Vale of White Horse District Council

DIDCOT TECHNOLOGY PARK

LDO DESIGN GUIDANCE

APPENDIX B

December 2025

DIGITAL REEF

CONTENTS

1 INTRODUCTION

1.1 Purpose

This document provides guidance for the development of the Didcot Technology Park LDO area (the site). The guidance is divided into two parts. Part one covers guidance appropriate to the whole Local Development Order (LDO) area with the intention of creating a successful strategic framework for development of the site. Part two covers additional guidance relating to specific sensitive areas and their context defined by their ecological and landscape sensitivity. The guidance should be read in conjunction with the LDO.

1.2 Enterprise Zone

The site was included in the Didcot Growth Accelerator Enterprise Zone awarded by the government in January 2016 following a successful bid by the Council It is envisaged the new enterprise park will initially bring investment to Didcot and create new jobs with a particular emphasis on the space and technology sectors. The site has a potential for around 115,000 m^2 of accommodation including digital infrastructure such as battery and data storage and manufacturing accommodation to contribute to the on-going success of the local economy of Science Vale, ensuring to deliver not only high-quality places to live but high quality employment opportunities in various dynamic sectors. The location inspires participants to create a world class technology, digital and manufacturing environment which will integrate into Didcot Garden Town offering a space where people can work, live and play.

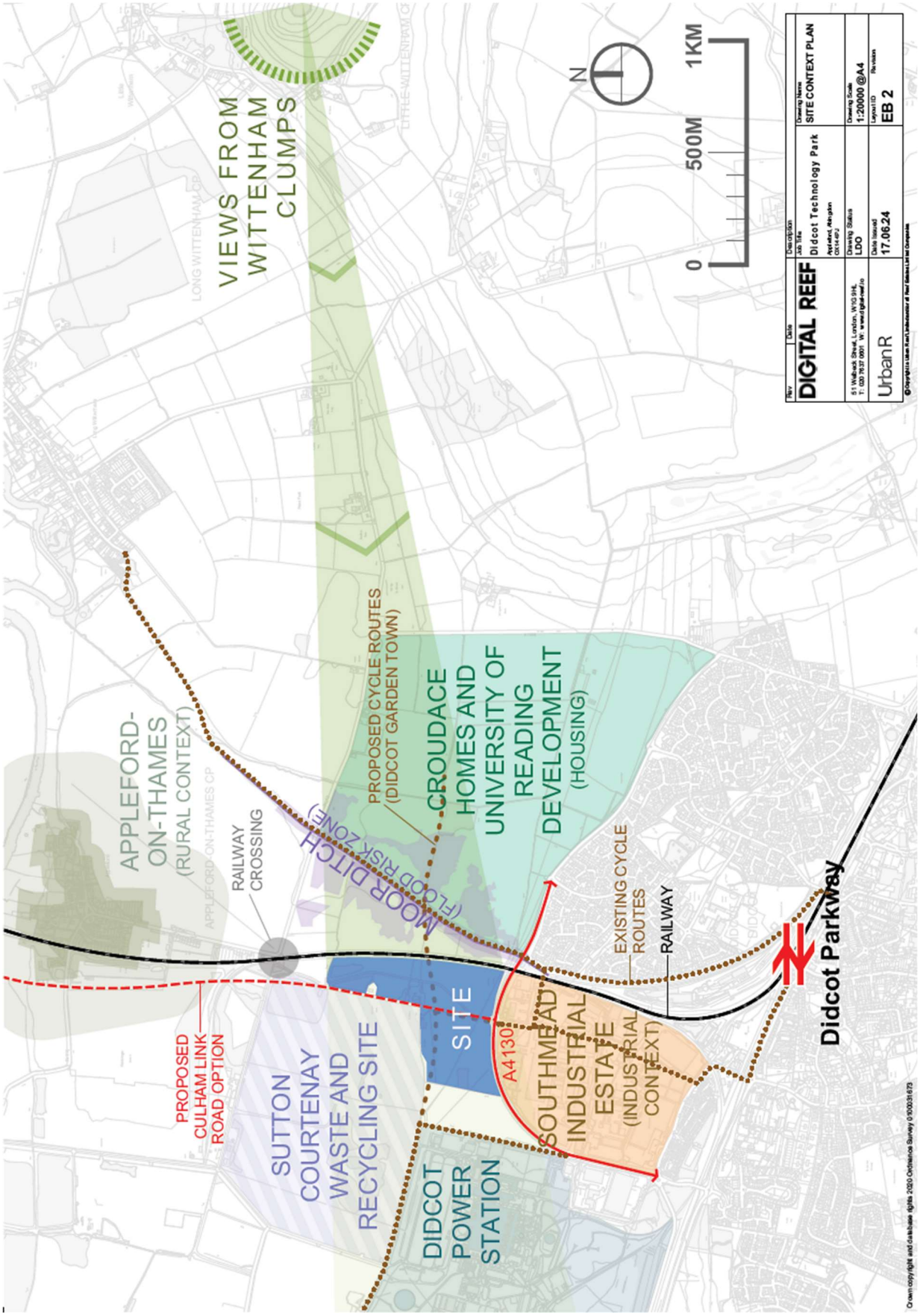
1.3 Context

Didcot Technology Park is a 23-hectare site located on the Northern edge of Didcot. To the south is the A4130 Northern Perimeter Road and the interface with the neighbouring Southmead Industrial Estate. To the west the landscape is dominated by the Didcot power station. Several ponds are located within the northern arm of the site neighbouring the Sutton Courtenay waste and recycling site at the northwest boundary. On the east runs the Oxford to Paddington railway. Beyond the triangular shaped field on the opposite side of the railway lies large fields subject to proposals for development of 2000 houses. This area of Didcot is therefore in a period of significant transition and it is important that all developments in this area are of a high quality and contribute to a strong sense of place.

The proximity of the site to the Harwell campus, Didcot Parkway station and the centre of Didcot Garden Town gives an excellent connectivity to the site and helps to develop a hub that encourages collaboration between corporate enterprises to share technology and locate digital infrastructure to the benefit of the local, regional and national economies.

1.4 Design approach

The guiding approach to the design within the LDO area is to build upon a good hierarchy of functions and movements, provide a good connectivity within the site with accentuated key nodes encouraging collaboration, and to harmonize with the existing natural landscape. The ultimate aim is to create a development of a dynamic and successful business environment with its own character and identity, but integrating successfully with the town and surrounding landscape, in line with the aspirations of the wider Science Vale community and Didcot Garden Town.



EB 2 – Site Context Plan

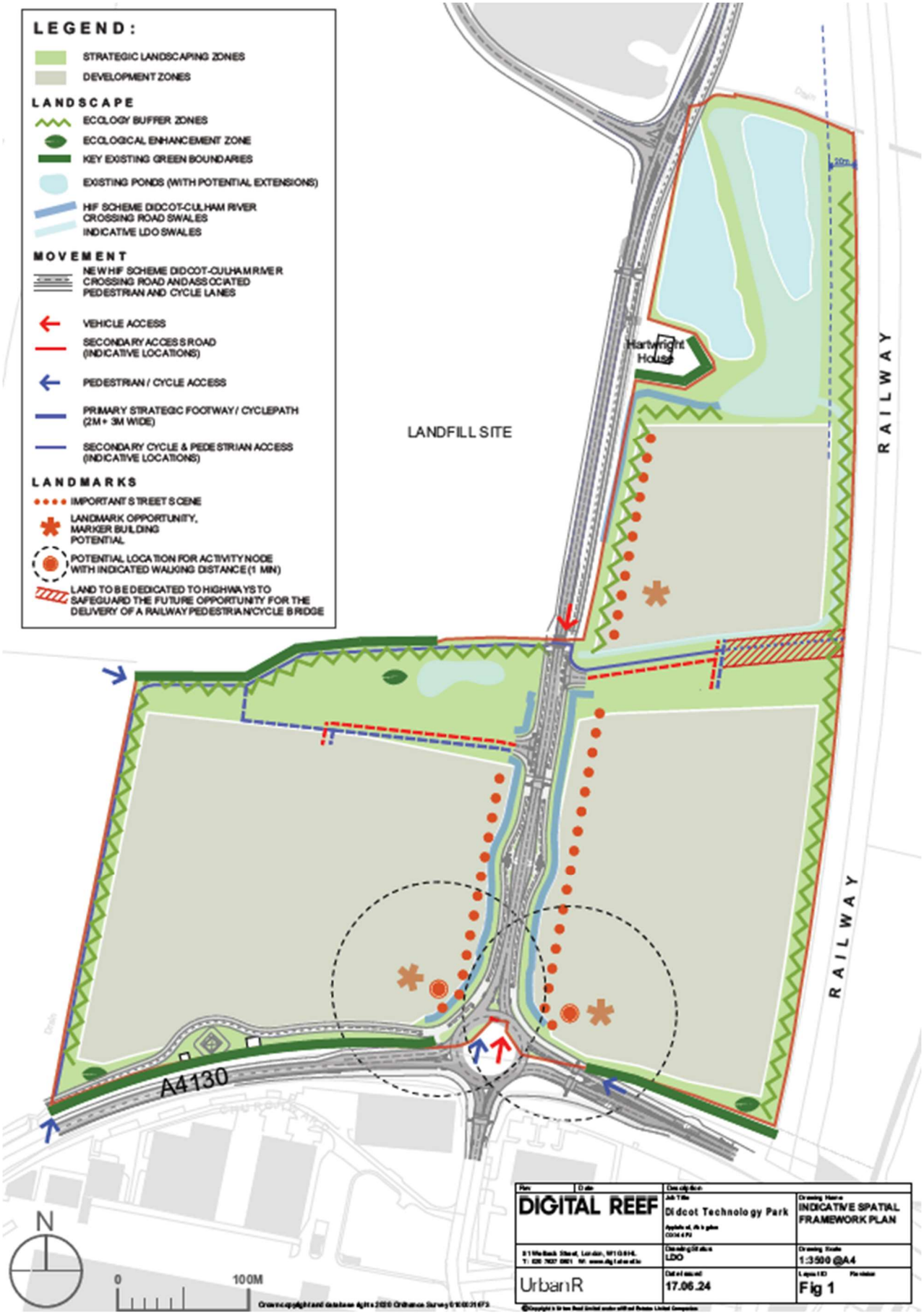


Fig 1. – Indicative Spatial Framework Plan

2 PART ONE: GENERAL GUIDANCE

This design guidance outlines the design principals for the LDO applicable across the entire site.

2.1 Movement

The overall quality of the development hinges on the efficient movement of people and traffic which is influencing the design and determines the efficiency of all areas of the park. The main objectives are:

- Adopting a clear hierarchy of vehicle routes within the site, prioritising walking and cycling within the site network to building entrances with direct connections with public transport such as bus stops and the wider pedestrian and cycle network.
- Walking and cycling will be promoted and encouraged throughout the park as part of creating a healthy and attractive place to work.
- A consistent palette of paving materials should be used to unify the spaces of the park (see Landscape Strategy and section).
- Pedestrians and cyclist to have clear and direct routes onto primary and secondary paths for ease of access around the site, the wider science vale community and Didcot Garden Town.
- Site layout will be designed to enable enhanced pedestrian and cycle connections to improved links leading to the town centre and railway station that are anticipated through the Garden Town initiative.
- Accommodate current HGV through traffic to the Sutton Courtney Waste Transfer Site and Hanson Aggregates.
- Include capacity for public transport infrastructure, such as bus stops.
- Safeguard the Didcot to Culham River Crossing road routing through the site, and contribute towards features of the new road infrastructure within the site which benefit the proposed LDO development via S106 agreement.

2.2 Layout

The arrangement of buildings and organization of development sites have a fundamental role to play in the creation and experience of place.

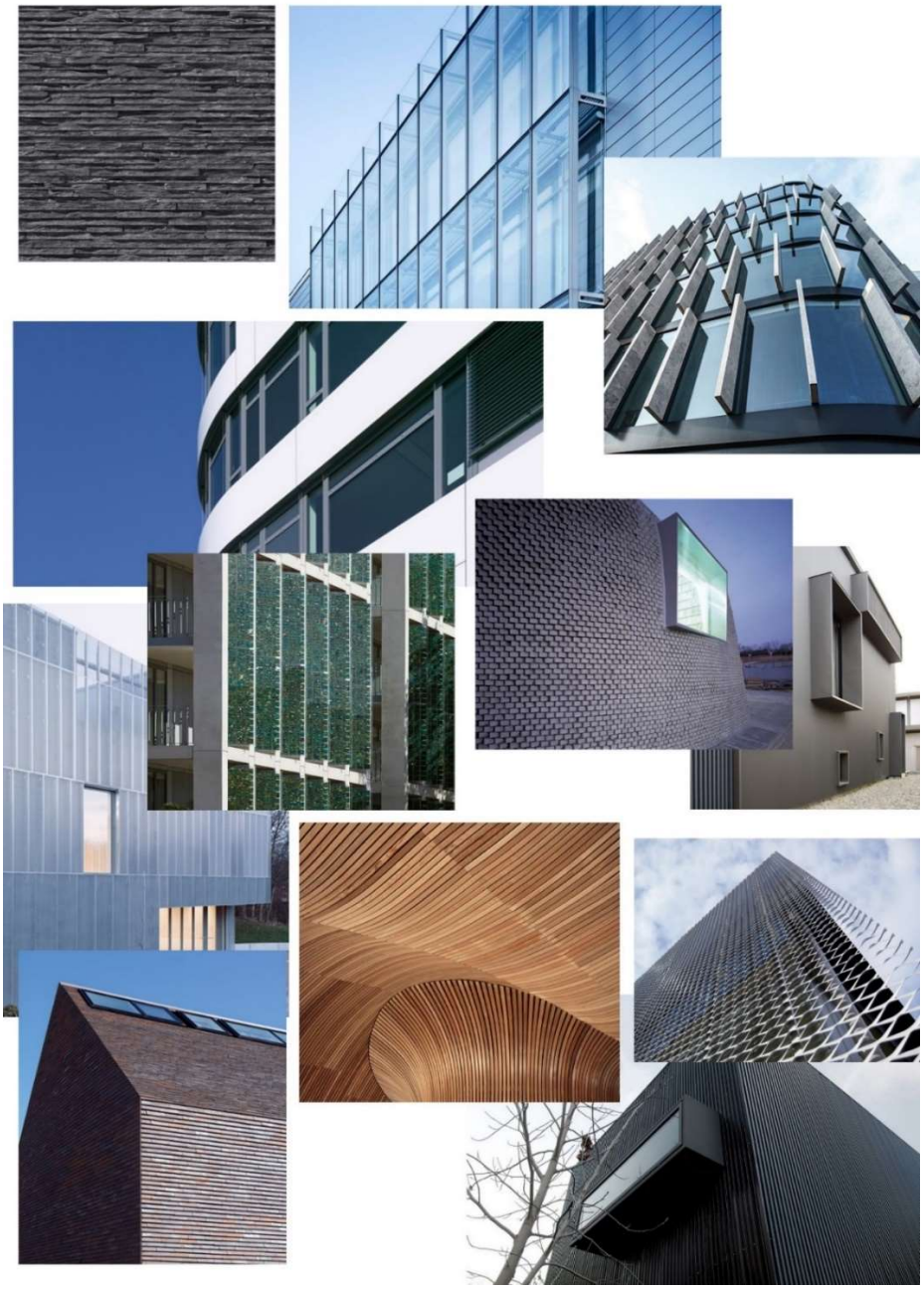
- The settings of buildings to reinforce movement hierarchy.
- Key activity nodes to be placed close to pedestrian and cycle routes to encourage accessibility.
- Buildings to assist safety and security of segregated cycle and pedestrian routes by visual connection.
- Clear distinction between publicly accessible and private areas.
- Service yards, staff car parks, decked parking areas, refuse and storage areas to be screened from main circulation routes and where possible confined to the rear of the building away from the street frontage.
- Social activity nodes to create network of walkable facilities across the site.
- The layout should encourage collaboration between businesses and organisations located within the site.
- Include a series of informal ‘break-out’/recreation areas with, for example, seating and nature zones.
- Develop a strong spatial framework that is adaptable for future use.

2.3 Architecture

Architecture and the associated landscape will be the most appropriate tool to create a clear identity for the area. Given the scale and nature of different uses within the site it would be inappropriate to define the direction of architecture for the whole development but as a guiding theme the trio of ‘Science – Nature – Heritage’ should be followed. Other objectives are:

- Buildings will be of high-quality design and seek to incorporate innovative and creative solutions.
- Buildings are to be simple and robust in form, appropriate to the nature of the use of the building.
- The design of the building should reflect to the observer the type of use or activities of that building.
- Main entrances to buildings should be clearly expressed and be identifiable from the public street network.

- Buildings will not exceed heights prescribed in the Building Heights Plan (*LDO Plan 3 – LDO Building Heights Plan*).
- The fenestration of buildings should be appropriate to the commercial scale of the development, avoiding domestic elements.
- The design of façade treatment of prominent buildings should seek to aid legibility and consistency within the street scene.
- Encourage the use of traditional materials in a contemporary way.
- Encourage inclusion of landmark buildings to give legibility and interest to the site.
- Buildings to follow biodiversity and landscaping strategies to minimize impact and successful integrate the development with the natural landscape adding to its amenity and overall quality.
- Development should adhere to the design principles set out in the South and Vale Joint Design Guide 2022.



Indicative architectural materials following the guiding theme of ‘science – nature – heritage’.

2.4 Roofline

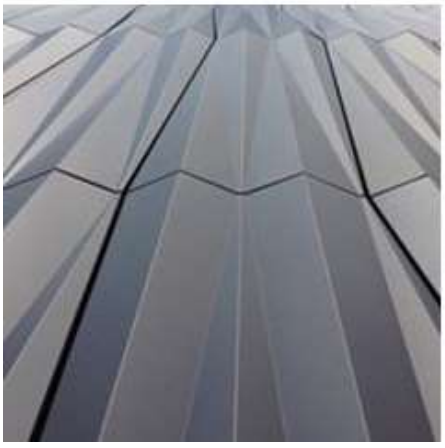
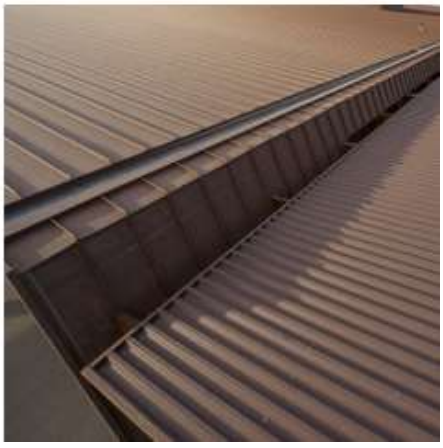
The Landscape and Visual Appraisal (LVIA) includes suggestions on what can sensibly be accommodated within the site. As a general principle, the building heights and massing would be kept lower at the eastern and northern edges of the site as detailed in the LDO Building Heights Plan. This reflects the proximity of the more rural character of the landscape against these boundaries and other visual receptors including users of the railway.

The areas of the park in close proximity to the A4130 (the Northern Perimeter Road) and Southmead Industrial Estate, and with the Power Station in the background are least sensitive and are able to accommodate higher building height up to 21 metres, Similar in height to nearby buildings to the south of the road. The northeastern boundary along the railway will have restricted impacts by limiting heights to 12m together with increased buffer zones 20m wide to the north section and 15m wide to the southern section of the eastern boundary. Within the northern arm of the site the back drop of the site is the raised form of the landfill site. Here the building heights are limited to 16m, 12m and 9m taking account the close proximity of the retained Hartwright House.

Measures to consider while designing roofs:

- Roof ridge and eaves will be orientated so that lower sections of roof are in proximity the sensitive boundaries;
- Careful use will be made of colours, materials and non-reflective surfaces. Visibility is made more prominent by lighter colours which will be avoided. Darker more recessive colours would not be as prominent.
- The grouping of new structures and buildings close to other buildings to avoid new expanses of development that are visible and out of context;



Indicative roofing materials

2.5 Landscape Strategy

The LVIA has shown the likely visual and landscape impacts of the new development and has helped informed the design process to achieve a successful, well assimilated enterprise park. It is the connection that buildings have to the land, and the quality of the landscape upon which they are placed, that combine to create a sense of place; this recognises the landscape as a vital and integral player in the creation of a successful business community. The guidelines that follow respond to the landscape at a variety of scales - from broad association with landscape typologies, to general character descriptions and specific design guidelines.

The Landscape and Ecological Strategies (detailed in next section) have together been developed to provide a strong and robust landscape edge that will provide a good level of screening along the western, eastern and northern boundaries. The southern boundary currently has a mature belt of roadside screening which will be supplemented within the site to ensure that a robust level of screening can be retained within the management of the Park.

Following the assessment of surrounding landscape and ecology sensitivities in addition to the building height restrictions on the LDO Building Heights Plan, the landscape strategy for the LDO seeks to deliver the following landscape objectives:

1. Develop a landscape strategy that transforms open agricultural land with some existing vegetated boundaries into a verdant green technological park.
2. Integrate the Landscape Strategy closely with the Ecological Strategy to enable the delivery of a minimum of 10% biodiversity net gain for habitats, green planting, and hedgerows.
3. Enhance boundary treatments to minimise external impact on the site (railway, traffic, etc.)
4. Maintain and create views out of the site particularly to the east.
5. Respect the views into the site from the North Wessex Downs AONB.
6. Provide an attractive landscape setting for prospective occupiers in order to help create a vibrant enterprise zone
7. Improve the public accessibility of the green space network and use the landscape to link the individual zones together to add a coherence to the park and help create a sense of place.
8. Comprehensive tree planting strategy in the development that establishes a hierarchy of trees applied to each zone.
9. Additional tree planting to all boundaries using native species that help reduce the dominance of the building elevations and provide a bridge to the surrounding character and ecology of the area.
10. Soft planting strategy that responds to scale, form, movement and location
11. Planting should be designed in a consistent manner with specific focus on future maintenance regimes and training, have a clear hierarchy for areas, drought-tolerant and add colour for all four seasons
12. Landscape planting associated with individual units should seek to soften and integrate new buildings into the surrounding landscape
13. Increase public access to green spaces and blue infrastructure within the site to promote health and wellbeing through attractive opportunities for recreation including the promotion of walking /running circuits around the perimeter of the development site.

14. In combination with the built form, planting and green spaces, some additional water features will add to the character and identity of the park
15. Increase the opportunity for water to play a greater role within the development, seeking to contribute to the proposed strategic storm water management system (open swales, ponds, etc.) as part of a sustainable urban drainage system
16. Ensure the green-links are over-looked by development to aid safety and security.
17. Consider the creation of central green space to act as a community heart/focus for the whole estate with further outlier pocket parks.
18. Hierarchy of surface materials to define building entrances and surrounds, formal and informal paths, exercise route, cycle routes, parking areas and roads.
19. Use porous paving materials to minimise surface water run-off.

Fig 2. – Landscape Strategy Plan

Western Boundary - Section GG (Indicative only)

The Westen boundary illustrated above provides a 15m wide buffer zone (EC05) to ensure a pedestrian and cycle lane is provided within the zone while still providing a minimum of 10m soft landscaping.

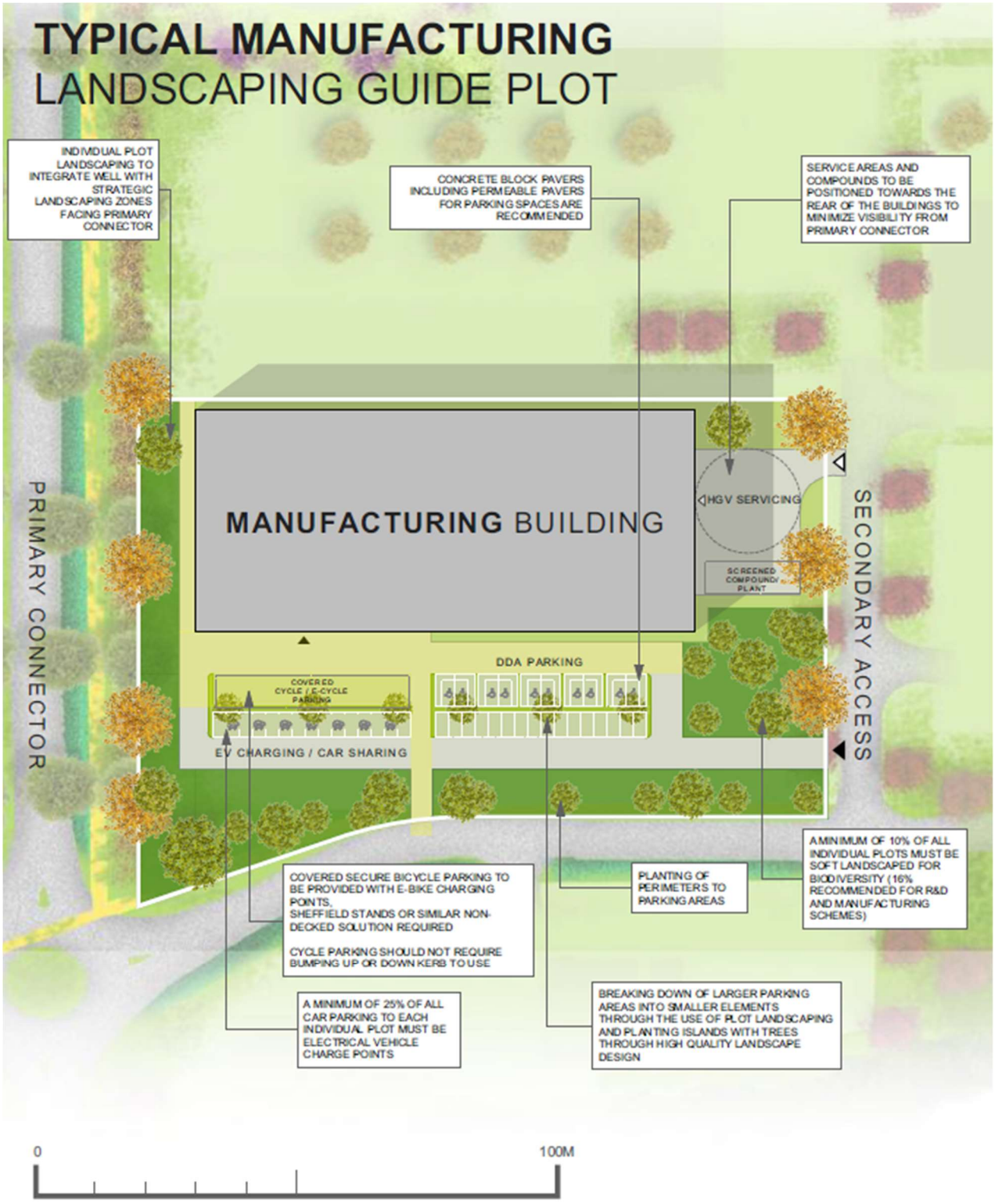


Fig 3. – Individual Plot Landscaping Guide (Manufacturing)

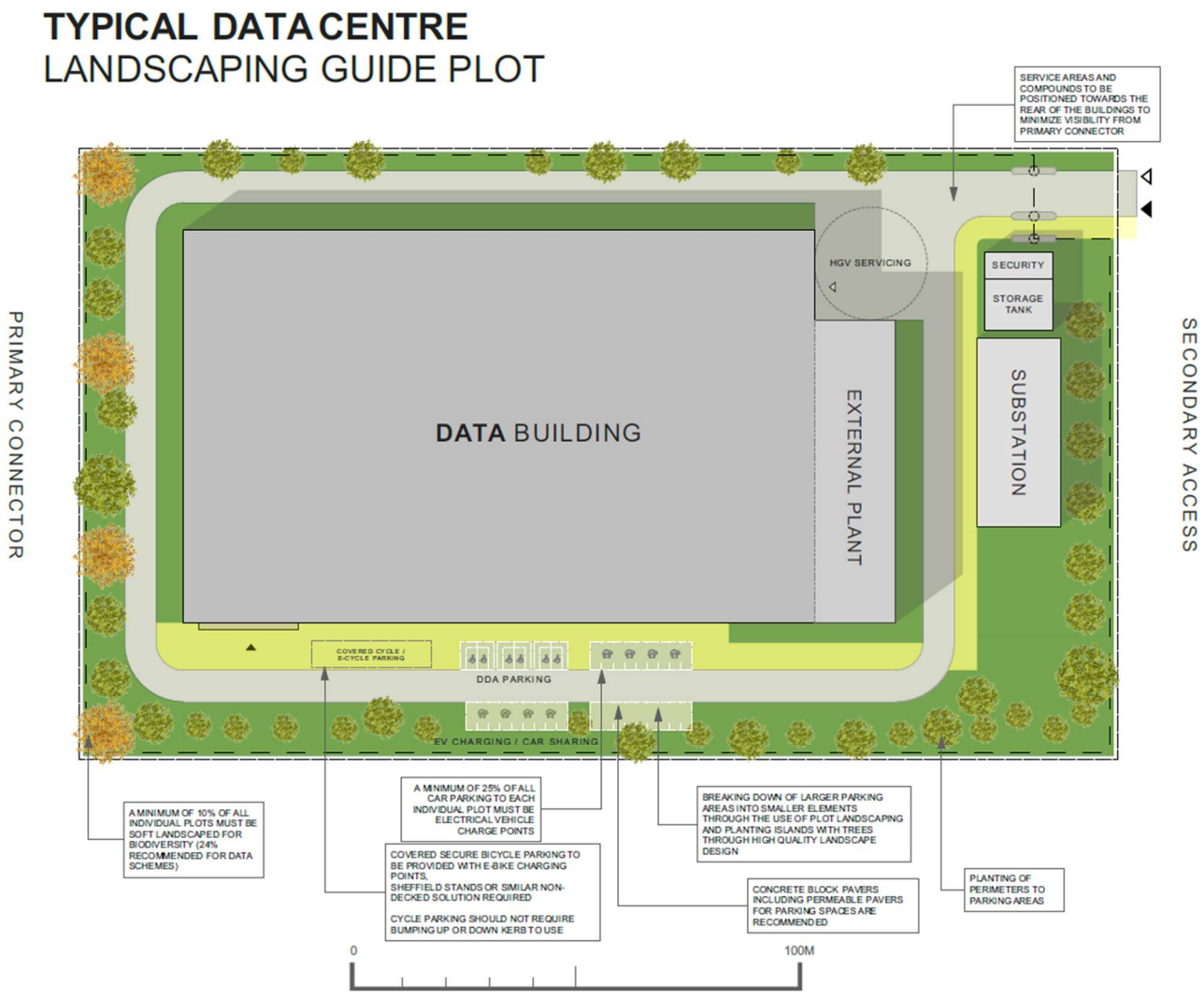


Fig 3. – Individual Plot Landscaping Guide (Data Centre)

2.6 Signage and public art

Signage and public art can play an important role in creating a strong sense of place. The objective for the site is to encourage an interesting, inspiring, safe and modern business park.

To help achieve this goal, all site and directional signage will be attractively designed, well considered and carefully sited. A modular system is preferred to permit flexibility on plots and for building occupiers whilst ensuring visual unity. It will provide a clear hierarchy of way making to facilitate orientation for pedestrians and road users.

Examples of modular signage

Public art primarily refers to artwork which is freely accessible to the users of the park, in or fronting onto the public realm in a variety of forms. It can provide an important element in delivering an improved sense of place, a high-quality environment which will promote social networking and encourage local creativity.

Public art can also serve a function within private areas, such as office developments, to enhance the working environment for employees and visitors. Examples of either can be statues, carvings, engravings, paving designs, water features, mosaics, murals, flags, street furniture, fencing, lighting, video projections and planting schemes. The process may involve professional local artists and crafts people in the design and production of the public art, but this will be subject to the scale of the project and viability. It should be noted that any provision for public art is in addition to the provision of public realm and environmental enhancements. Reference should also be made to the public art section of the South and Vale Joint Design Guide 2022.

Examples of public art

2.7 Road design

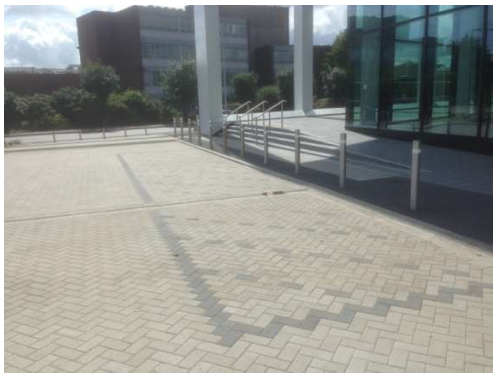
Access to the site will be achieved from the southern end of the Didcot to Culham River Crossing road and sustainable transport infrastructure, one of the County Council's strategic priorities for infrastructure delivery. The road will pass through the site on a broadly north – south alignment and include significant pedestrian and cycle paths running each side of the road and along the southeastern boundary for onward connections. However, for the purposes of ensuring sufficient land is safeguarded for the purposes of delivering the road and necessary associated infrastructure, a 40m to 54m wide corridor has been allowed as illustrated on the LDO Plan 5.

Two priority junctions will be provided along the road to provide access into the development parcels which lie to its east and west. The geometry of these junctions would be agreed with the County Council and will follow modern design standards to prioritise pedestrians and cyclists. The LDO plans provide additional strategic pedestrian and cycle paths around the site and connections to Didcot to Culham River Crossing road infrastructure running through the site and off site to connect with the Sustrans 5 cycle route to the north west of the site. A west bound pedestrian and cycle path is also provided to a safeguarded zone for a future railway crossing.

Once within the development parcels, the site would be served from roads designed in accordance with 'Major Access Road' standards as set out within the County Council's Design Guide and will therefore largely be 6.0m in width. All internal junctions will be provided with geometry appropriate for regular HGV use (minimum15m corner radii), while the nature of the junctions themselves (i.e. roundabouts or priority T-junctions) will be determined based upon anticipated traffic flows. All site access points shall include a pedestrian and cycle paths to the entrance of the proposed buildings.

Visibility splays at all junctions within the development parcels would be provided in accordance with Manual for Streets standards, while those onto the Link Road will comply with the Design Manual for Roads and Bridges.

Pedestrian and cycle crossing facilities will be provided following appropriate local and national guidance.



2.8 Vehicle Parking and Service Areas

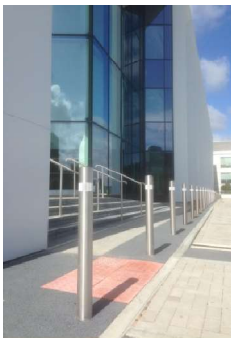
Parking for vehicles should be carefully integrated into the design of the site so that it contributes to a functional layout and a successful and attractive business environment. The following objectives should be considered when designing space for vehicles;

- Car parking will be provided in accordance with the adopted Oxfordshire County Council Parking Standards for new developments with additional limits in car parking of 1 space per 75m2 for light industrial and 1 space per 450m2 for the Data Centre floor space. Battery storage use to provide parking spaces to suit their specific requirement. All standard parking spaces should measure 2.5 x 5m minimum.
- A minimum of 25% of all parking to each individual plot must be Electric Vehicle charge points to comply with OCC electric vehicle strategy including policy EVI 8 or comply with current building regulations, whichever has the highest requirement.
- A minimum of 6% of all car parking spaces to each plot to be disabled parking spaces.
- Covered cycle parking adjacent building entrances to be provided with minimum 10% E-bike charging provision. Onsite cycle parking provision to be provided to include the following minimum requirement:
    - B2 use – 1 space per 175 sqm for staff and 1 space per 250 sqm for visitors.

    - B8 use (Data Centre or Battery storage) – 1 space per 250 sqm for staff and 1 space per 500 sqm for visitors.
- Cycle parking should be at the same level as the cycle route wherever possible, if unavoidable, dropped kerbs should be provided.
- Sheffield cycle stands to be spaced minimum 1 metre apart and follow Oxfordshire Cycling Design Standards 2017.
- Each development plot to provide shower and changing facilities onsite.
- Buildings requiring HGV access are to be provided with sufficient off-street parking space and turning areas to allow access and egress in a forward gear
- Soften the large expanses of car parking with quality landscape design.
- Incorporate SuDS into the design and layout.
- Encourage car sharing by prioritising dedicated spaces within the parking layouts.
- Ensure adequate number for disabled parking spaces per building.
- Careful detailing of the parking areas within the design of the site will be important.
- Gentle and sympathetic mounding where appropriate.
- Planting of perimeters to parking areas.
- Ensure pedestrian access across the car parks that link to footpaths in neighbouring zones
- Provide some unallocated/visitor car parking space including on street parking, with the exception of the Park Drive (Primary Connector Road)
- Using the hierarchy of trees suitable for car parks, locate strategically and practically to soften the spaces.
- Breaking down of larger parking areas into smaller elements through the use of plot landscaping and planting islands through high quality landscape design.
- Consideration will be given to the location, size and surface treatment of service areas to ensure that these do not become overly intrusive.
- Lighting to service areas should be designed so as to minimise light spillage to adjacent areas.
- Motorcycle and car parking will adhere to the adopted Vale of White Horse District Council's parking standards.
- The turning of vehicles will be made in accordance with County Council advice.
- The use of materials for circulation will respect the quality of the site, which could make use of the following natural looking materials:
    - Roads: Hot rolled asphalt, bound gravel, concrete block pavers including permeable pavers
    - Kerbs: Precast concrete/stone
    - Footpaths: Tarmac, bound gravel, flag paving, regular concrete blocks, brick pavers with PC/stone edging
    - Car Parks: Tarmac with Thermoplastic white lining and permeable block pavers.
    - Service Yards: Brushed concrete

Please also refer to the section below on external lighting.





Examples of high-quality car parking Arrangements.

2.9 Waste and Recycling

Developments should adhere to the design principles for storage, services and utilities in the South and Vale Joint Design Guide 2022 by looking at the potential innovative collection systems for waste and recycling to help meet the targets of Joint Municipal Waste Management Strategy. This could include:

- Reduction, reuse, recycling, diversion from landfill, and restricted volume of residual waste storage.
- Storage areas should be conveniently located (integrated as part of the frontage or in a communal collection point if necessary), be visually screened from the public realm, unobstructive and should avoid long access routes.
- Provide access between bin storage areas and collection vehicle access.
- Allow convenient access for service vehicles that avoids the need to frequently turn around, with priority to through route.

2.10 Sustainable and adaptable design

Achieving a sustainable development is an important objective of the LDO. All proposals will incorporate a range of measures to ensure that it maximises its contribution to sustainability and energy efficiency objectives. The principles of sustainable development will be incorporated into the design, covering environmental, social, and economic sustainability.

The proposed developments should strive to achieve, wherever possible, the principles of the VWHDC Design Guide and include a range of energy saving measures such as high insulation standards, efficient building services, electric heat pumps and chiller and efficient lighting.

LDO Infrastructure

The proposed Local Development Order infrastructure has already been designed with Sustainability at the for front of the proposals and include a range sustainability measures such as Sustainable Drainage System (SuDS), extensive landscaping, biodiversity net gain, extensive cycle routes, pedestrian routes, extended bridleway, requirements of low car parking ratio, electric vehicle charging points, air quality targets and remediation of contaminated land.

Development Plot Sustainability Measures

Wherever feasible and viable, the building design will follow best practice procedures of the energy hierarchy: be lean (improved building performance); be clean (centralised heating and cooling systems); and be green (use of low or zero carbon technologies).

Didcot Technology Park will incorporate a range of measures to ensure that it maximises its contribution to sustainability and energy efficiency objectives. The principles of sustainable development will be incorporated into the design, covering environmental, social and economic sustainability.

The development will seek to incorporate climate change adaptation and design measures within the scheme to combat the effects of changing weather patterns. The project will adhere to the principles set out by the Building Research Establishment in their BREEAM scoring system to achieve a minimum of Excellent rating. An Energy Strategy and Sustainability Statement shall be provided and set out full details of the approach to energy efficiency and renewable energy strategies to deliver savings on regulated energy use to achieve a 25% improvement over the Building Regulations Part L 2013 Target Emission Rate.

Viable sustainability measures will be encouraged for each development within the LDO area as appropriate to its proposed use and recognising the objective of creating a flexible and adaptable business environment. To maximise the energy efficiency of the development and thus reduce the energy demands, the following design principles and features must be considered:

- Each proposed building shall achieve BREEAM Excellent or above rating.
- Provide a Energy Strategy and Sustainability Statement which demonstrates a 25% improvement over the Building Regulations Part L 2013 Target Emission Rate. The 25% improvement will be secured

through renewable energy and other low carbon technologies and/or energy efficiency measures in the scheme. Such measures to be considered, include but not limited to:

a. Air Source heat pumps
b. Ground Source heat pumps
c. Photovoltaics (PV) Panels
d. Wind Turbines
e. Solar Thermal
f. Biomass Heating
g. Excess heat supply for reuse on or off-site district heating (data centres)

- Maximise non-vehicle access to development and facilities by ensuring convenient links to public transport, footpaths and cycle routes
- Achieve an efficient use of land
- Increase biodiversity and enhance landscape features including green walls and roofs where appropriate
- Ensure integrity with the proposed SUDS Scheme of the LDO
- Healthy and attractive working environment
- Building fabric elements and glazing specifications to Building Regulation requirements and where possible improved.
- Reduced air permeability compared to maximum required standards
- Achieve good passive solar gain orientation and massing
- Specification of efficient heating and cooling services and control systems
- Energy efficient lighting through the development
- Allow for daylighting to production/manufacturing areas where appropriate
- Use of appropriate floorplates to provide adequate daylight to workstations
- Provisions of natural ventilation to office areas via openable windows with trickle vents where appropriate
- Each development plot to provide shower and changing facilities onsite
- A minimum of 25% of all parking to each individual plot must be Electric Vehicle charge points to comply with OCC electric vehicle strategy including policy EVI 8 or comply with current building regulations, whichever has the highest requirement.
- Covered and secure cycle parking adjacent building entrances to be provided with minimum 10% E-bike charging provision.

All development plots to make provision for the effective use of natural resources where applicable and viable in building construction and operation, including:

- minimising waste and making adequate provision for the recycling of waste on site
- using recycled and energy efficient materials where possible
- making efficient use of water
- causing no deterioration in, and where possible, achieving improvements in water quality

Development should also adhere to the design principles set out in the climate and sustainability section of the South and Vale Joint Design Guide 2022 where feasible.

2.11 Ecology Strategy

The strategy incorporates control mechanisms to mitigate impact on ecological features (species-poor hedgerows, ponds, amphibians, reptiles, breeding birds, bats) as described in the Ecological Impact Assessment. The below measures shown on the Ecology Strategy Plan have been identified through an iterative landscape design process:

- Utilising the existing site access point to maintain the continuity of boundary hedgerows at the site (EC06);

- Maintaining a habitat buffer around the perimeter of the site within the spatial framework to ensure wildlife corridors persist even during the construction phase of the project (EC01, EC02, EC04, EC05, EC07);

- EC05 buffer zone is provided 15m wide to ensure a pedestrian and cycle lane is provided within the zone while still providing a minimum of 10m soft landscaping.

- Retention of a buffer zone around the Pond area (EC01) to reduce the risk of negative impacts upon the pond within the site;

- Retaining Hartwright House and its bat roost (EC02), maintaining the integrity of the hedgerow and tree line around it, and controlling artificial light in the vicinity of the building to reduce the risk of direct impacts to bats and indirect effects on the suitability of the building for bat roosting;

- Retention of a buffer zone in the immediate vicinity of the broad-leaved woodland adjacent to the Northwest edge (EC04) of the site and minimisation of any lighting of this feature during operation to maintain this feature's value for foraging bats;

- Retention of a buffer zone around the main area of suitable reptile habitat, the field margins on the eastern Railway Edge of the site (EC07).

A range of biodiversity enhancements are also encouraged as part of the site development to enable the delivery of a minimum of 10% biodiversity net gain for habitats, green planting, and hedgerows. These measures include:

- Creating and managing new species-rich grasslands to produce grasslands of high biodiversity value.
- Woodland edge habitats will be created around the margins of the site to provide a range of habitat grading from woodland to scrub, and scrub to grassland.
- The existing pond to be enhanced to incorporate large shallow areas, large draw-down zones and a number of wetland scrapes, significantly increasing its current biodiversity value. The new SUDS ponds created within the technology park should have similar features to ensure they provide a biodiversity benefit, as well as performing a drainage function.
- A range of small-scale constructed habitat features (including: bird boxes, bat boxes, deadwood piles, etc.) to target key faunal species and will be installed in appropriate areas of the development.
- Landscape planting with the development should use species of proven benefit to wildlife (i.e. fruiting and flowering species offering nectar and berries) and will therefore have a biodiversity benefit, as well as aesthetic appeal.
- A minimum of 10 % of all individual plots must be soft landscaped for biodiversity.
- Green wall or roof features to enhance biodiversity where appropriate and viable.

The creation of new hedgerows, ponds, trees and woodland on what is currently intensively farmed agricultural land will ensure the long-term maintenance and enhancement of a high-quality landscape and support biodiversity conservation.

Fig 4. – Ecology Strategy Plan

EC01

POND AREA

Existing eastern pond will be enlarged to increase flood water storage capacity. As part of works ecological enhancements will be made to the pond to provide shallow margins and large draw down zones, and incorporate wetland scrapes, thereby increasing the biodiversity value. Species-rich grassland will be created adjacent to the pond to provide additional suitable habitats for reptiles. Existing western waterbody has limited opportunities for ecological enhancement due to existing recreational use as a fishing lake. However, long-term maintenance of the habitat will ensure its existing biodiversity value is maintained, along with its value for recreation which is an important ecosystem service.

EC02

HARTWRIGHT HOUSE EDGE

Woodland planting is proposed to this area to screen bat roost in Hartwright House from light spill. A habitat grading from trees to scrub, and then scrub to grassland will be achieved to create a woodland edge and a grassland ride habitat. Artificial lighting in the area will be sensitively designed to ensure light levels around Hartwright House remain <1 lux.

EC03

PARK DRIVE CORRIDOR ZONE

It is envisaged to create landscaping along the park drive with wetland features as part of an overall sustainable urban drainage design. This will include a series of basins, connected by shallow above ground, drainage swales and linear wetlands. The main SUDS attenuation area will be enhanced for biodiversity by providing shallow areas, gentle slopes, and with pond margins planted with a range of native aquatic plants. Dry flood storage areas will be stripped of top-soil and sown to species-rich grassland. The strategic landscape planting in this zone will use species of proven benefit to wildlife (i.e. fruiting and flowering species offering nectar and berries) and will therefore have a biodiversity benefit, as well as aesthetic appeal.

EC04

NORTHWEST EDGE WOODLAND

The broadleaved woodland in this area will be expanded with additional tree planting and woodland edge habitat will be created, providing a range of habitats from mature woodland grading to scrub and species-rich grassland. This habitat will be extended along the length of the zone to provide a continuous habitat corridor around the built development. The proposed lighting scheme this area will have light levels of 1 lux or below to minimise the risk of impacts to commuting and foraging bats and other wildlife.

EC05

SOUTHWEST EDGE

The mostly broad-leaved semi-natural woodland along the A4130 is retained.
There are also two areas of dense scrub which form part of the southern and western boundaries. These areas are comprised of small trees and scrub of varying heights and maturity.
Habitat connectivity and biodiversity value along these boundaries will be increased by creating woodland edge and grassland ride habitat (habitat grading from trees to scrub, and then scrub to grassland etc). A sensitive lighting scheme in this area will ensure habitats suitable for bat foraging and commuting along the site boundary will have light levels of <1lux.

EC06

CENTRAL ZONE (EAST)

This zone applies to the access areas off the 'park drive' primary connectors. This may also include a sustainable urban drainage swales enhanced for biodiversity (including shallow margins, gentle slopes, and planting with a range of native aquatic and marginal plants) and the creation of new areas of species-rich grassland. The strategic landscape planting in this zone will use species of proven benefit to wildlife (i.e. fruiting and flowering species offering nectar and berries) and will therefore have a biodiversity benefit, as well as aesthetic appeal.

EC07

RAILWAY EDGE

Habitat connectivity along the eastern boundary is to be improved through the creation of a new native species-rich hedgerow with standard trees. This will re-connect and enhance the existing fragments of hedgerow, thereby improving the eastern boundary for commuting and foraging bats. Sensitive lighting along this boundary will ensure light levels of less than 1 lux are maintained along this route. This hedgerow will border the built development and will provide a screen for a wildlife corridor of species-rich grassland along the eastern boundary. This grassland will provide areas of additional habitat for the reptile population along the eastern boundary of the site. Northern areas will include shallow drainage swales and linear wetlands which will be enhanced for biodiversity by providing shallow areas, gentle slopes, and with pond margins planted with a range of native aquatic plants.

BUILD ZONES

The main landscape treatment to the development plots is relatively formal, with close cut grass lawns and ornamental hedges with specimen trees and flowering shrubs. Towards the margin of each plot the landscape treatment becomes much more informal, grassland becoming richer in wildflowers and features to encourage wildlife colonization, such as habitat stacks and native shrub blocks predominating. These connect with the landscape framework of hedges and swales to create a strong ecological matrix. A minimum of 10% soft landscaping per individual plots must be provided.

DIGITAL REEF	Didcot Technology Park	ECOLOGY STRATEGY PLAN LEGEND
	LDO	1:3500 @A4
UrbanR	17.06.24	Fig 4

Fig 4. – Ecology Strategy Plan (Legend)

2.12 Management, maintenance and implementation

The management and maintenance of the site will be undertaken by a site manager or management company. This will be in place to ensure a defined operational strategy and organized procedures for the LDO site. A well-coordinated approach will provide longevity and ensure quality management in the present and the future.

The management company will be responsible of monitoring and controlling lighting, signage, highways, drainage, wildlife and landscaping to ensure that the above will accord with the relevant conditions of the LDO and take into account the requirement to achieve a minimum 10% biodiversity net gain for habitats and hedgerows.

Implementation of the strategic landscaping will be triggered by the construction of civil infrastructure across the site. Proposed landscaping will be developed when access roads, cycle and pedestrian routes, utility connections and drainage/surface water infrastructure will be constructed allowing the occupiers of individual sites to connect into. Planting of buffer zones around the perimeters of the site will also be implemented with the strategic landscaping outlined above. The impact on the areas affected by individual developments will be mitigated as early as possible prior construction on each plot.

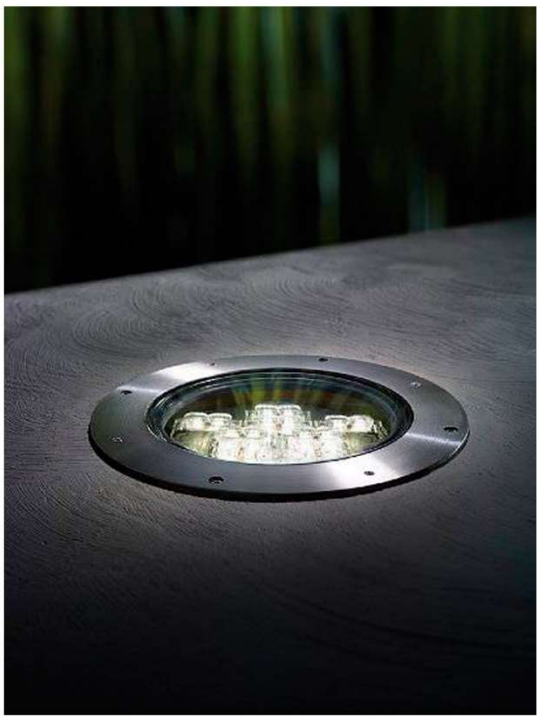
2.13 Lighting

The key objective is for a minimal level of lighting to ensure safety of vehicle traffic, pedestrians and cyclists, provide amenity lighting for outdoor areas and breakout spaces, but also ensure that effects upon commuting and foraging bats will be mitigated. Lighting should reflect the high-quality vision for the built environment and be selected to strengthen the cohesiveness of the overall scheme. To achieve this, all proposals for external lighting should adhere to the guidance of *External Lighting Report*, the relevant sections of the *Ecological Impact Assessment for the LDO* and *Section 4* of the *Vale of White Horse Design Guide SPD* . The management company will also seek to ensure that obtrusive light from the development is minimised by discussing requirements with occupiers at an early stage.

The following lighting objectives should be considered as appropriate in all developments:

- The roadway lighting to be a column mounted solution utilising the latest LED technology and the design of the selected luminaire captures the ethos of the site architecture.
- On the main entrance to the park, ground mounted uplighters to be installed to highlight the park signs on either side of the road. Pathway lighting to be a bollard solution in keeping with the architectural and landscaping designs.
- Floor mounted low output spotlighting to be sparsely installed to highlight any water or plant features that may be installed.
- The car park lighting is to be a column mounted solution utilising high performance fittings. The selected luminaires are also required to limit the upward light spill.
- Asymmetric reflectors are to be installed on the site perimeter, adjacent the railway line, near the existing Hartwright house and the adjacent existing ponds to restrict back throw lighting. In the areas having the presence of bats either LED light source is to be used with low UV content and narrow wavebands or a light source that peaks higher than 550nm.
- Blue and white light sources should be avoided as these attract insects. Control of the lighting to be planned so that car parks and building feature lighting are timeclock and photocell controlled to switch on/off at certain times.
- Thought should also be given to zoning car parks via switching or Passive Infrared detectors, to give opportunity to switch off areas earlier in the day where there is the bat habitat, along foraging routes and adjacent any woodland.

The concept lighting scheme has been designed (refer to External lighting report) to ensure the buffer zone around the perimeter of the site will have maximum light levels of 1 lux or below. This will provide wildlife corridors around the perimeter of the development suitable for bats and other species.



Indicative lighting solutions

2.14 Fencing, screening and boundary treatments

If fencing cannot be avoided for security or other reasons (such as data centres, railways, etc.) it should always be carefully integrated into the overall design and landscape strategy of the site. External plant compounds, bin storages and bicycle parking facilities should use natural materials where possible (i.e. timber boarding), which are more appropriate in rural environment.

Bin and cycle storage/Plant compound screening examples

Security fencing examples

Accessible boundary treatment examples

3 PART TWO: SPECIFIC GUIDANCE

This section provides additional guidance for key areas of the site. These areas are important because their location within the spatial framework or their landscape and/or ecological sensitivity.

3.1 Key areas

Six broad sensitive areas are identified to raise awareness for certain mitigation measures that need to be implemented. These areas are:

- Site Gateway
- Road Frontage Zone (A4130)
- Park Drive (Central, East, West)
- Railway Zone
- Hartwright House Edge
- Northwest Edge

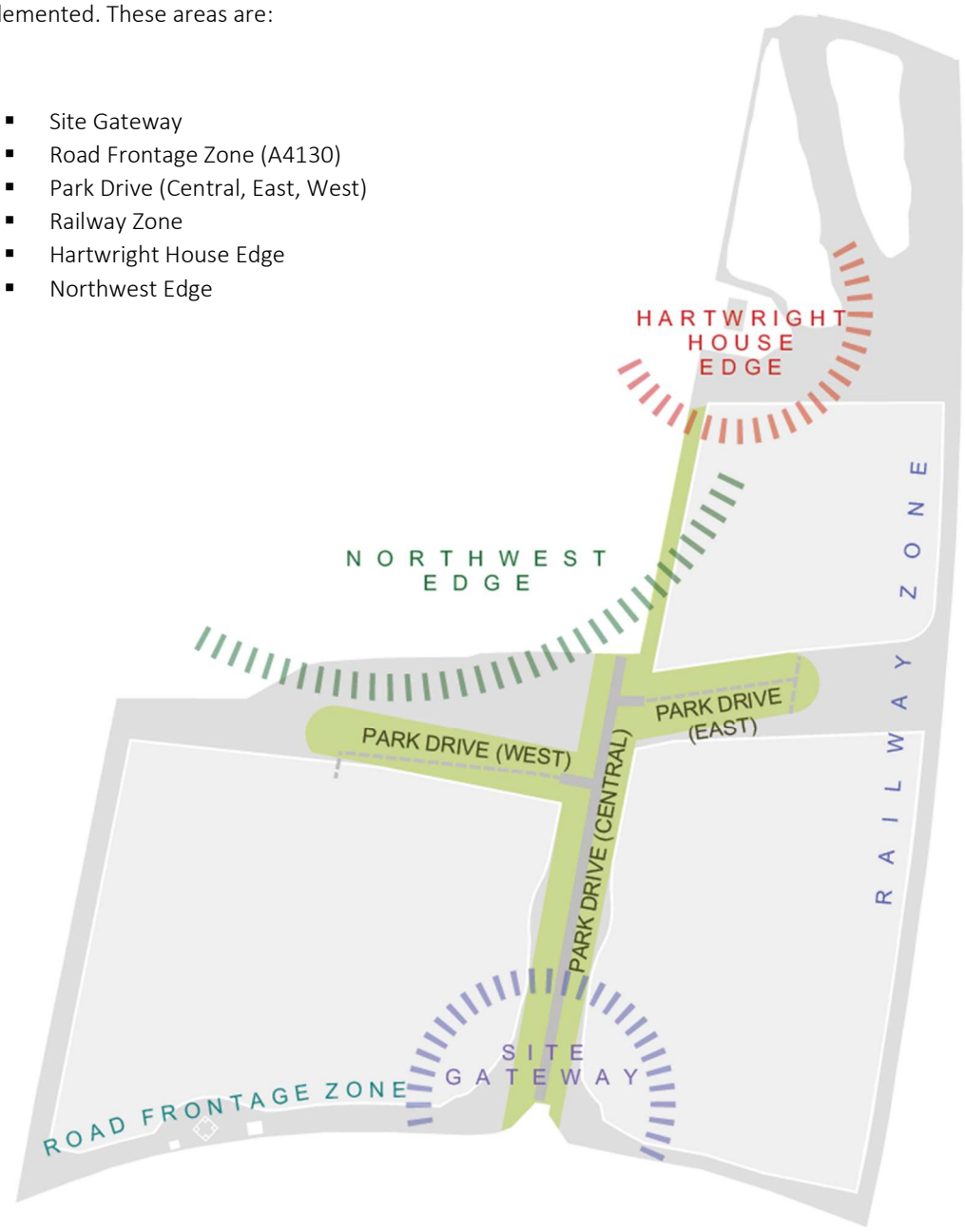


Fig 5. – Key Areas Plan

3.2 1 Site Gateway

The roundabout to the south along the A4130 Road provides clear sight into the park. This access point will naturally become the main gateway to the park and there is potential for marker buildings to be introduced here to the maximum permitted height corresponding with the large scale industrial buildings of the neighbouring Southmead Industrial Estate.

The design objectives are:

- Create major gateway building facing the entrance roundabout and the link road where possible
- Create attractive and welcoming entrance
- Provide legibility for visitors including orientation signage or information point
- Create marker building on the western side of the link road if possible
- Keep building setback from the highway to retain view corridor along the potential route of the Culham Link Road
- Maintain public footpath and cycle routes

3.3 2 Road Frontage Zone (A4130)

The boundary to the A4130 Northern Perimeter Road has mature tree screening providing a high-level enclosure and ecology buffer zone. This is on highways land, but it could be enhanced with further planting within the LDO site, however buildings along this edge should face the road where possible, rather than backing onto it, so that all service yards are visually sheltered from this direction. This southern facing frontage is also important towards the gateway zone as strategic cycle and pedestrian routes will be going through this section of the site. A limited section of trees will need to be removed at the site entrance to permit a gateway feel in this location.

Road Frontage Zone Section EE (Indicative only)

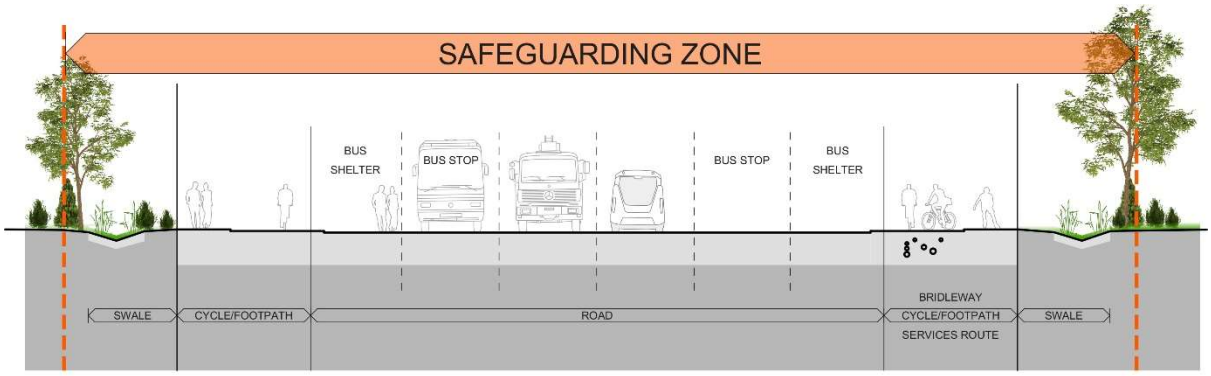
Road Frontage Zone Section FF (Indicative only)

3.4 3 Park Drive (Central, East, West)

The local highway authority's preferred options for the Didcot to Culham River Crossing road involves a route through the LDO area. The route will become a strategic road connecting Didcot with Culham Science Centre. It will act as the primary connector to the site and will also handle traffic across the site and HGV traffic accessing the landfill site to the north (until such time as the landfill is closed). A 40 to 54 metre wide zone to Park Drive Central provides the park spine road corridor, incorporating avenue tree planting, strategic landscaping, biodiversity strips, open swales, cycle and pedestrian routes along with provision for bus stops will be implemented by OCC and funded by the LDO site.

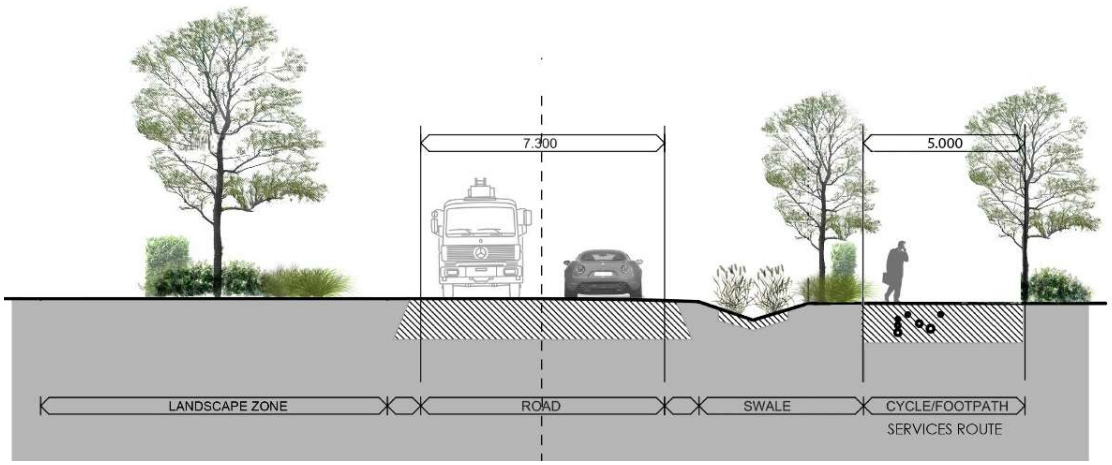
The design objectives are:

- Areas of open space, planting and grassland should be introduced as amenity corridors, but also providing links for wildlife
- A green spine/corridor running south to north along Park Drive with similar green corridors branching off to the east and west
- Use of water features is encouraged to complement the swales and retention ponds as part of a wider drainage strategy and contribution to on-site biodiversity
- Buildings facades with interest facing the corridor with suitably sized setbacks no less than 3 metres to allow for structured and formal landscape.
- Social activity and complementary uses to be encouraged with breakout spaces and landscaping features
- Underground services and utilities should, wherever feasible, be confined to the footpath and soft verges to avoid disruption to traffic during their maintenance.



Park Drive Central - Section AA (Indicative only through bus stops)

Note: A 40-54m wide zone is being safe guarded for the future Didcot to Culham River Crossing road to include Road and site access junctions, Drainage swales, Cycle and pedestrian paths, bus stops and landscaped buffer zones.



Park Drive East - Sections BB (Indicative only)

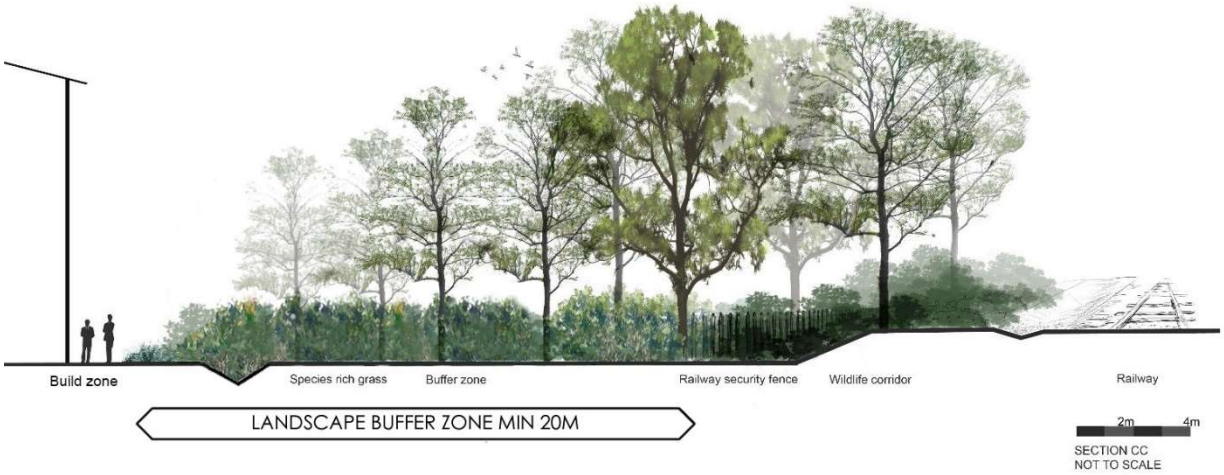
3.5 4 Railway Zone

On the east side the railway defines the site boundary. There is a good level of intermittent screening vegetation comprising hedging and trees but mainly outside of the control of the LDO area. There is a triangular shaped area of land on the opposite side of the railway which borders the course of Moor Ditch and a cycleway. The proximity of the North Wessex Downs AONB (although some considerable distance away) is also a design consideration.

The design objectives are:

- Create an informal landscape buffer strip and wildlife corridor of minimum 15m width incorporating a hedgerow with hedgerow trees and grassland to maintain habitats for reptiles, buffer zone to increase to 20m to the north of the site to accommodate a swale which will further enhance habitats for reptiles.
- Maintain some more expansive views eastwards towards the AONB
- As a general principle building heights and massing would be kept lower on northeastern section of this site boundary (12m maximum height) also choosing an appropriate building orientation (i.e. eaves rather than gable ends towards boundary) to avoid a possible corridor effect for railway travellers
- Vary the cladding colour using complementary neutral and/or earth tones to assimilate new buildings into the landscape boundary minimising visual impact

- Lighting should be directed away from boundary to reduce potential disturbance to nesting birds, foraging bats and other wildlife
- Strengthen the field pattern by planting up gappy hedges using locally characteristic species such as hawthorn, hazel and hedgerow trees such as Field Maple



Railway Zone - Eastern Boundary – Against building - Section CC (Indicative only)

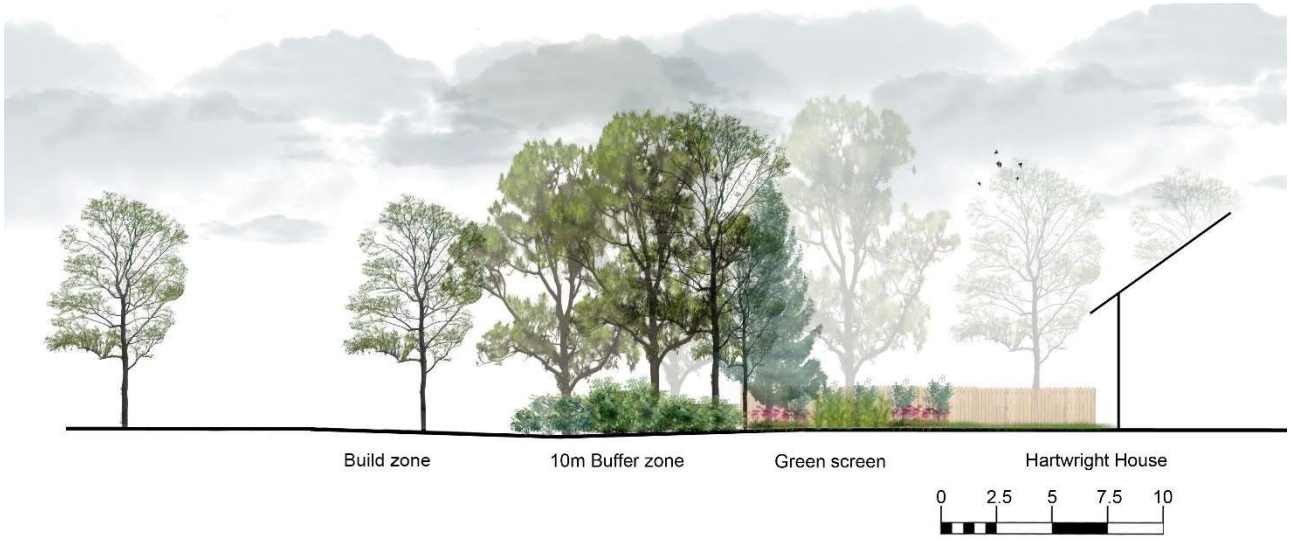
Railway Zone - Eastern Boundary - adjacent to open area (car parking) - Section DD (Indicative only)

3.6 5 Hartwright House Edge

A private residential property, Hartwright House, and two fishing lakes (Hill Farm Fisheries) are located to the north of the LDO area. Further North East lie arable farming fields and a network of rural roads which provide access to the nearby villages (Long Wittenham, Appleford, Sutton Courtenay and Culham) alongside the banks of the Thames. The vernacular nature of the above reflect the sensitivity of the built and landscape interface with the adjacent areas which should be considered during the design process.

The design objectives are:

- Protect the amenity of this private residence and leisure area
- Create an informal and height variable hedgerow and native tree boundary to mark the edge of the boundary
- Create an extensive barrier to screen the noise and sight of the road to rear of the house when the road is upgraded and widened to the Culham Link Road
- Create a green screen on the boundary to cushion the views out from and into the private residence
- Boundary vegetation to form part of the ecological strategy in this zone
- Lighting should be directed away from boundary to reduce potential disturbance to occupants of the house
- Building heights kept to a maximum of 9m to reduce 'overlooking' and shading of the private house
- Buildings set back from the boundary with car parks positioned adjacent to the edge



Hartwright House Edge – Section JJ (Indicative only)

3.7 6 Northwest Edge

Immediately to the northwest lies the Sutton Courtenay waste and recycling site and the large mounded landform that is the landfill site. The new development edge will have an ecology buffer zones as part of the strategic landscaping to mitigate impact from this site. These zones will be minimum 10 metre wide as indicated on the Landscape Strategy Plan and separate to this, space for a circulation path including a bridle path allowing access for pedestrian, cyclists and horse riders.

The design objectives are:

- Create an informal and height variable hedgerow boundary to mark the edge of the boundary
- Protect existing woodland along northwest corner and increase the size of the woodland to provide a valuable habitat and landscape feature with further tree planting

- Improve ecological value by providing additional planting, grasslands and hedges using locally characteristic species
- Enhance zone by the creation of a pocket park that educates and allows the user to interact with the biodiversity in this ecology zone
- Allow for the perimeter circulation path including a bridle path to pass through the zone and connect to Sustrans NCN5 to encourage recreation and social interaction.
- Provide new Bridleway along Northwest boundary and pocket park.

Northwest Edge Pocket Park - Ecological Zone - Section HH (Indicative only)