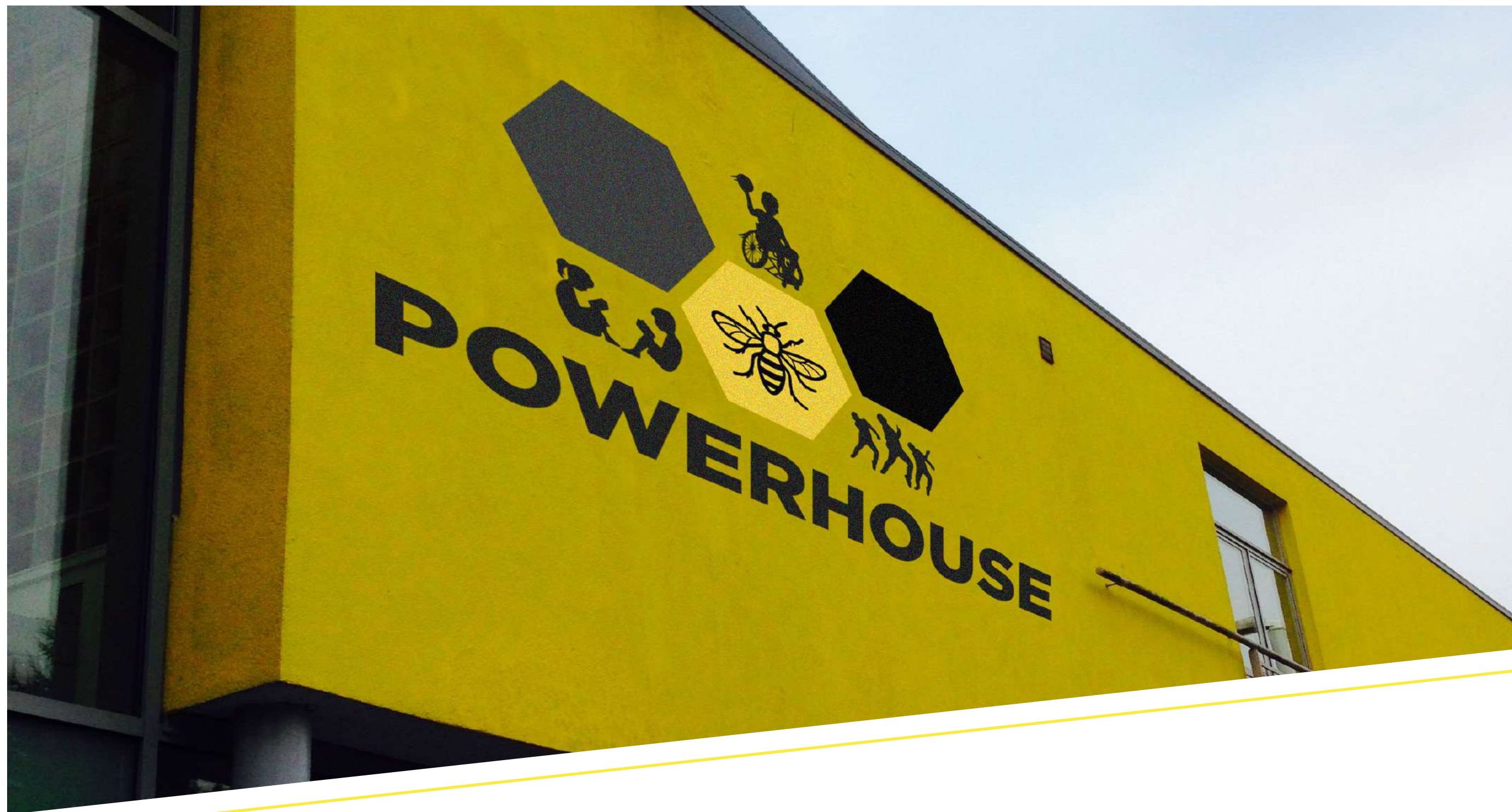




Millennium Powerhouse, Moss-Side Design & Access Statement

Corstorphine & Wright

Revision Log

Revision	Date	Notes
00	March 2023	Planning Issue



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1.0 Introduction

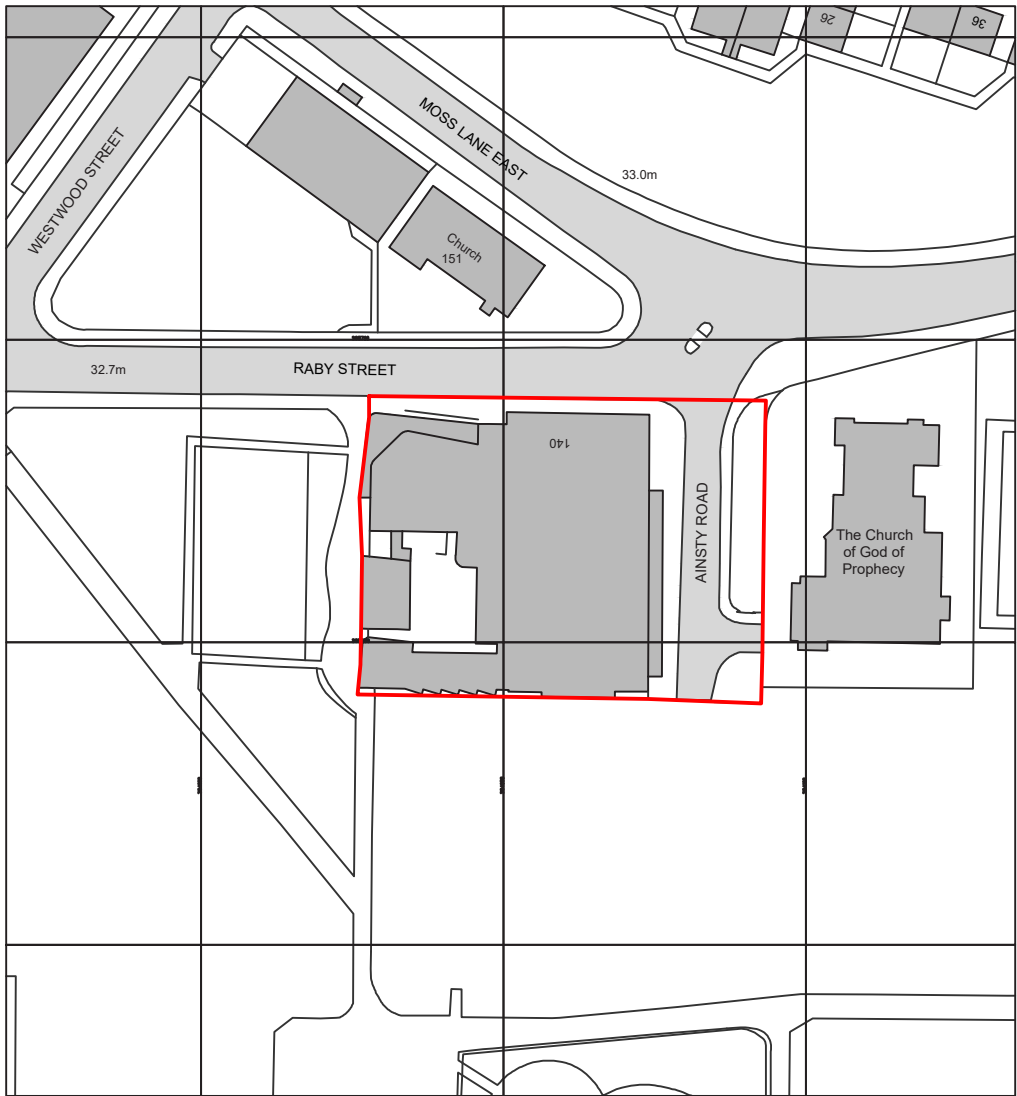
This Design and Access Statement has been prepared by Corstorphine & Wright Architects to support a full planning application,

Drawings:

- 22953-CWA-XX-00-DR-A-0200-Site Location Plan
- 22953-CWA-XX-00-DR-A-0201-Existing Ground Floor
- 22953-CWA-XX-00-DR-A-0202-Existing First Floor
- 22953-CWA-ZZ-ZZ-DR-A-0203-Existing North and West Elevations
- 22953-CWA-ZZ-ZZ-DR-A-0204-Existing South and East Elevations
- 22953-CWA-ZZ-ZZ-DR-A-0205-Existing Internal Courtyard Elevations
- 22953-CWA-ZZ-ZZ-DR-A-0206-Proposed North and West Elevations
- 22953-CWA-ZZ-ZZ-DR-A-0207-Proposed South and East Elevations

Supporting Documents:

10156-1 Moss-side Millenium Powerhouse BUILD IR Thermal Imaging report



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2.0 The Site

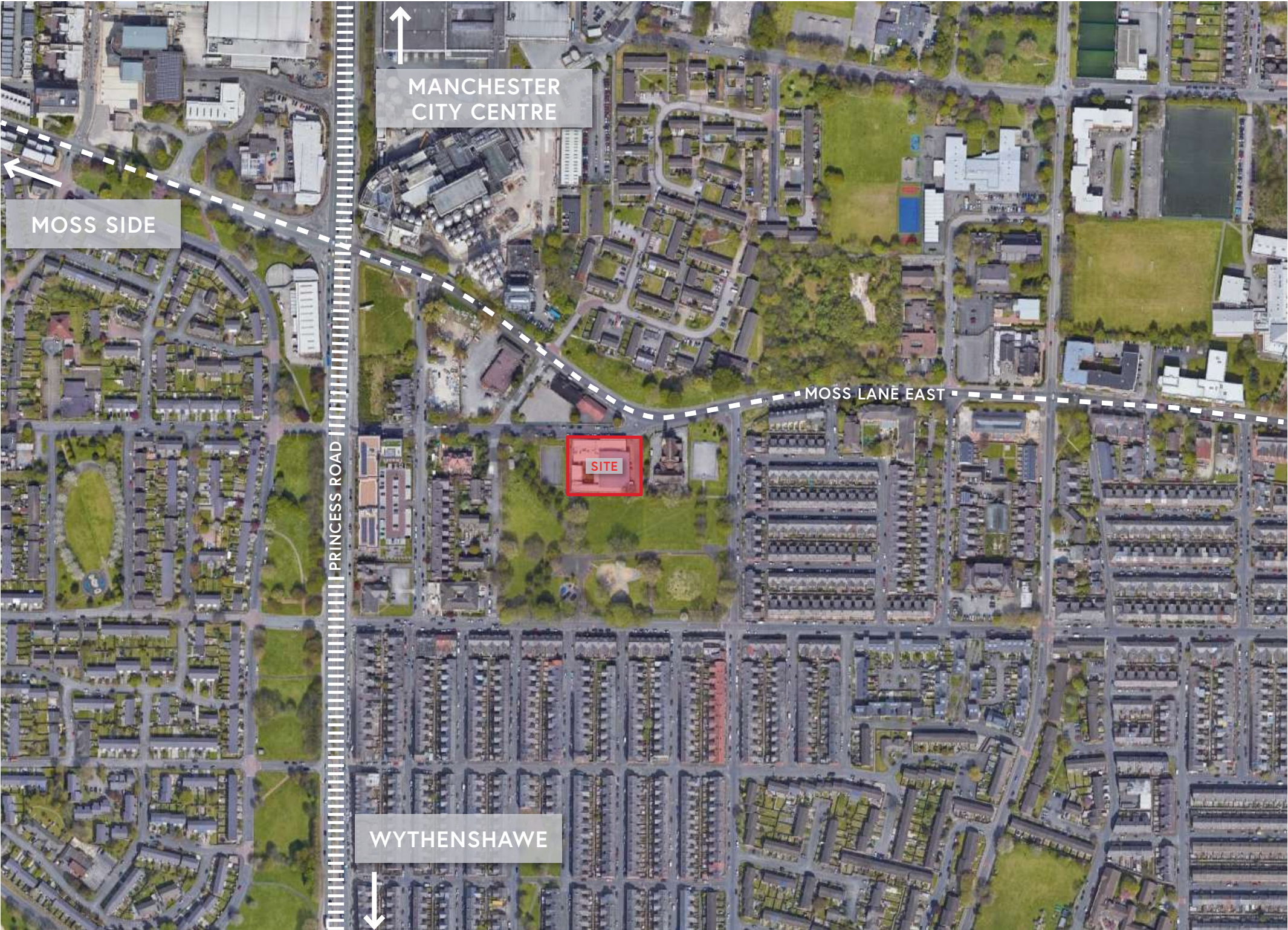
2.1 Site Location

The application site is located in Moss Side, M14 4SL.

Bound by Hulme to the north, Chorlton-on-Medlock, Rusholme and Fallowfield to the east, Whalley Range to the south and Old Trafford to the west with well-established public transport links to Manchester city center.

Moss Side is classed as an inner-city area of Manchester located 3.1km south of the city center with a population of 20,745 made up of mainly a longstanding Afro-Caribbean and South Asian populations. A number of local community and voluntary groups provide social support, as well as cultural and leisure opportunities to each of these communities.

The Caribbean Carnival of Manchester is also held in the area every August, usually in Alexandra Park.



Site Aerial

2.2 Immediate Character Analysis

The site is surrounded by a strong ethnic community with a well-established neighbor-hood and good public transport links to the city center. Bound by Raby Street and Ainsty Road, leading to Moss Lane East with primary, high schools and Manchester university complex in close proximity.

The Windrush Millennium Centre on Alexandra Road provides facilities for courses of col-lege and adult education, Manchester City Council runs the Greenheys Adult Learning Centre on Upper Lloyd Street.

Moss Side has five primary schools: Claremont Primary School, Devine Mercy RC Primary School, Holy Name RC Primary School, St Mary's CE Junior and Infant School and Webster Primary School. There are nearest secondary schools, including St Peter's RC High School.

Public open green space to the west and east of the site, including Whitworth Park ca. 10 minutes walking distance. The Millennium Powerhouse contributes to both a valuable youth and community support provision within the local community.



Site Aerial



View from Turnhurst Road to North



View from Turnhurst Road to South



View from Silverstone Crescent North



View from Silverstone Crescent North-East

3.0 The Building

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3.1 The Millennium Powerhouse

Designed by MBLA and built in 1999, the Powerhouse provides and facilitates a range of activities for young people of all ages.

Six main agencies operate from this hub providing the following services for young people, CAPS (Child and Parent Services), Career Connect (supporting young people to gain employment or training) Contact theatre, Emerge (CAMHS support for 16-17 year olds), Manchester Young lives (YOUTH Engagement Team and Study Programme) and Power-house Library.

As well as these agencies, there are several external groups which offer young people activities from Netball, powerchair football, multi sports, drama, carnival dance, street dance and more.

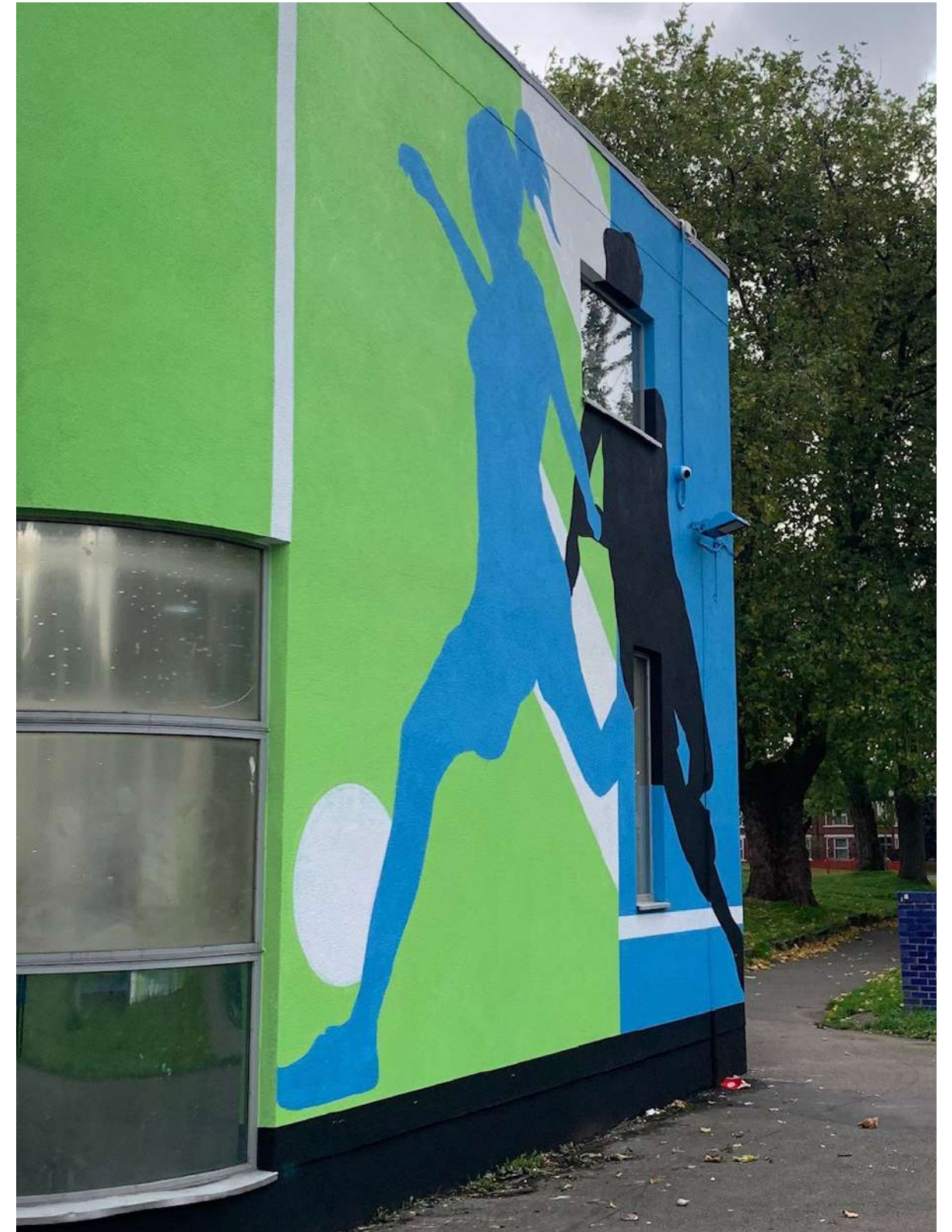


3.2 De-Carbonisation of the Millenium Powerhouse

To help reduce capital and operational costs, improve energy efficiency and reduce carbon emissions a 'fabric first' approach to the building is proposed. This involves maximising the performance of the components and materials that make up the building fabric itself, with the use of mechanical and electrical building services systems supporting this.

The aim of the development is to retrofit the building with embodied Carbon in mind, seeking to ultimately achieve zero carbon in operation over a period of time. Allowing the MEP to be phased in such a manner to enable the building to remain operational throughout.

The proposal is based on several surveys undertaken that report on the efficiency of the building, the dilapidation report, MEP report and thermal model which have established the basis for the review of the existing fabric and possible fabric upgrades to be considered along with plant options. This exercise also provided information on heat losses, as to where these are occurring from the building and influencing the plant sizing options, allowing for budget costings to be accommodated.



3.3 Surveys

The thermal imaging survey undertaken, showed the existing insulated render as performing relatively well thermally around the entire building, however at many of the interfacing junctions, thermal breaches were detected. Equally, the flat roof areas appeared to be performing well thermally around the entire building with interfacing junction causing the main heat losses.

To upgrade the building to function at an operational zero carbon level, this thermal performance needs to be increased to allow the operational services requirements to be reduced.

The original glazing systems are performing poorly with excessive heat loss through the frames and in various areas, the frame junction with surrounding façade was proved to be allowing air infiltration into the building.

There was no thermal separation noted between plant rooms and conditioned spaces. Open louvres allowing cold air into conditioned spaces and so significantly increasing the heating requirement to these areas. With a fabric first approach these areas would be designed out.

All the glass block areas and external doors equally showed to be poorly performing. Like the glazing, these would need to be replaced to much higher performing fittings.

Equally the rooflight upstands are performing poorly, mainly due to the lack of insulation and cold air moving between the plasterboard and the thin layer of insulation. Again, a fabric first detail would be needed to stabilise the build-up.

Internally, air infiltration was noted behind the plasterboard, bypassing the insulation line.

The Kalzip and cladded areas of the sports hall roof showed significant air leakage at all junctions, with the uninsulated internal gutters to the sports hall showing to be performing poorly as expected and leaking in places. Due to its large area the roof upgrade would need to be achieved with lightweight insulation and details to suit.

The blocked-up entrance appeared to potentially be single skin blockwork with no insulation and air

infiltration behind the dry lining (thermal bypass). The window above are single glazed pane, so equally performing poorly. As part of the proposed upgrade, these elements would be replaced with fabric first details to follow the overall envelope treatment.

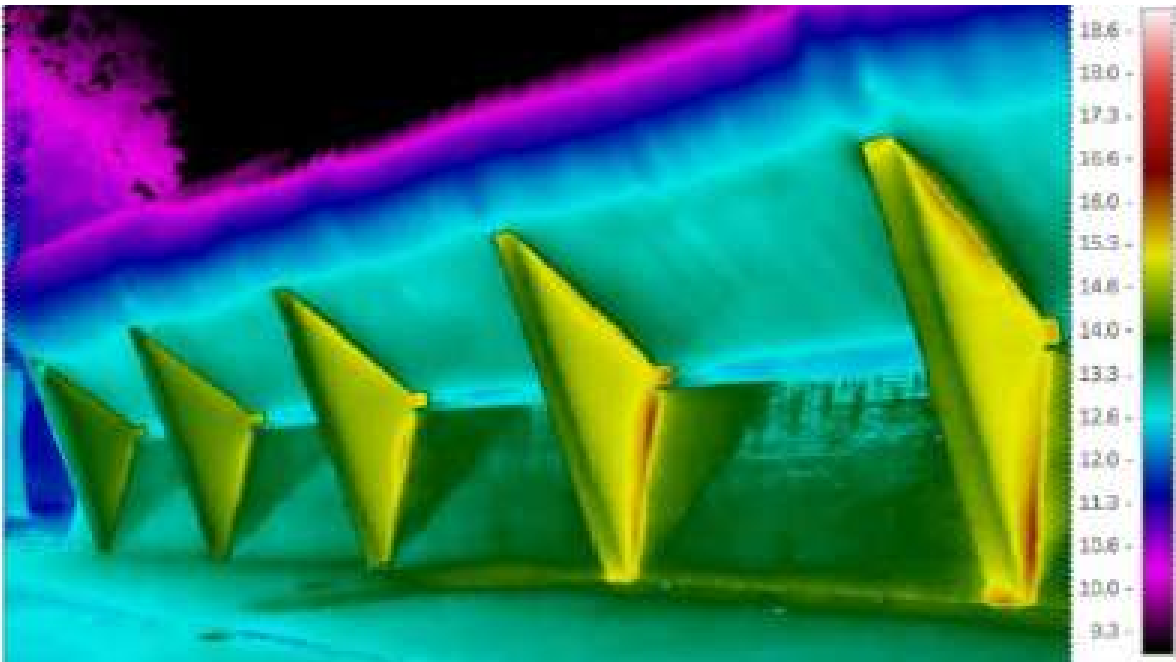
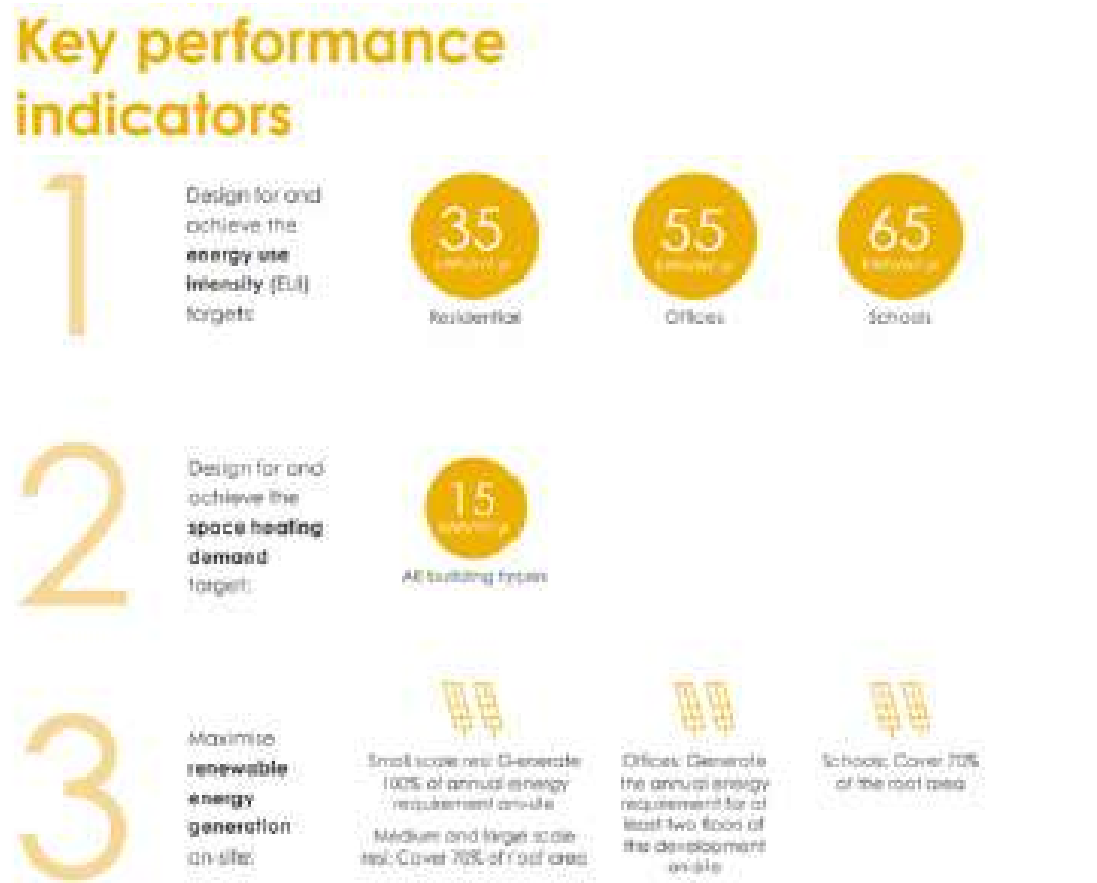
The MEP survey reviewed the existing systems to ascertain the extent of the existing ser-vices and their condition.

The main existing M&E distribution systems were predominantly installed during the original build circa 2000 and as such, are over 20 years old, with the main equipment, such as boilers and water heaters having been upgraded since the initial installation at different times.

The existing heating distribution systems however have not been replaced in their entire-ty since the original installation and there will likely be a need to replace pipework from this existing installation due to corrosion.

As the building has developed to serve the needs of the community, spaces in some are-as are not being used as per the original design intent. This has created areas of over and underheating. Ventilation and cooling systems are not proving to be adequate and re-quire upgrade or replacement.

Lighting and emergency lighting systems require a review and likely a full replacement to overcome ongoing maintenance and to bring all fittings to LED standard for energy sav-ing.



3.4 Existing Ground Floor



Existing areas of occupation:

- Powerhouse Main Usage
- Tenanted
- Ad Hoc Hiring

3.5 Existing First Floor



Existing areas of occupation:

- Powerhouse Main Usage
- Tenanted
- Ad Hoc Hiring

3.6 Existing Elevations

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Existing Materials:

- Concrete Framing

- Glass Bricks

- Zinc standing seam

- Exterior Render (Varies in colour)

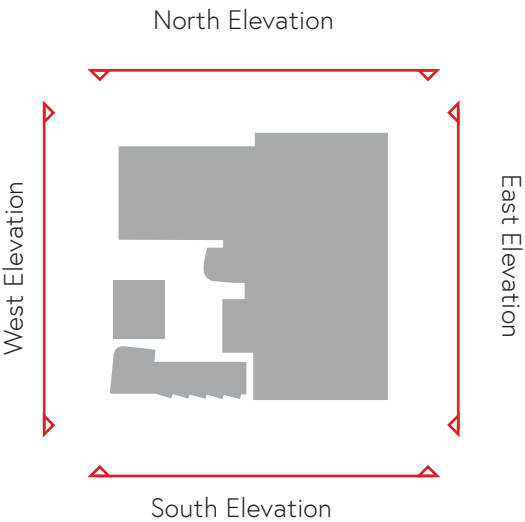
- Blue Glazed Brick



North Elevation



West Elevation



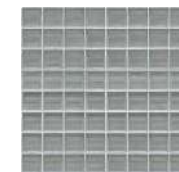
3.7 Existing Elevations

Corstorphine & Wright

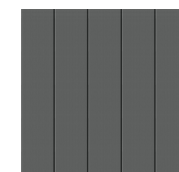
Existing Materials:



- Concrete Framing



- Glass Bricks



- Zinc standing seam



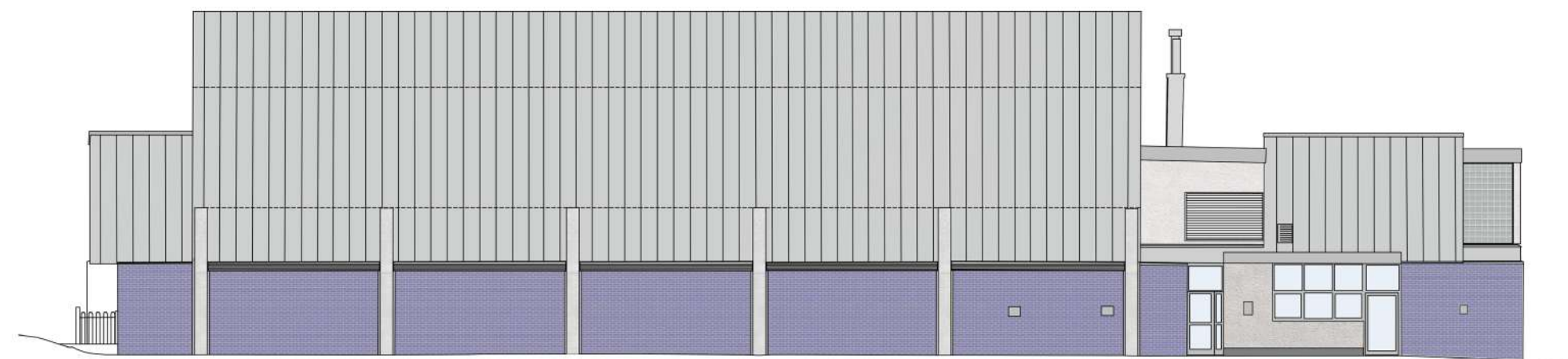
- Exterior Render (Varies in colour)



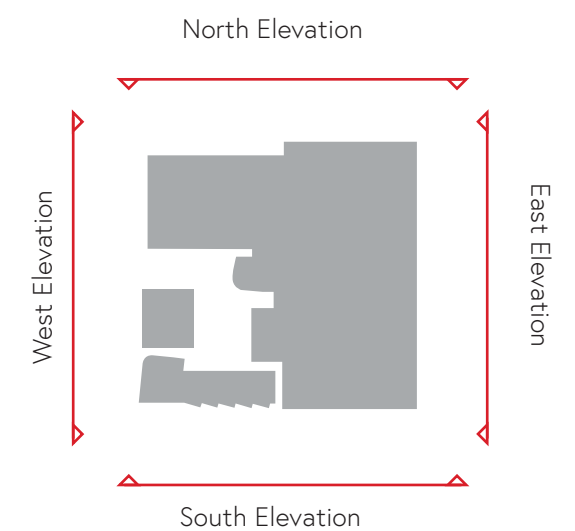
- Blue Glazed Brick



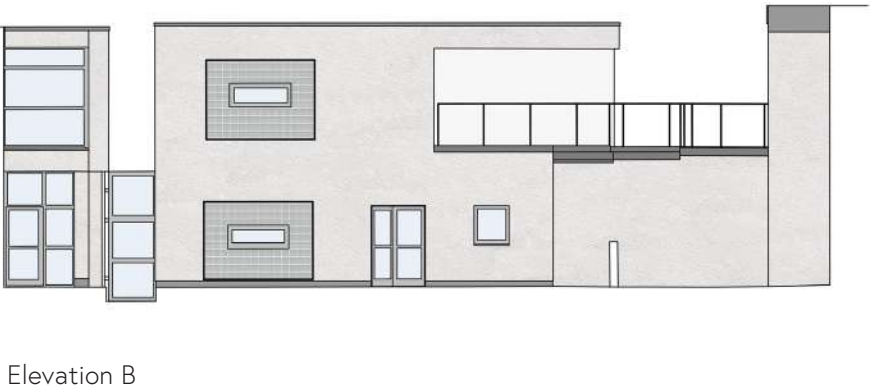
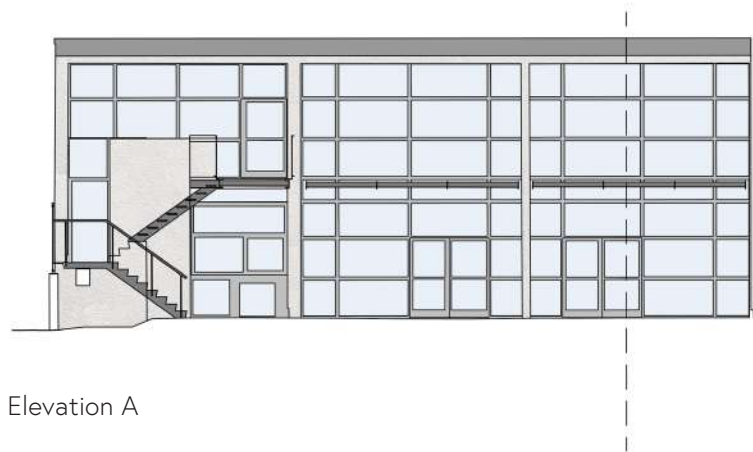
South Elevation



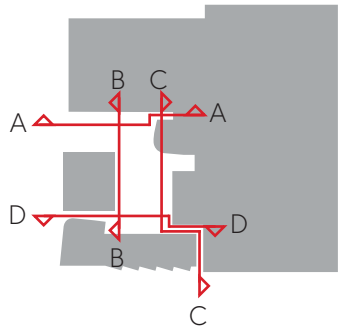
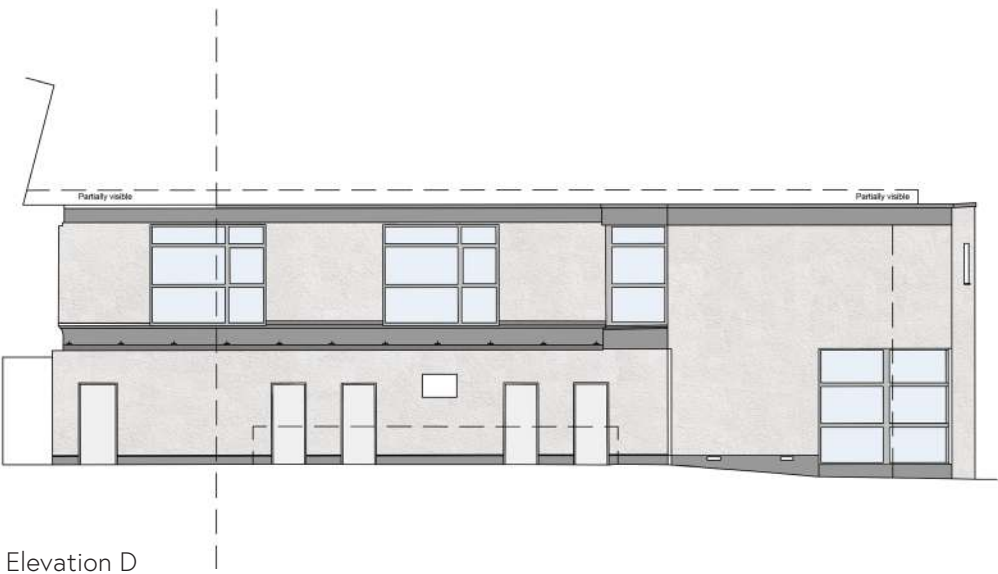
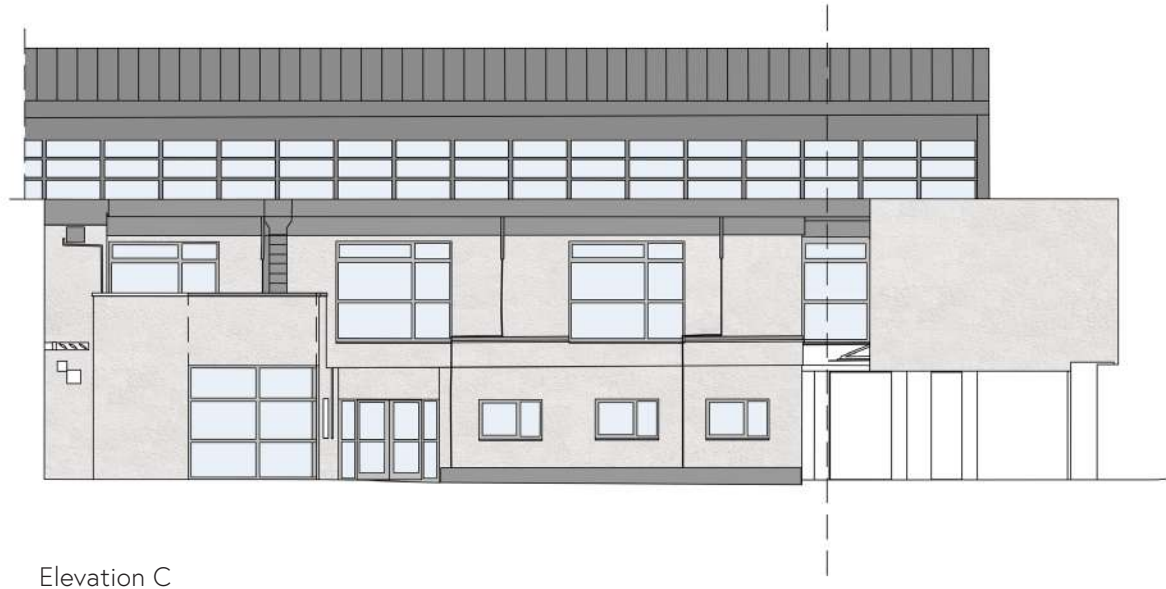
East Elevation



3.8 Existing Elevations



- Existing Materials:
- Concrete Framing
 - Glass Bricks
 - Zinc standing seam
 - Exterior Render (Varies in colour)



4.0 Proposal

4.1 Strategy

The aim of these surveys is to link a thermal model to a carbon reduction plan which can include the proposed fabric upgrades and allow some upgrade planning for the next 10 years for the operational elements.

There are 3 distinct areas within the building which will make refurbishment of the building easier and allow for phasing of the operational elements within the building.

The Powerhouse currently provides some of the following facilities,

- Sports Hall
- Dance studios
- Library
- Offices
- Meeting Rooms
- External MUGA – the external pitch has recently been upgraded

These can be defined as zones and as such be phased in accordance with a costed pro-gramme of works.

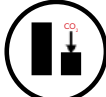
The challenge is with the sequencing and interfacing of the fabric and MEP upgrade. Care-ful consideration needs to be taken, as the spaces are to be occupied and operational, whilst the refurbishment takes place.

4.2 Material Palette and Proposed Scope of Works

With our aim to retain the building's identity and stabilising its envelope the external upgrades proposed are:

- To replace the existing insulated render with a much higher performance self-insulating render in a warm white colour.
- The original steel single glazed windows to be replaced with a high performing al-uminium and UPVC system in an anthracite finish.
- The existing blue glazed bricks are to be retained and where needed repaired.
- The ground floor render to be replaced with brick slip in an engineering blue to give these elevations a more robust finish to impact.

Leading the transition to a Zero Carbon Future

-  Reduce carbon emissions on-site
-  Enhanced fabric performance and EUI targets
-  Maximise availability of renewable technologies
-  Zero on-site combustion from buildings
-  Incorporate energy monitoring

Engage in the Circular Economy

-  Investigate rainwater harvesting opportunities
-  Implement a waste management strategy for waste diverted from landfill, during construction + operation
-  Sustainable sources of materials - recycling, reused, reclaimed, local + renewable
-  Explore the use of modern methods of construction to reduce waste

Resilient & Future Ready

-  Minimise flood risk in the development sites
-  Integrate SuDS strategies to achieve greenfield run-off rate
-  Designed to mitigate Overheating, TM59 design requirements met - future climate projections
-  Deliver drought resilient landscape to avoid die-off impacts

Healthy Green + Active Spaces

-  Deliver accessible public open space and green parks
-  Spaces for play and community amenities
-  Spaces that promote active lifestyles encouraging cycling and walking routes
-  Achieve a net gain in biodiversity, protecting existing habitats and ecological features

Buildings that Perform

-  Optimise building design for daylight and views
-  Energy efficient fabric performance
-  High level of comfort -Design to avoid overheating within buildings
-  Integrate a Health + Wellbeing strategy

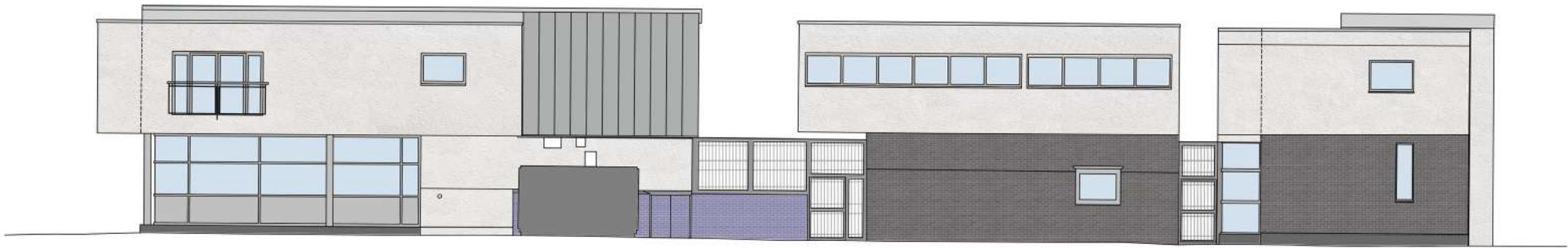
Meet the needs of Manchester & its communities

-  Deliver affordable homes with low energy bills
-  Eliminate Fuel Poverty
-  Deliver inclusive community facilities

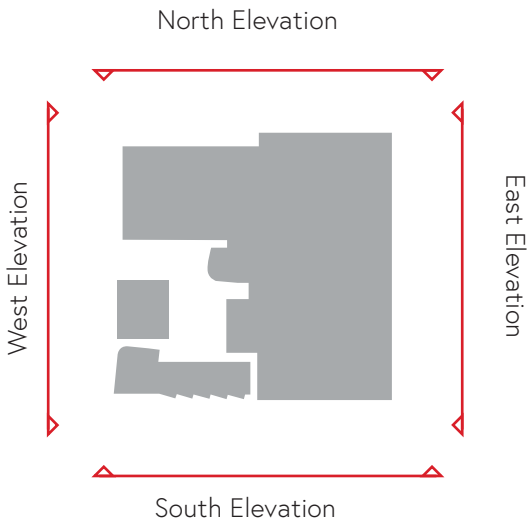
4.3 Proposed Elevations



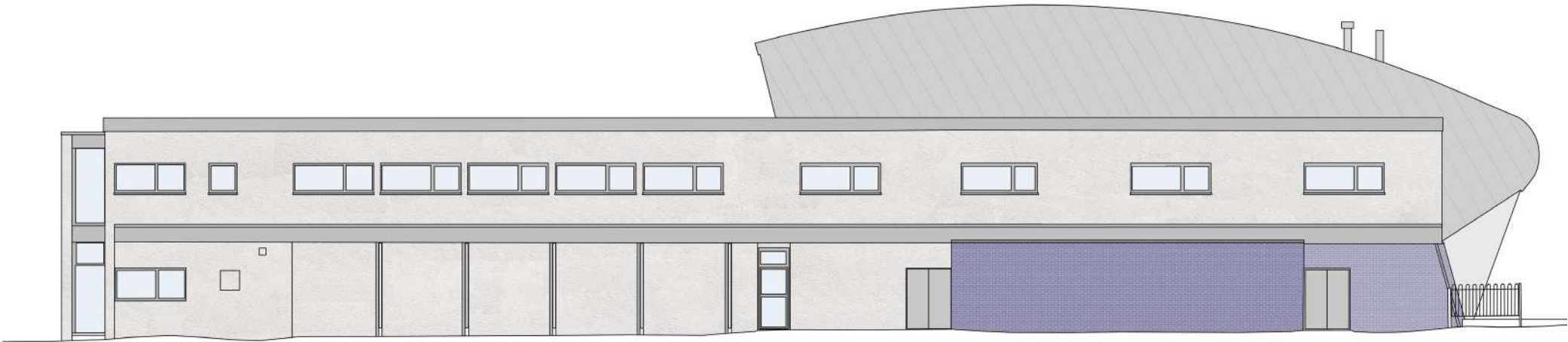
North Elevation



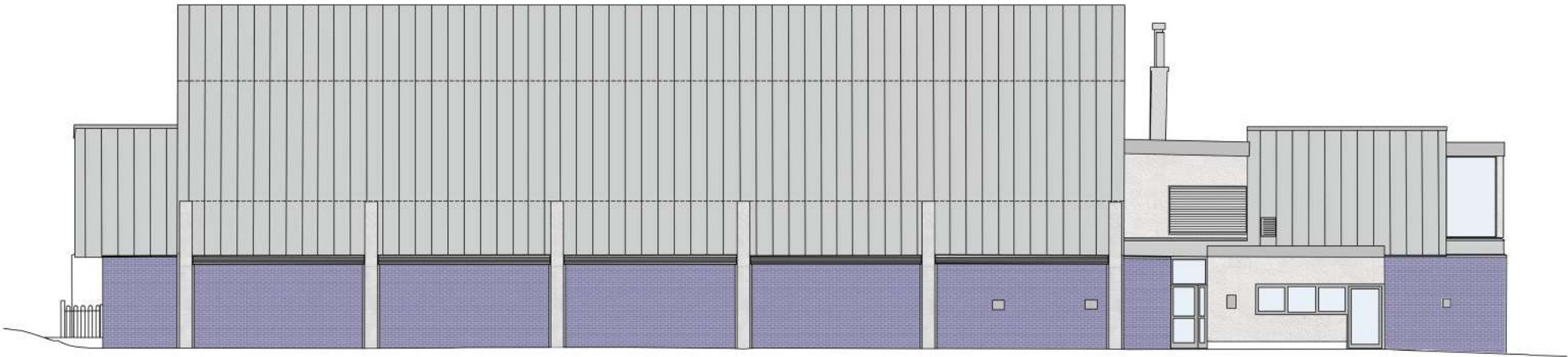
West Elevation



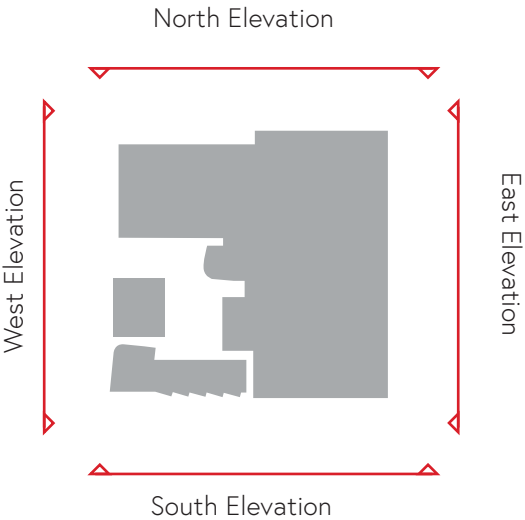
4.4 Proposed Elevations



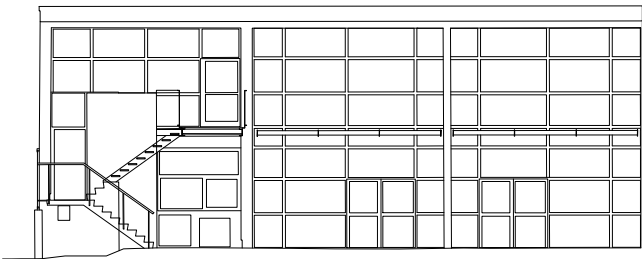
South Elevation



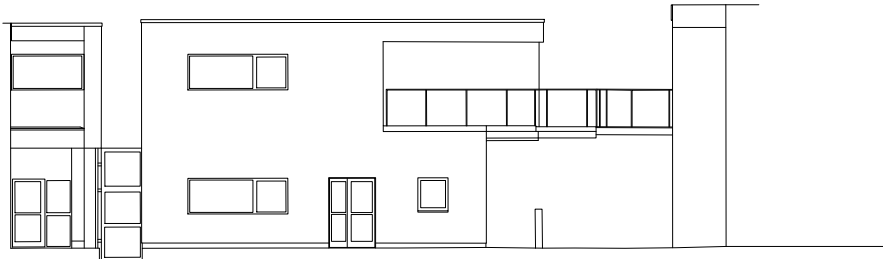
East Elevation



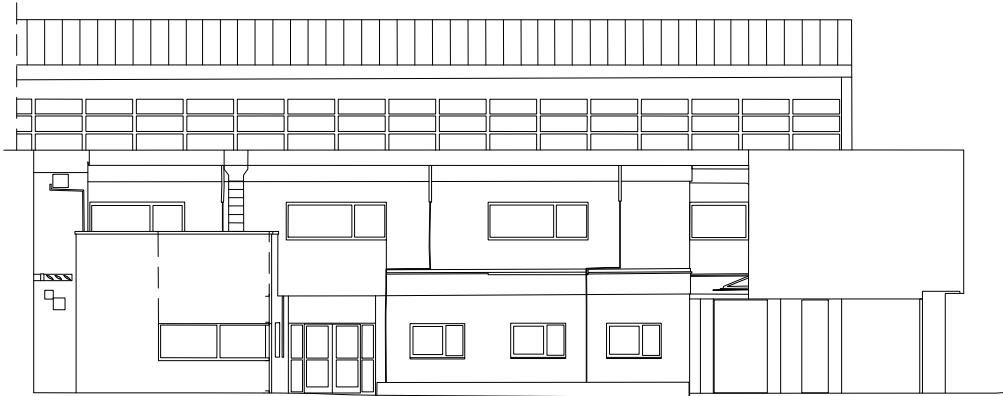
4.5 Proposed Internal Courtyard Elevations



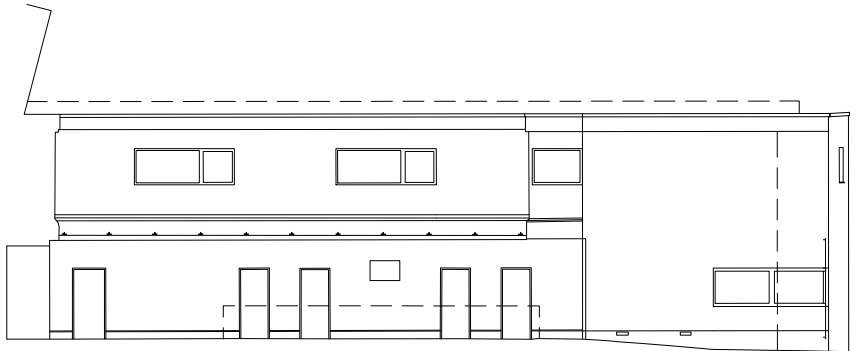
INTERNAL COURTYARD A-A



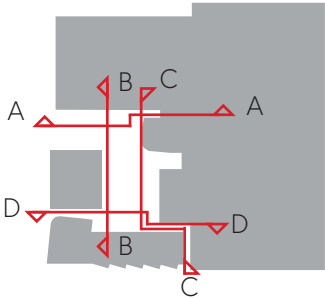
INTERNAL COURTYARD B-B



INTERNAL COURTYARD C-C



INTERNAL COURTYARD D-D



5.0 Conclusion

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5.1 What a low-carbon, sustainable building looks like

UK buildings have a critical role to play in meeting the twin climate goals of reducing emissions and adapting to the current and future climate. It will not be possible to meet the legally binding 2050 emissions reduction target (or future ambitions for net-zero emissions) without a near complete decarbonisation of how we heat these buildings.

The buildings we occupy should be low-carbon, resilient to weather-related impacts, affordable to run, comfortable to occupy and good for our health.

In July 2019, Manchester City Council declared a climate emergency with a commitment to halve their carbon emissions in the next 5 years. As part of the Council (refreshed) Climate Change Action Plan (2020), their commitments between 2022 – 2025 are to:

- "Reduce the carbon emissions from the Council's operational estate by at least 50% by 2025 and put in place plans for a further 50% reduction between 2025 and 2030."
- Support building retrofit and energy generation across the city's buildings and ensure all future development across the city is as close to zero carbon as possible."

For this reason, the Millennium Powerhouse refurbishment's aim is to provide the above with its decarbonisation programme, so it can continue to provide the youth services and activities that are so valued within the Moss Side community.



Corstorphine & Wright

Contact us to discuss your project

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