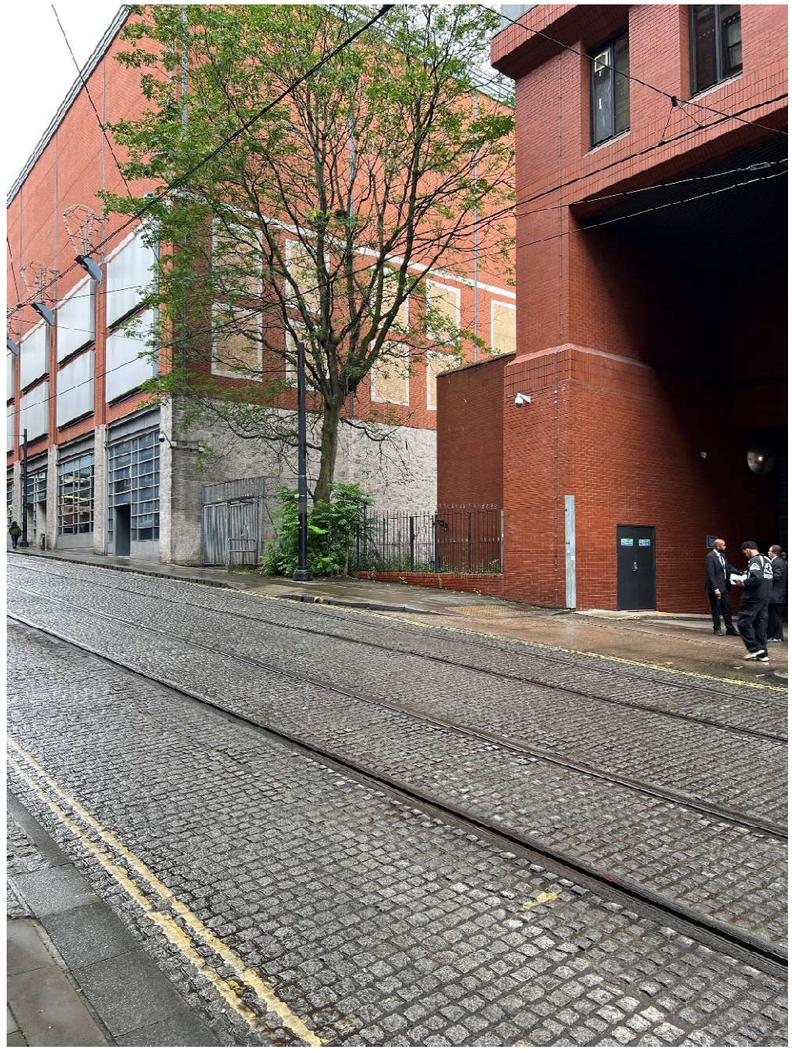
The location of the existing chillers at first floor level presents significant spatial limitations, restricting access and maintenance around the chillers. Pedestrian access to the chillers is only available via the service stairwell, which is entered from Balloon Street. Delivery of replacement parts and materials is also conducted manually through this pedestrian entrance.

The existing chiller plant is elevated and set between the rear façades of One Balloon Street and the Printworks development. The chillers are not directly accessible from Balloon Street, due to the existing building massing.

Since construction of No1 Balloon Street in 1979, Balloon Street has been modified to accommodate the Altrincham-Bury, Bury-Piccadilly and Manchester Airport-Victoria Metrolink lines, and the development of the adjacent Printworks site has taken place. The above has effectively 'landlocked' the existing chiller plant area.



Location of existing chillers; at first floor level, immediately adjacent to Printworks means of escape route on adjacent site.



Existing mature tree (outside site boundary) and overhead tramlines in close proximity to site

2.6 Existing plant and equipment requirement for renewal

Chiller Condition and Replacement Necessity

Originally, chillers were installed on the first floor external plant terrace area using a tower crane during construction. The original chillers were subsequently replaced in 2015/2016, and it is understood that the 2015/16 replacements were lifted into position via a self erected tower crane located on Balloon Street.

Unfortunately, there are no records of the technical details or access and maintenance strategy from the installation of the three current chillers, however, upon inspection they appear to be of a lightweight modular construction that appears to have been disassembled and then re assembled on site. This was presumably to reduce the weight of each of the sections of the unit and aid the lift.

This on site re assembly may explain the premature failures that the existing chillers have suffered, as two of the three units have failed well within their anticipated service life. The existing chillers, installed in 2015/16, were manufactured by a company with limited UK presence, and no spare or replacement parts are available. The remaining chiller is now only operational following the salvaging of spare parts from the two failed units.

To maintain internal environmental conditions, full replacement of the failed chillers with new units is the only option, and is increasingly urgent.

Temporary Measures and Operational Impact

No.1 Balloon Street, has historically struggled with the maintenance of the existing chillers. After multiple failures, the building is currently reliant on only one of the three existing chillers, located on the first floor high-level external plant terrace.

In order for the building to remain operational and maintain cooling during the 2025 summer months, temporary chillers were installed in the existing loading bay. These were connected to the existing chilled water pipework within the first-floor plant compound. Siting the units within the confined space created overheating risks, and disrupted goods vehicle operations, which in turn potentially impacted Balloon Street traffic flow. The use of temporary chillers also created additional maintenance where temporary and existing systems were interfaced, which in turn had further building operational effects.

The temporary chillers were intended only as a short term stop gap fix, and a permanent solution needs to be incorporated into the building to ensure business security for the building tenants.

In 2025 the building had two vacant floors; at 3rd and 4th floor levels. These floors were not drawing demand, so there will be a circa 25% increase in demand over the 8 lettable floors, when both floors are occupied.

The 4th floor tenant negotiations are now complete, and Wittington are hopeful that after some refurbishment works that the 3rd floor letting will follow shortly after, making the requirement for these new chillers more pressing.

The proposed new chillers are essential to attracting tenants and securing the existing tenants. The current arrangements also place Wittington Investments at risk of incurring business disruption claims as they will not be able to provide the required temperature range for office use, during the summer months. The building's main tenant CoOp, have already referred to the issues in correspondence, and this will only increase if the issue cannot be solved permanently.



Existing compound and 1 Balloon Street loading bay adjacent (location of temporary chillers)

3.0 | **Design development**

3.1 Design Development : overview

In developing the design proposals, the following key factors have been prioritised:

- That works should take place safely both in relation to site operatives and members of the public, and that risks and hazards should be minimised and mitigated where possible.
- That works should avoid/ minimise disruption to the Metrolink system and timetabling (i.e Disruptive Possession with tram operations suspended).
- That works should avoid/ minimise disruption to adjoining owners and their operations.
- That access for future maintenance, repair and servicing of the chillers is considered.

Various location options have been explored in relation to replacement of the chiller units and these are considered in the context of the specific site access constraints in the following chapters.

Safe access to the site for the replacement chiller install is complex due to the following factors

- Metrolink track and lines
- Height of exiting mature tree to site boundary
- Existing building geometry and massing
- Oversailing of neighbouring properties
- Functional and operational requirements of neighbouring properties
- Positioning of crane outriggers
- Size and weight of crane, outriggers and ballast
- Size and weight of chillers
- Health and Safety/ management and mitigation of risk.
- Timescales for access and completion of the works

3.2 Design Constraints and Opportunities

Opportunities

There are opportunities to:

- Modernise and improve the existing building infrastructure to meet the requirements of building occupiers.
- Replace the existing chiller plant in order to reduce the carbon emissions associated with the building, through specification of new more energy efficient units with optimised controls.
- Future proof ongoing safe maintenance and access requirements to new plant installations.
- Secure new Tenants into the building to occupy vacant floorplates.
- Visually enhance the existing ground floor plant compound.

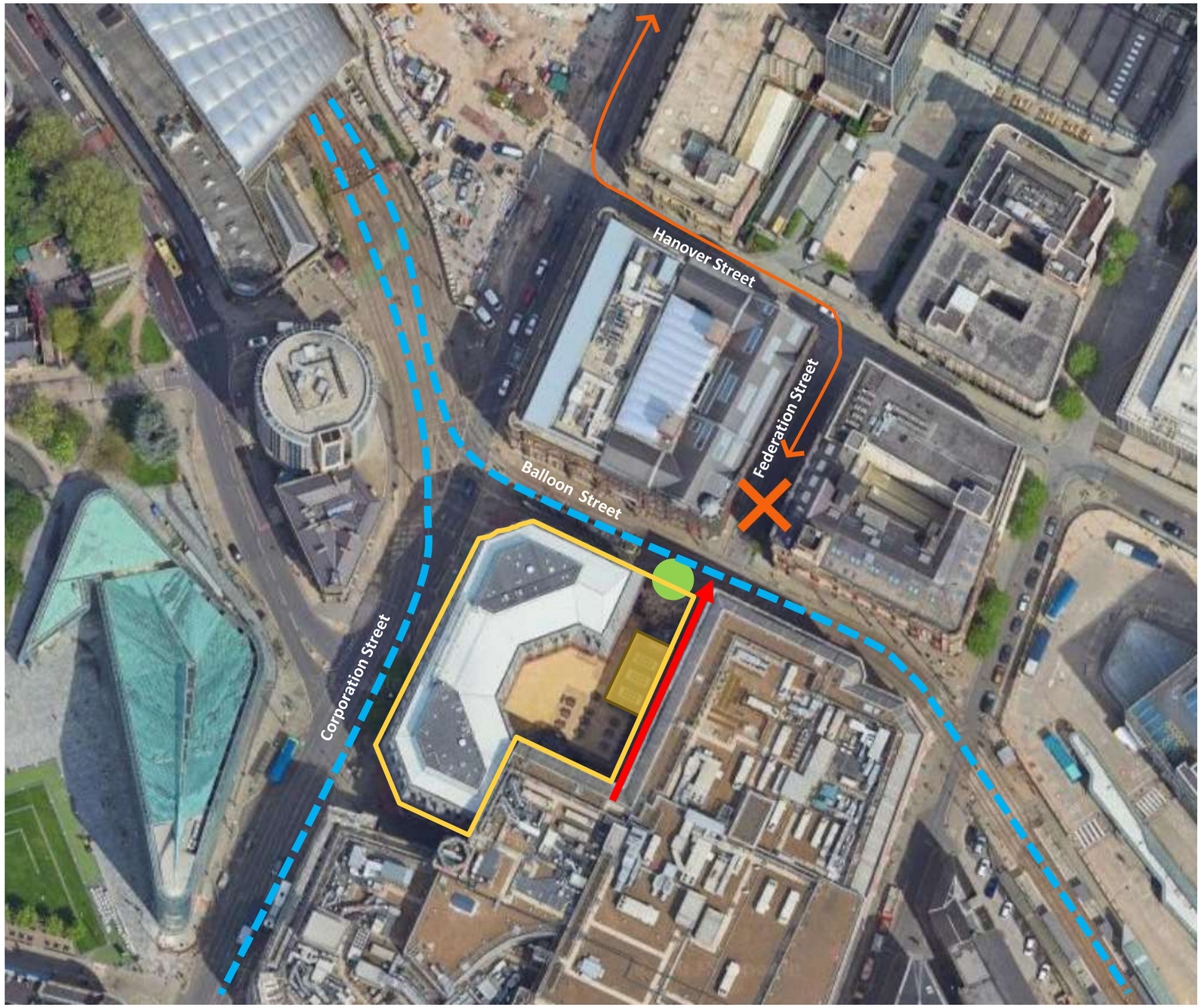
Constraints

The site is located within the heart of Manchester city centre and has numerous complex and interconnected constraints that impact on the design proposals. These are summarised below, and where applicable, described in further detail overleaf:

- Existing building is operational and tenanted
- Spatial limitations for location of new chiller plant within site boundary/ existing building
- Ventilation requirements for new chiller plant to ensure performance.
- Size and weight of new chiller plant units, which will require installation by crane.
- Chiller specification and assembly options.
- Site access for specialist crane/ lifting equipment that is limited by;
    - Existing building massing and geometry
    - Existing mature tree (outside the site boundary) on Balloon Street
    - Neighbouring properties; building geometry and height
    - Neighbouring properties; access/ egress requirements.
    - Active Metrolink lines to immediate site boundary on Balloon Street and Corporation Street.
    - High power electrical cables and supporting infrastructure close to the boundary of the site associated with the Metrolink.
    - Width of surrounding streets

3.3 Site accessibility constraints overview

Access to the site is severely restricted by the surrounding context, as detailed further below.



Existing mature tree (outside site boundary)

Tramlines

Printworks means of escape route

Potential crane route and positionning

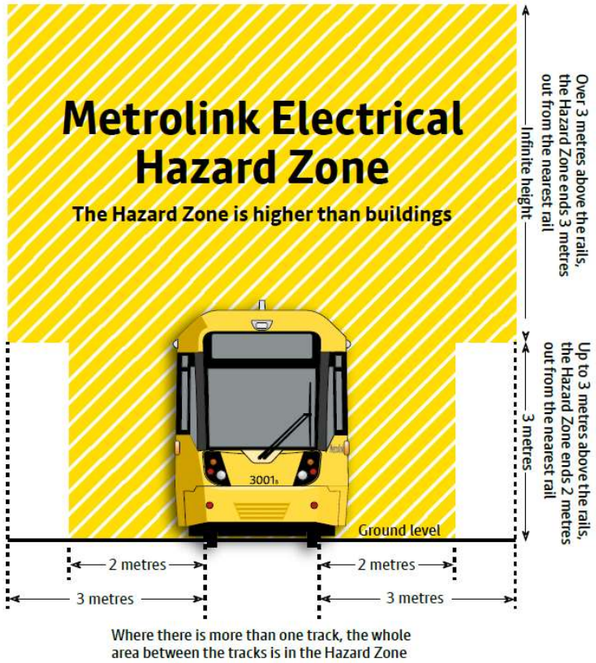
Existing chiller plant location (first floor level)

No1 Balloon Street site

Site context and constraints

3.3.1 Site accessibility constraints : Metrolink

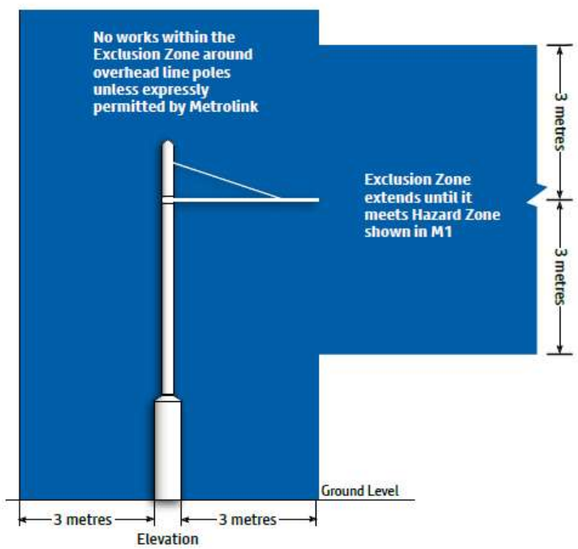
The proximity of the site to the tram lines on Balloon Street means that any access required in relation to replacement of the chillers will fall within the Metrolink Electrical Hazard and Exclusion Zones.



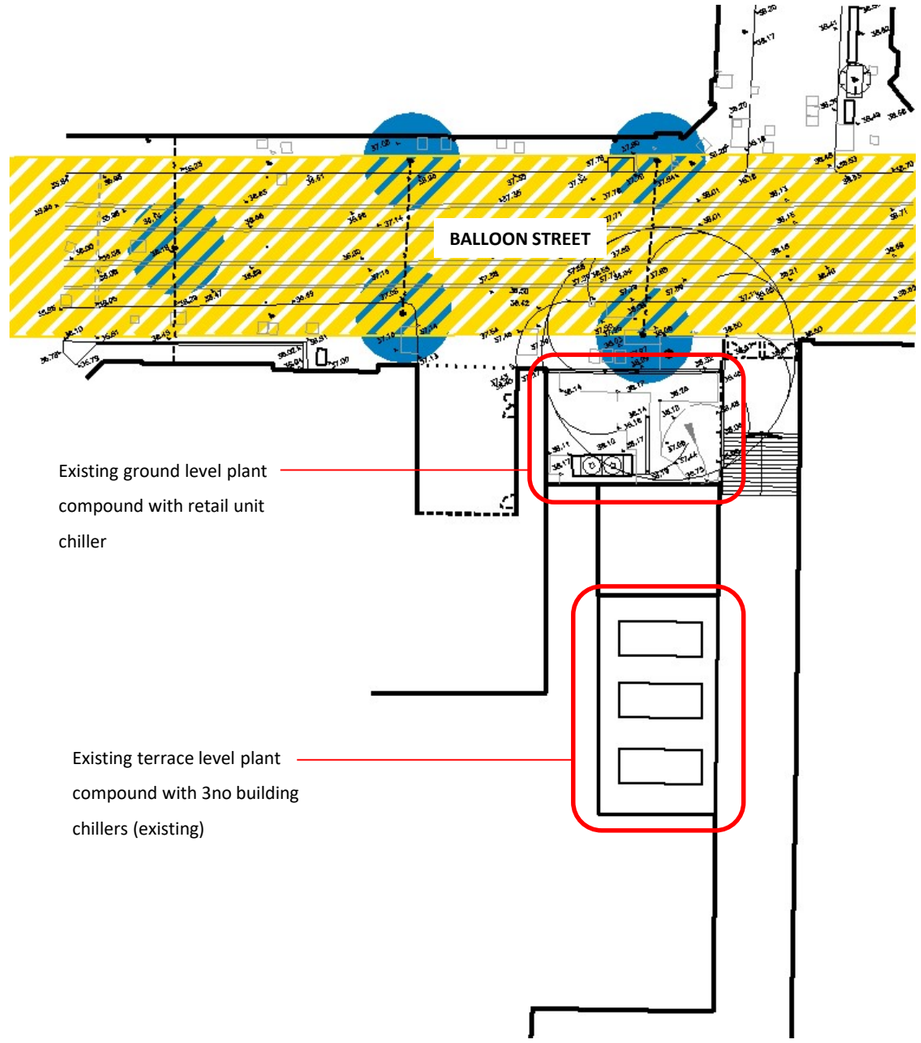
Metrolink Electrical Hazard Zone (diagram M1 street running sections, extract from TfGM Working Safely Near Metrolink (January 2024)



Balloon Street looking towards Corporation Street/ Victoria Station



Metrolink Exclusion Zone around overhead line poles (diagram M2, extract from TfGM Working Safely Near Metrolink (January 2024)



Existing site plan showing Metrolink M1 and M2 exclusion zones

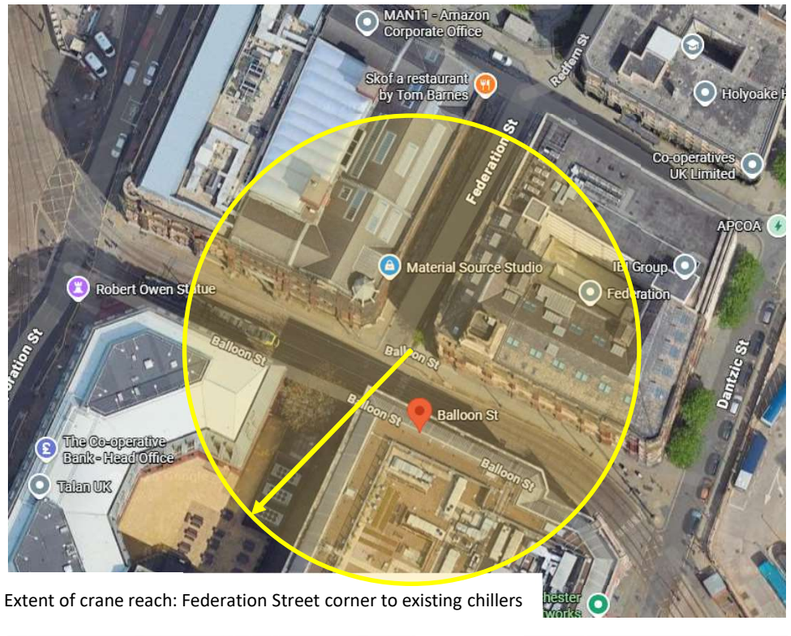
3.3.2 Site accessibility constraints : Surrounding Roads/ Balloon Street and Federation Street

Siting a crane on Balloon Street has been discounted as this would require Disruptive Possession of the Metrolink; causing significant disruption to the public transport service, with a bus replacement service. This, together with the associated costs, are considered disproportionate to the scale of the project.

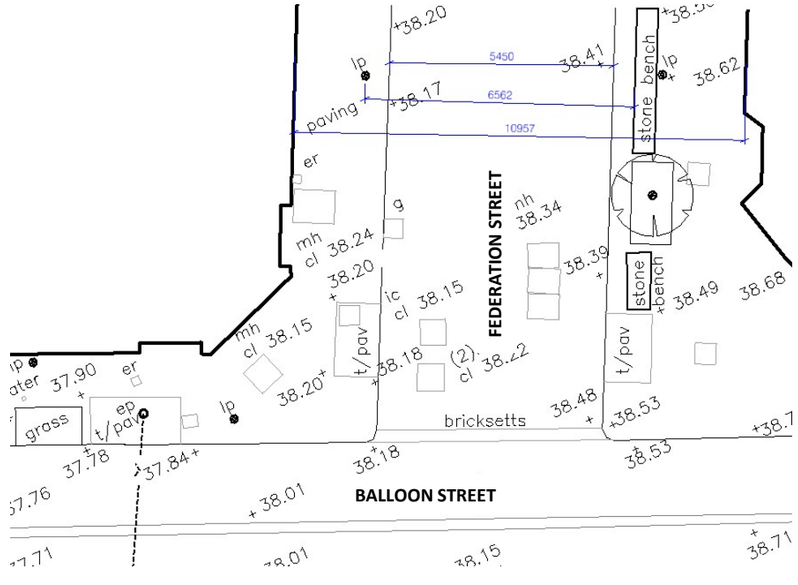
Federation Street has been considered as the closest alternative for siting a crane in relation to the site. A crane sited on Federation Street (at the corner with Balloon Street) would require a reach in excess of 40metres to access the chillers in their existing location and involve oversailing neighbouring properties.

It should be noted that since the last chiller install in 2015/2016. the effective width of Federation Street as been reduced by improvements to the public realm which includes trees , street lighting and stone street furniture.

In reviewing possible access solutions, the effective width of the street is critical for determining suitable access equipment, outrigger sizes and crane reach and crane load capabilities.



Extent of crane reach: Federation Street corner to existing chillers



Federation Street; street width 2026



Federation Street view - 2012



Federation Street view - 2017



Federation Street view - 2025

Existing chiller install date (2015/2016)

3.3.3 Site accessibility constraints : Printworks

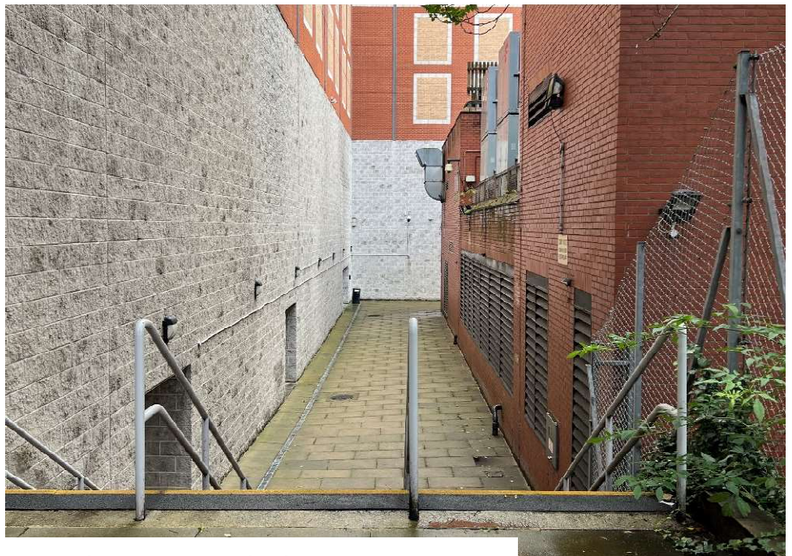
The Printworks leisure and entertainment complex is immediately adjacent to the application site. A means of escape route from the Printworks immediately abuts both the location of the existing chillers on the first floor terrace area and the ground floor plant compound.

The Printworks means of escape route is approximately 4.8m wide with 2 sets of double means of escape gates at the egress point onto Balloon Street. The width of the escape route is designed and sized to suit the occupancy numbers within the complex, and is critical to the safe operation of the building.

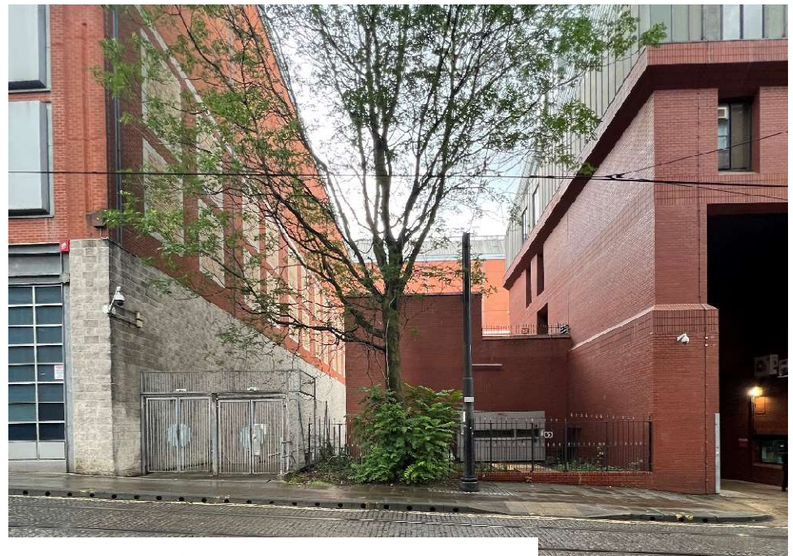
The opening hours of the Printworks are:

Monday to Thursday	06.30am to 02.00am
Friday	06.30am to 04.00am
Saturday	08.00am to 04.00am
Sunday	08.00am to 02.00am

The requirement to retain full emergency escape combined with restricted hours in which works is critical to determining the viability of any solution.



Location of existing chillers; at first floor level, immediately adjacent to Printworks means of escape route on adjacent site.



Printworks means of escape gate egress onto Ballon Street (left) and 1 Balloon Street ground level plant compound (right)

3.3.4 Site accessibility constraints : Existing mature tree

An existing mature tree sits just outside 1 Balloon Street site boundary on Balloon Street. The tree canopy is approximately 16m diameter. The overall tree height is over 21m.

Tree management, under the jurisdiction of Manchester City Council, has been requested but remains unresolved. The tree limits site access horizontally and vertically.

3.3.5 Site accessibility constraints : Timescale and timing of works

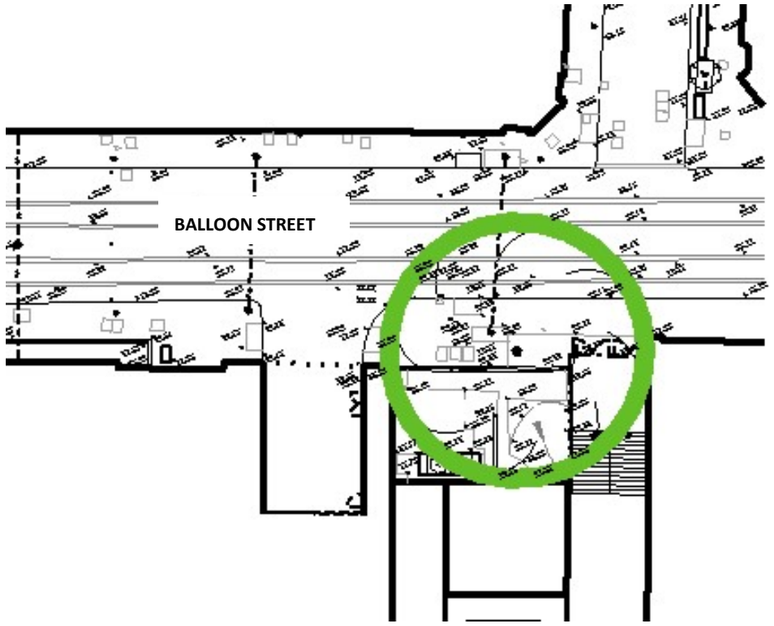
Metrolink guidance states that typical night time isolation periods are between 1.30am and 4.30am, with an actual working time period of between 2am and 4am.

Printworks opening hours are 7 days a week from 6.30am until 2.00 or 4.00am.

As such, the timescales for carrying out the works becomes critical.



Existing mature tree on Balloon Street



Existing mature tree canopy approximately 16m diameter

3.4 Chiller specification

The detail specification of the chillers has been carefully assessed in developing the design proposals. The options considered include; compatibility with the existing retail chiller, chiller size and weight, ventilation requirements and site assembled units vs. factory assembled units.

3.4.1 Compatibility with existing retail chiller

The plant compound contains an existing floor mounted chiller that serves the tenants retail demise process cooling demand. The existing unit operates to provide chilled water at multiple criteria specific to the satisfy the retailers requirements that include but are not limited to:

- Temperature (Flow and Return Water)
- Specific System Pressure and Velocity (Flow and Return)
- Operational Times
- Energy Metering & Billing criteria
- BMS
- Water Hygiene standards
- Glycol Dosing regime

The design requirements for the new units to serve the multi-story office development are not considered compatible for with the existing retailer's plant and equipment, and the systems cannot be consolidated or amalgamated.

The existing units will be maintained by the retailer's maintenance contractor in line with the specific requirements of that unit under a national maintenance contract. The proposed new chiller units will be maintained by the installation contractor and then a separate maintenance provide under the terms of their separate agreements.

3.4.2 Proposed new chiller specification

In the design development stages of the project various chiller manufacturers were approached regarding the new installation; and units that could theoretically be moved or lifted in smaller pieces and fully assembled on-site were investigated. However, this strategy was discounted due to;

- reliability and lifespan/ premature failure issues experienced with the existing modular, site assembled chiller units (refer to Section 2.6).
- manufacturers not being able to warrant or guarantee their equipment if it is disassembled and then reassembled on site (even if it is then reassembled by the equipment manufacturers own production team).
  Commercially, warranties are critical to protect the building and the overall investment in the chiller equipment. The chillers are sealed units with factory fitted gas pipework and heat exchangers, and no other option offers warranties.

The proposed new chiller units are proprietary and pre-fabricated off site.

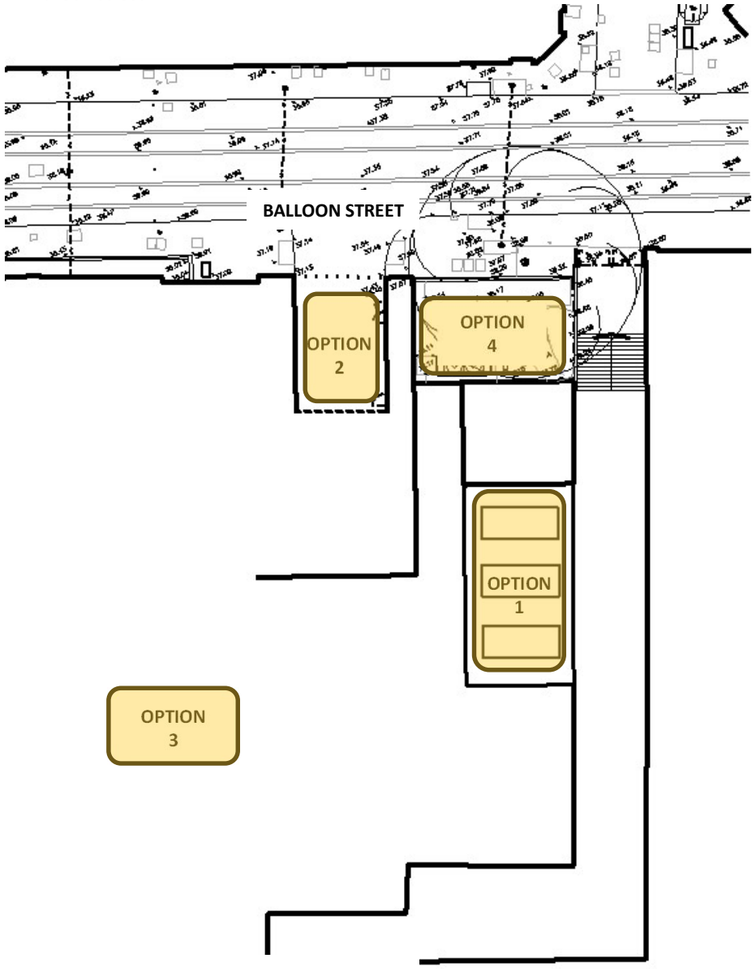
Two new chillers are proposed to meet the office accommodation cooling load.
Each pre-fabricated chiller units weighs 3800kg, and has physical overall dimensions of 3608mm(l) x 2238mm(w) x 2555mm(h).
In assessing a suitable location, the following factors have been considered:

- Chiller size and spatial arrangement relative to other building elements and equipment to allow adequate intake and extract air flow in and around the units.
- Adequate ventilation for supply and extract air to the units.
- Chiller weight and suitability of supporting structure.
- Suitability/ availability of access equipment for chiller installation.
- Access for future maintenance and repairs.
- Mitigation of key Health and Safety risk factors during installation to de-risk the operation; for operatives, surrounding buildings, the Metrolink and the general public.

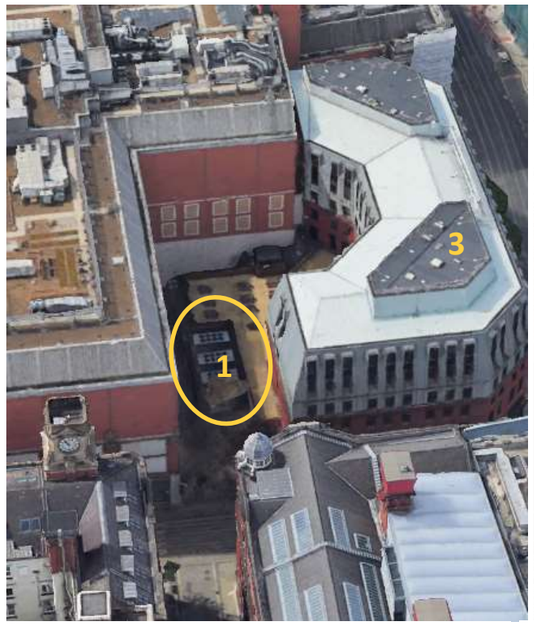
3.4 Chiller location options

In developing the proposed design, the following chiller location options have been considered;

- Option 1: Replacement of existing chillers in the first floor terrace plant compound.
- Option 2: Location of new chillers within the existing loading bay.
- Option 3: Location of new chillers within the existing building
- Option 4: New chillers located within the existing ground floor plant compound (off Balloon Street



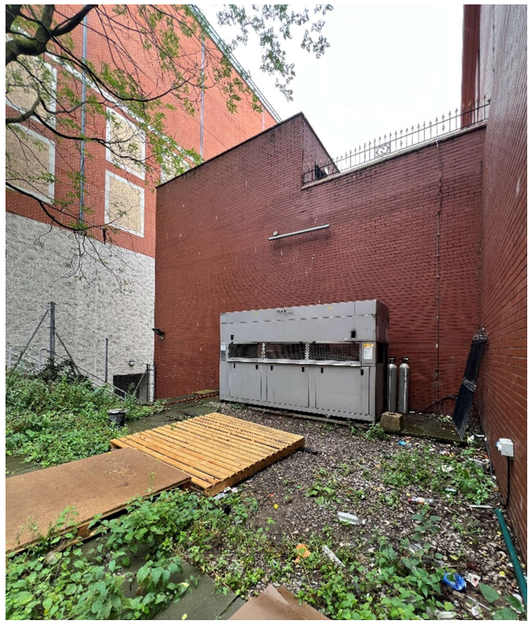
Existing site plan showing chiller location options



Options 1 and 3: existing first floor terrace chiller compound



Option 2: existing loading bay



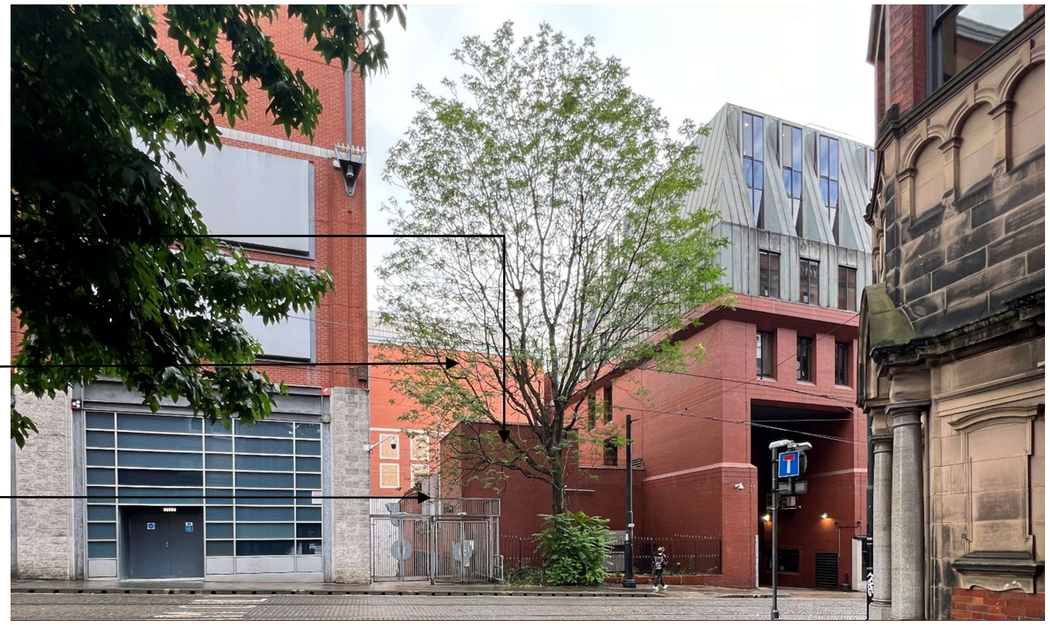
Option 4: existing ground floor plant compound

It is noted that all chiller replacement options are based on the specification of proprietary modular units. On site assembly of units has been discounted for the reasons described in section 3.4.

3.4.1 **Chiller location Option 1 :** Replacement of existing chillers in the first floor terrace plant compound.

Initial design proposals intended to replace the chillers in their original locations, and preliminary proposals were developed on this basis.

Various methods of accessing the existing chillers for removal and replacement to the first-floor plant compound were assessed as follows:



Access Option 1A: Hiab (truck mounted hydraulic crane system) on Balloon Street

A Hiab could be positioned on Balloon Street (with Metrolink approval). However, there is no suitable vehicle with an adequate reach that would be able to manoeuvre the chiller units up and over, or in-between the existing tree and the existing built volume of the stairwell.





3.4.1 **Chiller location Option 1 :** Replacement of existing chillers in the first floor terrace plant compound.

Access Option 1B: HIAB (truck mounted hydraulic crane system) via Printworks demise

HIAB access is theoretically possible via the Printworks means of escape route. However, this has been discounted for the following reasons:

- Strategy would need to be agreed with 3rd Party (Printworks)
- Printworks gates would need to be removed to Balloon Street to provide adequate width for vehicle access
- Access ramp/platforms would need to be constructed to facilitate hiab access over existing staircase, the platform/ ramps would need to be sufficiently robust to take the weight of the hiab and the weight of the chillers which would take significant time to construct
- The above would take out the Printworks means of escape route for a significant time period which would cause unacceptable levels of business disruption.



Indicative ramp/platform structure position required to facilitate access via Printworks



Existing elevation to Printworks site boundary

3.4.1 **Chiller location Option 1 :** Replacement of existing chillers in the first floor terrace plant compound.

Access Option 1C: Crane access via Federation Street

Crane siting on Balloon Street and Corportation Street has been discounted due to the level of disruption that would be caused to the tram network. However, Federation Street provides an opportunity for the siting of a crane to access the existing first floor chiller compound.

Specialist access company advise and input was sought at pre-application stage, however several Contractors withdrew from the Tender process siting Health & Safety concerns—particularly the risks associated with working at height due to the elevation difference between the chiller compound and the Printworks emergency exit route, which needs to be kept clear, and available for use at all times.

Please see refer to Crane Feasibility Statement.

A crane access solution would require road closures (Federation Street and Balloon Street), a series of overnight Metrolink de-energisation (1 night to remove the existing, and 1 or 2 nights to replace – plus contingency). There is also a high risk that the works/ crane lifts cannot be safely undertaken within the short nighttime Metrolink closure window.

In summary; a 130-150 tonne class mobile crane can theoretically be accommodated on the south end of Federation Street that will provide access to the first floor chiller compound for chiller removal and replacement. However, for the reasons noted in the feasibility statement, it was considered that safer and less disruptive viable alternatives should be prioritised.



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CRANE FEASIBILITY STATEMENT

This statement provides an independent opinion on the feasibility of the proposed mobile crane lift to remove and replace roof-mounted AC chiller units at No.1 Balloon St.

Current Proposal

The proposed operation involves the deployment of a 130–150 tonne class mobile crane positioned on the south side of Federation Street. The ballast wagon will be reversed in from the north side of Federation Street, allowing ballast & mat installation at the front of the crane.

Due to the restricted carriageway width on Federation Street, the crane will be configured with 40% outrigger extension on all four outriggers, with 10 m² outrigger mats installed at each outrigger position to provide adequate load distribution and ground bearing support.

The crane will be required to remove existing roof-mounted chiller units from No.1 Balloon Street and then lift new chiller units back onto roof area. The chiller transport vehicles will have positioned on Balloon Street. The lifting of both old / new chillers will need to be carried out between the tramlines on Balloon Street due to slewing restrictions of the crane. As a result, temporary de-energisation of the tram infrastructure will be require.

Lift Categorisation & Associated Risks

In accordance with BS 7121 and CPA Guidance, the proposed works constitutes a Complex / Engineered Lift due to the below:

- Restricted outrigger extension (40%) due to width restrictions on Federation St
- Ballasting the crane over the front of the cab.
- Increased outrigger loading due to narrow outrigger extensions & full ballast operation.
- Oversailing 3rd party buildings and trees
- Requirement for tram system de-energisation
- Time restriction due to tram system (01:00–03:00) with no contingency
- Night-time & low visibility working conditions
- Heavy reliance on third-party coordination

Feasibility and Conclusion

While the above operation is theoretically possible, the practical execution of this lift involves too many variables to confidently commit to completing the works with out delay or disruption to major public transport / road infrastructure and neighbouring buildings due to the time frames stipulated.

In line with the hierarchy of risk control and industry best practice, if safer and less disruptive alternatives are available this should be prioritised and considered not only for this particular lift but for the future proofing of the buildings requirements.

Jack Harrop – Director

3.4.2 **Chiller location Option 2:** new chillers within the existing loading bay.

Temporary chiller units were sited in the building loading bay during the 2025 summer cooling season, following the failure of the original plant. While they have provided partial cooling, they cannot maintain design conditions during peak loads, which has been evidenced by internal temperature monitoring and increased strain on the system. The existing operational chiller (located on the first floor plant terrace) provided circa 50 % of the capacity, whilst the two temporary chillers provided an extra 30%.

This overall lack of capacity forced the chillers to run continuously at maximum output, creating inefficiency, higher energy consumption, and accelerated wear. The lack of adequate airflow in the loading bay further exacerbated heat rejection issues, increasing the risk of overheating and system failure.

The temporary chillers were only in place during the peak summer period and have now been removed.

The loading bay serves the building and is the main loading area for the Co-Op Retail space, with access requirements for large vehicular deliveries to the store daily. In the temporary situation the chillers were positioned within the loading bay in a manner that allowed emergency operation, but restricted goods vehicle manoeuvrability. Long term restrictions on tenant vehicular access would be at odds with Landlord leasing liabilities.

Unfortunately, it is not feasible to take the loading bay forward as the permanent chiller location solution as the combined capacity of the two temporary chillers and associated pipework is only approximately 30% of the building's required cooling capacity.

The two units were installed as a short-term measure during the summer cooling season and cannot not meet the full operational building demand.

Additionally, it should be noted that the airflow and heat rejection requirements of the chillers in this location was only maintained by the holding of the security shutter in the fully open position. Aside from the security issues this created, there is insufficient air movement through the loading bay air to allow the replacement chillers permanently occupying this location.



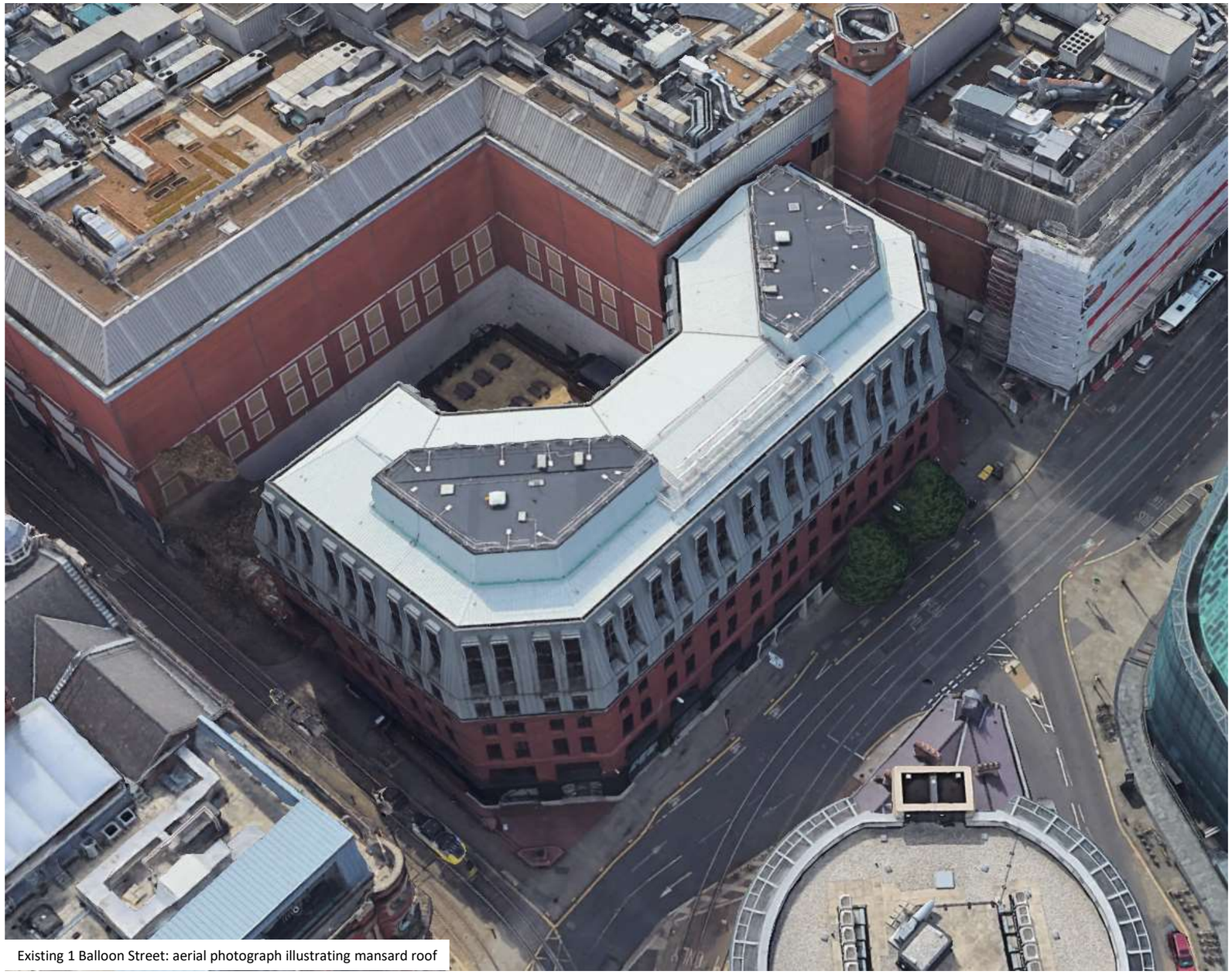
Existing 1 Balloon Street loading bay (location of temporary chillers, now removed)

3.4.3 **Chiller location Option 3 :** New chillers located within/on the roof of the existing building

Location of new chillers within or on the existing building roof as been discounted for the following reasons:

- The existing building mansard roof form is not suitable to locate plant externally at this level. There are no flat roof areas on which to locate plant.

- The existing building structure is not of sufficient capacity or size to support the weight of the new chillers.



Existing 1 Balloon Street: aerial photograph illustrating mansard roof

3.4.4 **Chiller location Option 4 :** New chillers located within the existing ground floor plant compound (off Balloon Street)

Option 4: Hiab (truck mounted hydraulic crane system) on Balloon Street

The proposed solution is to isolate and abandon the two failed chillers and install two new units within the existing external plant compound accessed directly from Balloon Street. These chillers will match the existing capacity and be mounted on newly constructed structural bases. They will connect to the existing chilled water pipework, which will enter the building through small newly formed openings for pipework and then routed internally.

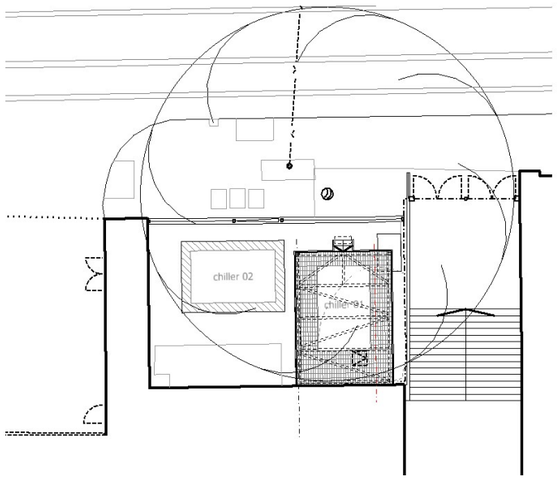
Due to existing site gradients and level differences in the topographical landscape across the compound for the proposed new chiller plant; one chiller will be positioned on a concrete plinth; the other will be positioned on a new galvanised steel support frame. The chillers are sited to provide adequate ventilation space between them; this is to ensure performance and enable maintenance access.

This location will enable delivery of the packaged chillers from the pavement., and provides an adequately sized and ventilated area to locate the new chillers, that is more easily accessible for future on-going access and maintenance requirements.

The works will involve removal of the existing railings to the Balloon Street site boundary, and manoeuvring of the new chillers into position from the hiab below the tree canopy.

The operation can be carried out within the nighttime Metrolink isolation period, and minimises numerous risks associated with the project in terms of health and safety, disruption to 3rd parties. Please see refer to Hiab Feasibility Statement for reference.





Plan detail : Proposed 2no. New chillers in existing ground floor compound with associated support plinths and metal deck.

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CONTRACT LIFT FEASIBILITY STATEMENT

This statement provides an independent professional opinion on the feasibility of a proposed mini crane / HIAB contract lift to install a new ground-floor air conditioning chiller unit adjacent to No. 1 Balloon Street.

Proposed Scope of Works

This proposal is an alternative to the previously considered option involving a large all-terrain mobile crane to access the existing roof level.

Under the revised methodology, a mini crane or HIAB-type vehicle would be positioned partially on the Balloon Street tram tracks, partially within the carriageway, with the adjacent pavement on the lifting side fully barriered. The new chiller unit would be lifted directly from the transport bed, slewed at low level beneath the tram infrastructure and adjacent tree canopy, and placed onto an existing concrete plinth at ground level.

The total duration of the lifting operation is anticipated to be approximately 1.5 to 2 hours. Importantly, one tram line could remain unobstructed, allowing for continued operation in the event of an incident or vehicle breakdown, thereby significantly reducing disruption.

While this method represents a simpler and more efficient lifting operation, it would still require comprehensive pre-planning and close coordination between multiple parties. de-energisation of the tram infrastructure would remain necessary, and a formal road closure application for Balloon Street would be required.

Lift Categorisation and Associated Risks

In accordance with BS 7121 and CPA Guidance, the proposed operation is classified as a Complex Lift due to the following factors:

- Requirement for temporary de-energisation of the tram system
- Restricted working window imposed by tram operations (01:00–03:00)
- Night-time working and reduced visibility conditions
- Dependence on coordination with multiple third-party stakeholders

Feasibility and Conclusion

The proposed ground-level installation method offers increased flexibility when compared with previous lifting options. It also provides improved long-term benefits, including easier access for future maintenance, component replacement, and eventual end-of-life equipment renewal. Overall, the proposal is considered both feasible and operationally advantageous, subject to appropriate approvals.

Jack Harrop – Director

4.0 | Design Proposals

4.1 Design proposals

The existing first floor chiller plant area is no longer deemed to be a practical siting for the new chillers. After analysis of all available options, and exploration of alternative lift and shift options, the only practical and safe solution is deemed to be Option 4: utilising the existing ground floor plant enclosure, adjacent the building loading bay, off Balloon Street.

This location will also serve to futureproof safe access for ongoing maintenance access and any future repairs.

It is acknowledged that this has the potential to visually impact and the Conservation Area setting. The intention is to minimize any adverse effect on the streetscape, and provide a design solution that balances technical feasibility with aesthetic considerations.

Space between, in and around the new chiller units is critical to the performance of the units and needs to be in accordance with manufacturers recommendations.

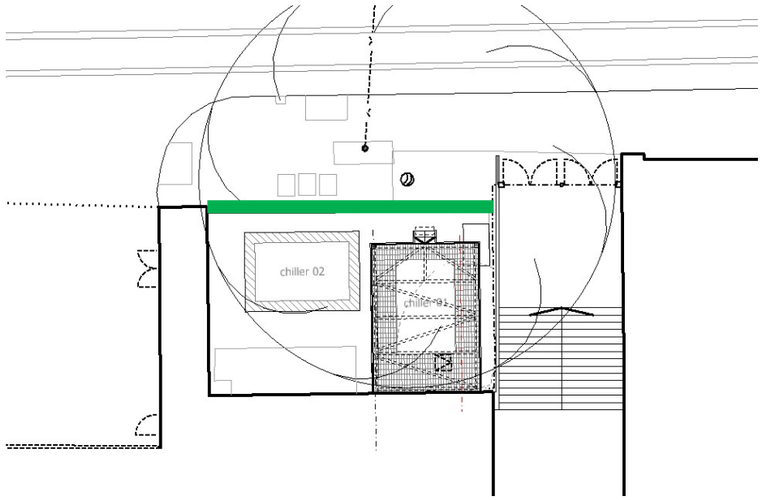
The proposals involve removal of the existing compound modern metal railings to Balloon Street and installation of a new decorative laser cut metal screen to the Printworks and Balloon Street site boundaries. The screen will include a secured gate which will provide access to the enclosure from street level.

To ensure technical performance of the chillers the screen must provide a free area not less than 50%. The existing plant enclosure presents poorly to the street, so there is the opportunity to utilise the new screen to provide a positive contribution to the Conservation Area.

The height of the screen will be approx. 3m to conceal the chillers, and align with the Printworks gates adjacent.



Proposed Balloon Street elevation showing extent of proposed decorative perforated screen in green

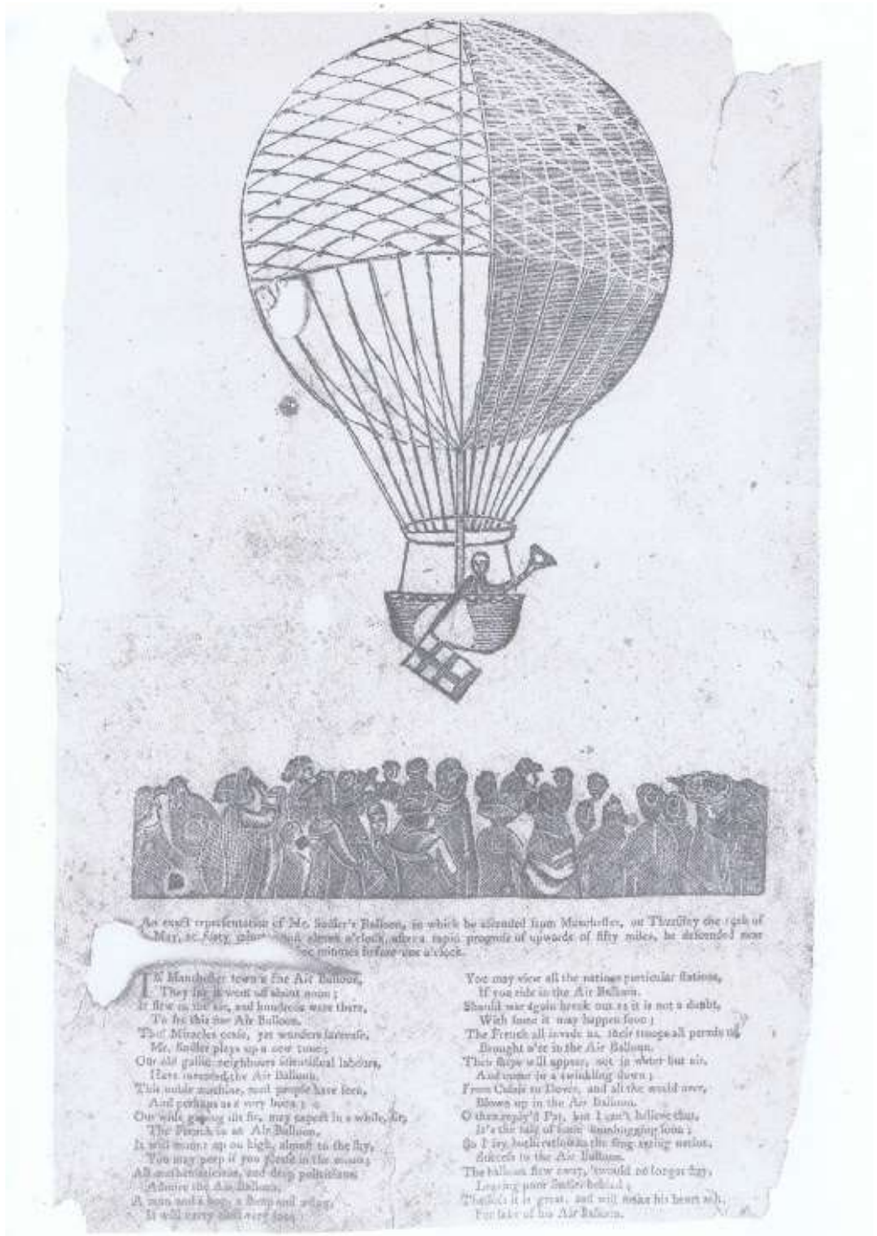


Plan detail : Proposed 2no. New chillers showing extent of screen in green

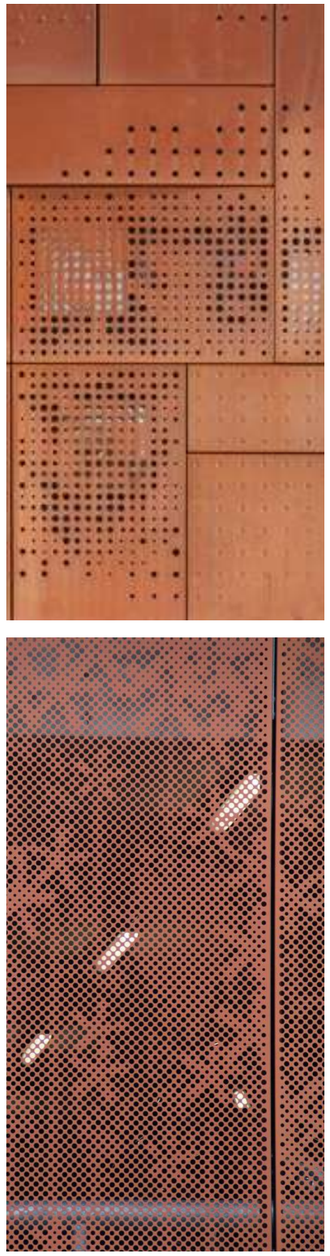
The proposed plant screen would comprise of a series of metal panels and gate fronting Balloon Street.

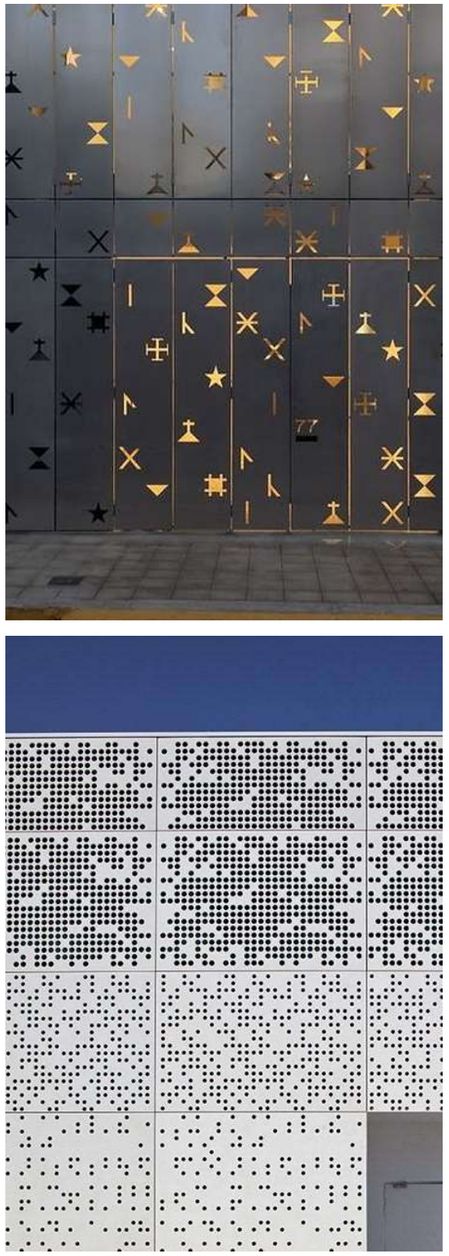
It is the intension that the screen would incorporate laser cut decorative graphics that are inspired by the history of Balloon Street; named for James Sadler's pioneering hot air balloon ascent in 1785 – to reference the unique history of the area.

Based on the local authority pre-application advice, this application seeks planning permission for the installation of the new chillers, associated supporting structure and decorative screen, on the basis that the detail and graphic design for the screen would be dealt with by Condition.

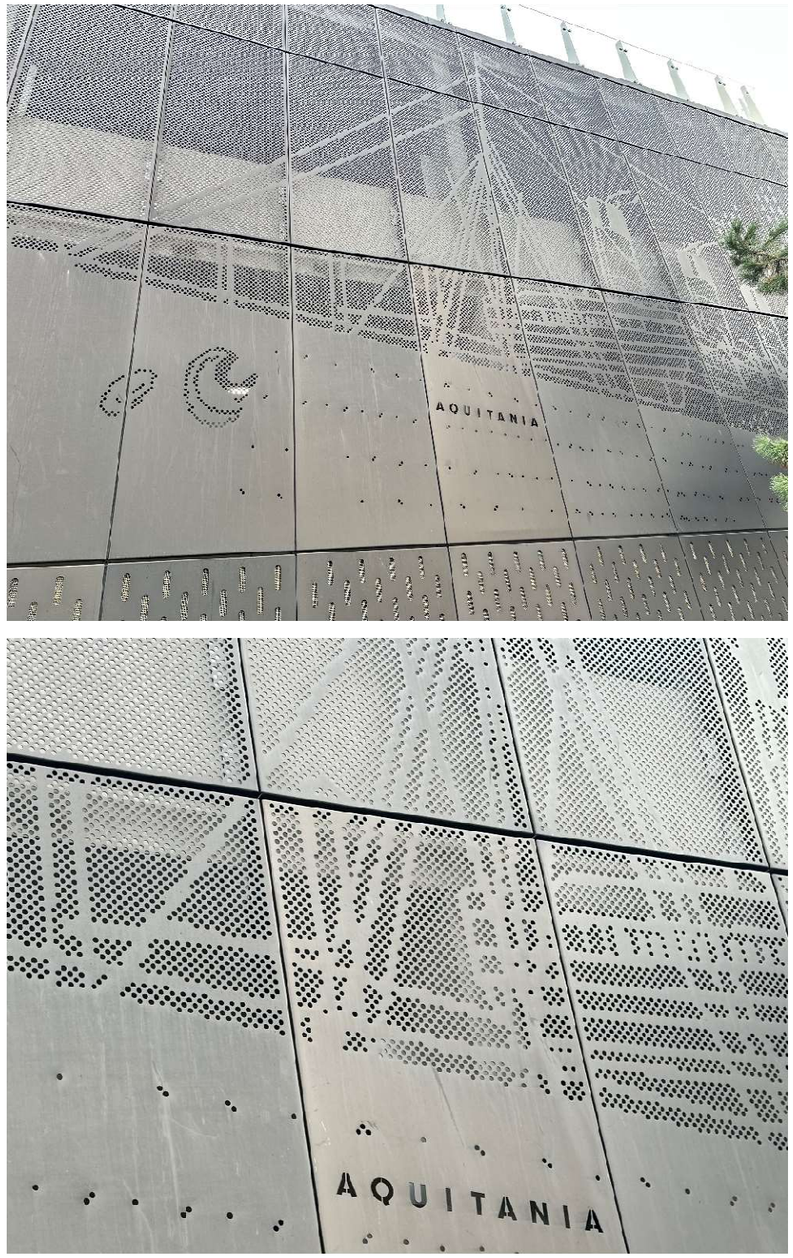


Mr Sadler' Balloon 1785





Perforated metal plant screen – general precedent, incorporating graphics



Perforated metal plant screen – Liverpool Historic Waterfront