East Midlands Gateway
Phase 2 (EMG2)

East Midlands Gateway 2 Design Approach Document

DRAFT FOR CONSULTATION
JANUARY 2025

The East Midlands Gateway Phase 2 and Highway Order 202X and The East Midlands Gateway Rail Freight and Highway (Amendment) Order 202X

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Design Approach Document

Introduction

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1 Introduction

Scope and content

1.1. This Design Approach Document has been prepared in support of applications for a second phase of East Midlands Gateway Logistics Park (EMG1) which is a Strategic Rail Freight Interchange (SRFI) located to the north of East Midlands Airport. EMG1 is a nationally significant infrastructure development comprising a rail freight terminal and warehousing which is approaching substantial completion. The scheme is known as East Midlands Gateway 2 or EMG2.

1.2. This Document seeks to explain the design approach that underpins the proposals. It begins with reference to the assessment work that has informed the preparation of the proposal and goes on to explain how the site has evolved in response to this work and to consultation and how design principles have been established. It then explains the key components and main structure of the scheme in terms of the scheme parameters and illustrative masterplan. It outlines the detailed design principles that will inform the detailed design process post consent. It concludes by outlining the approach to the phasing and delivery of the scheme and sets out a design code to guide the future detailed design of each development plot.

1.3. The purpose of the Design Approach Document is to provide supporting information to the application. It draws heavily on and should be read in conjunction with the other technical and supporting documents that are submitted with the application.

Development proposals

1.4. The East Midlands Gateway 2 scheme is a second phase to EMG1 and comprises three interrelated component parts:

Main Site – A new warehousing and manufacturing employment park located south of East Midlands Airport and the A453, and west of the M1 motorway. Including up to 300,000 sqm of floorspace with an additional 100,000 sqm in the form of mezzanine space. This part of the site falls within the 'East Midlands Airport and Gateway Industrial Cluster' (EMAGIC) site, which forms part of the East Midlands Freeport designated by the Government in 2022;

Highways Works – Highways works to the strategic road network including improvements at junction 24 of the M1 motorway and the road network interacting with that junction; and

EMG1 Works – Additional warehousing of up to 26,500 sqm with additional 3,500 sqm of mezzanine space on land known as Plot 16, together with works to increase the permitted height of the cranes at the rail-freight terminal to 24m overall and improvements to the EMG1 public transport interchange and site management building.

Site location and context

1.5. The development is located in the district of North West Leicestershire on land close to East Midlands Airport (EMA). It includes the Main Site situated south of the airport together with land required for associated Highway Works to the east and north of EMA along the M1 corridor. It also includes land to the north of EMA within the existing East Midlands Gateway Logistics Park to accommodate the EMG1 Works.

THE MAIN SITE

1.6. The Main Site comprises land immediately south of EMA and to the east of the village of Diseworth. It is located immediately west of Junction 23A of the M1 motorway and approximately 3 km south of Junction 24.

1.7. The surrounding context to the Main Site is heavily influenced to the north and east by the existing commercial development and highway infrastructure. This includes the Airport and associated infrastructure, EMG1 beyond that, the motorway services to the east, Pegasus Business Park and the A453, A42 and M1 roads. To the south the context is more rural except for the urbanising influence of the A42 at the south east corner.

1.8. The Main Site extends to approximately 105ha and currently comprises undeveloped, predominantly arable, land with hedgerows and trees dividing the various fields. The topography is generally sloping towards the south and overall has a significant fall of approximately 35m from its northern boundary to its southern boundary. An unclassified single track road with an unbound gravel surface, known as Hyam's Lane, dissects the Main Site from south-west to north-east. It is bound by hedgerows to both sides. A public right of way (footpath L45/1) generally follows the route of Hyam's Lane. There are overhead power cables crossing the western fields in a north to south direction and there is also a drain to the south-east.

1.9. The Main Site is bound to the north by Ashby Road (A453) with EMA beyond. Donington motorway services and a small copse of trees is located immediately adjacent to the north-east. Wooded areas and an area of mixed scrub surround the services and border to the east. To the south-east lies the A42 and the M1. To the south is Long Holden, another unclassified road which stops

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at the A42 boundary to the east. To the south-west is the village of Diseworth. The historic core of Diseworth is designated as a conservation area and includes individually listed buildings.

LAND FOR HIGHWAY WORKS

1.10. The Scheme includes land required for the Highway Works. The principal areas are:

- Along a section of the M1 motorway northbound between Junction 23a and Junction 24, alongside the northbound off-slip to Junction 24 and alongside the A50 where it joins with Junction 24. This section of the M1 comprises a dual four lane carriageway with hard shoulders and a central reservation with crash barriers, and adjoining areas of existing landscaping.

- Widening the A50 eastbound link to Junction 24, to the east of the M1 southbound, from two lanes to three lanes.

1.11. Other areas of land affected by the Highway Works are areas of existing highway around the entrance to EMG1 on the A453, and land alongside the A453 between the Main Site and EMG1 to provide a cycleway. Finally, small areas of land are included for proposed minor improvements at the junction of The Green with the A453 to the north west of Diseworth.

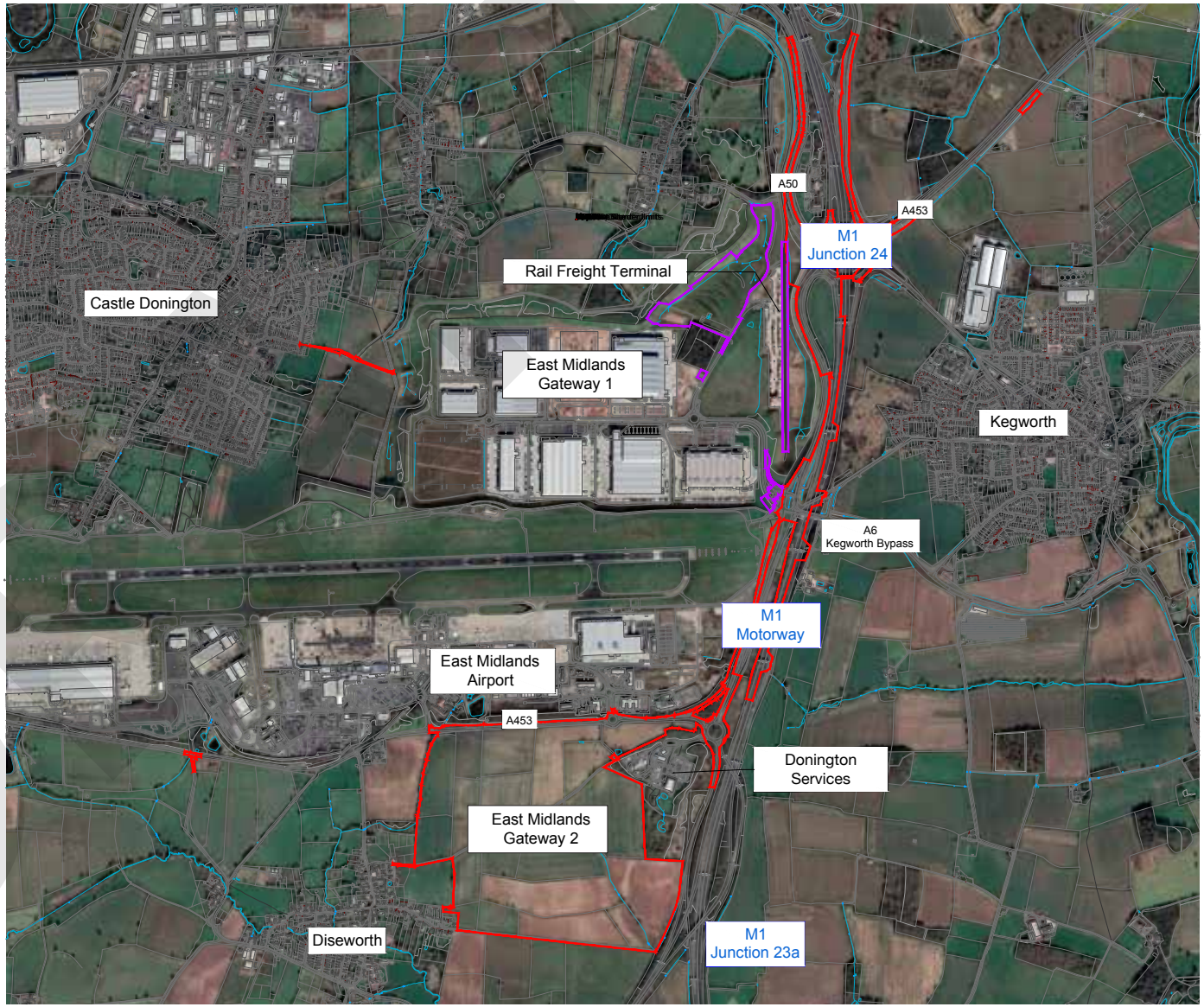

Figure 1.1 Development Location

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LAND FOR THE EMG1 WORKS

1.12. The Scheme includes elements of land within parts of the original EMG1 site. These EMG1 Works comprise larger cranes servicing the rail freight terminal itself, an adjoining undeveloped area extending to 6.08 ha (referred to as Plot 16), and land within and around the existing public transport interchange and site management building at the EMG1 site entrance.

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Site Analysis

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2 Site Analysis

The Design Team

2.1. The evolution of the EMG2 scheme has been a collaborative, multi-disciplinary approach with input from a full team of specialist consultants covering a range of topic areas. A core team including planners, master planners, architects and landscape architects have met regularly with Segro's Project Directors, to discuss all aspects of scheme design and finalise the approach to design and scheme parameters as set out in the application submissions. The design process has involved input from the following consultant team:

Consultant	Discipline and Chapters
Delta Planning	Planning
Oxalis Planning	Planning
UMC Architects	Building Design and Masterplanning
BWB	Traffic and Transport, Infrastructure and civils design, Flood risk and drainage, Materials and Waste
iTP	Sustainable travel
Vanguardia/Buro Happold	Noise and vibration and Air Quality
FPCR	Ecology and Biodiversity and Landscape and Visual Impacts
DFL	Lighting
RPS	Cultural heritage and Climate Change
Fairhurst	Site investigation and ground engineering
LRA	Agricultural soils
Utility Connections	Utilities
Savills	Socio-economics, Population and human health, Major Accidents and Disasters

Policy context

2.2. The planning policy context for the development and the scheme response to policy will be set out in detail in the Planning Statement. The main conclusions particularly where they relate to design will be outlined here for ease of reference.

2.3. The National Policy Statement for National Networks (NPSNN) includes design criteria for national networks. It confirms that visual appearance should be a key factor in considering the design of new infrastructure, as well as functionality, fitness for purpose, sustainability and cost. Good design should produce sustainable infrastructure sensitive to place and matched by an appearance that demonstrates good aesthetics as far as possible. It goes on to state that good design should meet the objectives of the scheme by eliminating or substantially mitigating identified problems by improving operational conditions and minimising adverse impacts. Networks should also be as aesthetically sensitive and resilient as they can reasonably be.

2.4. Similar to the NPSNN the National Planning Policy Framework sets out criteria for achieving well-designed places. It explains that good design is a key aspect of sustainable development and requires planning decisions to ensure that developments:

- Will function well and add to the quality of an area over the lifetime of the development;
- Are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
- Are sympathetic to local character and history;
- Establish a strong sense of place and create attractive, welcoming and distinctive places;

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- Optimises the potential of a site to accommodate a suitable mix of development and support local facilities and transport networks;
- Create places that are safe, inclusive and accessible and which provide health and well-being.

2.5. Advice on the approach to the design of nationally significant infrastructure is provided by the Planning Inspectorate in the form of Advice on Good Design, and the National Infrastructure Commission Design Group in a number of publications, including Design Principles for National Infrastructure, and Project Level Design Principles both of which focus on applying design principles using four high-level principles of climate, people, place and value. There is also the Government's National Model Design Code which provides a helpful tool for establishing design codes to help guide a project post consent.

Environment

2.6. The NPSNN recognises that applicants may only have a limited choice in the physical appearance of some network infrastructure but that there may be opportunities for good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation.

2.7. The location of EMG2 has been identified in response to the policy and evidence base including its Freeport Designation and proposed allocation in the emerging Local Plan. Its locational advantages close to EMG1 have been critical in its identification. The approach to defining the application sites, its boundaries, scale, form and structure and ultimately the design of the proposed scheme, have responded to this policy base but also to the assessment of the area and to market demand and commercial considerations.

2.8. The applications are supported by an Environmental Impact Assessment (EIA) providing comprehensive information across the full range of technical studies and assessments including:

- Ecology and Tree surveys;
- Landscape;
- Drainage and Flood Risk Assessment;
- Heritage and Archaeology;
- Air Quality and Noise Assessments;
- Lighting;
- Ground conditions and soil assessments;
- Social Economic assessments;
- Climate Change;
- Population and human health;
- Transport;
- Waste.

2.9. Details of and the conclusions reached by the environmental assessment work is set out in the Environmental Statement and not repeated in detail here. The following sections set out the analysis of the site drawing on conclusion from the assessment work which has informed the overarching approach to the scheme. Other supporting studies will set out the details of matters which have informed the approach to the design of the scheme including in relation to market demand, and construction management. The assessment and design process has been iterative, with the design of the scheme having responded directly to the assessment work and then ultimately the final Environmental Statement assessing the effects of the defined application scheme.

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Opportunities and constraints - EMG2 Main Site

2.10. Having regard to the policy, environmental and economic matters, key opportunities and constraints can be identified that have informed the design of the EMG2 Main Site proposal. These are listed below and illustrated on the plans at figures 2.1, 2.2 and 2.3.

2.11. OPPORTUNITIES:

- Immediate proximity to EMG1 and its successful rail terminal;
- Proximity to EMG1 and EMA and the range of existing public transpost services;
- To help maximise the use of rail in the logistics supply chain through additional warehousing (customers) and terminal efficiencies (crane heights);
- To maximise the benefits of the Freeport designation;
- Direct access to the strategic road networks;
- Potential for flexible building sizes including large individual buildings;
- Extensive landscaping to screen the site and contribute to the open space network;
- To deliver biodiversity enhancements;
- To bring about strategic highway improvements to increase capacity on the network, particularly M1 J23a and J24;
- To deliver logistics and manufacturing space to meet market needs;
- To utilise existing topography and landscape features together with new landscaping and scheme layout to minimise noise, visual and lighting effects.

Figure 2.1 Context Plan

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2.12. CONSTRAINTS (without mitigation):

- Potential environmental effects on existing nearby properties and open countryside which limits the location of built development and operational activity, and determines key design characteristics;
- Visual, noise, and lighting effects without appropriate screening;
- The need to respond appropriately to ecological features and landscape condition;
- Traffic congestion, consideration of traffic generation to and from the site and potential impact upon local villages and communities;
- Effects on air quality management;
- Public footpaths and rights of way cross the site, including Hyams Lane
- Access from existing A453 trunk road which experiences existing high traffic flows and congestion due to the restricted capacity of the M1 junctions 23a and 24;
- Topography of the site with differences in ground levels across the site;
- Existing trees and hedgerows that are present on the site and adjacent areas;
- Existing wildlife and habitat areas within the site.

OPPORTUNITIES

2.13. Concept design layouts have been developed responding to constraints as described above and from guidance policies. From these conceptual schematic layouts the design has evolved to establish the parameters for development at the site, identifying the site potential and establishing the extent of suitable and sustainable development for the site.

Figure 2.2 Constraints Plan

Figure 2.3 Opportunities Plan

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Opportunities and Constraints – Plot 16

2.14. The assessment and early masterplanning of the EMG1 scheme was undertaken over a number of years with the main structure of the scheme being developed in 2010. From then the approach to the scheme responded to assessment work, consultation and scheme evolution. A key part of the scheme evolution revolved around discussions with HS2 limited who began to propose a line for HS2 from Birmingham through the East Midlands northwards.

One of the proposals was for the line to pass under EMA and emerging in the centre of EMG1 scheme. Through discussions with HS2 limited the tunnel was proposed to be extended so that the HS2 line would emerge in the north eastern part of the EMG1 site – roughly where plot 16 now lies.

In order to accommodate this potential infrastructure proposal the earthworks were proposed to be amended with the earth bunding move northwards and westwards in this location. The evolution of the scheme at this time can be seen in the evolving masterplans below from 2012 to 2013.

2.15. The proposed line of HS2 was subsequently amended so that it ran south of the Airport and east of the M1 west of Kegworth. The area of Plot 16 was specifically masterplanned so that it was not essential for strategic landscape or earthworks. It is therefore now considered to be a suitable location for additional built development. The Existing earthworks to its north and northwest can be retained as developed and landscaped, and the woodland to its south fully maintained.

Figure 2.4
Illustrative Masterplan June 2012

Figure 2.5
Illustrative Masterplan October 2013

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Scheme vision

2.16. The overarching vision for the EMG2 scheme is to establish a successful, nationally significant, extension to the EMG1 Strategic Rail Freight Terminal, facilitating investment, job creation and economic growth and greater use of rail in the supply chain. The scheme will be well landscaped, with its effects on the environment and local communities minimised and appropriately mitigated. The quality of landscaping and building design will create a sense of place appropriate for a commercial scheme of national significance. The buildings will be constructed to the highest standards and the scheme overall will enable occupiers to operate on a net zero basis. The capacity of the surrounding road network will be improved and employees will be able to travel to work on a high frequency, high quality public transport system. The scheme will facilitate greater public access to green spaces and the wider network of pedestrian and cycle links will be improved. The scheme will also deliver important and significant uplift in biodiversity.

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2 Site Analysis

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Scheme Evolution

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3 Scheme Evolution

3.1. This section sets out how the EMG2 scheme has evolved from its initial identification through the iterative process of scheme development, assessment, consultation and scheme finalisation.

Site identification

3.2. The EMG2 proposal seeks to respond to the extensive market demand for large format logistics and manufacturing facilities that can be rail served. The proposals respond to the successful delivery and operation of EMG1, particularly its rail terminal, and seeks to integrate with that facility to support economic growth and facilitate the use of rail in the supply chain process.

3.3. The scheme is a direct response to national policy in this regard, which through the NPSNN, strongly supports the growth and expansion of Strategic Rail Freight Interchanges across the UK, and through the NPPF supports the delivery of logistics space to meet identified needs. The scheme also responds to the inclusion of the site as part of the East Midlands Freeport.

Scheme development

3.4. The design approach to the scheme, its layout and masterplanning, evolved in response to the work to analyse and assess the site and has followed an iterative process of engagement, scheme refinement, further assessment, and further refinement.

3.5. The scheme has therefore evolved through a large number of design changes. The key stages of scheme evolution and refinement are explained below through a series of masterplan stages.

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Project Start

Q4 -2019
ORIGINAL CONCEPT MASTERPLAN

Key Design principals:

- Good mix of unit sizes and capacities to accommodate future End User Occupiers
- Green buffer zones along key boundaries
- Green corridors linking wider green spaces
- Active corporate facing office and car park frontages to internal estate roads
- Larger units located to the south of the site
- Hyams Lane partially upgraded in the north-east corner to facilitate estate road access

Q4 -2022
ILLUSTRATIVE MASTERPLAN 26

Design changes from earlier concept plans and ongoing assessment work:

- Zone 7 in the north-east corner added to the proposals together with a new bus terminal
- Hyams Lane retained in-situ and estate road reconfigured accordingly
- Western green buffer space widened and adjacent development zones reduced accordingly
- Pedestrian and cycle connectivity strategy established with new PRoW proposed to improve connectivity
- New Publicly accessible open space proposed in an existing field in the south-west corner of the site
- Units in the south-west corner reconfigured to ensure operational yard spaces are positioned away from the western boundary
- North to south estate road moved centrally to allow for larger units to be positioned on the eastern boundary.

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3 Scheme Evolution

Q2 - 2023
ILLUSTRATIVE MASTERPLAN 37

Design changes from previous plans to respond to early consultee comments and ongoing assessment work:

- Western green buffer space further widened and adjacent development zones reduced accordingly
- Hyams Lane crossing arrangement explored with a new elevated highway/footpath bridge over Hyams Lane
- Drainage strategy explored with attenuation and swales proposed to the western and southern boundaries

Q2 -2024
ILLUSTRATIVE MASTERPLAN 60

Design changes from previous plans to respond to early consultee comments and ongoing assessment work:

- Elevated bridge over Hyams Lane replaced with a new at grade level bridleway crossing.
- Unit arrangements reconfigured to adapt to new earthworks model seeking to position unit floor and ridge levels as low as possible.
- Internal estate road arrangement simplified.
- Commitment to providing a no build zone to allow for an increased landscape buffer proposed in the south-west corner of Unit 5a.

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Q3 - 2024
ILLUSTRATIVE MASTERPLAN 67

Design changes from previous plans to respond to consultee commentsand ongoing assessment work:

- New HGV lay down parking area added to zone 7 in the north-east corner
- Potential secondary access road from A453 omitted and central internal roundabout added to improve traffic flows within the site
- Green buffer zone on southern boundary increased with the width of Unit 1 reducing accordingly

Q4 -2024
ILLUSTRATIVE MASTERPLAN 78

Design changes from previous plans to respond to latest consultee comments and ongoing assessment work:

- Existing network of fields and hedgerows parallel with western boundary retained
- Western green buffer zone moved eastwards to retain existing field and hedgerows whilst maintaining the proposed screening. The adjacent proposed development reduced accordingly.
- The retained fields to become conservation grassland, community orchard and picnic area.
- SUD's features (Dry) incorporated within the existing retained fields with improved public connectivity proposed via informal footpaths through the area
- Commitment to providing a no build zone to allow for an increased landscape buffer parallel the A453 and units 5b and 6 pushed southwards accordingly.
- Units 5b and 6 reconfigured to position an active corporate office and car park frontage to the north facing the A453
- SUD's feature (swales) incorporated along the southern boundary
- Green buffer zone parallel with the southern boundary increase in width with Units 1 and 2 reducing accordingly
- Plot 4 consolidated into one unit with amended access to work with plateaus.

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3 Scheme Evolution

Plot 16 scheme evolution

3.6. To be completed

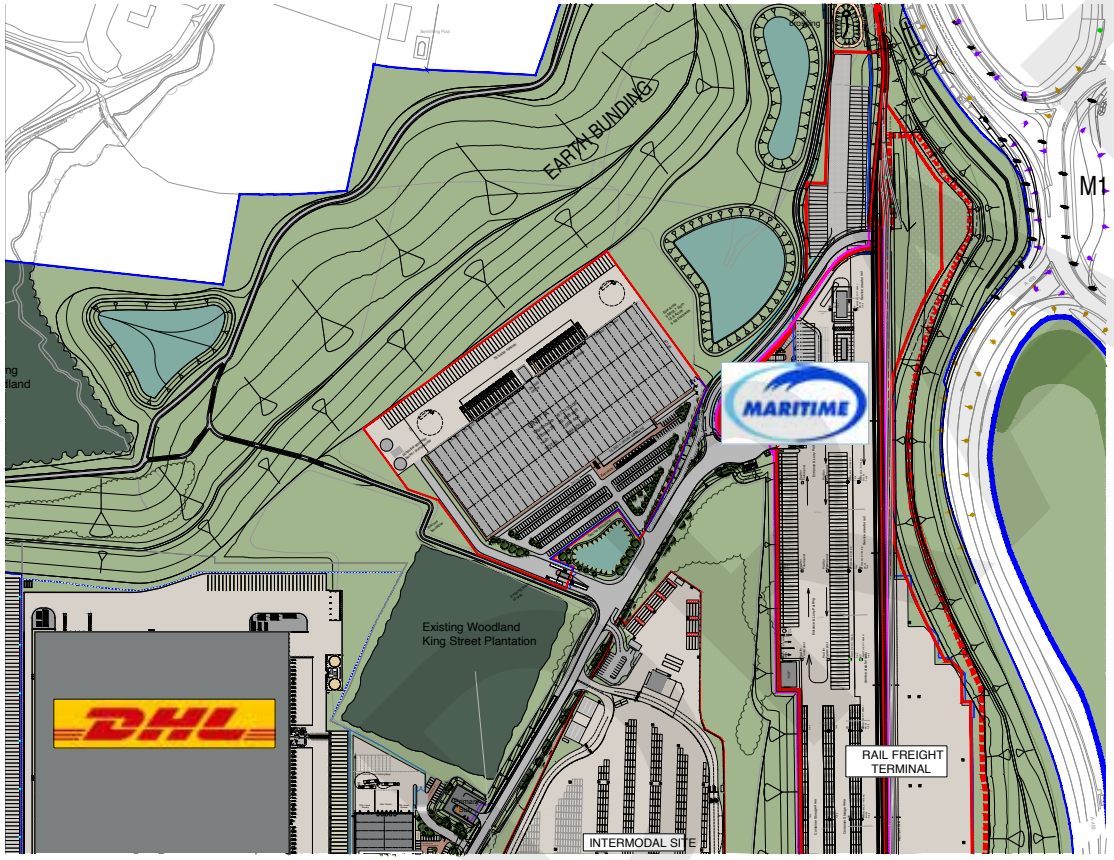

Figure 3.1 2021 Masterplan

Figure 3.2 Illustrative Masterplan

Engagement

3.7. To be completed

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3 Scheme Evolution

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Overarching design principles

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4 Overarching design principles

Policy and operational objectives

4.1. A starting point for the design of large scale, nationally significant logistics and manufacturing schemes, are the commercial requirements essential to meet the demands of occupiers. These requirements are reflected in both the NPPF and the NPSNN. It includes ensuring there is appropriate access to the strategic road network and appropriate proximity to and means of integrating with, the rail network via a rail freight interchange. The need for flexible building plots, including very large scale warehouses is also a key commercial requirement and an important factor recognised by Government policy. In this regard the site size and overarching structure has been informed by the need to ensure that new buildings can be provided which meet the requirements of potential occupiers and that overall the scheme is of a sufficient scale to meet commercial requirements and maximise the benefits of the sites Freeport status.

4.2. Section 2 of this Statement outlines the key environmental factors that have informed the boundaries of and scale, form, layout and design of the application proposals. The key issues are outlined as main opportunities and constraints, which when combined with the policy and commercial considerations outlined above and together with the iterative process of design, assessment and consultation has helped to fix the parameters of the scheme.

Climate

4.3. A fundamental aim of the scheme is to help support the country's move to a more sustainable method of moving goods by locating new nationally significant manufacturing and warehouse space close to an established rail freight terminal where it can integrate with the terminal in a way that enables occupiers to maximise the use of rail in their supply chain process.

4.4. One of SEGRO's strategic priorities, as part of its Responsible SEGRO framework, is "Championing Low Carbon Growth". Emissions associated with the construction phase of both the proposed buildings and infrastructure will be reduced where practicable through low carbon procurement (i.e. using lower embodied carbon materials such as recycled steel, and cement substitutes) and encouraging low carbon construction practices.

4.5. Buildings will also be designed such that they have the ability for occupiers to be net zero in operation. This will be achieved through wide ranging energy efficiency initiatives including targeting an Energy Performance Certificate (EPC) rating of 'A+' and a minimum of BREEAM 'Outstanding' as part of SEGRO base build specification and on-site installation of solar PV generating renewable energy for occupiers, and enabling decarbonisation in parallel with grid electricity.

4.6. The scheme will include a range of measures to retain and enhance biodiversity and the existing landscape. Hyams Lane will be retained and around the site landscaped green space will provide the opportunities for extensive planting.

4.7. The area on the western side of the scheme will be retained as green space with a range of measures to improve habitats and provide for public access. Overall the scheme will deliver a significant net gain in biodiversity.

People

4.8. The scheme will incorporate a strong entrance and access strategy, with high quality formal landscaped routes providing a strong sense of place and coherent scheme structure.

4.9. The scheme will include green space around the site which provides access to open spaces which can be used by employees on the site and adjacent communities. The overall quality of the built and natural environment will create a healthy and pleasant place to work.

4.10. Regular and on-going engagement will inform the final design of the scheme, the construction process and future operation. A community liaison group will be established to ensure that the scheme is a good neighbour and benefits for local communities are maximised.

Places

4.11. The combination of landscape design and a coordinated approach to building design will create a clear sense of identity to the scheme. Building orientation will respond to environmental constraints and maximise the contribution articulated office components can make to key nodes within the scheme.

4.12. Opportunities will be taken to enhance ecology and deliver a significant gain in biodiversity.

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Value

4.13. The final approach to the design of the scheme will seek to achieve an appropriate balance between maximising economic, environmental and social benefits and managing harm to the environment.

4.14. The scheme will integrate with existing developments in the area to establish a high quality public transport service that benefits the site and wider area. Improvements to pedestrian and cycle links will contribute to accessibility and encourage sustainable travel.

4.15. The approach to strategic highway improvements will integrate with the potential for further improvements and will in themselves deliver benefits to the capacity of the highway network.

Development parameters

4.16. The design principles for the site have evolved from the identification of key policy requirements and commercial demand, the conclusions of the extensive analysis of the sites and the evolution of the scheme in response to consultation and stakeholder engagement. The overarching design principles outlined in this section are fixed through the Parameters Plan and illustrated through the illustrative Masterplan.

4.17. The parameters for the development are set out on the Parameters Plan and in the detailed description of development, set out in the following paragraphs.

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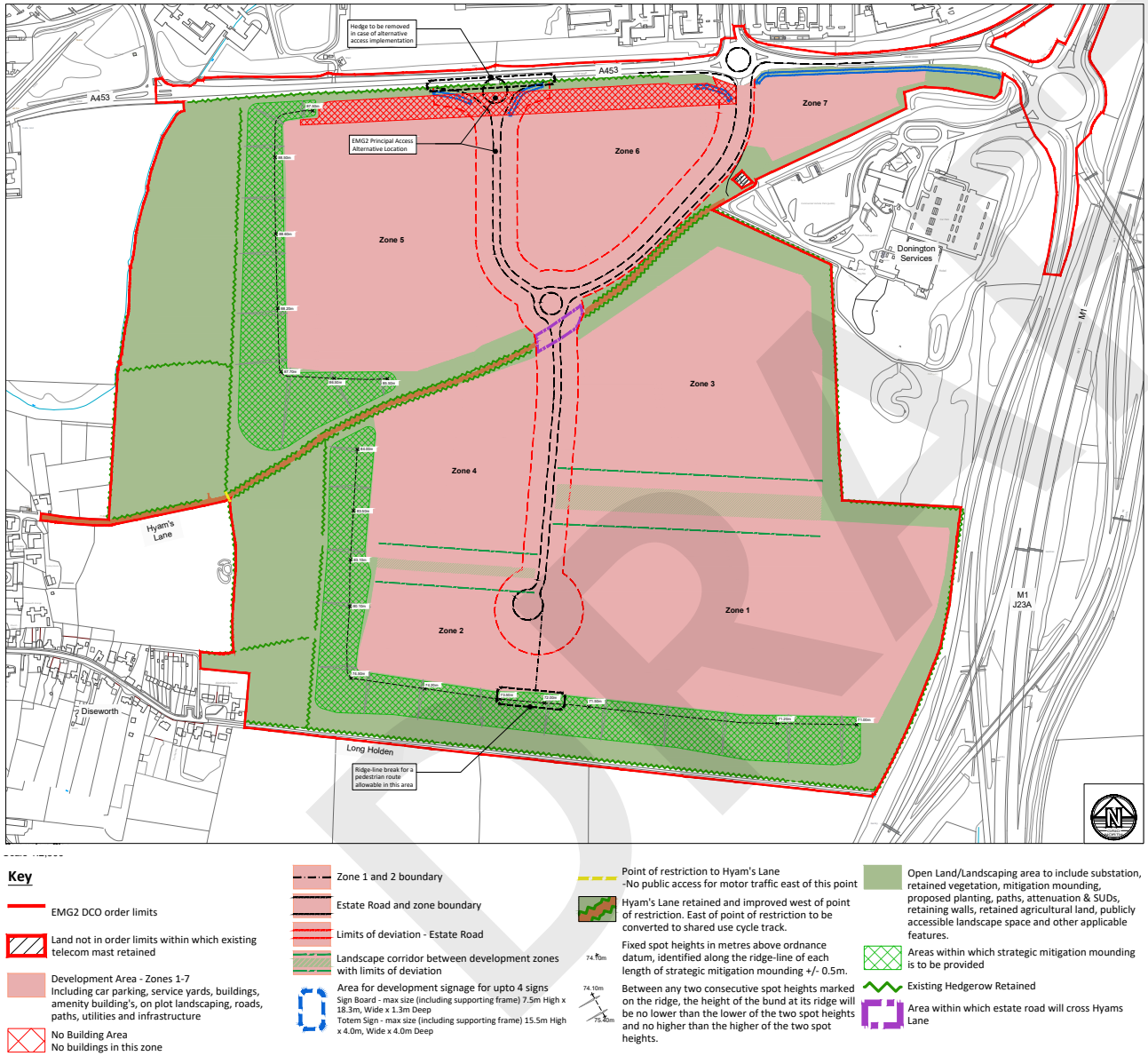
4 Overarching design principles

Figure 4.1 Parameters Plan EMG2 Main Site



EMG2 Main Site

4.18. The EMG Main Site Parameters Plan establishes the following key parameters or design principles for the EMG2 Main Site:

- a maximum of 300,000 sq.m. of employment floorspace (GIA) overall, with an additional allowance of 100,000 sq.m. in the form of internal mezzanines across the site. The development will primarily comprise logistics facilities (Use Class B8) with up to 20% of the floorspace capable of being used for general industrial uses (Use Class B2);
- a series of Development Zones to the north and south of Hyam's Lane where new employment buildings are proposed to be located together with supporting infrastructure;
- maximum amount of floorspace for each Development Zone and range of units to be erected within each zone (see Table 3.1);
- maximum external building heights for each Development Zone which range from 18 to 24 metres to ridge. Maximum finished floor levels (FFL) are also specified for each Development Zone (see Table 3.1);
- vehicular access from the A453 via a new arm off the Hunter Road roundabout (the EMG2 Access Works), with a possible alternative principal access further to the west along the A453;

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- provision of a new estate road serving the Development Zones. 'Limits of deviation' are identified on the Parameters Plan providing a degree of flexibility for the eventual detailed layout, whilst still providing an appropriate level of certainty regarding its positioning. A zone is also identified where the estate road will cross Hyam's Lane;
- structural landscaping areas and buffers including new and retained landscape features. This includes a significant landscape screen utilising earthwork mounding on the western part of the site. Hyam's Lane is proposed to be retained to provide enhanced pedestrian/cycle connectivity through the middle of the site. The landscape areas would include SUDs features (see further below);
- a secure, dedicated, HGV parking area (of approximately 95 spaces) to meet the needs of HGVs visiting the EMG2 Main Site or EMG1; and
- a bus interchange terminal at the site entrance which replicates and builds upon the successful sustainable travel strategy for the EMG1 site.

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4 Overarching design principles

The Highway Works

4.19. A package of highways works is proposed including site access, substantial improvements around J24 of the M1 as well as more minor works on the local highways network and pedestrian/cycle route enhancements. The full extent of the highway works are shown on the Highways Plans and the Components of the Proposed Development Plan [Document Ref. TBC] and are described further as follows:

- A453 EMG2 access junction (EMG2 Works No.6) – providing access to the EMG2 Main Site off the A453 via a new arm off the Hunter Road roundabout with a potential alternative location via a new roundabout further along the A453 (the EMG2 principal access alternative location);
- J24 Improvements comprising:

- M1 northbound to A50 westbound link (EMG2 Works No. 9) – providing a new free-flow link road from the M1 northbound at J24 to provide a direct link to the A50 westbound, which will cross over the A453, and will include the A50 westbound merge (EMG2 Works No. 10) alterations;
- M1 southbound and A50 eastbound link to J24 widening (EMG2 Works No. 11) – providing widening of the A50 eastbound link at J24 and other related works and traffic management measures in this location;
- M1 J24 minor works (EMG2 Works No.12) – providing signing and lining amendments on the J24 roundabout itself and the A453 southbound and northbound approaches; and

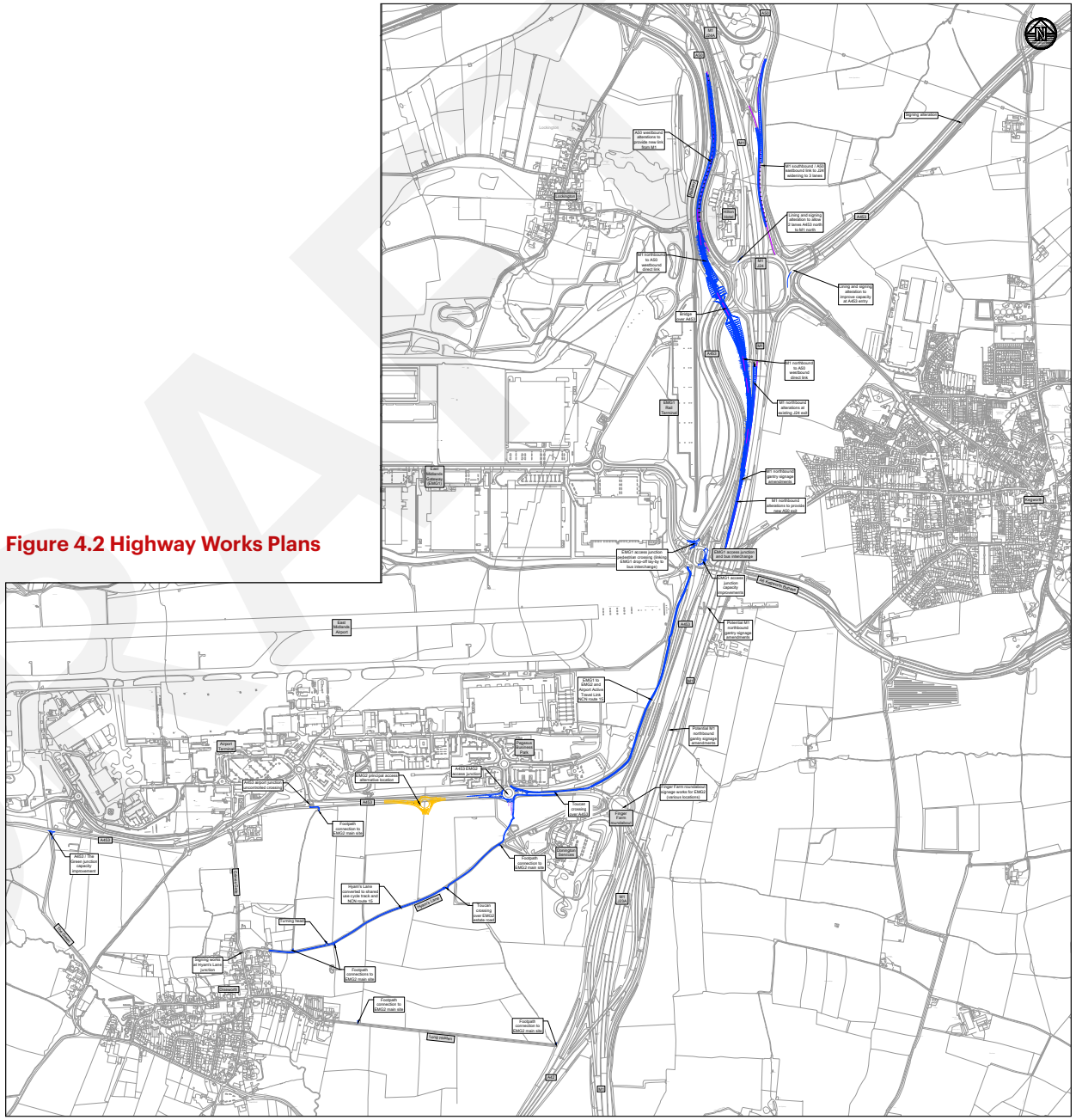

Figure 4.2 Highway Works Plans

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- M1 northbound alterations (EMG2 Works No. 8) – providing the new M1 northbound exit and associated gantry/ signage improvements on the M1;
- EMG1 Access Improvements (EMG2 Works No. 13) – providing widening at the EMG1 roundabout to increase junction capacity;
- Active Travel works comprising:
- Active Travel Link (EMG2 Works No. 14) – providing a dedicated cycle track alongside the A453 between EMG1 and the EMG2 Main Site;
- Hyam's Lane Works (EMG2 Works No. 7) – providing signage at the junction of Hyam's Lane with Grimes Gate and resurfacing works along Hyam's Lane to enhance cycle access;
- A453/The Green Improvements (EMG2 Works No. 16) – providing minor junction widening to increase junction capacity;
- A453/EMA junction uncontrolled crossing (EMG2 Works No. 15) – providing pedestrian crossing improvements across the A453 to facilitate improved pedestrian access.

4.20. In summary the rights of way works are:

- The existing Public Right of Way (PROW L45/L46) that follows the southern boundary of Hyam's Lane will become integrated into the upgraded Hyam's Lane (see Highway Works above);
- A new footpath from the western end of Hyam's Lane and PROW L45/L46 northwards through the proposed community park connecting to the A453 Ashby Road by the Airport entrance junction via the western edge of the EMG2 Main Site. This will link to the A453/EMA junction uncontrolled crossing. Currently there is no off road pedestrian access for this route;
- A new footpath from the western end of Hyam's Lane and PROW L45/46 southwards through the proposed community park connecting to Long Holden and PROW L48 via the western edge of the EMG2 Main Site. Connecting these two PROWs will create a valuable new publicly accessible route all the way from PROW L48 to the airport; and
- A new footpath from the eastern end of Hyam's Lane, and PROW L45 southwards connecting to Long Holden via the eastern edge of the EMG2 Main Site, creating a further valuable new publicly accessible route and a circular walk around the southern part of the EMG2 Main Site.

EMG1 Works (The Material Change Application)

4.21, The Scheme includes the following elements of works at EMG1:

- Provision of a maximum of 26,500 sq.m. (approximately 285,000 sq.ft.) (GIA) of additional warehousing on Plot 16 which lies adjacent to the rail freight terminal, with an additional 3,500 sq.m. allowance in the form of internal mezzanine space. The proposals for Plot 16 comprise the construction of 1 or 2 buildings with a maximum building height of 18m to ridge. The maximum finished floor level will be 53m AOD and the maximum building height would therefore be 71m AOD;
- An increase to the maximum permitted height of gantry cranes at the rail freight interchange by 4m, to 24m overall. At present the terminal uses mobile reach stacker cranes but the EMG1 DCO permitted installation of gantry cranes up to 20m. These however would not be sufficient to stack containers at the heights (15m) that have since been permitted at the terminal through subsequent approvals granted under the Town and Country Planning Act (NWLDC App Ref: 18/01527/FULM). Therefore approval is sought to install gantry cranes up to 24m which would provide additional operational efficiency to the terminal;
- An expansion of the EMG1 Management Suite by the EMG1 site entrance to cater for the additional demand on management facilities resulting from the Scheme;

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- Enhancements to the Public Transport Interchange by way of the installation of EV charging infrastructure for buses and provision of a drop-off layby adjacent to the transport hub; and
- An upgrade of the EMG1 substation to accommodate a 3rd circuit and increase capacity to 33kV in order to accommodate the power requirements at EMG1 and EMG2 Main Site. This will require a new switch room and switchgear, and
- Improvement works to the Public Right of Way (PROW L57) to the west of EMG1 between Diseworth Lane and the edge of Castle Donington at Eastway to upgrade this route to cycle track standards.

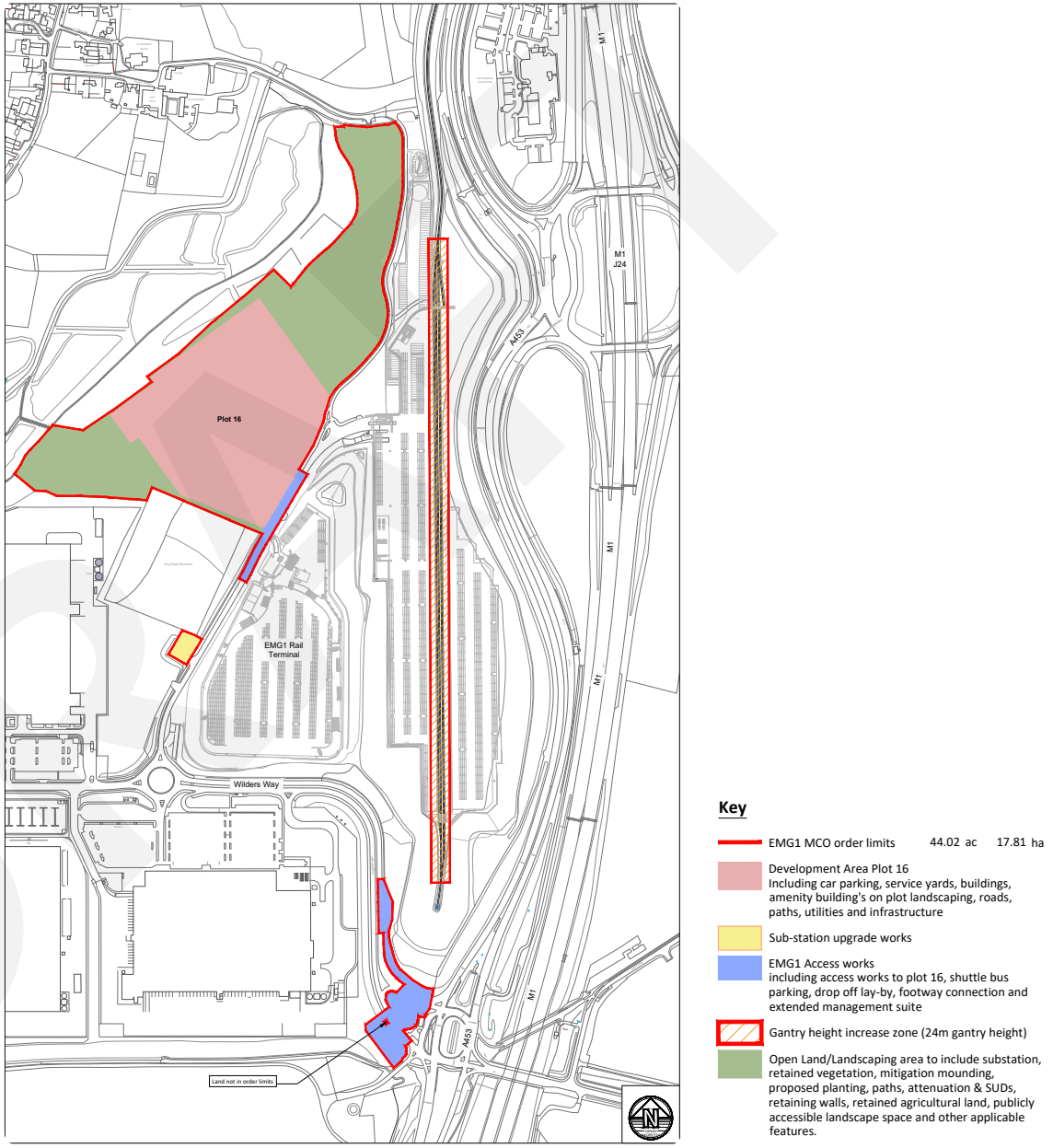

Figure 4.3 Parameters Plan of EMG1 Works

East Midlands Gateway 2
Design Approach Document

Detailed design principles

5

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5 Detailed design principles

5.1. This section helps to explain, using illustrative material, the approach to the design and access of the site. It is based on the application of the principles established in the Parameters Plan with assumptions on the mix of unit sizes and orientation and detailed landscape design. It is structured as follows:

- Structural landscape design;
- Biodiversity;
- Drainage;
- Noise;
- Lighting;
- Accessibility;
- Rail and road access;
- Building design principles;
- Climate.

The overarching Illustrative masterplan is shown in Figure 5.1;

5.2. The approach to design codes for detailed building design and plot landscaping is set out in section 7.0 Design Code.

Figure 5.1 Draft Illustrative Masterplan Image of EMG2 Main Site

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Structural landscape design

5.3. The existing landscape resource of the site and its context has been considered by the assessment, masterplanning and design process. This has extended from preliminary landscape and visual appraisals through to the production of the guiding design principles and the Landscape Framework proposals. This iterative process has entailed close collaboration between landscape, architectural, urban design, engineering, ecological, heritage and other professionals, including statutory bodies and the local planning authorities.

5.4. A Landscape plan has been prepared. This has been developed to help integrate the development proposals into the setting of the site to create an attractive and functional working environment.

5.5. There are a number of key landscape and related green infrastructure design issues to be addressed by the proposals. These can be summarised as follows:

- Positively assimilating the proposed development within the site landscape and topography, including detailed attention to the necessary ground modelling and earthworks proposals and proposed building plateaus;
- Establishing and strengthening connections and green corridors; both within and around the built development and with the surrounding landscape;
- Improving accessibility to the green spaces to be conserved or created as part of the proposals; with opportunities to improve health through informal recreation and physical activity eg walking and cycling;
- Securing and maximising biodiversity interest, through conservation, enhancement and creation of habitats and green spaces;

Figure 5.2 Illustrative Masterplan - Western edge of scheme

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- Integrating Sustainable Drainage (SUD's) features and measures that will deliver valuable biodiversity and amenity benefits wherever practicable;
- Establishing and managing a significant and robust landscape framework to form an appropriate and cohesive "green structure" to the built development and create a suitable buffer to Diseworth.

5.6. In terms of the approach to Landscape planting, largely native trees and shrubs would be used to reflect those in the existing locality and the design of the wider Landscape Framework. A mix of planting sizes and densities would be adopted to satisfy the differing objectives, principally those of screening and filtering in the short and longer terms and of establishing well balanced woodland and planting habitats.

5.7. All of the landscape areas and features will be managed and maintained in the long term. This will be achieved through the implementation of a comprehensive Landscape and Ecological Management Plan (LEMP) to ensure the successful establishment and continued thriving of the landscape framework proposals.

5.8. The earthworks and landscape strategy is designed to make the views of the Proposed Development as sympathetic as possible. The scheme is set back from the village of Diseworth with existing field parcels retained and enhanced. The combination of this approach to scheme layout, the existing topography, new earthworks and new woodland planting will establish an effective visual screen from the village of Diseworth.

5.9. The majority of existing mature trees and hedgerows along Hyams Lane will be retained, as will those along the A453 and planting along the M1 motorway corridor will be reinforced with new mounding and planting to screen views from this direction.

5.10. The following selection of cross sections and before are after photomontage images help to illustrate how the landscape proposals will help to screen the development.

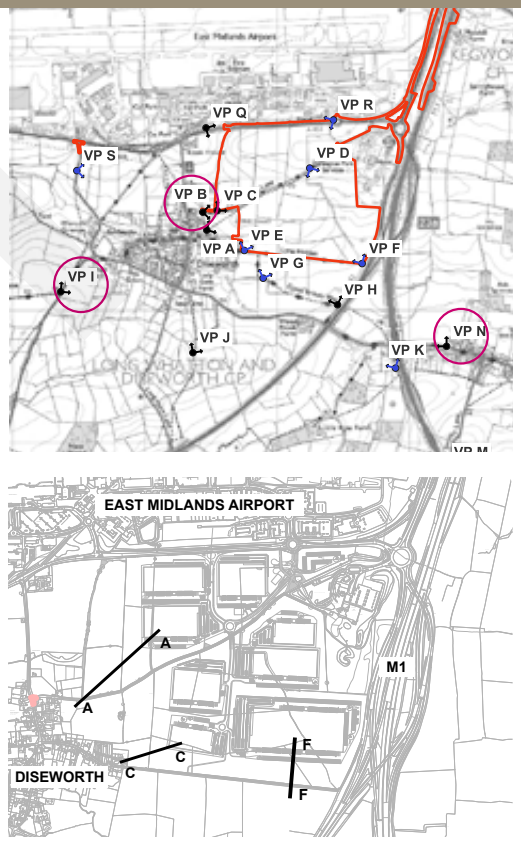

Figure 5.3 Viewpoint locations reference

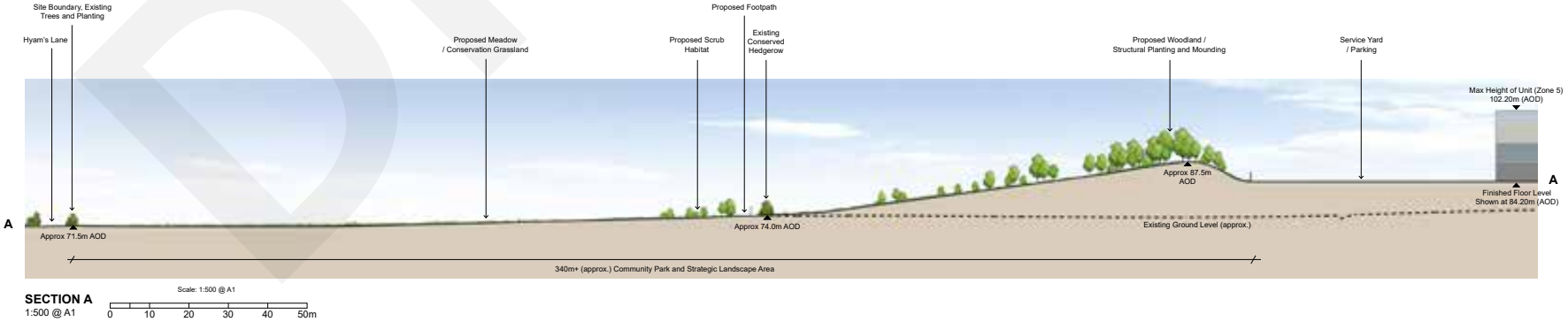

Figure 5.4 Cross section from Hyam's Lane, Diseworth

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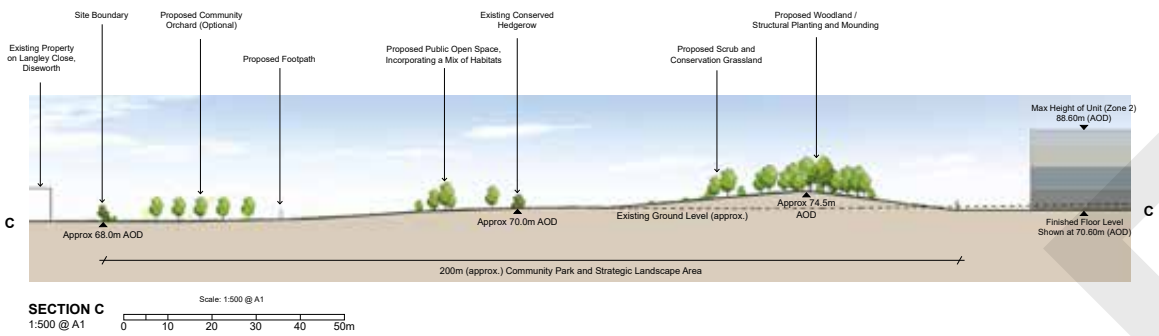

Figure 5.5 Cross section from Langley Close, Diseworth

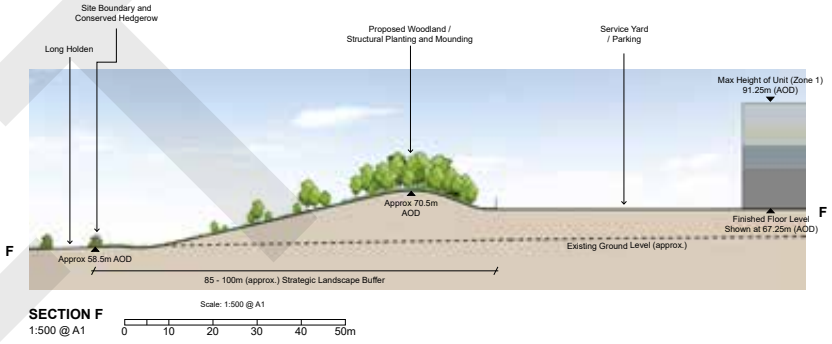

Figure 5.6 Cross section from Long Holden

Viewpoint B (from western end of Hyam's Lane)

Now

Completion

15 years time

Viewpoint I (from west of Diseworth)

Now

Completion

15 years time

Viewpoint N (Western edge of Long Whatton)

Now

Completion

15 years time

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Biodiversity

5.11. Significant landscaping works are to be undertaken as part of the proposed development, and this offers the opportunity to provide new habitats of ecological interest, including new woodland, scrub and hedgerows, new wildflower meadows, and new waterbodies designed according to ecological principles to encourage wildlife.

5.12. New habitats are proposed within the proposed community park along the western edge of the EMG2 Main Site as well as around other boundaries of the main site and within land between EMG1 and Castle Donington.

5.13. Overall the proposed development provides an opportunity to establish new habitats of nature conservation interest and to deliver net gains for wildlife in the locality.

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Drainage

5.14. The drainage strategy will intercept the rainwater falling on the EMG2 Main Site (both during construction and operation), before discharging it to the local watercourse in the south-eastern corner at a rate that mimics the existing runoff rate from the site. In larger storm events this will represent a reduction in runoff, thereby providing a reduction in downstream flood risk. Therefore, there is expected to be no detrimental impacts on flood risk within Diseworth or Long Whatton and potentially will offer some improvement.

5.15. The drainage scheme will also be designed to provide water quality treatment to the surface water runoff. This will comprise a series of swales and dry basins along the western and southern boundaries of the EMG2 Main Site.

5.16. Drainage for the EMG1 Works and the Highway Works will for the most part integrate with the existing drainage infrastructure and will follow similar sustainable drainage principles.

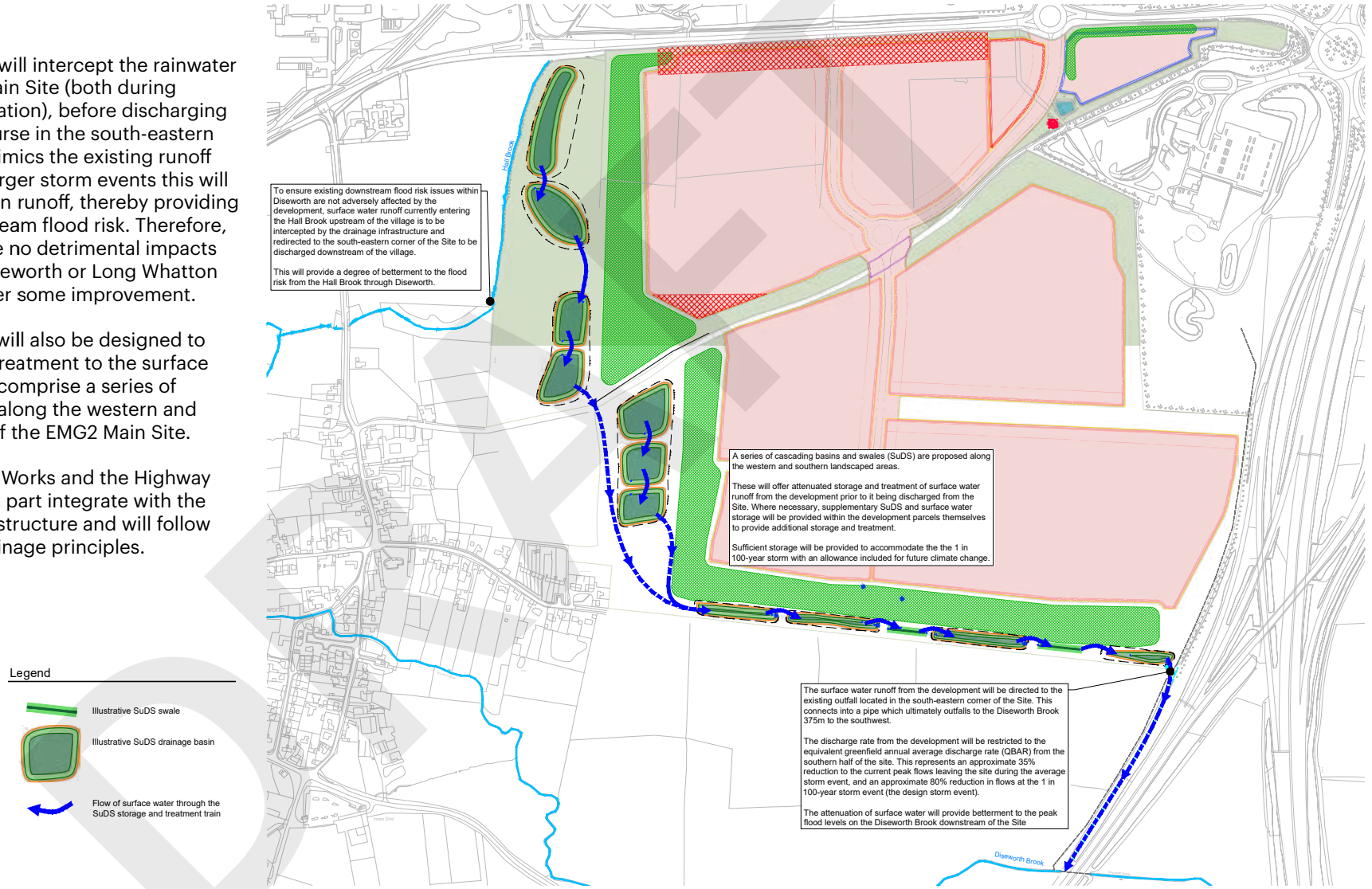

Figure 5.7 Drainage plan

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Noise

5.17. Surveys have been undertaken to determine the existing noise and vibration conditions at sensitive receptors around the proposed development. These include locations within and on the edge of Diseworth.

5.18. The noise environment at the site is strongly influenced by existing infrastructure in the area, including East Midlands Airport and Donington Park motor racing circuit together with the highway infrastructure of the A453, M1 and A42.

5.19. The emerging scheme design includes inherent mitigation measures built into the development. This currently includes earth bunding around the sites. The noise assessment shows that these will assist in minimising adverse noise effects.

5.20. There will be an increase in traffic on the local road network associated with vehicles travelling to and from the scheme. When added to the existing baseline flows on these roads, these vehicles are anticipated to result in a relatively modest increase in road traffic noise which is unlikely to be particularly noticeable at most nearby receptors. The modelling results indicate that most receptors are predicted to experience no more than a negligible impact.

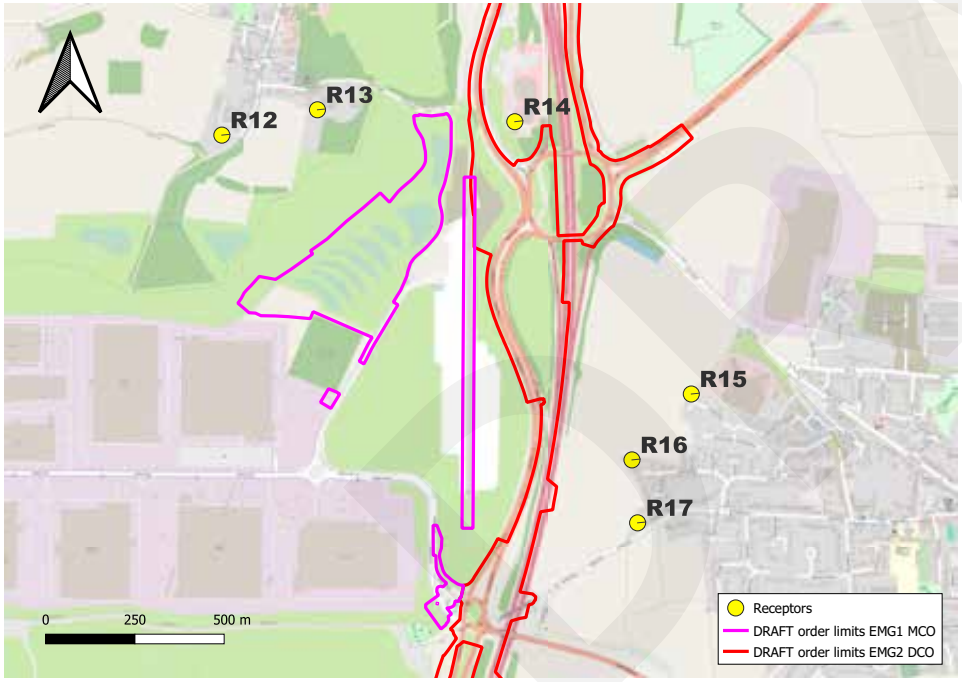

Figure 5.8 Closest noise receptor points to EMG1 Works and J24 Works

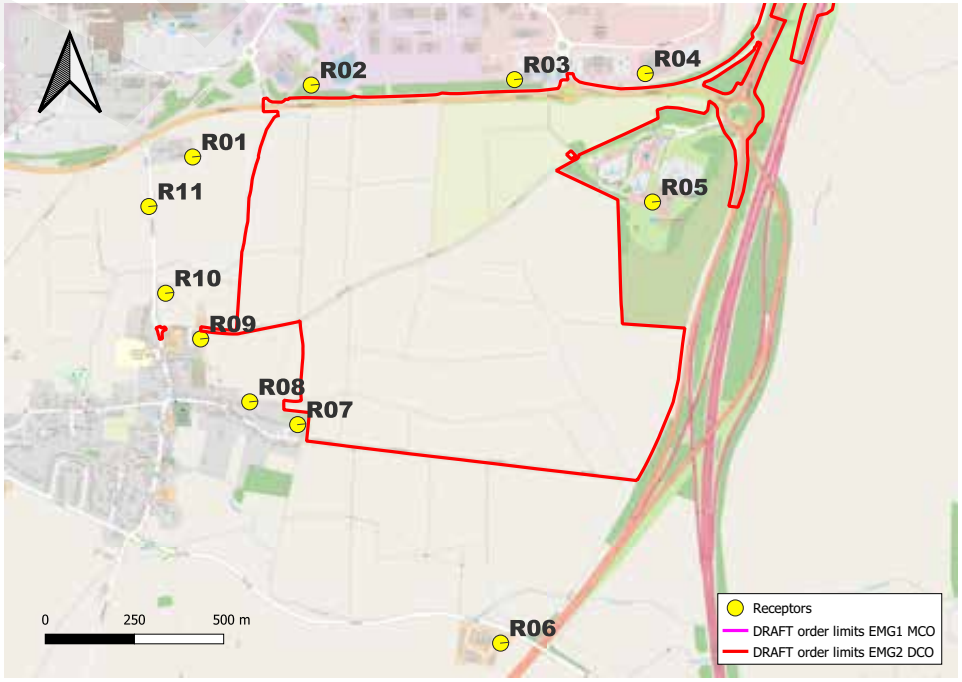

Figure 5.9 Closest Noise receptors to EMG2 Main Site

Lighting

5.21. A lighting assessment and strategy has been undertaken as part of the Environment Statement and site design work. The Lighting Strategy will determine the final and detailed lighting installed on the site once the position and number of buildings are known. The Lighting Strategy will inform decisions about the placing and type of lighting features installed to ensure that the proposed development will have minimal direct effects on neighbouring communities.

5.22. Part of the assessment process has included an assessment of the existing lighting context and any light pollution evident in views from the surrounding area. This shows that many nearby communities already experience 'sky-glow' and other lighting effects from the Airport and road corridors, and from the villages themselves.

5.23. In accordance with industry standards and recommended best practice the Lighting Strategy is designed to prevent glare and light spill to locations off-site, including upward light that can contribute to sky glow. Furthermore, the landscaping and earthworks strategy will screen much of the lighting on the site from being directly visible form outside the site and so will form part of the mitigation for lighting as well as other potential visual effects.

Accessibility

5.24. The sustainable transport strategy that has been put in place at EMG1 has far surpassed expectation in encouraging and delivering a shift away from the private car to other modes of transport. 16% if journeys are made by bus and 22% of journeys are made via car share. The strategy for the EMG2 scheme is to build on the success of the approach already in place at EMG1 together with an approach with integrates with other development proposals being brought forward in the area.

WALKING AND CYCLING

5.25. The aim is to provide the necessary new or upgraded infrastructure and services to facilitate last mile journeys to and within the proposed development by foot, bike or bus. The measure proposed in relation to walking and cycling include:

- multiple pedestrian and cyclist access points into the proposed development to ensure future employees and the public can move through the sites quickly, easily and safely;
- retention of the public right away along Hyams Lane;
- A new toucan crossing point for pedestrians and cyclists to safely cross the A453, unlocking connections to EMG1, Kegworth and beyond.
- A new shared use path north of the new toucan crossing to EMG1 connecting the two SEGRO developments for pedestrians and cyclists.
- A new shared use path from the EMG2 bus interchange to the proposed A453 toucan crossing within the site.
- A new shared use path along the length of the EMG2 estate road providing pedestrian and cyclist access to each employment unit.
- A new south-easterly pedestrian and cyclist path / shared path from Hyam's Lane on the main estate road to Country Park (adjacent to Donnington Park Services).
- A new southerly pedestrian and cyclist path / shared path from Hyam's Lane on the main estate road to Long Holden.
- Surfacing the L57 PRoW which connects EMG1 and Castle Donington.

In addition to active travel routes, provisions are being made to provide secure, covered cycle parking at each employment unit (aligning with BREEAM standards) as well as shower and changing facilities.

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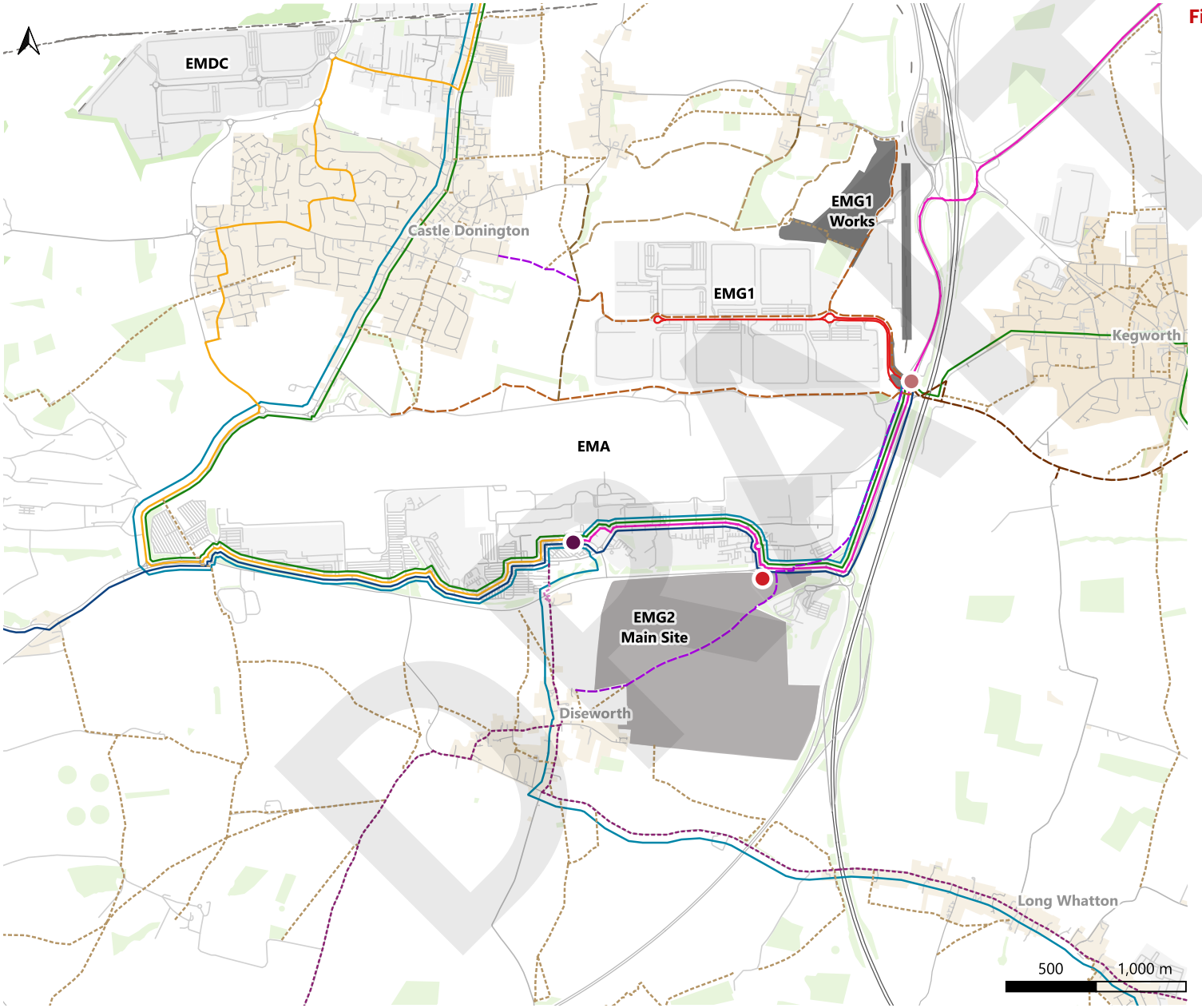

Figure 5.10 Sustainable Transport Plan

Key

Public Transport

- Airway 9
- my15
- skylink Derby
- skylink Express
- skylink Nottingham
- EMG1 Shuttle
- Railway

Active Travel

- Proposed Improvement
- Shared Use Footway/Cycleway
- Private Road Permissive Path
- Quiet Lane
- Public Bridleway
- Public Footpath
- NCN On Road Cycleway
- NCN Traffic Free Cycleway

Developments

- EMG2 Main Site
- EMG1 Works

Interchanges

- EMG1 Interchange
- EMG2 Interchange
- EMA Interchange

* Nottsbus On Demand not displayed on map
** NCN = National Cycle Network

PUBLIC TRANSPORT

5.26. The aim is to provide a network of bus services which directly access both EMG1 and EMG2. The strategy is to:

- provide a purpose built bus interchange at the entrance to the EMG2 Main site to connect the site with local bus services;
- to provide a free electric shuttle bus services within the EMG2 main site, connecting places of work to the bus interchange;
- enhancements to and modifications of existing bus services so they stop at the new bus interchange;
- an extended transport working group (already in operation at EMG1) to coordinate the transport options and ensure bus timetables tie in with the needs of the future development occupiers;

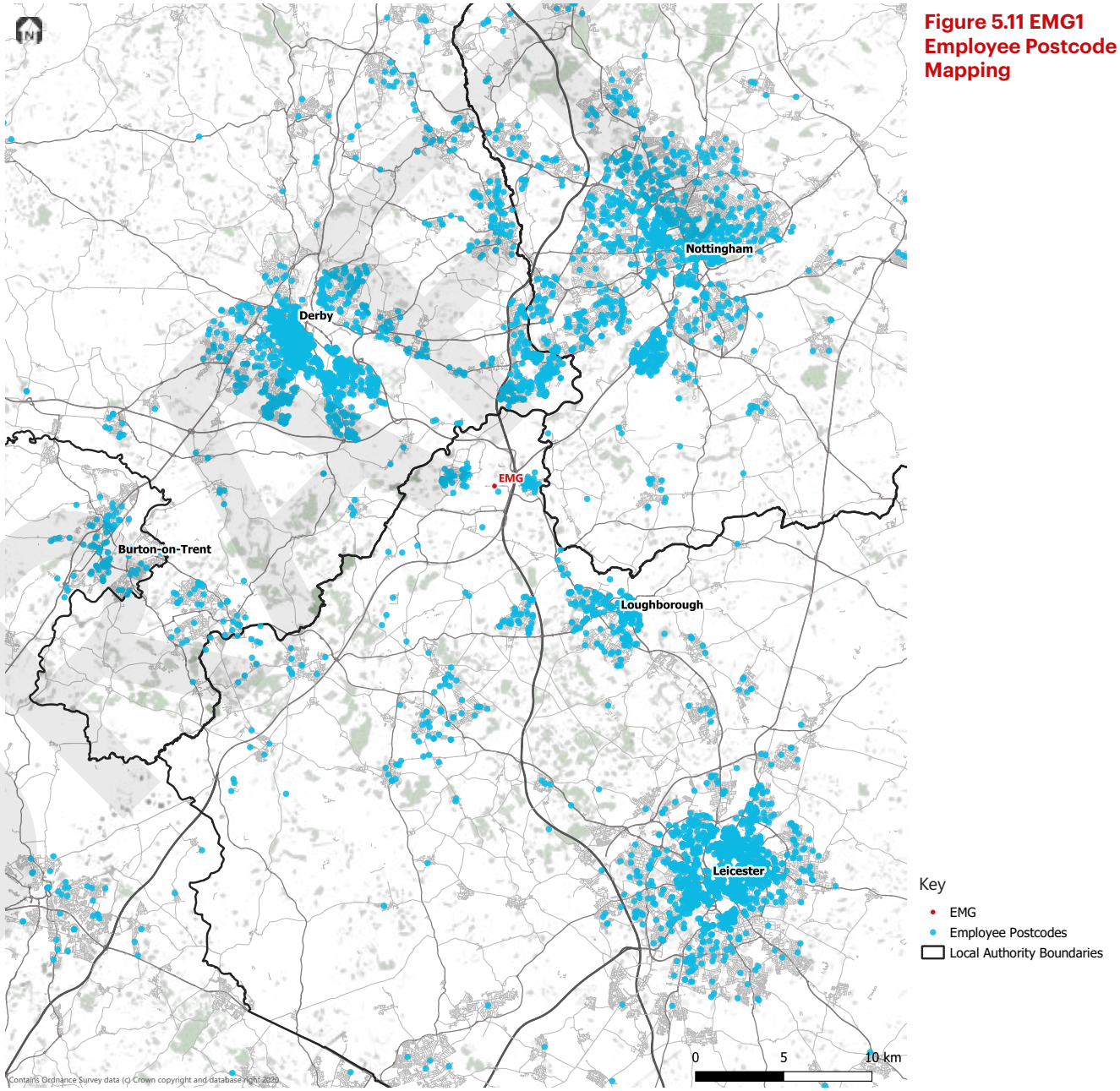

Figure 5.11 EMG1 Employee Postcode Mapping

OTHER TRAVEL PLAN MEASURES

5.27. Although all employees will be encouraged to use active and public transport modes of travel, it is acknowledged that this will not be appropriate or possible for everyone. For this reason , car sharing and the promotion of low carbon vehicles will also form part of the strategy. This will include:

- a car share club to encourage and facilitate shared commutes between employees, building on the success of the system already in place at EMG1;
- capability for EV charging for at least 20% of all car parking spaces with passive provision to increase this amount in the future.

Rail and road

RAIL

5.28. The rail terminal at EMG1 has been hugely successful. It has grown quickly and capacity of the terminal has been increased by the construction of the eastern container storage area at the terminal scheme together with approval of greater container stacking heights. The increase in container stacking helps the terminal to operate more efficiently and increases overall capacity.

5.29. To align to this greater stacking height an increase in the height of the cranes allowed at the terminal is necessary. Cranes are likely to be required at the terminal as its throughput increases.

ROAD

5.30. The EMG2 Main Site is located on the A453 and in close proximity to M1 Junctions 23a and 24, and the A42. An access to the site will be formed with an additional arm on the existing A453 roundabout together with associated widening of approaches to the roundabout.

5.31. The existing highway network suffers from congestion at peak times. Improvements to the strategic road network are therefore proposed. These include:

- Provision of a new free-flow link road from the M1 northbound at Junction 24 to provide a direct link to the A50 westbound, which will bridge the A453
- Lane Widening of the A50 eastbound link/M1 southbound link to Junction 24 from two lanes to three lanes

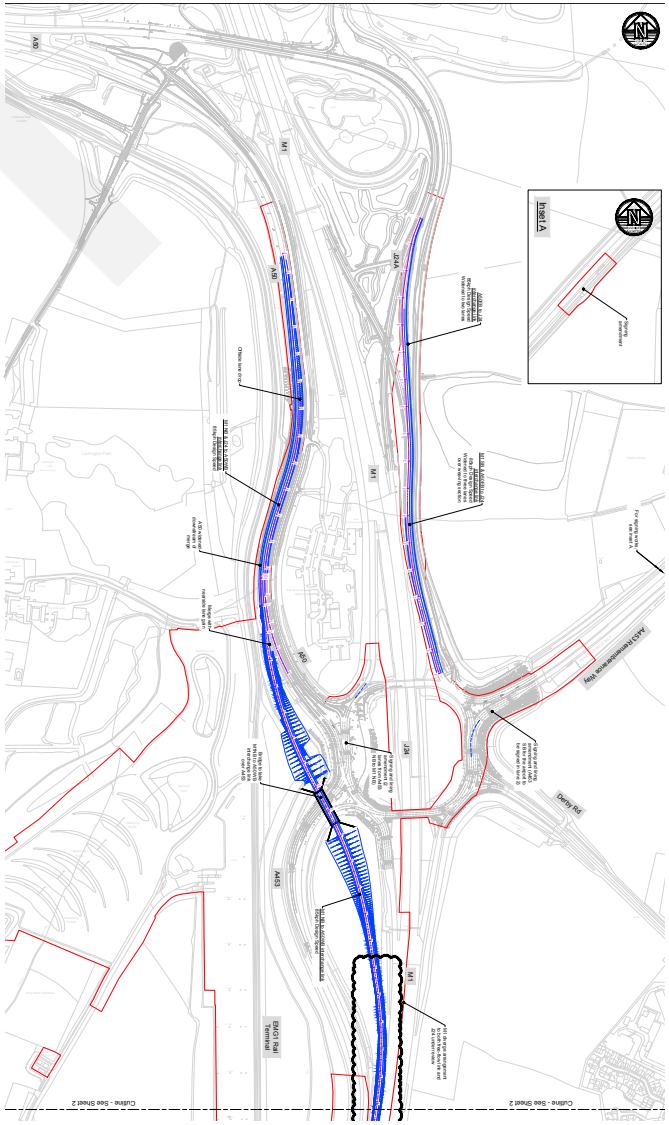

Figure 5.3 Highway Works Plan

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- Changes to signage and lane marking amendments on the Junction 24 roundabout itself, in particular to provide two lanes from the A453 northbound to the M1 northbound
- Gantry and signage amendments on the M1 northbound
- Lane Widening at the new EMG1 roundabout, to provide two lanes from the A453 southbound into EMG1
- Provision of a dedicated cycle track alongside the A453 between EMG1 and EMG2 Main Site south of the East Midlands Airport
- Provision of minor junction widening at the A453/The Green junction
- Upgrade of footpath L57 to Castle Donington to cycleway

The proposed works will directly mitigate the effects of the application, but they have also been devised to form part of a potential package of wider improvements works to the network which can be delivered if other development comes forward in the area. In this way the scheme does not prejudice the further growth of the area.

5.32. The package of highway improvements will provide betterment to the adjacent highway network providing a reduction in driver delay, improved journey times, and draw existing background traffic onto the strategic and principal road networks. In doing so, traffic flows on many of the surrounding local roads and villages would reduce.

Building design principles

5.33. Section 7 of this Document sets out a design code that will guide the detailed design of all on plot buildings. This establishes a cohesive and long term approach to building design and on plot landscaping. The overarching design principles that have informed the design code are:

- the layout and orientation of each building should contribute to a sense of place and identity, including safe access and clear wayfinding through the site;
- buildings will be visually recessive to reduce the visual effects from long views into the site;
- offices, reception and stairwells should form strong and prominent features that animate and add interest to the public realm. Glazing areas should be maximised and further interest provided by architectural detailing and use of materials;
- buildings should avoid heavy shadowing at high levels and have clean lines to help minimise scale;
- target high levels of sustainability and reduction in embodied carbon;
- each plot will include soft landscaping to enhance appearance of external areas, soften built form and help integration between plots;
- to coordinate the planting across all plots and to use native species ;
- to use high quality, durable and robust materials in the externals spaces;
- to provide safe and convenient pedestrian and cycle access to each unit;
- to provide appropriate levels of car and cycle parking and incorporate electric vehicle charging with the ability to expand in the future;
- to develop a safe and accessible place to work and move around in.

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Climate

5.34. A climate change assessment has been undertaken as part of the Environmental Statement and site design work, which focuses both on greenhouse gas (GHG) emissions arising from the Scheme and the resilience of the Scheme to climate change.

LOW CARBON DESIGN

5.35. The siting of the EMG2 scheme close to the neighbouring East Midlands Gateway 1 scheme and associated rail freight interchange will enable future occupiers to maximise the use of rail in their supply chain processes. This will enable the lower carbon benefits of rail freight movement to be realised at EMG2.

5.36. One of SEGRO's strategic priorities, as part of its Responsible SEGRO framework, is "Championing Low Carbon Growth". As such, the Applicant is committed to reducing embodied carbon emissions (i.e. those emissions associated with materials and construction processes) in its buildings and infrastructure, and is targeting an embodied carbon intensity of less than 320 kgCO2e/m2 for all buildings proposed. This will be achieved through the following measures:

- Emissions associated with the construction phase of both the proposed buildings and site infrastructure will be reduced where practicable through low carbon material/ product procurement. This includes the use of recycled steel and low carbon concrete in building structures, recycled materials within asphalt (such as bitumen replacement materials and aggregates), and recycled plastic pipework for drainage infrastructure where appropriate.
- A cut and fill balance will be achieved, which will reduce the quantities of material required for import/export. Further, the Scheme will avoid the requirement for slope stabilisation materials (e.g. lime) by designing shallow (1 in 3 or shallower) slopes where feasible.
- Low carbon construction practices such as the local sourcing of materials, resource efficiency and waste minimisation (i.e. through the application of waste hierarchy principles), good energy management practices, enhanced plant efficiency, low carbon construction plant (i.e. electric plant, or use of lower carbon biofuels), and renewable electricity supply to site compounds will be encouraged where feasible.
- Landscape design will incorporate areas of woodland planting within the EMG2 Main Site, which would sequester carbon over the Scheme's lifetime as the woodland matures.

5.37. Regarding the operational phase of the Scheme, buildings will be designed such that they target the highest levels of sustainability. This will be achieved through wide ranging energy efficient initiatives including targeting an EPC rating of Band 'A+' and a minimum of BREEAM 'Outstanding' as part of SEGRO base build specification. A fabric first approach with highly efficient building envelope specifications will enable reduced energy consumption. Solar photovoltaic (PV) panels will be installed on site, with warehouses capable of supporting 100% roof mounted solar PV coverage.

5.38. Consideration to emissions reductions from operational transport movements has been given, with the implementation of a sustainable transport strategy, encouraging active travel and the use of public transport. Additionally, 20% of parking spaces will be fitted with electric vehicle charging points, with infrastructure provided to expand future provision.

CLIMATE RESILIENCE

5.39. Design measures to ensure the Scheme is resilient to future climate change (i.e. increased intensity of seasonal precipitation trends, heightened temperatures and humidity) include the following:

- Adequate ventilation, in line with building regulations, and design to minimise excessive solar gain during the summer (i.e. through the inclusion of brise soleil louvres on southern elevations);
- Maximise water efficiency during operations and include water recycling measures within building design;
- Building design to follow regulations for structural design with safety margin to ensure storm resilience;
- Green infrastructure to be included within development design which may aid in local temperature reduction through increased shading;
- Drainage infrastructure will be designed to adequately manage future increased rainfall and runoff.

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5 Detailed design principles

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East Midlands Gateway 2
Design Approach Document

Construction components and scheme delivery

6

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6 Construction components and scheme delivery

6.1. A Construction Environmental Management Plan (CEMP) will be prepared and incorporated in the Environmental Statement. It sets out the systems and controls that will be adopted during the construction of the scheme to minimise any adverse environmental effects in accordance with the conclusions of the Environmental Statement and Construction Good Practice.

Earthworks, drainage and landscaping

6.2. The construction process for both the Main site and Plot 16 will coordinate earthworks activities (ie creation of plateau and landscape mounding), drainage works and landscaping. The site will be developed as a single phase with an overall earthworks balance. Drainage will be put in place as earthworks are undertaken and strategic landscaping will be undertaken in the first available planting season post completion of earthworks.

Highway works

6.3. There are a number of components to the highway works, as described in section 5 of this Statement, and these are committed as part of the development. The phasing of works are controlled by requirements.

Buildings

6.4. The warehouse buildings will be constructed on plots once the plateau has been formed. Buildings will be developed in response to occupier demand. Completion of buildings will be controlled to ensure that strategic landscaping, drainage and other necessary infrastructure is completed prior to occupation. On plot landscaping, drainage and other infrastructure will be completed alongside the construction of individual buildings.

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East Midlands Gateway 2
Design Approach Document

Design Code

7

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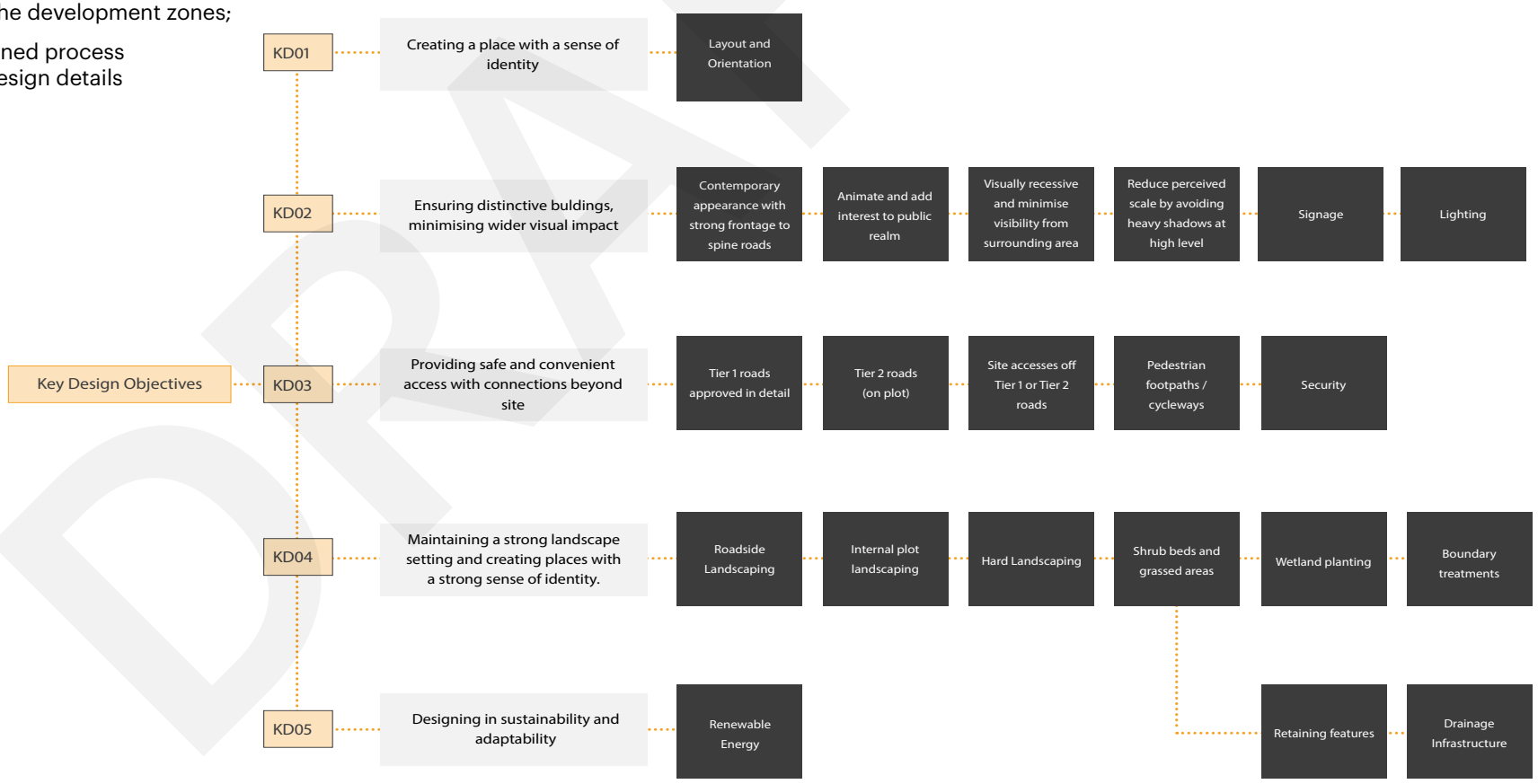
7 Design Code

7.1. This Section of the Design Approach Document sets out the design codes that will guide the future detailed design of each development plot. All future design details should accord with this design code. The aim is to:

- set out the long term commitment to high quality design from the outset, for buildings, landscaping and hard infrastructure on each plot;
- enable a cohesive approach to design across the site, building on the detailed design of the initial infrastructure and strategic landscaping and the parameters for the development zones;
- allow for a more streamlined process during the approval of design details

7.2. The sections are structured to address building design before considering soft and hard landscaping and boundary treatment and security. Each section identifies key design objectives and design principles before setting out design requirements. The overarching design objectives are shown by the diagram below:



Design Guide Hierarcy of Elements

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Design Code Section 1

Building design

It is critical that the buildings are designed to meet operational and occupier requirements as well as the neccessary institutional and sustainability standards for modern industrial and logistics buildings.

This section of the Design Guide therefore relates to the layout and design of the buildings. It covers layout and orientation, main warehouse buildings, offices and renewable energy provision.

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Layout and orientation of buildings

KEY DESIGN OBJECTIVE

KDO1: Creating a sense of place and identity for Segro through developing a common architectural language and orientating buildings to provide legible wayfinding around the site.

DESIGN PRINCIPLE

The layout and orientation of each building should contribute to a sense of place and identity for Segro as a whole, including safe access and clear wayfinding through the site from the arrival point.

DETAILED GUIDANCE

The detailed design of each separate development site should make reference to an overall site masterplan which identifies what has already been developed or approved in detail and how the submission will relate to the wider site.

Each plot layout should be designed to make efficient use of the available site whilst not impacting or restricting comprehensive development of the wider Development Zone.

Buildings should present appropriate frontage to the main spine roads, with offices prominent, allowing visitors, staff and lorry drivers clear orientation and a reference point on arrival.

Each plot should have well integrated pedestrian and cycle access/circulation routes, with surveillance from building frontages with street-level activity to help make the site feel more welcoming and safe (also relevant to KDO3).

Buildings should be orientated to avoid service yards facing onto key arrival and public spaces. Where possible, service yards should be screened from public areas by the buildings (also relevant to KDO2).

Each plot should provide safe and convenient access points allowing segregation of movement between cars, service vehicles, cyclists and pedestrians (also relevant to KDO3). Lorry access should be managed to prevent parking or stacking offsite, onstreet or on verges.

Opportunities for natural surveillance of car parking and other public/semi public spaces should be maximised.

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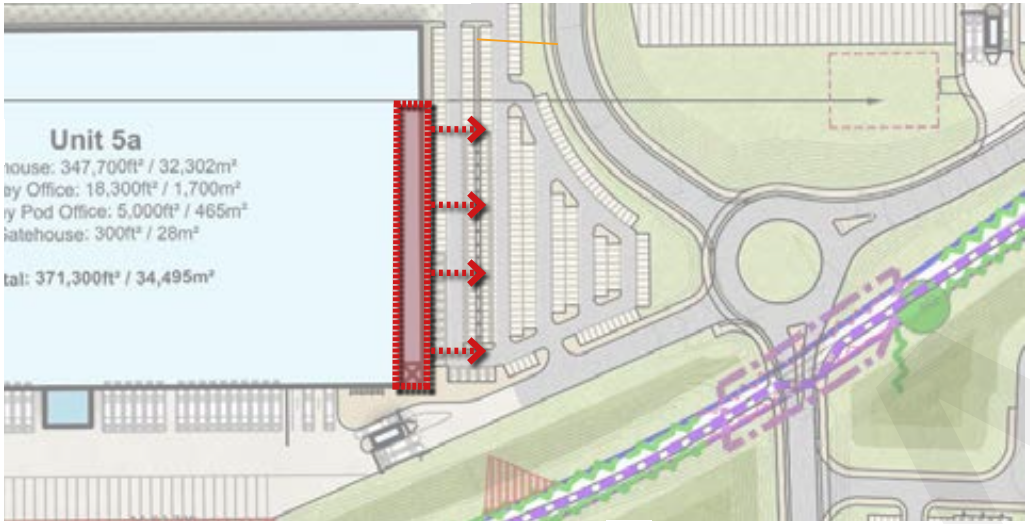
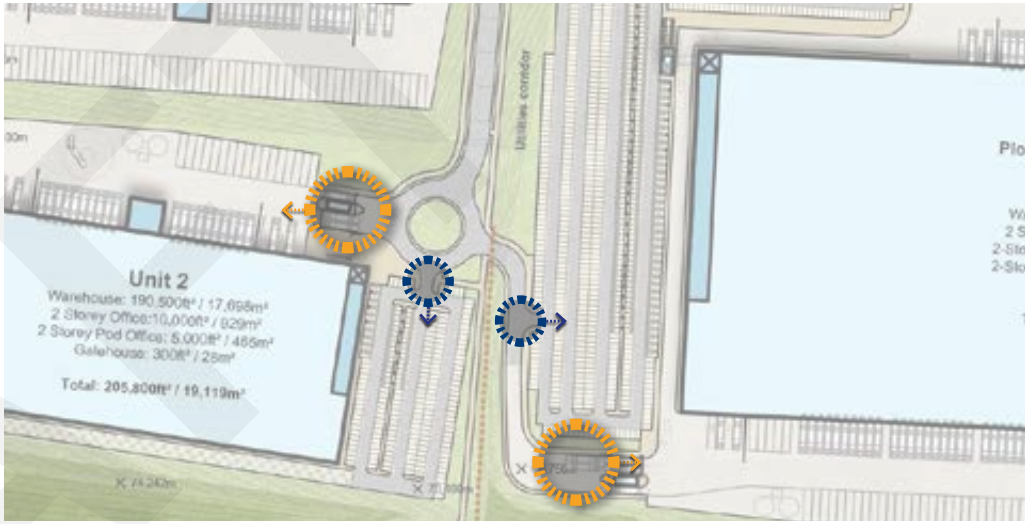
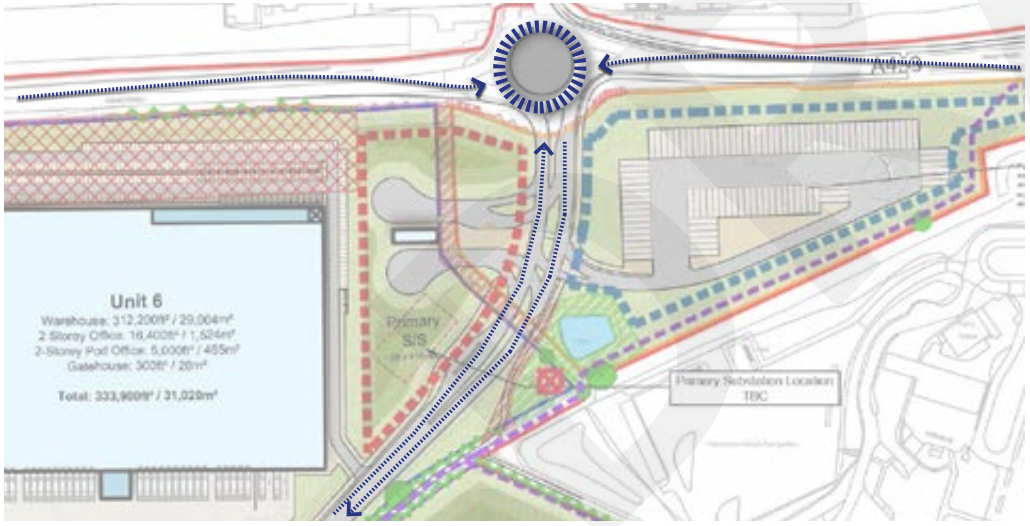


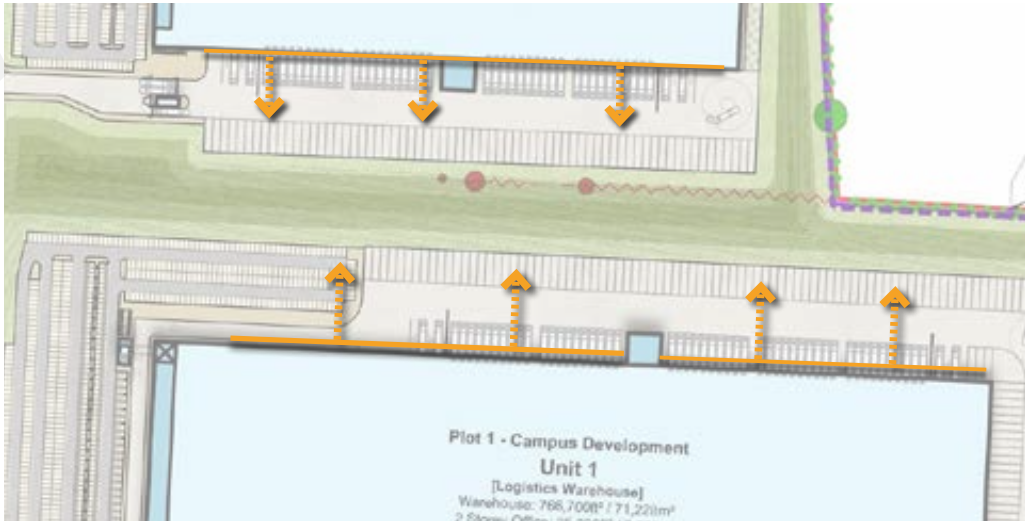
Offices fronting the estate roads and arrival points



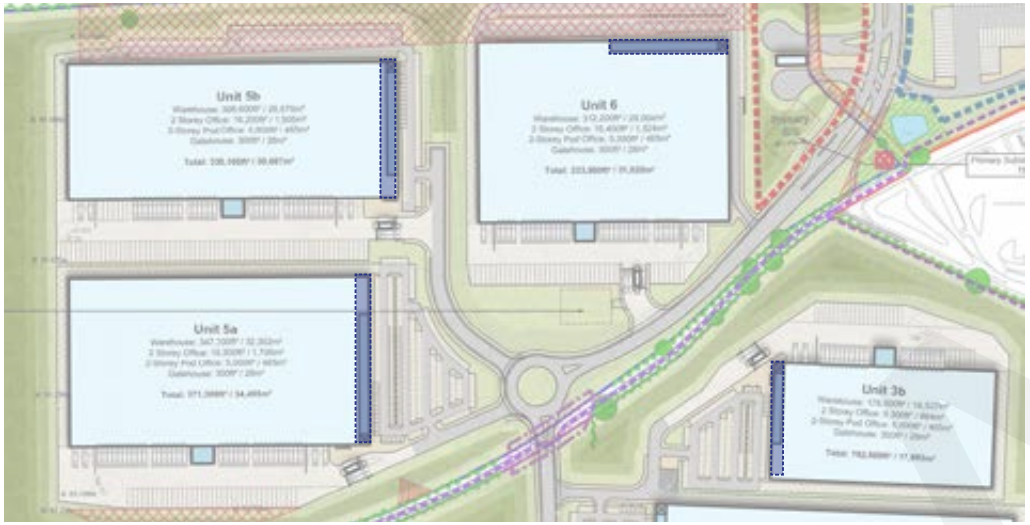
Segregated movement strategy



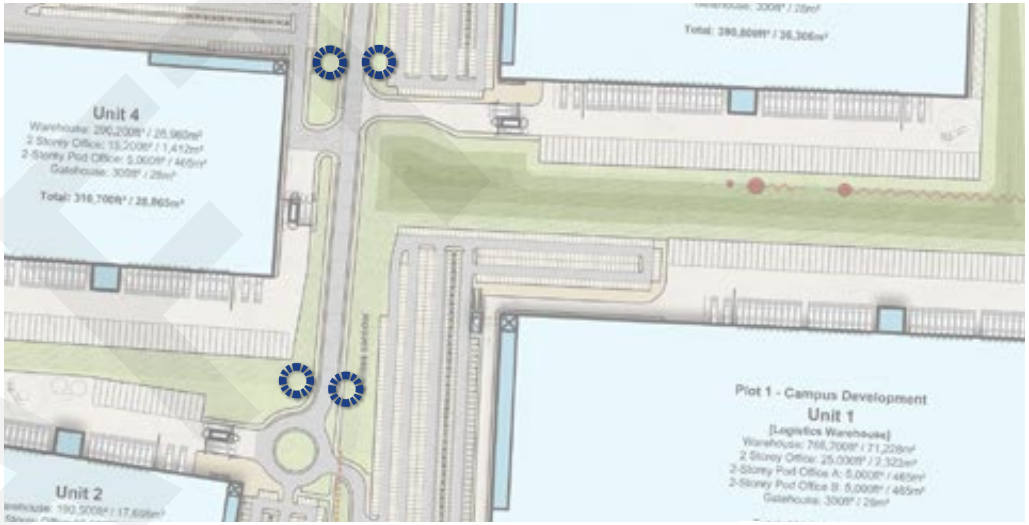
Primary arrival areas



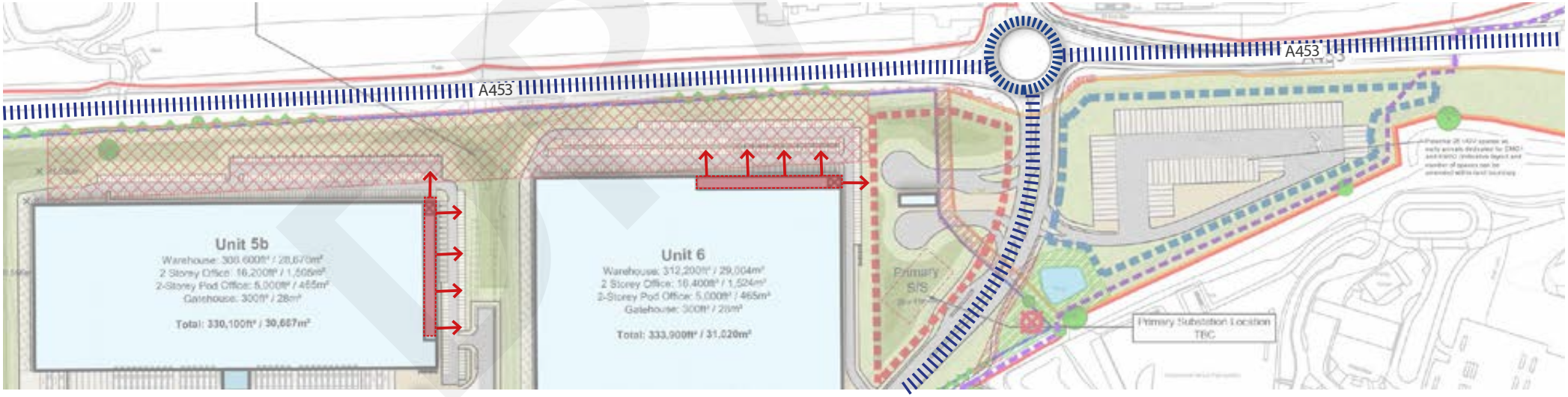
Service yards facing inwards and away from main access routes



PV array



Bus Stops to car parking frontage on main estate roads



Offices fronting the A453 and primary arrival areas

Colour study

KEY DESIGN OBJECTIVE

KDO2: Ensuring that prominent buildings are distinctive, including offices which relate to human scale and operational requirements, whilst minimising the wider visual impact of large warehouse elements through use of ground levels, breaking up facades and screening service yards.

DESIGN PRINCIPLE

Buildings will be visually recessive to reduce the visual effects from long views into the site.

DETAILED GUIDANCE

Units will use cladding from the below colour palette of standardised RAL colours. Typical colour palette below:

Albatross (RAL 240 80 05)

Goosewing (RAL 7038)

Alaska Grey (RAL 7000)

Pure Grey (RAL 000 55 00)

Anthracite (RAL 7016)

Generic Elevations

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Large main building element

KEY DESIGN OBJECTIVE

KDO2: Ensuring that prominent buildings are distinctive, including offices which relate to human scale and operational requirements, whilst minimising the wider visual impact of large warehouse elements through use of ground levels, breaking up facades and screening service yards. [Also KDO1]

DESIGN PRINCIPLE

The warehousing should be designed to be visually recessive and to minimise their visibility from the surrounding area.

Colour Banding

Parapet roofs: form a clean junction with the skyline

Cladding Profiles and Orientation

Parapet Roofs: cast no shadow at high level

Canopies & Shelters

DETAILED GUIDANCE

- Relate buildings to their context including external and internal infrastructure. Darker cladding colours are better as a backdrop to landscaped areas and lighter colours are more appropriate against the sky backdrop at high level.
- Buildings should be designed to minimise their visibility from wider areas - with lighter colours toward the top of structures.
- Attention should be given to breaking up large facades and to making references to human scale. Human scale should be considered with feature changes at a height of around 2.5m to provide a sense of human proportion to the ground level – most commonly detailed around doors / windows / curtain walling / loading dock / cladding interfaces.
- Depending on size of buildings, break up long elevations with simple lighter vertical panels to full building height, although corners of buildings should generally not be emphasised. Given the efficiency and overall footprint area of typical industrial buildings, it is likely that some elevations will be relatively flat and long. It is intended that these elevations could incorporate several architectural devices to reduce impact, including the following:
- Colour banding – Darker shades generally at lower levels to add gravitas to the base of the building, with colours lightening up the elevations to reduce the visual impact. Elevational image shown indicates 5 bands of colour. Number and width of bands is subject to further consideration.
- Cladding profiles and orientation – Subtly mixing the cladding profiles (flat, micro-rib, trapezoidal) and the orientation of profiles, elevations can be broken down into smaller sections of interest, whilst combining to make a balanced elevation.
- Flashings – Narrow cladding strips used to overlap and weatherproof junctions between panels, can be utilised to complement the overall colour palette and tone of the elevation and help break up large sections of cladding.
- Canopies and shelters – Personnel canopies and vehicular canopies & shelters can add depth to elevations and add interest at low level.

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Office elements

KEY DESIGN OBJECTIVE

KDO2: Ensuring that prominent buildings are distinctive, including offices which relate to human scale and operational requirements, whilst minimising the wider visual impact of large warehouse elements through use of ground levels, breaking up facades and screening service yards. [Also KDO1]

DESIGN PRINCIPLE

Offices, reception areas and stairwells should form strong and prominent features that animate and add interest to the public realm. Glazing areas should be maximised and further interest provided by architectural detailing and use of materials:

Significant glazing

DETAILED GUIDANCE

1.) Offices, to aid legibility and wayfinding, should be positioned and designed to be highly visible from estate roads and should not be screened by landscape planting or other features (also relevant to KDO1).

2.) Where units are of an appropriate size, offices should be projecting elements attached to the main building, rather than integral. However, smaller units will require integral offices and these offices should be designed as a prominent feature that is suitably proportioned and architecturally strong.

3.) Offices should be distinctive and have interesting architectural form and materials, including significant glazing, creating a more human scale. Main entrances should be easy to find through inherent office design without the need for extensive signage (also relevant to KDP3).

4.) Each office should have a coherent design but which contrasts with the main building, making use of colour, materials and detailing that includes projecting and recessed features that add depth and interest to facades.

5.) Any roof top plant should be located centrally, but set back from the facades and screened by louvered panels or parapets.

6.) Rain screen cladding incorporated to key aspects and focal points. Brise soleil louvres incorporated in the southern elevations to serve two purposes; to provide solar shading to the main glazed areas and also to provide layering, texture and contrast to the other materials and finishes (also relevant to KDO5).

7.) For further design information regarding the design of both inboard and outboard office types please refer to section 6.0 of this Design Guide.

Overhangs to southern areas

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Roofscape

KEY DESIGN OBJECTIVE

KDO2: Ensuring that prominent buildings are distinctive, including offices which relate to human scale and operational requirements, whilst minimising the wider visual impact of large warehouse elements through use of ground levels, breaking up facades and screening service yards.

DESIGN PRINCIPLE

A number of large buildings across the site creates a need to reduce perceived scale. This can be achieved by avoiding heavy shadows at high level, which draws the eye to height. Overhanging eaves are therefore unacceptable with buildings of this scale. Horizontal parapeted roofs form a clean junction with the skyline by screening the roof. A parapet design will result in the removal of any overhanging eaves and rainwater pipework, as well as the associated shadows cast by such extending features, resulting in a percieved removal of mass from the building appearance. A heavy set roof, extending to eaves past the elevation line can add physical mass to a building's silhouette at high level which will been avoided here.

DETAILED GUIDANCE

1.) No overhanging eaves.

2.) Use of parapets at eaves level.

3.) Roof colour to be Goosewing Grey : RAL 7038

4.) Any PV installed will be non-glare.

Graduated Cladding

Parapet roofs: cast no shadow at high level

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Bus interchange

KEY DESIGN OBJECTIVE

Ensuring that prominent buildings are distinctive and relate to human scale and operational requirements, whilst minimising the wider visual impact through use of ground levels, breaking up facades and screening where required.

Offices, reception areas and stairwells should form strong and prominent features that animate and add interest to the public realm. Glazing areas should be used sensibly and further interest provided by architectural detailing and use of materials.

Wall Cladding:

Timber effect cladding
Colour: Western red cedar

Composite Panels
Colour: Anthracite (RAL 7016)

Detailing

Flashings and window finish
Colour: Anthracite (RAL 7016)

Generic Elevations

External View

External View

Aerial View

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Renewable energy

KEY DESIGN OBJECTIVE

KDO5: Designing in sustainability from the start across all aspects from building, infrastructure and landscape design, whilst allowing for adaptation and later enhancement to meet occupier requirements.

DESIGN PRINCIPLE

There is a strong commitment from Segro to the creation of a sustainable employment scheme which includes the construction of low carbon, energy efficient buildings. A carbon reduction strategy has been developed and is set out in the environmental statement. This strategy contains a number of targets and commitments that specifically relate to building design and construction.

DETAILED GUIDANCE

The highest levels of sustainability will be achieved:

- The base build will be designed to be Energy Performance Certificate (EPC) A+ rated.
- Electrification of heat, in the form of heat pump technology, will be employed in the base build to take advantage of grid decarbonisation.
- 20% of parking spaces will be fitted with electric vehicle charging points with an infrastructure provided for the remainder for future installation of EVCP's
- Highly efficient LED lighting will be provided outside and inside the buildings. This will be controlled with movement sensors and light sensors to make use of natural daylight and save energy.

Embodied carbon emissions will be reduced through:

- A fabric first approach with highly efficient building envelope specifications improving upon standard building regulations Part L, through improvements to insulation, glazing specifications and air tightness.
- Use of A and A+ rated construction materials, wherever possible, with associated low embodied carbon impact
- Targeting an embodied carbon content of below 320kgCO2/m2 which would exceed the RIBA Challenge target for 2030
- Using low carbon processes throughout the construction phase for example including enhanced plant efficiency, improved earthworks strategies to reduce plant movements, use of lower carbon fuel within plant, solar PV energy supply to site compounds and lower carbon materials such as lower temperature mix asphalt, recycled plastic use in place of bitumen in asphalt, reclaimed asphalt recycled plastic drainage pipes, reduced carbon concrete, recycled steel.
- Minimising construction waste and recycling materials from site wherever possible.
- Future proofing roof design to ensure capability to accommodate occupier specific PV panels requirements Segro will establish and maintain an estates management company for the whole site which will ensure that high environmental standards are maintained.
- Both BREEAM and BREEAM Infrastructure (formerly CEEQUAL) 'Outstanding' ratings will be targeted.

Highly efficient LED lighting

Roof mounted photovoltaic (PV) arrays

Electric car charging points

Design Code Section 2

Soft landscaping design

This section relates to landscape design and covers soft landscaping on plots. It specifically relates to Key Design Objectives 3, 4 & 5.

The approach to strategic landscaping (and this will include all structural site landscaping) is set out elsewhere in this D.A.D and will be controlled by relevant requirements. These main elements of the site's structural landscaping have been developed around the perimeter of the sites. This provides extensive screening, ecological habitats and passive/ active recreational space for walkers and cyclists around the perimeter of the site and focus on hedgerows, woodland planting and specimen trees.

However, internal plot soft landscaping will form part of any future detailed submissions, and this design code section therefore relates only to these elements.

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Frontage: car parking & office wellbeing

KEY DESIGN OBJECTIVE

KDO4: Maintaining a strong landscape setting which creates views and legible routes to and from buildings, connects with the surrounding landscape, and further enhances biodiversity.

DESIGN PRINCIPLE

Each plot layout will be designed to ensure it includes soft landscape to a level which will significantly enhance the appearance of the external areas and soften the built form. It will also provide a soft buffer and integration between adjacent plots, plus complement the surrounding infrastructure landscape.

The planting design will comprise standard trees and native hedgerows, amenity planting (including shrubs, herbaceous, grasses, bulbs etc.) and flowering lawn grass seed areas. The tree and hedge planting will be used as structural elements to define space and achieve placemaking within the plots. Large stature trees will visually break up the building elevations by providing sizeable volumes of green tree canopies. Amenity planting will add a human scale around carpark bays, footways, and breakout seating areas.

Within each development plot layout, space will be allocated to accommodate outdoor seating areas for office staff. These areas will be screened from vehicle movements and furnished with paving, furniture, and planting to create a sense of place. These amenity spaces will be positioned close to office entrances and within easy walking distance for employees.

DETAILED GUIDANCE

- Soft landscape beds where trees are proposed will have a minimum width of 2.5 metres to allow space for tree pits and root growth.
- Trees within hard standing, such as pavements or car parks will have tree pits designed to use structural soils, allowing sufficient growing medium for the tree to realize its natural height, and spread.
- Underground services, street lighting columns and CCTV sight lines will be coordinated so as not to compromise trees and other planting.
- Where appropriate, hedge planting adjacent to car parks and site boundaries should be used instead of fences.

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Indicative images of how the car park landscaping strips may look

Trees in Hard Landscape

Car Park Planting - Shrubs & Amenity Planting

Evergreen

Instant Deciduous clipped

Trees to internal car parks to include medium and large stature trees

Low hedges (ilex crenata)

Boundary structure planting & habitats

KEY DESIGN OBJECTIVE

KDO4: Maintaining a strong landscape setting which creates views and legible routes to and from buildings, connects with the surrounding landscape, and further enhances biodiversity.

DESIGN PRINCIPLE

Native structure planting will be used predominantly in more utilitarian areas such as to the rear and sides of the plots. When designing the structure planting for plots, coordination with the existing infrastructure planting will be taken into account, so as to ultimately provide an overall holistic design to the site, laid out in a logical and meaningful way. The use of structure planting for visual screening will also be considered, through its layout and species context such as the use of evergreen shrubs. Liaison with the project ecologist will inform the mix of species used to maximise biodiversity and promote the establishment of wildlife habitats such as woodland, woodland edge and grassland within the plots. Consideration will also be given to species selection with regards to biosecurity, in terms of slowing/preventing the spread of tree and shrub pathogens. The ongoing maintenance and management of structural planting will also be considered when designing these areas, such as how the planting will relate to proposed buildings. Also how the structural landscape can be accessed by landscape contractors.

DETAILED GUIDANCE

- Structure planting mixes are to be comprised of native species suitable for the local area and soil type.
- Hibernacula features will be provided in woodland areas, comprising of an excavated earth pit filled with branches, logs, stones, etc. and covered with soil or turf.
- Structure planting will be comprised of native species planted in one of two mixes.

Trees to road / boundary edges

Wild Flower Grass (meadow)

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Design Code Section 3

Hard landscaping design

This section relates to hard landscape design on plot including, boundary treatments, security and lighting. It specifically relates to Key Design Objectives 3, 4 & 5.

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Public areas

KEY DESIGN OBJECTIVE

KDO4 and KDO4: Providing safe and convenient access for all users of the site including employees, suppliers or distributors, visitors and the local community, ensuring good connections beyond the site.

DESIGN PRINCIPLE

Public Areas

The approach to the use of materials and hardstanding within the public areas will be to promote the use of high quality tactile materials, avoiding long uninterrupted area of the same material.

Help to provide a transitional space between the off plot circulation and soft landscaping to the units, by softening and breaking up the larger areas of hardstanding.

The principles and approach to the car parks will primarily be for place making. This will be achieved by using a mix of high quality hard standing materials interspersed with planting to create an attractive and well organised environment.

Inside individual plots, paths will lead from external walking and cycling routes and from the cycle parking and car park to each office main entrance. Tactile paving and dropped kerbs will be provided at all road junctions, with further paving extended around offices and to the warehouse perimeter.

Materials for on plot pathways to be determined subject to the external drainage design and could include a range of differing material palettes.

Pathways will be designed to be pedestrian/wheelchair friendly, using good quality, durable materials,

Material and colour choice including the use of differing palettes will help to differentiate and to create a sense of place.

DETAILED GUIDANCE

Pathways

- Inside individual plots, paths will lead from external walking and cycling routes and from the cycle parking and car park to each office main entrance.
- Tactile paving and dropped kerbs will be provided at all road junctions, with further paving extended around offices and to the warehouse perimeter.
- Materials for on plot pathways to be determined subject to the external drainage design and could include a range of differing material palettes, utilising block paving in stone / buff colours and greys.
- A mix of of these colours to delineate routes will be encouraged as part of the design.
- Materials for path ways in public areas to be primarily block paving with contrasting colours encouraged to break up long areas of continuous materials.
- Pathways in employee amenity areas to include bound gravel finish as an alternative.
- Pathways in private areas to include block paving where there is high volume of pedestrian / employee traffic.
- Pathways will be designed to be pedestrian/ wheelchair friendly, using of good quality durable materials,
- Material and colour choice including the use of differing palettes will help to differentiate and to create a sense of place.

Outdoor Seating Areas

- These areas will provide a valuable outdoor seating area for employees within easy access of the office entrance.
- Seats and benches will be arranged to provide a range of opportunities for groups and individuals.
- Paving will be of a higher spec than concrete alone, containing crushed aggregate of either sandstone of granite.
- Lighting will be provided in the form of bollards.

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Road

Staff Amenity Space - Contrasting textures

Off Plot Pathways

On Plot Pathways

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Private areas

KEY DESIGN OBJECTIVE

KDO3: Providing safe and convenient access for all users of the site including employees, suppliers or distributors, visitors and the local community, ensuring good connections beyond the site.

KDO4: Maintaining a strong landscape setting which creates views and legible routes to and from buildings, connects with the surrounding landscape, and further enhances biodiversity.

DESIGN PRINCIPLE

Private / Secure Areas
The approach to the use of materials and hardstanding within the private areas and secure service yards will be to promote the use of highly robust and durable materials. Due to the anticipated nature of the operations within the service areas, materials will need to reflect high performance and low maintenance qualities and be different in character to the public facing areas.

DETAILED GUIDANCE

Roads
Surface materials to reflect the technical design of the internal estate roads for the part of the development applied for in full.

• Car Park Aisles: Bituminous Car Park Aisle Construction (Light duty)

• Car Parking Bays: Concrete Block Paving - Permeable (Light duty)

HGV Service Yards
Service yard areas will be formed in concrete surfacing, to provide a robust base for vehicle manoeuvering and screened where practicable from public view through the use of structured planting.

External materials to the service yards to be in concrete. Due to the high levels of HGV traffic maneuvering within these spaces, concrete is the optimum material from a wearing and maintenance perspective.

Where vehicle manoeuvres have the potential to conflict with building faces or retaining structures, edge protection will be provided to protect both the buildings / materials and the vehicles themselves.

Wheel stops and wheel guides will be provided to help maintain the integrity of the external materials and building facades.

Where external paths for fire escape and fire tender are provided within the private areas, tarmacadam will be used as a low maintenance, and suitably robust material.

Service Yard - Barrier protection & Safety lining

Loading - Wheel Guides

Service Yards - Wheel Stops

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Vehicular & cycle parking infrastructure

KEY DESIGN OBJECTIVE

KDO3: Providing safe and convenient access for all users of the site including employees, suppliers or distributors, visitors and the local community, ensuring good connections beyond the site.

KDO5: Designing in sustainability from the start across all aspects from building, infrastructure and landscape design, whilst allowing for adaptation and later enhancement to meet occupier requirements.

DESIGN PRINCIPLE

Provide safe and convenient pedestrian and cycle access to each of the individual units and include provision for appropriate cycle parking facilities.

DETAILED GUIDANCE

Cycle Parking:
Cycle parking should be provided within each plot and should reflect the requirements of each building's floor space. Provision for installation of green roofs or PV panels to be considered to cycle parking shelters.

Each plot should provide:

- Appropriate levels cycle parking with due regard to the operational needs of the Occupiers of plots.
- Safe and secure long stay cycle parking for staff. This should be located in an area that is convenient for use.
- Showers and changing facilities for staff.
- Short stay cycle parking for visitors to individual plots.
- Facilities to charge electric bikes.

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Car parking infrastructure

KEY DESIGN OBJECTIVE

KDO3: Providing safe and convenient access for all users of the site including employees, suppliers or distributors, visitors and the local community, ensuring good connections beyond the site.

KDO5: Designing in sustainability from the start across all aspects from building, infrastructure and landscape design, whilst allowing for adaptation and later enhancement to meet occupier requirements.

DESIGN PRINCIPLE

To provide the appropriate level of car parking for each of the individual units that meets the standards with support for electric vehicle charging and the ability to expand upon this in the future.

DETAILED GUIDANCE

An appropriate level of car parking should be provided which has due regard to the operational needs of the occupiers of plots. Car parking should be designed in accordance with current guidance and priority given in terms of the location of disabled parking, car parking for electric vehicles and staff who car share.

Parking for cars to be provided using either a grade level car park or a multi storey car park solution (if required) to meet occupier demands, which will include:

- EV spaces - a minimum of 20%, with an infrastructure provided for the remainder for future installation of EVCPs
- 10% of spaces are to be laid out as spaces dedicated for the use of disabled 5% of the parking spaces will be priority spaces for car sharers.)
- Powered two wheelers - 1 space for every 20 car parking spaces.
- Provision for the charging of electric motorcycles will need to be made at the rate of one charging point for every four motorcycle spaces.
- The car park areas will be constructed in a mix of macadam and block work, which will form part of a coordinated hard landscaping strategy.

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Boundary treatment & security

KEY DESIGN OBJECTIVE

KDO1: Creating a sense of place and identity through developing a common architectural language and orientating buildings to provide legible wayfinding around the site.

KDO3: Providing safe and convenient access for all users of the site including employees, suppliers or distributors, visitors and the local community, ensuring good connections beyond the site.

KDO4: Maintaining a strong landscape setting which creates views and legible routes to and from buildings, connects with the surrounding landscape, and further enhances biodiversity.

DESIGN PRINCIPLE

Consideration should be given to the layout of the development to ensure personal safety. This relates not only to ensuring that the layout of the development does not create an environment conducive to crime, but also to how occupiers and visitors to the site can move freely without risk of injury. Retaining features are to be avoided as far as possible by use of engineered earthworks embankments.

DETAILED GUIDANCE

Security Fencing
Boundary protection around service yards will be 2.4m high paladin fencing or close board fencing where required to prevent light spill to sensitive ecological areas.

Acoustic Fencing
Timber acoustic fencing will need to be specified and positioned in accordance with Acoustic Engineer's recommendations, based on the final layout, size and orientation of units within the development area.

These will need to be located close to the source of noise and may create boundaries for service yards.

The fencing should be constructed of a suitable timber or equivalent material and should be imperforate, sealed at the base, and have a superficial mass of at least 18kg/sq.m. Fencing should be tested and compliant to BS EN 1794-1 and BS EN 1794 2.

Natural Surveillance
Natural surveillance should be a key factor in the overall design of the site. Offices should overlook car parking and public realm, allowing a high degree of visual control with well defined spaces and pedestrian routes with easy to recognise entrances; this provides convenient movement without compromising security. The building designs and layouts aim to minimise visual obstacles and eliminate places of concealment and any potential dark areas must be well lit.

Ancillary Areas
External plant requirements, sprinkler tanks, refuse and recycling storage are to be located within service yards to reduce the risk of being vandalised and minimise visibility.

Formal Surveillance
The presence of staff and CCTV provides reassurance and a deterrent to potential offenders. 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. Examples of good practice include:

- The use of windows on all habitable spaces within the main offices to all units
- Regular monitoring and patrolling if required by security staff
- The use of high visibility vests
- The placement of CCTV cameras so they cover each other to deter vandalism
- Alarming of the CCTV system
- Placement of the CCTV so that their view is unobstructed and well illuminated.
- Identification and highlighting of CCTV positions.
- Quick and efficient maintenance and repair of CCTV systems.

Where unavoidable, retaining features should be designed by a specialist with appropriate edge protection measures suitable for their placement and use (also relevant to KDO3).

Where appropriate, hedge planting adjacent to car parks and site boundaries should be used instead of fences (KDO1).

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7 Design Code

Acoustic fence to a perimeter mounds where applicable

Typical Acoustic Fence

Criblock retaiining wall

Kingpost retaining walls where walls arent visible from public areas

Precast concrete retaing walls to dock loading areas

Typical Timber Knee Rail

CCTV Surveillance

Paladin Fencing

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SEGRO