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ARCHITECTS

**NCC MANCHESTER
DESIGN AND ACCESS STATEMENT**

SUPPLEMENTARY PLANNING DOCUMENT

NCC-EWA-ZZ-ZZ-RP-A-00001

13th August 2021

Document Details

Job Number: 2576
Job Title: National Cycling Centre - Manchester
Document Title: Design and Access Statement
Revision: Rev B
Date of Issue: 13/08/21
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1.0 INTRODUCTION

1.1 Background

NCC has been used to deliver a comprehensive and varied cycling programme for more than 25 years. It is a key strategic leisure facility, locally and nationally, with a long term ambition to continue to provide a community facility and national centre of excellence. The venue must be maintained to enable it to host national and international events, however the building has experienced a number of issues and M&E failures over recent years.

The priority work identified includes...

- Superstructure
- Internal finishes
- Fittings, furnishing and equipment
- Services
- Space heating and air conditioning
- Ventilation systems
- Fuel installations
- Electrical installations
- Fencing, railings and walls

1.2 Scope of Works

- Replace lighting and lighting controls
- Replace existing spectator seating
- Replace PA / Audio provision
- Install lighting rig and controls suitable for sporting events
- Replace trackside WC provision inc. cubicles and sanitary equipment
- Replace existing sports floor to central court area
- Install additional digital screen for the Velodrome
- Replace track barrier to align to Union Cycliste Internationale (UCI) standards
- Create hospitality suite for sponsors, international visitors and athletes

- Replace existing CCTV installation with digital system
- Replace all suspended ceilings and lighting throughout the Velodrome
- Replace existing lift within the Velodrome
- Install new track timing system
- Replace all internal circulation doors
- Replace all hot and cold water installation including pumps
- Replace roof flashings to central roof lights and ascertain source of leak
- Replacement of flat roof finishes including insulation
- Concrete repairs to the bases of the main steel frame
- Steelwork repairs to areas of main steel frame showing signs of rusting
- Redecorate steel frame to Velodrome
- Localised repairs to external concrete retaining walls
- Full replacement of all M&E installations throughout the Velodrome
- Replace curtain walling and entrance doors externally
- Replace the roof lights to the arena

Key Issues:

- There are no works to the track. This was recently upgraded and will need to be protected throughout the project.
- Great Britain Cycling Team (GBCT) are tenants within the NCC. This includes Elite Athletes and the Support Teams. Relationships, requirements and access to facilities will need to be considered and carefully managed.

Stakeholders:

- MCC Capital Programme Project Manager : link between the Contractor and Design Team and the Client / Operator. All communications must be via them. Manages all informal and formal communications between Contractor and MCC.
 - MCC Leisure Services and Corporate Landlord / Asset Management Team : control budget allocation for the project and are central in signing off final designs, agreeing power and data requirements across the whole complex
 - Contractor : coordinates and instructs the design team in all aspects of the project delivery
 - Operator : as the end user will be pivotal in concluding operational issues
- Including circulation and access control.

1.3 Project Team



Client
Manchester City Council



Main Contractor
ISG



Architect / Landscape Architect
Ellis Williams Architects



M&E Consultant / Acoustic Consultant
Waterman Building Services



Access Consultant
E3 Cube



**Structural Engineer /
Civils Engineer /
BREEAM Assessor**
Scott Hughes Design



Fire Consultant
OFR



Air / Environmental Consultant
Stroma Built Environment

1.4 Project Objectives

The Velodrome is considered the most important legacy outcome of the Commonwealth Games with the continued success of British Cycling and is of national significance to both Sport England and the Government. It is the home of British Cycling and has National Centre designation hosting national and international events and programmes. The media value is significant for the venue with a regular international exposure on major sports channels with a substantial audience. The Velodrome has helped put Manchester on the international sports map for the last two decades for both major events and the success of British Cycling.

The long term ambition of Manchester is to continue to provide a dynamic community facility whilst delivering a fundamental commitment to regional and national centre of excellence for cycling (activities and events).

The venue must be maintained and updated to a standard to host major national/international events and continue to deliver the British Cycling national training programme as well as be used by local community clubs and individuals. As such, a series of improvement works have been identified to ensure the Velodrome continues to be a valuable asset regionally and nationally long into the future.

1.5 Design Approach

Manchester City Council have outlined key science based targets in the Manchester Zero Carbon Framework 2020-2038. These include:

- 15m tonne carbon budget for 2018-2100
- Rapid carbon reduction starting in 2018 and averaging 13% year-on-year.
- Zero carbon by 2038

They have also set out human targets to improve residents health, wellbeing and quality of life by reducing the levels of inactive adults in Manchester from 66% to zero.

The wider positive impact that the National Cycling Centre has on resident wellbeing and the opportunity to immediately improve its environmental performance mean it will likely become a flagship project for Manchester City Council.

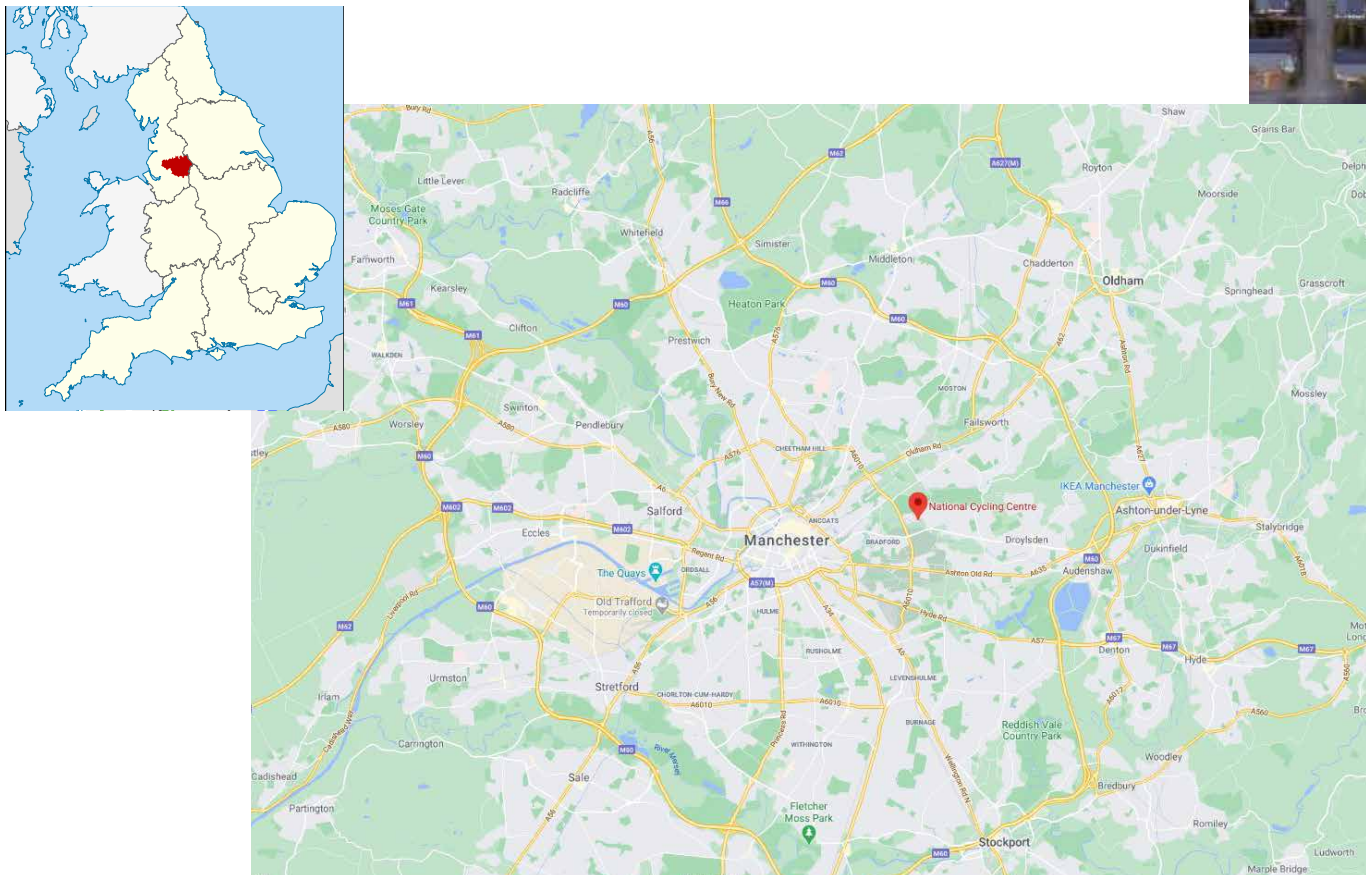
The MCC requirement for carbon neutral buildings by 2038 was confirmed as a project requirement, in addition the current MCC commitment for an immediate 13% year on year carbon reduction was also reconfirmed. Early on the ISG team presented two roadmap options to MCC's Carbon Reduction Team for approaching the carbon reduction for the scheme.

It was concluded that, due to the MCC requirement for an immediate 13% year on year carbon reduction across the MCC estate, the option to redesign the energy strategy for the building now would be the most appropriate approach. This would involve lowering the base energy use of the building as far as is reasonably practical, migrating the heating systems off a gas fuelled network onto a purely electricity fuelled system, using heat pump technology, thereby reducing carbon emissions immediately and also aligning the building for further carbon reductions as the main electrical grid becomes greener.

This approach would not only provide an immediate carbon emission reduction for the building, but will also return further carbon emission reductions without any further works purely by virtue of the national electrical grid becoming decarbonised as the country moves towards the 2050 Government set zero carbon date.

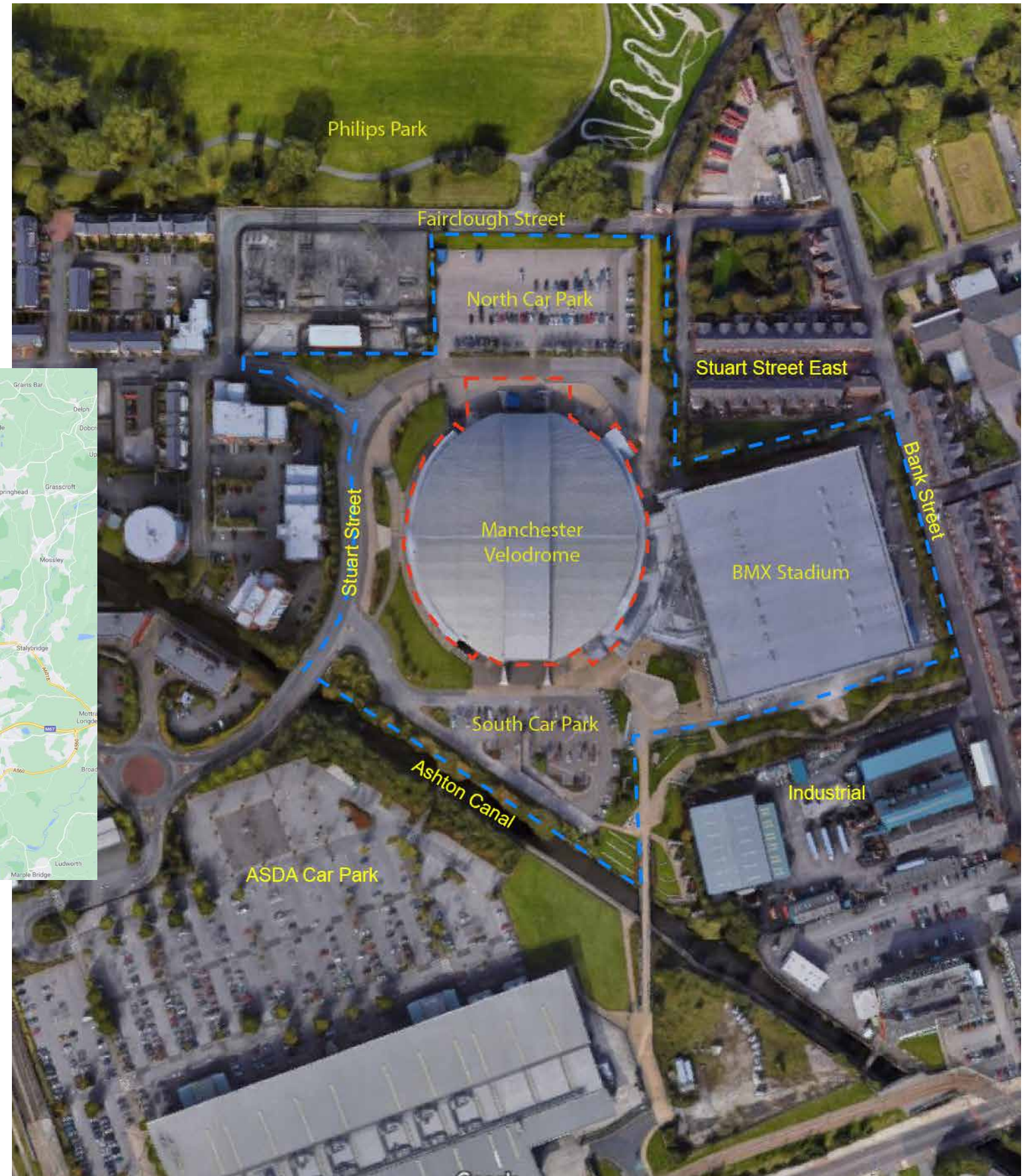
2.0 ASSESSMENT

2.1 Site Location



Site Area : 11,457m²

Address : HSBC UK National Cycling Centre,
Stuart Street,
Manchester.
M11 4DQ



2.2 Historic, Social & Economic Background

Even a cursory look into the background of East Manchester clearly suggests how important the area was during the period of the industrial revolution and that it existed as a major manufacturing base in support of Manchester.

The area was an important coal producer from the 15th to the mid-20th Century. Coal was initially extracted from shallow unrecorded workings but culminated in deep mining – most notably at the former Bradford Colliery situated some 500 metres to the west of the BMX site. Bradford Colliery ceased production in 1973.

The availability of coal was the trigger for industrial development with the growth of the canal and rail networks a further catalyst. Chemical industries followed the coal mining and dyestuffs produced by this industry, plus coal power, were important factors leading to a rapid growth in the textile industry in this area. The Manchester Velodrome occupies part of the site of the former Stuart Street Power Station. This coal powered station obtained fuel supplies by rail and directly from Bradford Colliery via a conveyor tunnel that terminated immediately to the southeast of where the Velodrome is now situated.

The former Stuart Street coal conveyor tunnel terminated in an underground transfer chamber. From there coal was transported to the boilers by a system of gantries and overhead conveyors.

For a long period the area was also a major residential zone, housing many of those who worked in local industry but a story of decline in the area began in the early 1970's as industry started to disappear. By the end of the last century the area of East Manchester was understood to be one of the most deprived areas in the UK with extremely high rates of unemployment a dwindling population and empty properties.

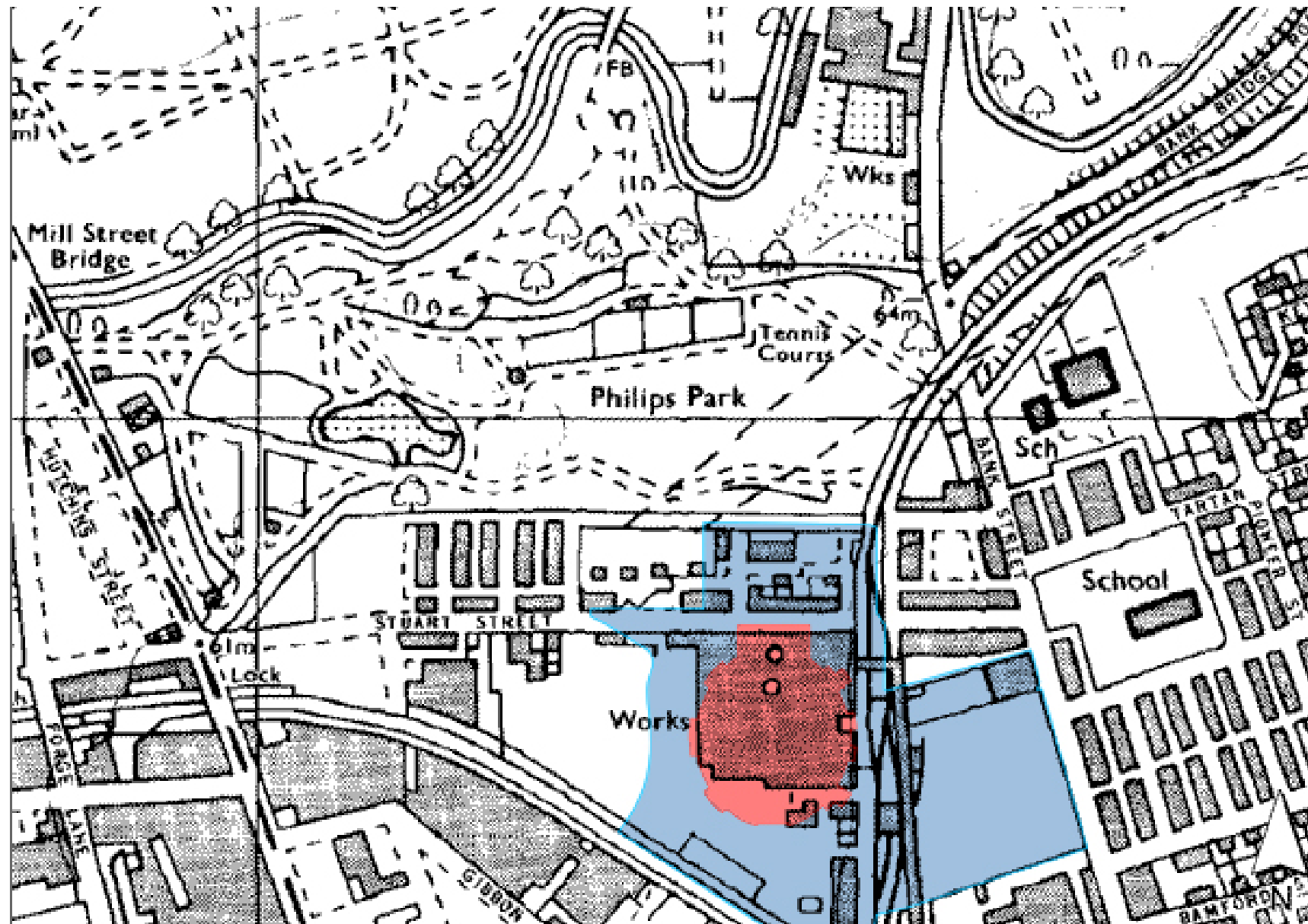
In recent years the formation of a regeneration partnership (New East Manchester Limited) has led to the formulation of a coherent strategy to revitalise the area. This has been done through discussion with the local community and is intended to improve housing stock, build economic sufficiency and increase population.

In 1994 Manchester's Velodrome was constructed. The HSBC UK National Cycling Centre was Britain's first indoor Olympic cycling track, and since it opened, has become one of the World's finest and fastest board tracks. The track is in constant use seven days a week and, thanks to the comprehensive programme of activities for all levels of ability, is the busiest in the world. From elite athletes to novices, the track offers sessions to anyone seeking to experience this exciting sport.

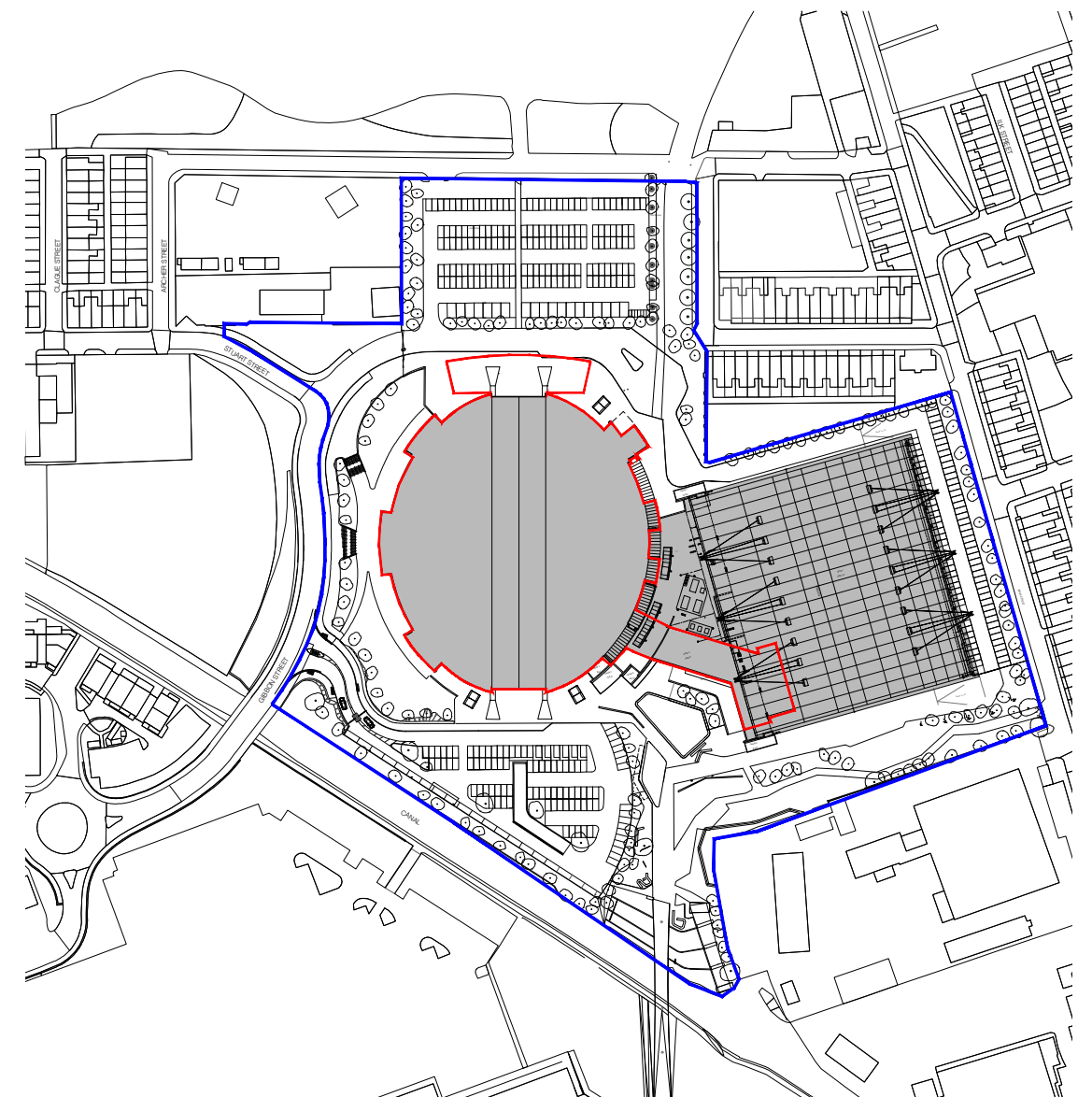
In 2011 the BMX Centre was added (planning ref 089903/FO/2009/N2). The BMX track is for riders new to the sport, existing riders and world class BMX athletes. The amateur BMX track is international standard, with a five metre start hill that runs into a range of jump configurations. The elite track begins with the only eight metre start hill in the UK, which leads into a technically diverse layout. The BMX track helps riders progress in the sport of BMX racing, regardless of their current



Site aerial photograph



1970's OS Map with proposed site marked in red and ownership boundary in blue



Proposed Site Plan marked in red and ownership boundary in blue

2.3 Site Analysis

The National Cycling Centre site is located to the East of the main A6010 Alan Turing Way, which effectively cuts the Sportcity area in half. Gibbon Street leads from the main road and winds around the front of the Velodrome as Stuart Street until it accesses the car park to the North of the site.

To the North of the site is Fairclough Street and beyond this Philips Park which extends to Riverbank Road to the North and Bank Bridge Road to the East. Immediately to the East of the site is Bank Street which is a predominantly residential road of two storey terraced properties. A large residential area exists behind the Bank Street houses and branches from Tartan, Ravensbury and John Haywood Streets. To the South of the site is a small industrial area, the Ashton Canal and beyond this the ASDA retail site which sits on the junction of Alan Turing Way and Ashton New Road.

Highways – The site is situated directly adjacent to Stuart Street, which provides a link to the A6010 Alan Turing Way via Gibbon Street. The A6010 provides a strategic link between Longsight and Openshaw to the South and the A62 to the North which in turn provides a direct link between central Manchester and Oldham. North of the A62, the A6010 turns into a single carriageway and leads on to Cheetham Hill.

Walking – Pedestrian access to the site is available from Stuart Street via either steps or ramp. A pedestrian access is available onto the site via Bank Street and although this is closed at 3.30pm each day it offers a valuable ‘short cut’ for local residents wishing to access ASDA superstore on foot. Additionally there is a similar pedestrian route from Fairclough Street onto the site which links through to Stuart Street.

Cycling – The site is well served by an existing cycle network as the first section of the National Cycle Route (No. 60) runs from Debdale Park following the disused Fallowfield railway line along the infilled Stockport Canal and along the Ashton Canal towpath to Sportcity. Otherwise known as the ‘Manchester Cycleway’, this facility provides a safe and convenient route to the Velodrome site from the South and East of the city. Additionally, there is an on-road cycle lane along Stuart Street which runs adjacent to the site on the Westbound carriageway from its junction with Fairclough Street to its roundabout junction with Gibbon Street/ASDA access road. Segregated on-road cycle lanes are provided on both carriageways of the A6010 Alan Turing Way close to the

Velodrome. This continues North with dedicated cycle crossing facilities at the junction with Gibbon Street to allow access to the Velodrome. The wider cycle network links the site to various local conurbations such as Ancoats, Ardwick, Collyhurst, Gorton, Miles Platting, New Moston, and Newton Heath via a mixture of different facilities.

Bus – The area adjacent to the Velodrome site is served by a number of designated bus routes which includes no less than nine stops which are listed below:

- Alan Turing Way/Philips Park Road (North & South bound)
- Alan Turing Way/Ashton New Road (Northbound)
- Ashton New Road/ADSA (Eastbound)
- Ashton New Road/Quinn Street (Westbound)
- Ashton New Road/CIBA Works (East and Westbound)
- Bank Street/Tartan Street (North & Southbound)

Coach – Manchester now offers a number of sites where coach friendly facilities for short, medium and long term parking is available. Coach parking is available at the Velodrome and is sited in the area fronting the existing East car park.

Rail – The existing rail facilities near to the Velodrome are limited. The nearest station is Ashburys which is located approximately 1.5km to the South. The station is un-manned and has no other facilities eg. Cycle storage. Destinations from Ashburys station include Belle Vue, Bredbury, Glossop, Grindleford, Hadfield, Manchester Piccadilly, Marple, Reddish and Sheffield. The next closest station is Ardwick, some 2.1km away, however only serves 5 trains per day. The third closest station is Manchester Piccadilly, located some 2.6km South-West of the Velodrome, although this is a mainline station and serves as one of the largest transport hubs in the region.

Metrolink – The Metrolink has been recently extended to Droylsden and stops at Etihad Campus and at Velopark for HSBC UK National Cycling Centre. Trams to and from Velopark every 12 minutes, or every 15 minutes after 1700 on Sundays.

Flood Risk - The Environment Agency has confirmed that the site sits within Flood Zone 1 which indicates that there is a 1 in 1000 year probability of flooding. It is sensible to assume therefore that the site is only vulnerable to flooding from blocked/ damaged drains or ponding during heavy rainfall. The existing drainage from the site employs attenuation to slow the rate of discharge into the mains - this is done with a length of 1.8m diameter below ground pipe which acts as a tank sewer. Discharge rates are also slowed by use of a hydro-brake which controls and limits the amount of stormwater entering the main combined sewer system.

Ecology - A previous ecological survey and assessment undertaken in 2009 for the BMX Centre showed that the Velodrome site represents a habitat of very low ecological value. Tameside ecological unit have been consulted prior to the application being placed and we have been advised it is likely that any Construction Management Plan submitted to discharge a condition will need to address the issue of possible pollution to the adjacent Ashton Canal.

Acoustics - Please refer to Noise Impact Assessment within appendix for details

Ground Conditions - Please refer to Phase 2 Site Investigation within appendix for details.

Coal Mining - Please refer to Report On Coal Mining Related Site Investigative Works within appendix for details.

Crime Impact - A Crime Impact Statement is being submitted as part of this application.

Site Utilities - Apart from the above mentioned issues there are existing utility services extending around and across the site, electricity, gas, water, telephones and hydrant main. Details of existing utility services are included within the application.



ADDRESS

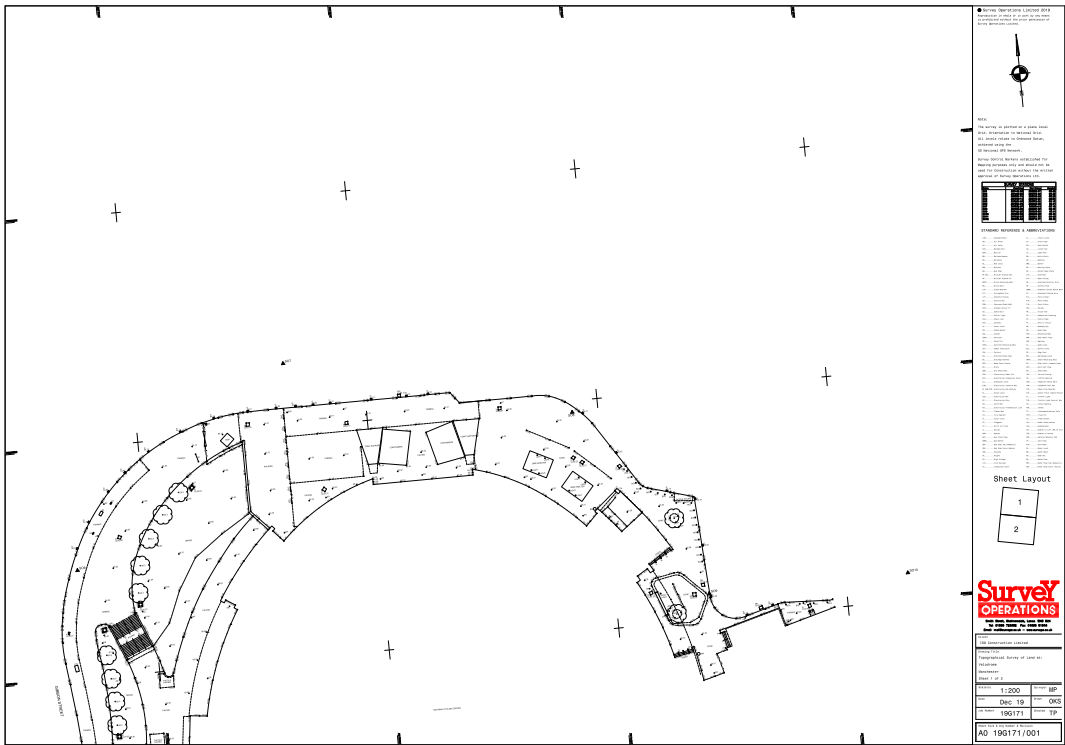
Velodrome - Velodrome, Manchester -
NGR E387358 N398754

REFERENCE

19K241

Survey Operations Ltd, Smith Street, Skelmersdale, Lancashire WN8 8LN
Tel: +44 (0)1695 725662
Email: mail@survops.co.uk

Site Utilities Survey 2019



Drainage Survey 2019



View of NCC from the North car park, facing East



View of NCC from the North car park, facing West



Proposed location of new External plant Area. Taken from the North car park, facing South



Aerial view, facing East



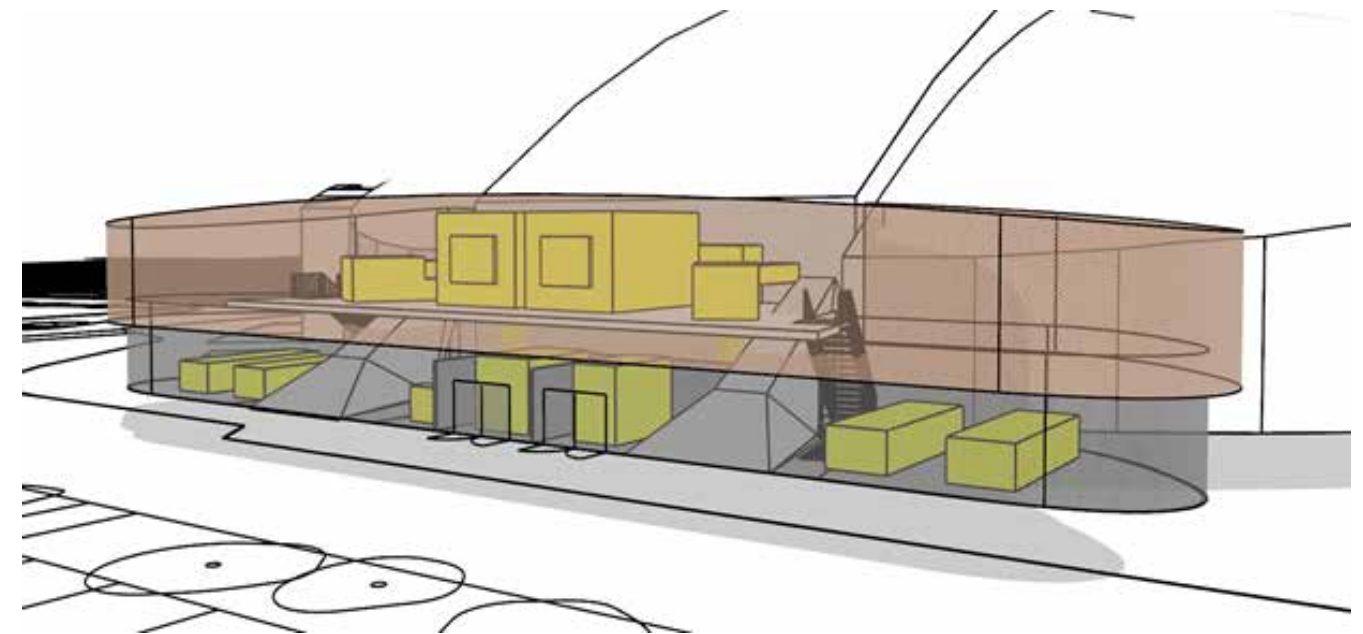
Aerial view, facing North

3.0 DESIGN

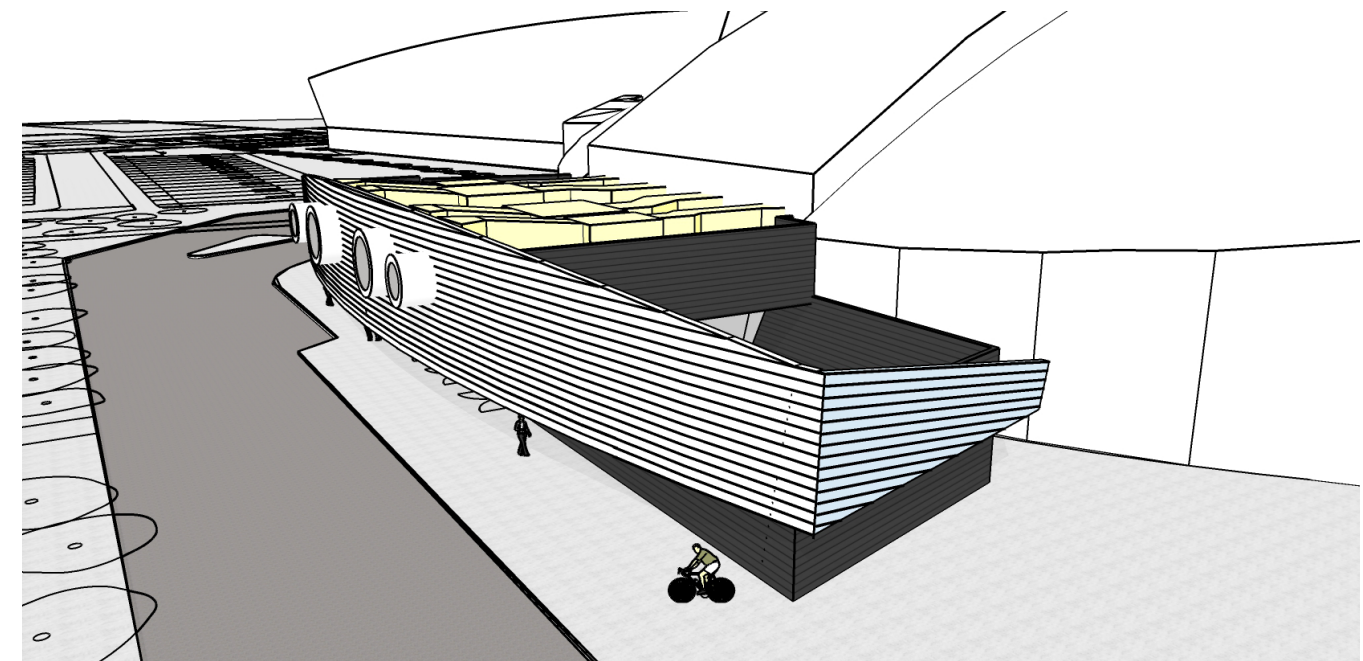
The replacement and upgrade of existing building services results in the requirement for a new plant room on site. This has been situated on the North side of the velodrome structure to minimise visual impact on approach. Other design criteria are as below.

3.1 Concept

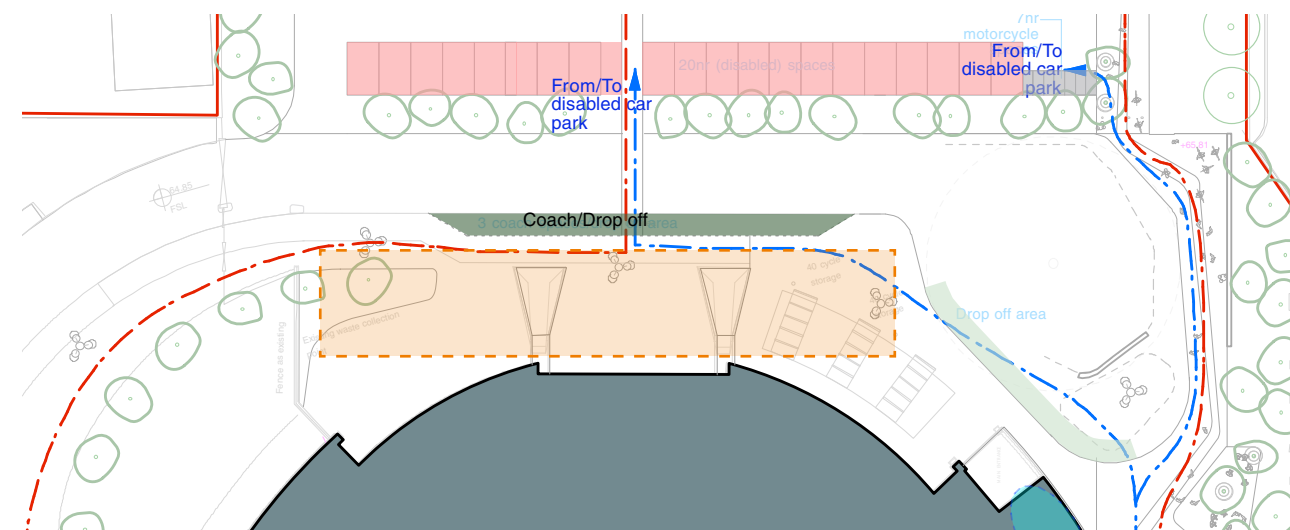
- The Velodrome is an iconic building and a key part of the sporting history of the British Cycling team - new developments need to compliment the existing structures.
- The area of development is clearly visible from the adjacent Grade 2 listed Philips Park to the North and any design needs to pay cognisance to this relationship.
- The road to carbon neutral path which the building is on is a significant investment from MCC and should be celebrated in some way.
- The plant equipment has substantial visual impact and needs to be screened as viewed from ground level from approach and arrival viewpoints around the site.
- Key acoustic design development will determine the final form and enclosure required for the plant areas.



PRELIMINARY MASSING STUDY



PRELIMINARY MATERIAL STUDY



PROPOSED PLANT AREA

3.3 Appearance

A key part of the approach was to look at both the distinctive geometry of the existing building and the materials to ensure that any new development complemented and related to the existing structures.

By introducing a distinctive curve to the north facing facade the new plant room screen is intended to relate to the main roof of the Velodrome beyond. The massing is intended to be read as a single, distinct element that relates to the large forms on the main roof.

Plant enclosure materiality: It is intended that by using a lightweight screening system of PPC profiled aluminium blades, of similar tone and materiality to the main building, that the new structure will complement the existing structures on site. This screening is designed to facilitate airflow to the plant whilst blocking views within. The use of accent colours (of red (RAL3020), white(RAL9010) and blue (RAL5005) are proposed to reflect Team GB's corporate branding and to offer a subtle contrast and playfulness within the screening. The plinth will be clad in a smooth finished flat metal composite panel, dark grey. A 600mm high steel mesh band at base of wall is proposed to provide natural air flow to the plant's lower level.

Roof lights: The existing roof lights within the Velodrome are now 26 years old and are beyond their useful life. Because polycarbonate has no inherent fire resistance the decision was made to over-clad these elements in a Class A2 fire rated composite cladding panel. This will greatly improve the thermal efficiency of the envelope and minimise any new structural work at high level. High level polycarbonate wall cladding around the upper edge of the building will be similarly over-clad.

Curtain Walling. The existing aluminium curtain walling around the perimeter of the building is also at the end of its useful life. It is both thermally inefficient and poorly sealed to the envelope resulting in high levels of heat loss around the building envelope. It is proposed to replace the existing system with a thermally broken, double glazed powder coated aluminium curtain walling system.

A new length of curtain walling is also proposed along the north main building facade within the existing GBCT office space, to bring in more daylight and create a greater presence externally.

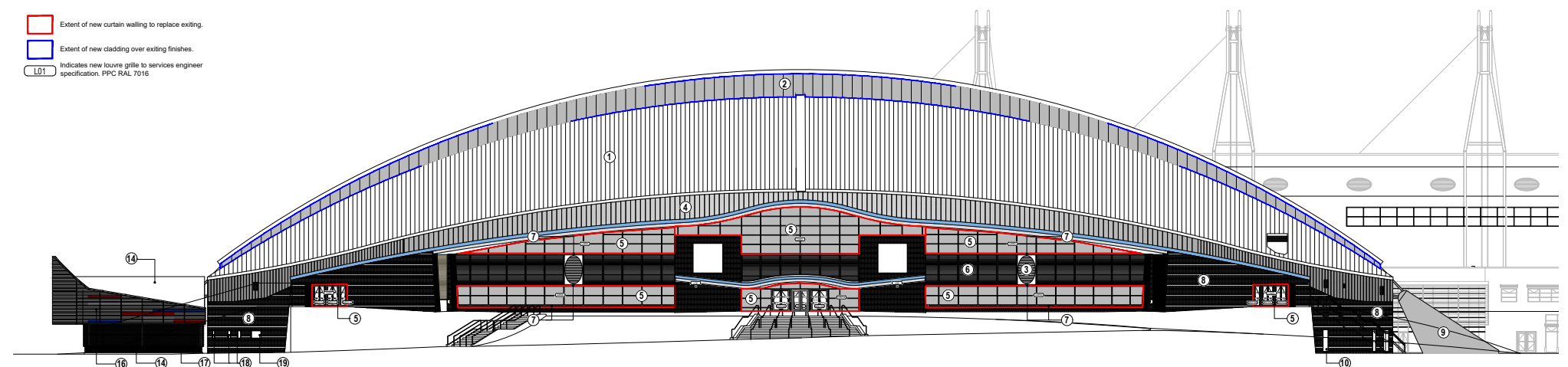
Glazing: Existing punched windows around the perimeter of the plant enclosure will be provided with acoustic rated glazing, with a number replaced with larger window openings.



NORTH ELEVATION (MATERIAL STUDY)



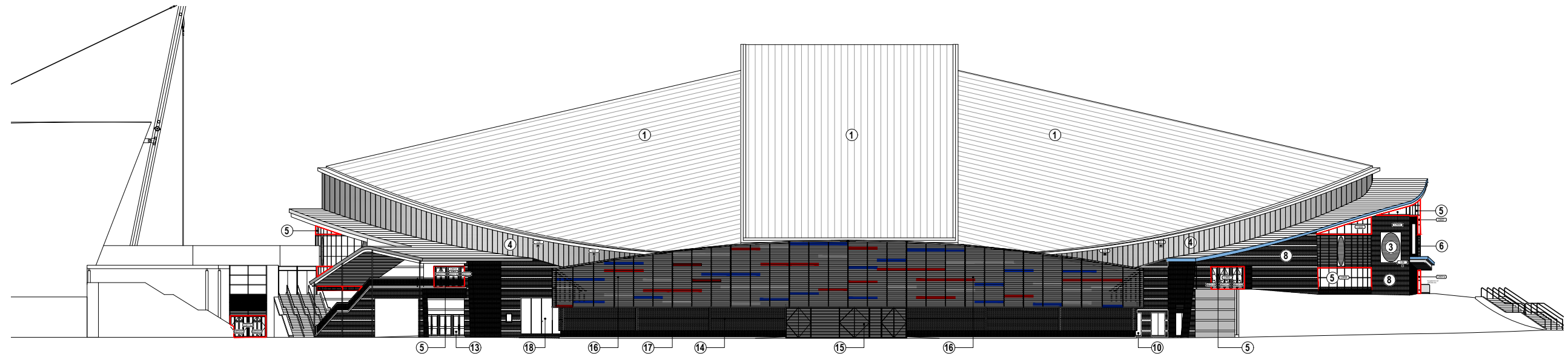
VIEW FROM NORTH WEST



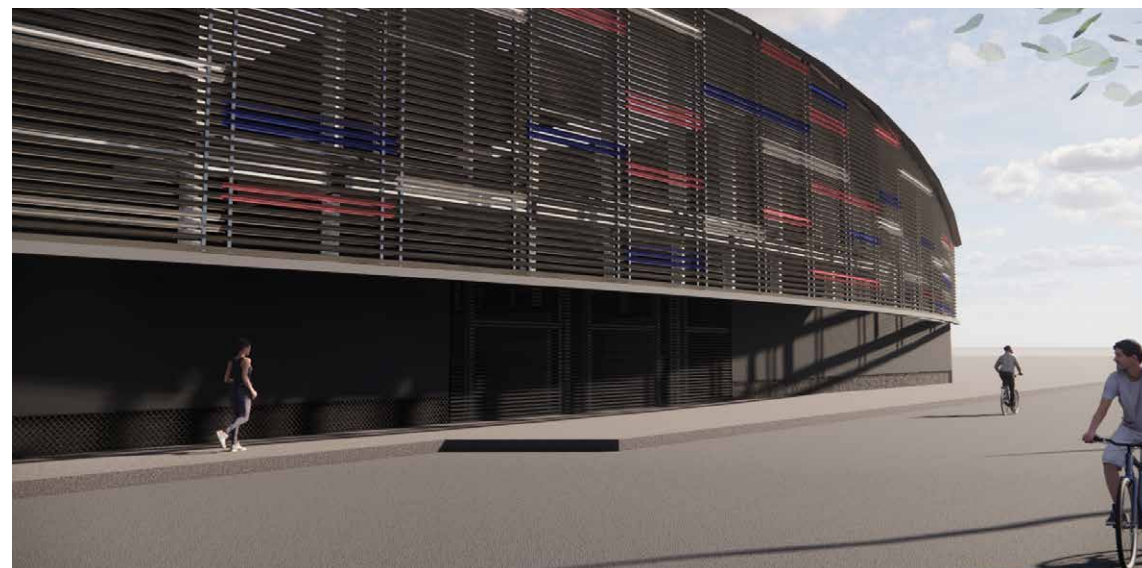
WEST ELEVATION

3.4 Scale

Given the scale of the replacement of the building services the external volume required to screen them is a significant change to the existing building north elevation. The enclosure is designed both as a visual screen and to achieve the required noise levels recommended by the project acoustician. The scale and form is intended to echo the profile of the Velodrome beyond and as a single strong form relates to the large structures beyond.



NORTH ELEVATION



VIEW FROM NORTH EAST



VIEW FROM NORTH

3.4 Scale (continued)

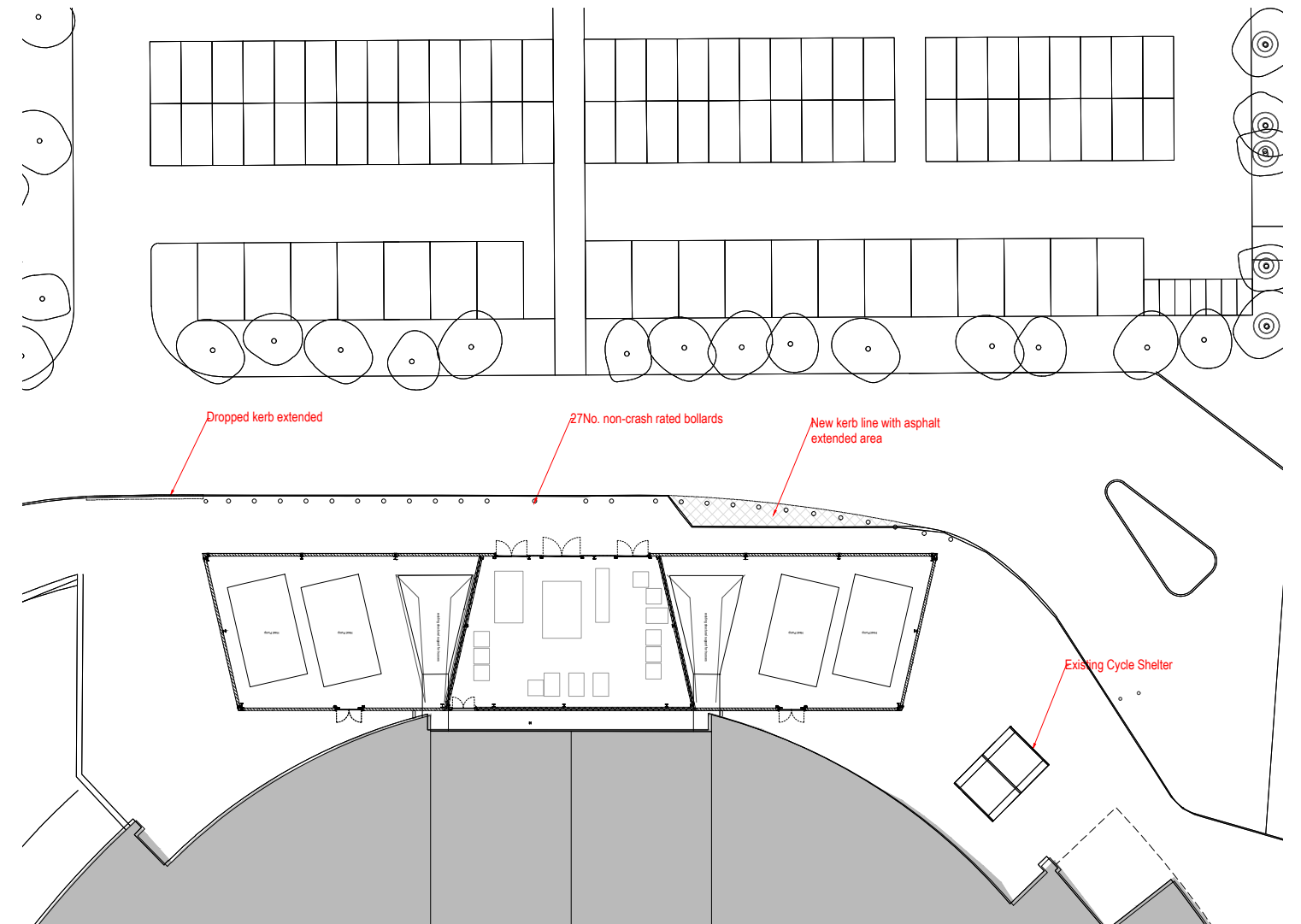


3D VISUALISATION - AS SEEN FROM NORTH CAR PARK

3.5 Associated External Works

A number of new external works will also form part of the proposals, including:

- An asphalt infill section of existing kerb north of the new plant enclosure. This is to provide sufficient circulation around the edge of the plant structure.
- Erection of 27No. non-crash rated bollards north of new plant enclosure to prevent vehicular access along line of plant room.
- Lengthening of existing dropped kerb to the north-west of the new plant enclosure.
- Relocation of existing cycle shelter to south elevation, due to removal as part of the plant enclosure works.
- New access gates to north-west corner of BMX arena to form secure parking area which could also be used for access to relocated bin store.



4.0 ACCESS

4.1 Introduction

This Access Strategy sets out to respond to the requirements of both legislation and guidance relating to design of buildings and their approaches, so that they are accessible and convenient for all users.

E3 cubed have been employed to carry out an access appraisal and review of facilities at the Velodrome. Their report is contained under separate cover.

Since compliance with the requirements of the Building Regulations is a legal obligation, this document focuses on Approved Document 'M' which deals with matters of disabled access and provision. However, there are several documents that are also considered, as listed:

- The Building Regulations 2000: Approved document 'Part M' – Access to use of buildings (2004)
- BS 8300:2009: Design of buildings and their approaches to meet the needs of disabled people – Code of practice
- Manchester City Council: Design for Access 2

In addition to the above guidance there is also an obligation to meet with the requirements of the following legislation:

- The Disability Discrimination Act 1995
- The Disability Discrimination Act 2005
- The Disability Rights Commission Act 1999
- The Equality Act 2006

This document is intended to outline the current design intent regarding disabled provision but just as significantly at this stage should act as a guide and checklist for the design to be developed. It does not intend to be a fully detailed response to every Requirement as many items have not been considered at this early stage and several issues will be the subject of further and more detailed studies e.g. Signage.

Both main entrance doors to the lobby that sits between the BMX and Velodrome will be upgraded to feature automated bi-folding access doors. These will operate more efficiently than present being easier to navigate through excluding drafts from the spaces beyond.

WC areas are upgraded in line with the above legislation and have been reviewed as part of the equality act audit. New provision includes provision of a new changing places facility within the publicly accessible parts of the BMX side to the National Cycling Centre.

The fire strategy review has looked at how wheelchair users can evacuate in the event of fire. Recommendations for new refuge areas to ensure safe egress in fire have been adopted as part of these proposals.

Access to the proposed plant area is to be via a single stair access - this is occasional access only for the purposes of maintenance and is designed as such.

Catering and hospitality facilities upgraded as part of the works have been designed to ensure access for all. This includes the provision of lowered serveries and worktops where applicable.

Please refer to the GA plans submitted as part of this application for further details.

5.0 APPENDIX

- 5.1 Phase 2 Site Investigation
- 5.2 Noise Impact Statement
- 5.3 Existing and Proposed Drainage
- 5.4 BREEAM Pre-Assessment
- 5.5 Crime Impact Statement
- 5.6 Report On Coal Mining Related Site Investigative Works