

HINCKLEY NATIONAL RAIL FREIGHT INTERCHANGE

DESIGN AND ACCESS STATEMENT – FINAL(v2) Rev C

Regulation No. 5 (2) (q)

Document Reference: 8.1

February 2024



This Design and access Statement (DAS) has been prepared on behalf of Tritax Symmetry (Hinckley) Limited by AJA Architects with input from the following consultants:



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Legal Advisors



Construction Consultant Project and Cost Managers



Planning Consultants



Strategic Rail Advisors



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1. GLOSSARY

Full Text	Acronym/ Abbreviation	Notes
Tritax Symmetry (Hinckley) Limited	TSH	When referring to the 'applicant'.
Hinckley National Rail Freight Interchange	HNRFI	The Strategic Rail Freight Interchange proposed in the Application.
Strategic Rail Freight Interchange	SRFI	A large multi-purpose rail freight interchange and distribution centre linked into both the rail and trunk road system
The DCO Site		All of the land inside the Order Limits.
Main HNRFI Site		All of the land inside the Order Limits between the Leicester to Hinckley railway to the north-west and the M69 motorway to the south-east, in which the proposed SRFI would be located, as indicated on figure 2.1 (document reference 6.3.2.1)
Main Order Limits		The Order Limits that contain the Main HNRFI Site together with the corridor of a proposed link road to the B4668/A47 Leicester Road (the 'A47 Link Road'), proposed works to M69 Junction 2 and a section of the B4669 Hinckley Road towards the village of Sapcote.
Principal Development		SRFI <ul style="list-style-type: none"> - New rail infrastructure providing access to a series of parallel sidings - Intermodal freight terminal ('railport') capable of accommodating up to 16 trains of up to 775m in length - Hard surfaces areas for container storage - Up to 850,000m² GIA of warehousing and ancillary buildings with a total footprint of 650,000m² & up to 200,000m² of mezzanine floorspace, incorporating roof-mounted photovoltaic arrays with a generation

Full Text	Acronym/ Abbreviation	Notes
		SRFI cont. <ul style="list-style-type: none"> - New rail infrastructure providing access to a series of parallel sidings - Intermodal freight terminal ('railport') capable of accommodating up to 16 trains of up to 775m in length - Hard surfaces areas for container storage - Up to 850,000m² GIA of warehousing and ancillary buildings with a total footprint of 650,000m² & up to 200,000m² of mezzanine floorspace, incorporating roof-mounted photovoltaic arrays with a generation capacity of up to 42.4 megawatts (MW), providing direct supply or exporting power to battery storage - Energy centre incorporating an electricity sub-station connected to the local distribution network, battery storage and a gas-fired heat and power plant (designed to be ready for 100% hydrogen in the grid gas supply) with an electrical generation capacity up to 5 MW - Lorry park with fuel filling station - Terrain remodelling, hard and soft landscape works, amenity water features and planting - Noise attenuation measures – acoustic barriers up to 6m in height - Pedestrian, equestrian and cycle access routes and infrastructure Highway Works <ul style="list-style-type: none"> - Works to M69 Junction 2 comprising reconfiguration of existing roundabout, addition of northbound and southbound slip roads - Link road ('the A47 Link Road') from the modified M69 Junction 2 to the B4668 / A47 Leicester Road, with new bridge over railway - Modifications to several junctions on the local road network

1. GLOSSARY

Full Text	Acronym/ Abbreviation	Notes
Associated Development	AD	<ul style="list-style-type: none"> - utility compounds, plant and service infrastructure; - drainage works including groundwater retention ponds, underground attenuation tanks and swales. A swale is a grassed depression in the ground that provides temporary storage for storm water and reduces peak flows; - habitat creation and enhancement and public access, including the provision of amenity open space at the south-western extremity of the SRFI near Burbage Wood and a new route for pedestrians, cyclists and horse riders from a point south of Elmesthorpe to Burbage Common; - works affecting existing pedestrian level crossings on the Leicester to Hinckley railway at Thorney Fields Farm north-west of Sapcote, Elmesthorpe, near Billington Rough to the south of Elmesthorpe and between Burbage and Hinckley; - security and safety provisions inside the SRFI including fencing and lighting
Proposed Development	-	The Principal Development and the Associated Development described in the DCO application (and more specifically in Schedule 1 of the draft Order)
Off-site highway works	-	Any Modification to junctions and highways outside of the Main Order Limits in response to the HNRFI development and M69 Junction 2 works.

Full Text	Acronym/ Abbreviation	Notes
Other Works	-	Landscape and planting works, ecological mitigation, drainage balancing ponds, heavy goods vehicle parking area, energy centre and footpath, cycleway and bridleway routes and connections.
Above Ordnance Datum	AOD	Height of land surface above sea level.
Ancient Woodland	-	A woodland that has existed continuously since 1600 or before.
Application	-	The application for the Proposed Development made to the Secretary of State under the Planning Act 2008.
B8	B8	Storage and distribution uses (a classification of uses under the Town and Country Planning Order 1987)
Blaby District Council	BDC	Local Authority in whose administrative boundary most of the Proposed Development is situated.
Conservation Areas	CA	An area of special architectural and historic interest designated by the local planning authority.
Construction Stage	-	The construction stage of the Proposed Development begins with enabling works, which will include site set-up and ground works.
Development Consent Order	DCO	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project

1. GLOSSARY

Full Text	Acronym/ Abbreviation	Notes
Emission	-	The direct or indirect release of substances, vibrations, heat or noise from individual or diffuse sources into air, water or onto land, e.g. pollution may be discharged into the atmosphere from a stack or vent.
Environment Agency	EA	The non-departmental government body responsible for protection and enhancement of the environment in England and Wales.
Felixstowe to Nuneaton freight line	F2N	The mainline railway to which the project connects.
Flood Risk Assessment	FRA	An assessment that determines the risk of flooding to a proposed project.
Green Infrastructure	GI	A strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services
Gross External Area	GEA	Measure of floorspace
Gross Internal Area	GIA	The area of a building measured to the internal face of the perimeter walls at each floor level.
Harborough District Council	HDC	Local Authority covering Harborough to the east of the HNRFI, which includes some off-site highway works.
Heavy Goods Vehicle	HGV	A truck with a gross combination mass of more than 3500 kg.
Hectare	Ha	Unit of measurement equivalent to 100 acres.
Hinckley and Bosworth Borough Council	HBBC	Local Authority in whose administrative boundary some of the Proposed Development, including the A47 Link Road, is situated.

Full Text	Acronym/ Abbreviation	Notes
Kilovolt	kV	A measure of electrical potential.
Landscape Character Area	LCA	As defined in 'The Approach to Landscape Character Assessment, 2014, these are single unique areas which are the discrete geographical areas of a particular landscape type. Each will have its own individual character and identity, even though it shares the same generic characteristics with other areas of the same type.
Leicestershire County Council	LCC	Council authority covering the county of Leicestershire, in which the HNRFI is located.
Light Goods Vehicle	LGV	Vehicles with a gross weight less than 3.5 tonnes.
Listed Building		A building that has been placed on the statutory list of buildings of Special Architectural or Historic Interest and protected by the Planning (Listed Building and Conservation Areas) Act 1990 (as amended).
Local Development Framework	LDF	A spatial planning strategy introduced by the Planning and Compulsory Purchase Act 2004.
Local Enterprise Partnership	LEP	A voluntary partnership between local authorities and businesses responsible for setting strategic direction and implementation of economic development.
Local Nature Reserve	LNR	Statutory designation for places with wildlife or geological features that are of special interest locally.
Local Development Framework	LDF	A spatial planning strategy introduced by the Planning and Compulsory Purchase Act 2004.

1. GLOSSARY

Full Text	Acronym/ Abbreviation	Notes
Local Wildlife Site	LWS	Wildlife rich sites selected for their local nature conservation value.
Maintenance	-	Maintenance can comprise inspections, repair, adjustments or alterations, removal, refurbishments, reconstruction, replacements and improvements.
National Character Area	NCA	Distinct natural areas of England, defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity.
Natural England	NE	The non-departmental government body responsible for England's natural environment.
National Highways	NH	The agency of the Department for Transport responsible for the core road network in England (formerly Highways England).
National Policy Statements	NPS	Overarching legislative policy concerning the planning and consenting of Nationally Significant Infrastructure Projects in the UK.
Nationally Significant Infrastructure Project	NSIP	As defined by the Planning Act 2008.
Noise Sensitive Receptor	NSR	Receptors principally residential dwellings (existing or for which planning consent is being sought/ has been given) and any building used for long term residential purposes (such as nursing home).
Operation	-	The routine day to day functioning of the Proposed Development.
Order	-	The Development Consent Order (DCO) submitted with the Application.
Order Limits	-	The limits shown on the Works Plans within which the Proposed Development may be carried out.

Full Text	Acronym/ Abbreviation	Notes
Ordnance Survey	OS	National mapping agency for Great Britain
Overhead Line	OHL	Network of overhead electricity transmission lines.
Planning Inspectorate	PINS	Executive agency supported by the Department for Levelling Up, Housing and Communities which deals with planning appeals, national infrastructure, planning applications, examinations of local plans and other planning related and specialist casework in England and Wales.
Preliminary Environmental Information Report	PEIR	A report describing the preliminary environmental assessment that is consulted upon as part of the statutory consultation on the pre-application process of an NSIP.
Public Right of Way	PRoW	Path on which the public have legally protected rights to pass.
Rail Terminal	-	Location within the Main HNRFI Site where trains terminate.
Receptor	-	An identified aspect of the environment - e.g. a resident, protected species, heritage asset, controlled water etc - that may be affected by the Proposed Development and, as such, has been assessed as part of the EIA undertaken.
Rugby Borough Council	RBC	Local Authority covering the area of Rugby located to the south of Hinckley.
Secretary of State	SoS	The decision maker for a NSIP application and head of the relevant government department.
Site of Special Scientific Interest	SSSI	A geological or biological conservation designation denoting a protected area in the UK.

1. GLOSSARY

Full Text	Acronym/ Abbreviation	Notes
Square feet	Sqft	Unit of area
Square metre	Sqm / m ²	Unit of area
Sustainable Drainage Systems	SuDS	Drainage solutions that provide an alternative to the direct channelling of surface water through networks of pipes and sewers to nearby watercourses
Transport Assessment	TA	A comprehensive and systematic process that sets out various transport issues relating to a proposed development
Waste (England & Wales) Regulations 2011	-	Legislation concerning waste prevention and the management and introduction of waste hierarchy. The regulations apply to England and Wales only.
Warwickshire County Council	WCC	Council authority covering the county of Warwickshire, which is located to the south of Hinckley.
Zone of Theoretical Visibility	ZTV	A computer generated plan showing a maximum area of the surroundings within which a project could theoretically be viewed.

2. INTRODUCTION

2.1 Scope and Content

AJA Architects LLP have been appointed by Tritax Symmetry (Hinckley) Limited (TSH) to act as Architects for the development of the proposed Hinckley National Rail Freight Interchange. (HNRFI)

This Design and Access Statement (DAS) accompanies an application by Tritax Symmetry (Hinckley) Limited to the Secretary of State via the Planning Inspectorate for a Development Consent Order (DCO) under the Planning Act 2008.

In principle, the Design and Access Statement sets out to:

- Describe the site and the surrounding context within which the proposals are being advanced,
- Describe the design process that the applicant has been through to explore the development parameters,
- Address the principles of the development and concepts of the design,
- Specifies the amount of development for which development consent is being sought,
- Explores the potential buildings locations on the site,
- Explores the scale and massing to establish 3D envelopes of the parameters,
- Describes how the development will be accessed by all modes,
- Reviews the principles behind the appearance of the development.

The DAS should be read in conjunction with the other application documents, and in particular the Parameters Plan (Document Reference 2.12 and E.S figure 3.2, 6.3.3.2),

Illustrative Masterplan (Document Reference 2.8 and E.S figure 3.1, 6.3.3.1) and the Planning Statement (Reference 7.1).

2. INTRODUCTION

2.2 The Site

The main site lies within the East Midlands Region and the administrative boundaries of Leicestershire County Council, Blaby District Council, the Borough of Hinckley and Bosworth and the Civil Parishes of Hinckley, Burbage, Elmesthorpe, Barwell, Stoney Stanton, Sapcote and Aston Flamville.

Supporting highway works are proposed in Blaby, Hinckley and Bosworth and Harborough Districts in Leicestershire and in the Borough of Rugby in Warwickshire and the Civil Parishes or Wards of Hinckley de Montfort, Burbage, Cosby, Elmesthorpe, Barwell, Stoney Stanton, Sapcote, Aston Flamville, Broughton Astley, Willey and Lutterworth.

The site is adjacent to the Felixstowe to Nuneaton Freight Line (also known as the Hinckley to Leicester Line) and is located approximately 2km east of Hinckley Town centre, immediately north west of Junction 2 of the M69.

The Order Limits for the Proposed Development comprises approximately 268 hectares of land.

The HNRFI site has the ability to directly link to the M69, providing easy connection to the wider motorway network, offering opportunities for the delivery of a well-connected and permeable site.

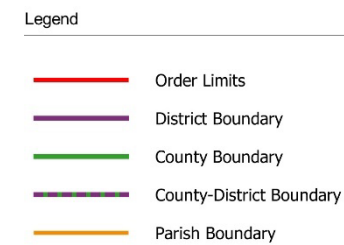
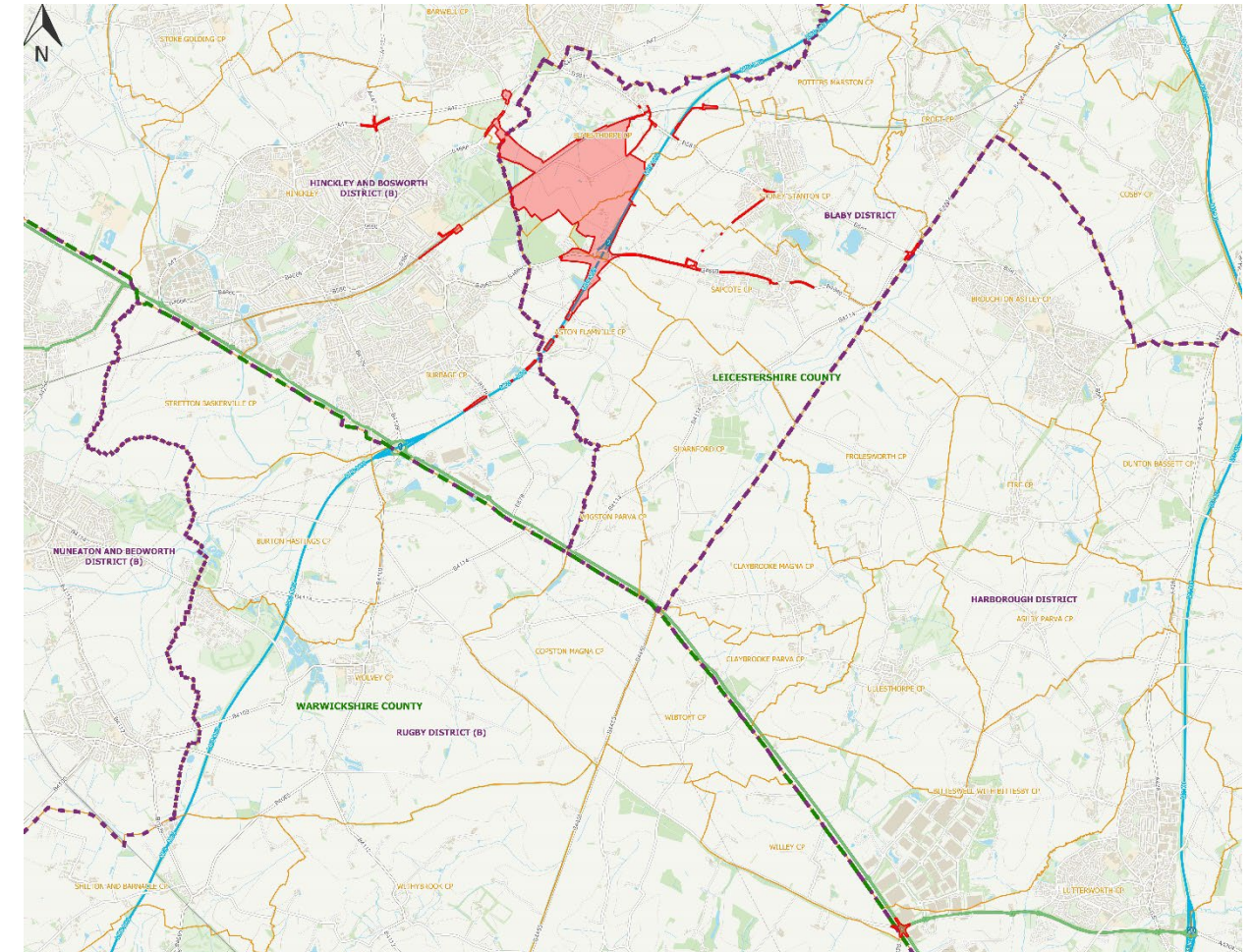


Fig.1 Site Location Plan and Boundary Designations (Document Reference 2.27)

2. INTRODUCTION

2.3 Project Policy Context

The Planning Act 2008 provides that development consent may be granted for both a National Strategic Infrastructure Project (NSIP), referred to as the ‘Principal Development’ in this document, and for ‘Associated Development’, which is development associated with the Principal Development.

The National Policy Statement for National Networks (NPS) sets the policy against which the Secretary of State for Transport will make decisions on applications for development consent for nationally significant infrastructure projects on the road and rail networks and strategic rail freight interchanges.

Paragraph 2.44 of the NPS states:

‘The aim of a strategic rail freight interchange (SRFI) is to optimise the use of rail in the freight journey by maximising rail trunk haul and minimising some elements of the secondary distribution leg by road, through co-location of other distribution and freight activities. SRFIs are a key element in reducing the cost to users of moving freight by rail and are important in facilitating the transfer of freight from road to rail, thereby reducing trip mileage of freight movements on both the national and local road networks’

And Paragraph 4.88 of the NPS describes the key elements of a SFRI application: *‘Applications for a proposed SRFI should provide for a number of rail connected or rail accessible buildings for initial take up, plus rail infrastructure to allow more extensive rail connection within the site in the longer term. The initial stages of the development must provide an operational rail network connection and areas for intermodal handling and container storage. It is not essential for all buildings on the site to be rail connected from the outset, but a significant element should be.’*

HNRFI accords with the policy contained in the NPS as the proposal would deliver the following:

- an intermodal area where containers are lifted between rail freight wagons and container lorries;
- rail-connected buildings either with their own dedicated rail siding or sufficiently close to the rail terminal to allow containers to be moved from the rail wagons into the warehouse by overhead cranes or reach stackers without the need for them to be loaded first onto a HGV or ‘tugmaster’ yard tractor vehicle;
- rail-served buildings which allow containers to be moved from the rail wagons into the warehouse by means of an HGV or tugmaster vehicle.
- rail-accessible buildings with the potential either to be rail-connected or rail-served.



Fig.2 Image of a freight train and container loading reach stacker



Fig.3 Image of a Gantry Crane



Fig.4 Image of stacked containers

2. INTRODUCTION

2.4 Project Summary

In summary, the Development comprises the following main components.

Development on the Main HNRFI Site

- The demolition of Woodhouse Farm, Hobbs Hayes Farm, Freeholt Lodge and the existing bridge over the Leicester to Hinckley railway on Burbage Common Road;
- new rail infrastructure including points off the existing Felixstowe to Nuneaton railway providing access to a series of parallel sidings at the HNRFI, in which trains would be unloaded, marshalled and loaded;
- an intermodal freight terminal or 'Railport' capable of accommodating up to 16 trains up to 775m in length per day, with hard-surfaced areas for container storage and HGV parking and cranes for the loading and unloading of shipping containers from trains and lorries;
- up to 850,000 square metres (gross internal area or GIA) of warehousing and ancillary buildings with a total footprint of up to 650,000 square metres and up to 200,000 square metres of mezzanine floorspace, including the potential for some buildings to be directly rail connected if required by occupiers. These buildings might incorporate ancillary data centres to support the requirements of HNRFI occupiers and operators. They will also incorporate roof-mounted photovoltaic arrays with a generation capacity of up to 42.4 megawatts (MW), providing direct electricity supply to the building or exporting power to battery storage in the energy centre;
- an energy centre incorporating an electricity substation connected to the local electricity distribution network, battery storage (adjacent to each unit and at the energy centre) and a gas-fired combined heat and power plant (designed to be ready for 100% hydrogen in the grid gas supply) with an electrical generation capacity of up to 5 megawatts (MW). Total electricity generation capacity at the Main HNRFI Site is therefore 47.4 MW;
- a lorry park with welfare facilities for drivers and HGV fuelling facilities;
- a site hub building providing office, meeting space and marketing suite for use in connection with the management of the HNRFI and ancillary car parking;
- terrain remodelling, hard and soft landscape works, watercourse diversion, amenity water features and planting;
- noise attenuation measures, including acoustic barriers up to six metres in height;
- habitat creation and enhancement, and the provision of publicly accessible amenity open space at the south-western extremity of the HNRFI near Burbage Wood and to the south of the proposed A47 Link Road between the railway and the B4668/A47 Leicester Road;
- pedestrian, equestrian and cycle access routes and infrastructure, including a new dedicated route for pedestrians, cyclists and horse riders from a point south of Elmesthorpe to Burbage Common;
- utility compounds, plant and service infrastructure;
- security and safety provisions inside the HNRFI including gatehouses, fencing and lighting;
- drainage works including surface water retention ponds, underground attenuation tanks and swales;

Highway and railway works

- works to M69 Junction 2 comprising the reconfiguration of the existing roundabout and its approach and exit lanes, the addition of a southbound slip road for traffic joining the M69 motorway and the addition of a northbound slip road for traffic leaving the M69 motorway at Junction 2;
- A new road ('the A47 Link Road') from the modified M69 Junction 2 to the B4668 / A47 Leicester Road with a new bridge over the railway, providing vehicular access to the proposed HNRFI from the strategic highway network. The A47 Link Road would be intended for adoption as a public highway;
- modifications to several junctions and amendments to Traffic Regulation Orders on the local road network in response to the different traffic flow pattern resulting partly from the trips generated by the HNRFI development and principally from the change in movements as a result of the M69 Junction 2 upgrade;
- works affecting existing pedestrian level crossings on the Leicester to Hinckley railway at Thorney Fields Farm north-west of Sapcote, at Elmesthorpe and at Outwoods between Burbage and Hinckley. In addition, pedestrian level crossings serving footpaths that connect Burbage Common Road to Earl Shilton and Barwell are proposed for closure with the associated footpaths being diverted;
- off-site (outside the Order Limits) railway infrastructure including signals and signage.

3. SITE LOCATION, CONTEXT & ANALYSIS

3.1 Site Description

3.1.1 Railway Infrastructure

The main HNRFI site lies to the south east of the Felixstowe to Nuneaton Freight line, which forms part of Network Rails strategic freight network. The Main Order Limits also include land to its north western side. The land either side of the railway is presently connected by three level crossings serving footpaths and an overbridge on the Burbage Common Road within the scope of the Order Limits.

3.1.2 Highway Infrastructure

The M69 Junction 2 is located to the south east of the HNRFI site and is connected to the M69 via a northbound entry slip lane and southbound exit slip lane and to the east and west with connections to the B4669 Hinckley Road.

Burbage Common Road crosses the Main HNRFI site, and is a rural lane that connects the B4668 at Burbage Common with the B581 Station Road in Elmesthorpe as well as providing access to Woodhouse Farm and Langton Farm. The road crosses the railway as a single lane hump-backed bridge.

Access to other residential properties in the Main HNRFI Site, including Freeholt Lodge and Hobbs Hayes to the north of M69 Junction 2, is from a track that extends from Smithy Lane, which branches from the B4669 Hinckley Road.

3.1.3 Landform / Topography

The DCO site lies in National Character Area (NCA) 94 'Leicestershire Vales', which comprises an open landscape of gentle clay ridges and valleys used for a mixture of pasture and arable agriculture, bisected by small watercourses.

Although to casual inspection the Main HNRFI Site appears broadly level, it slopes gently downhill from a high point of 110m Above Ordnance Datum (AOD – i.e. above sea level) adjacent to M69 Junction 2 to a low point of 83m AOD beside the railway at the northern end of the Main Site.

South-west of M69 Junction 2 the M69 motorway falls gently to a height of c. 96m AOD at the southern extremity of the DCO Site.

To the west of the railway the A47 Link Road corridor falls from 99m to c. 93m before rising gently to 96m where it joins the A47 Leicester Road. This gentle valley is associated with an unnamed watercourse.



Fig.5 Aerial image of Main HNRFI site with M69 in foreground looking towards Hinckley and Burbage

3.1.4 Watercourses

The majority of the Proposed Development is located in the Thurlaston Brook catchment. An unnamed tributary of the Thurlaston Brook flows eastwards across the route of the proposed A47 Link Road and immediately beyond the railway line to the north of the Main HNRFI Site. This watercourse has its own two tributaries which flow through Burbage Common and cross the route of the A47 Link Road.

An unnamed watercourse flows north-eastward through the southern portion of the Main HNRFI Site before running alongside the M69 motorway and joining the tributary of the Thurlaston Brook just downstream of the railway line. This 'issues' within the Main HNRFI Site itself, rather than being fed by an upstream catchment. Several field drainages ditches and small ponds in the Main HNRFI Site also discharge into the tributary of Thurlaston Brook.

A tributary of the Soar Brook issues from the south-eastern side Hinckley. This flows beneath the M69, to the south west of Junction 2, and through the DCO Site for a short length, before turning south-east and flowing away from the DCO Site.

3. SITE LOCATION, CONTEXT & ANALYSIS

3.1.5 Land Use and Landscape

Most of the Main HNRFI Site and the land inside the Main Order Limits to the west comprise a regular pattern of fields used for arable farming and grazing. The fields are defined by hedgerows and interspersed with deciduous trees. Interspersed amongst the fields are a small number of agricultural dwellings and outbuildings with a cluster of buildings at Woodhouse Farm in the centre of the Main HNRFI Site.

Businesses in and immediately adjacent to the Main HNRFI Site include a farm shop at Woodhouse Farm, close to the centre of the Main HNRFI Site, and the Wentworth Livery Stables on Burbage Common Road to the south of Elmesthorpe.

3.1.6 Utilities

Pole mounted, overhead electricity lines cross the Main HNRFI site in various locations, serving the existing dwellings and farms. Similarly, overhead, pole mounted telegraph lines also cross the site and follow the alignment of Burbage Common Road.

To the south east of M69 Junction 2 and within the DCO site, there is a large electricity pylon, from which the overhead lines head in a south west - north east direction and outside of the DCO site.

There are also a range of other services that exist within the Main Order Limits and these are identified in Figure 6. These are all located underground and whilst they don't manifest themselves as features in the landscape they have been identified and plotted as part of the consideration of the HNRFI.

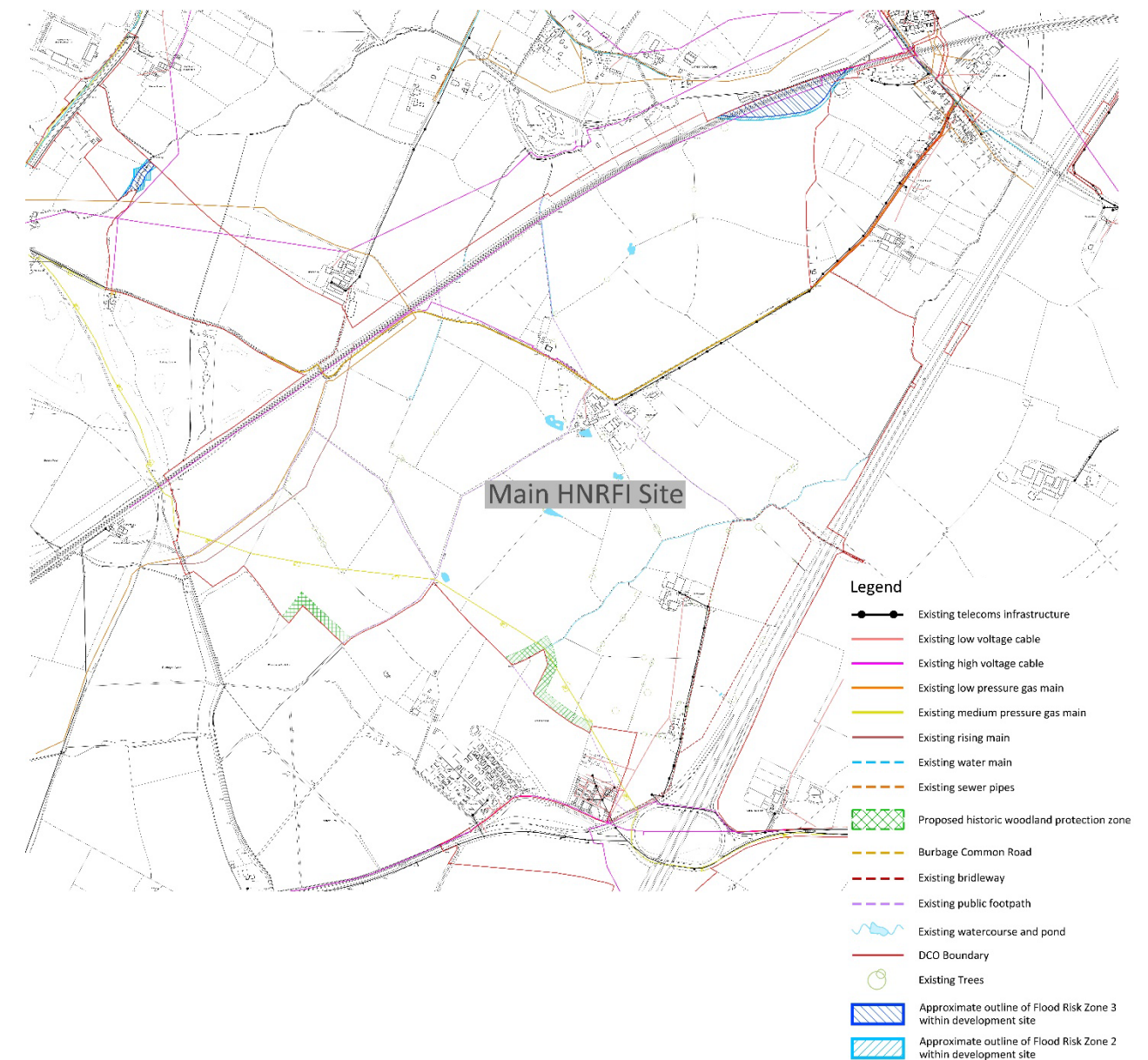


Fig. 6 Existing utilities and Flood Zone Impacts (Document Reference 2.11)

3. SITE LOCATION, CONTEXT & ANALYSIS

3.1.7 Public Rights of Way

There are a number of public bridleways and public rights of way (PROW) that cross the site within the Main Order Limits. The routes enter and leave the site at various points around the perimeter of the main HNRFI site including a crossing over the M69 via an existing bridge as well as a number that utilise the level crossings on the Felixstowe to Nuneaton Freight line. Two routes also connect into Burbage Common & Woods on the southern boundary.

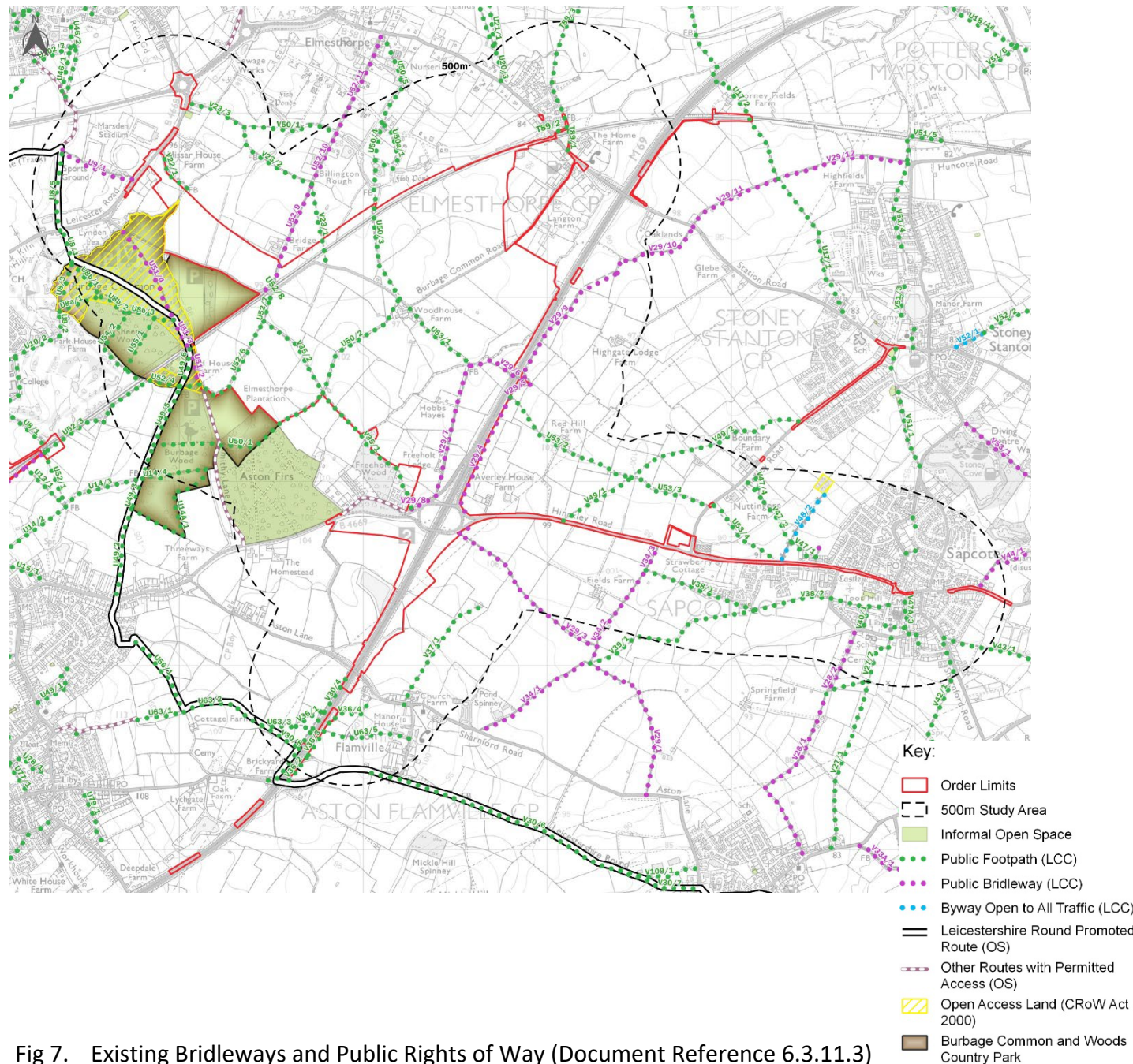


Fig 7. Existing Bridleways and Public Rights of Way (Document Reference 6.3.11.3)

3.1.8 Public Transport

The nearest bus stops to the HNRFI Site are located approximately 200m west of the M69 Junction 2. These stops are located on the Hinckley Road and the Sapcote Road and are served by the X6 bus, operated by Arriva Midlands.

The X6 runs between Coventry and Leicester, operating a two hourly service between 07.25 and 19.10. Travel time to Coventry is approximately 45 minutes, with Leicester approximately 40 minutes away.

Local services are also available from Hinckley and through to Nuneaton.

Arriva Midlands are also testing on-demand bus services in the South Leicester area after successful implementation at Lubbethorpe.

Hinckley has a railway station, served by Cross Country trains. This is situated on the Birmingham – Peterborough line. Services run between Hinckley and Birmingham / Leicester depending on direction of travel, with usually one train per hour in either direction.

3. SITE LOCATION, CONTEXT & ANALYSIS

3.2 Surrounding Area

3.2.1 Character

Areas immediately outside of the Main Order Limits are generally similar in character, comprising level or gently undulating farmland interspersed with farmsteads, smallholdings and free-standing dwellings.

3.2.2 Local Settlements

The closest settlements to the Main HNRFI Site are the village of Elmesthorpe along the B581 Station Road to the north and a mobile home park and a separate gypsy and traveller settlement off Smithy Lane to the south-west of M69 Junction 2. In the wider area and generally at a range of 2-3km from the Main HNRFI Site are the settlements of Stoney Stanton and Sapcote to the east, Earl Shilton and Barwell to the north and north-west, Hinckley and Burbage to the west and south-west and the village of Aston Flamville to the south.

Elmesthorpe has been settled since the Roman era and has a population of just over 500. Village landmarks include the 13th century St Mary's Church, partly ruined but restored at a smaller scale. Elmesthorpe railway station closed in the 1960s but the village retains a hotel and a pub.

Off Smithy Lane to the south of the Main HNRFI Site are two residential enclaves in fenced compounds – the Aston Firs Gypsy and Traveller site managed by LCC and the Castle Fields mobile home site, which is privately owned.

The village of Sapcote to the east has a population of c. 2,700. The village is a focus for community activities with a social club, pub and neighbourhood retail facilities. Stoney Stanton to the north of Sapcote has a population of almost 4,000 and includes neighbourhood-level retail, pub and dining facilities. Between Sapcote and Stoney Stanton lies Stoney Cove, a diving adventure centre in a former stone quarry with a waterside pub and restaurant.

3.2.3 Local Amenity

Burbage Common and Burbage Wood to the south-west of the Main HNRFI Site are a popular recreational resource managed by Hinckley and Bosworth Borough Council, providing woodland and open meadows for informal recreation, with car parks and a visitor centre. Hinckley Golf Course lies beyond Burbage Common, on the edge of Hinckley itself.

In the Blaby District Character Assessment (2008) the Main HNRFI Site lies in two Landscape Character Types (LCT). The northern area of the HNRFI Site falls within LCT A 'Floodplain' and the southern area is within LCT G 'Wooded Farmland'. In terms of Landscape Character Areas (LCA), the Main Site falls similarly within two zones. The northern parts of the HNRFI Site lie in LCA E: 'Elmesthorpe Floodplain' and the southern portions are located in LCA A: 'Aston Flamville Wooded Farmland'.



Fig 8. Main Entrance to Burbage Common and Woods



Fig 9. Image of Burbage Common

3. SITE LOCATION, CONTEXT & ANALYSIS

3.3 Flood Risk

The Environment Agency's (EA) Flood Zone map shows the majority of the land inside the Main Order Limits to be in Flood Zone 1. This indicates that the land is largely at low risk of flooding (a less than 1 in 1,000 annual probability of river flooding). Limited areas around the Thurlaston Brook Tributary, which crosses the corridor of the proposed A47 Link Road to the west of the Felixstowe to Nuneaton railway and then flows through the extreme northern corner of the Main HNRFI Site, are in Flood Zone 2 (between a 1 in 100 and 1 in 1,000 annual probability of flooding) and Flood Zone 3 (a 1 in 100 or greater annual probability of river flooding).

3.4 Cultural Heritage

There are no designated World Heritage Sites, scheduled monuments, listed buildings, registered parks and gardens, battlefields, or conservation areas inside the DCO Site.

In general terms, the majority of designated heritage assets in the wider area comprise listed buildings clustered in the historic cores of local settlements. Within 5km of the Main HNRFI Site are six scheduled monuments, 98 listed buildings and nine conservation areas. There are several groups of listed buildings in the settlements of Stoney Stanton to the east, including the Grade II* listed Church of St Michael, and in Elmesthorpe to the north is the Grade II listed Church of St Mary. The Church of St Mary in Barwell, 1.8km to the north-west of the Main HNRFI Site and 0.75km from the western end of the proposed A47 Link Road, is a Grade I listed building.

Scheduled monuments closest to the Main HNRFI Site include the ruined church at Elmesthorpe to the north, and Sapcote Castle and Moat on the west edge of Sapcote, 2km to the east-south-east. The Aston Flamville Conservation Area lies 1.3km to the south of the Main Site and lies c. 100m from southern arm of the Main Order Limits that contains the southbound slip road proposed as part of the reconfiguration of M69 Junction 2.

Non-designated heritage assets of local importance have been identified within the Main HNRFI Site. These assets comprise three farm buildings and the Burbage Common Road railway bridge, as well as discrete areas of ridge and furrow earthworks and the buried remains of discrete late prehistoric/Romano-British settlement activity.

3.5 Nature Conservation

The Burbage Wood and Aston Firs Site of Special Scientific Interest (SSSI) lies close to the south-western boundary of the Main HNRFI Site and outside the DCO Site. This SSSI is designated for its mixed ash, oak and maple woodland, one of the best remaining examples in Leicestershire. The SSSI adjoins the Burbage Common and Woods Local Nature Reserve.

4. OPPORTUNITIES AND CONSTRAINTS

4.1 General

Having regard to policy, environmental and economic matters, key opportunities and constraints have been identified and these have informed and influenced the design of the application and have been identified below.

4.2 Opportunities

- The Main HNRFI site at approximately 187 hectares in total. The site covers a significant area and is capable of accommodating a substantial development.
 - The regular form of the Main HNRFI site naturally provides opportunity for development of differing size and scale.
 - The proximity of M69 Junction 2 and provision of new southern slip lanes provides an excellent opportunity to connect the site to the local, regional, and national road network, opening up the site and offering the potential of a development of strategic importance.
 - Furthermore, the ability to link to the A47 in the north provides greater flexibility in mitigating the highways impact upon the surrounding area.
 - The location of the existing railway infrastructure, its alignment, and the known availability of freight paths on the network mean that the potential to locate an SRFI in this location is available.
 - The wider commercial nature of the surrounding area and the network links means that further commercial development is contextual.
 - The scale of the site means that appropriately sized, massed, and designed buildings together with appropriate screening and mitigation measures can be accommodated easily and sensibly.
- The topography of the site, and the level change, whilst not insignificant can be accommodated within a site of this scale appropriately to create development plateaus appropriate for logistics operations and also rail connected developments.
 - Judged in its context, the influencing nature of the surrounding buildings and developments means potential overlooking / overbearing can be removed.
 - An enhanced landscape perimeter to the eastern, northern and western boundaries provides the backbone of the ecological mitigation strategy and can create important wildlife connectivity across the site, as well as accommodating rerouted footpaths and bridleways.
 - The proximity of the site to Burbage Common and Woods, means links can be created and areas opened up to extend the publicly accessible areas.
 - TSH's commitment to sustainability, delivering buildings of the highest quality and commitment to building buildings to Net Zero Carbon in Construction as well as achieving a minimum BREEAM Excellent rating, provides the ability to providing future-proofed development that can attract new occupiers and deliver new employment to the area.

4. OPPORTUNITIES AND CONSTRAINTS

4.3 Constraints

- With no specific entrance, a new vehicular, pedestrian and cycle access strategy needs to be formulated.
- The physical constraints of the existing developments, the M69 and the railway all limit any development potential to the north, east and west.
- Burbage Common and Woods are being treated as the natural limit of development to the south.
- The woodland benefits from a historic woodland protection zone that limits development of any form, including new landscaping.
- The proximity of closest residential premises to the north and south, and also the west albeit some of these properties are naturally screened already or are on the far side of the existing railway lines will require careful consideration and appropriate mitigation measures.
- There are a number of views from the surrounding area, all of them need to be sensitively addressed, particularly from the land of to the north and east, and careful consideration with respect to scale and general building design but particularly the roof scape as this is the most influential element when seen from distance.
- There are a number of existing services that either cross the site or run alongside its boundaries and need to be maintained to service other developments and the wider area.
- There is a small area in the north west that is identified as being in a Flood Zone 3.
- There are a number of Public Rights of Way and Bridleways that cross the site and these need to be considered within the development proposals to maintain the connectivity that the area currently benefits from.
- There are a number of existing watercourse and ponds within the development site and any loss or realignment needs to be sensitively addressed.
- The existing hedgerows and trees across the site, as well as the existing farm buildings across the site have the ability to have environmental and ecological benefits and appropriate mitigation measures and features need to be designed into the scheme to appropriately offset any impact.

5. SCHEME EVOLUTION

5.1 Introduction

This section sets out how the Hinckley National Rail Freight Interchange scheme has evolved from initial identification through scheme development and public consultations to application.

5.2 Site Identification

Tritax Symmetry Limited has extensive experience in developing logistics schemes in the Midlands and North of England. Working with strategic rail adviser Baker Rose Consulting it was established that there remains a significant need for rail-related logistics development in addition to the East Midlands Gateway development close to East Midlands Airport and the M1 motorway.

The Applicant recognised that an SRFI on the Felixstowe to Nuneaton, strategic rail route ideally within the South West Leicestershire Growth Area (GA5), with good access to the M69 and M1 motorways and the A5 corridor, would provide optimal multi-modal connectivity and a nodal point for the expressed need for future growth.

Network Rail is implementing a phased series of improvements to this route, which will increase the maximum train length from 600m, the standard intermodal train length, to 775m. The railway between Felixstowe and Nuneaton was upgraded in 2014 to the 'W10 gauge', enabling containers up to 2.9m high to be carried on standard flat wagons from Felixstowe to the Midlands directly. This means that intermodal trains can travel to the region from all the UK deep sea ports and every major city in Britain with standard wagons carrying 2.9 metre high containers.

Paragraphs 4.83 – 4.89 of the National Networks NPS provide specific policy guidance on the assessment principles for SRFIs, including their function, locational requirements and scale and design.

Based upon the criteria set out in paragraphs 4.83 – 4.89, most of the trackside sites that were reviewed were found to be in areas at high risk of flooding, rendering them unsuitable for development. Only the HNRFI site presented the opportunity to avoid land in Flood Zones 3 and 2.

Aside from its low flood risk, the HNRFI site was considered to offer an optimum balance of advantages, including:

- An ample area of open level land;
- sufficient at-grade rail frontage for rail connections to the main line, and the ability to accommodate trains up to 775m in length;
- the potential for direct road access to the strategic highway network from M69 Junction 2, with scope to add southbound slips to the Junction;
- A comparatively low level of environmental constraint, with no designated features of landscape, ecological or cultural heritage interest inside the site;
- A location within the LLEP's designated South-West Leicestershire Growth Area;

5. SCHEME EVOLUTION

5.3 Scheme Development

The DCO application seeks consent for development parameters in keeping with the 'Rochdale Envelope' approach, as opposed to detailed building designs and layouts. However, the Applicant has reviewed numerous illustrative master plan layouts to test the commercial potential of the site, its road and rail access arrangements, the likely effects on the local environment and the ability of the site to accommodate appropriate environmental mitigation.

In undertaking a master-planning approach it was easier to understand in detail the constraints and opportunities that the site offers. The illustrative masterplans prepared for consultation also provided consultees with a representative picture of the proposals and an ability to provide constructive feedback that could be fed into the parameters plan.

The development of the proposal for the HNRFI illustrative masterplan commenced in 2015 but it wasn't until the beginning of 2018 that the first fully formulated plan was produced in preparation for the Stage 1 consultation in Autumn 2018.

Subsequent to that, the illustrative masterplan went through a further iteration prior to that consultation, then in response to the feedback from the Autumn 2018 public consultation a further iteration was produced which was then reviewed following a detailed appraisal to the point where it was presented at the statutory consultation in January 2022.

Following the statutory consultation and the feedback received the illustrative masterplan was developed further and has been produced to form part of the application.

5. SCHEME EVOLUTION

5.3.1 Illustrative Masterplan A

The preliminary version of the master plan for the Main HNRFI Site, was produced at the beginning of 2018. A strong influence on the general layout is the inherently rectilinear shape of B8 buildings and their curtilages. The layout in Figure 10 features the following main elements.

- Railway sidings and a Railport for the unloading and loading of freight containers located immediately alongside the existing railway.
- Road access directly from M69 Junction 2, which would be upgraded with new slip roads on and off the motorway to the south of the junction.
- B8 Use Class, for Warehousing and Storage, buildings, with a gross floorspace of 850,000sqm including c. 225,000sqm of mezzanine floorspace, giving a gross built footprint of c. 625,000sqm, are arranged in rows between the railway and the motorway and with ancillary car and lorry parking and boundary landscape works and planting. The illustrative masterplan includes two very large buildings and one smaller building adjacent to the Railport, representing 41% of the total footprint area, and illustrated the ability for those units to have a direct rail connection facilitating the transfer of containerised goods between the warehouse and rail network without the need to go onto the highway network.
- A network of internal roads providing access to all areas of the site, in corridors with further landscape works and planting.
- Structural landscape works and planting around most of the site boundary, incorporating balancing ponds and drainage swales. An area of land at the south-western extremity of the site, adjacent to Burbage Common and Wood, is intended for public access for informal recreation.
- The draft DCO Order Limits shown, and also in subsequent illustrative masterplan iterations in this section, by a red line, include land to allow for construction lay-down and access diversions.



Fig 10. Illustrative Masterplan A. Document Reference 6.3.4.1

5. SCHEME EVOLUTION

5.3.2 Illustrative Masterplan B

Figure 11 shows the subsequent iteration of the master plan that was used for an informal first round of public consultation on the HNRFI Project in autumn 2018. The plan is similar to Figure 10 save for the redesign of the proposed open space amenity area and the adjacent building layout at the south-western corner of the main site. In this option the footprint of buildings increased from c. 625,000sqm to c. 640,000sqm through the change from two to one building adjacent to the amenity area and the more efficient space planning that afforded/



Fig 11. Illustrative Masterplan B. Document Reference 6.3.4.2

5.3.3 Illustrative Masterplan C

The evaluation of development layout options continued whilst the Autumn 2018 public consultation was in progress. Figure 12 shows an option in which buildings are arranged end-on to the Railport in order to give more warehouse units the ability to be served by a direct rail connection. This option has a built footprint of c. 625,000sqm. The indicative landscape arrangement for the amenity area in the south-western part of the site is also amended, with the bund and tree screen placed alongside the closest building in order to achieve a better transition between the developed area to the north-east and the rural area to the south and west.



Fig 12. Illustrative Masterplan C. Document Reference 6.3.4.3

5. SCHEME EVOLUTION

5.3.4 Illustrative Masterplans D & E

In the light of the feedback received from the first round of informal public consultation in autumn 2018, the Applicant considered various revisions to the master plan for the HNRFI Project. The resulting illustrative master plan is shown in Figures 13 & 14. Comparison with the 2018 master plan in Figure 12 reveals how the master plan evolved in response to consultation feedback and continuing environmental impact assessment. The changes can be summarised as follows.

Feedback: concerns over the degree to which the development offers rail access and about the effects of noise from the railport on the amenity of residential properties beyond the railway, in Elmesthorpe and to the south-west of the village.

Response: The Applicant considered the option of relocating the Railport to the centre of the HNRFI site, providing enhanced rail connectivity for HNRFI occupiers and increasing the distance between the Railport and residential properties beyond the railway to the north-west. It was considered that the logistics buildings on either side of a centrally placed Railport might help to contain the noise from freight handling operations.

Further noise attenuation was proposed in the landscape buffer across the north-eastern edge of the site, adjacent to Elmesthorpe. This included a tall acoustic fence alongside the curved section of railway between the lineside sidings and the railport, designed to contain any ‘wheel squeal’ from freight trains moving between the two.

Feedback: concern over the loss of recreational equestrian, cycle and walking routes that cross the Main HNRFI Site.

Response: relocation of the Railport to the centre of the site facilitated the provision of a recreational route between Burbage Common to the south-west of the HNRFI and Burbage Common Road near Elmesthorpe to the north-east. This recreational route was set within the landscape buffer along the railside edge of the site, with underpasses providing safe access beneath the road at the Burbage Common Road railway bridge, and beneath the proposed railway line in the northern corner of the Main HNRFI Site.

A further recreational access route was proposed in the landscape corridor between a point north of Freeholt Wood to an existing footbridge over the M69 motorway, c. 700m north of M69 Junction 2.

Feedback: the proposed recreational open space in the south-western corner of the site would effectively be cut off from Burbage Wood by the proposed landscape buffer around the HNRFI site.

Response: the landscape buffer was realigned to follow the proposed edge of the built development, promoting a greater sense of connectivity between Burbage Wood and the proposed recreational open space. The amenity area, now referred to as the Burbage Common Expansion, was enlarged. In addition, a new community hall was proposed on a site to the east of the recreational open space.

Feedback: concern that the HNRFI development, in conjunction with the proposed upgrade to M69 Junction 2, would attract unacceptable volumes of additional road traffic on the local road network, including the B4669 Sapcote Road / Hinckley Road on both sides of M69 Junction 2, which passes through Sapcote, and the B581 Broughton Road through Stoney Stanton, as well as on various routes further afield.

Response: Informed by initial rounds of road traffic modelling, the Applicant developed options for relief roads extending westward from the HNRFI site to the B4668 / A47 Leicester Road, by-passing Burbage and Hinckley, and eastwards towards the B4114 Coventry Road, by-passing Sapcote and Stoney Stanton. These options were the focus of a further round of informal public consultation in summer 2019.

4. SCHEME EVOLUTION

5.3.4 Illustrative Masterplans D & E cont.

The immediate effect of the inclusion of these road links in the project was the redesign and realignment of the main internal access road across the southern part of the site. Whereas this main internal access road was designed in earlier iterations of the master plan as an internal service road only, the addition of the eastern and western road links would open the road to general traffic, necessitating a redesign.



Fig 13. Illustrative Masterplan D. Document Reference 6.3.4.4

Figure 13 shows the status of the master plan in May 2019 and Figure 14 shows the master plan as it had evolved by November of that year. Both versions show a built footprint of c. 604,000sqm, a lower total accounted for principally by a reduction in the number and size of buildings proposed to the south of the access road across the southern part of the site. As these layouts were part of an ongoing evolution of the masterplan they were never prepared in the same presentational format as the previous or subsequent masterplans.



Fig 14. Illustrative Masterplan E. Document Reference 6.3.4.5

5. SCHEME EVOLUTION

5.3.5 Illustrative Masterplan F

Figure 15 shows the master plan presented for the purpose of the Stage 2 statutory public consultation in January 2022. In respect of how the master plan has evolved since November 2019, noteworthy features include the following:

- i) The Railport was returned to its original location alongside the Leicester to Hinckley railway, with a rail chord extending across the northern arc of the HNRFI site. This change was made for the following reasons.
 - Locating the Railport in the central area of the site was physically difficult to achieve due to the gradient across the site. The layout was constrained in respect of the provision of road access to buildings between the Railport and the railway, and individual buildings could not be rail-served. Access roads would have to pass between buildings and railways, negating the benefits of railside locations.
 - Access by rail to a centrally located Railport would require two parallel railway lines with a tight semi-circular radius at the northern end of the HNRFI. When rolling stock is hauled around a tight circle of track the differential rotation of the inner and outer wheels can cause sticking and sliding that results in ‘wheel squeal’ and a higher potential to derail wagons. The Applicant reviewed methods available to reduce or avoid wheel squeal. Common remedies include the use of rubber dampeners or wheel lubrication, as well as the erection of tall acoustic fences on the outside of the curve, before it was concluded that wheel squeal is simply best avoided if possible. A northern siding was retained on the masterplan but with a better layout and a much-reduced length of curve as part of a ‘head shunt’, which permits rail access into buildings.
 - The consolidation of the main freight handing area in rail sidings parallel to the railway has the advantage of allowing trains to enter and leave the site in a single in or out movement, whether heading in the direction of Nuneaton or Leicester. In contrast, with the Railport located in the centre of the Site, trains arriving from or departing to the direction of Leicester would need to make a double movement (e.g. a forward movement southbound into a holding siding parallel to the main railway and then a reverse movement backwards into the Railport, and vice versa), an inherently inefficient arrangement.

Overall, these changes resulted in a slight beneficial change to the nature of noise and vibration effects despite moving the Railport closer to receptors to the north. The improvement is a result of operational efficiencies applied and the subsequent overall reduction in wheel squeal. There were no other notable changes in the nature of potential environmental effects across all other topics.

- ii). The development layout sought to make the most efficient use of land inside the Main HNRFI Site. The indicative layout had an internal built footprint of 650,000 square metres reflecting an increase from that considered previously, this is due to the relocation of the Railport alongside the Leicester to Hinckley railway. Whilst it is a parameter and not directly illustrated on the layout plan, the proposed development also included buildings permissible under the proposed DCO parameters to a maximum building height of 33 metres, as measured from ground level, an increase from the maximum heights envisaged previously. This height increase reflects evolving market expectations, informed by discussions with potential occupiers. Three buildings (Units 07, 08 and 09) are shown indicatively on the Railport frontage, again in response to enquiries from potential occupiers. Each of these buildings had the ability to be directly rail connected with the rail line either running alongside a platform or directly into the building itself. In addition a fourth building (Unit 04) in the north east corner of the site was also shown with a direct rail connection, again running alongside a platform. The layout had an internal built footprint of 650,000 m² with buildings permissible under the proposed DCO parameters to a maximum height of 33m to ridge and 31m to eaves, as measured from ground level, an increase from the maximum heights envisaged previously. This height increase reflected discussions with potential occupiers. Three buildings are shown indicatively on the Railport frontage, again in response to enquiries from potential occupiers.

Overall, these changes resulted in a slight adverse change to the nature of landscape and visual effects due to the increase in height of buildings and therefore their visibility against the skyline. There were no other notable changes in the nature of potential environmental effects across all other topics.

- iii). The A47 Link Road across the southern part of the Main HNRFI Site featured three roundabouts to assist the safe integration of goods traffic with general east-west traffic using the proposed link road between M69 Junction 2 and the A47 Leicester Road. This change did not result in a change to the draft Order Limits.

The design changes resulted in benefits to the nature of transport and traffic effects. There were no other notable changes in the nature of potential environmental effects across all other topics.

- iv). No B8 buildings were proposed to the south-west of the main access road. This update was included to ensure sufficient space for a lorry park with welfare facilities and filling station, a site hub with offices and a marketing suite, an energy centre and a storage yard for empty freight containers, but is otherwise proposed as an amenity open space.

The inclusion of the energy centre within the design resulted in benefits to the nature of energy and climate effects. There were no other notable changes in the nature of potential environmental effects across all other topics.

5. SCHEME EVOLUTION

- v). With the core of the Main HNRFI Site dedicated to B8 buildings, a dedicated route for pedestrians, cyclists and horse rider route between Elmesthorpe and Burbage Common was proposed along the eastern edge of the Main HNRFI Site, next to the M69 motorway. This would incorporate provision for pedestrians, cyclists and horse riders. The amenity route would cross the A47 Link Road from M69 Junction 2 by means of a signalised 'Pegasus crossing' and would connect to the amenity open space along the south-western side of the HNRFI, from where access can be gained to Burbage Common via Smithy Lane and an existing underpass beneath the railway.

These changes resulted in a slight benefit to the nature of land use and socio-economic effects. There were no other notable change in the nature of potential environmental effects across all other topics.

- vi). Noise attenuation barriers up to six metres in height were introduced around much of the southern, western and northern edges of the Main HNRFI Site to contain operational noise and protect the noise sensitive receptors within nearby villages including Elmesthorpe, Stoney Stanton and Sapcote.

These changes resulted in a slight benefit to the nature of noise and vibration effects. There were no other notable change in the nature of potential environmental effects across all other topics.

- vii). Consideration was given to the attainment of biodiversity net gain (BNG) for the Proposed Development. TSH was reviewing options including entering into a scheme with a body such as the Environment Bank and/or the provision of an area of land for off-site habitat creation and enhancement.

The purpose of updating the design in line with BNG is to provide benefit to the ecological effects, although at this stage those benefits were yet to be obtained. There were no other notable change in the nature of potential environmental effects across all other topics.

5. SCHEME EVOLUTION

5.3.5 Illustrative Masterplan F cont.



Fig 15. Illustrative Masterplan F (January 2022 Statutory Public Consultation Plan).
Document Reference 6.3.4.6

5. SCHEME EVOLUTION

5.3.6 Illustrative Masterplan G

Following the feedback received from the statutory consultation, the Applicant considered how revisions could be made to the illustrative masterplan and Figure 16 shows how those changes have been incorporated and can be summarised as follows;

- i) In response to comments received from Natural England and LUC (Landscape Consultant to Hinckley and Bosworth Borough Council and Blaby District Council) and whilst a parameter, and not directly illustrated on the masterplan, under the proposed DCO parameters, the proposed maximum building height (including the photovoltaics), has been reduced with the maximum proposed height now being 28m compared with 33m previously, as measured from ground level.

This, along with a further reduction of building heights within the northernmost and southernmost areas of the Proposed Development, improves the overall ability to mitigate medium range views from Earl Shilton, Barwell and Elmesthorpe and results in a benefit in reducing the level of landscape and visual effects.

- ii) In response to the comments received from LUC and the Public Consultation, the north western boundary has been extended by between 12.5 and 17.5m from the network rail ownership boundary. This provides an area for greater depth of woodland planting along the north western boundary. This improves the effectiveness of landscape mitigation, improves the amenity route for the PRoW and provides a greater sense of a landscaped setting to the HNRFI.

This resulted in a benefit in the nature of ecology and landscape and visual effects. There were no other notable change in the nature of potential environmental effects across all other topics.

- iii) In response to the comments received from LUC and the Public Consultation, an additional 15m landscaped screening buffer to the west of the Container Returns area, this creates a screened buffer between the Main HNRFI Site and Burbage common and provides a greater sense of separation.

This change resulted in a benefit in the nature of ecology and landscape and visual effects.

- iv) As part of the consultation with Natural England, there was a request to change the illustrative waterbody design from one balancing pond to four, for improved ecological design within the new amenity area.

This resulted in a benefit in the nature of ecology and surface water and flood risk effects. There were no other notable change in the nature of potential environmental effects across all other topics. Whilst the detail is still not confirmed this will be secured as a DCO Requirement and through the Landscape Ecology Management Plan (Document Reference 17.2).

- v) As a direct request from the Applicant to illustrate how the Main HNRFI Site could demonstrate greater opportunity to link the units to the Railport where a direct rail connection could not be illustrated, there has been the introduction of a connection from the Railport to the main internal estate road in order to provide greater intermodal connectivity across the park. This will allow for containers to be transported via the private internal estate road network, utilising lorries or tugmaster trailers.

- vi) As a direct request from the Applicant to illustrate improved connectivity between the onsite footpath and cycleway network and the proposed public footpath and bridleway network, an additional link between units 02 and 03 was added. Whilst the detail is not confirmed the Applicant would seek to control the detail through Requirement 4 'Detailed Design approval'.

- vii) As a direct request from Leicestershire County Council to improve the connectivity of the development with the existing and wider footpath / cyclepath networks, a new combined footpath cycleway, just north of the new railway crossing bridge, down tp Burbage Common Road, providing a connection with the existing bridleway network, has been added.

This resulted in a benefit in the nature of land use and socio-economic effects.

Following the receipt of further feedback, made through the ongoing highways discussions, a revision was made to the illustrative masterplan to move the bus stop location from the southern side of the A47 link road to the northern side to mitigate the need for users to have to cross the A47 link road in order to access the network of footpaths that lead to the buildings within the main distribution park. This change has been captured on illustrative masterplan G, document reference 2.8 B and E.S. figure 3.1, 6.3.3.1 B.

5. SCHEME EVOLUTION

5.3.6 Illustrative Masterplan G cont.



Key





















-  New M69 Slip Lanes
-  A47 Link Road
-  A47 Link Bridge Crossing
-  Estate Roads
-  Railport - Sidings
-  Railport - Container Storage
-  Lorry Park, Energy Services & Drivers Welfare
-  Site Hub
-  Unit 03 Building Footprints
-  External Yards
-  Parking Areas
-  Water Features and Ponds
-  New Bridleway within main HNRFI site
-  New landscaping within main HNRFI site
-  Well Being Zone
-  Existing surrounding landscaping and farmland
-  Existing woodland
-  Existing alignment of public footpaths and bridleways (orange)
-  Proposed alignment of public footpaths and bridleways (blue)
-  Proposed alignment of pedestrian footpath / cycleway link (purple)

Fig 16. Illustrative Masterplan G (Refer to Document Reference 2.8B and E.S figure 3.1, 6.3.3.1B)

6. DEVELOPMENT PARAMETERS

6.1 Introduction

The requirements for an SRFI have been described in the previous sections of this DAS and the illustrative masterplan iterations have been prepared on the basis of those criteria.

As the warehousing and logistics markets are a constantly evolving sector in response to both occupier needs and market demands, it is key that the development retains a flexible approach to ensure that it can respond to any enquires as they arise.

PINS Advice Note 9 addresses the use of the 'Rochdale Envelope' and is considered appropriate in order to address uncertainties associated with applications for development consent through the PA2008 process. As all the details of the development are not yet confirmed, flexibility is sought to address this uncertainty.

Where elements are uncertain, then a cautious worst-case scenario has been taken and sufficient information has been gathered to allow any 'main or likely significant' effects to be assessed. This approach has been applied throughout, and specifically during the Pre-application consultation process, within the ES and within the description of the project in the application documents.

To facilitate this, it has been decided to apply a 'Parameters Approach' to the HNRFI scheme whereby the development is described in terms of well-defined parameters against which future development can be assessed, but provide the necessary flexibility required by the Applicant and occupiers.

The parameters plan was informed by, and evolved as responses, feedback and constraints were fed into the design.

The parameters plan sets parameters for the following:

- rail and Railport infrastructure including connections from the existing railway (including rail chord) and sidings, gantry cranes and areas for the temporary stacking of freight containers (contained within zones H and J of the parameters plan);
- highway infrastructure corridors including carriageways, landscaping, footpaths, laybys and cycleways. The parameters plan proposes a 'limit of deviation' within which internal roads would be contained;
- external road infrastructure within landscaped corridors, including the proposed upgrades to M69 Junction 2 and the proposed A47 Link Road, including a bridge to replace the existing Burbage Common Road bridge;
- areas for woodland protection, landscape and planting, footpath, bridleway and water course diversions, new ponds and swales and amenity areas for public use;
- a development zone for a site hub containing site management and security offices and a marketing suite, energy centre, with ancillary parking and planting (contained within zone G of the parameters plan); and
- signage for the development.

6. DEVELOPMENT PARAMETERS

6.2 The Parameters Plan – Key Figures

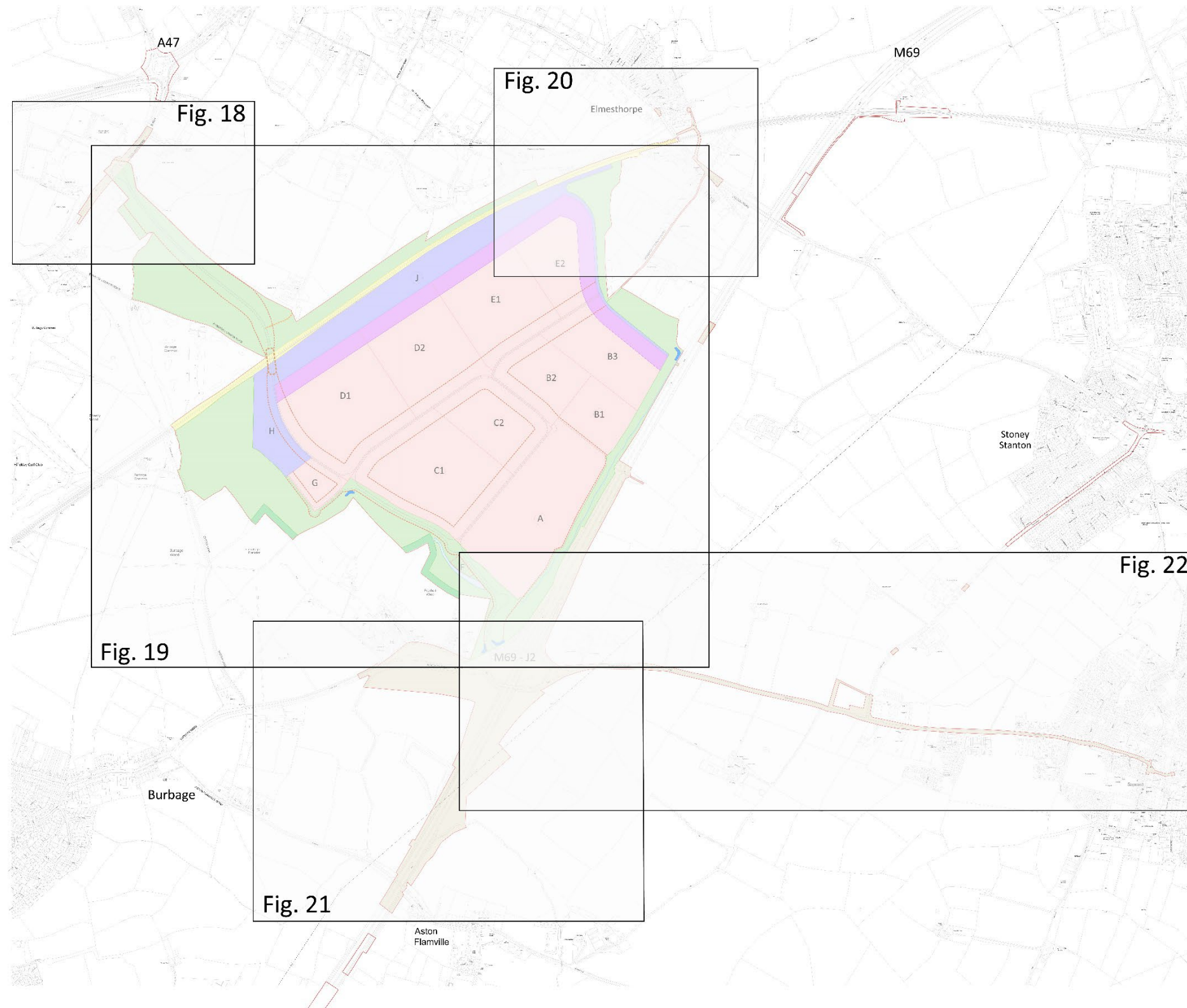


Fig 17. Parameters Key Plan (Refer to Document Reference 2.12 and E.S figure 3.2, 6.3.3.2)
















6. DEVELOPMENT PARAMETERS

6.2 The Parameters Plan – Key Figures cont.



Fig 18. Parameters Plan – Area 1 of 5 and key to parameters

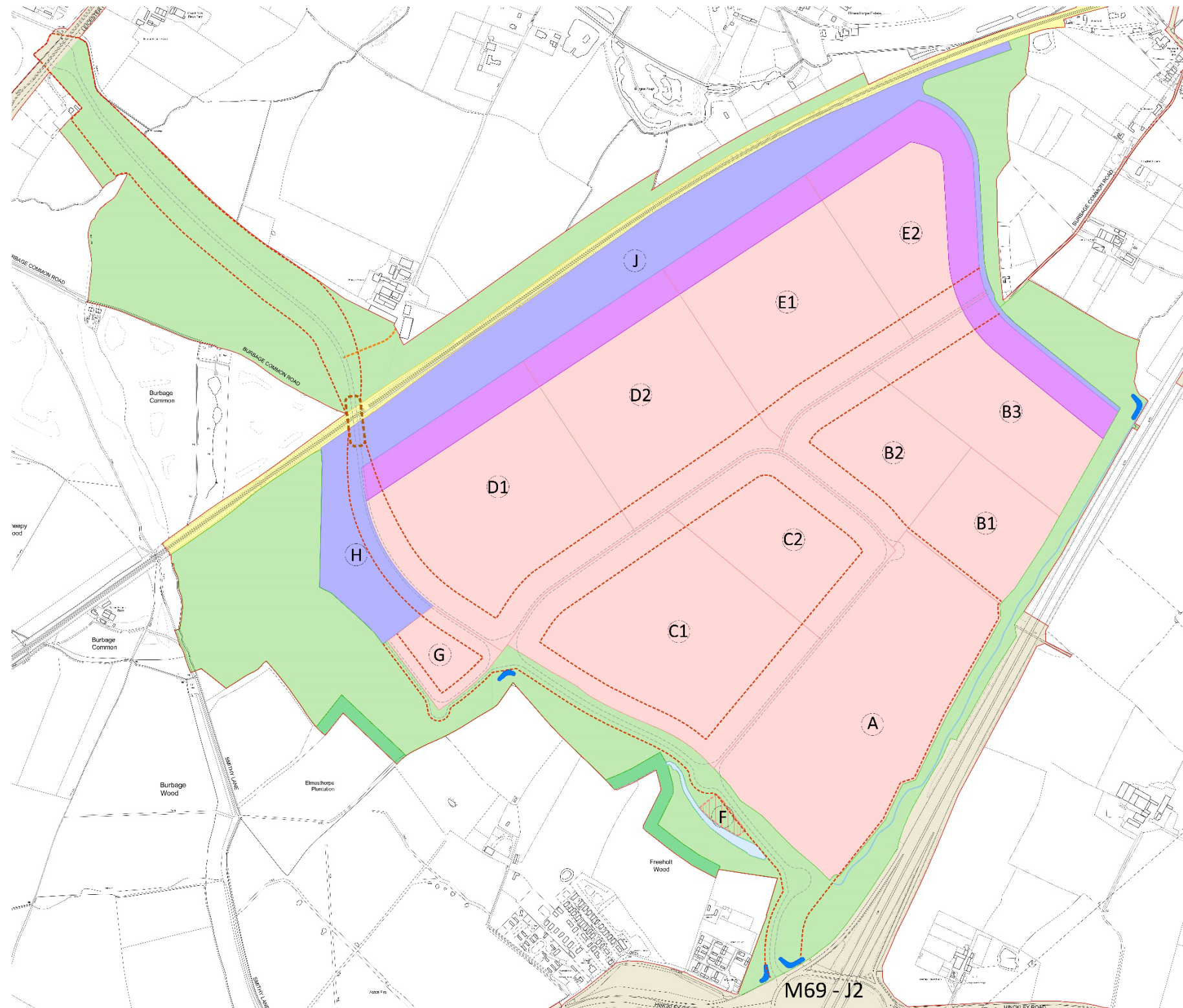
Key

-  Order Limits
-  Open land / landscaping, including bunding, attenuation ponds, public footpaths and bridleways, estate road infrastructure, A47 Link Road and any land to be restored to agricultural use.
-  Historic woodland protection zone
-  Area of existing highways and land reserved adjacent to existing and proposed highways for highways and engineering works including construction and laydown of materials compounds.
-  Watercourse
-  Existing rail corridor
-  Rail freight interchange including A47 Link Road and bridge infrastructure
-  Rail corridor within development zones
-  New bridge over rail line
-  Development zone for site hub
-  Line of A47 Link Road and estate roads
-  Deviation Potential of A47 Link road and estate roads. The boundaries of zones through which a limit of deviation runs will change depending on the final alignment of the infrastructure within the limit of deviation
-  Development Signage Locations
-  Rerouting of existing linkage from Bridge Farm to new highway infrastructure
-  Development Zones

NOTE 1: Development Zones include the existing buildings to be demolished, the A47 Link Road, estate road infrastructure, rail freight interchange link to estate road and elements pertaining to individual development plots including buildings, hardstandings, parking, energy services, landscaping, bunding and storm water attenuation.
NOTE 2: Noise attenuation measures, ranging from 1.8m to 6m in height are to be provided within the landscaped areas, railport and development zones and are illustratively shown on ESR Figure reference no. 10.10

6. DEVELOPMENT PARAMETERS

6.2 The Parameters Plan – Key Figures cont.



Schedule of Parameters for Development Zones					
Zone	Number of Warehousing Units / Buildings * ¹	Maximum development floor space per Zone (m ²)	Other Defined Element Within Zone	Maximum building / element height measured to roof ridge / highest point in metres above Ordnance Datum	Equivalent building height relative to FFL
A	1 to 6 warehousing units	105,000 sq.m.		119.15m	Up to 22m
B	1 to 5 warehousing units	115,000 sq.m.		B1 115.65m	Up to 22m
				B2 121.65m	Up to 28m
				B3 115.65m	Up to 22m
C	1 to 6 warehousing units	140,000 sq.m.		C1 119.15m	Up to 22m
				C2 122.15m	Up to 25m
D	1 to 4 warehousing units	184,000 sq.m.		D1 119.15m	Up to 22m
				D2 125.15m	Up to 28m
E	1 to 3 warehousing units	137,000 sq.m.		E1 118.65m	Up to 25m
				E2 115.65m	Up to 22m
F	1 to 2 buildings	500 sq.m.		111.50m	Up to 10m
G	1 to 2 buildings	500 sq.m.		107.15m	Up to 10m
			Energy Services	112.15m	
H	1 to 2 buildings	750 sq.m.		107.15m	Up to 10m
			Yard (including container stacks)	112.95m	Up to 14.5m
J	1 to 2 buildings	500 sq.m.		106.50m	Up to 10m
			Yard (including container stacks)	112.50m	Up to 14.5m
			Gantry Cranes	123.50m	
Total maximum floor space across the development* ²		650,000 sq.m.			

*¹ These are the potential number of main use buildings in each zone and excludes any ancillary buildings or structures.
*² This total floor space is the maximum floor space (excluding mezzanine space) that will be developed across the site notwithstanding that the maximum floor space stated for each Zone combined would exceed this figure i.e. it is the overall floor space cap for each zone excluding mezzanine floor space.

Fig 19. Parameters Plan – Area 2 of 5 and Zonal Parameters Table

6. DEVELOPMENT PARAMETERS

6.2 The Parameters Plan – Key Figures cont.

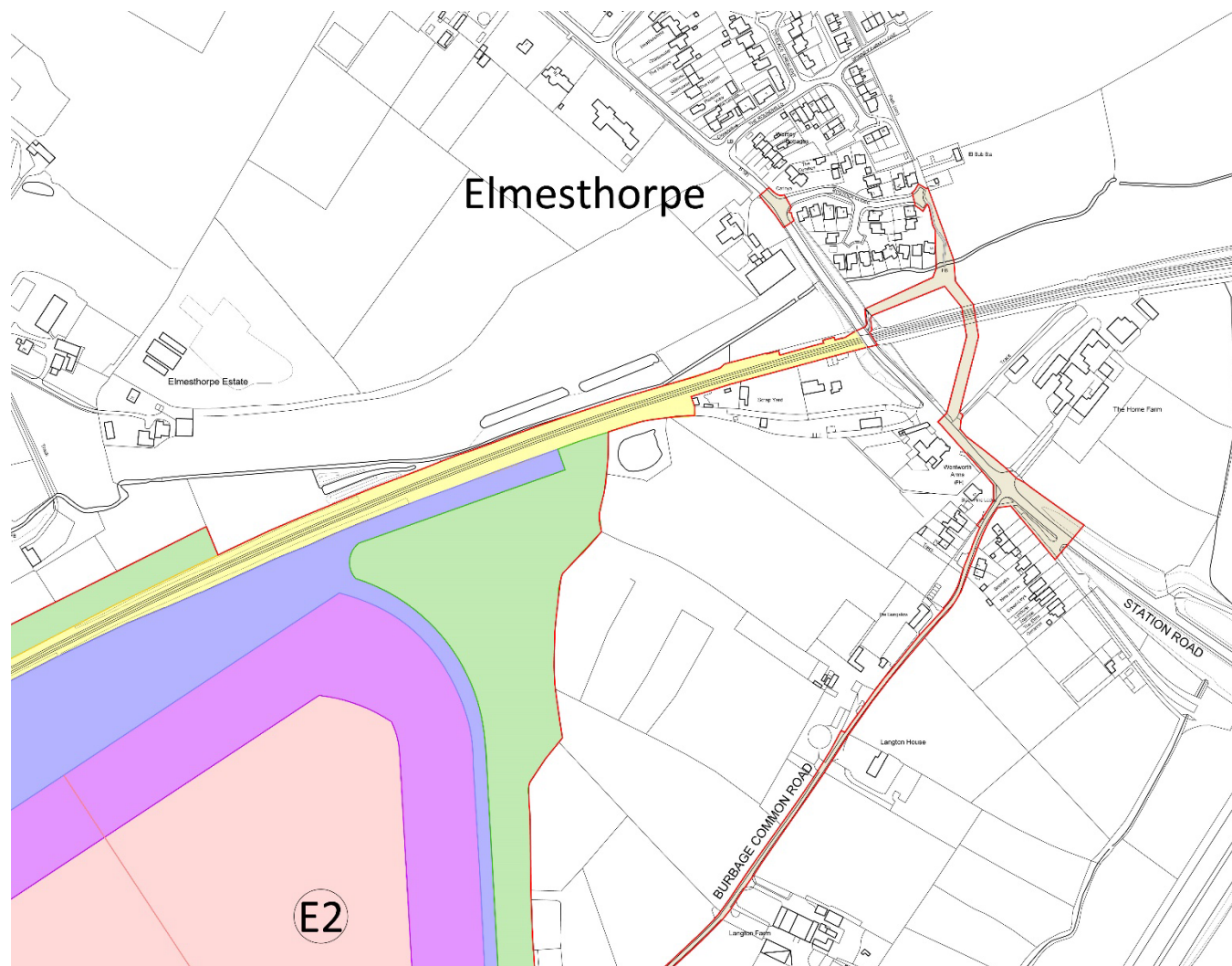


Fig 20. Parameters Plan – Area 3 of 5

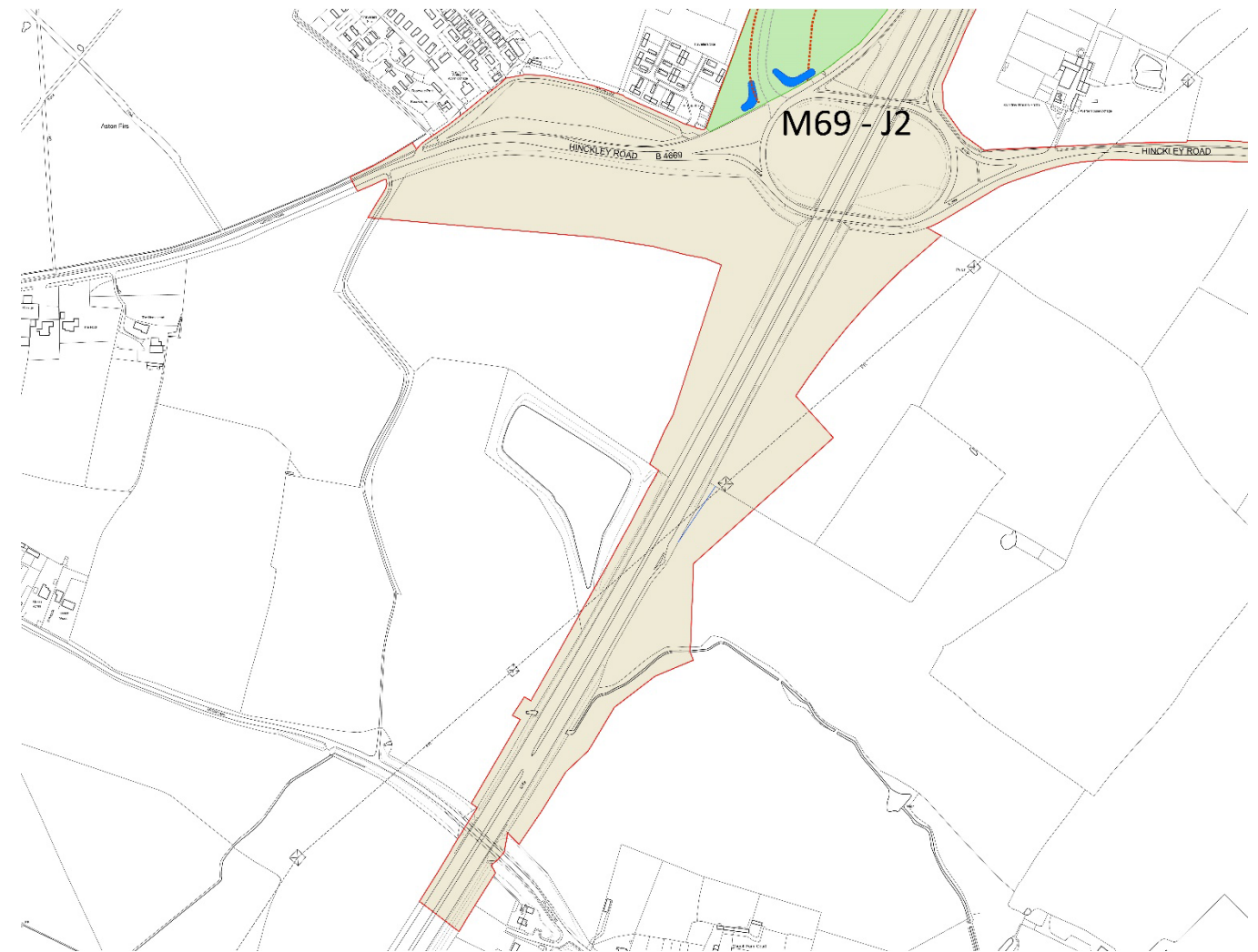


Fig 21. Parameters Plan – Area 4 of 5

6. DEVELOPMENT PARAMETERS

6.2 The Parameters Plan – Key Figures cont.

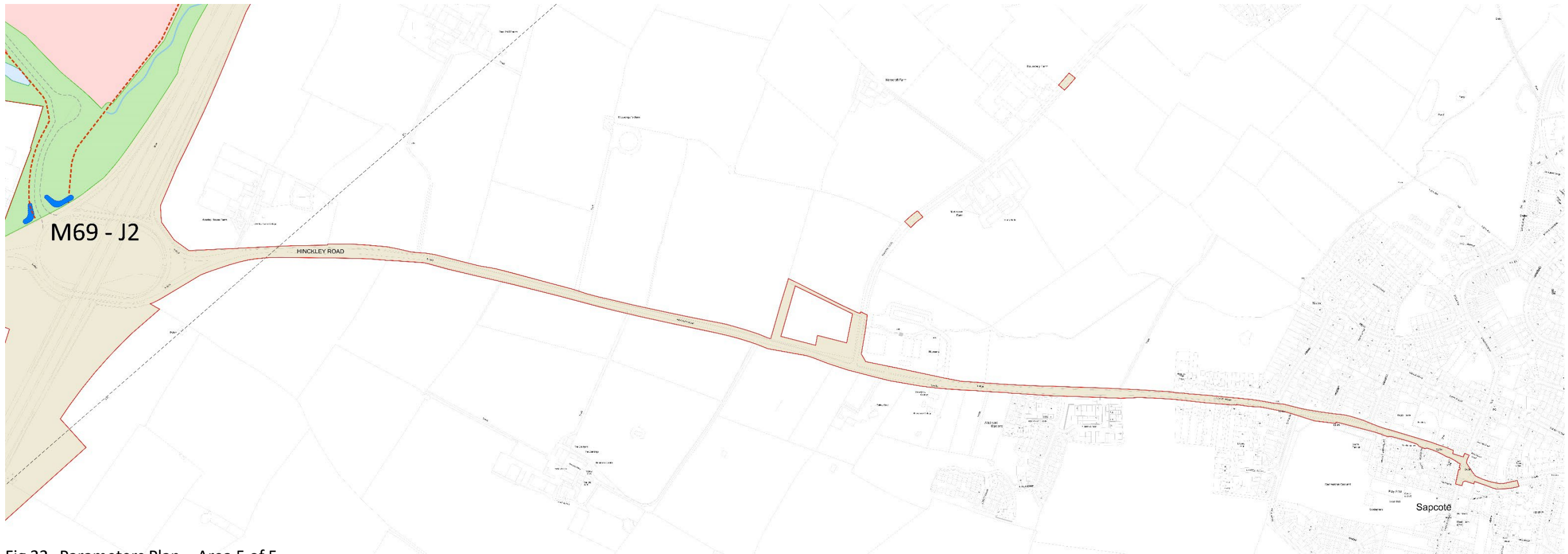


Fig 22. Parameters Plan – Area 5 of 5

6. DEVELOPMENT PARAMETERS

6.3.1 Development Zones A – E

Based upon the parameters plan (figures 17 to 22), the purpose of Zones A – E is to locate up to 850,000 m² (gross internal area or GIA) of warehousing and ancillary buildings with a total footprint of up to 650,000 m² and up to 200,000 m² of mezzanine floorspace. These buildings might incorporate ancillary data centres to support the requirements of HNRFI occupiers and operators. They would also incorporate roof-mounted photovoltaic arrays providing direct electricity supply to the building or exporting power to battery storage in the energy centre.

The Parameters Plan demonstrates that Zones D1, D2, E1, E2 and B3 have the ability to be 'rail connected', meaning a warehouse with its own dedicated rail siding or which is sufficiently close to the rail terminal to allow containers to be moved from the rail wagons into the warehouse by overhead cranes or reach stackers without the need for them to be loaded onto a HGV or Tugmaster vehicle.

The balance of floorspace can be 'rail served' i.e. containers could be moved to and from the Terminal using HGV or Tugmaster vehicles over the relatively short distances involved.

As well as the highway infrastructure corridors, all the development zones also include elements pertaining to the individual development plots including buildings, hardstandings, parking, energy services, landscaping, bunding and storm water attenuation.

6.3.2 Development Zone F

Zone F has been designated for a site hub building, providing office and meeting space for use in connection with the management of the HNRFI and ancillary car parking.

6.3.3 Development Zone G

South of the proposed A47 link road corridor, zone G is for the provision of an energy centre incorporating an electricity substation connected to the local electricity distribution network and a gas-fired combined heat and power plant with an electrical generation capacity of up to 10 megawatts (MW), supported by 20 MW standby generation capacity and 20MW battery capacity to provide electrical supply resilience. Total electricity generation capacity would not exceed 50 MW. In addition, this zone is also for a lorry park with welfare facilities for drivers and a fuel filling station.

6.3.4 Development Zone H & J

These zones are for the new rail infrastructure including points off the existing Felixstowe to Nuneaton railway providing access to a series of parallel sidings at the HNRFI, in which trains would be unloaded, marshalled and loaded. In addition, an intermodal freight terminal or 'Railport' capable of accommodating up to 16 trains up to 775m in length per day, with hard-surfaced areas for container storage and HGV parking and cranes for the loading and unloading

of shipping containers from trains and lorries would also be located. Zone H will be accessed off an estate road via Zone G and the main spine road roundabout adjacent to Zone C and D.

Zone H will include the formal secure access to the Rail port, an empty container storage yard, and ancillary administration buildings.

6.3.5 Highway Infrastructure

The notional alignment of the main highway infrastructure, including the A47 link road and the main HNRFI site estate roads has been illustrated together with a limit of deviation to maintain the flexibility of the scheme.

6.3.6 Heights

The parameters plan also stipulates the maximum height Above Ordnance Datum (A.O.D) of any building or structure contained within that zone.

6.3.7 Green Infrastructure

To the perimeter of the main HNRFI site and west of the railway, the parameters plan illustrates the zone for dedicated green infrastructure that includes open land / landscaping, bunding, attenuation ponds, public footpaths, and bridleways as well as the main highway infrastructure corridors.

6.3.8 Water Courses

Identified locations for new watercourses and ponds have been illustrated to the south of the A47 link road and along the eastern boundary within the main HNRFI site.

6.3.9 New Bridge

The location for a new bridge to carry the A47 link road over the railway is identified on the Parameters Plan within the Order Limits and to the north of Burbage Common and south of the existing bridge that is to be demolished as part of the works.

6.3.10 Acoustic Attenuation

Locations have been identified around the main HNRFI site for acoustic attenuation either in the form of acoustic fencing or bunding up to a maximum of 6m in height.

6.3.11 Signage Locations

Locations either side of the new A47 link, at the southern entrance to the development together with a location in the north east corner of the main HNRFI site have been identified for development signage.

7. DEVELOPMENT FRAMEWORK

7.1 Introduction

The framework principles for the development are secured by the Parameters Plan and illustrated through the illustrative Masterplan. This section expands upon the detail of the key components.

7.2 Uses

Upon being granted consent to the DCO application for an NSIP development and commencement of works on site, the current activities on the site would cease and it would then become the location for a Strategic Rail Freight Interchange with associated development.

The site would then accommodate B8 warehouse and storage facilities that are both rail connected, and rail served with the Railport being at the centre of these activities.

The proposed B8 buildings might include ancillary data centres providing occupiers with centralised computer facilities for data storage and networking. Data centres play an important role in the tracking of freight and will be located inside the proposed B8 buildings.

The facility would then operate 24 hours per day, 7 days per week to maximise the flexibility that the occupiers require.

7.3 Floorspace

The Parameters Plan sets out the limitations on floor space in total for the development as well as the maximum floor space within each zone. In addition, it also prescribes the number of B8 facilities that each zone could accommodate, see Figure 19.

The greater part of the Main HNRFI Site will be occupied by buildings falling within use class B8 (storage or distribution) of the Town and Country Planning (Use Classes) Order 1987. The HNRFI will contain a total floor area of up to 650,000 square metres at ground floor level and, in the B8 buildings, up to a further 200,000 square metres of mezzanine floorspace.

The total floor space for each zone has been considered based on the illustrative masterplan to ensure that an appropriate amount of land is set aside for the ancillary functions of each building, including the highway infrastructure, general circulation, and landscaping.

Whilst buildings could be accommodated anywhere within the development zones, the illustrative masterplan provides an indication of how they could be sited.

7.4 Heights, Levels, Scale and Massing

Whilst it is inevitable that an SRFI will necessitate buildings of a significant scale and mass to meet the requirements of the logistics sector and market demand, the parameters have been developed to reflect this demand whilst also acknowledging the restrictions that the local and wider environment place upon the development and to ensure that the development sits well within the wider landscape.

Nine main development zones are proposed, identified as Development Zones A-J (excludes I) on the Parameters Plan. The maximum proposed building heights are expressed as height above ground level (AGL) following site levelling and preparation and height above ordnance datum (AOD), a fixed measure of height above mean sea level used as consistent point of reference. In each development zone a maximum number of buildings is proposed. For example, Development Zone B might contain five smaller buildings or anything between one and four larger buildings, in all cases not exceeding a total footprint parameter.

The maximum heights of the buildings have been calculated as ranging from 22m to 28m to the apex of the roofs or any other structure, and the Parameters Plan identifies the maximum A.O.D. levels per zone that this generates. There is a step change in the levels noted, going 22m, 25m and 28m.

The highest buildings (28m) have been located in the centre of the development where they would have the least impact with the lower heights around the perimeter of the site.

Whilst these levels identify the maximum height of any building or structure to ensure that the development can appeal to the widest range of occupiers, new development whether speculatively built by the Applicant or responding directly to an occupier enquiry (build to suit) will always be considered on their merits and appropriateness based on knowledge of the sector to achieve the optimum design.

Heights have also been prescribed for the Railport and considered on the basis that the loading and the unloading of the trains and the facilitating of the container storage will be undertaken by gantry cranes that have a maximum height of 28m. The container stacks have also been prescribed and within both areas H and J, the containers will be limited to a maximum of five containers high or 14.5m in total.

7. DEVELOPMENT FRAMEWORK

7.5 Landscape and Visual

No part of the Order Limits lies within a national or regionally designated landscape. The only designation of note is Burbage Common and Woods Country Park which lies adjacent to the Order Limits and is recognised for its recreational value.

The landscape of the Main HNRFI Site is a typical agricultural landscape for the area, focussed on arable farming with some equestrian use. Field sizes vary from medium to large. A network of mature field boundary hedgerows with hedgerow trees which punctuate the skyline throughout the site create a layered effect within views. There is a sense of separation from the surrounding countryside as a result of the Hinckley to Leicester railway line to the north-west and the M69 to the south-east. The Main HNRFI Site is subject to relative visual enclosure by surrounding woodland and tree cover to the south and west, where there is limited visual inter-connectivity between the Main HNRFI site and the wider landscape due to vegetation. However, the eastern and north-western boundaries are more fragmentary and permit views to higher ground within Barwell to the north-west and Croft Hill to the north-east. A summary of the Landscape Character Considerations is illustrated in Figure 23.

The Main HNRFI Site currently comprises as a series of small to medium scale regular agricultural fields enclosed by a network of hedgerows and occasional hedgerow trees and is influenced across its eastern boundary by the M69 and west-to-northern boundary by the Hinckley to Leicester railway line and the more focused context study is illustrated in Figure 24.

Site visits have been conducted across the seasons since 2016 as the development has evolved and consultations have been undertaken.

Representative viewpoints have been agreed through consultation, an additional 5 being added since the PEIR Stage. The viewpoints were selected to represent the most sensitive visual receptors including users of ProW, Open access land and local roads. Assessment has shown that although the Proposed Development presents a significant change in close range views as well as longer views from higher ground to the north-west, north and east, it is well contained visually from the south and with appropriate mitigation can be largely screened from view from Burbage Common and Woods Country Park within 15 years. Views are generally limited by topography, vegetation, and buildings with only occasional opportunities for views within the wider landscape. The theoretical zones of visibility in their existing form are illustrated in Figure 25 with the Theoretical zones of visibility based on the Proposed Parameters being illustrated on Figure 26.

Figure 26 also includes the locations of 54 representative views that have been identified in the ZTV of the Proposed Parameters of the Main HNRFI Site and agreed through consultation. These views are at locations where there are likely to be sensitive visual receptors, including receptors on ProW and at residential properties.

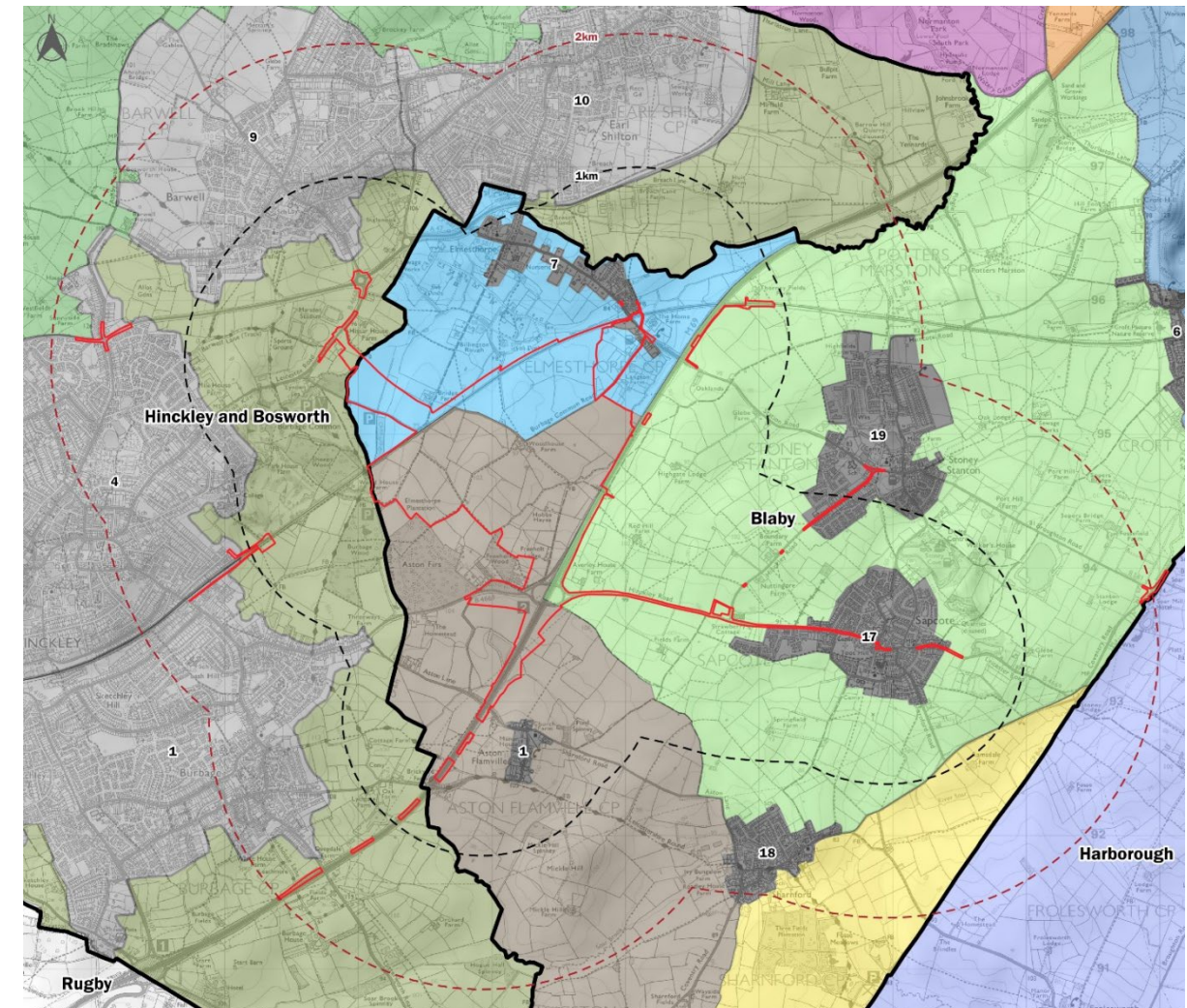


Fig 23. Published Landscaped Character Areas (Plan Reference 6.3.11.5)

7. DEVELOPMENT FRAMEWORK

7.5 Landscape and Visual cont'd

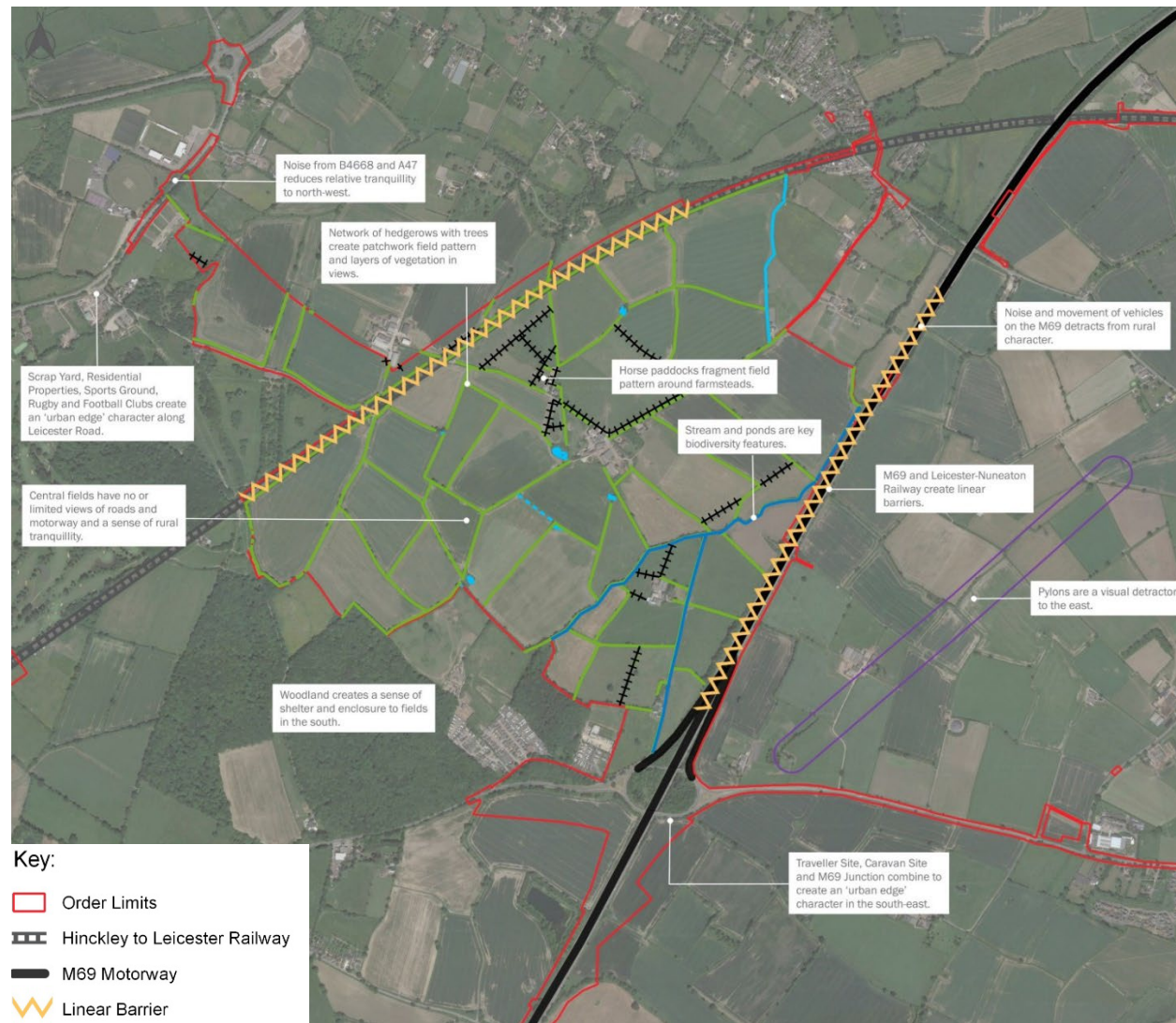


Fig 24. Site Character and Context (Document Reference 6.3.11.4)

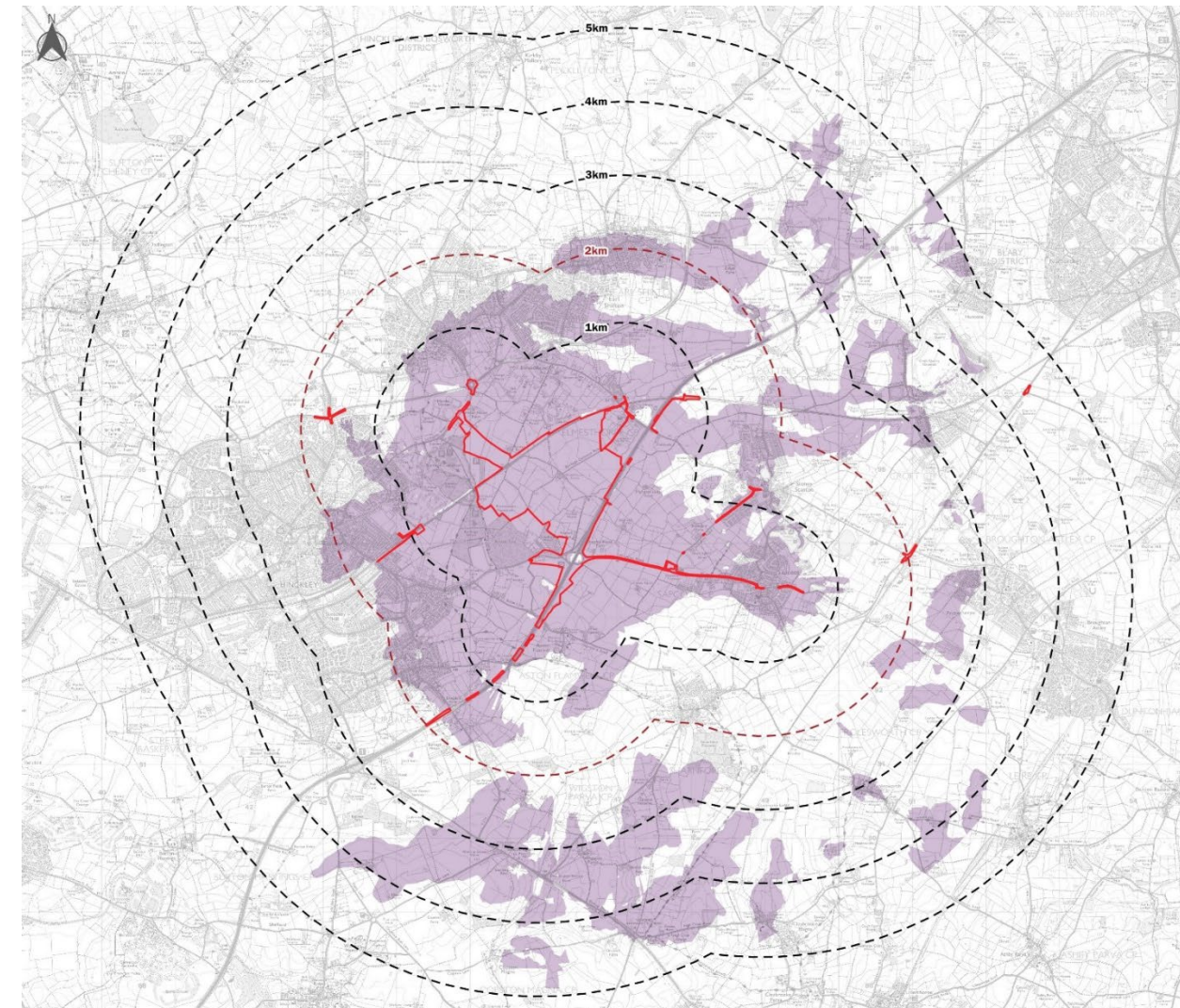
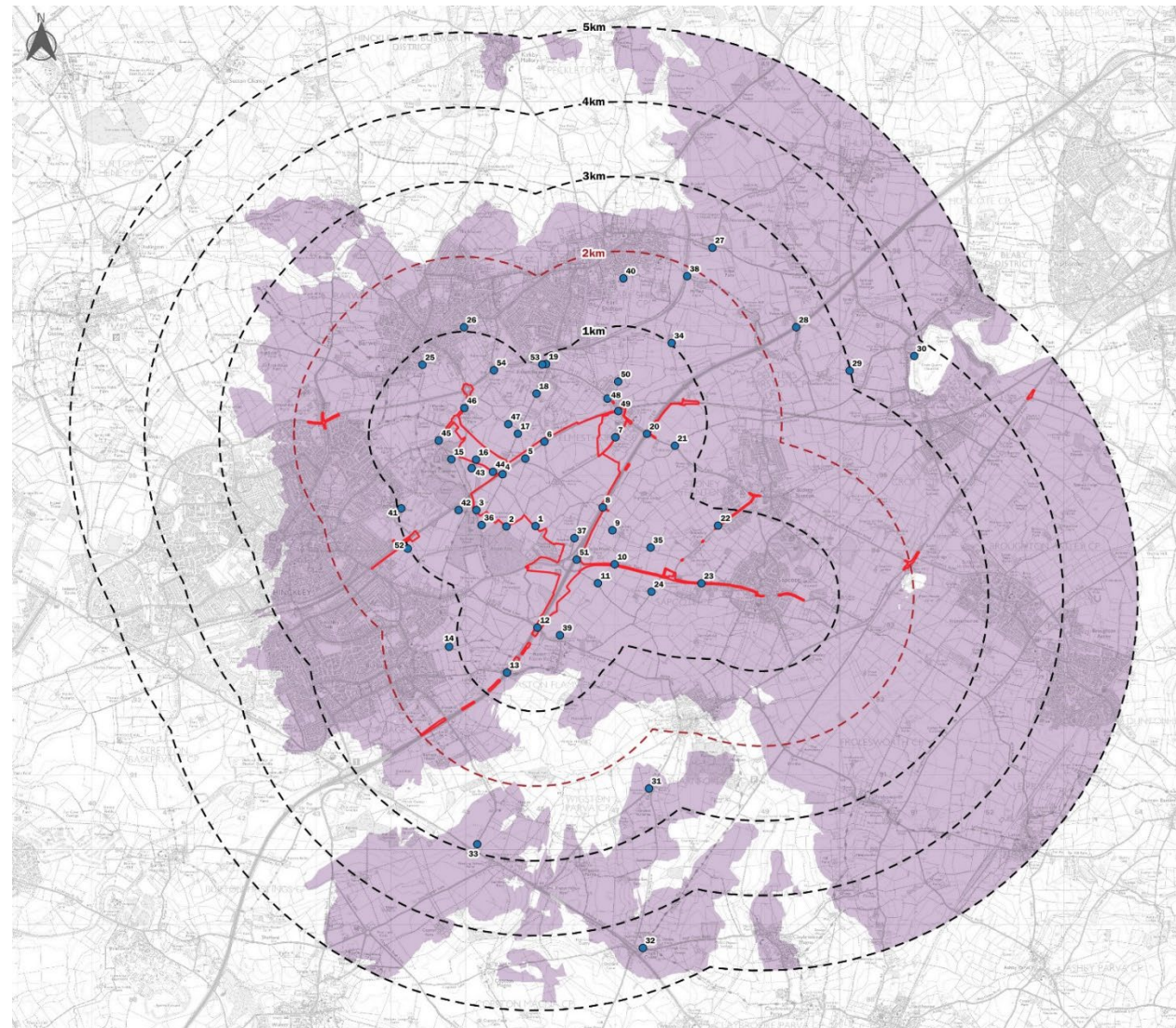


Fig 25. Zone of Theoretical Visibility of the Main Order Limits in its Current Form (Document Reference 6.3.11.7)

7. DEVELOPMENT FRAMEWORK

7.5 Landscape and Visual cont'd



Key:

- Order Limits
- Range Rings (at 1km intervals)
- 2km Detailed Study Area
- Zone of Theoretical Visibility of Proposed Development Parameters of the Main Order Limits
- Photoviewpoint Locations

Fig 26. Zone of Theoretical Visibility of Proposed Development Parameters (Document Reference 6.3.11.8)

Since the introduction of the proposed A47 Link Road which extends north-west of the Main HNRFI Site to the B4668, the land south of the route itself presented an opportunity to provide a large area of Public Open Space (POS) and safeguard the interface and visual amenity of Burbage Common and Woods Country Park to the south. This area will see a conversion of arable land to a rich, biodiverse area, providing a range of habitats, whilst also providing an attractive and valuable recreational asset with links to the Country Park to the south.

Despite the unavoidable loss of some enclosed farmland, the current condition and key characteristics of the landscape have been considered throughout the design of the Proposed Development and integrated into the layout where possible, such as the nearby character of the Burbage Common and Woods Country Park which has contributed to the design of the area south of the A47 Link and the western extent of the Main HNRFI Site.

7. DEVELOPMENT FRAMEWORK

7.5 Landscape and Visual cont'd

Whilst the detailed design is not confirmed and would be secured through the DCO Requirements, there are key opportunities to improve the green infrastructure network and these are shown on the Illustrative Landscape Strategy Plan (Document Reference 6.3.11.20) and include:

- Provision of publicly accessible natural green space along the southern edge of the Main HNRFI Site and south of the A47 Link Road as an extension to Burbage Common and Woods Country Park in line with Green Infrastructure Policy Aspirations
- Enhancement of biodiversity corridors, particularly along the boundaries of the Main HNRFI Site;
- The provision of a retained, albeit realigned and upgraded on-site PRoW network across the Main HNRFI Site, creating shared use routes through traffic free green corridors and providing onwards connections to recreational destinations such as Burnage Common and the Leicestershire Round, consistent with guidelines set out within the Aston Flamville and Elmesthorpe Floodplain LCA guidelines;
- In consideration of the wetland habitats located across the Elmesthorpe Floodplain LCA, multifunctional SuDS will be designed into and throughout the Proposed Development (not just confined to areas of public open space) to address any changes in hydrology, whilst also providing ecological benefit and separate off-line ponds created as wetland habitat
- Delivery of a net gain tree planting across the site to address climate change;
- Development of a sensitive lighting strategy which follows key parameters designed to limit light spill such as maximum heights, directional units, and specific light sources.
- Species chosen for planting to reflect those present within the landscape locally to enhance local distinctiveness within the character area;
- Landscape strategy developed in conjunction with ecological strategy to maximise biodiversity and provide appropriate mitigation for protected species

7.5.1 Design Principles for the Green and Blue Infrastructure.

7.5.1.1 Landscape Principals

The landscape strategy has been developed over a number of years with the following key principles identified very early in the design process:

- Contain development to the west of the M69;
- Retain as many landscape features as possible given the nature of the development;
- Provide a natural buffer between the development and the SSSI, Local Nature Reserve, Ancient Woodland and Country Park to the south;
- Maintain broad green corridors through the development for amenity and biodiversity purposes;
- Maximise the biodiversity potential of the sustainable urban drainage scheme with tree planting and swales within green corridors. Attenuation basins designed to have some permanently wet areas to allow wet grassland and wet woodland to thrive;
- Use the existing landscape character of the Burbage Common and Woods Country Park as a reference for planting strategies and habitat creation in open spaces;
- Use native species found locally within the landscape as the basis of the planting strategy;
- Planting strategies to aim to maximise biodiversity and reduce maintenance with 'nature' taking precedence over traditional maintenance heavy amenity landscapes; and
- Planting strategies to respond to the clay content of the soil.

7.5.1.2 Landscape Strategy Evolution

Initial consideration of the extents of the DCO Site included a landscape appraisal of land both to the east and west of the M69. This initial appraisal informed the current boundaries of the DCO Site, visibility with the eastern villages being a constraint to development east of the M69.

7. DEVELOPMENT FRAMEWORK

7.5.1.3 Natural Separation with Burbage Common and Woods

The landscape and visual assessment work has consistently identified the need to provide natural separation between the HNRFI Site and the adjacent Burbage Common and Woods Country Park and Local Nature Reserve as well as appropriate buffers to Burbage Wood and Aston Firs SSSI and the Ancient Woodland of Freeholt Wood as illustrated on Figures 27. All initial scheme designs included a significant area of public open green space on the south-western site boundary with Burbage Common and Woods as shown on Figures 10-12. As assessment work progressed, it became clear that this area of open space needed to expand and the warehouses pulled further into the site to reduce visual impact and disturbance as shown on Figures 13 and 14. Further assessment and design development work subsequently introduced the A47 Link Road into the scheme and this brought the additional opportunity of further publicly accessible open space to provided adjacent to the Country Park and Local Nature Reserve to the north of the railway line.



Fig 27. Aerial view of Ancient Woodland

7.5.1.4 Retention of Landscape Features and Biodiversity Net Gain

Any sound landscape strategy always has a starting point of retention of key landscape features on site, particularly those that contribute to wildlife and amenity value and habitat connectivity. The early iterations of the masterplan retained the watercourse through the site and much of Burbage Common Road Hedgerows which are designated as a potential Local Wildlife Site. To retain these features, several plateaus were required across the site to maintain a gradation of levels. Subsequent design evolution to improve the functionality of the site, increasing the size of the railport and the number of rail connected units, precluded the ability to maintain a gradation of levels across the site. Thus, the current 2 plateau system was developed which led to the need to divert the watercourse and remove all vegetative features within the earth works of the HNRFI Site. Thus very few landscape features will be able to be retained with the exception of those habitats and features at the margins such as the Semi-improved grassland along the boundary with the M69.

The landscape and ecological strategies evolved with this design progression, Tritax Symmetry committing to deliver a 10% biodiversity net gain for the project and additional land being brought into the DCO as well as secured offsite to deliver this commitment.

7.5.1.5 Green Roofs and Walls

Green roofs and walls were considered as part of the design response, particularly following consultation comments from Natural England.

As the roofs are designed to allow coverage with Solar PV and include light wells to provide natural light, green roofs were discounted as an option on the main warehouse units as this would compromise the opportunity to optimise the energy production of the roof space. There remains an opportunity to install green roofs on the offices which will be considered at the detailed design stage and incorporated into the biodiversity net gain calculations if viable.

Green walls were also considered but were discounted principally for a combination of the following reasons:

- The cost of installing and maintaining green walls is very high compared to the establishment of woodland planting and the success rates are considerably lower, particularly when one considers the other benefits of woodland such as biodiversity value, carbon capture, amenity and wildlife value;
- Maintenance access would be compromised on a number of the facades due to the rail port and service yards; and

7. DEVELOPMENT FRAMEWORK

7.5.1.5 Green Roofs and Walls cont'd

- Green walls could not be designed to include the upper reaches of the units so would ultimately lose their value from a visual amenity perspective. There is a greater chance of tree planting eventually growing to a height that will screen the units, particularly given that the unit heights were lowered by 2-5m as a response to the consultation process.

7.5.1.6 Woodland North of Railway Line

As part of the assessment and consultation process, concerns regarding the width of planting to the north of the railway line were considered. Due to landownership constraints and tree cover, the initial designs only included land to the north of the railway line across the extents of the Hebblethwaite ownership. Following consultation with landowners to the north-east, it was agreed that a 20m strip of land along their boundaries would be included within the DCO to allow a bund with woodland planting to be created. This was supplemented by an additional 20m on the Hebblethwaite 'strip' to allow a greater depth of woodland planting as well as the creation of a woodland ride to improve the amenity of the diverted footpath route.

Sections to illustrate the approach to the boundary to the north of the railway are shown below:

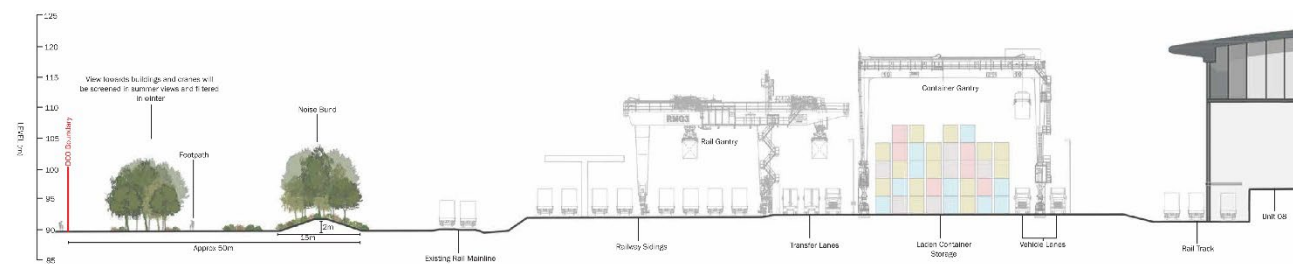


Fig 28. Mainline Railway and Railport (Document Reference 6.3.11.18)

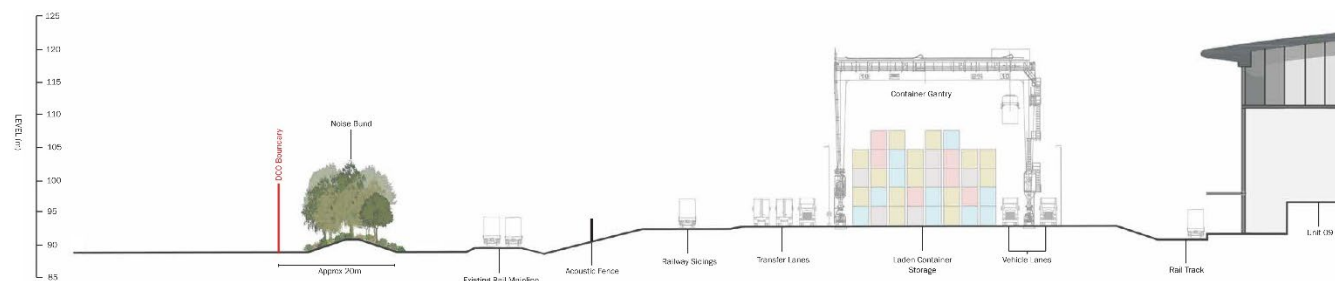


Fig 29. Mainline Railway and Railport (Document Reference 6.3.11.18)

7.5.2 Key Elements of The Illustrative Landscape Strategy

7.5.2.1 Creation of the Western Amenity Area

The establishment of the Western Amenity Area, shown illustratively on Figure 32, has the following aims:

- Increase the area of natural recreational green space associated with Burbage Common and Woods Country Park in line with policy requirements;
- Provide increased biodiversity across an area that is currently arable farmland;
- Extend the landscape character of Burbage Common and Woods across a more extensive area to the north of Burbage Common Road; and
- Provide layers of visual screening through the creation of woodland and copse planting such that the Proposed Development is screened from view within the Country Park.

Sections to illustrate the Western Amenity Area are contained are below:

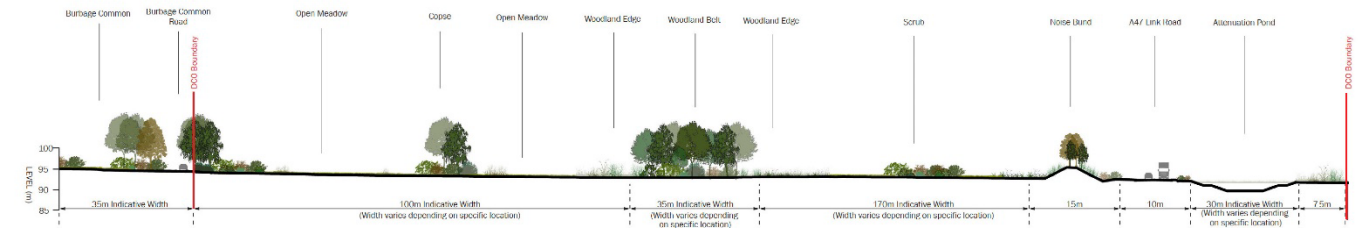


Fig 30. A47 Link Road and Western Amenity Area (Document Reference 6.3.11.17A)

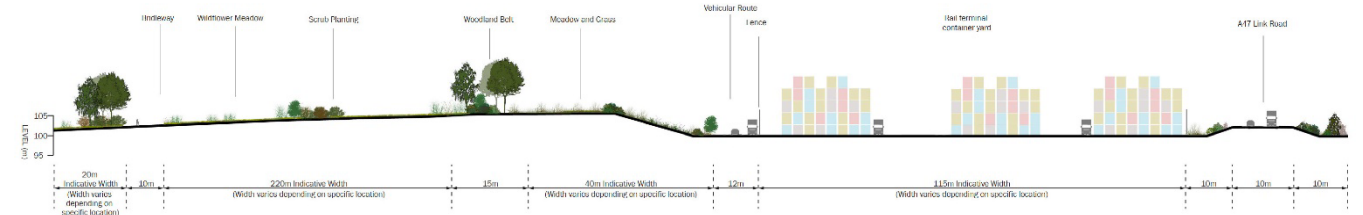
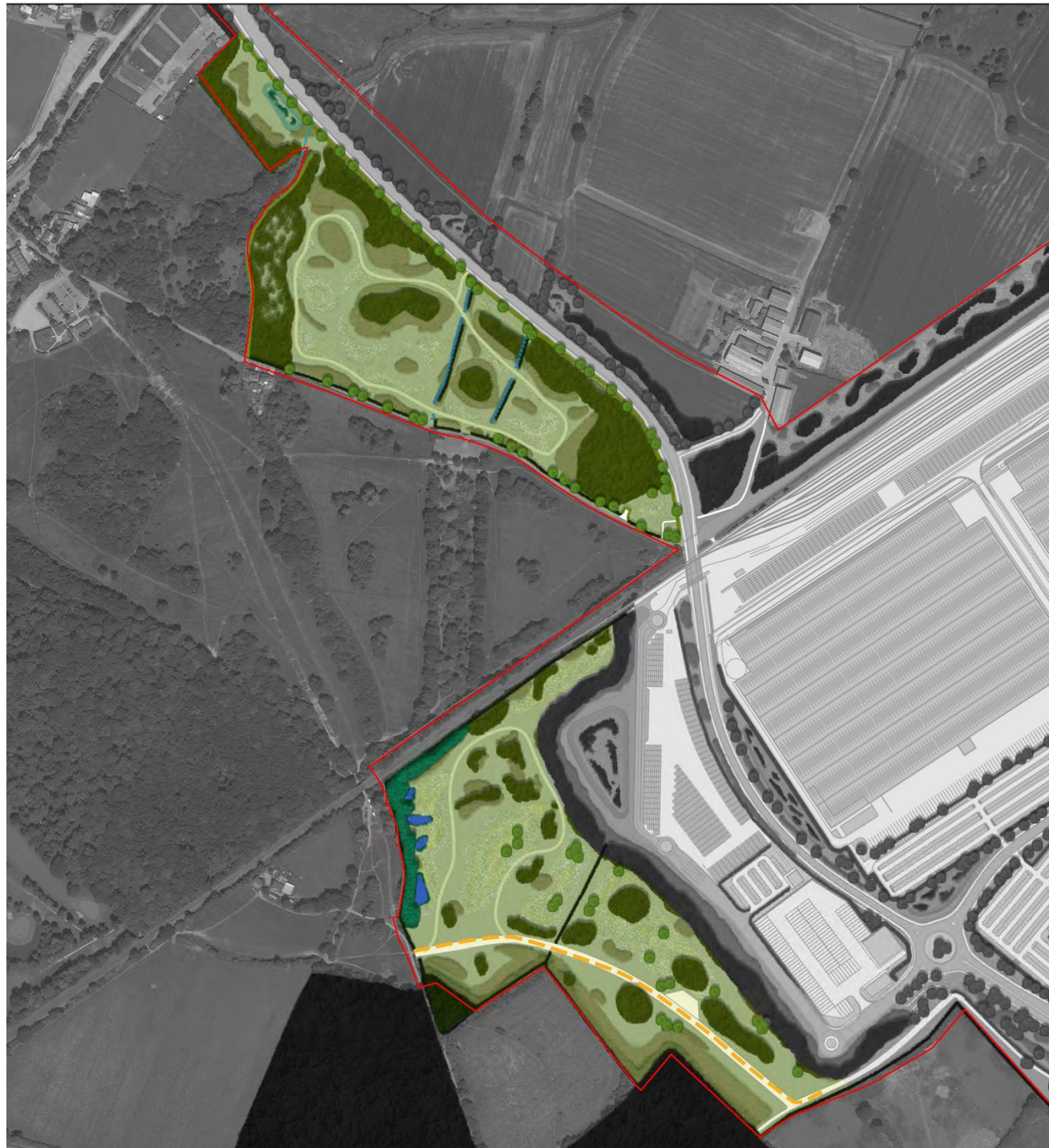


Fig 31. Railport Returns Area and Western Amenity Area (Document Reference 6.3.11.17A)

7. DEVELOPMENT FRAMEWORK



Key:

-  Order Limits
-  Existing Ditch
-  Existing Native Species Hedgerow
-  Proposed Broadleaved Woodland
-  Proposed Wet Woodland
-  Proposed Mixed Scrub
-  Proposed Species Rich Meadow Grassland
-  Proposed Native Species Rich Hedgerow with Trees
-  Proposed Wildlife Ponds
-  Proposed Attenuation Basin
-  Proposed Bridleway
-  Proposed Mown Grass Path
-  Other Rivers and Streams

Fig 32. Western Amenity Area
(Document Reference 6.3.11.22)

7. DEVELOPMENT FRAMEWORK

7.5.2.2 Woodland Creation

A variety of woodland habitats will be created on site to increase diversity. Species mixes take reference from the existing native species in the local landscape but without inclusion of Ash which is subject to Chalara dieback. Oak is therefore proposed as the principal climax species but supported by a mix of other climax species to increase resilience – namely Field Maple and Lime. Birch and Aspen are also included in the mix to facilitate fast early growth and reduce visual impact in the early years of the development with smaller tree species for diversity – Wild Service Tree, Wild Cherry and Crab Apple.

Two Suggested Species Mixes are Listed below –

General Woodland Mix - for new woodland and copses within the Western Amenity, on the north eastern boundaries and south eastern boundaries and within the logistics ‘estate’.

Tree Species

- Acer campestre – Field Maple;
- Betula pendula – Silver Birch;
- Malus sylvestris – Crab Apple;
- Populus Tremula – Aspen;
- Prunus Avium – Wild Cherry;
- Quercus robur – Common Oak;
- Sorbus torminalis – Wild Service Tree; and
- Tilia Cordata – Small- leaved Lime.

Understorey and Woodland Edge Species

- Cornus sanguinea – Dogwood;
- Corylus avellana – Hazel;
- Crataegus monogyna – Hawthorn;
- Euonymus europaeus – Spindle;
- Prunus spinosa – Blackthorn;
- Rosa canina – Dog Rose;
- Sambucus Nigra – Elder; and
- Viburnum opulus – Guelder Rose.

Network Rail Woodland Species Mix - for woodland adjacent to/North of Railway Line

Avoids species on Network Rail ‘List of Species Not to be Used’ (Recommended Planting Species – Network Rail July 2015

Woodland Edge/Hedge species to be planted >5 from Network Rail Boundary

- Cornus sanguinea – Dogwood;
- Corylus avellana – Hazel;
- Crataegus monogyna – Hawthorn;
- Prunus spinosa – Blackthorn; and
- Sambucus Nigra – Elder.

Additional Tree Species To be Planted >10m from Network Rail Boundary

- Acer campestre – Field Maple;
- Carpinus betulus – Hornbeam;
- Pinus Sylvestris – Scots Pine;
- Populus tremula – Aspen; and
- Quercus robur – Common Oak.

Wet Woodland

The introduction of wet woodland into the landscape strategy will further diversify the habitats on site with Alder and Willow as key species. Similar to birch and aspen, willow trees are fast growing in the first 5-10 years of growth, which will speed up the visual amenity benefits of the woodland in the medium-term. Wet woodland is proposed alongside the diverted watercourse on the eastern boundary with the M69 as illustrated in Section below and in the low south western corner of the site, adjacent to Burbage Common. It is also anticipated that the attenuation ponds will be designed to remain sufficiently wet in areas to allow wet woodland to establish.

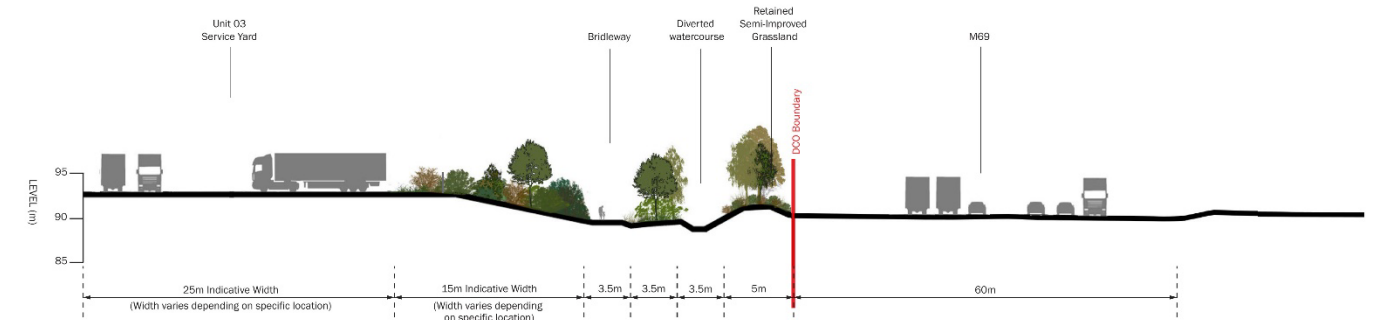


Fig 33. South Eastern Boundary with M69 (North) (Document Reference 6.3.11.17A)

Suggested Wet Woodland Species Mix

Tree Species

- Alnus glutinosa – Common Alder;
- Betula pubesens – Downy Birch;
- Salix Alba – White Willow; and
- Salix Fragilis - Crack Willow.

7. DEVELOPMENT FRAMEWORK

7.5.2.2 Woodland Creation cont'

Understorey and Woodland Edge Species

- *Crateagus monogyna* – Hawthorn;
- *Frangula Alnus* – Alder Buckthorn;
- *Salix caprea* – Goat willow;
- *Salix cinerera* – Grey Willow;
- *Salix Viminalis* – Osier;
- *Sambucus nigra* – Elder; and
- *Viburnum opulus* – Guelder Rose.



Fig 35. South Eastern Boundary with M69 (South) (Document Reference 6.3.11.17A)

7.5.2.3 Woodland Ecotone

The edge structure of new woodland is often an area that is overlooked when traditionally woodlands had a rich ecotone around the boundaries, where greater light levels allow a greater variety of species to flourish and boundary ditches and hedgerows further diversify the habitat.

In this case, the landscape strategy and illustrative planting designs have been a true collaboration between the landscape architects and ecologists allowing the development of numerous ecotones at woodland and copse edges as well as specification of shade tolerant meadow mixes to maximise the biodiversity potential of the grassland.

Woodland edges are illustrated throughout the Illustrative sections identified in Figures 28 to 31 and Figures 33 to 35.

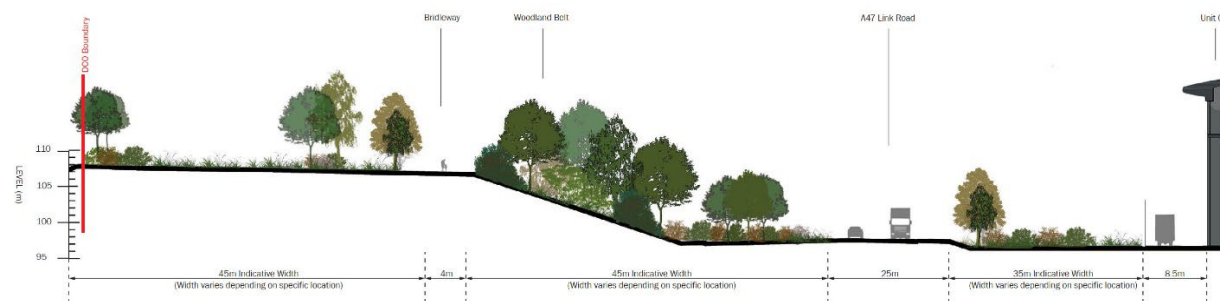


Fig 34. Southern Boundary with Castlewood Grassland (Document Reference 6.3.11.17A)

7.5.2.4 Hedgerows

Native hedgerows are proposed as part of woodland ecotones or as biodiverse boundary features. Native hedgerows are proposed as boundaries to all Units. It is envisaged that native boundary hedgerows with trees will replace security fencing along road frontages or double up to soften the security fencing where necessary. Natural boundaries allow a more open and green approach to the estate road network, particularly adjacent to footpaths and cycleways. If security fencing is required, it is suggested that this be placed around the unit and yard leaving the car parks and green open spaces to be a part of the more open green routes through the site.

Native hedgerows with specimen native trees are also proposed alongside the A47 link road, creating a traditional natural boundary which will help to screen views of moving traffic.

Native Hedgerow Mix

- *Acer campestre* – Field Maple;
- *Cornus sanguinea* – Dogwood;
- *Corylus avellana* – Hazel;
- *Crataegus monogyna* – Hawthorn;
- *Euonymus europaeus* – Spindle;
- *Ilex aquifolium* – Holly;
- *Ligustrum vulgare* – Wild Privet;
- *Prunus spinosa* – Blackthorn;
- *Rosa canina* – Wild Rose; and
- *Ulmus glabra* – Wych Elm.

7. DEVELOPMENT FRAMEWORK

7.5.2.5 Meadow Planting

Understanding the variables that lead to successful grassland and meadow planting is critical to the establishment and maintenance of species rich grassland. Preparing the soil is key, with two years of regular cutting required on former enriched soil to reduce nutrient levels and allow a more diverse sward to establish. Given the amount of excess topsoil that is likely to be generated by the earthworks, it will not be practical/sustainable to retain just the subsoil across areas of meadow as it would otherwise need to be removed from site. Therefore, reducing the nutrient content of the soil prior to stripping is advised (by ensuring a cereal or seed crop is cut in advance).

Different meadow mixes will be used across the site depending on varying conditions in terms of shade/sunlight and waterlogging. In the first instance the applicant will endeavour to obtain locally sourced meadow seed from the adjacent Country Park or local landowners as appropriate. Where seed mixes are required – the following would be considered depending on location:

Meadow Seed Mixes

Emorsgate or Equivalent

- Meadow Mixture for Wetlands – EM8 – for wet meadow areas – attenuation;
- Pond Edge Mixture – EP1;
- Standard Meadow mixture – EM2 – for open meadow areas;
- Wildflowers for Clay Soil – EM4F; and
- Hedgerow Mixture – EH1 – Shade/Semi-Shade Tolerant for sowing alongside hedgerows and woodland edge.

7.5.2.6 Sustainable Drainage, Ponds and Watercourses

The starting pond for most sustainable urban drainage systems (SuDs) is run-off and discharge rate calculations which are converted into attenuation volume requirements as part of a surface water drainage layout. The calculations for the Proposed Development can be found in ES Appendix 14.2 (document reference 6.2.14.2) which has informed the Proposed Development Parameters (Figures 17-22).

A range of SuDs features are considered appropriate for the development as set out in the Sustainable Drainage Statement (document reference 6.2.14.2). As many of these features as possible will be incorporated at the detailed design stage as part of the fully detailed drainage strategy which will be a requirement of the DCO.

- Silt Traps;
- Sump outfall units/gullies;
- Permeable paving – walkways and car parks;
- Proprietary vortex separators;
- Filter Strips;
- Geocellular attenuation crates;
- Swales – roadside;
- Detention/Attenuation basins; and
- Oil separators.

In addition to the above, as a key element of the Illustrative Landscape Strategy Figure 35, as much tree and shrub planting as possible has been incorporated within the development to further reduce run-off rates.

It is the role of the landscape architect and ecologist to explore the design of the sustainable drainage system to maximise benefits for amenity and biodiversity. The detailed design of the SuDs will be a requirement of the DCO, ensuring all features perform to serve the water management role as well as achieving biodiversity and amenity functions as set out below. The Illustrative landscape strategy highlights the principles that the attenuation basins should be based on as set out below:

Attenuation Basin Features:

- Curved edge/organic shape, avoiding 'uniform ovals or lozenges';
- Embankment profiles around each feature to vary in width from 4 to 30m to avoid regular forms and create varying profiles for habitats;
- Bank slope sides not to be greater than 1:3 to allow easy egress and movement of wildlife;
- Features to be designed with varying edge profiles and sizes to allow larger, shallower depressions to develop in some areas and more distinct 'pond features in others';
- Shelving to be introduced as appropriate where deeper profiles are required; and
- Incorporation of areas of reed bed for water quality improvement.

Diverted Stream Corridor

The following design principles are to be included in the stream diversion:

- Re-profiling of banks following redirection to create a more naturalistic channel, suitable for a range of riparian species;
- The addition of riffles and lags in order to create a variety of niches suitable for a range of invertebrate and fish species; and
- Planting of riparian vegetation along the stream corridor.

7. DEVELOPMENT FRAMEWORK

7.5.2.7 Amenity Areas

A mix of habitats and planting is proposed within the Green Infrastructure of the HNRFI Site along the following principles:

- Estate roads to be lined with trees and hedgerows to create a green corridors through the Proposed Development;
- Trees to be large species planted as Extra Heavy Standards or Semi-Mature Specimens so they have an instant impact and create a well treed amenity route, particularly for pedestrians and cyclists travelling through the site;
- Attenuation basins to be organic in shape with varying edge profiles to create diversity;
- Swales to be incorporated into roadside amenity edge planting to further diversify habitat and slow run-off;
- Shrub planting to provide low maintenance habitat in amenity open spaces;
- Amenity grassland to be predominantly ‘meadow’ grassland with bulbs; and
- Only grass edges to be mown to maintain paths and prevent encroachment.

7.5.2.8 Specimen Tree Planting

Within natural areas such as the Western Amenity Area, within native hedgerows and on the edge of woodlands, specimen trees should be large native species such as listed below. There is an opportunity to plant Black Poplar as a specimen within wetter areas, a species that has declined markedly over the past century with the draining of wetlands.

Natural Area Specimen Trees

- Acer Campestre – Field Maple;
- Alnus glutinosa – Common Alder;
- Castanea satvia – Sweet Chestnut;
- Juglans Regia – Walnut;
- Populus nigra – Black Poplar;
- Prunus avium – Wild Cherry;
- Quercus Ilex – Holm Oak;
- Quercus Robur – Common Oak;
- Salix alba – White Willow;
- Salix fragilis – Crack Willow; and
- Tilia Cordata – Small-leaved Lime.

Estate Road Tree Species

- Betula pendula – Silver Birch;
- Quercus Robur – Common Oak;
- Quercus Palustris – Pin Oak; and
- Tilia Cordata – Small Leaved Lime.

7.5.2.9 Hard Landscaping

Surfacing

To an extent, surface materials are dictated by the required functionality given the load bearing requirements of the yards and estate roads.

However, there are some opportunities for variations to meet the aspirations of the SuDs Strategy and the Energy and Climate Change Strategy in particular. These are set out below:

- Permeable paving in the unit car parking areas;
- Permeable paving of the footpaths within the unit areas;
- Recycled or low carbon concrete in the service yards to reduce carbon footprint; and
- Low carbon tarmac on estate roads.

Fencing

It is accepted that a certain amount of security fencing will be required for health and safety and security purposes. However, rather than fencing being automatically applied to the full extents of all boundaries around units, consideration will be given at the detailed design stage to appropriate alignments. For example, where practical, positioning fencing tightly to service yards and the railport would enable the car parks and landscaped areas to remain within more open ‘frontage’ areas creating a greater level of amenity along estate roads/footpath/cycle routes. This would be particularly desirable along the length of the main footpath/cycleway route through the site.

Fencing principles for detailed design:

- Low carbon security fencing where required around the rail port and yards areas;
- Native hedgerow boundaries to define spaces and create a sense of ownership along unit frontages where security can be more relaxed; and
- Where security fencing is required, also plant native boundary hedging where practical to soften the appearance and increase biodiversity.

7. DEVELOPMENT FRAMEWORK

7.5 Landscape and Visual cont.

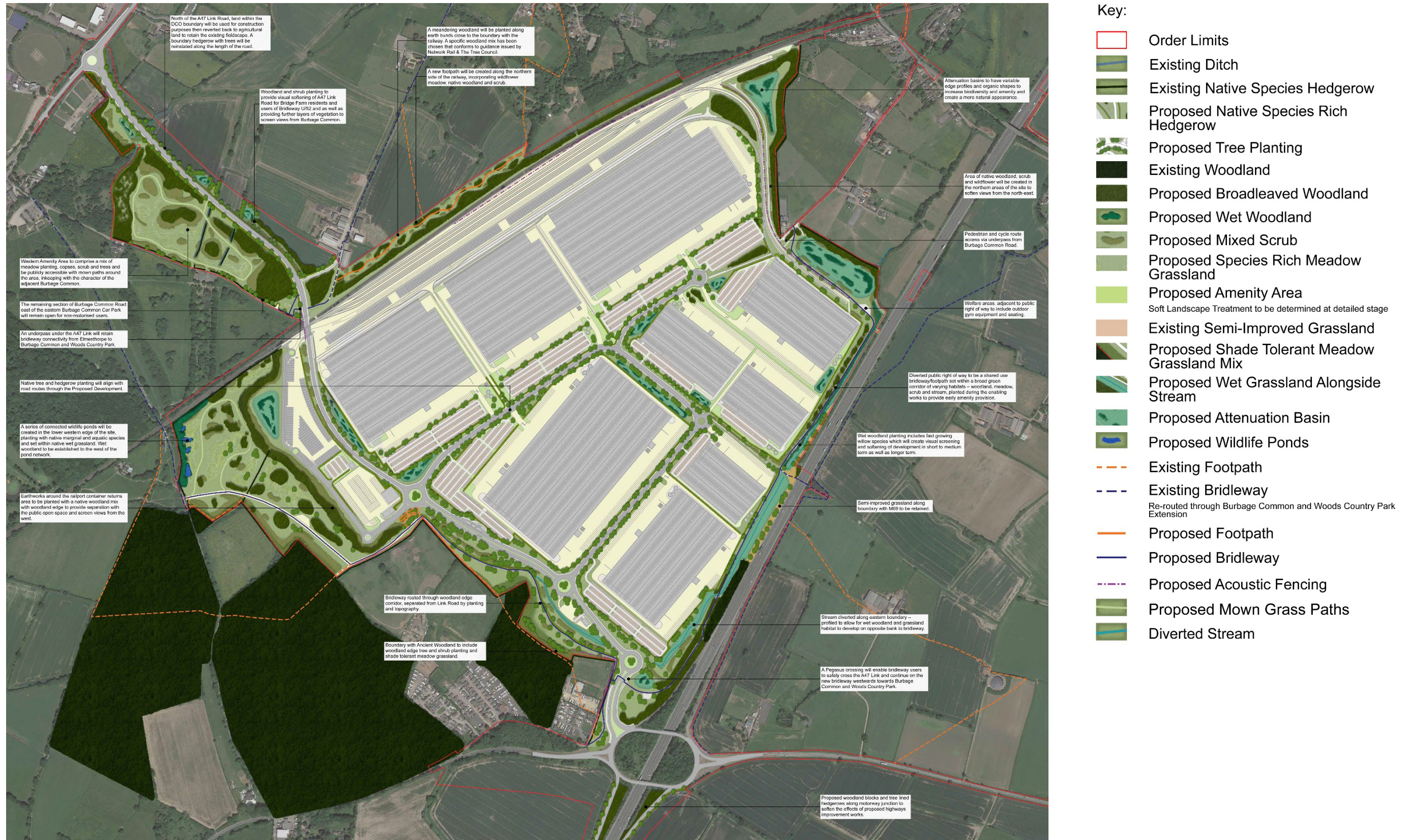


Fig 36. Illustrative Landscape Strategy (Document Reference 6.3.11.20B)

7. DEVELOPMENT FRAMEWORK

7.6 Public Rights of Way

Throughout the design evolution of the Project, the routing and rerouting of PRoW across the Main HNRFI Site has been explored and consulted with Leicestershire County Council (LCC) in which a Public Rights of Way Strategy (ES Chapter 11, Appendix 11.2, document Reference 6.2.11.2) has been developed. Clear direction and signage will be provided to direct users towards and along the new PRoW.

7.6.1 Provision for Walkers

The local network of footpaths are key assets for existing and future users in the area. Together, these present a number of recreational opportunities, including access to Burbage Common and Woods Country Park and the wider countryside to the north, south, east and west.

Development of the Main HNRFI Site and A47 Link Road presents an opportunity to enhance access to Burbage Common and Wood Country Park, both in terms of improving existing access and through the creation of additional access points.

Two footpath routes (Footpaths V23/1 and U50/3) cross the Hinckley to Leicester railway line via unprotected crossings, including a third beyond the main HNRFI site on route U8/1 (the 'Outwoods' crossing). These are footpath, bridleway and user worked crossings where the onus is on the crossing user to check for an approaching train before they cross the railway. It is proposed to close these two crossings and instead provide a link southward from Footpath U50/4 along the northern edge of the railway, passing Footpath V23/1 and linking with Bridleway U52/9 and Footpath U52/8 which provide a safer route via a new bridge over the railway. The third crossing point at the Outwoods is proposed to be upgraded to a pedestrian bridge, improving safety for footpath users.

The PRoW Appraisal and Strategy has identified that the majority of footpaths within the Main HNRFI Site are only lightly used and there is considered to be capacity to support new users on the existing network. Whilst some re-routing will be required as part of the Proposed Development, access to the existing network would be enhanced through the creation of new linkages, improved marking of routes, removal of obstructions, appropriate vegetation management and the removal of gates/stiles as part of an overall enhancement programme.

Shared paths will be provided adjacent to all roads through the site, allowing continued pedestrian access north, east, south and west through the site.

7.6.2 Provision for Cyclists

There are opportunities to improve cycle provision on-site via alternative, traffic-free or improved routes. These include a grade-separated path adjacent to all traffic routes, thereby providing a north-east to west and south connectivity and a valuable link between Burbage Common, Hinckley and Burbage to Elmesthorpe (see Figure 37).

7.6.3 Provision for Horseriders

The baseline assessment has identified limited equestrian use of the existing bridleway network within the study area although it is noted that Burbage Common Road is also used regularly by riders gaining access to Burbage Common.

There are currently no suitable connections to the Bridleway network within or to the east of the Main HNRFI Site. There is therefore opportunity to create a new traffic free link, routing a bridleway around the eastern edge of the Main HNRFI Site to connect with Bridleway V29 as illustrated in Figure 37.

The feasibility of an additional Bridleway route was explored through the design process around the north-west of the site via a bridge over the railway, linking up with Bridleway U52 north of the railway line. However, the feasibility process highlighted that there would be an unjustifiable significant impact on ecology and mature woodland to provide the bridge to facilitate this route.

7.6.4 Offsite Rail Crossings

Offsite, three closures of pedestrian level crossings are proposed with diversion of footpath T89 at Elmsthorpe, footpath U17 and Thorney Fields Farm and a new bridge provided over the railway for footpath U8/1 at the Outwoods (as illustrated in Figure 38).

7. DEVELOPMENT FRAMEWORK

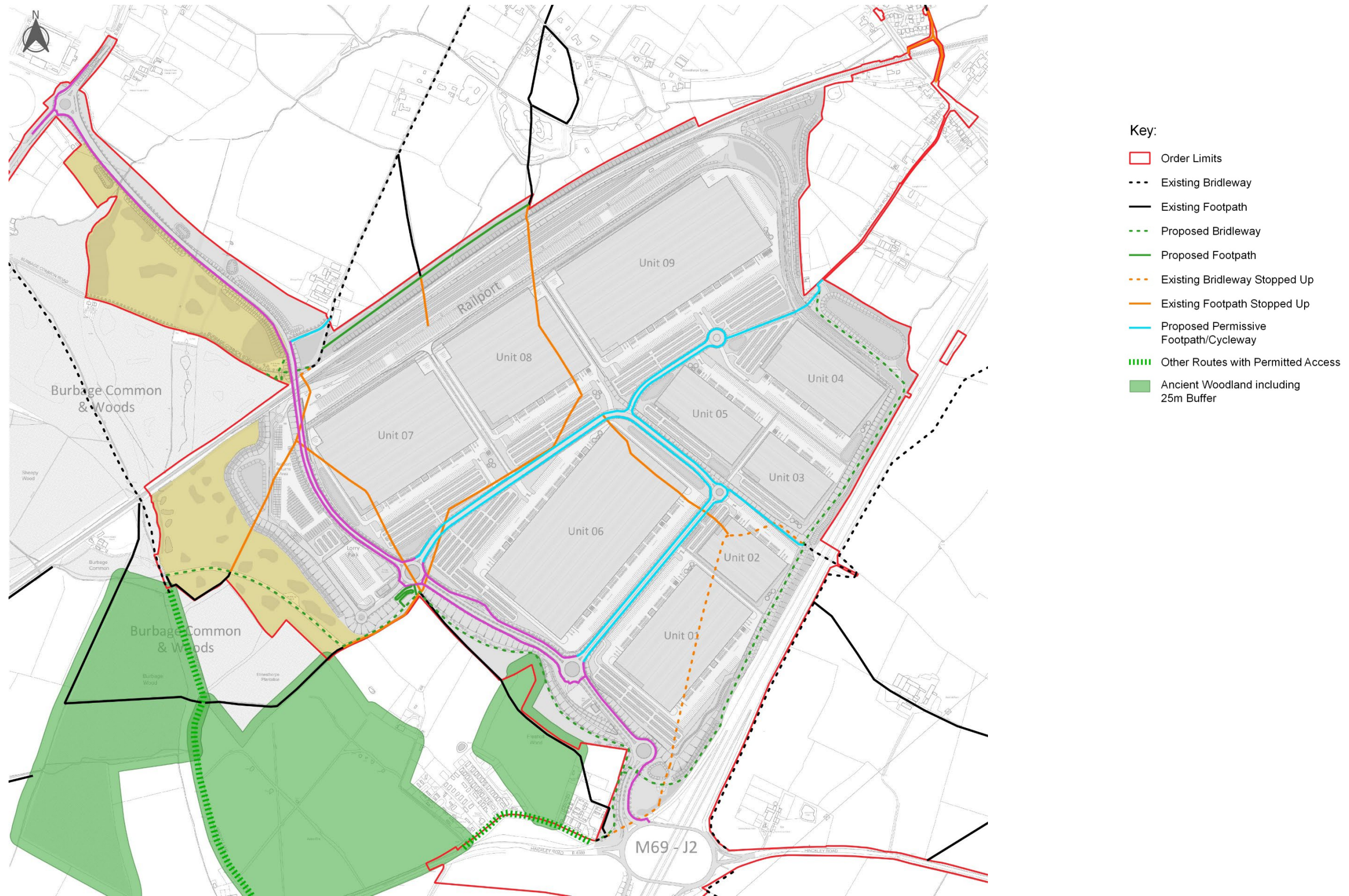


Fig 37. Illustrative Public rights of Way (Document Reference 6.3.11.14 C)

7. DEVELOPMENT FRAMEWORK

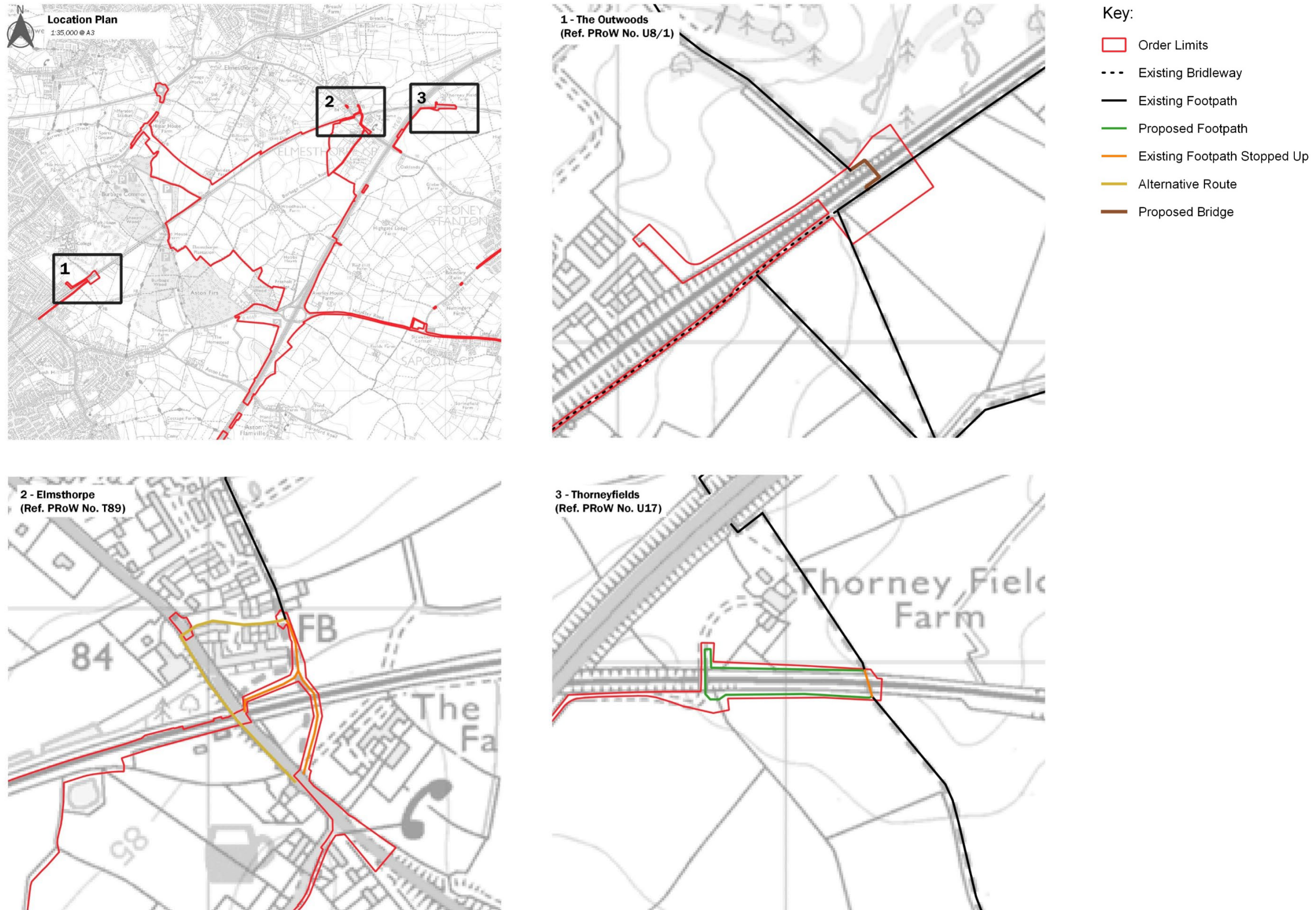


Fig 38. Illustrative Public rights of Way at Level Crossing Points (Document Reference 6.3.11.15)

7. DEVELOPMENT FRAMEWORK

7.7 Ecology

A wide range of ecological surveys have been undertaken across the Main Order Limits since 2016 to determine the baseline conditions. To ensure the DCO application and ecological assessment is supported by up-to-date information, a suite of update surveys have been completed up to October 2022. These include an Extended Phase 1 Habitat Survey and a suite of additional Phase 2 surveys including detailed botanical surveys of hedgerows, grassland and woodland and surveys for wintering and breeding birds, roosting and foraging bats, otter, water vole, badger, great crested newt, reptiles, terrestrial and aquatic invertebrates.

There are no internationally designated sites within 10km and the only statutory designated site which has required consideration in the design of the scheme is Burbage Wood and Aston Firs SSSI and the overlapping Burbage Common and Woods LNR, adjacent to the southwestern boundary. (ref. Figure 39)

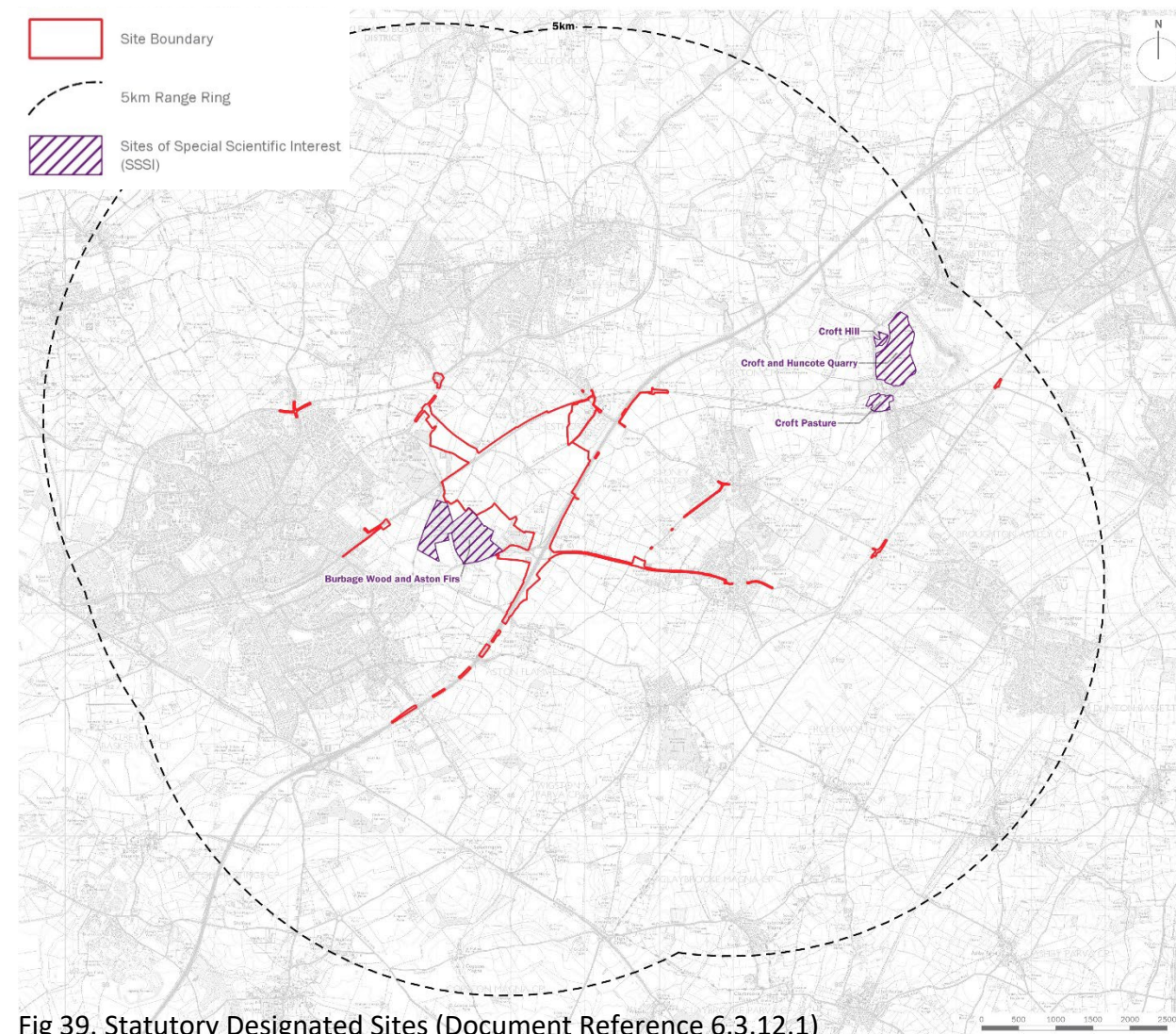


Fig 39. Statutory Designated Sites (Document Reference 6.3.12.1)

In terms of non-statutory designations there are two Local Wildlife Sites (LWS), and seven candidate or potential LWSs, within the Main Order Limits. A further nine such sites are in sufficiently close proximity to be at risk of adverse impacts in the absence of mitigation, most notably Burbage Common and Woods LWS. (ref. Figure 40)

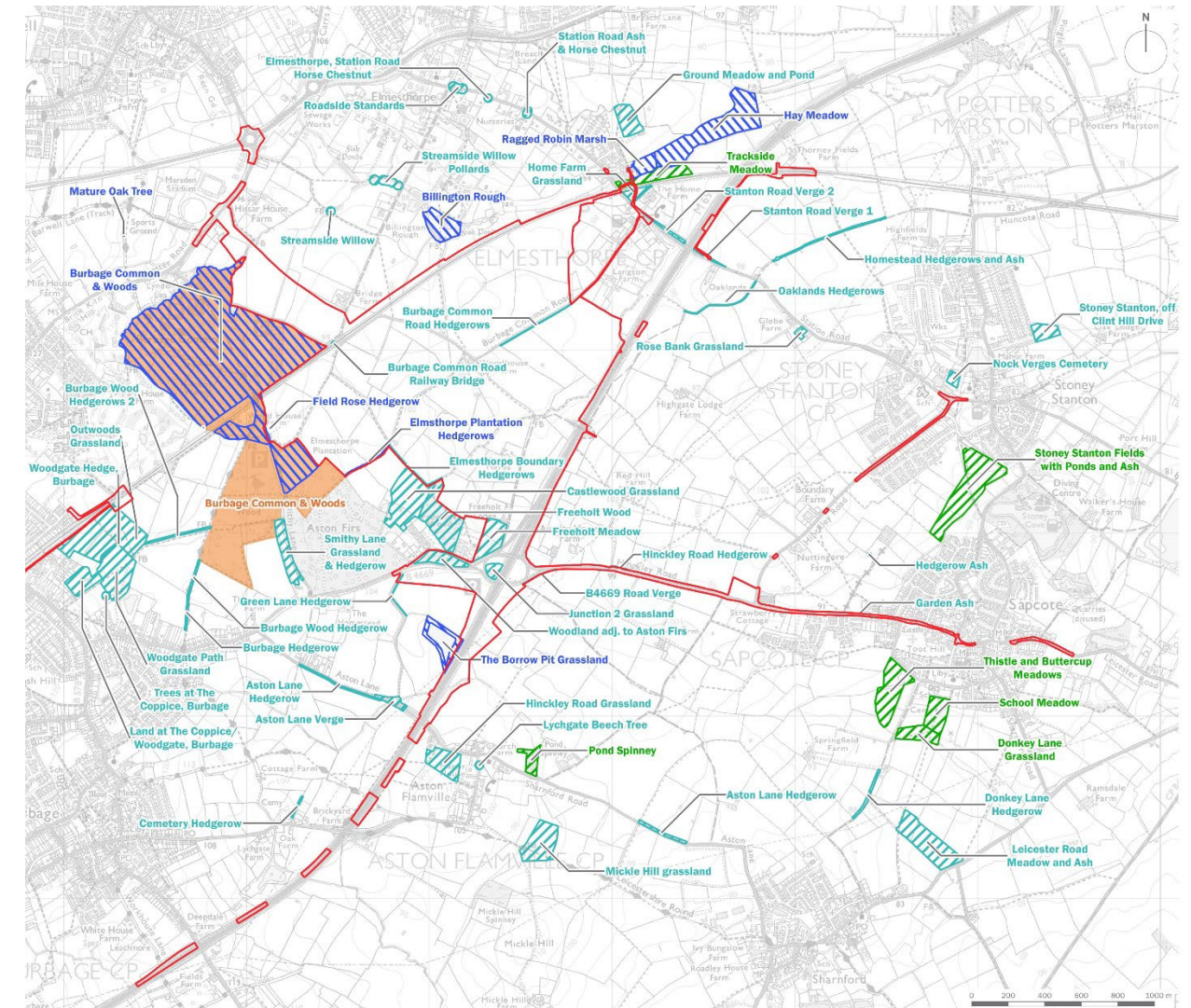


Fig 40. Non-Statutory Designated Sites

(Document Reference 6.3.12.2)



7. DEVELOPMENT FRAMEWORK

7.7 Ecology cont.

The Main Order Limits principally comprise arable, improved, semi-improved grassland, buildings and hardstanding, marshy grassland and tall ruderal vegetation of very limited ecological importance. Habitats are present within the Main Order Limits which are of greater importance (at the Local-District level), namely the hedgerow/tree line network, scattered mature trees, semi-natural woodland and plantation woodland, semi-improved neutral grassland, ponds and the stream and ditch network (Figure 41).

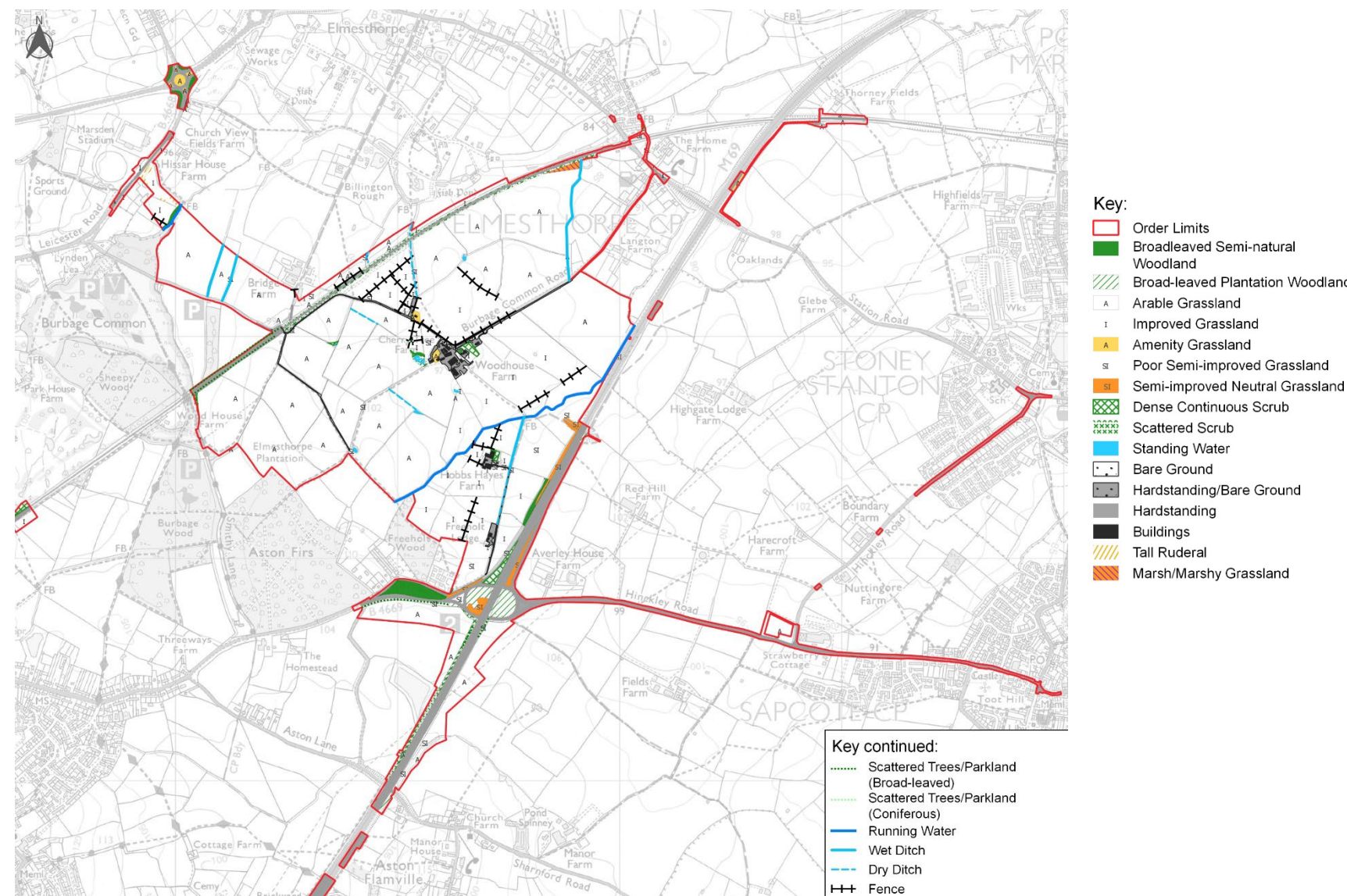


Fig 41. Extended Phase 1 Survey (Document Reference 6.3.12.4),

A range of protected/notable species have been confirmed or assumed to be present within the Main Order Limits, including birds, mammals, amphibians and reptiles, with the ecological importance of these populations ranging from Site-District level.

The ecological features present have influenced the design and layout of the proposed development and the associated Illustrative Landscape Strategy. Most notably, the layout incorporates a substantial development buffer (25-50m) beside Burbage Wood and Aston Firs SSSI and provision of habitat to the south of the A47 link road proposals to complement and buffer the Burbage Common. In addition, a range of other non-statutory designations and other important habitats are to be retained and/or buffered from development to minimise potential impacts. The buffer zones to the west of the Main Order Limits offer significant opportunities for creation of new habitats of biodiversity value, including open meadow grassland, shrub and tree planting and wetland/SuDS features. Owing to their location these ecologically rich habitat areas will provide an extension to the existing valuable habitats in the adjacent Burbage Common and Woods, thereby strengthening the local ecological network and maximising biodiversity benefits (Figure 35).

Collectively, the restoration of existing habitats and creation of new habitats will mitigate the impacts of unavoidable losses to facilitate the development. Together with the provision of additional off-site compensatory habitat creation, these measures will enable the development to achieve its aim of delivering a net gain in biodiversity of 10%. Whilst the detail is still not confirmed this will be secured through the Bio-Diversity Impact Assessment (Document Reference 6.2.12.2), Landscape Ecology Management Plan (Document Reference 17.2) and Ecological Mitigation and Management Plan (Document Reference 17.5).

7. DEVELOPMENT FRAMEWORK

7.8 Flood Risk and Drainage

The Environment Agency (EA) Flood Map for Planning identifies that the majority of the Main Order Limits are located within Flood Zone 1 (land at low probability of river flooding), with just the new rail connection to the existing railway Main Line and the A47 Link Road partially falling within Flood Zones 3 and 2 (land at a high and medium probability of river flooding, respectively).

The Flood Map for Planning does not take account of watercourses with a catchment area of less than 3km², which is the case of the smaller watercourses within the Main HNRFI Site and in the vicinity of the A47 Link Road. As such, the Flood Map for Planning is not considered fully representative of flood risk in these areas.

EA Risk of Flooding from Surface Water mapping identifies a number of flow routes within the Main Order Limits which generally correlate with the local watercourse network.

Therefore, to identify the flood risk hydraulic models of the local watercourses were developed in consultation with the EA. These confirmed that the Main Order Limits are generally located outside of the floodplain, but there are a few localised areas upstream of the railway line within the Main HNRFI Site where flood water can pond, as well as overland flow routes at the A47 Link Road, that the Proposed Development has needed to consider.

All other potential sources of flood risk were assessed as posing a low risk. This includes, coastal, canals, reservoirs, sewers and groundwater sources.

The fluvial floodplain and surface water flooding present within the Main HNRFI Site is largely a product of rain falling within the Main HNRFI Site and the existing impeded drainage conditions. This will be addressed by new surface water drainage infrastructure and Sustainable Drainage Systems (SuDS) which will intercept and store rainwater before releasing it slowly to the surrounding watercourse network at the equivalent greenfield annual average runoff (QBAR) rate. This drainage infrastructure, along with a similar drainage provision for the A47 Link Road, will also mitigate the increase in surface water runoff generated by the introduction of additional impermeable surfaces to the Site.

The UOW present within the Main HNRFI Site will be realigned to flow alongside the M69. This will be sized to accommodate flood flows, so that it does not pose a risk to the Main HNRFI Site.

To preserve watercourse and floodplain connectivity along the route of the A47 Link Road, a number of culverts will be incorporated beneath the carriageway. These will be sized to accommodate flood flows to ensure that flood risk to third party land is unaffected.

These measures have been hydraulically assessed with an EA approved model which has proven that they address flood risk to the development without detrimentally affecting flood risk to the wider area.

The Proposed Scheme includes a number of minor improvements to highways and the railway in the surrounding area. Generally, these are located in areas of low flood risk, but a few do fall within an area of high fluvial or surface water flood risk. However, due to their minor nature, the proposed works would not negatively affect flood risk.

The drainage design will be secured by virtue of the proposals within the Sustainable Drainage Statement (ES Appendix 14.2, document reference 6.2.14.2)

7.9 Climate Change

Climate change is likely to increase peak flood flows and flood levels on the local watercourses. The hydraulic flood modelling includes an assessment of climate change and the mitigation measures proposed are based upon these results. With the implementation of mitigation measures, the effect of climate change on the flood risk to the Proposed Development is negligible.

Climate change is likely to increase rainfall intensity leading to an increase in surface water runoff, which would be exacerbated by the increase in impermeable surfaces introduced by the Proposed Development. However, the drainage strategy for the Main HNRFI Site and A47 Link Road have been designed with sufficient storage to accommodate these additional runoff volumes. Additionally, the discharge rates from the Proposed Development will be attenuated at the present day QBAR rate, meaning that the Proposed Development will help to mitigate the effect of climate change on the downstream catchment – a minor benefit.

7.10 Pollution

Pollution control methods, including the use of sustainable drainage systems, will provide treatment to surface water runoff from the Proposed Development prior to it being discharged to the local watercourses.

7.11 Foul Water

The Main HNRFI Site is located within Severn Trent Water's (STW) sewerage area, although it is not believed to currently be served by a public foul water drainage system. Foul water from existing properties within the Main HNRFI Site is understood to currently be disposed to on-site management / disposal systems.

It is proposed to work with STW to deliver a new foul network to serve the proposed Development, and any necessary upgrade works in the public sewer network would be the responsibility of STW to provide.

The proposed A47 Link Road, junction enhancements and minor off-site highway works do not affect any foul water drainage assets.

7. DEVELOPMENT FRAMEWORK

7.12 Potable Water Supply

Potable water is supplied to the area by STW. STW has confirmed that there is a 300 mm trunk main to the northeast of the Main HNRFI Site, running along the B4668. STW confirmed that it can supply the development from this existing trunk main.



Fig 42. Thurlaston Brook Floodplain Extents
(Document Reference 6.2.14.1)

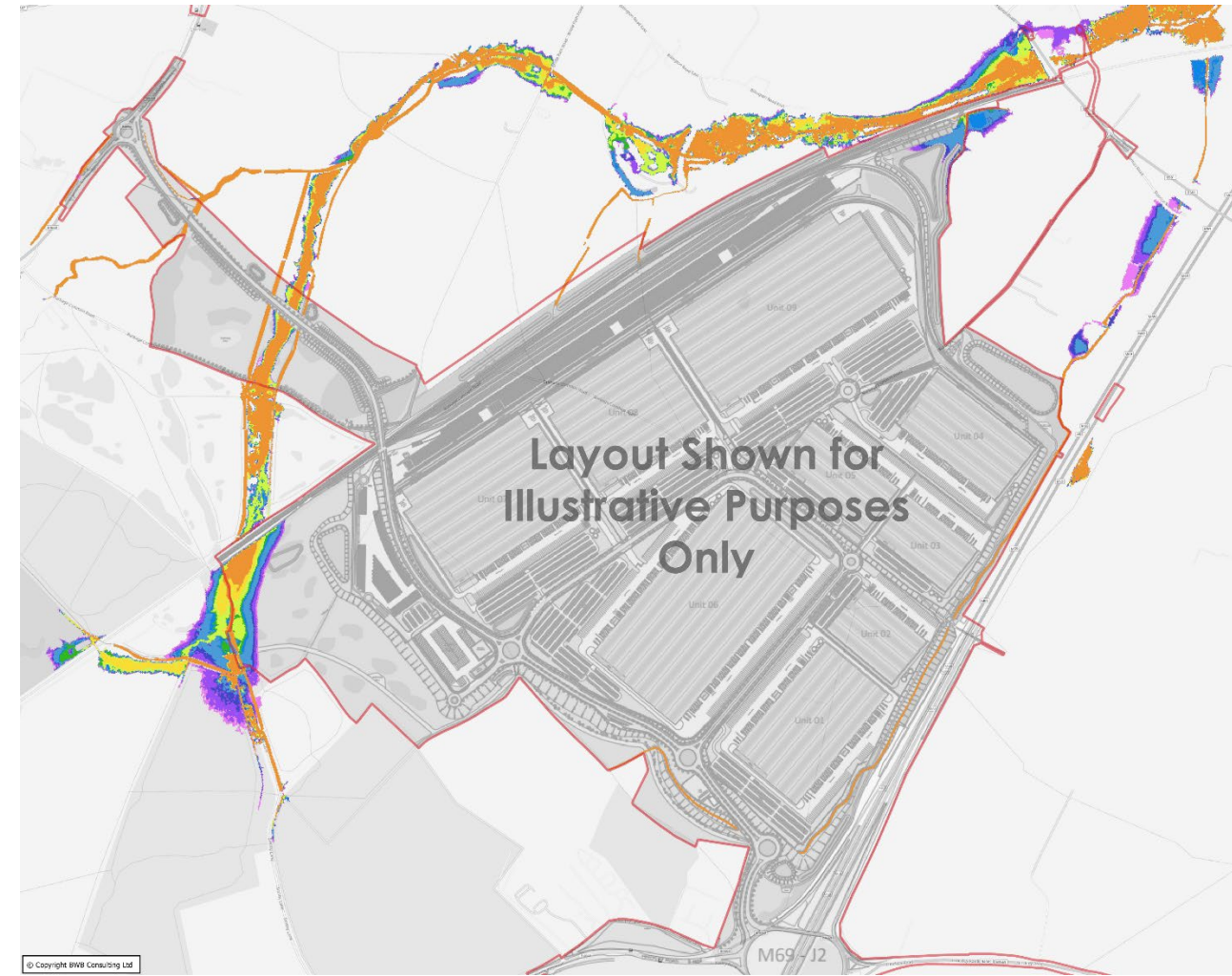
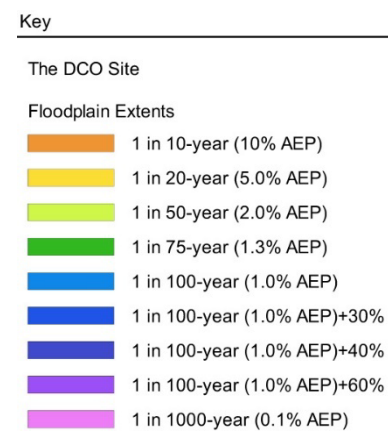
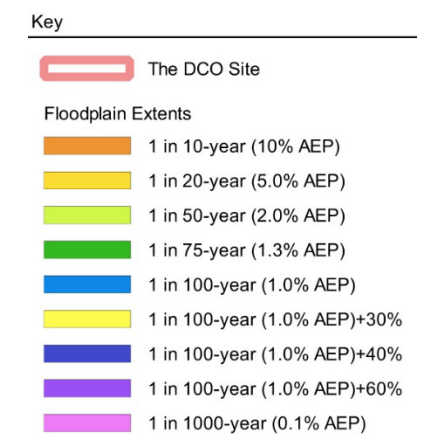


Fig 43. Illustrative Post-Development Floodplain Extents
(Document Reference 6.2.14.1)



7. DEVELOPMENT FRAMEWORK

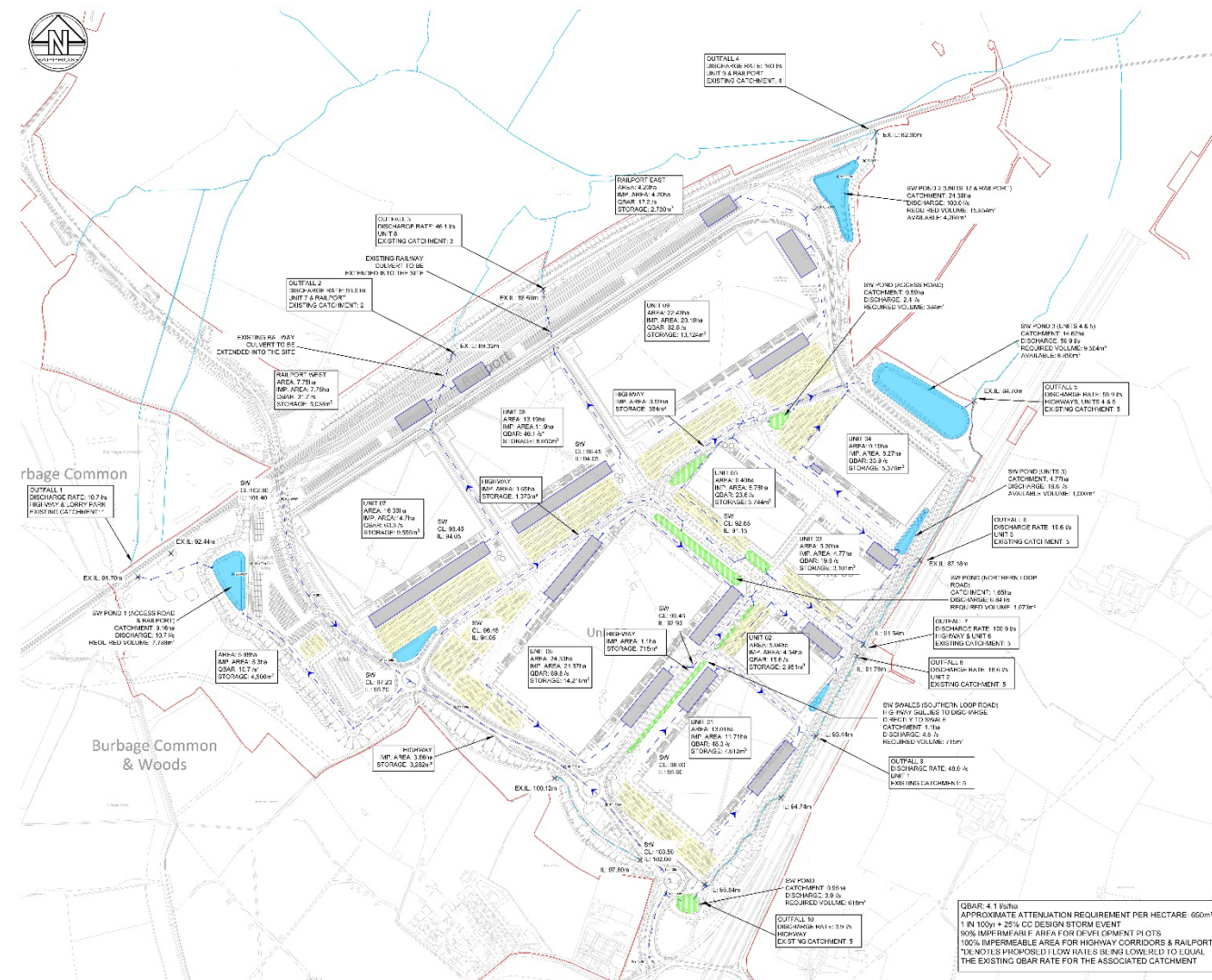


Fig 44. Illustrative Storm Water Drainage Strategy (Document Reference 6.3.14.4),

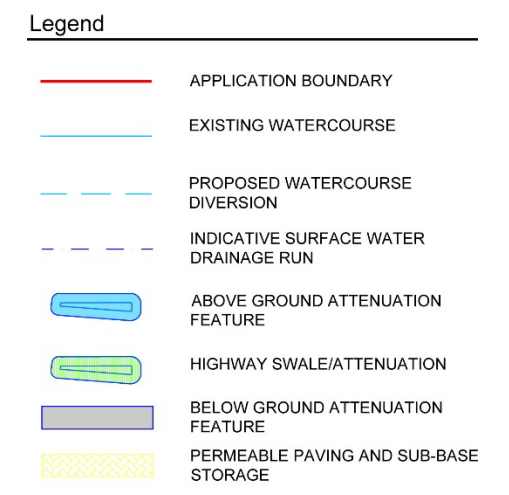
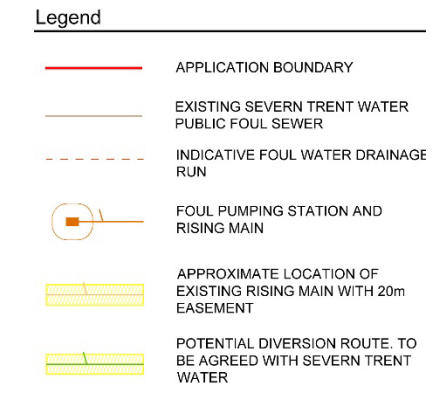


Fig 45. Illustrative Foul Water Drainage Strategy (Document Reference 6.3.14.5),



7. DEVELOPMENT FRAMEWORK

7.13.1 Accessibility – Consultation

A Transport Working Group (TWG) was established comprising representatives from National Highways (NH) (Formerly known as Highways England), AECOM (National Highways term consultant), Leicestershire County Council (LCC), Warwickshire County Council (WCC), Leicester City Council (LCiC), Coventry City Council (CCC), Blaby District Council (BDC) and Hinckley & Bosworth District Council with TSH and BWB Consulting Ltd as the applicant's Transport and Highway consultants.. The objectives of the TWG are:

- to provide a forum for consultation with the regulatory stakeholders; and
- to allow agreement, in a phased and methodical process, of the key components of the transport work that are required to support the DCO submission and ES Chapter.
- To date trip generation, distribution, planning and infrastructure uncertainty log have been reviewed and signed off by the key highway authorities. Base and forecast models have been subject to further analysis by the TWG for final sign-off.
- Additional analysis of throughputs at Narborough Station and Level Crossing have been taken into consideration, based on discussions with the TWG. Further detail has been provided by Network Rail.

For the public and sustainable transport inputs to the strategy, a meeting was held with representatives of LCC public and active travel teams in August 2021. This led on from a discussion with Arriva Buses in 2021 and earlier engagement with Stagecoach 2019 regarding services in the area and potential ability to link the Site to new and existing services.

7.13.2 Accessibility – Highways

The principal aims of the NPS are to deliver (Section 2 Summary):

- networks with the capacity, connectivity and resilience to support national and local economic activity and to facilitate growth and create jobs;
- networks which support and improve journey quality, reliability and safety;
- networks which support the delivery of environmental goals and the move to a low carbon economy; and
- networks which join up our communities and link effectively to each other.

The NPS (paragraphs 2.42-2.49) also identifies the specific economic and environmental benefits of rail freight Interchanges.

Based upon this the proposed access infrastructure within the main HNRFI site is:

- M69 Junction 2: New two lane south facing slips (off and on slips) serving Junction 2 are proposed to give direct and all movement access to the Strategic Road Network. The Junction 2 circulatory carriageway is to be widened and existing arms amended. A new roundabout arm will be added for access to the development site. New arms will be provided for the south facing slips onto the M69. All arms of the roundabout are to be signalised. (Figures 46 & 47.)
- A47 Link Road: A distributor road will link Junction 2 of the M69 through the site, crossing the railway and connecting to the B4668 and ultimately the A47. The road is designed as a dual carriageway in the section between the M69 Junction 2 and the site access roundabout 3 (approximately 990 metres) and as a single carriageway between the site access roundabout 3 and the B4668 Leicester Road to the west of the site (approximately 1,500 metres). (Figures 46 & 48.)
- B4668: Provision for three arm new roundabout access to the B4668 Leicester Road, including a segregated left turn lane southbound from the A47. (Figure 48.)

In addition, the wider highway network has also been considered and as a consequence there are a number of further upgrades that have been identified as providing a positive benefit and these are:

- Ashby Rd / A47- improved flare lanes and new pedestrian facilities
- B4668/The Common/A47- improved flare on the B4668 entry arm
- Hinckley Rd / New Rd / B581- new signalised junction with pedestrian facilities
- B4669 /Stanton Lane – new signalised junction.
- A5 / A4303 /B4027 / Coal Pit lane- additional flare capacity added to A5 and Coal Pit Lane.
- B4114 Coventry Road/Croft Road- additional capacity added for southbound traffic
- B4114 Coventry Road/Broughton Road- additional enhancements to the newly signalised junction including additional flare lanes.
- Reduction of speed limit, traffic calming features and formalisation of on carriageway parking on Stanton Lane/Hinckley Road, southwest of Stoney Stanton.
- Traffic calming features, cycle infrastructure, wider footways, public realm and relocation of bus stop at Church Street and the B4669 Hinckley Road, Sapcote.

The wider network measures are illustrated on figures 49 – 55.

7. DEVELOPMENT FRAMEWORK

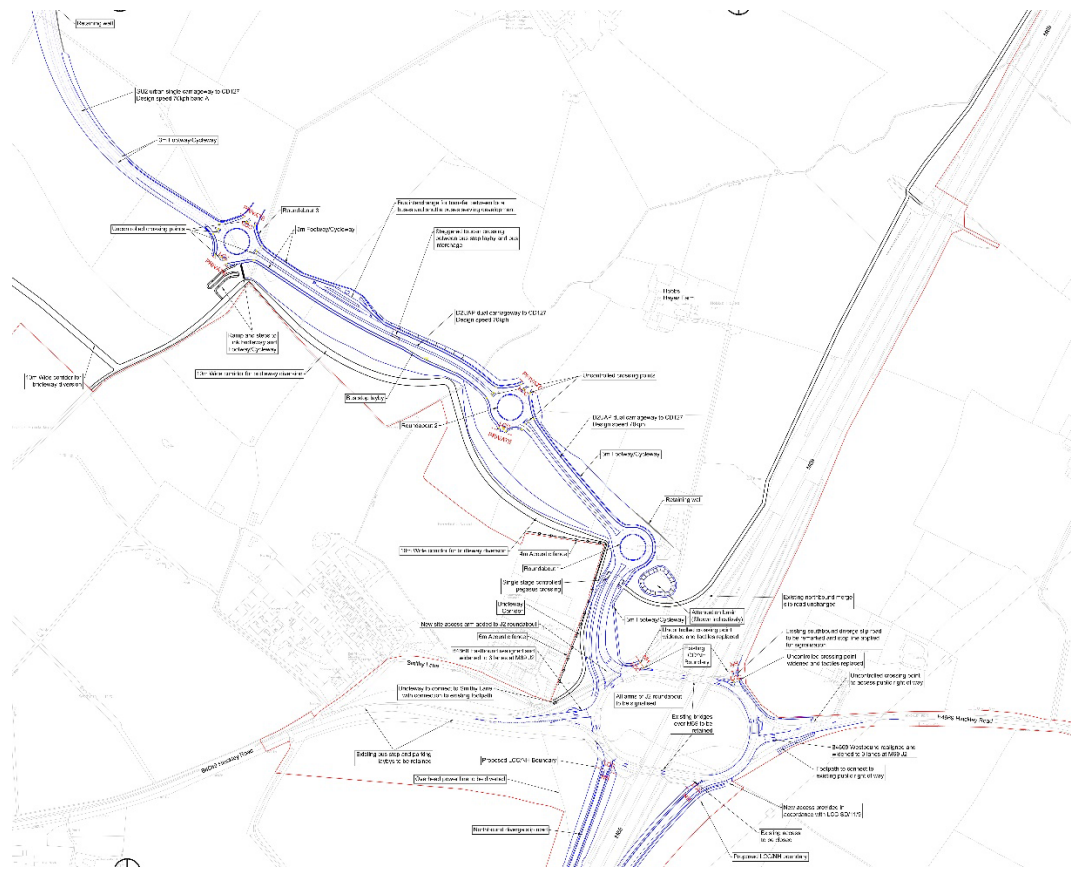


Fig 46. M69 Junction 2 and A47 Link Road (Document Reference 6.3.3.3)

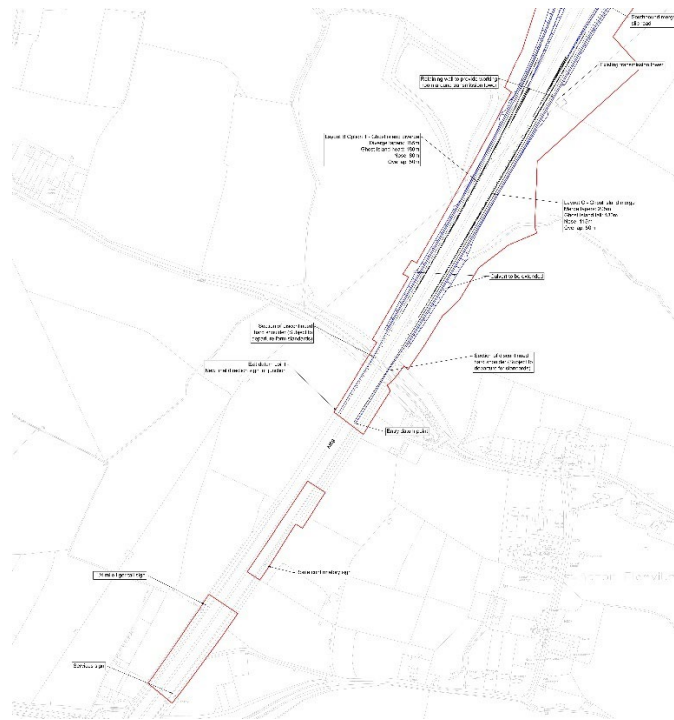


Fig 47. M69 Southern Slip Lanes (Document Reference 6.3.3.3)

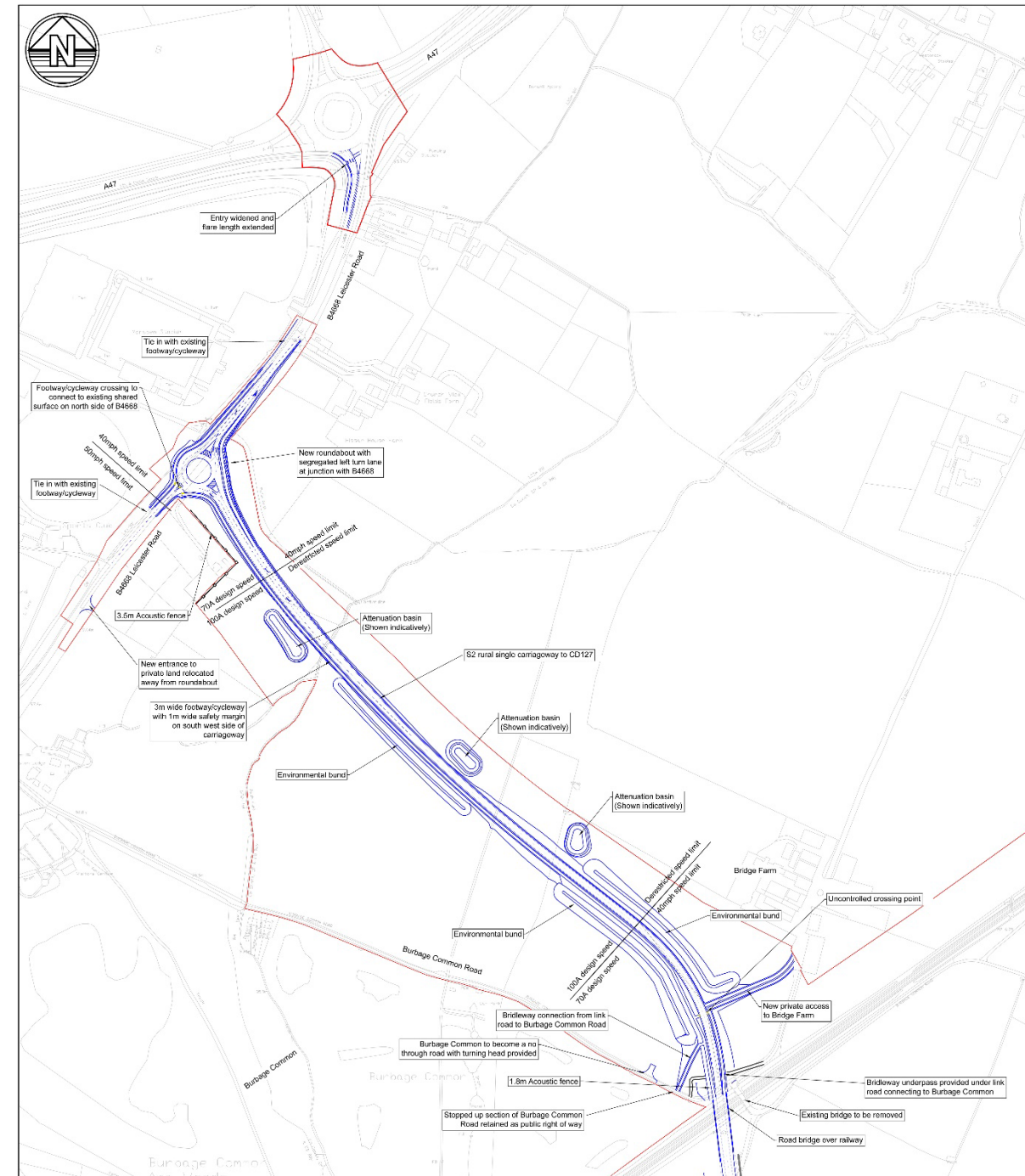


Fig 48. Railway Bridge Crossing, A47 Link Road and Leicester Road / A47 Connection (Document Reference 6.3.3.3)

7. DEVELOPMENT FRAMEWORK

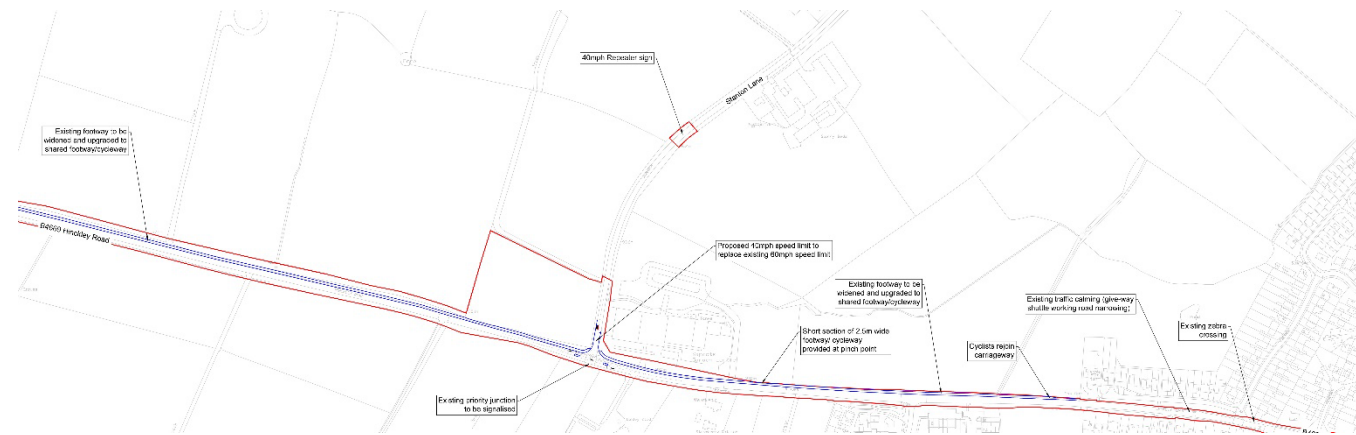


Fig 49. Proposed Works to the Hinckley Road, West of Sapcote (Document Reference 6.3.3.3)

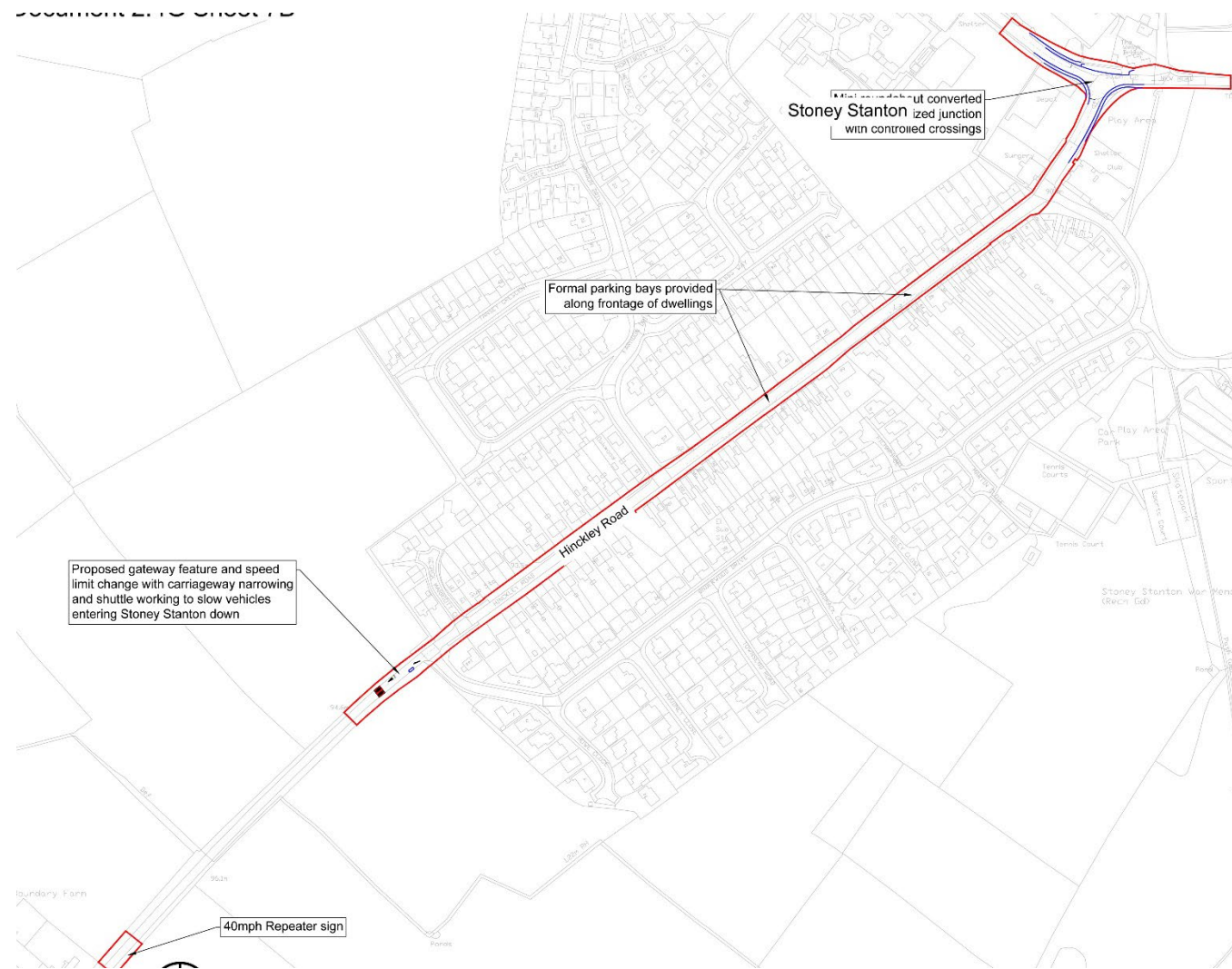


Fig 50. Proposed Works to the Hinckley Road, Stoney Stanton (Document Reference 6.3.3.3)

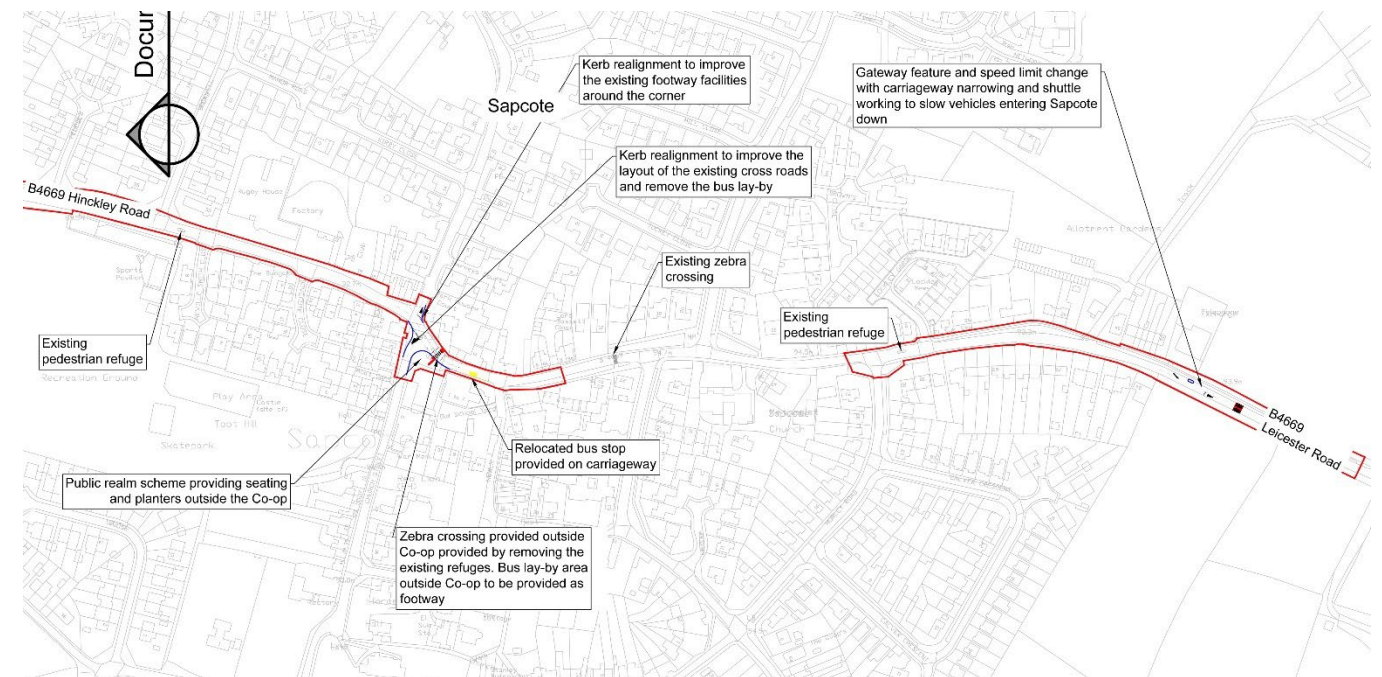


Fig 51. Proposed Works to the Hinckley Road / Leicester Road, Sapcote (Document Reference 6.3.3.3)

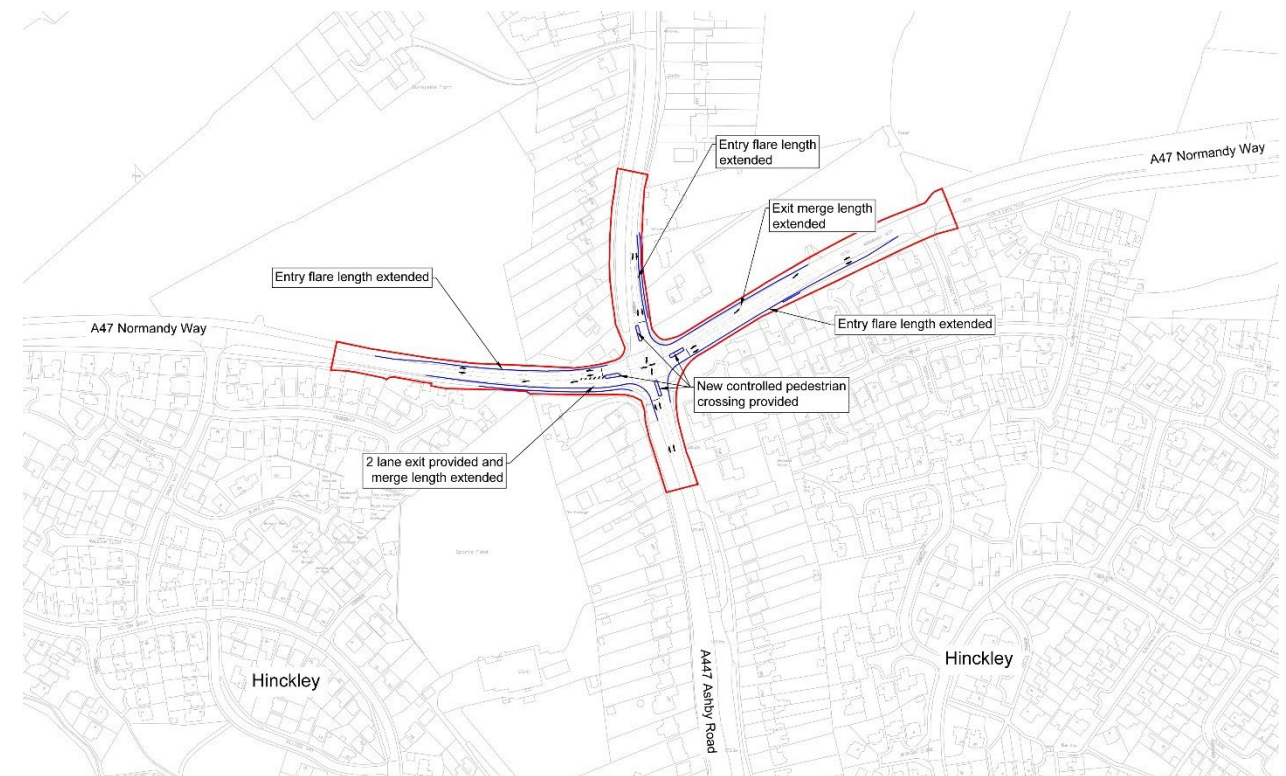


Fig 52. Proposed Works to the A47 / Ashby Road Junction, Hinckley (Document Reference 6.3.3.3)

7. DEVELOPMENT FRAMEWORK

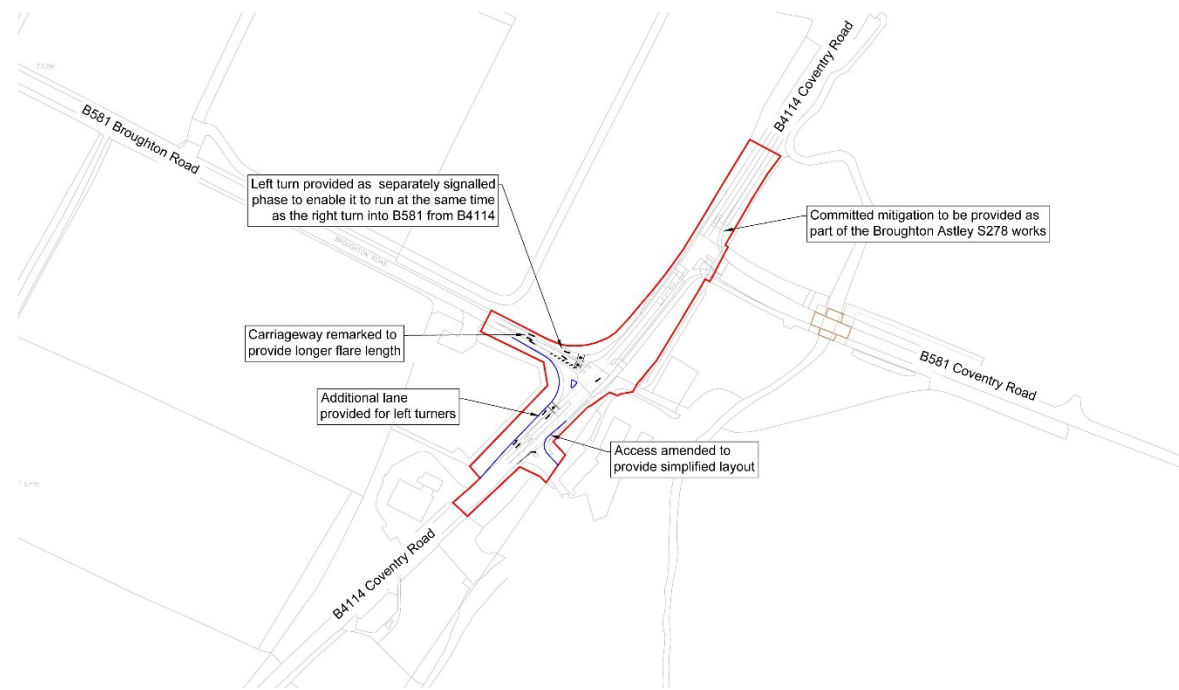


Fig 53. Proposed Works to Coventry Road / Broughton Road junction east of Stoney Stanton (Document Reference 6.3.3.3)

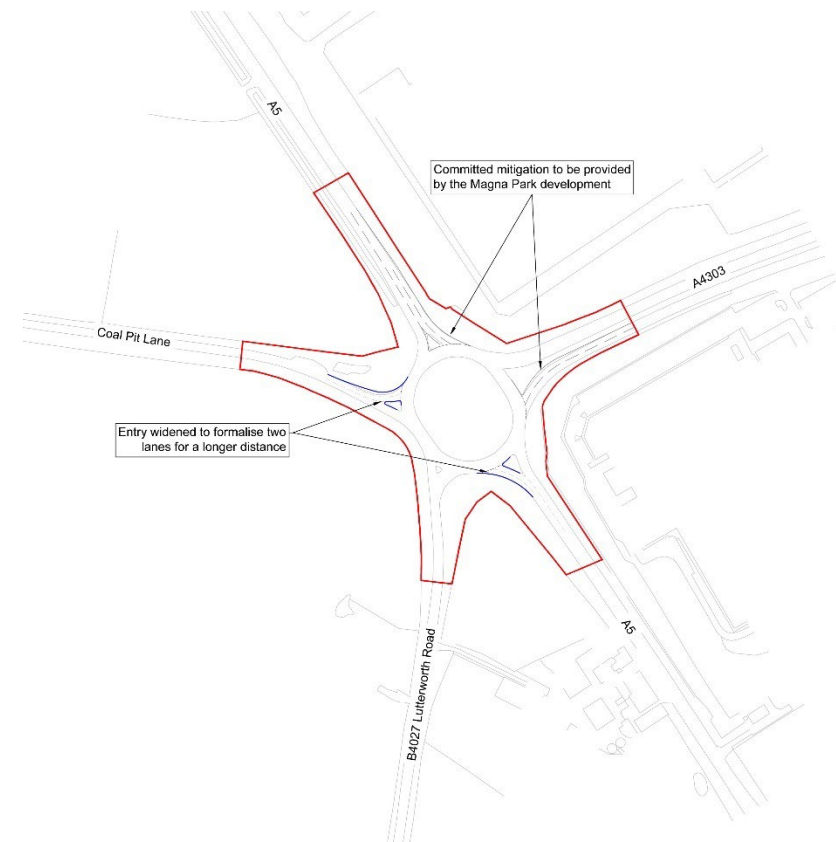


Fig 55. Proposed Works to A5 Magna Park Roundabout (Document Reference 6.3.3.3)



Fig 54. Proposed Works to Coventry Road / Croft Road junction east of Croft (Document Reference 6.3.3.3)

7. DEVELOPMENT FRAMEWORK

7.13.3 Accessibility – Rail

The Hinckley National Rail Freight Terminal will connect into Network Rails Felixstowe to Nuneaton line, providing access to the UK's container ports and is well placed to support the shift of freight from road to rail. Network Rail's strategic freight route links the west coast and east coast main lines and serves as a primary link between Felixstowe and the Midlands and North. Locally this route passes between Leicester and Hinckley and takes the form of two parallel railway tracks. The line is not currently electrified and is used exclusively for diesel-hauled freight and passenger traffic. The closest passenger stations are Hinckley 2.7 km to the south-west and Narborough in the direction of Leicester, 10 km to the east-north-east.

The Railport has been designed illustratively to include an 'in and out' design with two connections onto the main line to minimise shunting within the Railport itself. Associated signalling, allowing access for trains arriving from or departing in either direction with crossovers on the main line itself to allow freight trains to move from one track to another. As such, a train from the west would cross to the eastbound line before entering the terminal, and a train from the east would be able to enter directly from the westbound line.

The Railport is where ISO containers or European swapbodies ('containers') are transferred to and from trains. It comprises a level area of concrete running along most of the length of the sidings on the western side of the Main HNRFI Site. In this area, containers will be unloaded and loaded on to trains by means of gantry cranes or free moving 'reach stacker' vehicles – wheeled cranes designed to lift freight containers.

The Railport comprises up to four reception sidings and four intermodal sidings that can be implemented in a phased manner as the demand increases, with capacity to handle up to 16 trains per day and in lengths up to 775m.

On arrival, trains will be directed to one of the four intermodal sidings which are served by gantry cranes for unloading and loading. In Phase 1 two lines and a runaround will be constructed as a minimum with reach stackers used to lift and load containers, with an ability to serve at least four trains per day. An additional line would provide a runaround facility for engines to be repositioned.

Up to an additional three reception sidings may be provided for the purpose of holding and marshalling further trains and to provide for future electrification. Trains in the reception sidings will be moved to a final position for unloading via a headshunt, electrified if necessary, that comprises an additional pair of tracks curving around the northern edge of the HNRFI.

As part of the Railport infrastructure the design also includes cripple sidings and a head shunt for dealing with stricken engines and rolling stock and for performing shunting within the terminal without having to take trains back onto the main line and inconvenience the main network and passenger trains.

In order to meet the requirements of the NSIP the illustrative masterplan demonstrates how, via their own dedicated sidings, 55% of the development could be rail connected with the balance having the ability to be rail served.

Up to four rail mounted mobile gantry cranes up to 24 metres in height and with a spans of up to 70 metres will unload and load containers between trains, a short term loading area and / or HGV's or tugmaster trailers. Up to four rubber tyred mobile gantry cranes, up to 28 metres in height and with a span of up to 40 metres would manage the container stack, for stored predominantly laden containers.

The cranes will run under electric power. Stacked containers will be a maximum of five containers high or up to 14.5 metres in total. Containers will be transferred between the logistics warehouses in the HNRFI or off-site for direct delivery and collection.

Empty containers will be stacked in a separate 'Railport returns area' located to the south of the proposed A47 Link Road adjacent to the south-western end of the Railport. Empty containers will be placed in stacks of up to five containers to a maximum height of 14.5 metres, whilst they await collection by train or lorry.

The proposed rail infrastructure and railport will be built in phases to reflect demand, which will mean that the number of sidings and size of container loading slab will be increased in phases. The envisaged phasing is described later in this chapter.

The reception sidings and headshunt include provision for future overhead line electrification (OLE), so that the Railport is capable of being used by electric or 'bi-modal' trains that can use either diesel or electric power (including battery backup). The lines under the gantry and close to reach stackers cannot be electrified. Intermodal trains do not need to be split and can go straight under the gantry if self-propelled. They will only be head shunted once if the OLE is required in the future.

In addition, the Railport will also be provided with ancillary office and welfare accommodation as well as parking facilities for the employees.

Provision to screen the facility has been made either by landscaped bunding or acoustic fencing to mitigate the impacts of the train movements.

7. DEVELOPMENT FRAMEWORK

7.13.4 Accessibility – Rail cont'd

The illustrative masterplan and parameters plan identify the areas of the Main HNRFI site that have the capability of providing a direct rail connection either to the building or the individual development plot. There are a variety of ways in which these plots could be directly served by rail and these are illustrated in figures 56 and 57.

- Section A illustrates a direct link between the Railport and the service yard of the development plot. This would enable the transfer of containers either from or to the individual development plot, making use of the reach stackers or the gantry cranes within the Railport for the lifting movement of the containers and then lorries or tugs to manoeuvre the containers thereafter.
- Section B illustrates a direct rail connection into the development plot on the far side of a service yard. This would enable the occupier to load and unload containerised goods by reach stacker and transfer them between the main unit and rail as required, or similarly, directly onto or off lorries.
- Section C shows how a rail line and train could be brought directly into the warehouse unit at a lower level than the main floor level of the building. Then, by use of internal cranes, the containers would be lifted either on or off within the warehouse.
- Finally, Section D shows a covered platform that would run the length of the warehouse directly adjacent to a rail line within the development plot. The containers would then be lifted onto or off the train and a series of goods doors along the adjacent façade would enable the transfer between the building and the platform.

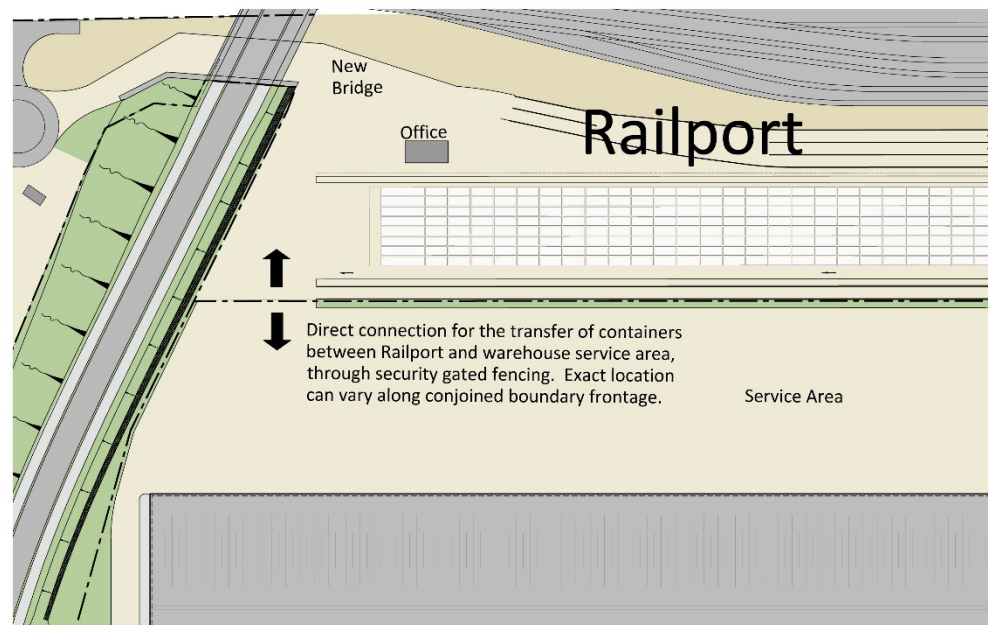
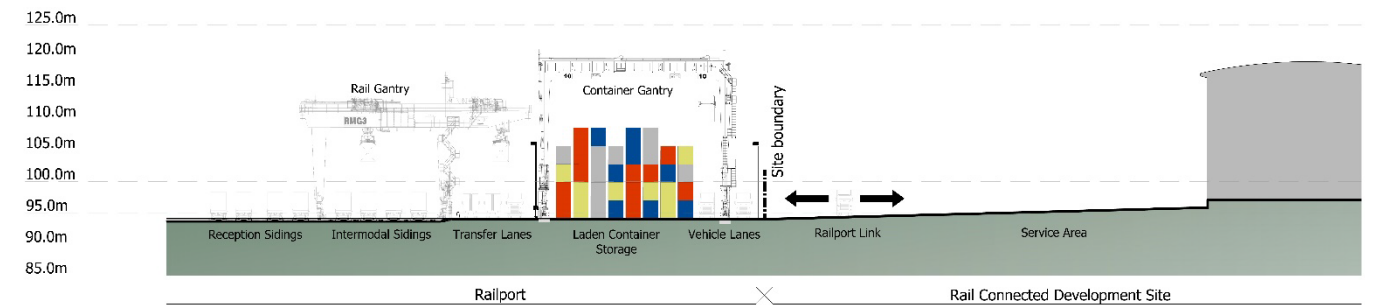
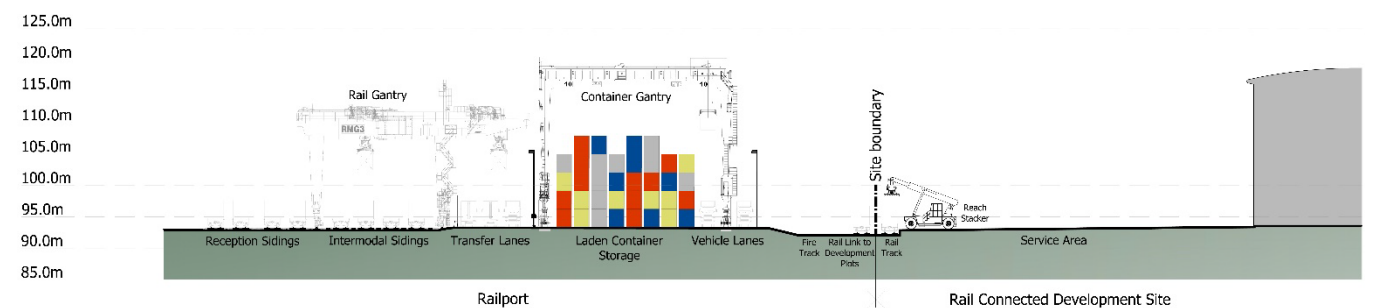


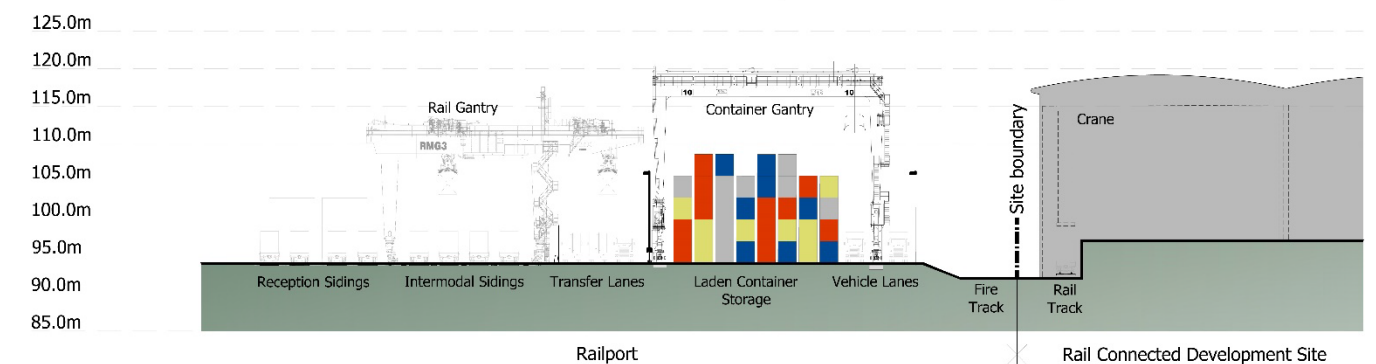
Fig 56. Key plan to be read in conjunction with Fig 56. Section A



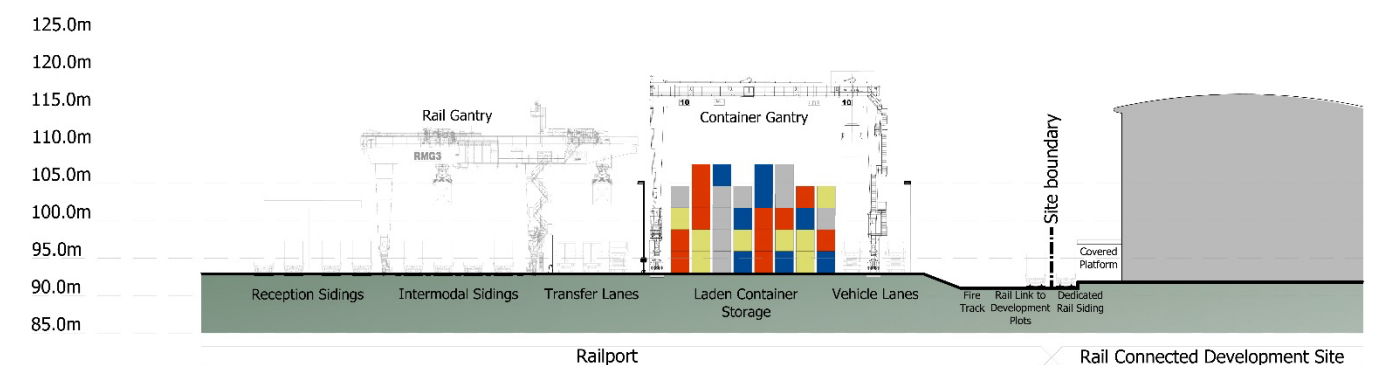
SECTION A - Direct & Secure Vehicular Access to Railport from Service Area



SECTION B - Direct Rail Connection within Service Area and Gantry/ Reach Stacker Loading



SECTION C - Direct Rail Connection with Gantry Lift System within Building



SECTION D - Direct Rail Connection with Side Platform Loading

Fig 57. Illustrative sections showing development options for direct rail connectivity. Document Reference 2.24

7. DEVELOPMENT FRAMEWORK

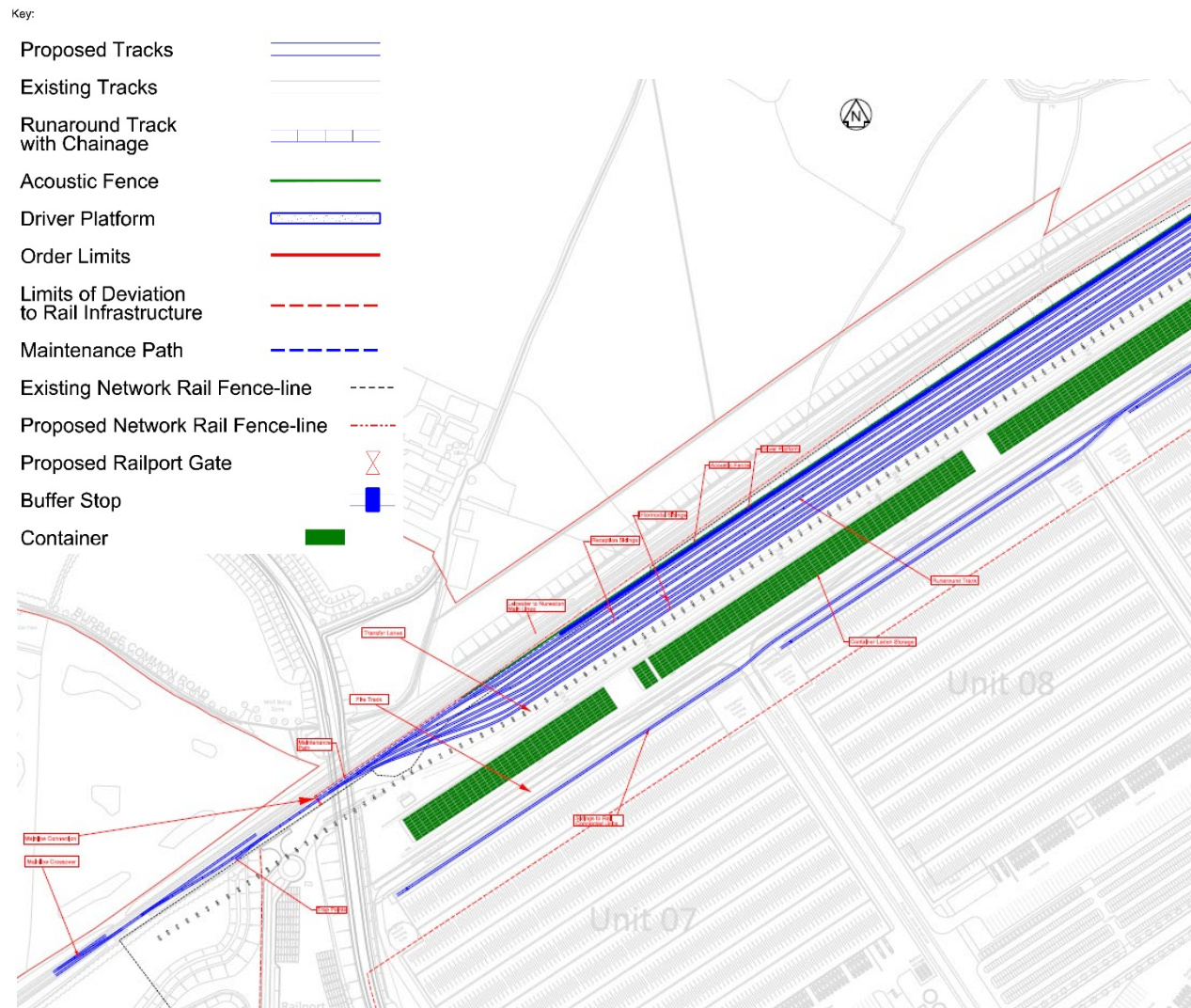


Fig 58. Western Arrangement of Main Reception sidings, intermodal sidings and container storage. Document Reference 2.25

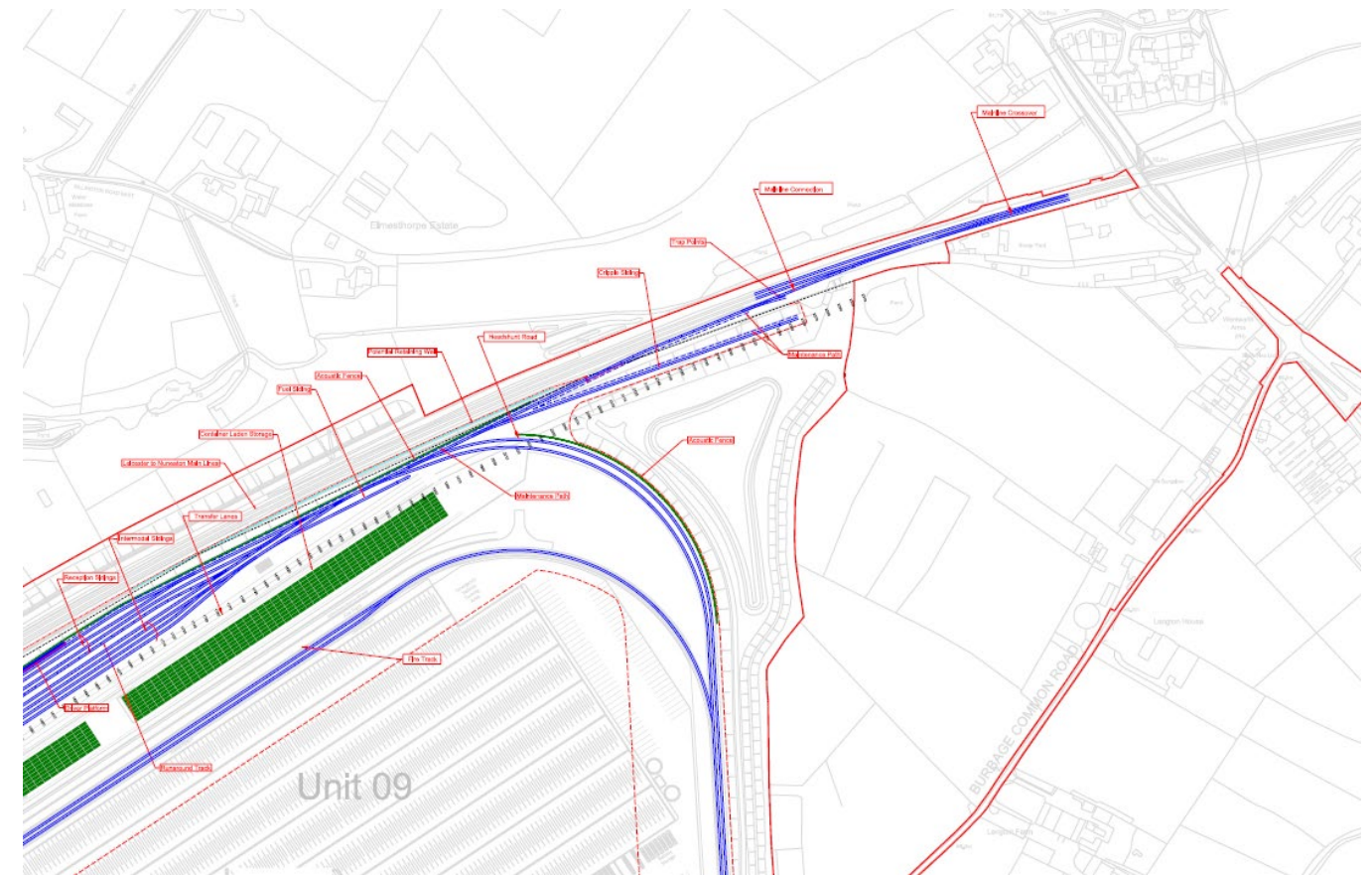


Fig 59. Eastern Arrangement of Main Reception sidings, intermodal sidings and container storage. Document Reference 2.25

7. DEVELOPMENT FRAMEWORK

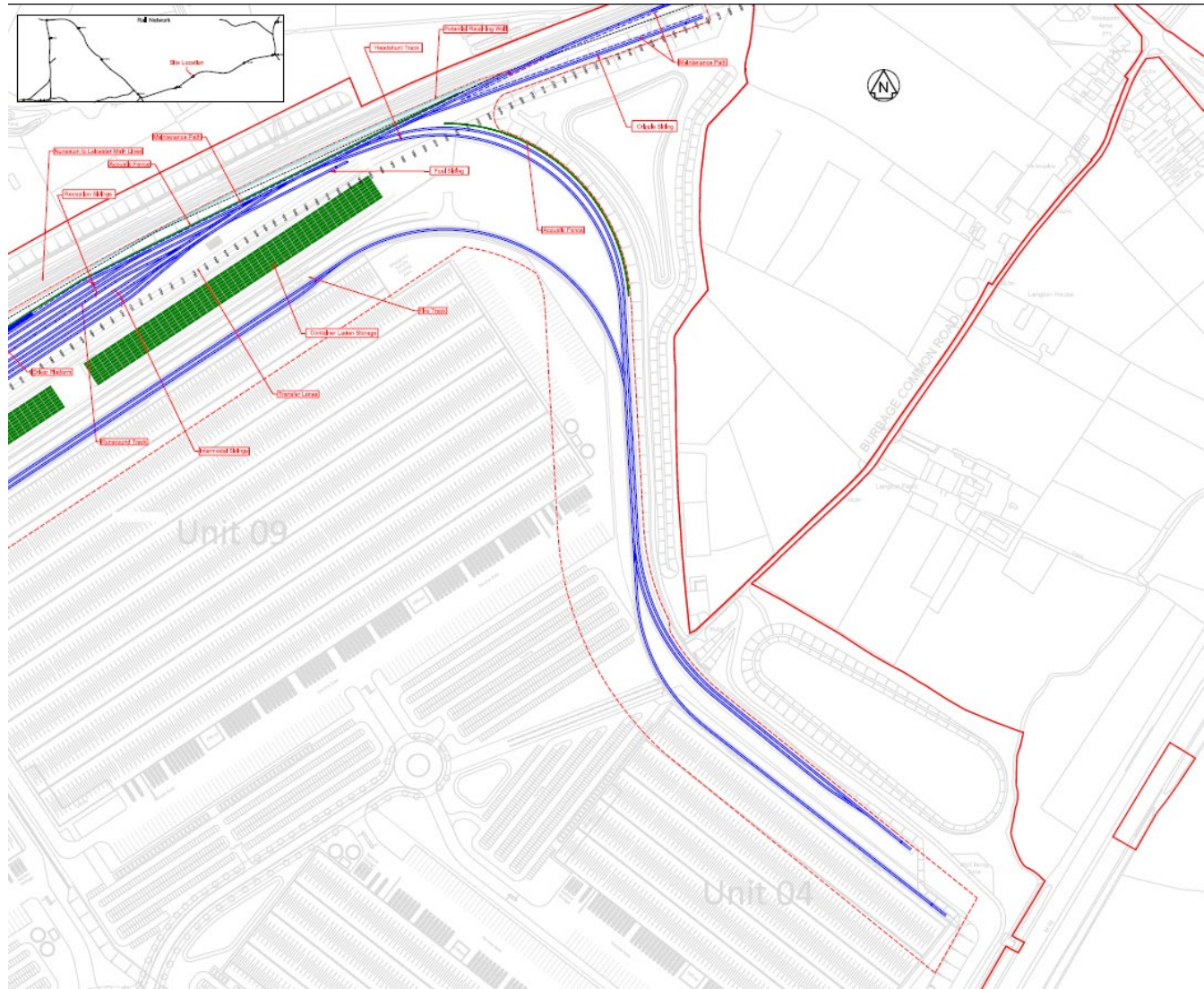


Fig 60. Southern Arrangement to Railport Headshunt to north of Main HNRFI. Document Reference 2.25

7. DEVELOPMENT FRAMEWORK

7.13.5 Accessibility – Public Transport

The overall provision of public transport will be improved to serve the Proposed Development and secured through a DCO and / or Section 106 Agreement. A public transport strategy has been submitted as part of a Draft Sustainable Transport Strategy (STS), ES Chapter 8, Appendix 14.

It is proposed to enhance existing services to key employee locations such as Coventry, Leicester, Hinckley and Nuneaton as well as develop demand responsive bus transport to local villages to the east of the M69 motorway. The review of the proposals will be influenced by responses to the statutory consultation exercise.

There is provision within the illustrative masterplan for a large (multiple vehicle provision) bus stop on the A47 Link Road with stops identified in both directions. The bus stop would link with the rest of the development via pedestrian footpaths.



Fig. 61 Proposed Bus Stop Location within Main HNRFI. An extract from Document Reference 2.8A

7.13.6 Accessibility – Travel Plan

A Framework Site Wide Travel Plan (ES Chapter 8, Appendix 8.2, Document Reference 6.2.8.2) is being developed alongside the Transport Assessment and in accordance with the guidelines in the Department for Transport documents – ‘Good Practice Guidelines: Delivering Travel Plans through the Travel Plan Process’. The Travel Plan includes complementary measures to encourage walking, cycling, bus and car sharing as modes of transport such as:

- Appointment of a Travel Plan Co-ordinator to administer the Travel Plan.
- Web-based travel packs.
- Provision of relevant marketing Information.
- Subsidised bus transport for employees– to encourage greater bus use.
- Monitoring of the Travel Plan against Travel Plan targets.

7.13.7 Accessibility – Walking and Cycling

Taking onboard informatives such as the National Planning Policy Framework, paragraph 116 that sets out that a development should:

- Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- Create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards.

Together with policy drivers that include Circular 01/22 from National Highways which in consideration of HNRFI sets out in paragraph 12:

- “New development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable.”

7. DEVELOPMENT FRAMEWORK

Finally, the National Policy Statement for National Networks (2014) also makes the following points:

- Paragraph 3.16 includes the Government's commitment to sustainable travel “it is investing in developing a high-quality cycling and walking environment to bring about a step change in cycling and walking across the country.”
- Paragraph 3.17 stresses the importance of accommodating pedestrians and cyclists; noting “there is a direct role for the national road network to play in helping pedestrians and cyclists. The Government expects applicants to use reasonable endeavours to address the needs of cyclists and pedestrians in the design of new schemes. The Government also expects applicants to identify opportunities to invest in infrastructure in locations where the national road network severs communities and acts as a barrier to cycling and walking, by correcting historic problems, retrofitting the latest solutions and ensuring that it is easy and safe for cyclists to use junctions”.

Taking these principles onboard, the proposed development will include a new network of segregated pedestrian footpaths and cycleways within the development itself and which form an integral part of the estate infrastructure.

These provisions will link into the new A47 Link Road and run along the full length of the highway before linking with the wider network. Additional infrastructure is proposed on the surrounding highway network to provide amenity for pedestrians and cyclists alike.

A Public Rights of Way Appraisal and Strategy (ES Chapter 11, Appendix 11.2, document Reference 6.2.11.2) was produced which explains how the existing Public Rights of Way and Bridleways across the site will be affected by the proposed development, including a number of railway level crossings. Whilst the final detail of the design may deviate, a new network of footpaths and bridleways maintaining the connectivity are proposed and illustrated on Figure 37.

7. DEVELOPMENT FRAMEWORK

7.14 Noise

The impact of noise has been considered and noise sensitive receptors identified in the areas to the north, east, south and west of the main HNRFI site and the A47 Link Road and assessed based upon the development parameters.

Surveys have been undertaken to establish the existing noise and vibration levels.

Road traffic noise from the M69 and Junction is the overwhelming factor for most of the sensitive receptors to the east and the A47 / Leicester Road and Felixstowe to Nuneaton railway to the receptors to the west and north.

In addition the proposed landscaping illustrated on the illustrative landscaping strategy plan (figure 35) , the Parameters Plan identifies additional locations where mitigation measures are to be provided to minimise any adverse noise effects of the development whether that be from the operation of the new highway infrastructure, the Railport or the buildings. It is proposed that sensitively located acoustic fencing of varying heights is best placed to mitigate these impacts and the differing location heights and locations are identified in the following figures.

To protect the amenity of local residential communities and areas enjoyed for recreation such as Burbage Common, noise attenuation measures include the following:

- a stepped acoustic barrier of between 2.0 and 3.0 metres in height to the north to mitigate impacts on residential receptors;
- acoustic barriers up to 6.0 metres in height to the north-east to mitigate impacts on residential receptors;
- acoustic barriers up to 6.0 metres in height to the south-west to mitigate impacts on residential receptors;
- acoustic barriers up to 6.0 metres in height to the south-west to mitigate impacts on users of Burbage Common.
- acoustic barriers up to 3.5 metres in height to the south-west of the junction where the A47 link road meets the B4668 to mitigate impacts on receptors off Leicester Road.

Further measures are proposed to reduce noise during construction and operation. During construction, contractors will be required to follow best practice measures set out in framework Construction Environmental Management Plan (CEMP). For the HNRFI in operation, noise limits are proposed in relation to fixed plant, equipment and break-out noise, where detailed information is not available at the time of writing, to protect residential amenity in the worst case. Careful consideration will be given to gantry crane and other mobile plant procurement to source quiet equipment where reasonably practicable.

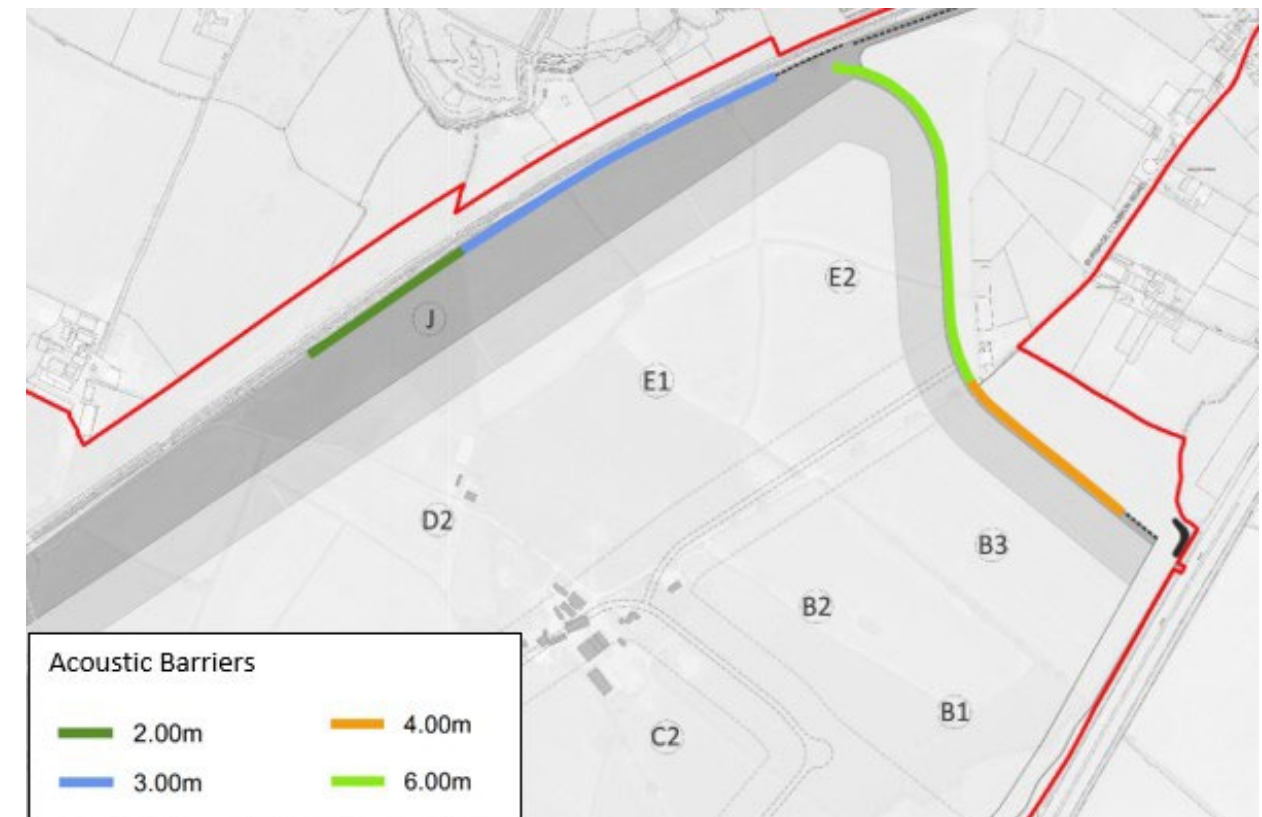


Fig. 62 Proposed Noise Barriers to north west of Railport and to the north east of head shunt (Document Reference 6.3.10.10)

7. DEVELOPMENT FRAMEWORK

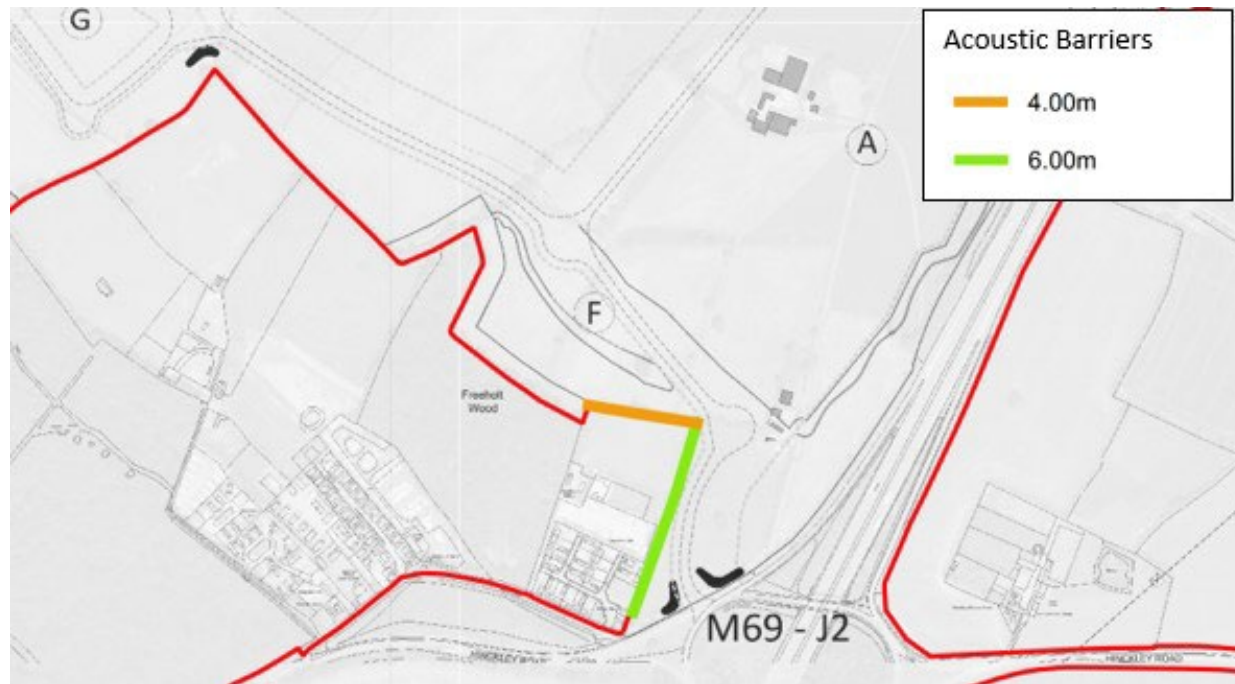


Fig. 63 Proposed Noise Barriers around Aston Firs (Document Reference 6.3.10.10)

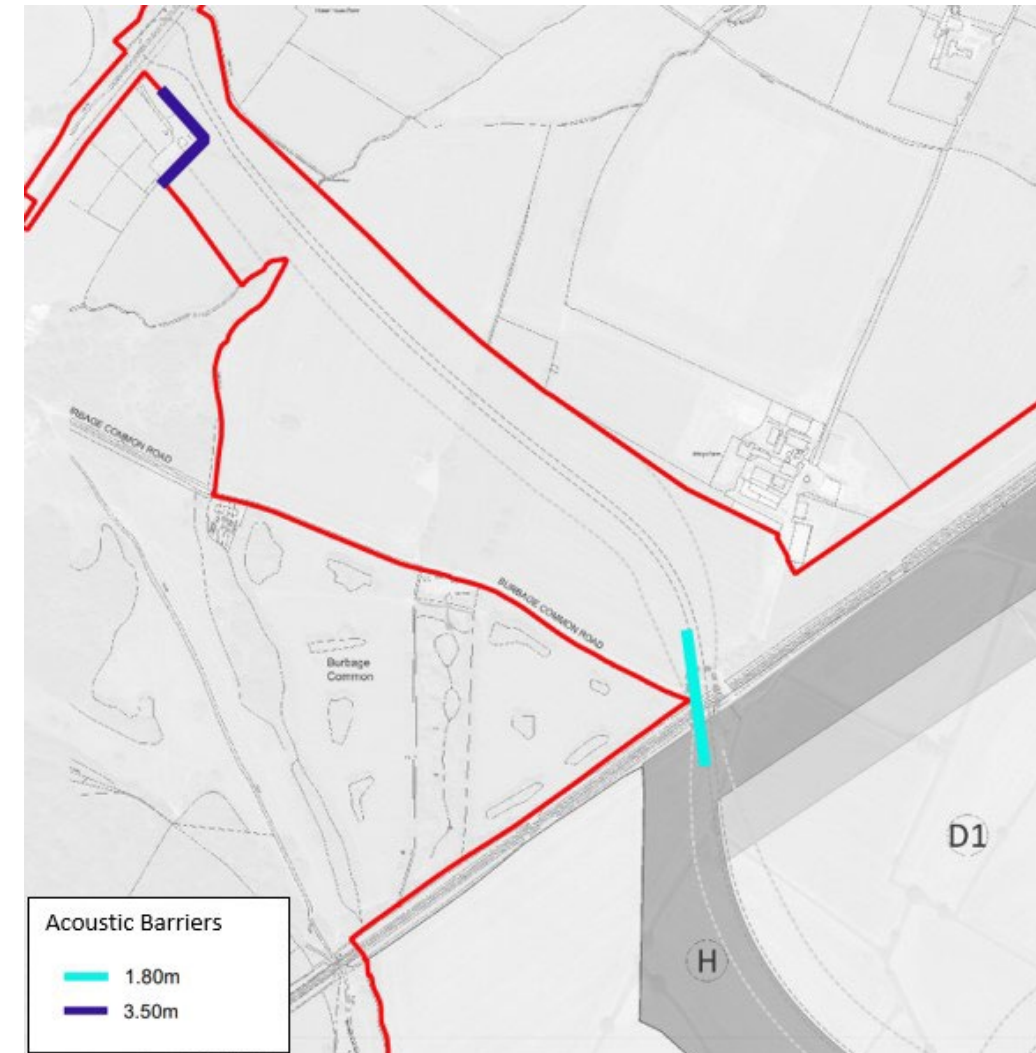


Fig. 64 Proposed Noise Barriers on new bridge on A47 Link road and adjacent to the junction with Leicester Road. (Document Reference 6.3.10.10)

7. DEVELOPMENT FRAMEWORK

7.15 Lighting

Lighting is a key component of the new HNRFI, and light pollution and has been considered as part of the development parameters.

The types of light pollution that have been considered are:

- Light Spill where the light goes beyond the boundary of the site on which the source is located;
- Sky Glow which is the brightening of the night sky above the illuminated area and;
- Glare which addresses the potential for experiencing visual discomfort or disability stemming from direct views of the light source.

Therefore, a modern external lighting installation is vitally important to the Proposed Development for many reasons including, but not limited to, the following:

- To provide safety for pedestrians from moving vehicles, railway and cranes;
- To provide ease of wayfinding and navigation for staff and visitors;
- To provide security and deter antisocial behaviour;
- To set the architectural scene and urban landscape;
- To control direction signage and their relationship with other illuminated material;
- To protect installations from accidental or deliberate damage; and
- To allow safe access and maintenance.

The final detailed design may deviate from the indicative external lighting design presented but must meet all parameters and criteria as set out in the ES Appendix 3.2: Lighting Strategy - document reference 6.2.3.2 and demonstrate equal to or less than the quantity of light spill achieved. An adequate and safe level of lighting must be provided for site tasks, amenity, and security, whilst maintaining acceptable impact on the site surroundings, environment, railway and neighbouring properties. The following proposed parameters give an indication of what would be sought:

- All external lighting shall be provided in accordance with the Relevant Policies and Guidance. It will be designed to minimise light pollution and optimise energy use. Lighting will comply with recommendations for Environmental Zone E2 given in ILP Guidance Notes for the Reduction of Obtrusive Light (Guidance Note 01/20).
- Luminaires will be LED light source to provide optimum energy efficiency and accurate targeting of light output to keep light pollution effects to the absolute minimum.
- High mast lighting shall be introduced where standard column mounted lighting is deemed impractical. The use of high mast lighting shall be limited to the Railport, including the Railway Sidings and Container Handling Area.
- External lighting will be provided wherever necessary to provide a safe and secure environment for staff and other users after dark. 'Secured by Design' principles will be adopted and emphasis will be placed on achieving good uniformity of light distribution. All illumination levels will be set as low as practicable while complying with safety and security recommendations. Spill of light onto building facades and outside of the target area for illumination will be minimised through careful design, specification and positioning of lighting equipment.
- At the outer edges of the Proposed Development lighting units will as far as practicable be positioned so that they are out of view of sensitive receptors. Mounding, fencing and planting that is being provided for visual and noise reduction reasons will be recruited to assist in achieving this.
- Luminaires shall generally be mounted on buildings and on standard lighting columns and shall be arranged to maximise the amount of light reaching trafficked hard surfacing while minimising spill light onto adjacent areas.
- Lighting levels will be suitable for pedestrian, vehicular and railway access, and the operation of a CCTV system. Lighting will be installed to provide sufficient illumination for safe circulation and to promote a feeling of safety and security.
- G4 compliant luminaires shall be utilised for the road and area lighting. The G rating of a luminaire relates to the luminous intensity of light emitted at angles of 70, 80 and 90 degrees when the luminaire is mounted at a tilt of zero degrees to the finished surface that it is lighting.
- Luminaires must utilise optimum optical distribution to direct exactly where needed while allowing maximum spacing between luminaires and minimise the required number of columns.

7. DEVELOPMENT FRAMEWORK

7.16 Sustainability

The development proposals have been prepared to recognise the aspiration of the Applicant to pay high regard to energy efficiency and sustainability, seeking to meet, and exceed where possible, current legislation on the efficient use of materials and energy.

7.16.1 Energy

The primary philosophy for the energy efficiency of the buildings is to major on the thermal performance and air tightness of the units thereby minimising the energy requirement from the outset.

With a combined roof area of up to 65 hectares the HNRFI offers substantial potential for roof-mounted solar photovoltaic installations, providing renewable electricity. All of the proposed B8 buildings on the site will be able to accommodate solar photovoltaic (PV) panels on their roofs, giving a potential electricity generation capacity of up to 42.2 MW. The electricity generated will either supply the occupier of the building or be exported to the battery storage facility in the energy centre, for subsequent use by occupiers.

The heating and ventilation systems within the building will make maximum use of heating and cooling processes that occur naturally in order to minimise energy consumption.

The units will maximise the amount of glazing in the facades and rooflights that contribute to natural lighting whilst offsetting the impacts of solar gain.

The buildings will incorporate a Building Energy Management System (BEMS) to control the heating, lighting, ventilation, hot water supply and renewable energy interfaces in full accordance with CIBSE guidelines to control the use of and save energy.

Prior to their implementation, the energy efficiency and sustainability measures will be assessed for suitability, technical review, installation costs, running costs, payback periods and plant space availability.

Where economically viable the scheme will exceed the requirements of Part L of the Building Regulations.

All proposed development will target BREEAM – Excellent and an EPC A rating as an absolute minimum.

The Applicant has committed to all their buildings being designed to achieve Net Zero Carbon in Construction, with evidence associated with each phase of the development being collated into a Green House Gas Reduction Report

7.16.2 Each individual development site will incorporate the provision of EV charging facilities to 20% of the total parking bays with provision designed in to connect the balance of the parking in the future as take up of electric vehicles increases. In addition, ductwork within the service areas of each development will be provided to allow for the future installation of electric HGV charging points as the technology develops in this sector.**Energy Centre**

The HNRFI will include an energy centre containing centralised infrastructure and plant as well as some components that will be distributed at the units:

- The largest part of the Energy Centre will be the incoming 33 kV electricity substation and associated switchgear.
- The Energy Centre will include central battery storage in container-scale modules, additional container-scale battery storage modules will be located at each unit substation according to unit occupier energy demands.
- There will be provision for onsite backup or emergency standby generators for use only in the case of grid failure. The central location would enable backup power to be provided with less plant than provision on a unit-by-unit basis. These backup generators would be fuelled by diesel or biodiesel and they would only operate for testing and in the case of major unplanned failure in the grid, with typical operation expected to be less than three hours per year. Typically such emergency use plant would run whenever the grid fails, but in this case, the first protection would be provided by batteries, and generators would be started only if batteries are exhausted.
- Provision is made for the installation of up to 5 MW of central combined heat and power (CHP) units to augment the grid supply in the case of demand exceeding instantaneous firm and variable supplies, i.e. if demand exceeds grid plus PV and battery capacity. CHPs may also operate when occupier process heat and electricity demand mix is such that cogeneration is the best technology. Any CHP units would be hydrogen ready and able to operate on 100% hydrogen as grid gas is decarbonised in accordance with Government policy.
- The Energy Centre will contain a hub for the district heating main that would allow the distribution of waste heat between units, such a hub would include hot water storage along with pumps and controls.
- The Energy Centre will include the distribution and control of power across the Main HNRFI Site, managing smart charging of vehicles, the mixing of PV and grid supplies, battery flows and any heat distribution.
- Unit heating will be provided using electrically driven heat pumps.

7. DEVELOPMENT FRAMEWORK

7.16.3 Materials

The correct choice of materials is key to the successful integration of the development into the existing landscape. The existing buildings within the application site, consist of traditional, domestic scale buildings and associated farm outbuildings. The material pallet is one of traditional brick and tile appropriate to scale of the properties and when they were constructed. Large format rendering of commercial distribution buildings with such material types presents difficulties in scale and application, as well as not being appropriate to the functionality or future adaptability of the buildings.

Other materials such as render and timber were also considered, but again they were dismissed on the same grounds, as well as the ongoing maintenance and replacement they require affecting their sustainability credentials.

The use of green walls was also considered, but the ability for them to grow successfully, in an operational environment was questioned given their susceptibility to impact and also the areas required to make a meaningful statement made them very cost prohibitive.

On that basis, the use of metal cladding systems, combined with the integration of feature glazing panels, with alternative panelling systems and curtain walling for the office elements was deemed to be the most appropriate range of materials for the buildings within the SRFI.

The materials demand of the development will be addressed by maximising the use of reclaimed and recycled materials where practicable throughout the construction process. This will be considered in the early detailed design stages and written into the building specifications.

The materials have been chosen for their aesthetic qualities, robustness, recyclability, value and availability from local and sustainable sources.

Wherever possible the use of non-recyclable plastics will be avoided, and alternative materials will be requested from suppliers to be put forward for consideration.

Whenever possible and where practicable, the availability of a material from a local source, whether that be the raw material or manufacturing facility will be given full consideration.

The use of materials and surface treatments which produce harmful emissions will be avoided.

7.17 Equality

The new development will be fully Equality Act compliant with all areas being fully accessible. All entrances and exits will be designed with level thresholds and appropriate vertical access to all levels will be provided. Accessible parking areas will be located adjacent to the main vertical circulation points to minimise travel distances.

7.18 Waste & Recycling

The demand upon the development for the provision of recycling and waste storage will be addressed in the early detailed design stages and when detailed discussions can be held with prospective operators regarding the specific operations of the proposed units. In addition, recycling and waste will be considered for the construction phase.

Provision will be made within the detailed development of the scheme for the inclusion of recycling and waste storage / compaction within the identified service areas.

Contractors will be enforced through a Waste Management Plan to provide waste and recycling containers on site throughout the entire construction period.

As a standard, low flush WCs, urinals and mist spray taps will be provided to reduce the amount of foul discharge, reducing the charges by the Water Authority, and amount of waste to be dealt with by the treatment plants.

8. DESIGN PRINCIPLES

8.1 General

Whilst detailed approval is not sought for individual buildings at this stage, this chapter provides illustrative information on the design principles that the finished development could incorporate, and that the Applicant would seek to clarify in the future through the means of an agreed Design Code.

8.2 Building Form, Materials and Colour

Reference has already been made, as to how the development should ultimately deliver a place where people want to work, with a strong identity of its own, reflecting the requirements of an SRFI, whilst respecting the surrounding uses and context.

To that end, the form of the distribution buildings will need to address the following two primary drivers, as well as addressing the brief of the client to sit alongside their own portfolio of developments but be a clearly identifiable scheme that responds to the individual needs of the wider marketplace.

- To sit harmoniously within the site setting when seen from key long views.
- To present an attractive, well considered, and high-quality design when seen from shorter views and avoiding a monolithic appearance.

From the long views, the site will generally be seen against the agricultural landscape and adjacent Burbage Common and Woods as well as between the major infrastructure corridors of the M69 and the railway. Therefore, its impact can be mitigated using a subtle banding from a suitable colour palette, balanced with sensitively designed vertical elements, in order to break up the long elevational expanses. The roof scape was also a key consideration in order to assist in assimilating the built forms within their immediate context.

The starting point is understanding the predominant colour palette of the existing environment and finding materials and colours that blend as far as possible into that existing palette. This stage is informed by the Landscape and Visual Impact assessment as well as a modified Environmental Colour Study. The site is viewed from a number of different locations to understand the predominant existing colour background and colour combinations tested to find a best fit.

From shorter views, particularly where seen from the public realm and from the approaches to the building, it is important that the buildings provide interesting and attractive views as part of a development of high visual quality that will enhance the quality of the area. Fundamental to this objective, is to ensure that the building form is carefully detailed and articulated, using a carefully selected palette of materials, composed to produce a clearly articulated rhythm of subtly varying textures and neutral colours, with occasional well considered accents as appropriate. Again, the design of the roof line can greatly assist in visually reducing the overall scale of the development, when seen from the immediate vicinity, either by framing the facades against the sky or by gradually fading out the colour of the cladding.



Fig 65. Illustrative Artists Impression



Fig 66. Illustrative Artists Impression

8. DESIGN PRINCIPLES

8.2 Building Form, Materials and Colour cont.

Different cladding types have also been proposed to subtly distinguish between the different internal functions within the building. The approach to the design of the main office elevations being to create a high-quality business park environment, using areas of glazing to clearly emphasise prominent entrance areas, providing clear focal points, clearly visible from the approach to the buildings.

In respect of colour cladding options, the appearance of nearby employment parks were considered and used for comparison.

The service elevations will be a case of form following function with loading doors for level and dock access. However, the materials are consistent in both colour and form with the rest of the building.

The roof form is another key component to the success of the overall design, and it is proposed to utilise a barrel-vaulted repeating roof form, that is expressed along the gable elevations with then a lower level continuous eaves detail along the flanks. This rise and fall in combination with its dark Anthracite cladding beds the design into the landscape when seen from the long views whilst creating a striking quality image when viewed from close.



Fig.67. Illustrative example of application of design principles roof form.

As it is intended for the roofs on all of the main buildings within the HNRFI to accommodate a PV installation, consideration has been given to the form and application of the PV panels themselves. It is the intention that the PV panels will be fixed directly to the roof, following the curve, and coloured Anthracite or a similar dark grey to minimise the differentiation between the panels and the main roof, together with a non-reflective coating to minimise any glint or glare.

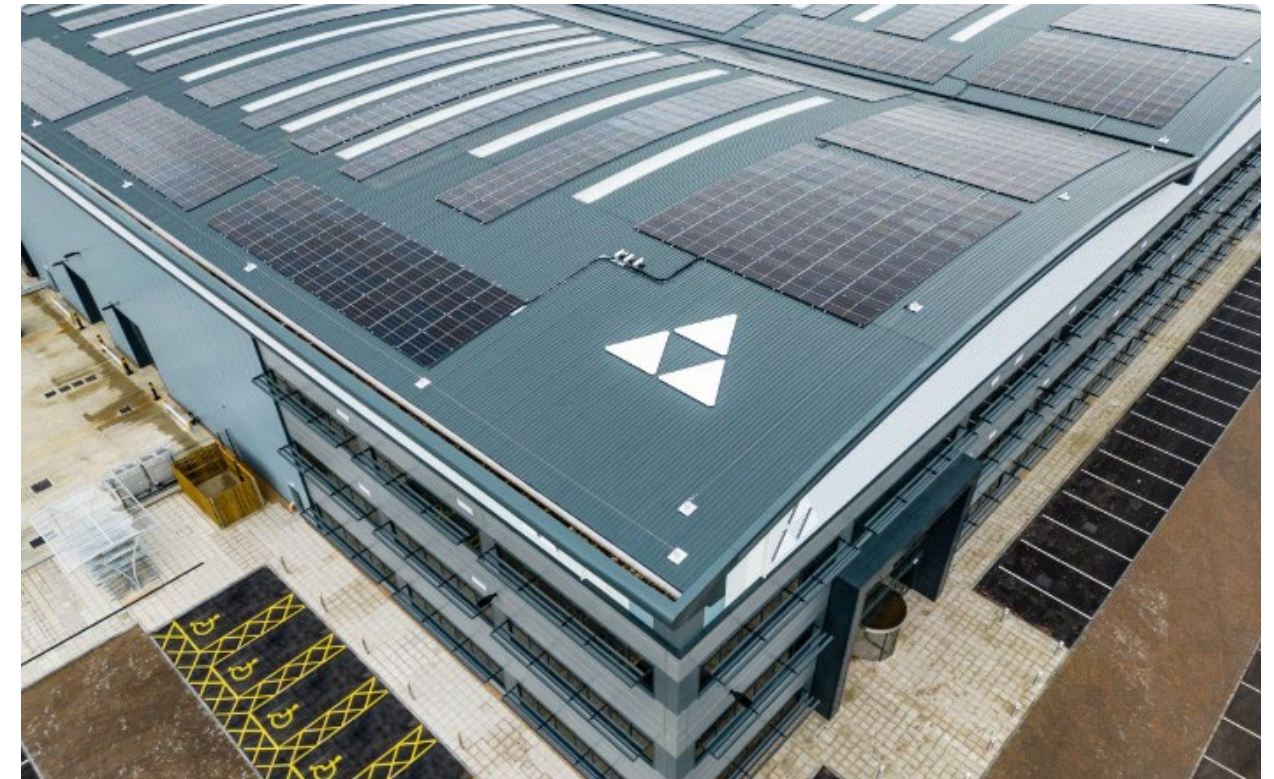


Fig 68. Illustrative example of a PV installation on the roof.

It is intended that the various buildings will be designed to follow a design theme, thereby creating a campus style environment and to create a cohesive and refined appearance which will sit comfortably within the surroundings and provide a sensitive backdrop to the site landscaping.

8. DESIGN PRINCIPLES

8.2 Building Form, Materials and Colour cont.

It is proposed to use a combination of coated profiled metal cladding panels on the roof and the main facades but utilising them in a different orientation at the top of the building to the lower part to add both interest and texture as well as providing alternative shadowing responses. In addition, flat metal composite panels will be utilised on both the main industrial component vertically, and horizontally on the offices, again for interest and to break up the potential for long slab-sided elevations.



Fig 69. Illustrative application of design principal materials and colour

Finally, large, glazed curtain walling panels will be incorporated into the main building facades to increase the quality feel, add additional visual interest, and break up the overall mass whilst at the same time improving the amount and quality of natural daylight within the buildings.



Fig 70. Illustrative application of curtain walling into the main building facades.

By breaking up the elevations into multiple components of differing materials, incorporating a change in horizontal and vertical emphasis and by having a barrel vault repeating roof form the buildings can be integrated successfully into the long views especially when providing the mixed colour roof cladding as well, but when seen from closer public environs the buildings have significant variety and interest to create the high quality business park aesthetic that is sought by the client and potential occupiers, and one that doesn't mimic surrounding developments to create its own sense of place.

The design of the building has also incorporated sustainable materials and features to reduce CO2 emissions.

8. DESIGN PRINCIPLES

8.3 Internal Distributor Roads

Within the Main HNRFI Site, internal distributor roads will branch from the A47 Link Road to serve buildings and other areas across the site. These internal distributor roads will be single carriageway roads set in landscaped corridors. The roads will be lit using lighting designed to minimise light pollution. These internal roads are not intended for adoption as public highways under the Highways Act 1980 but will be private roads available for public use. These roads will be maintained by the appointed management company. The Railport will have a lit, private, dedicated access off the A47 Link Road.

8.4 Site Hub and Lorry Park with Welfare and Fuelling Facilities

A two-storey site hub building containing site management and security offices and a marketing suite is proposed in an area to the south of the A47 Link Road near Freeholt Wood. This will be located in development zone F.

A lorry park will be located to the south of the proposed A47 Link Road, from which it will be accessed. Access to the lorry park, driver welfare building and lorry filling station will be controlled so that it is available for HNRFI-related hauliers only. This is in order to prevent the facility being used as a general-purpose service area and truck stop by passing motorway traffic. This will be located in development zone G.

The materials, colours, design and form of the buildings will echo that of the main development to create a cohesive approach to design across the development.

8.5 Car Parking Design

Car parking will be provided on each development site to respond to the use class as well as reflecting the institutional requirements demanded by individual occupiers.

The car parking will have block paviors to the circulation routes with tarmacadam parking bays with white bitumastic paint delineation.

The car parking areas will be laid out in aisles to avoid traffic conflicts and congestion in front of the main building entrances. Pedestrian routes through the car parking areas will be arranged to link safely and conveniently with building entrances, with appropriate lighting.

Each individual development site will incorporate the provision of EV charging facilities to 20% of the total parking bays with provision designed in to connect the balance of the parking in the future as take up of electric vehicles increases.

Primarily, the parking will be provided at surface level with multi-storey car parks only being provided to address occupier specific needs.



Fig. 71 Illustrative example of external parking areas.



Fig 72. Illustrative examples of external parking areas

8. DESIGN PRINCIPLES

8.6 Cycle Parking

Covered cycle parking shelters will be provided on the site for cyclists. Cycle shelters will be conveniently located close to the entrance of each of the buildings to provide cyclists a safe, secure, convenient and well-lit facility.

8.7 Servicing Design

The deep service areas will be accessed separately from the car parking access points via a security entrance and located on the long facades of all the units in line with good practice for developments of this type and occupiers needs.

The yard will be surfaced in concrete for robustness and have a secure fence to the full perimeter with appropriate lighting for operational, security and health and safety purposes.

It is also important that service yards are large enough to provide sufficient space to comfortably turn articulated vehicles, so that they can reverse onto the loading doors and leave the service area in a forward direction.

Where possible the service areas will be located away from the sensitive receptors and make use of the buildings to screen the impacts emanating from their use.

8.8 Hard Landscaping

The parks hardstanding materials cover the robust elements of the development and are specified to be appropriate to their location and purpose.

The main estate roads and combined footpath / cycleways will have a tarmac surface with bitumastic white line delineation to direct and segregate the traffic flows. Any pedestrian crossings will be complete with drop kerbs and tactile paving to ensure use by all visitors to the site.

The footpaths within the development plots themselves will be a combination of paving slabs and concrete, with paving slabs being used to the 'front of house' areas and concrete to the rear of the warehouse blocks where a more robust service for access and maintenance is required.

The car parking areas will have block paviors to the circulation aisles and tarmac with bitumastic white lining to the parking bays including all designation bays such as disabled parking and electric vehicle charging bays.

The service areas will be in a brushed finished concrete appropriate to the hard-wearing activities and use they are subject to.

8.9 Park trail and Well Being Zones

In addition to the combined footpaths and cycleways and making use of the proposed footpaths and bridleways through the perimeter landscaping, it is proposed that there will be a park trail, and as it meanders around the development plots and into the soft areas these will be formed in a hard compacted gravel finish appropriate for use by all users.

This park trail will break out into well-being zones located around the whole site and be for the benefit of the public and employees alike. These well-being zone will include activity / exercise equipment and amenity seating areas and be set on localised hardstanding areas to ensure both safe use and access.

As part of the commitment to BREEAM Excellent, an onsite amenity area made up of hard and soft landscaping will also be provided on each individual plot, for use by the occupants.

Proposed well-being zones to be planted with appropriate tree and shrub species to provide shade during the summer months. Species selection to include native and climate resilient specimens, which provide seasonal interest.



Fig. 73 Illustrative Activity Hub



Fig 74. Illustrative Social Space Seating

8. DESIGN PRINCIPLES

8.10 Development Signage

It is proposed that the site will also be complete with occupier and development signage for identification and directional purposes, as well as creating a sense of place and purpose.



Fig 75. Illustrative building and park signage



Fig 76. Illustrative example of 2.4m high paladin security fence

8.11 Security Fencing

The security fencing on the park is proposed only to the perimeter of the Railport and the service areas of the distribution buildings in the absence of any known occupier requirements, who may, by virtue of their operations require a higher degree of security and include further areas such as the frontage parking within a secure zone. The design of fencing needs to deter potential breach whilst being open in appearance to allow views through to soften its appearance, improve natural surveillance and allow it to blend within its setting. Based on these criteria the proposal would be for green paladin security fence between 2.4m and 3.0m complete with matching gates, that would be appropriate to the Railport and distribution buildings alike.

8. DESIGN PRINCIPLES

8.12 Security

It is important that any development responds to the issues relating to security, such as criminal and anti-social behaviour.

The security requirements for each building plot will reflect individual occupier requirements. Some buildings will be in fenced and gated compounds, the design of which will be the subject of detailed submissions to Blaby District Council in response to the DCO Requirements.

Security design could include features as listed below:

- Gatehouses or security kiosks;
- Barriers to service area entrances to provide out of hours security;
- Security fencing to the full perimeter of the Railport and service areas. Typically, the security fencing will be 2.4 m paladin mesh fencing and matching gates. In certain circumstances and to meet occupier's specific needs the fencing could be higher;
- Secure parking for cycles located in highly visible and supervisable locations;
- External lighting designed to BS 5489 and BS 12464 to achieve appropriate levels of illumination in all areas';
- Good natural surveillance of parking and pedestrian areas, including footpaths and cycleways;
- Buildings of robust construction;
- All external doors fitted with secure frames and locks;
- Ability for occupiers / owners of individual units to fit CCTV with internal and external monitoring.

9. CONCLUSION

9.1 Conclusions

- The HNRFI site, offers an excellent opportunity to create a strategic rail freight interchange in a location of identified need, with opportunity to connect to the Felixstowe to Nuneaton Freight Line, the M69 at Junction 2 and the A47 via a new link road;
- The HNRFI site, as a result of work that has been ongoing since the inception of the proposed development, has the opportunity to provide an exemplar scheme by way of the provision of a set of parameters and a framework that would address the environmental considerations, intermodal connectivity, sustainable attributes, operational activity and prospective occupier needs;
- The Principal Development is capable of supporting up to 16 trains per day and a rail-served development of up to 850,000 square metres (gross internal area or GIA) of warehousing and ancillary buildings with a total footprint of up to 650,000 square metres and up to 200,000 square metres of mezzanine floorspace, generating substantial economic and sustainability benefits, which are achieved through the transfer of freight from road to rail;
- The Principal Development complies with the NPS, and the considered design and assessment of the scheme has ensured that it has evolved in response to both Statutory and Public Consultation as well as the defining characteristics of the surrounding area in order to limit and mitigate its effects, as required by the NPS;
- Subject to the detailed terms of the DCO itself, therefore, it would be appropriate for consent to be granted, in accordance with, and in order to satisfy, government policy.