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Design Concept & Evolution

This chapter sets out the core design concepts and explains how the proposals have evolved in response to site analysis, planning policy and stakeholder engagement. It illustrates the iterative design process, highlighting how key constraints and opportunities have shaped the layout, form and functionality of the development. The chapter demonstrates a considered and responsive design approach, grounded in context and refined through consultation and technical input.

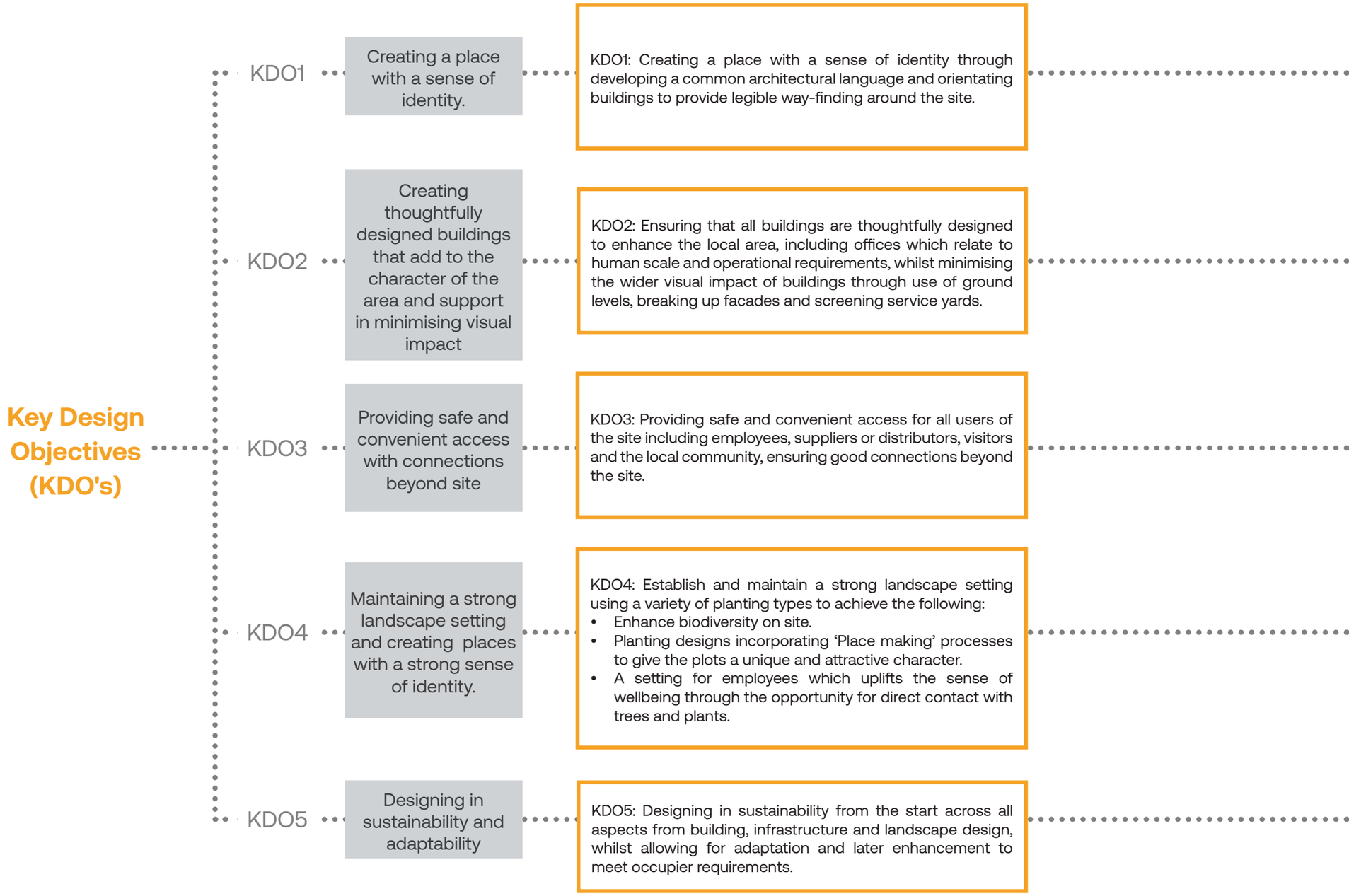
Key Design Objectives

Design Hierarchy

In the context of the adopted Local Plan and drawing from the design for the main site access, infrastructure and strategic landscaping, Key Design Objectives have been established to provide an overarching framework for the approach to the layout and design of the development and all future reserved matters elements.

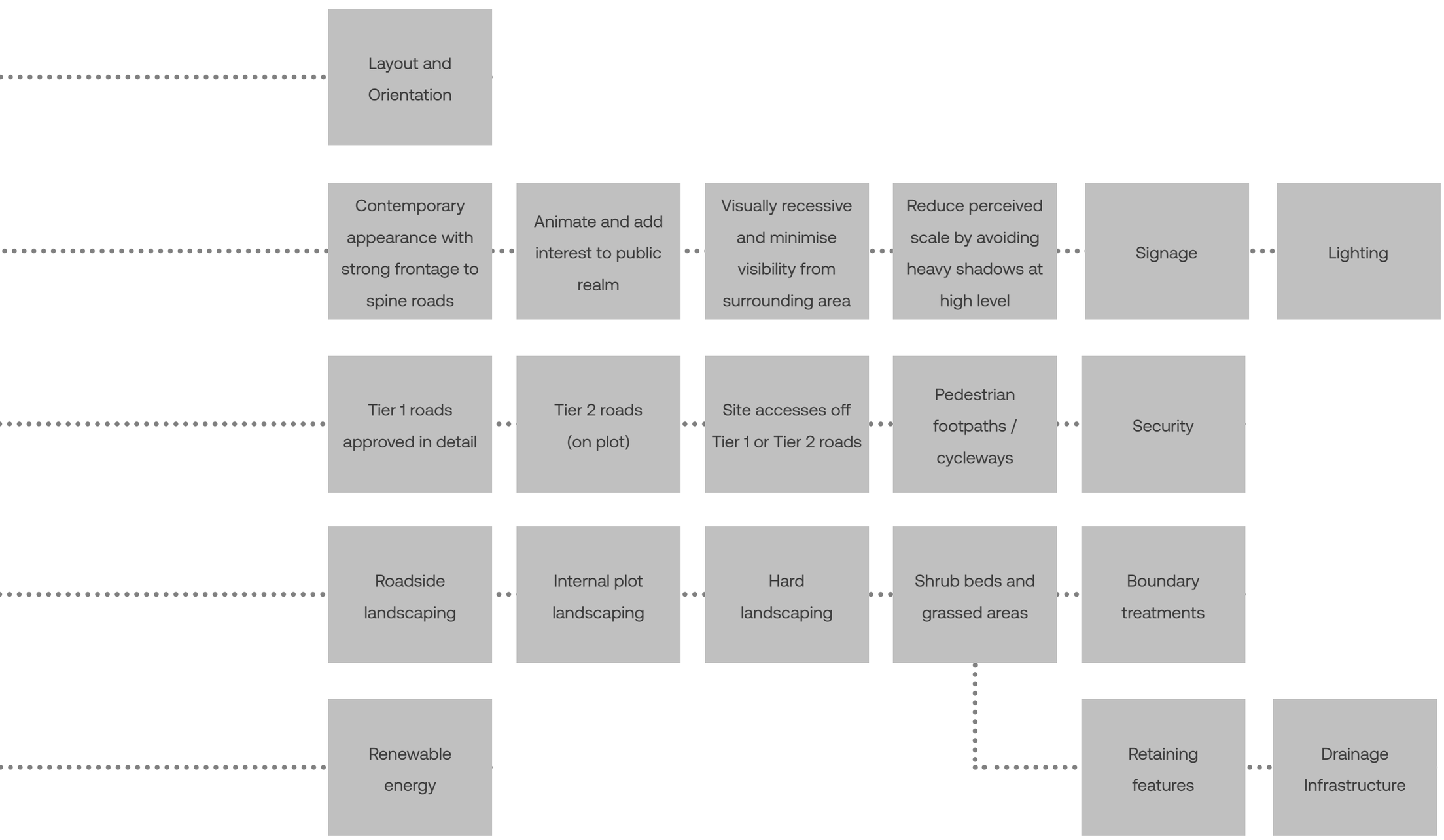
Provided to the right is a summary of the Key Design Objective “headlines” that will make the scheme a best-in class employment development.

The following sections set out how these objectives are applied across Soft and Hard Landscaping, Infrastructure and Building Design.



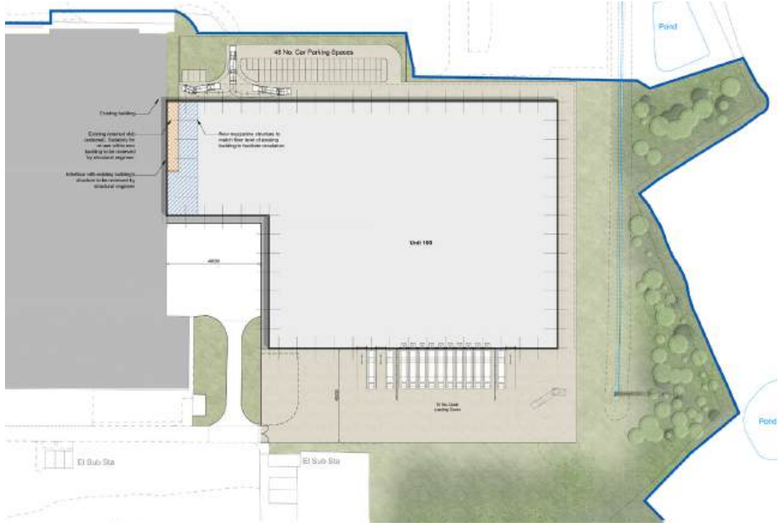
Design Guide Hierarchy of Objectives

Key Design Objectives

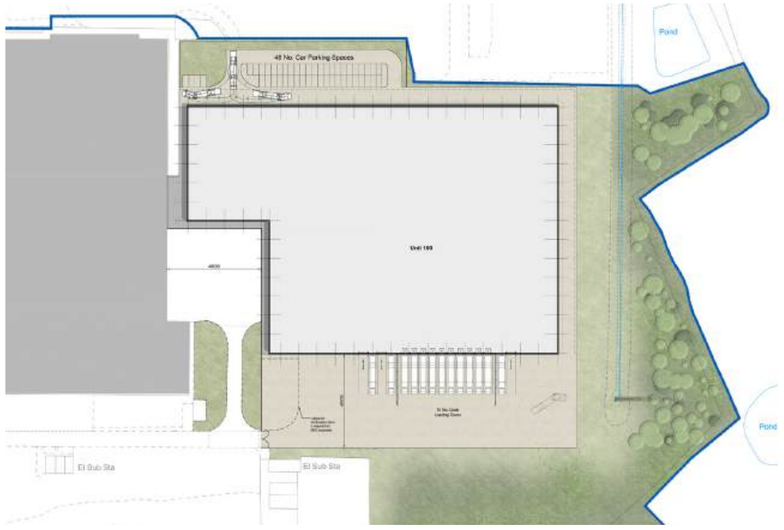


Design Guide Hierarchy of Objectives

Site Layout Development



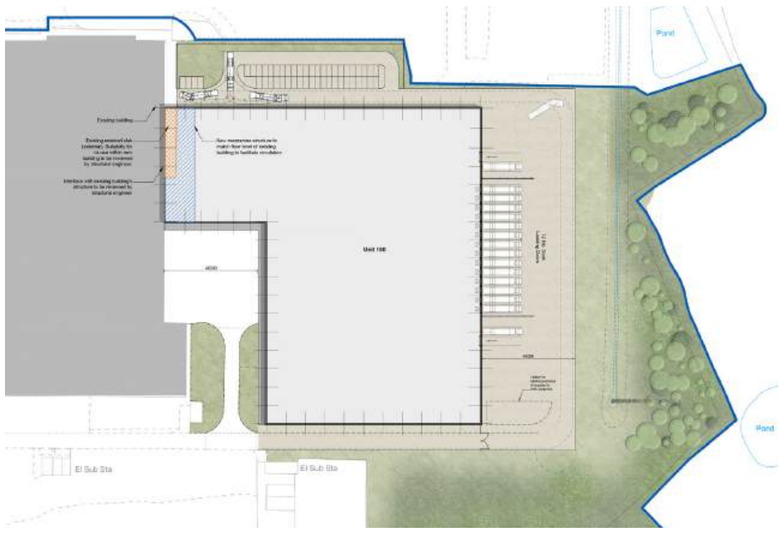
01 Option 1 a)
South Yard, attached to existing unit, no offices



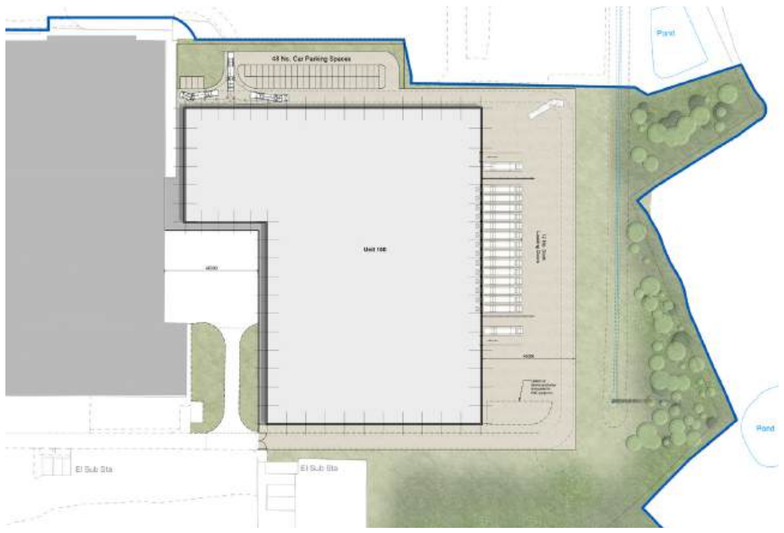
02 Option 1 b)
South Yard, detached from existing unit, no offices



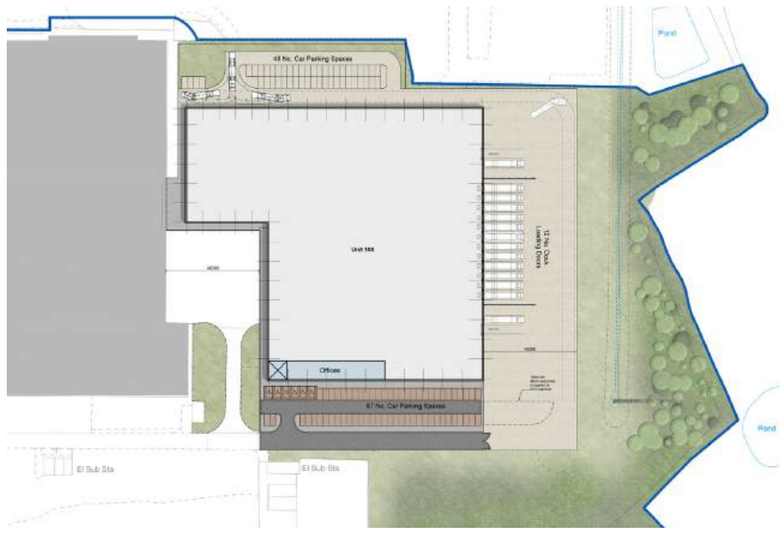
03 Option 1 c)
South Yard, detached from existing unit, offices provided



04 Option 2 a)
East Yard, attached to existing unit, no offices



05 Option 2 b)
East Yard, detached from existing unit, no offices



06 Option 2 c)
East Yard, detached from existing unit, offices provided

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Development Proposals

This chapter outlines the key elements of the proposed development, including land use, layout, scale, appearance, and landscaping. It explains how the scheme responds to site context and planning parameters, delivering a coherent and high-quality design that reflects the project's vision and objectives.

Parameters Plan

The development zone and landscaping areas are proposed as per the figures indicated below.
The proposed building height parameter is 16m, set to accommodate a 12.5m nternal haunch height which is institutionally typical for a building of this size.

Key

Application boundary
12.67 acres (5.12 ha)

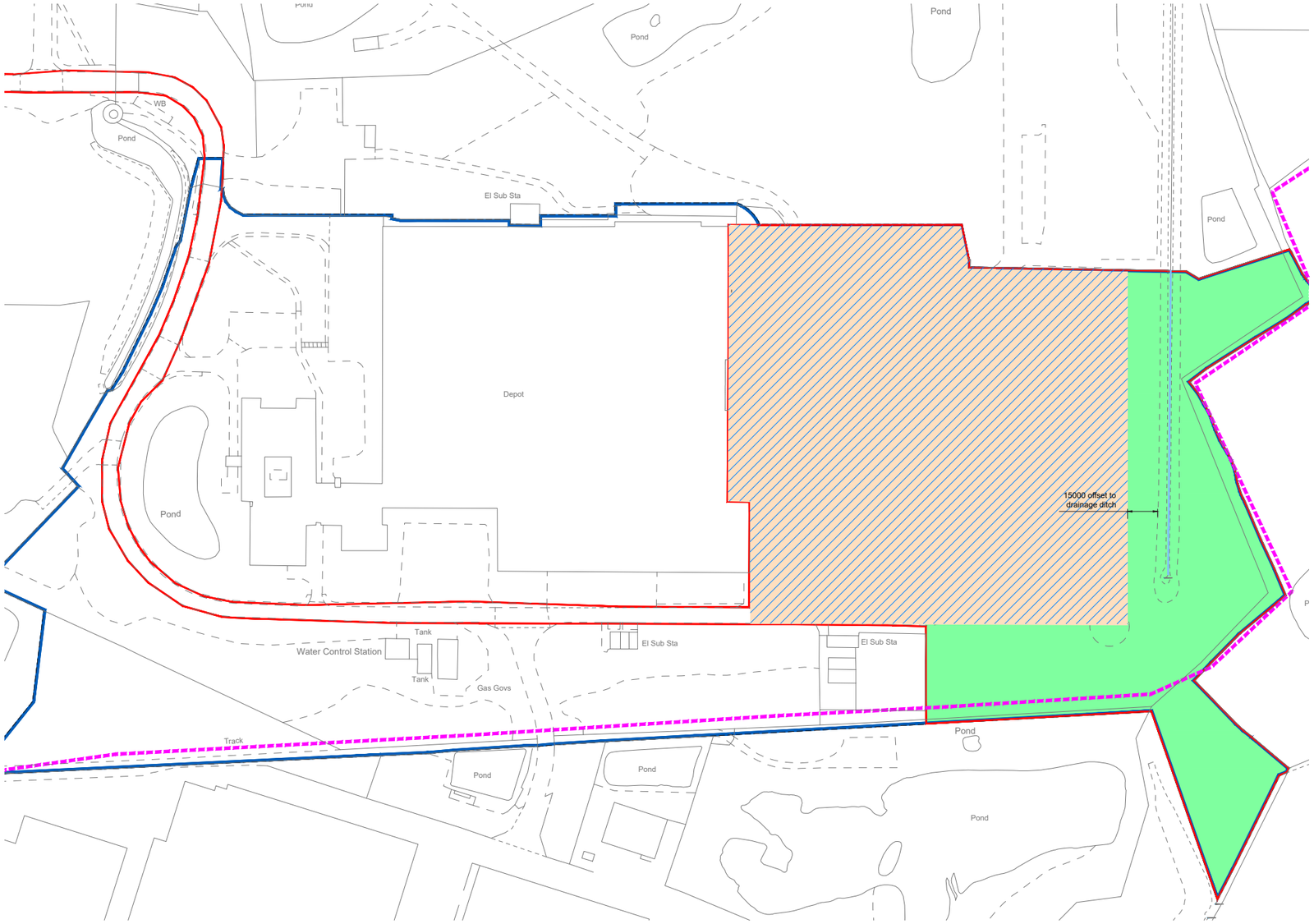
Ownership boundary
29.31 acres (11.86 ha)

Maximum Development Extent
7.13 acres (2.88 ha)

Maximum Height of Buildings
16m FFL to ridge / +44.000m AOD

Existing landscaping to be retained and enhanced
4.01 acres (1.62ha)

Existing Public Right of Way - Footpath



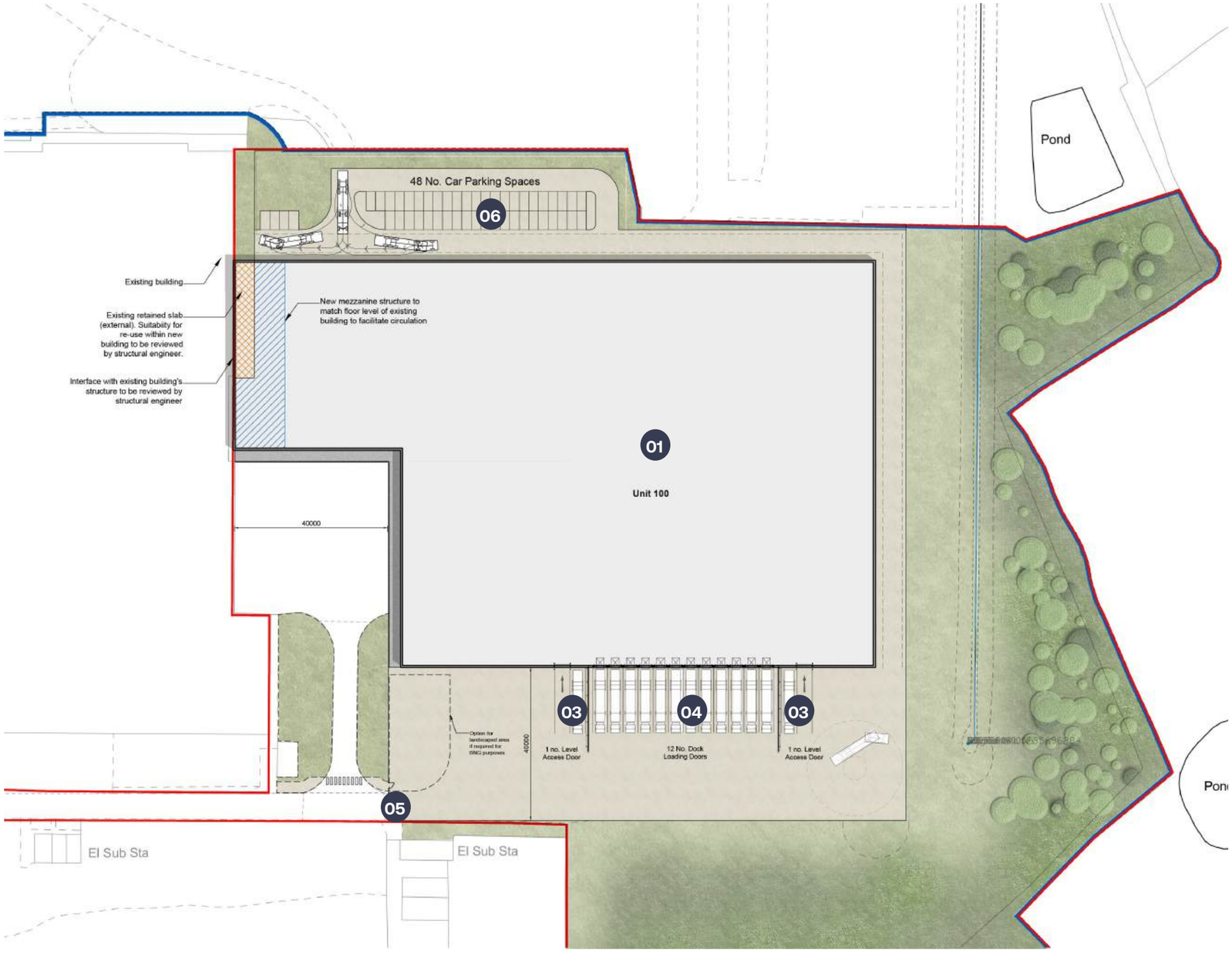
Layout and Site Plan Studies

Option 01 (a) - Building adjoining existing warehouse, no office

Several potential scheme options have been considered, this option 01 study of 14,996 sqm employment floorspace, is contiguous to the adjacent building, providing flexibility to operate as either a separate enterprise or an extension. Fire track access has been provided for occupant safety aligned with stautory regulations, and car parking is located at the rear of the building.
Safe pedestrian access hads been considered, with designated pedestian crossing points at key locations.

Key characteristics;

- Operational access to yard upon entering the site
- Loading capacity to suit occupier requirements
- Site Parking to the rear of the building
- Current access to adjacent warehouse operation maintained
- Opportunity to enhance landscaping and biodiversity



Key

- Application Boundary
- 01 Unit
- 02 Offices
- 03 Level Access
- 04 Loading Doors
- 05 Site Entrance
- 06 Car Park
- 07 HGV Parking

Layout and Site Plan Studies

Option 01 (c) - Detached building with ancillary office

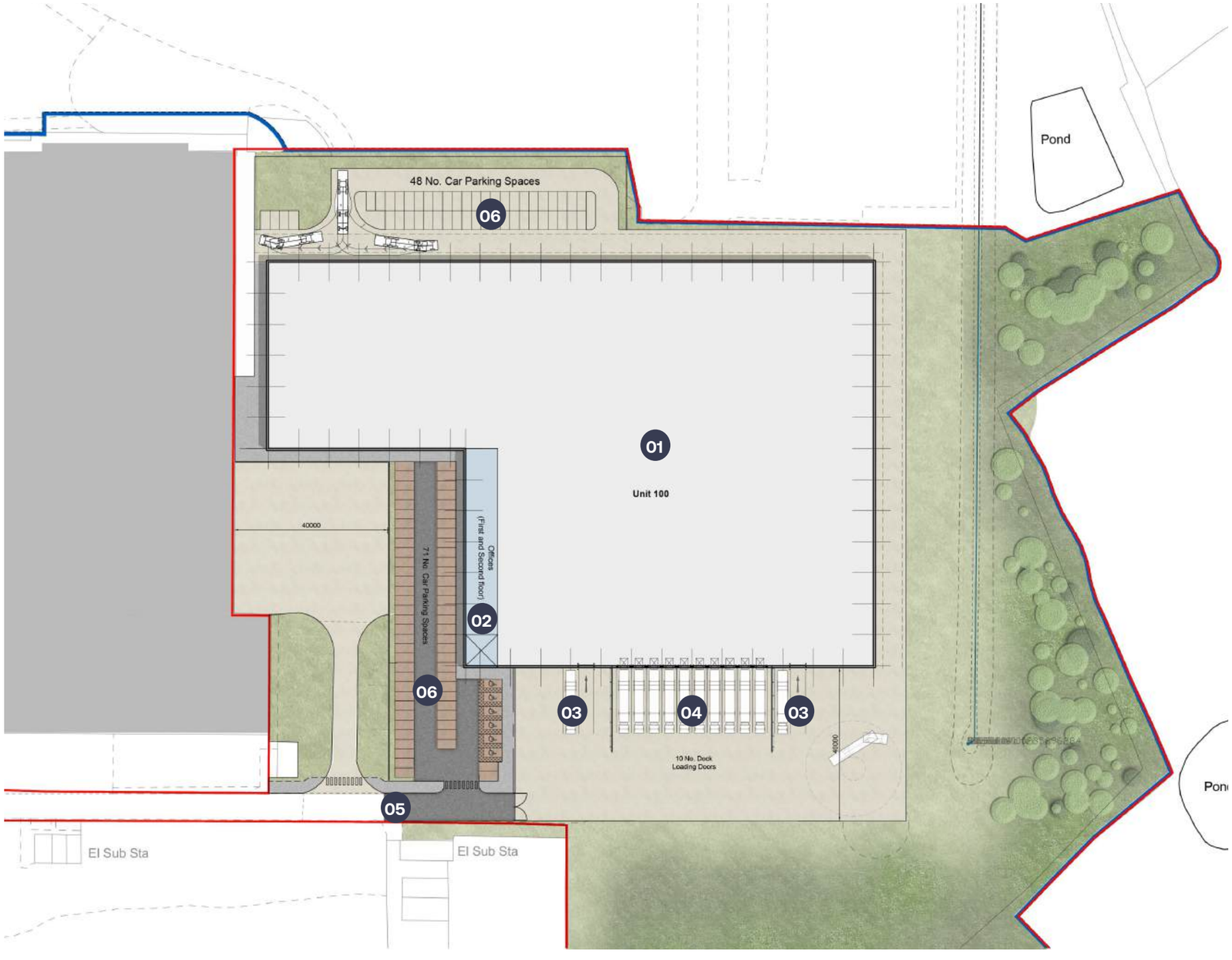
This option of 14,609 sqm employment floorspace demonstrates how the building and site could operate with an ancillary office element.
Car parking is provided adjacent to the office by the site entrance and fire track access is provided for occupant safety aligned with stautory regulations, and additional car parking is located at the rear of the building. Safe pedestrian access hads been considered, with designated pedestian crossing points at key locations.

Key characteristics;

- Ancillary office
- Site Parking located at site entry
- Operational access to yard upon entering the site
- Loading capacity to suit occupier requirements
- Additional overflow / warehouse operative parking at rear
- Current access to adjacent warehouse operation maintained
- Opportunity to enhance landscaping and biodiversity

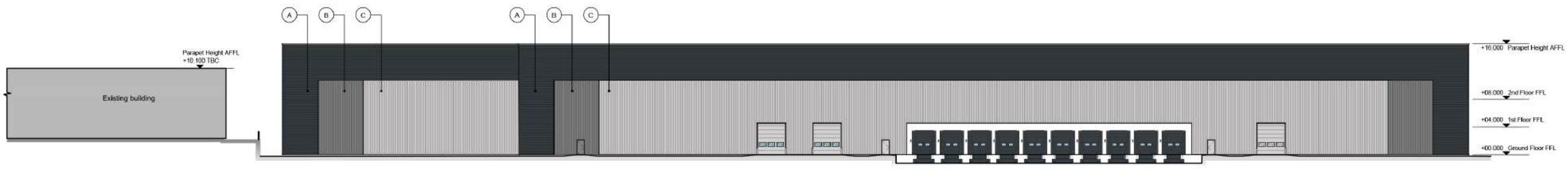
Key

- Application Boundary
- 01 Unit
- 02 Offices
- 03 Level Access
- 04 Loading Doors
- 05 Site Entrance
- 06 Car Park
- 07 HGV Parking

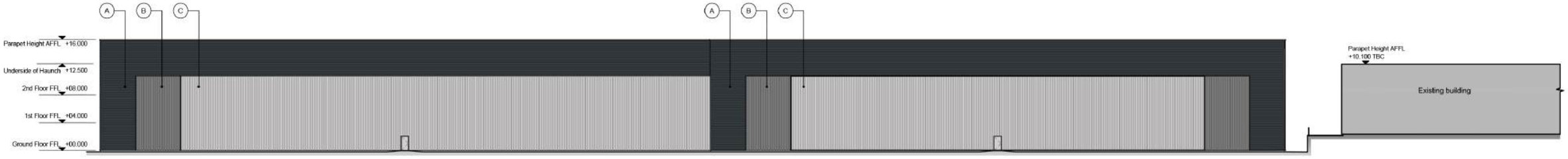


Typical Elevations

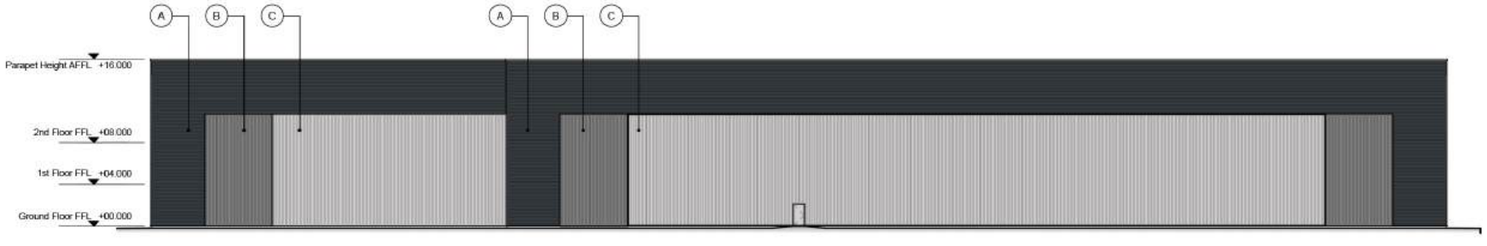
These elevation are shown indicatively to demonstrate height parameters in relation to the adjacent existing building and yard areas, in order to demonstrate operational efficiency and building massing.



Typical Loading Elevation

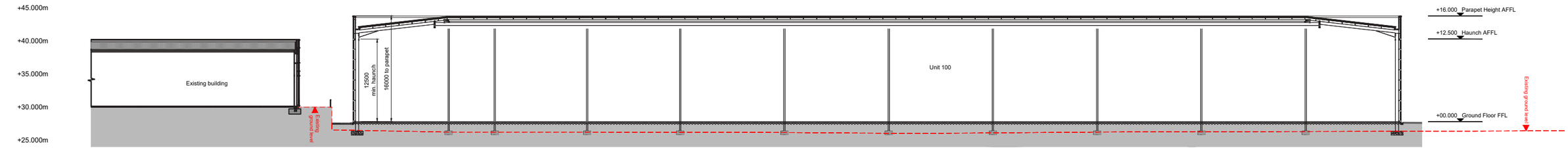


Typical Rear Elevation

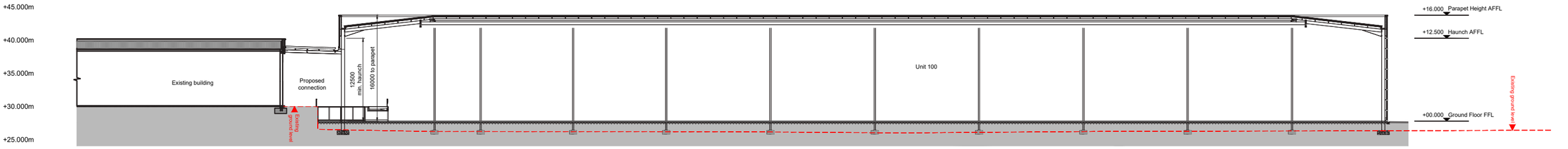


Typical End Elevation

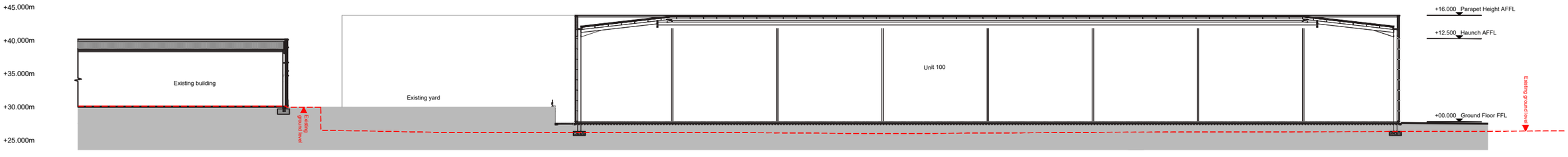
Typical Sections



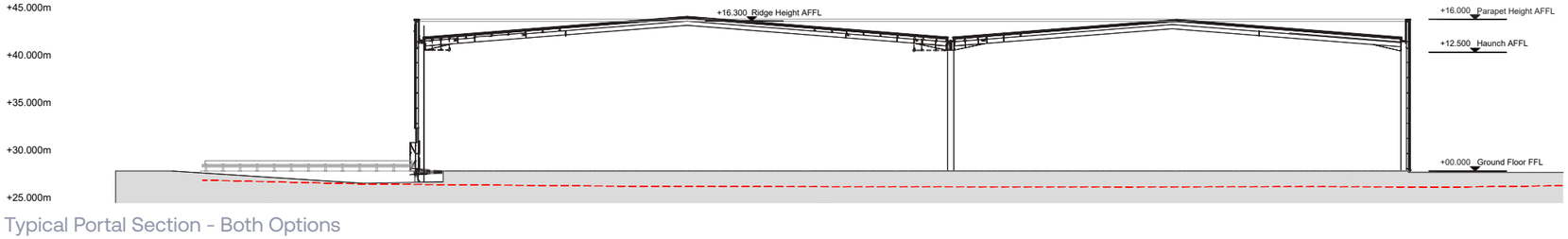
Typical Section - Detached building



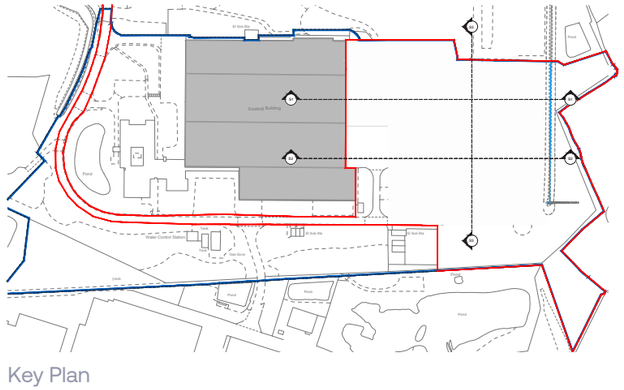
Typical Section - Detached building



Typical Section Through Yard - Both Options



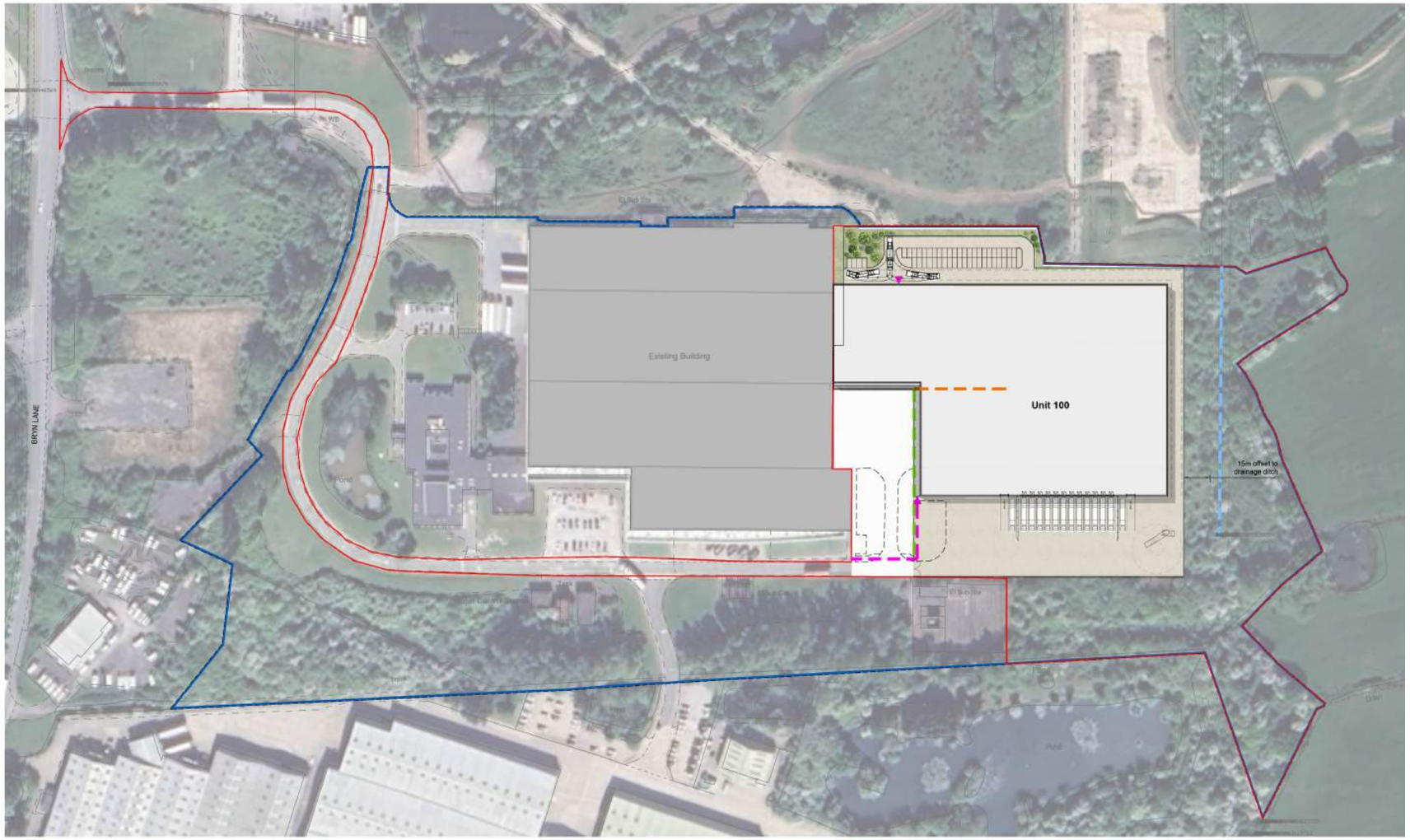
Typical Portal Section - Both Options



Key Plan

Landscaping

Areas of the site are suitable ecological enhancement which has been reviewed by an Eccology Consulatant who has made recommendations for suggested areas. Existing landscape areas to the east will beretained / enhanced as shown on the parameters plan. Within the development zone, areas of landscaping and tree planting will be included, with suggested areas along the northern bondary and incidental tree planting in the car parking areas for example. Full Indscaping details will be subject to review in future Reserved Matters consulation.



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Access & Movement

This chapter sets out the strategy for movement to, from and within the site. It covers vehicular, pedestrian and cycle access, as well as connections to the wider transport network. The approach ensures safe, inclusive and efficient circulation, supporting the overall functionality and accessibility of the development.

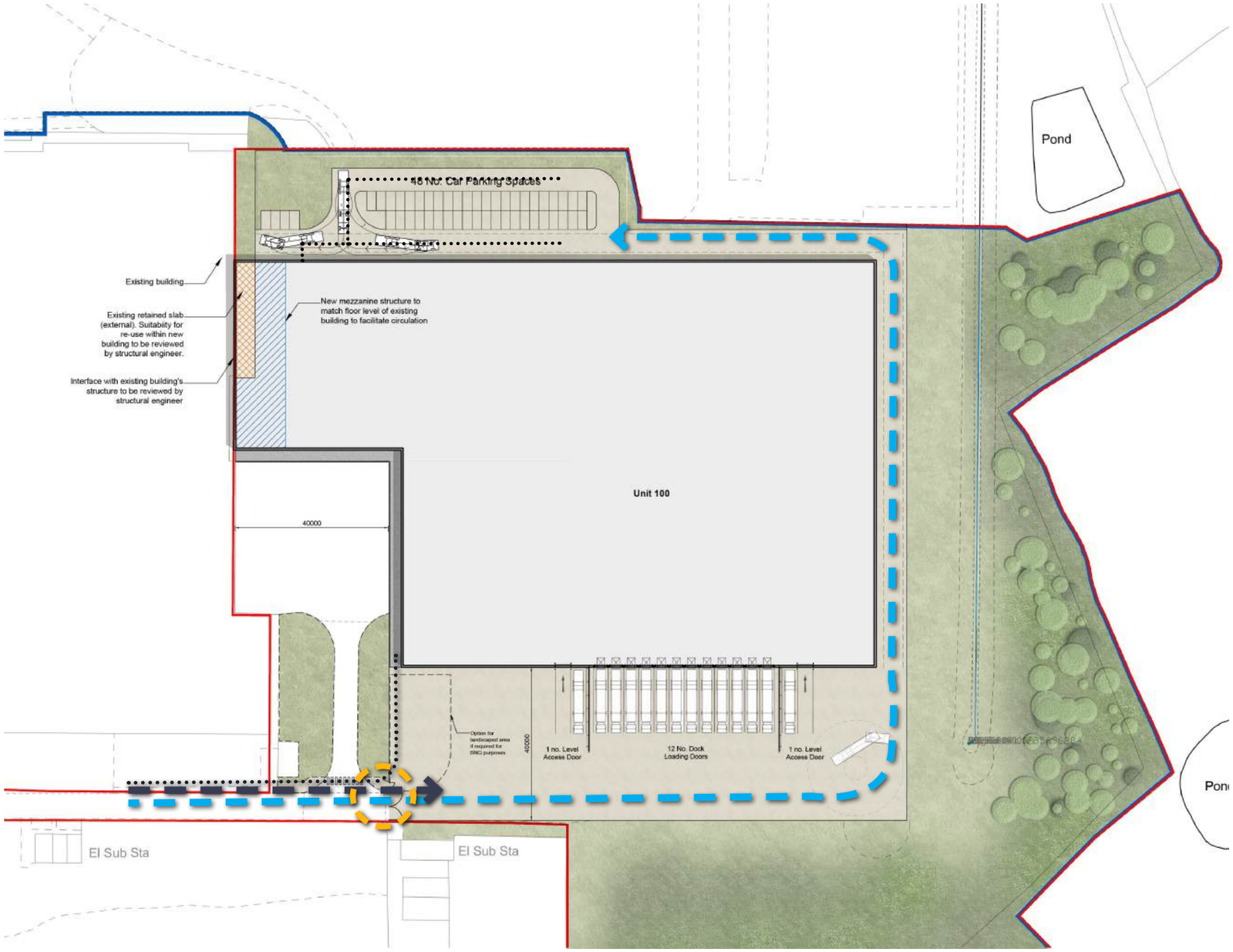
Access

Illustrative Masterplan Option 01 (a)
Connected to Existing

The illustrative masterplan shows a southern yard and explores option of connecting to the existing neighbouring unit, being detached and providing the inclusion of an office.

Key aspects of this option are:

- Separate car parking to HGV parking and movement
- Direct pedestrian access from site entrance to building entrance, and from site parking at the rear of the building



Key

- Application Boundary
- Proposed Site Access
- HGV Access
- Vehicular Access
- Pedestrian Access

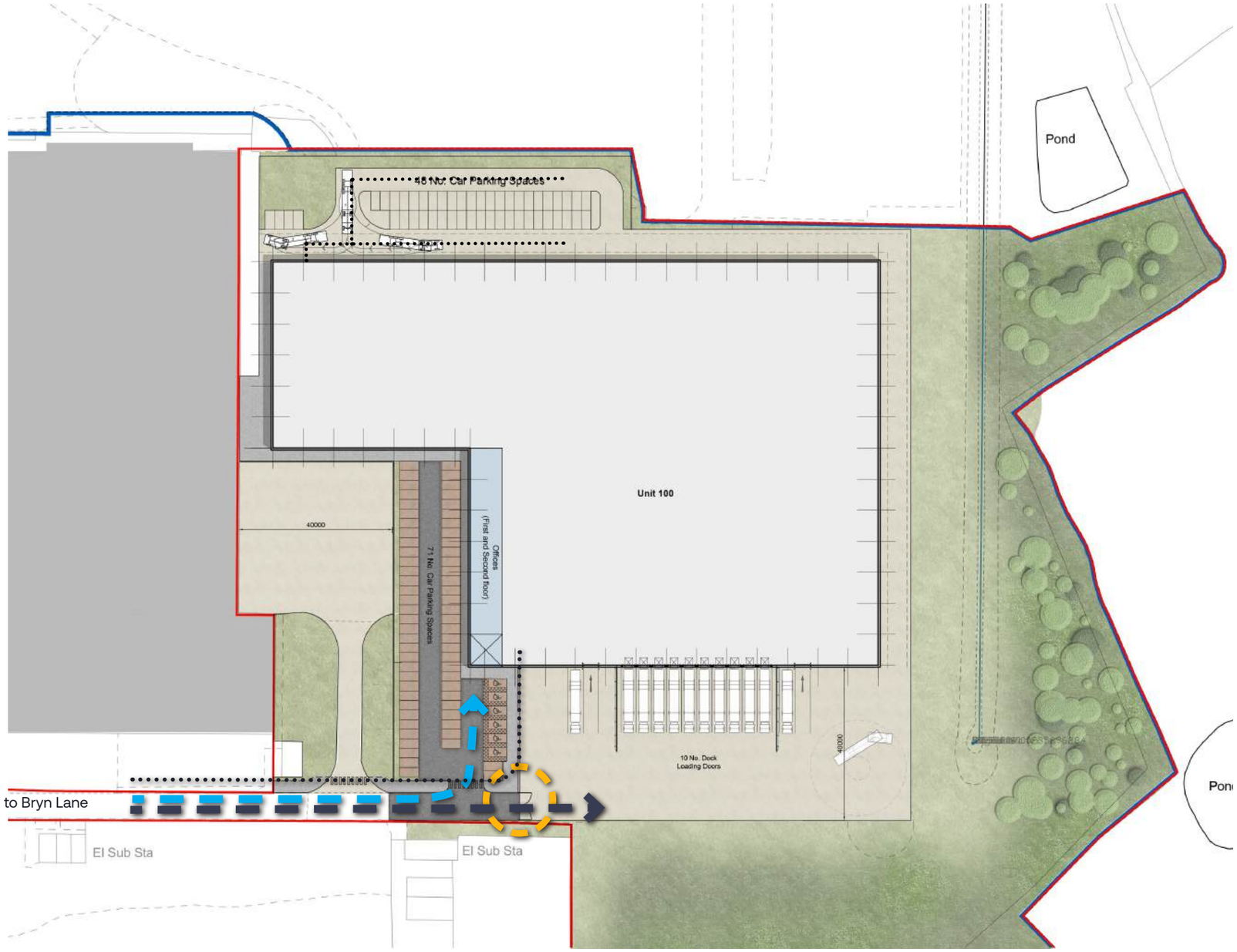
Access

Illustrative Masterplan Option 01 (c)
Office Included

This option shows how an ancillary office could be provided within the footprint of the building, whilst maintaining the southern yard.

Key aspects of this option are:

- Office entrance on the key corner of the building
- Separate car park and HGV access
- Safe and convenient pedestrian access will be provided, via footpaths leading from the site boundary to the main office entrance
- Disabled parking bays will be located as close as possible to the main office entrance



Key

- Application Boundary
- Proposed Site Access
- HGV Access
- Vehicular Access
- Pedestrian Access

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Sustainability & Energy Efficiency

This chapter presents the sustainable design principles woven into the design of the development, with particular focus on energy efficiency, minimising environmental impact and conserving resources. It offers an overview of the sustainability standards targeted and details the strategies employed to reduce energy demand, incorporate sustainable materials and optimise overall building performance.

Sustainability and Energy Statement

Sustainability and environmental performance of new buildings is an important part of successful development.

Sustainable design, construction, and operation are prioritised in the proposals for Bryn Lane, Wrexham. An holistic approach will be taken towards considering the developments wider environmental impact, by reducing waste, the practical use of sustainable materials, transport, water efficiency, drainage issues and ecological considerations.

Energy and Sustainability Statement

For further details of how these principles are applied in the proposed development, please refer to the Energy and Sustainability Statement prepared by the project team in accordance with planning policy.

Materials, Waste and Circular Economy

Responsible sourcing and circular economy principles will be incorporated to reduce material impacts, embodied carbon and construction waste, encouraging material reuse where practical.

Health, Safety and Well-being

Measures will support occupant health, comfort and well-being through indoor environmental quality, ventilation, safe access strategies and restorative external amenity spaces.



Energy and Carbon

The development follows the Energy Hierarchy approach to reduce energy demand, improve energy efficiency and incorporate renewable energy technologies. Measures will include a fabric-first approach, efficient building services and roof-mounted photovoltaic panels.

Land Use and Biodiversity

Habitat enhancement and long-term ecological management measures will be incorporated through native planting and other biodiversity enhancement features. There is a commitment to achieving a net biodiversity benefit through a series of measures which will include application of the mitigation hierarchy and avoid impacts when possible, mitigate, compensate and then manage the land positively for biodiversity in the long-term.

Climate Change Resilience and Adaptation

The development will incorporate measures intended to improve resilience to future climate conditions through sustainable drainage and adaptable building design approaches.

Transport and Mobility

The development will incorporate measures intended to improve resilience to future climate conditions through sustainable drainage and adaptable building design approaches.

Water

Water-efficient fixtures, leak detection and water monitoring measures will be incorporated to reduce potable water demand and support sustainable water management.

Sustainability Benchmarking

A BREEAM New Construction V7 pre-assessment demonstrates that the proposed development is capable of achieving a BREEAM ‘Very Good’ rating, subject to final design and assessment scope.



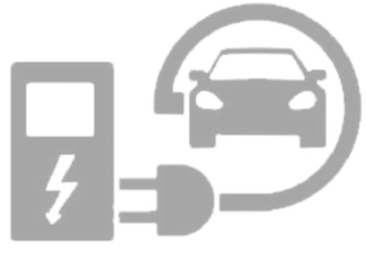
BREEAM NC V7 rating ‘Very Good’ is to be targeted.



Fossil-fuel free energy and responsibly sourced materials



Biodiversity improvements



Electronic charging for cars, vans and cycles



Photovoltaic panels

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Security & Safety

This chapter outlines the security and safety measures incorporated into the development, ensuring both the protection of its occupants and the broader public. It details the design strategies that enhance site security, including natural surveillance, access control and appropriate lighting, while also adhering to safety standards to create a secure and welcoming environment.

Preliminary Crime Impact Statement

Outline Element

Consideration has been given to the illustrative masterplan to ensure personal safety and align with general safety principles. This relates to ensuring that the development does not create an environment conducive to crime. It is envisaged that additional crime prevention advice will be sought once an occupier has been identified for the units. Consideration will be taken as to how occupiers and visitors to the site can move freely without risk of injury.

Natural surveillance will be a key factor in the overall design of the site and the positioning and 24/7 activity of the offices overlooking proposed car parking will offer a high degree of visual control. The building's design and layout will minimise visual obstacles and eliminate places of concealment and any potential dark areas will be well lit.

The buildings will be designed in robust materials; metal-faced cladding panels on a steel frame. Where appropriate, glazing will be toughened laminated sections. Where possible all windows and doors will be certified secure products.

Formal Surveillance

At present there is no specific occupier for the buildings and therefore any formal surveillance solution will need to be agreed at a future time.

However it is acknowledged that presence of staff and CCTV provides reassurance and a deterrent to potential offenders. CCTV cameras can be used in the service yard areas and to pick up the buildings elevations, although no camera will be direct outwards towards any adjacent land use.

Staff need to be located in prominent positions so they can oversee and be seen. The effectiveness of CCTV depends on the number and location of cameras, the quality of the image and the monitoring in place.

If CCTV were to be installed in the future it would not be directed towards any existing residential.

Active Safety Measures

General Maintenance

The maintenance regime will be bespoke to each occupier and the nature of the operation of the building. In the absences of any confirmed occupiers, we can offer examples of the management and maintenance that will be put forward as good practice:

- Plant, machinery, materials and supplies should be stored in specific areas within the confines of the secured service area.
- The CCTV, lighting and alarm system should be regularly maintained and immediately repaired / replaced if faulty to ensure the safety and security of the development and its users.
- Access controls to the external and internal door sets, gates and barriers are essential to the security of this scheme and it is most important that these systems are regularly maintained.
- Cleaning, litter picking, removal of graffiti and repair of damage arising from vandalism should be carried out promptly to maintain a culture of care and respect.

Physical Protection

It is important that any development responds to the issues relating to security, such as criminal and anti-social behaviour, by incorporating such physical design features as listed below:

- Barriers to the service area and car park entrances to provide out of hours security.
- Secure parking for cycles located in highly visible and supervisable locations.
- Buildings of robust construction as illustrated within the submitted documents
- All external doors fitted with secure frames and locks.
- 2.4m high security fencing including access gates to the full perimeter of the service area.





Lighting

External Lighting

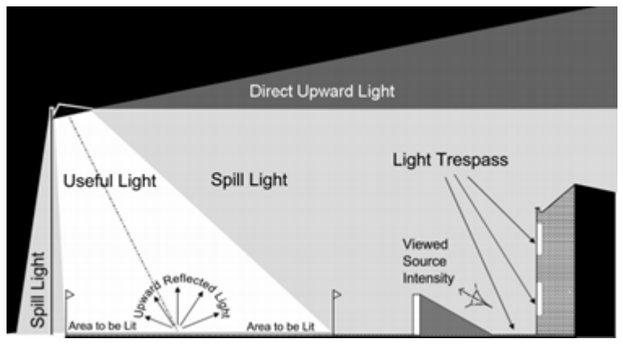
The overall lighting philosophy is based on achieving a good level of maintained luminance across the site, minimising dark areas to create a safe environment whilst avoiding light pollution and light spill to surrounding areas.

The lighting will be designed taking into account the following guidance these include:

- BS5489-1:2013
- BS EN13201-2:2015
- SLL Code for Lighting
- BS EN 12464-2: 2014
- CIE ISO: 2006
- CIBSE Lighting Guide 6: The Outdoor Environment 2016
- In accordance with the requirements of table 1 (environmental category) of the ILE Guidance notes.
- Bat Conservation Trust (BCT) Artificial lighting and wildlife / Bats and the Built Environment Series.

Light Pollution

The external lighting shall be designed to prevent upward light pollution. It will also mitigate spill light to adjacent properties as well as ecologically sensitive areas on and off site. This shall be achieved by utilising lower wattage, more energy efficient LED luminaries. This, combined with optimal mounting heights, localises light distribution and avoids spillage into surrounding areas in accordance with the ILE Guidance notes for the reduction of obtrusive light.



Luminaries shall be selected to limit glare through the use of flat glass full cut-off (FCO) lanterns mounted horizontally to ensure that the light emitted above the horizontal is minimised. Luminaires with cut-off properties will be used where possible.
LED light sources shall be used throughout.

Lighting Requirements

It is important that the lighting applications provide both an aesthetic quality and also the appropriate levels of illumination required for the space they inhabit.

The estate road, car park and service area will be illuminated during the hours of darkness to an appropriate lighting level for both operation and safety.

The lighting lux levels will be kept to a minimum when adjacent to any natural habitats, and will avoid direct light spill into sensitive locations. Lighting will be a combination of building mounted and column mounted lighting units. The lighting design will utilise good quality, attractive ‘dark sky’ fittings, directed downwards and with no spillage above the horizontal to avoid light pollution.

The mounting height of lighting units should be no greater than 12m. For the access roads and car parking areas all mounting heights will not exceed 10m.

Lighting impacts on all receptors will be minimised by careful design. Baffles and shields will be provided to luminaries to further reduce light spill and glare particularly to the adjacent residential area. Lighting levels will be suitable for pedestrian, vehicular access and the operation of the CCTV system. Maintained average luminance levels recommended by the above standards as detailed typically on the external lighting strategy drawing.

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Summary

This chapter succinctly encapsulates the design and access proposals, reflecting the core principles and strategies that have guided the development. It reaffirms how the scheme responds to the site's unique context, relevant planning policies and sustainability aspirations, whilst ensuring accessibility, security and a harmonious integration into the local setting. The proposal aims to deliver a well-balanced, functional and enduring development, meeting both present and future needs with sensitivity and care.

Conclusion

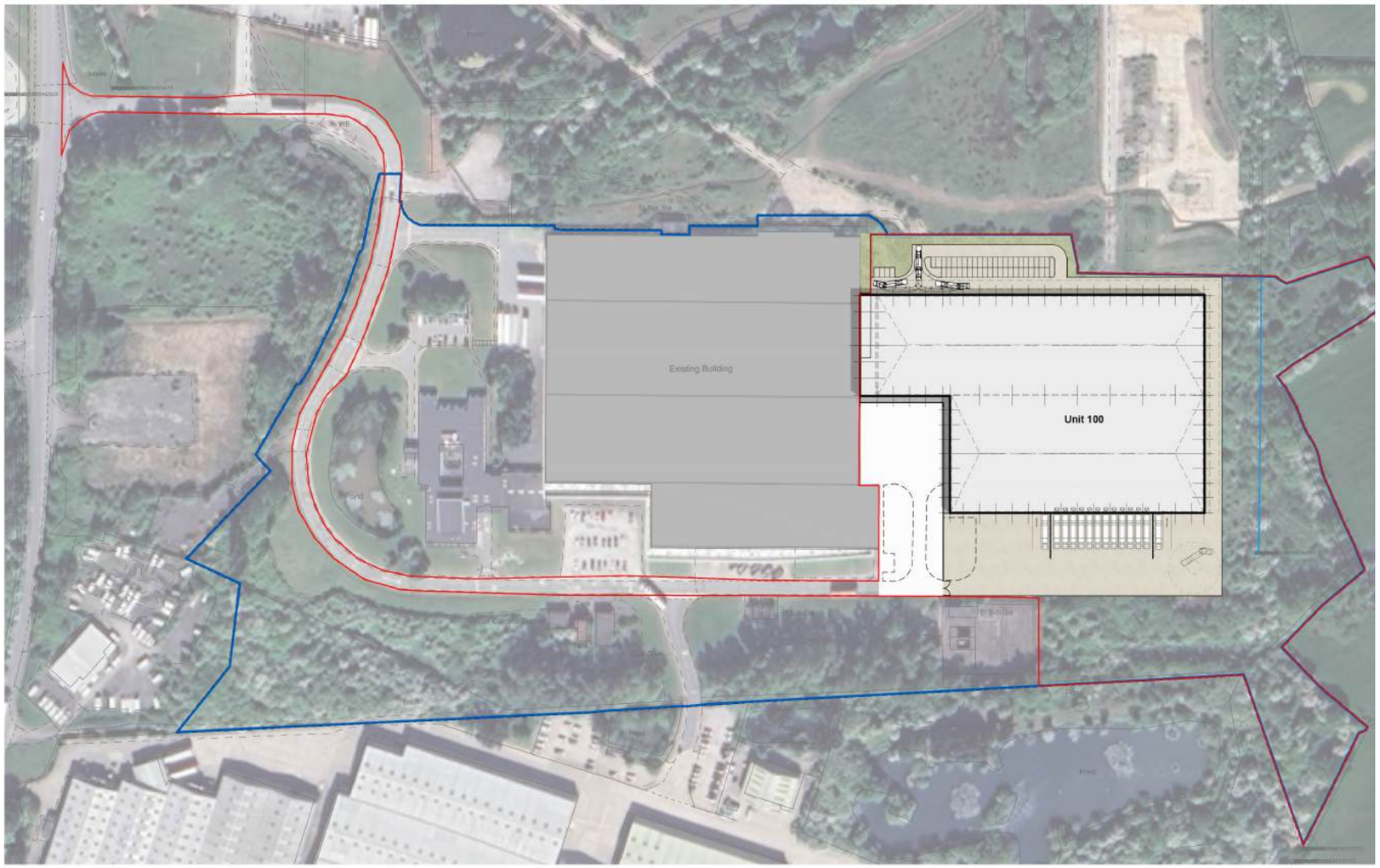
The design proposals have been developed with due regard to the existing site, its context and surroundings; to create a carefully sited, appropriately sized buildings which meets market demand and reflects the current and anticipated market demands.

The site is allocated for employment and it will deliver much needed employment floorspace.

All design proposals contained within this report have been design to meet the required design and sustainability policies of Wrexham County Borough Council.

The proposals will allow for the best possible access for all modes of transport and encourage travel to the site by means aside cars.

The proposals represent high quality development and a substantial investment, which will help to promote and support employment growth, stimulate continued economic investment to the area, and be cohesive with regional and local aspirations.



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