

The Dunton Area Landscape Corridor Design Options

Local Plan Green Infrastructure



Client:
Basildon Council
Brentwood Council

Date:
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A landscape photograph of a green field with a large tree and a wind turbine in the distance. The image is overlaid with large, semi-transparent geometric shapes in shades of orange, red, and brown. The text "PLACE SERVICES" is written in white, bold, sans-serif font across the lower-left portion of the image.

PLACE
SERVICES



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Introduction

The Document

Place Services have been commissioned by Basildon Borough Council (BaBC) and Brentwood Borough Council (BrBC) to undertake a broad scale landscape assessment and present proposals for a landscape buffer and green corridor that could encompass the borough boundaries and give visual separation between two potential residential development sites. These two sites represent an urban extension to Basildon on its west side and a new 'Garden Village' settlement based on the Dunton Hills area. This document sets out the analysis undertaken and the scheme options proposed.

This study is guided by the two councils' draft local plans for future strategic development, and the project requirement to ensure that there is a visual separation between the potential new settlement areas. The work is intended to investigate the following aspects:

- Whether a corridor can be provided to achieve visual separation;
- Whether there are opportunities to use this landscape corridor to improve biodiversity and recreational connectivity;
- Whether there are opportunities for the corridor to be traversed by local highway connections.

The Basildon Infrastructure Delivery Plan (Basildon Council, 2015) states that 'there is a need to make provision for the necessary supporting physical, social and green infrastructure in the appropriate location and at the right time to meet the needs of the community, whether this is by using current spare capacity in existing infrastructure or bringing forward new infrastructure where necessary.'

This document has been prepared in order to inform a development framework and master plan which will guide the embedding of green infrastructure (GI) provision between the development areas. This should ensure that the desired objectives are achieved and that the settlements become desirable places to live, with connections to surrounding green space and recreational routes.



Figure 1: Byway 60 looking west

Introduction

Location

The overall project area is located between the B148 on the eastern boundary, A127 on the northern boundary, and the A128 Tilbury Road on the western boundary, beyond which lies the settlement of West Horndon. On the southern boundary lies a railway line. The Lower Dunton Road dissects the eastern part of the project area and gives access to a number of scattered residential, agricultural and business properties.

The borough boundary runs broadly north to south parallel to both the National Grid gas pipeline and the Lower Dunton Road in the eastern part of the project area. The land is broadly occupied by woodland, agricultural land, both pasture and arable, and recreational land (golf course, footpaths and fishing lakes). There are scattered residential properties located in the East Horndon area, off the A128, and within the Dunton Hills and Dunton Road area. Three of these are Grade II listed.

The Dunton Hills Family Golf centre is situated in the south western section of the project area along with its associated clubhouse, car park, water features, driving range and undulating 18-hole golf course area. The golf course greens extend across the sloping land area meeting up with the borough boundary line close to the properties of The Old Rectory, Dunton Hall and The Church (former) of St Mary located within the BaBC area.

Another key property within the project area is the Old Rectory Wedding Venue, which is located on Lower Dunton Road. Timmermans Nurseries and AJ Shepherd Motors which are also located off the A127 are also within the site boundary and may be impacted on through the development of the area.

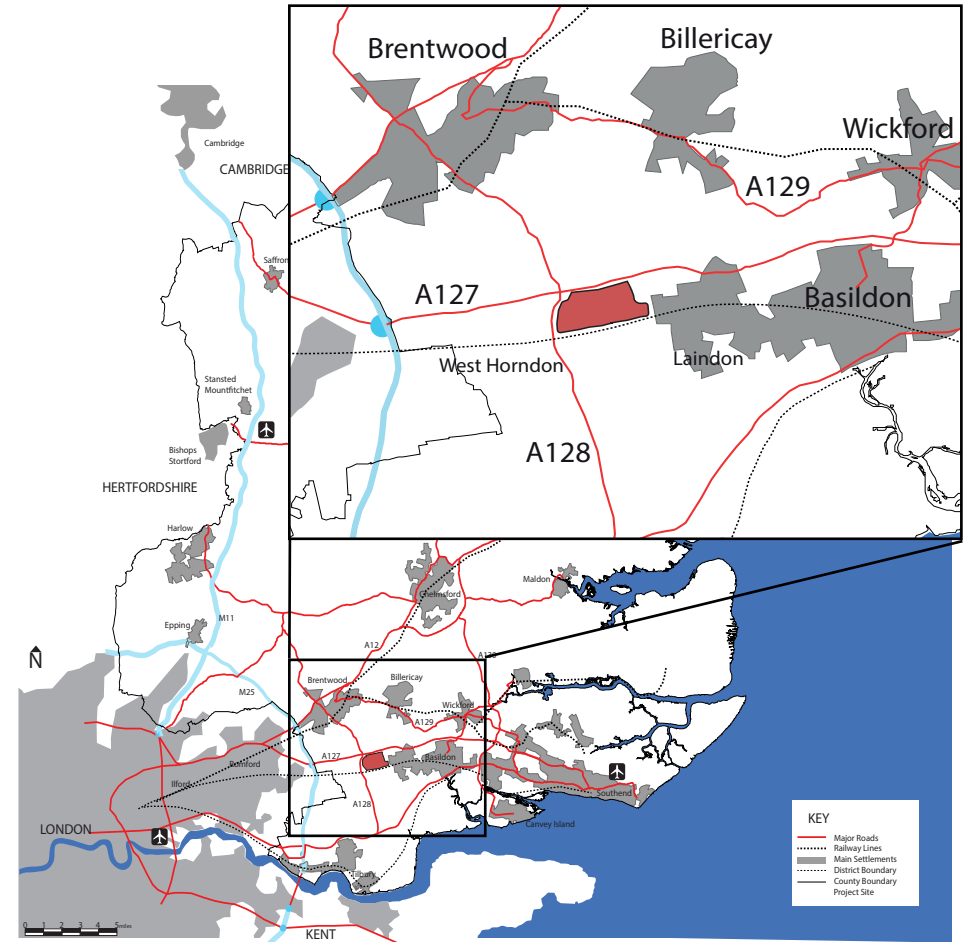


Figure 2: Project Location

Landscape Analysis

The site assessment was carried out using existing data available, this includes:

- Ordnance Survey (OS) maps;
- Photographs;
- GIS data and mapping;
- Planning and environmental designations and public rights of way (PROW) ;
- Landscape Character Assessment Essex County Council Chris Blandford Associates (2003);
- Basildon Borough Landscape Character Assessment and Landscape Capacity Study (2014);
- Basildon Outline Landscape Appraisals of Potential Strategic Development Sites (2015);
- Desk top review of existing biodiversity information (designated sites and protected/ priority species);
- Brentwood Local Wildlife Site Review;
- Basildon Local Wildlife Site Review;
- Basildon District Council Ecology Surveys 2016 and 2017;
- Brentwood Mid Essex Landscape Character Assessment 2006;
- Brentwood Green Infrastructure Strategy;
- Brentwood Assessment of Potential Housing, Employment and Mixed Use Sites.

Site visits were undertaken in April and July 2017 by Place Services' Landscape Architects and Ecologists.



Figure 3: Project area visit, oak woodland and hedgerows in the northern part of the site

Landscape Analysis

Landscape Character and Use

At a broad level, as defined by the Essex Landscape Character Assessment (LCA 2003), the project area falls within the Brentwood Hills and South Essex Coastal Towns LCA areas. A detailed landscape character assessment (LCA) for Basildon Borough was prepared by The Landscape Partnership in 2014, with an Outline Landscape Appraisal of Potential Strategic Development Sites being produced in 2015. A detailed LCA was also prepared by Chris Blandford Associates in 2006 for BrBC.

At the more detailed level the project area falls within the two landscape character areas of Horndon Fenland (G1) and Dunton Settled Claylands (LCA13).

The Horndon Fenland (G1) overall character description is generally more applicable to the landscape to the west of the A128 and extending through to the M25. This text extract is taken from page 135 of the Landscape Character of Brentwood Borough document.

Overall Character

'This predominantly flat arable farmland is situated to the south of A127 and north of Fenchurch Street to the Shoeburyness railway line, and the settlement of West Horndon. Fields are generally large, with low hedgerows at field boundaries. These hedges often contain single mature deciduous trees, and although there are gaps in places, they are usually trimmed. The sense of tranquility within the area is disturbed by continuous background traffic noise associated with the A127 and also the railway corridor to the south. To the north and east, a sense of general enclosure is provided by views to low wooded hills. Open views to pylons (which are dominant within several views) and Tilbury power station give a hint of the proximity of this area to a landscape, which is more greatly influenced by human activity around Thurrock and the Thames Gateway to the south.

Other than residential and small industrial areas at West Horndon, the settlement pattern within the area consists of occasional single farmsteads dotted within the landscape'.



Figure 4: Panoramic view of the area of Dunton Hills

As shown in Figure 4, the project area itself exhibits a more rolling topography with the land rising to the Dunton Hills Farm and the wind turbine. The rolling topography is particularly prominent within the golf course area and the fields sloping down towards the Mardyke River and ancient woodland. The north-western part of the project area where the landscape abuts the A127 and A128 is comprised of lower lying fields, with dividing hedgerows forming strong landscape features, providing habitat connectivity and containing mature hedgerow trees.

To the north of the A127 and extending north from the project area, the landscape is defined by the LCA areas of Great Warley Wooded Farmland, Little Warley Wooded Farmland, Ingrave and Herongate Wooded farmland. The landscape exerts a strong influence on the area with the rising land, presence of woodland, some of it straddling the A127, and notable buildings such as All Saints Church.

Within the project area notable landscape features include the rolling topography of Dunton Hills, mixed agricultural fields, hedgerow and hedgerow trees, scattered woodland, a water course and ancient green byway (Ref ECC 313 67). The Mardyke River watercourse and byway runs through remnant ancient woodland from the A127 south of Eastlands Spring in a south west direction. The watercourse continues south across farmland and the golf course, the route of which is highlighted by large willow and other trees. The byway continues through to the A128 with the watercourse continuing in a southerly direction.

Much of the project area is gently undulating but rises more steeply towards the centre of the area from both the Mardyke River water course and the northern areas of the golf course. There are extensive views from the project area across the landscape particularly to the south west where the landscape gently falls towards the Thames Estuary. The highest area of land is occupied by Dunton Hills Farm and the adjacent wind turbine. Dunton Hills Farm is a collection of attractive listed buildings which can be seen from the surrounding land. Similarly, the wind turbine stands at 50m high and a total of 78m including the propeller blades. It was erected in 2014, benefiting from a planning consent until 2039. Like the Dunton Hills Farm, the turbine can be seen from the western part of the area and also from all surrounding areas due to its elevation and height.

The eastern part of the project area falls within the Dunton Settled Claylands (LCA13) landscape type. The landscape broadly comprises arable and pasture fields divided by ancient hedgerows and intermittent mature tree lines, which are often oak and indicate the presence of former hedgerows. There are many mature trees, some with veteran features, along the hedgerows including species' such as oak, ash and hornbeam.

To the west of the borough boundary an extensive area of younger woodland has been planted, located alongside the A127 and continuing through to Timmermans Nurseries and Public Right of Way 69. This forms a strong landscape feature within the A127 road corridor and will assist in terms of providing a natural buffer to development within the project area. A smaller area of more open mature woodland with oak being the primary species is located in the northern part of the area, to the south-east of Timmermans Nurseries. To the northern end of the watercourse, running south from the A127, lies an area of ancient woodland forming part of Eastlands Spring woodland and dissected by the A127. Oak, hornbeam and hazel appearing to be the dominant tree and shrub species but others are present and include spindle, hawthorn, honeysuckle, crab apple, blackthorn and bullace species.

There are also two high voltage power lines routes running across the project area with their associated pylons dotting the landscape. These both turn at right angles toward the centre highest point of the land and create a highly visible and incongruous feature in the landscape.



Figure 5: Existing Woodland

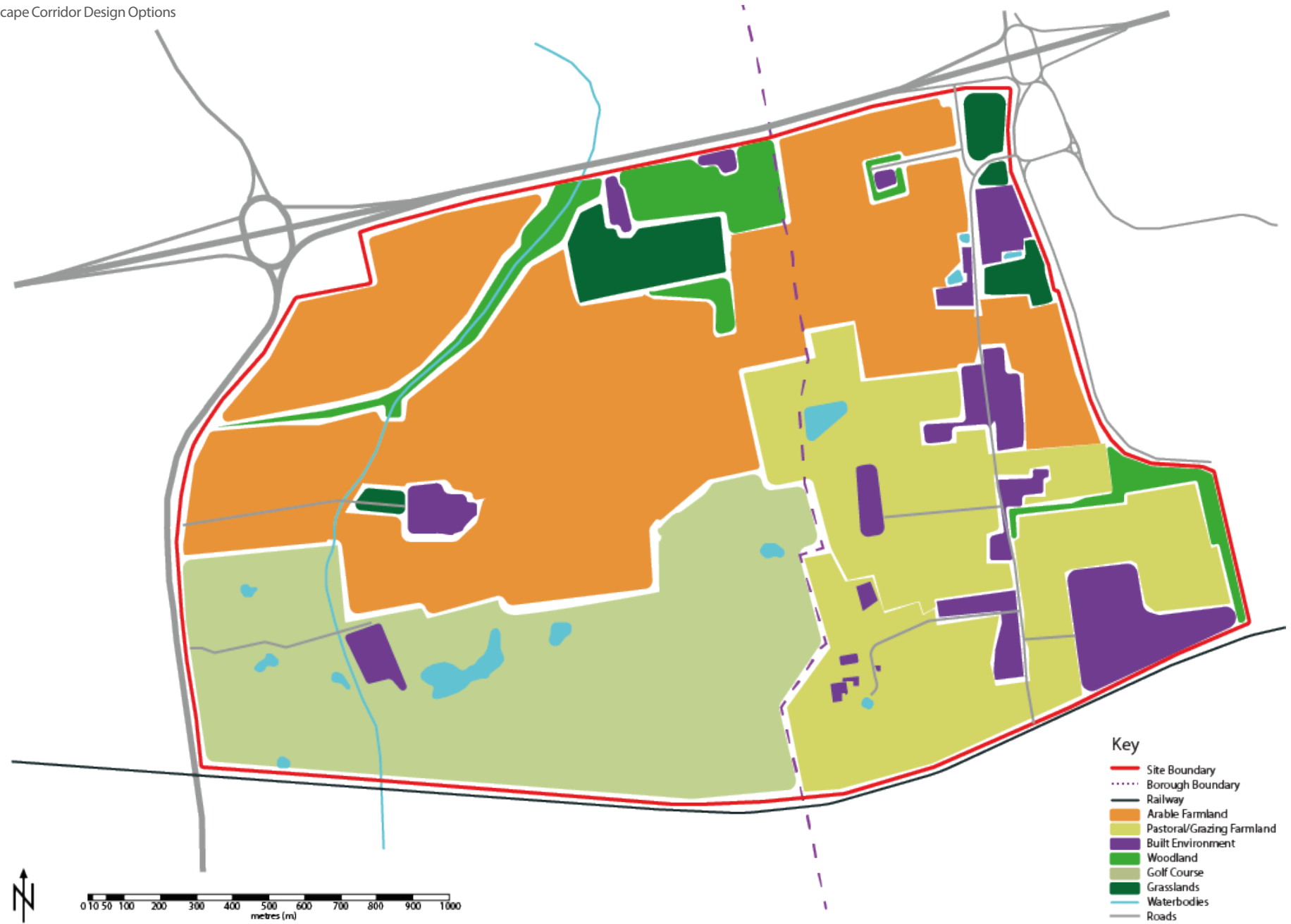


Figure 6: Existing Land Use Map

Landscape Analysis

Ecology

Previous surveys and ecological assessments

The Basildon Protected Species Alert Maps identifies many areas of ecological importance within the Basildon Borough. The Protected Species layer is based on a Phase 1 Habitat Survey carried out by EECOS in 2005 with assistance from the Essex Wildlife Trust. Whilst there will have been some records data used to inform the layer, it makes assumptions in terms of what species may exist in certain areas based on the habitats that are known to be there.

Ecology Site Surveys of various areas of Basildon Borough have been carried out by LUC over 2016 and 2017. These are effectively an up to date Phase 1 Habitat Survey and have been informed by biological records data held by the Essex Wildlife Trust. This found the following habitats within the Basildon project area; semi-improved grassland, poor semi-improved grassland, improved grassland, amenity grassland, scrub, tall ruderal vegetation, ponds, hedgerows, trees lines, arable, building and ditches. It also found potential for the following protected and priority species to be present:

- Great crested newts;
- Bats;
- Badgers;
- Water vole;
- Reptiles;
- Birds;
- Brown hare (priority species).

There is no equivalent existing information for Brentwood Borough.

Habitat descriptions

The project area contains ancient woodland which is designated as Eastlands Spring Local Wildlife Site (LoWS) (Bre134). It also contains small patches of lowland deciduous woodland, areas of plantation woodland, many mature trees, some with veteran features, hedgerows, a golf course, extensive areas of arable and some pasture with scrub, semi-improved and improved grassland. It is partially disconnected from its surrounding habitats, particularly on the northern boundary due to the proximity of the A127. West Mayne and the A128 also provide barriers for wildlife on the east and west boundary. The southern boundary is the railway line which itself acts as both a barrier to the south but also an east- west habitat corridor.

Arable

The site is dominated by medium-sized arable fields which are bounded by hedgerows and scattered trees. Most of the arable land would support limited wildlife potential which would be mostly confined to the edges although priority species such as the brown hare and farmland birds, including skylarks, may be present.

Pasture

There are also significant areas of pasture in the central and eastern areas, with horse, sheep and cattle grazing (see in Figure 8). This comprises semi-improved and improved grassland. More detailed assessment is required to determine its ecological quality, particularly botanical.



Figure 7: Eastlands Spring LoWS



Figure 8: Pastoral Land

Golf course

The south western corner of the project area contains the golf course. This comprises a mix of short mown amenity grass with patches of longer grass (the rough), some areas of scrub planting, scattered ponds, hedgerows around the perimeter and it is dissected by the Mardyke River with its associated trees and hedgerow. There is also the golf house and associated car park (see figure 9) which is an area of hard standing. There is a large pond adjacent to the road leading to the golf house with marginal vegetation, scattered scrub and a mature oak tree. More detailed assessment is required to determine its ecological quality.

Woodlands

The narrow strip of ancient woodland (Figure 7: Eastlands Spring LoWS) contains ash, hornbeam, pedunculated oak trees and honeysuckle. Ground flora includes bluebells as well as lesser celandine, wood anemones and yellow archangel can be found in places where the woodland area widens. There is also a pond situated in the woodland and others scattered along the route. The stream and woody vegetation provides complete continuity of habitat, except where it is dissected by the farm and golf course access routes.

The stream within the Eastlands Spring woodland is within the narrow strip of ancient woodland which tapers and eventually divides into two sections. At the point of the divide is a wider patch of woodland and a pond which is barely visible due to the density of the vegetation. One of the sections continues south-westwards across the project area, following the line of the tributary of the River Mardyke throughout the rest of the area to the southern project boundary and beyond. This creates an almost continuous wildlife corridor (except for being dissected by two roads) of trees/ thick hedgerows with mature oak, crack willow, weeping willow, field maple, hawthorn, blackthorn and rose.

The other section continues almost due west following the line of the public footpath until it connects with Tilbury Road (A128) with an overgrown hedgerow on either side, and is probably an old green lane. The hedgerows contain woody species including mature oak standards, spindle, blackthorn, hawthorn, bullace, field maple, Midland hawthorn and ground flora including bluebells can be found in places where the woody area is sparse.

There is another area of woodland in the north centre of the site which is not mapped as ancient woodland on the ancient woodland inventory (possibly because of its size) but it is certainly old. It is a narrow 'L' shape and very open in nature. It is dominated by mature and aged oaks with ground flora

including bluebells, greater stitchwort, blackthorn, brambles and a small amount of gorse. It contains a dry pond in the northern end containing little vegetation. The southern end is very open and with a semi-improved grassland understorey.

Ponds

As well as those ponds mentioned above, there are various other ponds scattered across the project area, particularly the southern and eastern areas. The only ponds in the north west of the site appear to be in the ancient woodland. Ponds are generally of great benefit to wildlife and should be retained where possible. Some have the potential to support great crested newts (GCN) and much of the area has enough terrestrial habitats to support GCNs too, with the exception of the arable land (away from the boundaries). The most recent records of great crested newts returned were from 2003 and they were not from within the project area. These are protected under both European and national law by the Conservation of Habitats and Species Regulations (2010) and under the Wildlife and Countryside Act (1981; as amended), respectively.



Figure 9: Eastlands Spring LoWS bluebells



Figure 10: Existing pond east of the Church

Hedgerows

There are numerous ancient and mature hedgerows across much of the project area, with the exception of the golf course. Many have been allowed to become a tree line. Many of them are situated along field and parish boundaries shown on the 1st edition map (Appendix 2) and many contain mature oaks, some with veteran features. It should be noted that not all of the hedgerows could be accessed.

There are many trees which fall into the category of mature and some of these contain veteran features (see Figure 11 and 12). During a site visit, a barn owl (protected species) was observed flying from an aged dying oak illustrating the habitat value that such trees can have.

Houses and residential areas

There are a few houses scattered across the project area, particularly in the eastern parts and these are generally associated with large gardens and small holdings. These could not be accessed but may potentially have considerable wildlife value. They may support protected and priority species (for example nesting birds, bats, reptiles, hedgehogs, amphibians and invertebrates) particularly where mature planting, trees and water bodies exist.



Figure 11: Mature Oaks north of fishing lake



Figure 12: Oak tree with veteran features supporting wildlife



Figure 13: Amenity grassland and scattered scrub on golf course looking south west

Landscape Analysis

Historic

The site area contains significant surviving historic environment features including listed buildings, moated sites, field boundaries, historic woodland and parish boundaries which preserve elements of a probable medieval or earlier landscape as well as later settlement patterns.

The surviving buildings within the landscape represent the typical medieval settlement pattern for this area and most are designated Grade II listed buildings. The church/hall complex at Dunton included the 15th century parish church and Hall; the present house dates from the 19th century and is likely to have replaced earlier halls. The Old Rectory lies south of a moated enclosure north of the Church and Hall and together form a nucleus for the medieval settlement at Dunton.

Dunton Hills Farm is of 17th century date and was accessed from Nightingale Lane, a historic route which predates 1777 and ran along the stream to Nightingale Farm which no longer survives. Elements of the former lane survive as a track and paths. Further non-designated heritage assets survive including the mill cottages which were associated with the East Horndon corn mills along Tilbury Road and Friern Manor along the Lower Dunton Road.

The surviving field pattern contains well preserved elements of the historic rectilinear field pattern which is thought to have its origins in the Roman or at the latest the medieval period. The road layout respects this pattern and has survived while other historic routes are preserved in landscape features across the area. In the tracks and footpaths crossing the area, the former route of Nightingale Lane survives, from which the site of Horndon Hall could be accessed as well as leading to Nightingale Hall which lay south of the current Green Meadows Nurseries.

Elements of the plotland field divisions also survive within the area along the Lower Dunton Road. This was a time when the land was sub-divided into plotlands in the 1920's, with further plots being added prior to 1938.



Figure 14: Church of St Mary Grade II Listed



Figure 15: Surviving field boundaries

Constraints

Physical Constraints

There are physical constraints within the project area which will impact on the space available for both physical development and green space (see Figure 16). The constraints will provide some challenges to achieving the proposed development and landscape corridor at the same time as ensuring that impacts are mitigated.

Energy

There are two high voltage power lines routes with their associated pylons running across the project area from A127 to A128 and from Basildon turning south across the railway line, both lines turn at right angles toward the centre highest point of the land. The line routes are indicated on the plan at Figure 16. The development schemes may need to consider encapsulating the costs of undergrounding the power lines in order to ensure that the setting for residential and open space uses is not overly compromised. In addition, an underlying National Grid pipeline is routed along the boundary between the two boroughs and follows the route of the Public Right of Way (PRoW) in many areas. There is also a wind turbine which was erected in 2015 located at the highest point at Dunton Hills. There will be a need to consider these three key energy supply features in terms of the land easement and safety zones needed. These will affect land available for development and to some extent the provision of new landscape features i.e planting on or under pipelines and pylons.

A solar park installed in 2013 lies to the south of the railway line and project area (within the Borough of Thurrock) could also compromise the creation of a footpath link, even if it were feasible to create a bridge crossing for the railway. There are approximately 40,000 solar panels with a maximum height of 2.5m above ground level. The current consented operational period is 2043, after which planning permission will be required to continue the operation. This area of land is key to creating a connection across the railway line, between the project area and the surrounding landscape.

Highways

The main highway routes to the west and north, and the railway to the south, present challenges for the provision of linkages to countryside to the north and south of the project area. In order to create a positive link to the north and on to Thorndon Country Park there will need to be a footbridge across the A127 enabling a link to be created between footpaths 62 and 69 or 60 and 68. Further improvements would need to be made to ensure good walking links were created to the country park,

as well as safe access across the A128, which is essential for walkers and cyclists wishing to travel to West Horndon. PRoW improvements between the A128 and the village will also be needed.

Links to the south could be achieved along the Lower Dunton Road, under the railway bridge but only if traffic calming measures were set in place for the road. Current traffic speeds and volume along this road make it unsafe for walkers. Liaison with landowners, ECC Highways/public rights of way team, Highways Agency and Network Rail will be necessary.

Watercourses

The key watercourse, the Mardyke stream running through the western part of the project area is a partial constraint to development. Subject to careful design it also offers opportunities for the location of sustainable urban drainage systems (SUDS). Further advice will be needed to ensure that capacity, separation and protection of the watercourse and its key habitats are not compromised by either new development or the additional drainage of surface water and run off into the valley. Any SUDS should also not adversely affect the Eastland Spring Local Wildlife Site.



Figure 16: View of the Electricity Pylons and Wind Turbine

Ecology

Statutory designations

Thorndon Park Site of Special Scientific Interest (SSSI) is situated 0.8 km to the north west of the area and sited within Thorndon Country Park (which is 350 metres from the site). SSSIs give legal protection to the best sites for wildlife and geology in England under The Wildlife and Countryside Act (1981). Thorndon Park SSSI is an area of semi-natural broad-leaved woodland and ancient parkland supporting a range of habitat types developed over Claygate and Bagshot Beds and gravels to the south of Brentwood. The woodland includes the lowland birch-sessile oak and pedunculate oak and hornbeam types and the site supports an outstanding assemblage of beetles (Coleoptera) including one species which is rare and vulnerable in Britain. The areas of extant ancient parkland consist of old oak pollards and standards growing over acidic or neutral grassland.

The development associated with these proposals may encourage people to use Thorndon Country Park for recreational purposes and part of the remit of this document is to examine the possibility for creating links with the park. It is possible for there to be detrimental impacts upon the SSSI as a result of increased recreational use by new residents activity. This would have to be considered carefully in partnership with Natural England and mitigation may be required. This could involve looking at opportunities for enhancing the SSSI and creating new habitats elsewhere to support those in the SSSI.

Non-statutory designations

The Eastlands Spring LoWS (8.6ha) is situated within the central northern part of the area; it is a streamside ancient woodland and is therefore a long and narrow shape leading from the northern boundary south westwards. The southern tip of this LoWS comprises the scrubbed up line of an ancient lane (Nightingale Lane), which now forms a contiguous part of the main woodland habitat. Without adequate protection this site could be adversely affected by any development in the vicinity.

There are several other LoWS in the area, including three just outside the area and details can be found in the Appendix 1.

LoWS are sites of local importance for nature conservation but are not legally protected. Local Authorities have a commitment to report the number of LoWSs that are in positive conservation management (HM Government 2008). Although LoWS do not receive statutory protection, they are offered some protection through the planning system and there is a general presumption against development that will adversely affect them.

Priority habitats & species

Under Section 40 (S40) of the Natural Environment and Rural Communities Act (NERC Act 2006), public bodies have a duty to have regard to conserving 'habitats and species of principal importance for the conservation of biodiversity in England', commonly referred to as 'Priority Habitats or Species'. This includes lowland mixed deciduous woodland, lowland meadows, ponds and hedgerows, which are found within the project area.



Figure 17: Mature tree



Figure 18: Existing hedgerow

Eastlands Spring LoWS comprises of ancient woodland which is also classed as an irreplaceable habitat under the National Planning Policy Framework (HM Government 2012) paragraph 118.

Without adequate protection the ancient woodland will be adversely affected by development in the vicinity. Negative impacts could arise from factors including habitat removal inappropriate management, inappropriate access, disturbance, pollutants, changes in ground level, changes in water level and lighting.

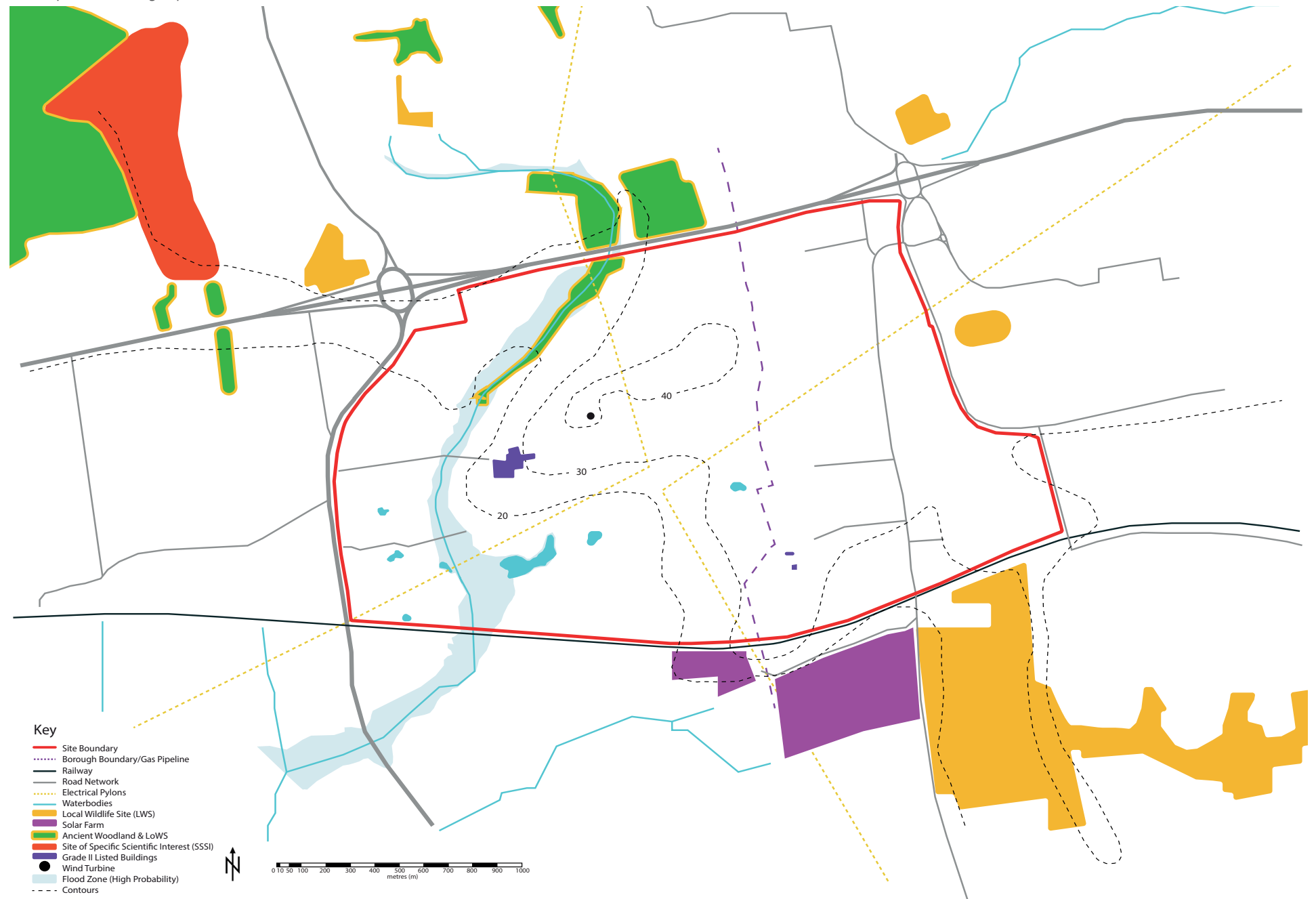
The project area contains many mature trees, some with veteran features requiring more detailed assessment. Aged and veteran trees found outside ancient woodland are also defined as irreplaceable habitat in paragraph 118 of the NPPF and therefore, like ancient woodlands, planning permission should be refused for development resulting in their loss or deterioration unless the need for, and benefits of, the development in that location clearly outweigh the loss.

Some of the hedgerows are likely to fall within the definition of 'important' under the 1997 Hedgerows Regulations due to their age, species make up, presence of trees and frequent connectivity to other features such as water courses, ponds, other hedgerows and woodland.

Protected and species

Some species are protected by national law, international law and/ or government policy. Individual protected species surveys have not been undertaken as part of this study. However, there is potential for the following protected species to be present: great crested newts, bats, badgers, water vole, reptiles, birds (including barn owl). These will need to be assessed in more detail, particularly in habitats that may be altered by the proposals.

Landscape Corridor Design Options



Key

- Site Boundary
- - - Borough Boundary/Gas Pipeline
- Railway
- Road Network
- - - Electrical Pylons
- Waterbodies
- Local Wildlife Site (LWS)
- Solar Farm
- Ancient Woodland & LoWS
- Site of Specific Scientific Interest (SSSI)
- Grade II Listed Buildings
- Wind Turbine
- Flood Zone (High Probability)
- - - Contours

Figure 19: Constraints Plan

Landscape Corridor Options

Concept and Vision

The vision for the proposed landscape buffer and green corridor is to create visual separation between the development areas, to protect specific existing areas of landscape value and to provide recreation and habitat areas for local people and wildlife. The space should also be designed to enhance the public access network by providing new recreational routes through the area for walking, cycling and horse riding. Links to the local public rights of way network will be a necessary component for the overall development of the area.

Vision

1. Achieve a visual separation between the two development areas;
2. Enhance the beneficial use of the Green Belt, such as for access and outdoor recreation;
3. Enhance and protect landscape and visual amenity;
4. Retain existing wildlife corridors and create new habitat connectivity;
5. Provide opportunities for the visual buffer to be incorporated into wider green connections.

Guiding Principles

Five principles can be applied through the detailed design to each of the schemes proposed within this document. These principles relate to what is expected of green spaces nationally, however local consideration has been given to reflect the context of both Basildon and Brentwood Boroughs.



Connectivity

Be safe spaces that inspire confidence in residents and visitors to the area. Cater for a wide range of users (such as dog walkers, children, horse riders, joggers, family groups, and older people). Create green travel links between development areas. Create a single highway link, ensuring minimal impact on the landscape corridor between development areas. Provide links between nearby green open spaces and parks.



Ecology

Provide opportunities for the protection and enhancement of wildlife habitats. Establish coherent ecological networks to allow the movement of biodiversity. Ensure that ancient woodland, hedgerows and veteran trees are retained and protected. Create new habitats to support those that exist within the project area and in neighbouring areas.



Recreation

Consider access beyond the project area for informal recreation. Provide informal recreation opportunities (such as playing, bird watching, picnicking, and outdoor exercise). Provide interactive interpretation through information boards, play structures/ environments and public art. Provide features to encourage more people and a wider audience into the countryside.



Landscape

Provide attractive landscapes. Provide and protect areas for SuDS and features which will assist with drainage from developed areas. Be well managed and maintained. Enhance the setting of and form an attractive background to both existing and upcoming development.



Historic Environment

Conserve and enhance, where feasible, the setting of both designated and non-designated historic assets in the project area.

Landscape Corridor Options

The Schemes

The proposed Landscape corridor has been broadly illustrated in this report through three options. These three options provide different land areas, broad connecting transport alignments, and land use locations. There are elements which can be interchanged between the three options and all will need to be subjected to further detailed design. They can be categorised as follows:

Scheme 1 – Minimum Recommendation: This scheme shows the minimum land area required to achieve a corridor with an element of visual separation.

Scheme 2 – Intermediate Recommendation: This scheme shows a larger land area and will achieve a more effective element of visual separation.

Scheme 3 – Most Recommended: This scheme shows the more desirable land area required to achieve visual separation.

The three schemes are illustrated in the attached Appendices (Appendix 4-6), these include a Scheme Comparison Map (Appendix 3).

Overall the landscape corridor options should be designed to provide the following features based on the overarching principles:

Connectivity

The landscape corridor through the project area has the potential to enhance wildlife and pedestrian connectivity between the two country parks and naturally managed land areas to the north and south i.e. Langdon Hills and Thorndon (as shown in Figure 17).

However the presence of the railway and busy highways (A128 and A127) will continue to exert a physical barrier to the movement of species and to physical recreation routes. The A127 road corridor is subject to an approved strategy (A127 Corridor for Growth - An Economic Plan (Essex County Council, 2014)) for a coordinated approach to improve conditions along the length of the road along with other improvements. In the vicinity of the project area this includes carriageway widening, junction improvements, and crossings along with other safety measures.

Recreational connectivity from the north and south of the site can only be achieved by the creation of bridge or subway linkages across both the road and rail routes. It may be possible to employ highway safety measures to allow pedestrians to cross the A128 at level. There will also need to be public rights of way improvements west of the A128 in order to achieve safe foot and cycle linkages to West Horndon.

The options for the landscape corridor to be traversed by a non-strategic public highway connection to enable residents to access services without reliance on the A127 have been considered in broad terms only at this stage. The alignment of the road is limited by practical constraints such as buildings, topography and landscape features, however three slightly differing options have been indicated on the scheme plans (see Appendix 3, 4 and 5). The preferred route may lie to the south of the Old Rectory due to the need for a highway connection to the east, to the West Mayne Road. The road will also need to link to the west in order to provide connectivity to new development and onwards to the A128. However the road alignment will also need to be determined by the need to minimise impacts on landscape character and wider views, listed buildings and non-designated heritage assets, existing ecology and field boundaries. Further survey and assessment will need to be carried out to determine these impacts.

The highway link is likely to be used for local transport and buses and should be designed to have minimal visual and ecological impact. Lighting, speed control measures and crossing points will need to be designed with care, with foot and cycle way routes needing to run parallel to the road link. A separate non motorised link for walking and cycling further to the north may be needed to encourage sustainable movement and travel. This is indicated on the three scheme options. In order to reduce impact on the quality and character of the landscape corridor other links from the road should be avoided.

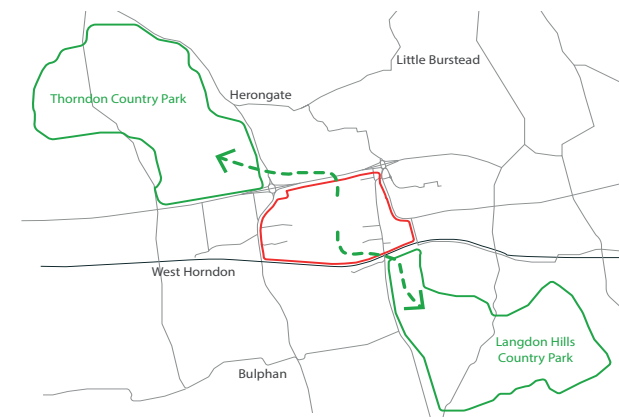


Figure 20: Possible connections to local Country Parks

Highway landscape and ecological design principles have also been proposed and can be found on Page 26 of this document.

Ecology

The ecological network should include existing restored or enhanced semi-natural habitats where possible, and new habitats which will be incorporated into the landscape corridor.

The woodland, hedgerows and trees within the landscape corridor should be retained and protected, except where practical construction requirements apply. Existing woodland should be protected and enhanced by positive management, in particular the ancient woodland along the Mardyke Stream will need sensitive treatment. The existing hedgerows and aged and veteran trees should be retained where at all possible, protected and managed appropriately.

New species-rich hedgerows and mixed deciduous woodland should be created to compliment the landscape and enhance habitat links through the corridor space. Access routes will need to be inserted through hedgerows but these should be minimised and careful design and mitigation methods should be applied. New hedgerows and trees can also be positioned to protect certain species from vehicle collisions and to retain flight paths, for example by encouraging barn owls and bats to fly up and over roads.

Existing ponds should be enhanced for wildlife, particularly where they are currently valuable for biodiversity. This in turn will provide attractive features for the public to enjoy. It may also be possible to use some of them as part of a wider SuDS schemes. The SuDS schemes will be sensitively designed and located to promote improved biodiversity, an enhanced landscape and good quality spaces that benefit public amenities.

Where existing grasslands are ecologically valuable they should be retained and enhanced where possible. Flower-rich meadows should be created using locally appropriate species, as well as tussocky grassland to benefit barn owls. Flower-rich meadows attract a wide variety of wildlife and provide enjoyment to the local community. If appropriately managed they would also create useful links with the important habitats and species found at Langdon and Thorndon Country Parks. Reedbeds will also be considered as part of SuDS schemes.

Recreation

Recreational activities are not only enjoyable, but are known to be beneficial for health and well-being. For this reason areas of parkland have been proposed for informal play, as well as a number of woodland areas for woodland trails and walks. Along these routes interpretation boards, bird

watching buildings and public art could be located to create a diverse range of experiences for all to enjoy. The proposed schemes have also encapsulated areas of the existing bridleway along the Eastlands Spring LoWS, other routes and links in and through the corridor should be incorporated by utilizing gaps in hedgerows, designed woodland planting and mown grass pathways.

The landscape corridor should be used for informal recreation only, with all formal play and sports spaces located beyond this. The landscape corridor is to be provided for the purposes of providing a buffer to development areas, visual separation, to provide landscape and biodiversity/habitat enhancement and informal public recreation. Formal play and sports pitches should be located beyond this as their character and appearance will not be compatible with the scale and key objectives of the corridor. Conflicts will arise from items needed to support sports and some play facilities (e.g. multi use games areas) such as road access, parking, large level areas of amenity grass, ancillary buildings, lighting and flood lighting. The exception may be where formal play of suitable design is located on the fringes of the wider corridor space (Schemes 2 and 3) linking and spilling into the neighbouring residential areas.

The relocation of the Gardiners Lane South playing pitch has been considered in broad terms only. The Gardiners Lane South Playing Pitch Relocation Study (RQA Ltd and BAQUS 2017) states that the preferred proposed location for the facility is to the west of West Mayne Road. This is unlikely to impact on the location of the landscape corridor however the scope to develop footpath and bridleway connections (PRoW 279 110/111) between the areas should be explored.



Figure 21: Informal natural play example



Figure 22: Multi Use Games Area (MUGA) Example

Landscape

The landscape corridor should be designed in order to preserve some of the essential qualities of the area which have been identified. Broadly these are the rectilinear field patterns, with hedgerows and trees, medieval buildings and their setting, the key public right of ways traversing the area, Dunton Hills and the low hillock to the south and views to both the Brentwood Hills and Langdon Hills.

The space should contain a variety of landscapes, utilising existing land use and habitats. Parklands have been proposed close to the corridor boundary providing managed grassland which can be used for recreational activities. Within these areas wildflower meadows should be used to attract wide variety of wildlife, could be used to enhance the area and provide enjoyment to the community.

It also proposed that some of the pastoral land will be retained, with proposed additional grazing which could be private or public spaces, depending on the grazing animals chosen. For instance, Red Polls are a traditional cattle breed native to East Anglia. They are ideally suited to grazing sites that are important for wildlife and open to the public. They are lighter than most commercial continental breeds, and will happily forage on semi-natural vegetation, are good-natured and unfazed by dogs and walkers.

Historic Environment

The landscape corridor options have been designed to ensure that the setting of the surviving historic environment features is retained. These include the listed buildings, moated sites, field boundaries and historic woodlands. Views of the locally prominent Dunton Church spire are attractive and will need to be preserved. Further assessment work will be needed to ensure that other development impacts do not have a negative effect on these heritage assets. Landscape design measures will need to be employed to provide screening of intrusive development elements whilst ensuring views to and from heritage assets are not lost.



Figure 23: Possible Attenuation Pond in Scheme 3

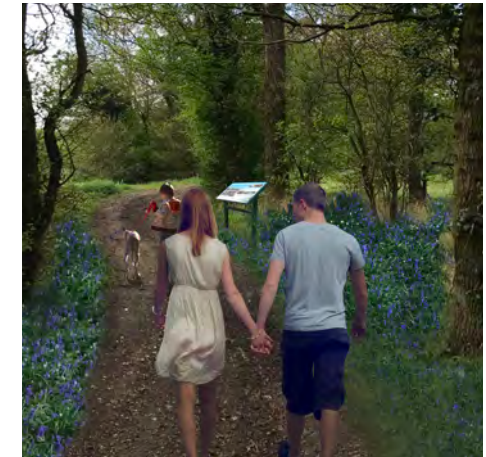


Figure 24: Potential Woodland Trail in Scheme 3

Landscape Corridor Options

Scheme 1

Scheme 1 is based on the minimum recommendation for land coverage (see Appendix 3 & 4). The corridor has been reduced on the west and north east side and land has been removed from the north west and south east corners of the corridor. The scheme will provide more limited scope to preventing visual settlement coalescence, particularly where the corridor is narrow and if development were to be permitted in the higher land of the project area. This scheme allows for less diverse landscapes and ecological enhancements to be achieved.

This scheme has the potential to achieve or allow for the following:

Connectivity

- The highway and walking/cycling connections between potential developments have been proposed. These will cross several hedgerows at right angles and could provide access to manage the greenspace and will itself need to be softened by areas of new planting. The route indicated on the plan lies north of the Old Rectory which will reduce visual impacts in views from the south.

Ecology

- It covers a limited area around the Eastlands Spring LoWS.

Recreation

- Due to the more restricted width of corridor the space for accommodating informal play is more limited. The location of areas for formal play should be beyond the corridor within residential areas.
- There is scope to improve PRow in order to create enhanced biodiversity trails and recreational routes with links to the Langdon Hills Country Park and Eastlands Spring.

Landscape

- It excludes the prominent part of Dunton Hills surrounding the wind turbine and part of the sloping valley side field to the Mardyke Tributary, however some land here will still need to be set aside for green/blue infrastructure;
- It includes the lower prominent hillock to the south west of Dunton Hall and Church;
- It excludes the field to the south of Church Road, if developed this will restrict views and create landscape and visual impact issues from the south.

Historic Environment

- It excludes many existing hedgerows which are both of ecological and historic significance. However, these should still be protected as part of any built development proposed.

The scheme has been illustrated without indicating the two electrical pylon routes. The assumption has been made that these could be removed and placed underground. However if this is not possible they will continue to exert both a visual and physical constraint. Areas of lower shrubby woodland planting can be designed to accommodate and provide some visual softening to the pylons.



Figure 25: Possible Recreation route



Figure 26: Potential Natural Play

Landscape Corridor size (ha):

Total area:	95
Basildon Borough:	35
Brentwood Borough:	60
Existing Woodland:	13
Proposed Woodland:	30
Grazing Grasslands:	28
Parklands:	21

Estimated Implementation Costs*:

Woodland:	£100,000-£150,000
Parklands & Grasslands:	£50,000-£100,000
Infrastructure (not inc. highway):	£75,000 -£150,000
Estimated Management Costs (per annum):	
Woodland:	£25,000-£75,000
Parklands & Grasslands:	£40,000-£65,000
Infrastructure:	£10,000-£50,000

*The estimated costs provided are based on previous project examples and EWGS Standard Costs. They are approximate figures and further research and surveys will be needed to provide accurate costs.

Landscape Corridor Options

Scheme 2

Scheme 2 provides an intermediate option for the landscape corridor (see Appendix 3 & 5). The scheme will ensure a reasonable outcome in terms of preventing visual settlement coalescence and allow for some diversity of landscape and ecological enhancements to be achieved.

This scheme has the potential to achieve or allow for the following:

Connectivity

- The highway and walking/cycling connections between potential developments have been proposed. These will cross several hedgerows at right angles and could provide access to manage the greenspace and will itself need to be softened by areas of new planting. The route indicated on the plan lies to the south of the Old Rectory, it passes closer to the listed buildings of the Dunton Church and Hall, impacts on setting will need to be considered in further detail.

Ecology

- It allows for some capacity to create areas for wildlife and priority habitat, some of which could be protected from public access;
- It includes a greater area around the Eastlands Spring LoWS, compared to Scheme 1.

Recreation

- There is scope to improve PRoW in order to create enhanced biodiversity trails and recreational routes with links to the Langdon Hills Country Park and Eastlands Spring;
- Informal play can be accommodated within the corridor. The fringes of the landscape corridor may be able to accommodate more formal areas of play subject to design, linked to residential areas.

Landscape

- It excludes the prominent part of Dunton Hills surrounding the wind turbine and part of the sloping valley side field to the Mardyke Tributary, however some land here will still need to be set aside for green/blue infrastructure;
- It includes the lower prominent hillock to the south west of Dunton Hall and Church;
- It excludes part of the field to the south of Church Road, development here will restrict views;
- New woodland alongside the A127 corridor improvements and any development proposed to the south west of the roundabout.

Historic Environment

- It includes more existing hedgerows and mature trees than Scheme 1. Any that are not included should still be protected as part of any built development proposed.

The scheme has been illustrated without indicating the two electrical pylon routes. The assumption has been made that these could be removed and placed underground. However if this is not possible they will continue to exert both a visual and physical constraint. Areas of lower shrubby woodland planting can be designed to accommodate and provide some visual softening to the pylons.

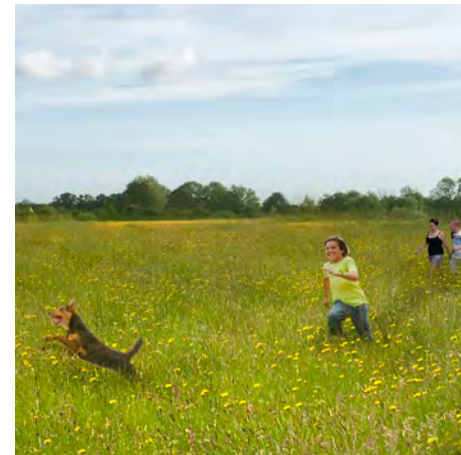


Figure 27: Possible Meadow Grassland



Figure 28: Potential Grazing Opportunities

Landscape Corridor size (ha):

Total area:	138
Basildon Borough:	41
Brentwood Borough:	97
Existing Woodland:	14
Proposed Woodland:	48
Grazing Grasslands:	29
Parklands:	43

Estimated Implementation Costs*:

Woodland:	£150,000-£200,000
Parklands & Grasslands:	£75,000-£125,000
Infrastructure (not inc. highway):	£100,000 -£200,000
Estimated Management Costs (per annum):	
Woodland:	£35,000-£75,000
Parklands & Grasslands:	£40,000-£75,000
Infrastructure:	£20,000-£70,000

*The estimated costs provided are based on previous project examples and EWGS Standard Costs. They are approximate figures and further research and surveys will be needed to provide accurate costs.

Landscape Corridor Options

Scheme 3

Scheme 3 is the most recommended scheme (see Appendix 3 & 6) This will ensure a good outcome in terms of preventing visual settlement coalescence, allow for diverse landscapes and the ecological enhancements to be achieved.

This scheme has the potential to achieve the following:

Connectivity

- The highway and walking/cycling connections between potential developments have been proposed. This will cross several hedgerows at right angles and could provide access to manage the greenspace and will itself need to be softened by areas of new planting. The route indicated on the plan lies in a more northern location and arriving at the west edge close to the wind turbine. Although the route is at the higher land levels the visual impacts from the south will be reduced. There is scope to provide more screening woodland to the north of the route here.

Ecology

- It covers a significant area next to the Eastlands Spring LoWS which could be utilised as a potential area of land for an attenuation pond and reed beds (away from the ancient woodland) and enhanced woodland area;
- It also allows for more capacity to create areas for wildlife and priority habitat, some of which could be protected from public access;
- It includes extensive areas of grazing land on the south west side of the corridor and to the south of Church Road where land slopes towards the railway line.

Recreation

- There is scope to improve PRow in order to create enhanced biodiversity trails and recreational routes with links to the Langdon Hills Country Park and Eastlands Spring.
- Informal play can be accommodated within the corridor. The fringes of the landscape corridor may be able to accommodate more formal areas of play subject to design, linked to residential areas.

Landscape

- New woodland alongside the A127 has the potential to be continued east and provide landscape mitigation to any A127 corridor improvements and for any development proposed to the south west of the roundabout.
- It also includes the prominent part of Dunton Hills surrounding the wind turbine and part of the sloping valley side field to the Mardyke Tributary.
- It includes the prominent hillock to the south west of Dunton Hall and Church;
- It includes the field to the south of Church Road, this will ensure that views to the south are retained and that development will be less likely to have significant visual impact from the south.

Historic Environment

- It includes more existing hedgerows and mature trees than the other schemes. Any that are not included should still be protected as part of any built development proposed.

The scheme has been illustrated without indicating the two electrical pylon routes. The assumption has been made that these could be removed and placed underground. However if this is not possible they will continue to exert both a visual and physical constraint. Areas of lower shrubby woodland planting can be designed to accommodate and provide some visual softening to the pylons.

Landscape Corridor size (ha):		Estimated Implementation Costs*:	
Total area:	159	Woodland:	£175,000-£225,000
Basildon Borough:	48	Parklands & Grasslands:	£95,000-£150,000
Brentwood Borough:	111	Infrastructure (not inc. highway):	£100,000 -£250,000
Existing Woodland:	15	Estimated Management Costs (per annum):	
Proposed Woodland:	50	Woodland:	£45,000-£75,000
Grazing Grasslands:	44	Parklands & Grasslands:	£50,000-£75,000
Parklands:	44	Infrastructure:	£25,000-£75,000

*The estimated costs provided are based on previous project examples and EWGS Standard Costs. They are approximate figures and further research and surveys will be needed to provide accurate costs.

Landscape Corridor Options

Development Interface Principles

The landscape corridor presents an opportunity to create green infrastructure between two potential settlement areas. This is intended to provide visual separation, an opportunity for place making and to create a setting for the development. Residential amenity will be enhanced through connecting residents with green linkages on the landscape corridor greenspace. The treatment of the interface between the landscape corridor and the development areas will therefore be of paramount importance to ensuring the success of the green space and a successful development.

Development Interface Design Principles include the following:

- Development should be designed so that it does not visually intrude onto the landscape corridor.
- Some elevations may face onto the space but will need to incorporate planting of trees and hedges to ensure that the quality of the space is not undermined by more suburban visual elements such as cars, fences, lighting and hard surfaces.
- Shared space environments work well at the edges to open space as they allow a continuous flow between development and green space whilst reducing speeds.
- Consideration should be given to integrating SuDS into both the streetscape and green/blue space within development areas. These may then link into the landscape corridor depending on the detailed topography of the area and ultimately into retention and attenuation ponds.
- Development should not provide a continuous built line to the landscape corridor, there will be areas where the landscape needs to filter into the development parcels, creating linkages and linking greenspaces.
- Development will need to be designed to allow views out of the landscape corridor into the neighbouring open landscapes (where they are not zoned for development) and to the wider key distant views such as London skyline and Langdon Hills.
- Opportunities for formal play should be integrated into the developed areas with the landscape corridor providing informal play and recreational opportunities.
- The boundary design and treatment to the landscape corridor will to a great extent be determined by the specific use and management of the particular area. Where grazing of open pasture/parkland continues to take place then secure boundaries will be needed i.e. fences and hedges.



Figure 29: Typical Section of possible development - landscape corridor boundary



Figure 30: Artists impression of boundary vegetation



Figure 31: Plan view of possible development - landscape corridor boundary

Landscape Corridor Options

Highway Principles

To connect the two potential development areas, a single highway link is likely to be needed to provide connectivity which will cross the landscape corridor. The length and proposed alignment of the highway will vary depending upon the preferred option, however a number of key principles and design rationale should be applied to any proposal and route chosen.

Despite its likely status as a key highway connection, the design, appearance and treatment of the highway should be sympathetic to the surrounding green space and align with the character of a rural road. This could be achieved through sensitive design and by reducing the 'over-engineered' aspects of traditional highway design such as street furniture, signing, lighting and street markings to the minimum required. The same principle applies to lighting columns, which are proposed to be omitted (as is commonly seen in roads through large expanses of green space eg. Epping Forest) which will help reinforce its rural identity whilst reducing light intrusion. Low level directional lighting will be applied to the pedestrian and cycleway routes running alongside the highway assisting safety and visibility during hours of darkness.

Given the length of the route through the landscape corridor, it is considered that a maximum 30mph speed restriction would be appropriate. Lower speeds of 20mph may be appropriate but will require specific design measures to be employed. This would align with the principles of a quiet country road, reducing noise associated with vehicular traffic, whilst allowing for safer informal crossing by pedestrians. Due to the non-urban nature of the road, and the lack of regular lighting columns which delineate a 30mph urban zone, gateway signage could be applied to transition points where the highway crosses between development and the landscape corridor. This would be reinforced through repeater signs or on-road markings along the length of the road.

The highway should be of minimum width for two way operation, whilst allowing sufficient room for larger vehicles and buses. As shown in section diagrams, the highway can either be a combined bi-directional carriageway, or divided by means of a green central reservation strip. Pedestrian zebra crossings should be located at points where public rights of way and / or cycle paths cross the highway.

As well as considering safety issues, detailed ecological assessments will also be required to inform the precise location of the proposed highway connection to minimise its impact. Consideration must be given to the current movement of wildlife, with appropriate types of crossings designed and

incorporated at an early stage, embedding mitigation into any detailed scheme. Tunnels or culverts underneath the highway should be integrated at regular intervals to allow safe crossing by wildlife. Animal crossings should be of a high standard and use the most appropriate methods, based upon the latest research. This will be guided by the species found during comprehensive surveys and animal crossings should follow the line of their existing routes and /or tie in with expected future movements. For example, tall vegetation planted on either side of a road create a continuous canopy over the road gap (bat 'hop overs') which may assist bats (and barn owls) to cross the road.

To minimise impact upon hedgerows the highway should intercept existing hedgerows at right angles. The minimum amount of trees and hedgerows possible should be removed for safety. Lighting should be designed to create minimal effect upon crepuscular and nocturnal animals (eg bats and barn owls) by being kept to the minimum lux levels required for safety.



Figure 32: Artists impression of possible highway and cycle/footway

Landscape Corridor Options

Highway Principles



Figure 33: Wildlife tunnels integrated into the highway



Figure 35: Gateway speed restriction signage



Figure 34: Typical section with combined bi-directional carriageway



Figure 36: Typical section with carriageways separated by green central reservation area

Landscape Corridor Options Management and Maintenance

The long success of a landscape corridor between two residential development areas is dependent on positive management and maintenance of the landscape space and all its elements. Depending on land ownership, funding will be required to ensure investment is made to secure the long term management of the landscape.

There are likely to be residential and business properties contained within the corridor which will continue to be managed privately. There may also be agricultural land holdings which will continue to be managed separately by landowners depending on their viability. This will be dependent on the size of the holding, accessibility to land and continued presence of farm residential and agricultural buildings.

The Dunton Hills landscape corridor is likely to contain various habitat and landscape types as previously described; broadly these will be woodland, open grazing land, open access park areas and species-rich grassland, boundary planting of hedgerows and trees, existing hedgerows, scattered mature trees, and the road/ cycle/footway landscape. SuDs areas may contain attenuation ponds and reedbeds. The landscape spaces would link into a wider network of rights of way and green and blue infrastructure space through both the developed and undeveloped land in the project area. Spaces will need to be managed collectively to ensure that the wider benefits of landscape and visual mitigation, new landscapes, water and drainage management and habitat creation are achieved.

There are several aspects which will need to be considered such as the provision of detailed long-term management plans, the mechanisms to ensure that management takes place, the provision of long term funding, and the land ownership.

In terms of land ownership the following options may apply:

- Land may remain in private ownership, such as existing residential and agricultural land holdings;
- Land may be developer owned but tenanted out to others for grazing;
- Land could be owned by either developer, current landowner or the local authority/authorities. Where land is to be used for public recreation and habitat creation the latter is likely to be the most effective option;

- Land could transfer to Resident Management Companies set up through the development process. However this arrangement is most effective where it relates to smaller spaces with more local value within the development areas;
- Land used for habitat creation and enhancement could be transferred to community or land management groups either set up specifically for the project or already in place; such as The Woodland Trust and Essex Wildlife Trust.

In all cases there will need to be comprehensive legal agreements set in place by all related parties to ensure that land ownership funding for both set up and long term management (via active and costed management plans) is secured and set in place in perpetuity.



Figure 37: Grazing cattle



Figure 38: Woodland Management

Landscape Corridor Options

Funding

The following funding models are potential options that could be applied to the funding requirements for the landscape corridor:

1. Development Company funding; initial set up funds from development companies should be secured through the development process and covered by legal agreements relating to outline and/or full planning consents. Securing funding for early landscape establishment works will need to be considered carefully. This could be achieved by the local authority requesting bonds at early planning stage. Monies would be used for establishment works either in lieu of or to supplement later financial contributions.
2. Local authority funding; funding from capital, revenue or community infrastructure levy (CIL) monies should be considered. This could be an effective way of ensuring that early set up and establishment of some of the landscape elements takes place (subject to land ownership) and could also assist with the long term need to ensure that adequate funding for management is provided.
3. As suitable alternative natural greenspace provision may be necessary for Habitats Regulations Assessment requirements in both Boroughs to avoid recreational disturbance to European Sites. Contributions towards non –infrastructure projects may be helpful for long term site management.
4. Other developer contributions; any other consented development in the area which will either relate directly or indirectly to the project area and which will benefit from the landscape corridor should also be involved through legal agreements with funding contributions.
5. Resident Management Companies (RMCs); funding for a percentage of the management costs could come from RMCs and contributions made by residents as a legal requirement arising out of property purchase or rent. Contributions would also apply to any other property owners such as landlords and registered social landlords.
6. Multi-agency public sector funding; funding for creating and managing greenspace can be accessed from a range of government departments and agencies for the delivery of projects that meet cross-cutting targets, for instance public health, helping young people, tackling crime and assisting with sustainable development.
7. Endowments; endowments can provide long-term funding for green spaces from the interest gained on investments in assets such as property. This is an option which private developers can consider as part of their work in both developing and providing long term funding for green space management (both within their sites and the corridor).
8. Income-generating opportunities; there may be opportunities for generating revenue income from land management such as the grazing of land, the management of woodland to produce timber/products, and possible occasional fees or funds raised from community recreational activities taking place in the landscape corridor.
9. Voluntary and community sector involvement; local and 'Not-for-profit' organisations, voluntary and community groups can contribute time and labour, raising funds and encouraging community involvement in green space. This could be through working parties and 'Green Gym' activities around some smaller scale management operations such as tree/hedge planting, tree/hedge care, meadow management and seed propagation.

Evaluation Next Steps

All three schemes for the proposed landscape corridor have been proposed with landscape and biodiversity as the priority. There are limitations on the options available as the current landform and features largely dictate the form of the space. The more generous the space the more effective it will be in terms of achieving the desired aim to create natural landscape separation.

All schemes comprise of combinations of natural landscapes and land uses such as recreational routes, meadow, pasture, accessible parkland areas (woodland, drainage/SUDS areas, and natural play). The incorporation of other important community facilities such as sports, more formal play and allotments would inevitably require car access, parking and lighting all of which may impact on the landscape and biodiversity benefits afforded by the landscape corridor. For this reason it is strongly advised that these land uses are located beyond the landscape corridor and form part of the development land. This will also help to ensure that community facilities are embedded within the residential land and close to residents.

In order to assess the impact of any development proposals for the project area, a more detailed landscape appraisal and Landscape and Visual Impact Assessment (LVIA) will be needed. The LVIA will need to identify the likely landscape character and visual impacts arising from development particularly considering the more sensitive parts of the project area. The rising, sloping land extending towards the higher ground running across the landscape and the Dunton Hills area are particularly sensitive landscape areas. Views of the project area from the north, west and south west are likely to be particularly notable due to the gently rising land form. In order to mitigate what could be adverse landscape and visual impacts arising from development, the retention of landscape features and the provision of new landscapes, both green and blue infrastructure are likely to be a significant element of any development. There will also be a need to ensure that residential areas are well protected from the busy transport corridor routes in terms of noise, visual impacts and pollution. The landscape infrastructure required to achieve this will be in addition to the landscape corridor required to provide settlement separation and the potential for connectivity to the wider countryside.

Detailed ecological assessments will also be required, taking into account on site and off-site protected, priority and irreplaceable habitats, as well as protected and priority species. The developments will need to take into account the potential recreational impacts on Thorndon Site of Special Scientific Interest.



Figure 39: Eastlands Spring LoWS bridleway



Figure 40: Landscape sensitive area close to the A127

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Appendix 1

Thorndon Park Site of Special Scientific Interest

National Grid Reference: TQ 604917

Area: 141.4 (ha) 349.5 (ac)

TQ 614911

TQ 625903

Date Notified (Under 1949 Act): 1966 Date of Last Revision: 1971

Date Notified (Under 1981 Act): 1986 Date of Last Revision: -

Thorndon Park is an area of semi-natural broad-leaved woodland and ancient parkland supporting a range of habitat types developed over Claygate and Bagshot Beds and gravels to the south of Brentwood. The woodland includes the Lowland Birch-Sessile Oak and Pedunculate Oak-Hornbeam types and the site supports an outstanding assemblage of Beetles (Coleoptera) including one species which is rare and vulnerable in Britain.

The Lowland Birch-Sessile Oak woodland is locally dominated by Silver Birch *Betula pendula*, Downy Birch *B. pubescens*, Pedunculate Oak *Quercus robur* and Sessile Oak *Q. petraea*. The shrub layer is sparse with Holly *Ilex aquifolium* and Rowan *Sorbus aucuparia*. The ground flora consists mainly of abundant Bramble *Robus* spp. and Bracken *Pteridium aquilinum*, with locally abundant Purple Moor-grass *Molinia caerulea*, Wavy Hair-grass *Deschampsia flexuosa* and Lily-of-the-valley *Convallaria majalis*.

The Pedunculate Oak-Hornbeam woodland is dominated by tall Hornbeam *Carpinus betulus* coppice, with Pedunculate Oak standards, and occasional Downy Birch and Wild Cherry *Prunus avium*. The shrub layer is sparse and includes Rowan, Holly, Elder *Sambucus nigra*, Hazel *Corylus avellana* and Midland Hawthorn *Crataegus laevigata*. The ground flora is dominated by Bramble and Bracken with frequent Dog's Mercury *Mercurialis perennis*, Ground Ivy *Glechoma hederacea* and Red Campion *Silene dioica*.

Wet Ash-Maple woodland, dominated by coppiced Ash *Fraxinus excelsior*, Hazel and Field Maple (*Acer campestre*) with Pedunculate Oak standards, is also present. The ground flora is varied with locally abundant Dog's Mercury, Bramble, Nettle *Urtica dioica*, Pendulous Sedge *Carex pendula*, Moschatel *Adoxa moschatellina*, Tufted Hair-grass *Deschampsia cespitosa* and Male-fern (*Dryopteris filix-mas*).

The areas of extant parkland consist of old Oak pollards and standards growing over acidic or neutral grassland with Common Bent *Agrostis capillaris*, Creeping Soft-grass *Holcus mollis*, Yorkshire Fog *H. lanatus* and Soft Rush *Juncus effusus*. Other habitats present include a small area of dry acidic dwarf-shrub heath dominated by Heather *Calluna vulgaris*, an area of fen dominated by Lesser Reedmace *Typha angustifolia*, ponds with submerged and emergent vegetation and a number of small unvegetated streams.

Appendix 1

Local Wildlife Sites

Bre134 Eastlands Spring (8.6 ha) TQ 645894 (within project area)

This streamside ancient woodland comprises a mosaic of Hornbeam (*Carpinus betulus*) coppice, Ash (*Fraxinus excelsior*) and Hazel (*Corylus avellana*), Field Maple (*Acer campestre*), Elder (*Sambucus nigra*) and Hawthorn (*Crataegus monogyna*), giving a good vertical structure to the woodland. Wild Service-tree (*Sorbus torminalis*), a species with a strong affinity to ancient woodland, is found in the northern part of the site. The ground flora has an array of ancient woodland indicators including Bluebell (*Hyacinthoides nonscripta*), Yellow Archangel (*Lamium galeobdolon*), Moschatel (*Adoxa moschatellina*), Primrose (*Primula vulgaris*), Wood Millet (*Milium effusum*), Wood Anemone (*Anemone nemorosa*) and Wood-sedge (*Carex sylvatica*). The southern tip of this Site comprises the scrubbed up line of an ancient lane (Nightingale Lane), which now forms a contiguous part of the main woodland habitat.

BAP Habitats

Lowland Mixed Deciduous Woodland

Selection Criteria

HC1 – Ancient Woodland Sites HC29 – Habitat Extension Mosaics

Rationale

The structure and composition of this wood supports documentary evidence that this is an ancient woodland site. The more recent woodland formed along Nightingale Lane forms a natural extension to the main wood and is itself likely to be based on ancient hedgerows

Bre118 All Saints Churchyard and Keepers Cottage Meadow

This Site is situated to the north west of the project area between the A127/A128 roundabout and Thorndon County Park. The semi-improved grassland and All Saints Churchyard retain qualities associated with older, less agriculturally improved grassland habitats that have become scarcer throughout the county in recent decades.

Ba21 Langdon Complex

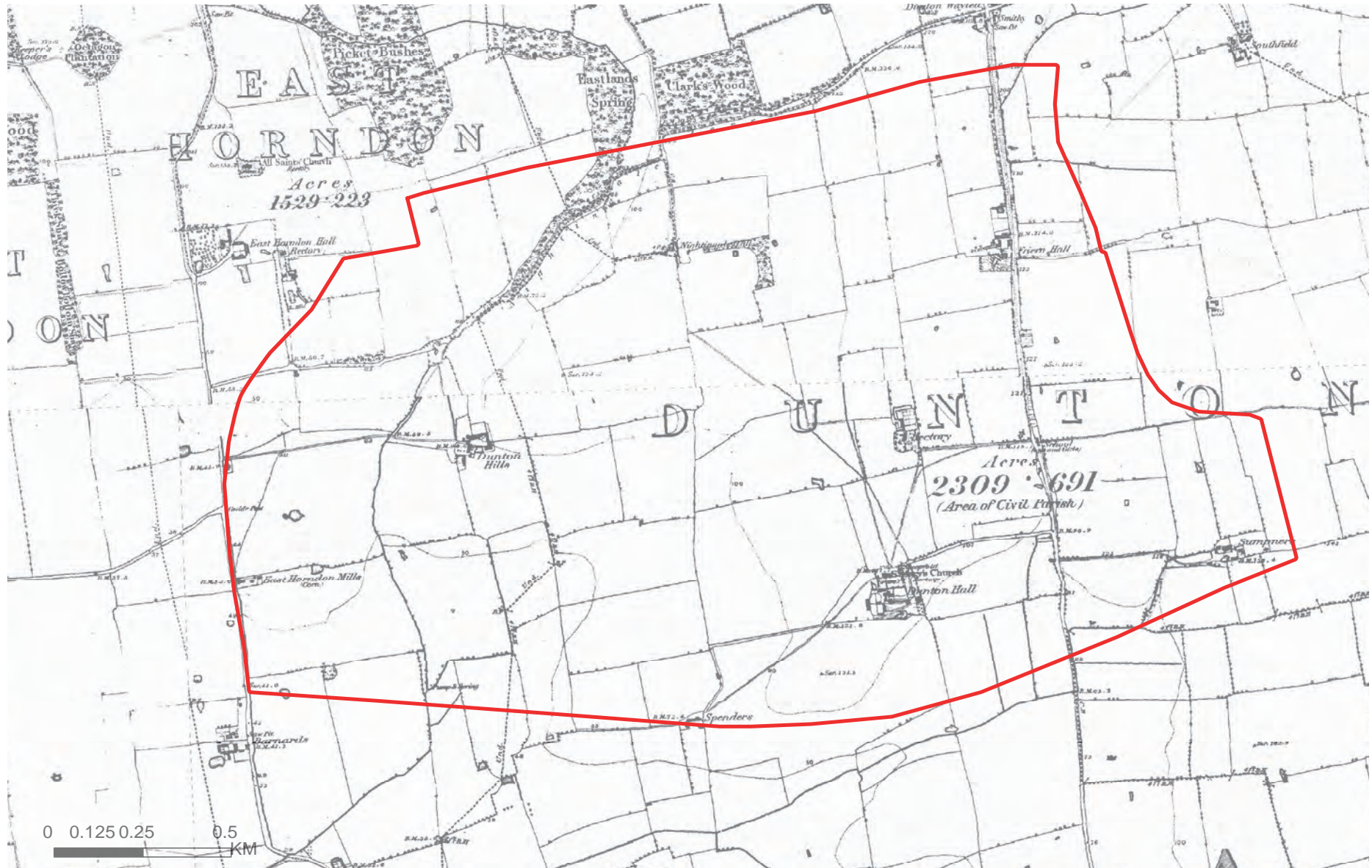
This Site is dominated by but is not identical to the Essex Wildlife Trust's Langdon Nature Reserve. Land outside the reserve includes an area of former plotland and a modern lake on the Lower Dunton road, a small parcel of land near Westley Heights and small plots around Willow Park.

At the western end of this Site is a section of land owned by BaBC, adjacent to Lower Dunton Road. This amenity area provides a valuable habitat extension to the Essex Wildlife Trust's Langdon Hills Nature Reserve, comprising grassland, woodland, scrub and a lake. The northern and eastern margins comprise former plotland sections now reverting to secondary woodland.

Langdon Reserve is an extensive area forming a rich wildlife habitat on the south-western fringe of Basildon town centre. The range of habitats includes ancient and recent woodland, herb rich meadows, scrubland and numerous ponds. Grasslands throughout the reserve have a good mix of grass and herb species.

Appendix 2

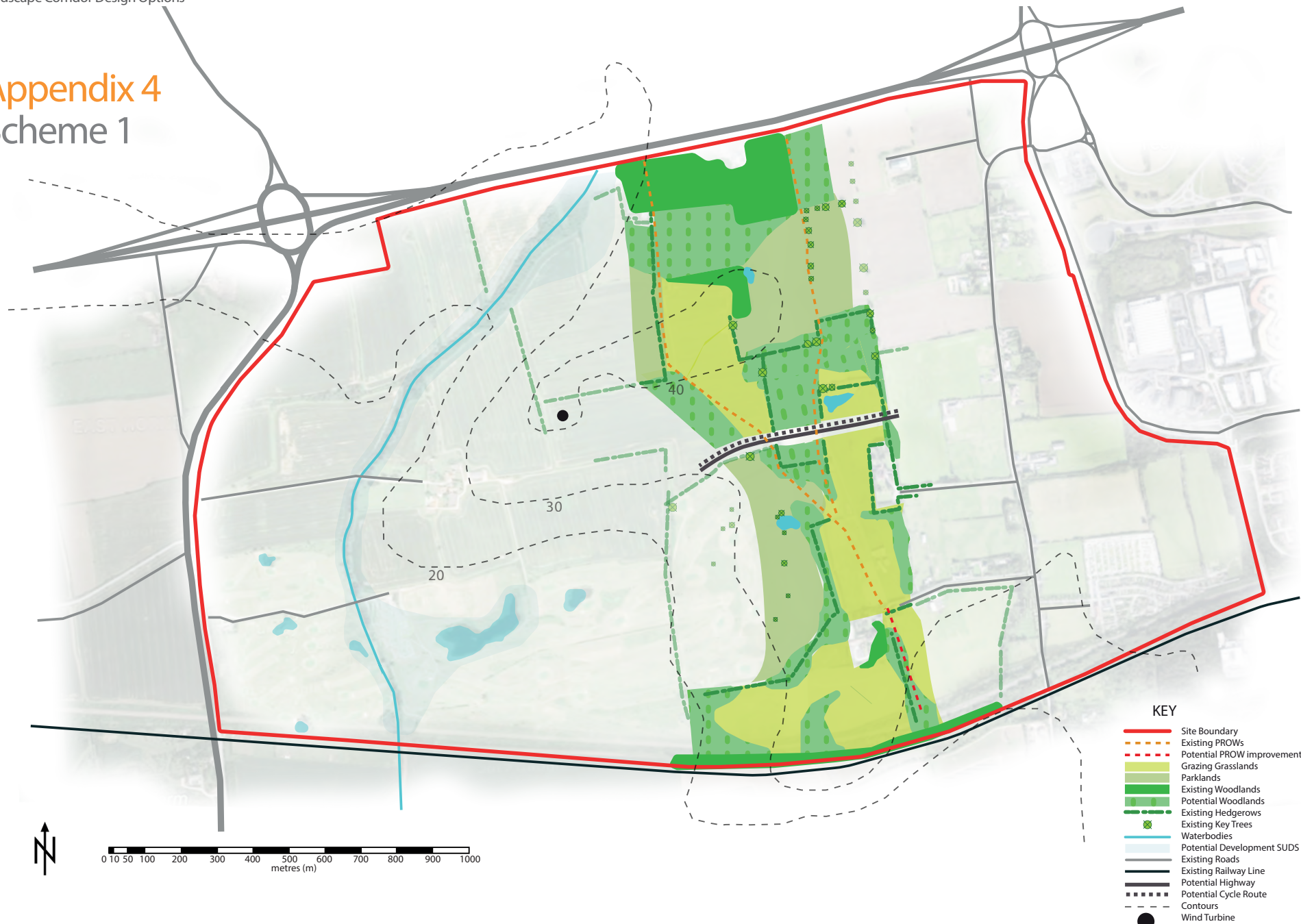
1st Edition (1843-1882) Historic Map



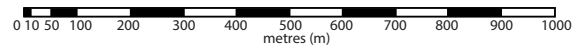
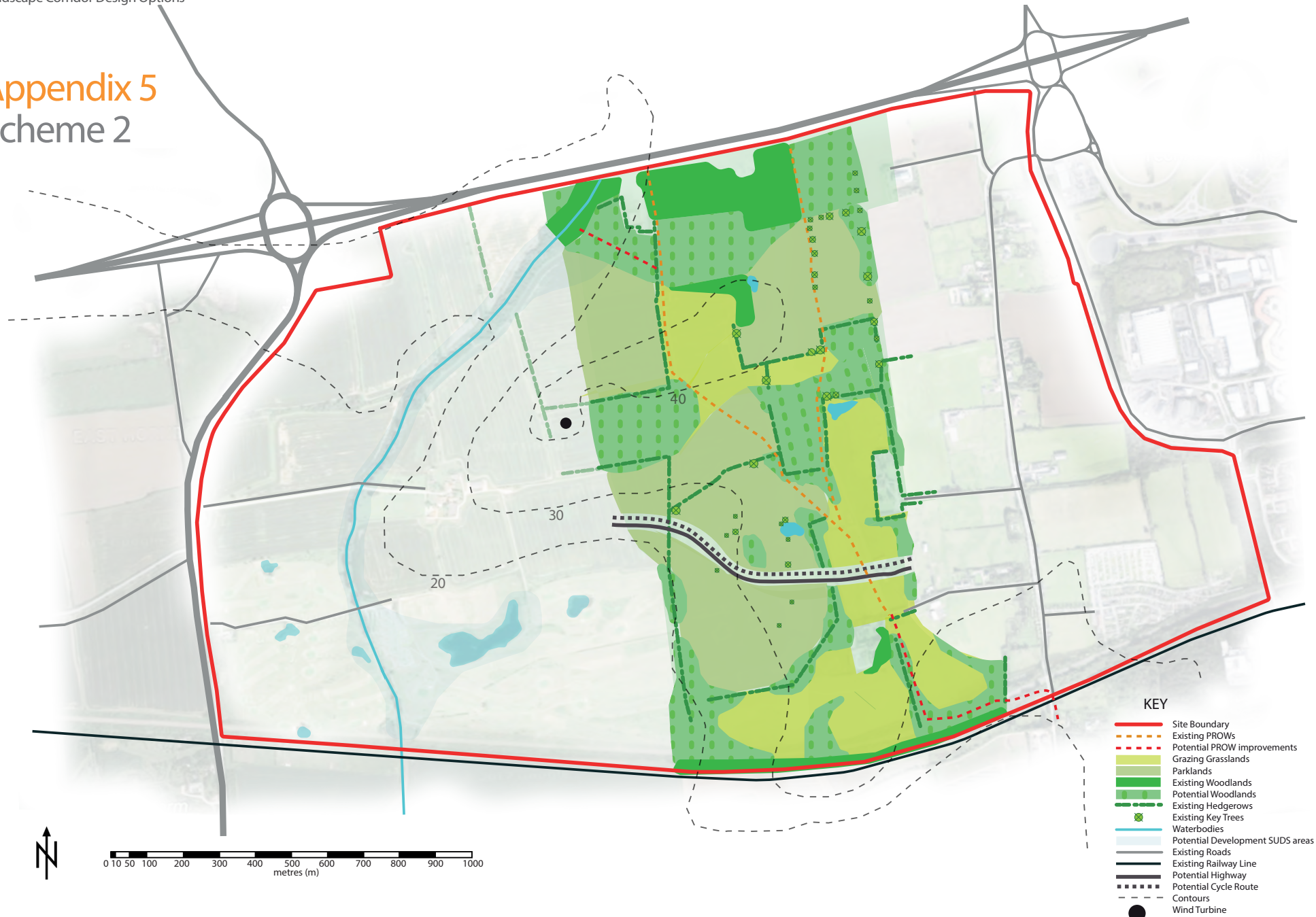
Appendix 3 Scheme Comparison



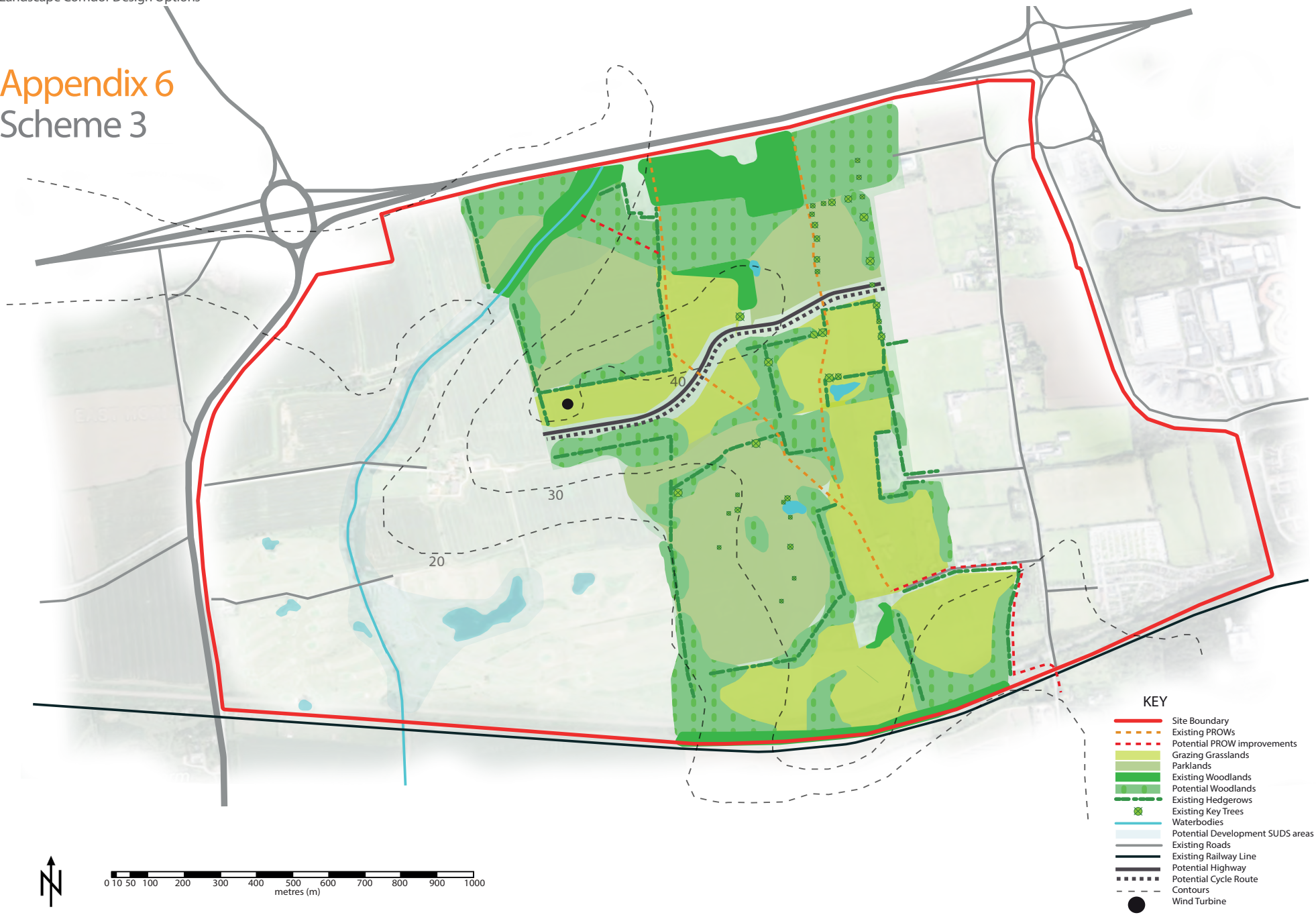
Appendix 4 Scheme 1



Appendix 5 Scheme 2



Appendix 6 Scheme 3



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