

DESIGN & ACCESS STATEMENT

Bretby Industrial Estate



WESTCORE
EUROPE

webbgray

DOCUMENT INFORMATION

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Front cover image for illustrative purposes only to demonstrate concept design.



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INTRODUCTION

This design and access statement has been produced in support of the detailed planning application for the construction of a new manufacturing building with associated offices and training facilities at Bretby Business Park. In addition the statement covers the outline planning application for two smaller speculative industrial blocks.

The tenant for the proposed new 45,000sqft industrial building is Dellner who are one of the world's leading suppliers of train connection systems, with 80 years of experience in the rail industry. Headquarters are in Falun, Sweden, with 22 subsidiaries around the world with the UK base currently in Swadlincote this new facility would be the UK headquarters for the company.

Founded in 1941, Dellner have years of tested, proven experience in producing safe and reliable train connections, and providing innovative, state-of-the-art and cutting-edge products for the transport Industry.

The location at Bretby Business Park in a new purpose built state of the art facility is seen as an ideal position with easy links to the motorway network and allowing their highly skilled workforce to remain local.

The content of this document details the translation of the brief, analysis of the site and the establishment of design principles to inform the development of the proposal and ensure that a coordinated and coherent strategy is implemented on the site. Further information is included to demonstrate the considerations in regards to future proofing the development and providing suitable access provisions for all.

All information contained within this document should be read alongside the other supporting documentation submitted as part of the reserved matters planning application.



Fig. 1 View of Plot

SITE LOCATION

Bretby Business Park, is one of the leading business parks in the Midlands and is easily accessible from the A50, A38, M1, M6 and M42. Birmingham, Nottingham, Burton-upon-Trent and Derby are all within easy reach.

With over 320,000 sq ft of office, laboratory, industrial and warehouse accommodation, Bretby Business Park is home to over 60 businesses employing over 2,000 people. The Park provides a range of high quality offices to let and industrial units to let.

The Park offers 24-hour manned security, ample car parking and attractive landscaping. A dedicated on-site management team ensures that occupiers' property needs are met quickly and efficiently.

In total Bretby Business Park is approx 35 acres, however the application site for this proposal is 6.78 acres. Known as the plateau site it is in the North West corner of the park and is probably the last major building plot available on the business park.

The plot is accessed directly off the main estate road and is settled down in a dip screened by heavy existing landscaping.

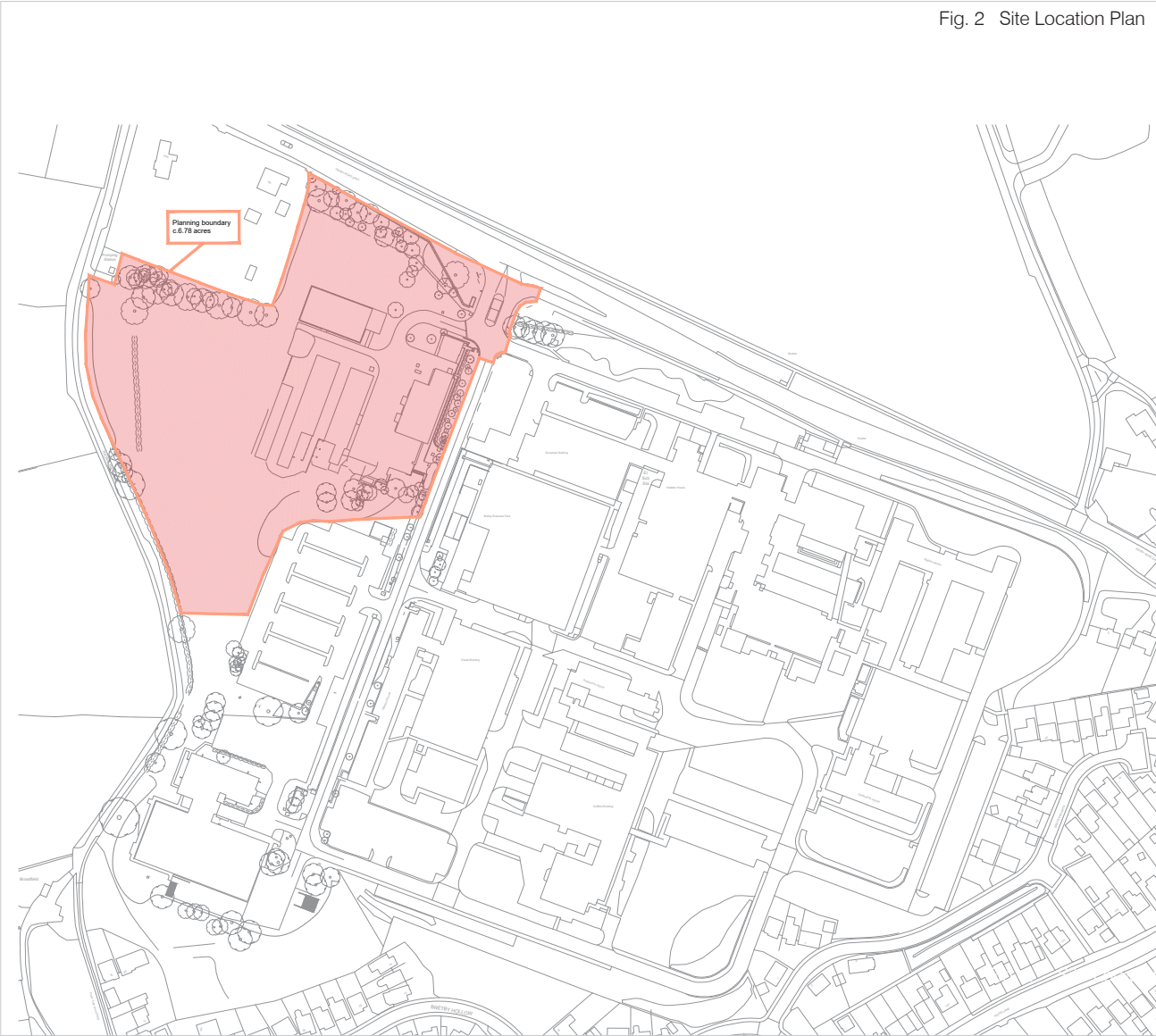


Fig. 2 Site Location Plan

SITE CONTEXT



Up until 1990 Bretby Business park was owned by British Coal Corporation, and was known as MRDE (Mining and Research Development Establishment). The main function of the Mining Research and Development Establishment (MRDE) was research into, and testing of, mining equipment and procedures.

Since its closure the park has been transformed into a 35 acres business park employing over 2000 people in approximately 60 different companies, many on long term agreements.

Many of the buildings are from the original period of ownership by British Coal, there have been some new developments over the years with the construction of new offices however nothing significant for several years. The business park is well maintained, the landscaping immaculate but some buildings are starting to look tired. With its recent purchase of the Business Park Westcore have agreed to invest in the park to increase the availability of high quality accommodation and start a phased improvement and enhancement of the whole site.

This proposed new unit is located on the last remaining free building plot and should then set the standard going forward for all new works.



DESIGN : PRINCIPLES

Analysis of the site and the requirements of the brief facilitated the establishment of a set of key design principles that have informed the progression of the project from its inception.

The key principles are as follows:

- Create a strong focal point to the building approach. Combined with an active frontage giving additional visual interest.
- Incorporate a contemporary architectural typology that compliments and reflects the quality of the existing buildings, but setting a new standard for the business park.
- Establish a layout strategy that respects the plot boundaries, providing flexible space to an institutional standard.
- Provide an exemplar building and landscape design.

These principles have been considered across all stages of the design process with the aim of creating an all inclusive and fully resolved scheme. The following information demonstrates how these considerations have been translated through design development into the finalised proposal.

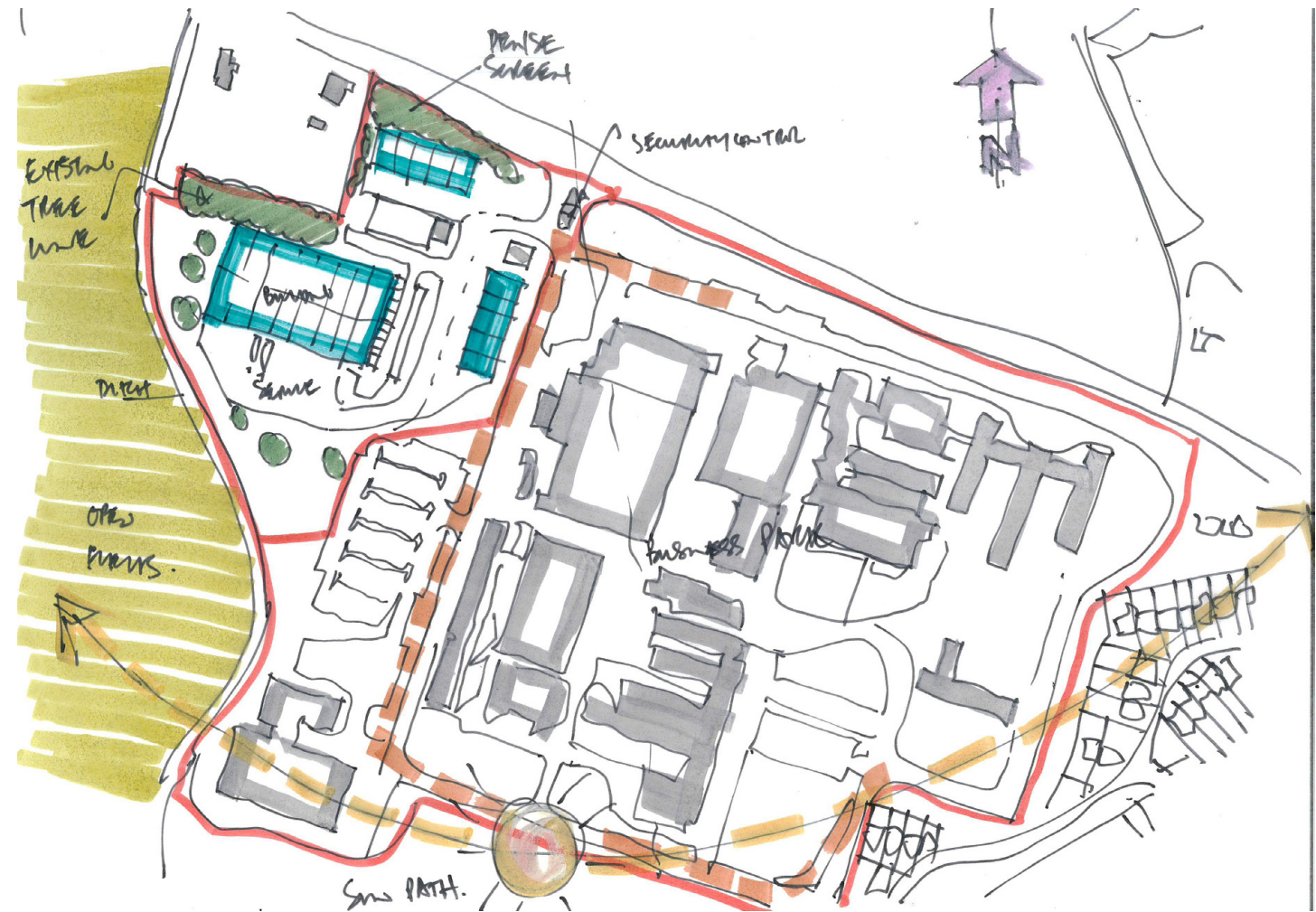
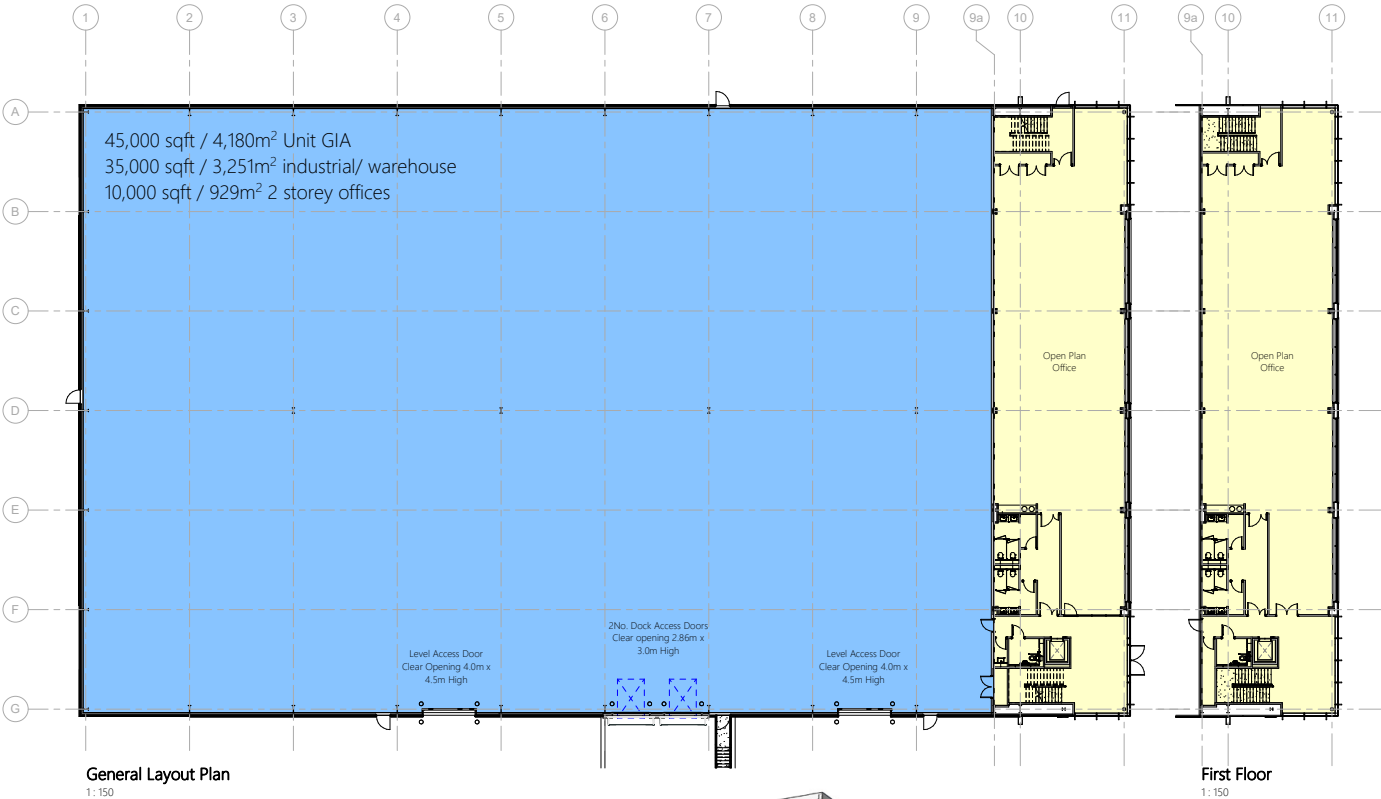


Fig. 5 Site Concept Sketch



DESIGN : USE : AMOUNT



The building has been designed to meet the institutional standards for a industrial production building, creating versatile accommodation that can meet the future needs of the occupier.

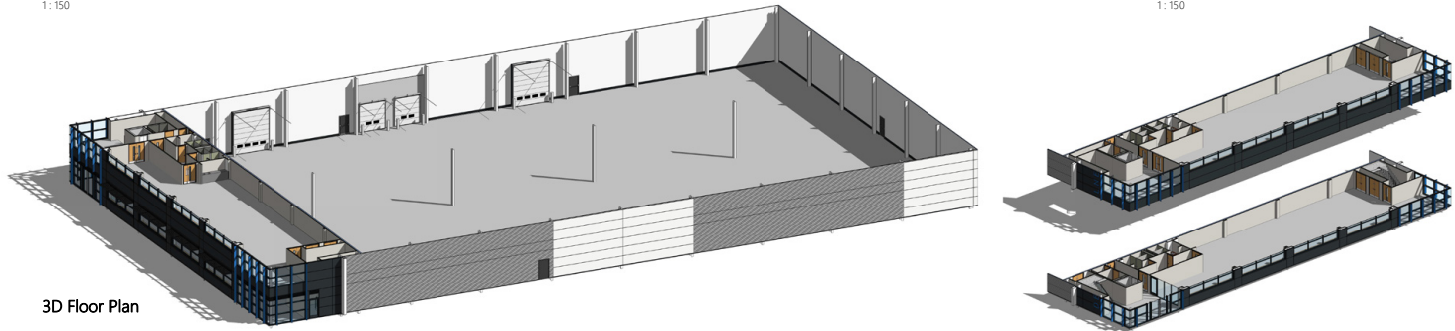
The design incorporates two levels of office accommodation that faces out towards the access road. This has been sized relative to the production area to ensure that the functional demands can be met, in accordance with the standards. The position of the offices provide a number of positive building frontages that overlook all of the main site access points providing natural surveillance and a sense of security for users.

The development provides an opportunity to apply the principles of sustainable development to the project to ensure that materials, energy and resources are used efficiently and innovatively and work cohesively within the overall scheme

Schedule of Areas:

Usage	GIA
Production	3,251m ² (35,000 ft ²)
Office (2 Storeys)	929 m ² (10,000 ft ²)
Total	4,180 m ² (45,000 ft ²)

Floor	GEA
Ground Floor	3,768m ² (40,558 ft ²)
First Floor	483 m ² (5,200 ft ²)
Total	4,251 m ² (45,758 ft ²)



DESIGN : SCALE

An important design driver for this project was to create an institutional building for long term flexibility.

The building in terms of height compares similarly to similar buildings across the Bretby Business Park. It is considered that the simple horizontal lines and restrained pallet make this an elegant solution within the context.

We are proposing a haunch height of 10m and this is considered to be fairly standard and institutionally acceptable as a modern production unit on an employment park. The portal frame is hipped on all corners to reduce the impact and create a single horizontal eaves line which runs continuously round the building. Although more costly, this solution is much more aesthetically pleasing than a series of gables on the two end elevations.

The plot has an existing ground level of between 129.4 and 126.0, wit the existing buildings and containers all at approx 129.0 AOD. This has been maintained and is the proposed FFL of the new building.

The existing established tree line is maintained and protected screening the building from the adjoining properties. The service yard is screened by the building and therefore any disturbance is minimal.

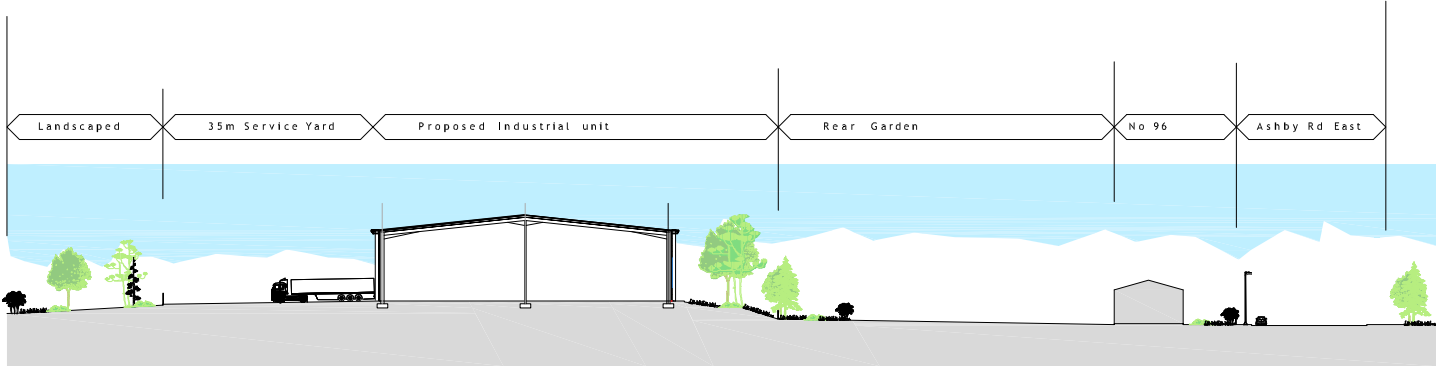


Fig. 10 General Site Section 2-2

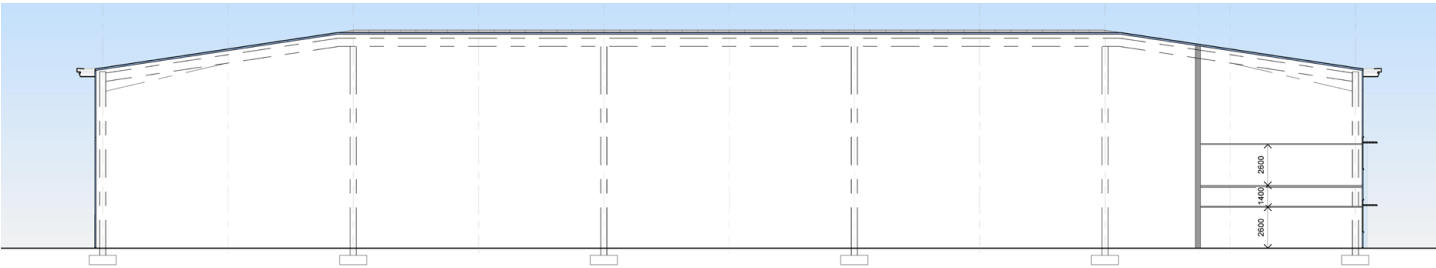


Fig. 11 General Building Section

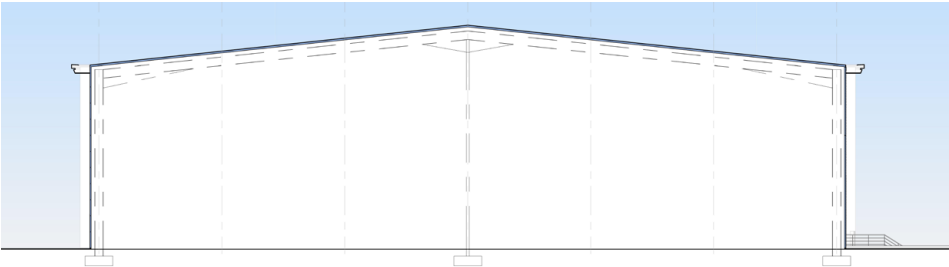


Fig. 12 General Building Section

DESIGN : APPEARANCE

The appearance of the proposal has been influenced by contemporary styling, with an emphasis on creating a clean and modern aesthetic that is both long lasting and utilises a neutral colour palette.

The facade incorporates pre-formed cladding panels and large elements of powder coated aluminium curtain walling, all using an understated colour scheme. The structural simplicity of the design creates an aesthetic that simultaneously links into the context and establishes its own unique identity.

The main entrance to the building has been clearly denoted by a feature cladding detail, framing the full height curtain walling and working in conjunction with the site layout to naturally guide visitors.

Care has been taken with the elevational treatment to break up the expanses of cladding, with shifts in colour and texture incorporated to avoid a monolithic appearance. The primarily grey facade is periodically broken up with feature dark grey piers positioned to suit the structural grid and high level curved profile panels. The result is softening of the overall mass of the building through a diverse aesthetic that is flexible enough to suit a wide range of potential occupiers.



Fig. 14 South East Elevation



Fig. 15 North West Elevation



Fig. 16 South West Elevation

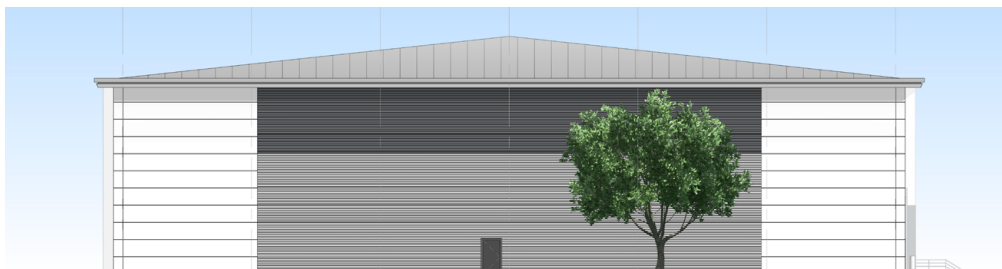


Fig. 17 North East Elevation



DESIGN : MATERIALS

The materiality of the building has been developed with a palette of neutral colours and high quality products that add layers of complexity and interest to the building through diverse textures and application. The breakdown of materials is as follows:

1. Composite Cladding Panels

Colour: Dark Grey

Horizontally laid flat profile composite cladding panels using consistent panel sizes and aligned panel joints to ensure consistency across all elevations. These panels form the majority of the main warehouse elevations.

2. Composite Cladding Panels

Colour: Grey

Horizontally laid profiled composite cladding panels using consistent panel sizes and aligned panel joints to ensure consistency across all elevations. These panels are used at regular intervals along the facade to diversify the colours and texture.

3. Composite Cladding Panels

Colour: Silver

Horizontally laid profiled composite cladding panels using consistent panel sizes and aligned panel joints to ensure consistency across all elevations. These panels are used at level to provide a feature band just below roof level.

4. Composite Cladding Panels

Colour: Dark Grey / White

Horizontally laid flat profile composite cladding panels using consistent panel sizes and aligned panel joints to ensure consistency across all elevations. These panels are used on the office block to provide contrast with the main warehouse.

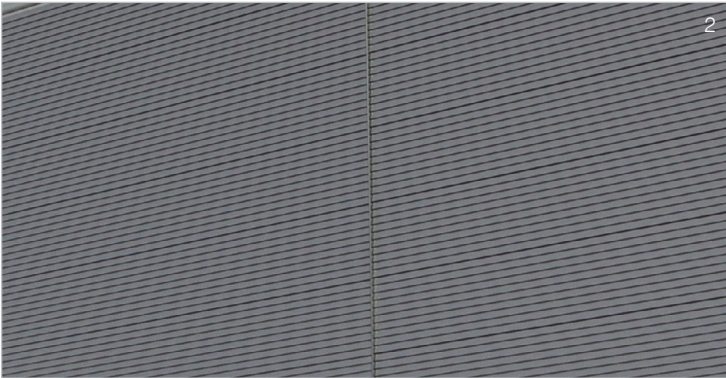
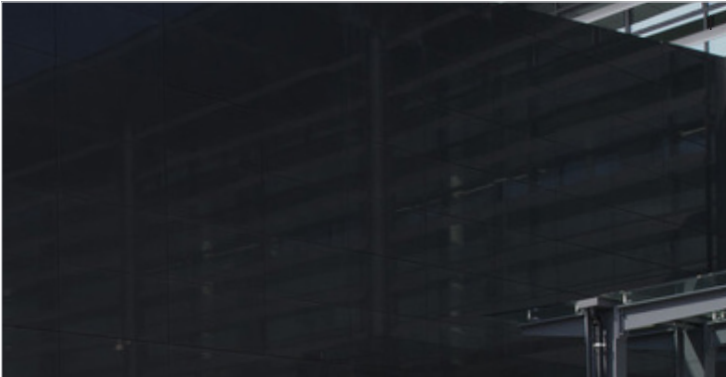


Fig. 20 Material Example Images



Fig. 21 Material Example Images

5. Curtain Walling

Colour: Grey Tint Glass & Black Frames

Polyester powder coated aluminium curtain wall system with integrated doors, acting as an entrance feature to the office block.

6. Service Yard Docks

Colour: Dark Grey

A mixture of overhead door systems and dock door systems to serve the functional requirements of the deliveries. These are coloured to contrast with the adjacent cladding for maximum legibility.

7. Composite Roof Cladding

Colour: Grey

Profiled composite roof cladding coloured to suit the facade with integrated rooflights to ensure sufficient natural light is provided to the warehouse below.

DESIGN: LANDSCAPING

The landscape proposals are to be set out in accordance with the associated documents forming part of the planning submission.

The proposed site lies part of a larger business park landscape framework whereby there has been a mix of landscape styles through its development. The proposed scheme will require some trees to be removed to enable post construction access however it is proposed that the biodiversity and ecological value will be greatly improved to the areas around the proposed scheme.

It is anticipated that and planting will be a mixed deciduous woodland tree and scrub mix that will effectively screen the site and offer structural planting that reflects the local landscape character. It is also proposed that the immediate areas around the footprint of the buildings and car parking areas will reflect that currently found on site to ensure that the proposal not only reflects the local landscape but also the immediate business park setting. The perimeter of the internal site will be planted to enhance the existing landscape structure with minimal hard landscape areas to the proposed buildings on the north, west and south.

The landscape and management objectives include

- To secure the implementation and establishment of the landscape scheme for the use and enjoyment of those working at the site and to secure ecological and biodiversity mitigation and enhancement.
- The mitigation planting will reflect the ethos of The National Forest which can be found adjacent the Business Park.
- The woodland habitat will greatly increase the biodiversity for the Business Park increasing habitats for forage, refuge and shelter for wildlife and birdlife and to ensure they are managed in line with ecological management programme.
- To maintain high standards of landscape management to encourage greater ecological biodiversity across the whole site.

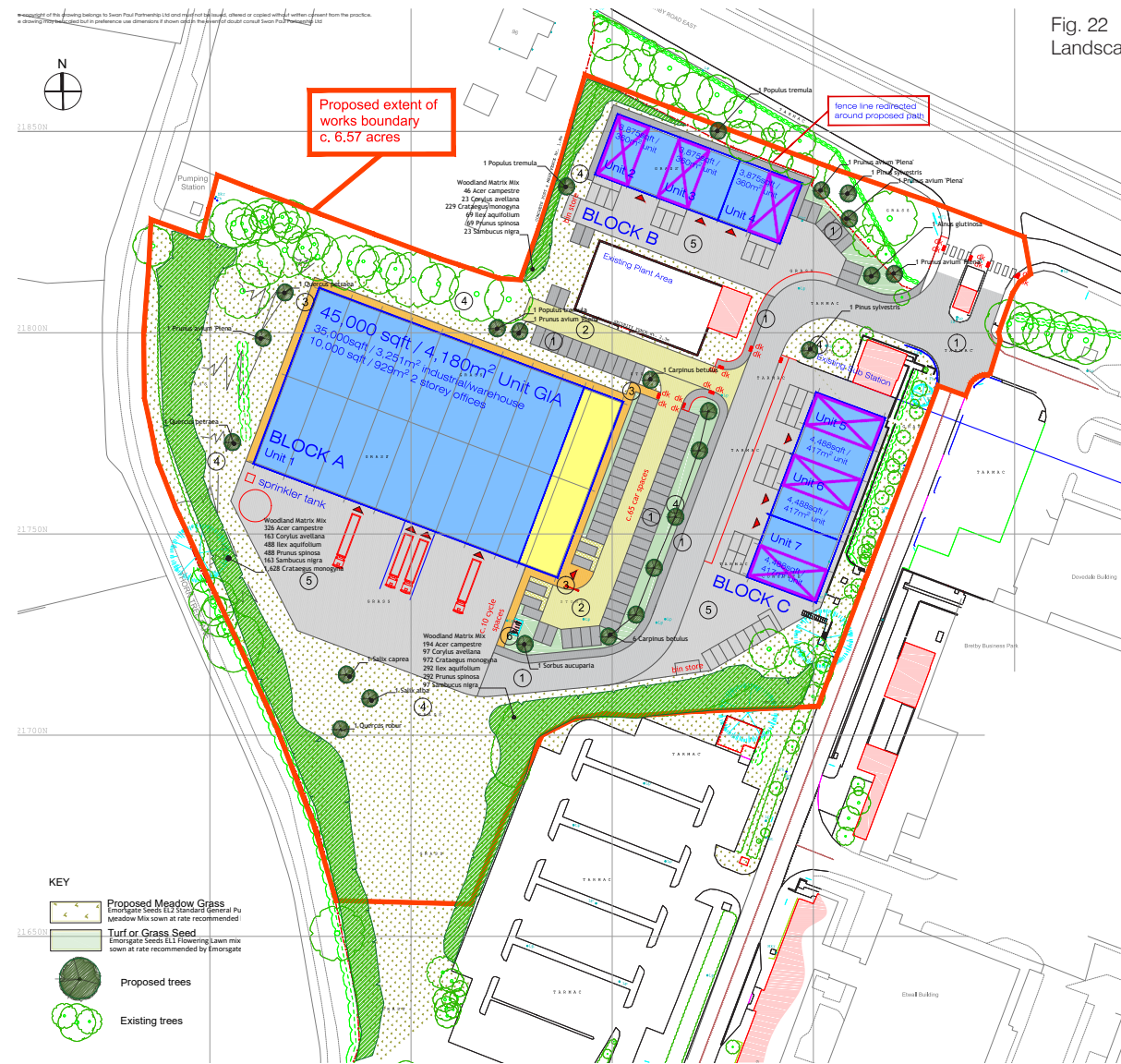


Fig. 22 Proposed Landscape Plan

EXTERNAL MATERIALS

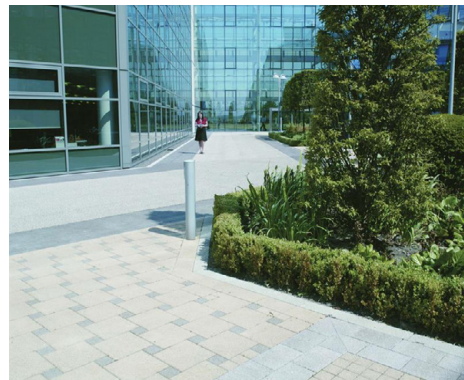
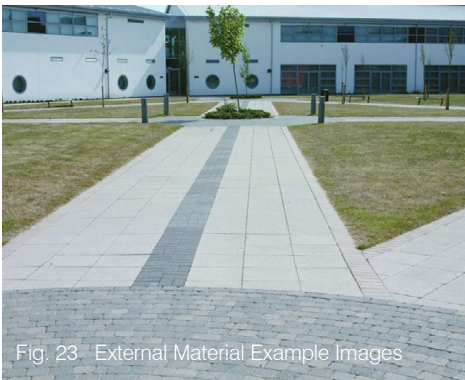


Fig. 23 External Material Example Images

The external materials will follow a primarily neutral palette that is used strategically to denote the procession towards the entrance and highlight the hierarchy of the site. The external materials work alongside the soft landscaping strategy to create a diverse and dynamic approach, whilst softening its integration into the existing site.

The materials for the roads and parking has been designed to match the existing treatment used across the employment park. As such, the roads are block paving and the parking bays are tarmac.

Around the building, feature block paving is used to denote the main circulation linking the building to the new access road. This paving will be kept to a neutral light colour palette to seamlessly link into the aesthetic used for the main building itself.

SUSTAINABILITY

In order to demonstrate compliance with Part L2A 2013 of the building regulations, the Building Emission Rate (BER) is required to be less than or equivalent to the carbon emissions of the notional building set by the Target Emissions Rating (TER).

This building complies with Part L2A 2013 with an actual building emissions rate (BER) demonstrating a 10% reduction in carbon emissions in comparison with the notional building target emissions rate (TER).

High-Efficiency, all-electric primary heat sources:

- Ultra-high-efficiency, air source heat pump-driven heating & hot water systems.
- MVHR ventilation systems to minimise heat loss, ensuring heat is recovered from air leaving each dwelling, and controlling airflow only when required.
- Energy efficient, LED lighting.

Primary Energy Source Selection:

- The primary factors to be considered in selecting the most appropriate energy source for space heating and domestic hot water production for the scheme are as follows:
- Carbon emissions – in order to meet the requirement of an EPC Rating, carbon emissions relating to the operation of the heat source will need to be as low as practicable.
 - Energy efficiency – in order to meet the requirement of an EPC Rating, the energy efficiency of the primary heat source will need to be high.
 - Operating & Capital Costs – The capital cost of the heat source plant needs to be within the available project budget. The operating costs of the plant need to be in line with those expected for a typical, energy-efficient building.
 - Ease-of-installation, maintainability and safety.

Air source heat pumps (ASHPs) are electrically powered and use the external air as a heat source to provide heat for buildings.

The high efficiency of ASHPs, and the use of electricity as the prime energy source, will assist in achieving the target EPC Rating for the building. ASHPs are a future-ready technology with regard to confirmed and anticipated changes to UK energy legislation, as well as maintainability.

Criterion 1: The calculated CO ₂ emission rate for the building must not exceed the target		
CO ₂ emission rate from the notional building, kgCO ₂ /m ² .annum	28.6	
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	28.6	
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	25.7	
Are emissions from the building less than or equal to the target?	BER <= TER	
Are as built details the same as used in the BER calculations?	Separate submission	

Advantages	Disadvantages	Further Comments
Reduced carbon emissions due to high coefficient of performance (efficiency) – typically between 200% and 500%	Drop in performance during winter months, requiring electric back-up.	
Installations now quite common in the UK	Unightly outdoor unit required	Outdoor units can be hidden behind screening
Cheaper to run than direct electric (direct electric has a COP of ~100%)	Higher capital cost than a gas-fired boiler	
No combustion taking place	Specialist maintenance required	Although requires more specialist maintenance than gas-fired boilers, ASHPs are now quite common and maintenance contractors should be readily available

Fig. 24 Energy System Diagrams

ACCESS STRATEGY

Fig. 25 Indicative Entrance Configuration
Concept Image For Illustrative Purposes Only



Vehicular access to the site connects into the existing Estate Roads which links to the wider context and existing infrastructure. The existing site levels are retained and follow shallow gradients leading to the main entrance of the building.

The site layout delivers c.640 parking spaces (including 20 disabled spaces) aligned to the perimeter of the site, which is punctuated at two intervals with highly legible and landscaped pedestrian paths leading directly to the main entrance. The colours and textural quality of the external materials have been chosen specifically to cater for those with impaired vision.

Secure, sheltered cycle storage has been allocated close to the front entrance. Shower and changing facilities are allocated internally to further aid the promotion of sustainable alternatives to vehicular transportation.

The entrance has been designed to maximise its legibility via both its location in relation to the context and its scale on the elevation. All access points into the building will be designed in accordance with Approved Document M, including the main entrance which incorporates two large scale revolving doors that are highly functional and identifiable for people of all capabilities. Entry points into the building have all been designed to achieve level access to ensure smooth transition to the internal spaces.

Internally, the spaces and finishes will be designed in accordance with Approved Document M requirements, maintaining level thresholds between rooms, incorporating vision panels in doors where applicable, achieving a minimum clear door opening of 800mm and a minimum clear corridor width of 1800mm.

General finishes, stair nosings and door furniture throughout will include contrasting colour elements to retain accessibility for those with impaired vision.

BLOCKS B AND C



CONCLUSION



This design and access statement comprehensively illustrates the intent of this industrial development. This document has demonstrated how the design has been developed to take into account site considerations and the requirements of the brief to formulate the optimal solution for the project.

Throughout the project, the aim has been to create an all inclusive scheme that balances highly functional aesthetics with a contemporary and attractive design. The surrounding landscape has been developed to act in conjunction with the building as part of a unified proposal that seeks to enhance to the overall offer at the site.