EFDC

STRATEGIC MASTERPLAN FRAMEWORK & DESIGN CODE

SOUTH EPPING

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Vision Statement

South Epping responds to people's desires not only for quality new homes but for a whole new way of life, one that's sustainable, healthy, convenient and community focused. The development will give people a chance to own or rent a home in their local community, by delivering a variety of homes to meet local needs.

The development will deliver new areas of accessible high-quality open space as part of a comprehensive green and blue infrastructure network that connects with the existing landscape setting helping to enhance existing wildlife habitats and improve biodiversity through a variety of multi-functional landscapes. The development aims to create a community that integrates with the existing residents of Epping through shared services and facilities.

The development will be a place where people genuinely want to live and play. Designed to minimise the use of the car and maximise walking, cycling and local public transport, to help encourage healthy living and community interaction ensuring that Epping remains a great place to live.

- A minimum of 450 Homes with 40% 'affordable' homes
- A 2FE primary school with early years provision
- Community square & flexible use of school facilities
- Enhancement of walking & cycling facilities
- A minimum of 10Ha of SANG
- Landscape led masterplan incorporating play
- Protection of existing landscape features & BNG net gain
- A distinct character and placemaking
- Sensitive response to topography and views
- A masterplan which facilitates sustainable lifestyles
- On-site attenuation of surface water




A. CONTEXT

1.1 Background

This Strategic Masterplan Framework document covers the South Epping Masterplan Area (SEMPA) which is designated in the Epping Forest District Local Plan 2023 as two separate allocations being:

- EPP.R1 (western parcel),
- EPP.R2 (eastern parcel).

This Strategic Masterplan Framework Document has been prepared by Stantec on behalf of Epping Forest District Council and the Consortium comprising: Bellway Homes Limited (Essex), Barwood Land, Landvest on behalf of Greenacres, and Mount Street Development.

The SMF and Design Code has been developed through extensive consultation with EFDC and ECC and with reference to relevant planning policies and guidance. Once endorsed by EFDC Cabinet, the document will be an important material planning consideration in the determination of forthcoming planning applications. It has also been prepared in line with the process set out in the EFDC Strategic Masterplanning Briefing Note 2018.

Policy P1 provides the framework in which development at the site should be brought forward, providing for a minimum of 450 homes, land for a new primary school, Suitable Alternative Natural Greenspace, reprovision of Brook Road informal recreation ground and enhancements to walking and cycling facilities.

1.2 Purpose and Scope of the SMF & Design Code

The development of the SMF and Design Code has been informed by a range of consultation activities with a number of stakeholders. The site opportunities and constraints have been fully examined and assessed with stakeholders.

The SMF and Design Code provides a summary of detailed analysis undertaken to inform the principles and parameters set out in this document. This includes the site location, planning context, site features as well as the immediate and wider surroundings.

The framework, principles and parameters set out in this document have evolved from this work and are articulated through the illustrative masterplan presented within this document which sets out how the development specifications in the Local Plan policy may come forward on the site.

Following endorsement of the document by the Council as local planning authority, it will form a material consideration in the determination of planning applications.

The preparation of the SMF will help ensure the successful implementation of the development within the SEMPA, helping secure the timely delivery of new housing and infrastructure, supporting the delivery on enhanced pedestrian and cycle facilities, school, SANG, roads drainage and environmental protection measures, creating a high quality living environment which is well integrated with the wider urban area.

The purpose of this Strategic Masterplanning Framework document and Design Code is to:

- Set out the broad distribution of different types of development across the site;
- Provide a high level overarching framework to ensure that planning and delivery of development and infrastructure is properly coordinated, distributed and timed across the Masterplan area;
- Ensure that the development is ‘front-loaded’ and where possible accelerated, so that key planning issues are considered and where possible resolved jointly by all relevant parties prior to the submission of planning applications;
- Provide the spatial vision and development objectives for the area at the outset, building on the Local Plan allocations/spatial strategy and vision;
- Incorporate appropriate effective engagement and consultation with stakeholders and the local community, including town and parish councils, in order to build a sense of community ownership and inform the progress of the preparation of the Strategic Masterplan;
- Incorporate appropriate and effective engagement with elected Members;
- Be informed by the Quality Review Panel;
- Set out the rationale and structure for the site’s planning and delivery as a comprehensive development;
- Incorporate placemaking principles and guidance for individual phases of development;
- Enable the Council to endorse the Masterplan as a material planning consideration and reflect the relevant requirements so that it can be adopted in future as a Supplementary Planning Document if required; and
- The SMF and Design Code have been prepared to demonstrate how the EPP. R1 and EPP.R2 Strategic Masterplan area can be developed so as to meet the requirements of the EFDC Local Plan. The SMF and Design Code do not deal with the commercial arrangements between the respective landowners of EPP.R1 and EPP.R2.

Structure of the document

Section A introduces the site, its context, the planning policy background and provides a baseline site analysis. Concluding with a summary of how these constraints and opportunities will impact on the masterplan. The process and mechanisms for stakeholder engagement are described.

Section B deals with site wide spatial principles. Illustrative material is presented that demonstrates these principles are deliverable. This section culminates in a set of five parameter plans which set out the mandatory spatial requirements for the SEMPA.

Section C covers the implementation of the spatial framework in terms of the phasing strategy, monitoring, review and delivery.

Key elements of the SEMPA are given mandatory and advisory Design Coding instructions in order to provide EFDC with a definitive list of criteria against which to determine future planning applications.

1.3 Process Programme

The development of the SEMPA SMF and Design Code has evolved through extensive discussions with relevant stakeholders and following the principles of Strategic Masterplanning Briefing Note 2018. The key stages in the endorsement process are illustrated in the diagram opposite.

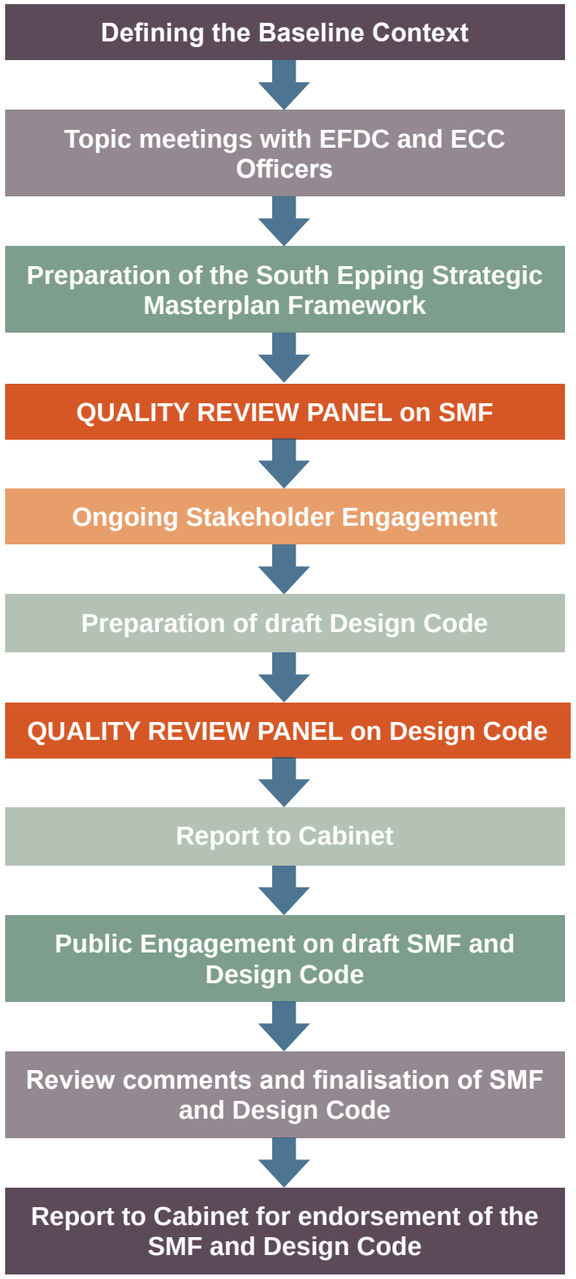


Figure 2. Endorsement Process Key Stages

1.4 Glossary of Key Terms

BNG - Biodiversity Net Gain is the process of increasing the biodiversity value of a development above that of the existing site.

ECC - Essex County Council

EDG - Essex Design Guide. A web based tool that provides a useful reference during the design process to ensure the development fits with the Essex character and its local context.

EFDC - Epping Forest District Council

DPH - Dwellings per hectare

Illustrative Masterplan - The Illustrative Masterplan demonstrates one way the mandatory principles could be interpreted to provide assurance that these principles have been tested and are proven to achieve their stated aim.

LEAP - Locally Equipped Area for Play. An area of open space specifically designed and laid out with features including equipment for children who are beginning to play independently. The number and nature of equipment and structures is a matter for local decision, though provision for a minimum number of six play experiences is recommended.

LLAP - Local Landscaped Area of Play. A play area with little or no equipment but imaginatively designed and contoured using natural materials to provide a mix or physical activity.

Mandatory Spatial Principles - A series of drawings and written principles in the endorsed Strategic Masterplan Framework that set out key deliverables in future development applications, such as strategic land uses, key movement routes, landscape character and number and approximate location of access points. The strategic design code builds on these mandatory spatial principles.

Placemaking - The process of design and planning and delivering places that are of high quality, that achieve the aims of the development and that maximise the opportunities of the site to enhance the way the place is experienced.

PROW - Public Right of Way

QRP - The Essex Quality Review Panel is a peer group review that aims to ensure the new developments in Essex are of high quality.

SAC - Special Area of Conservation. A large part of the Epping Forest contains a Special Area of Conservation (SAC) which has been identified primarily for its value in respect of beech trees and wet and dry heaths and for its population of stag beetle. As an internationally important site it is afforded the highest level of protection due to its habitats and species that are vulnerable or rare within an international context.

SANG - Suitable Alternative Natural Green Space. SANGs are intended to provide alternative open spaces that avoid an increase in visitor pressure created by residential development on a SPA .

SEMPA - South of Epping Masterplan Area

Stewardship - Ensuring that long-term community-led care of public places and community development is in place for the new buildings and neighbourhoods for a thriving community and long-term quality of life for residents.

SMF - Strategic Masterplan Framework. A strategic masterplan process requires organisations to undertake analysis and prepare strategies, and the proposals that are needed to plan for major change in a defined physical area. The strategic masterplan framework resulting from this process acts as a context from which development projects come forward. The mandatory spatial fixes in the SMF identify those elements that are essential to future development.

TPO - Tree Preservation Order

1.5 Key Issues

Key issues regarding the development of the SEMPA are as follows:

1. The presence of utilities, both underground gas mains and overhead power lines with their associated visual impact.

2. The noise and air quality associated with the M25 and tube line. Potential requirement for acoustic bunds.

3. Planning policy constraints particularly relating to the adjacent Green Belt and the requirement for on-site SANG due to the proximity to Epping Forest SAC.

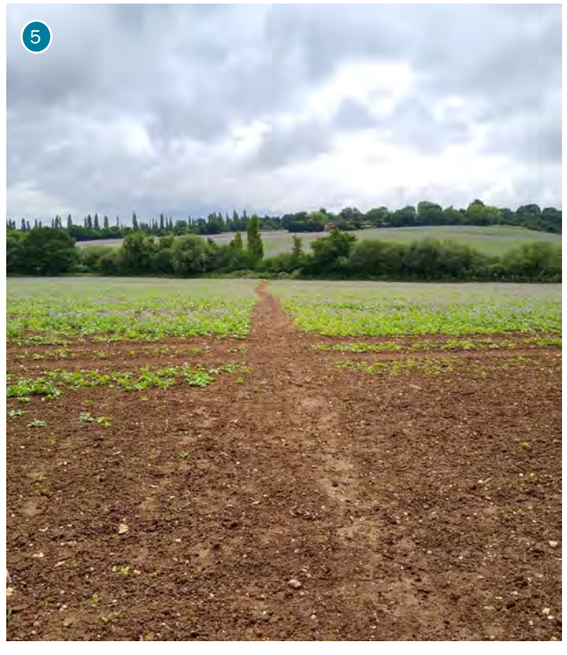
4. The subdivision of the site by the Central Line railway and the need to ensure connectivity across the masterplan.

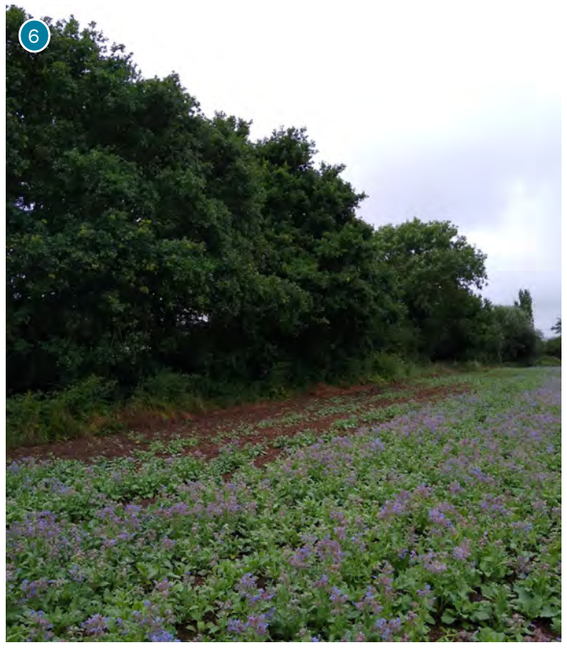
5. Topography, in particular the potential effect of development on the elevated land in the region of listed buildings at Gardner's Farm.

6. The ecological and drainage requirements associated with the watercourse running across the site.

7. Requirement for off-site improvements to highways and Public Rights of Way to facilitate connectivity and mitigate any impact on existing residents.

8. Building a resilient and sustainable new 'community' at South Epping which ensures harmonious diversity of character across the site where there are four different landowners.





2. 1 Planning Policy Context

National Planning Policy Framework

National policies, including a presumption in favour of sustainable development at the heart, are provided within the National Planning Policy Framework (NPPF) and supporting Planning Practice Guidance (PPG). The NPPF is a material consideration in planning decisions.

The NPPF states that 'the purpose of the planning system is to contribute to the achievement of sustainable development' which includes achieving economic, social and environmental sustainable development.

At a strategic level the relevant national policies include:

- Achieving sustainable development
- Delivering a sufficient supply of homes
- Promoting healthy and safe communities
- Promoting sustainable transport, Supporting high quality communications
- Making effective use of land
- Achieving well-designed places
- Meeting the challenge of climate change, flooding and coastal change
- Conserving and enhancing the natural environment

Epping Forest District Local Plan 2011-2033

The Epping Forest District Local Plan 2011 to 2033 was adopted by the Council on 6 March 2023 and is the statutory development plan for the District. It therefore has full weight in determining planning applications.

Key policies of particular relevance to the South Epping Masterplan Area are:

Policy SP1 sets out the spatial development strategy for the District, including the allocation of sites in Epping to deliver 709 new homes.

Policy SP2 includes the place shaping principles for Strategic Masterplans and all development proposals. These principles include: providing a mixed tenure homes and range of housing sizes; ensuring biodiverse rich green and open space provision; maintaining and enhancing the important features, character and assets of existing settlements; providing sustainable movement corridors; and having regard to Active Design principles and supporting healthy living.

The SEMPA is allocated as sites EPP.R1 (Land South of Epping, West) and EPP.R2 (Land South of Epping, East) within the Local Plan.

Policy P1 requires the submission of a Strategic Masterplan Framework that demonstrates the development requirements of the Policy have been accommodated and which has been endorsed by the Council.

Policy P1(M) states that the Strategic Masterplan must make provision for:

i) a minimum of 450 homes;

ii) appropriate community and health facilities, employment and retail uses;

iii) a new primary school;

iv) provision or enhancement of walking and cycling facilities, Public Rights of Way and linkages both within the site, over the railway line, the footbridge over the M25, and to key destinations including Epping London Underground Station and the Town Centre;

v) vehicular access/egress which provides safe access to the local highway network, does not impact on its safe and efficient operation, does not result in the loss of important boundary trees and/or hedgerows, or cause material harm to the living conditions of adjoining residents as a result of noise, light pollution or privacy;

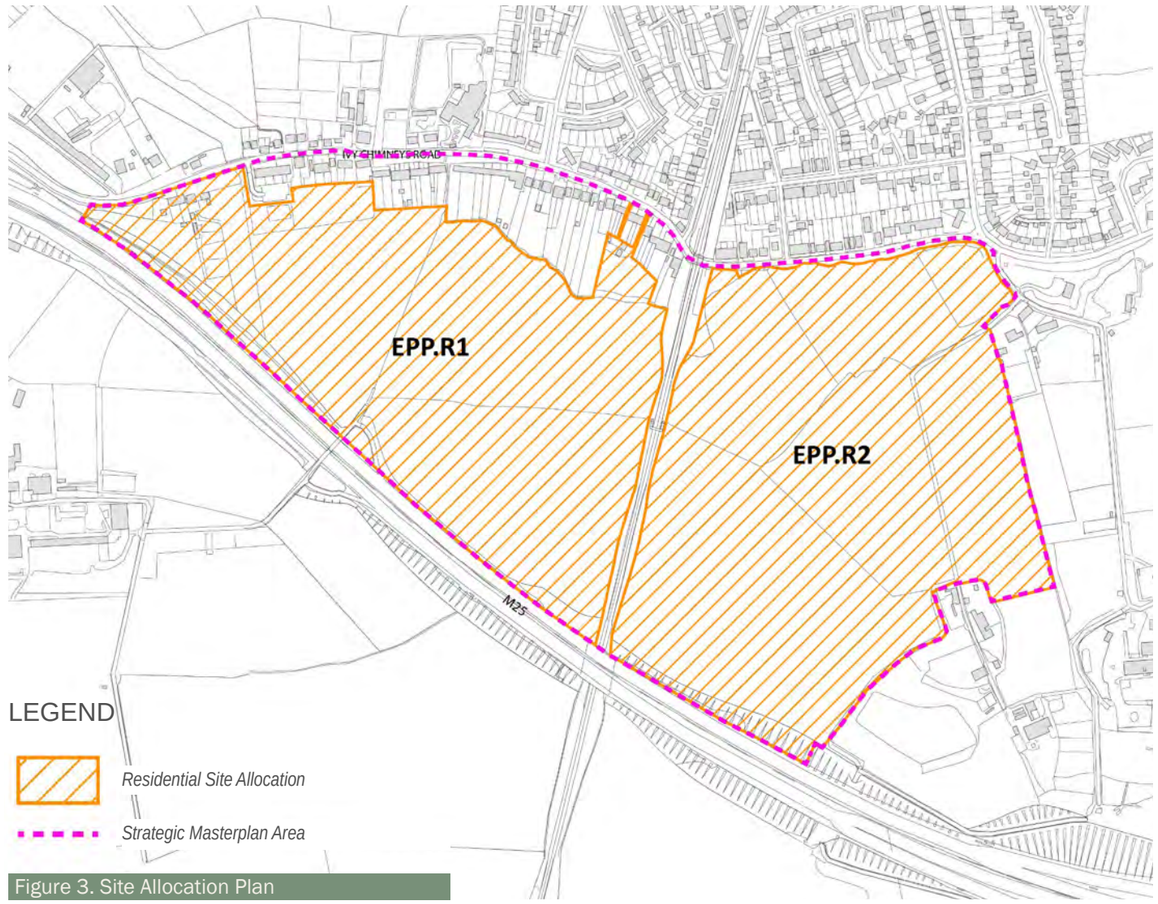


Figure 3. Site Allocation Plan

vi) preserving or enhancing the setting of the Grade II listed Gardners Farm and Grade II listed farm buildings;

vii) minimising the impact upon the Biodiversity Action Plan Priority Habitat within the site and nearby Local Wildlife Site;

viii) incorporation of an appropriate buffer to protect the amenity of future residents with regards to noise and air quality from the M25 and an appropriate buffer from the High Voltage Transmission Cables and land impacted by the BPA Oil Pipeline constraints;

ix) the sloping topography of the site by incorporating sensitive design responses to the level changes and by ensuring a positive relationship is established between the new development, the town and the wider landscape;

x) the continued protection of those trees benefiting from a Tree Preservation Order and other identified Veteran Trees;

xi) land to the South of the indicative 'build to' line in EPP.R2 within the Masterplan Area must be retained for public open space or for other appropriate uses as agreed through the masterplanning process;

xii) the strengthening and/or creation of new Green Belt boundaries to the East and West of the site;

xiii) the integration, retention and improvements to the existing watercourse;

xiv) adequate levels of high quality public open space, including the retention or reprovision of Brook Road Informal Recreation Ground; and

xv) a Suitable Alternative Natural Greenspace.

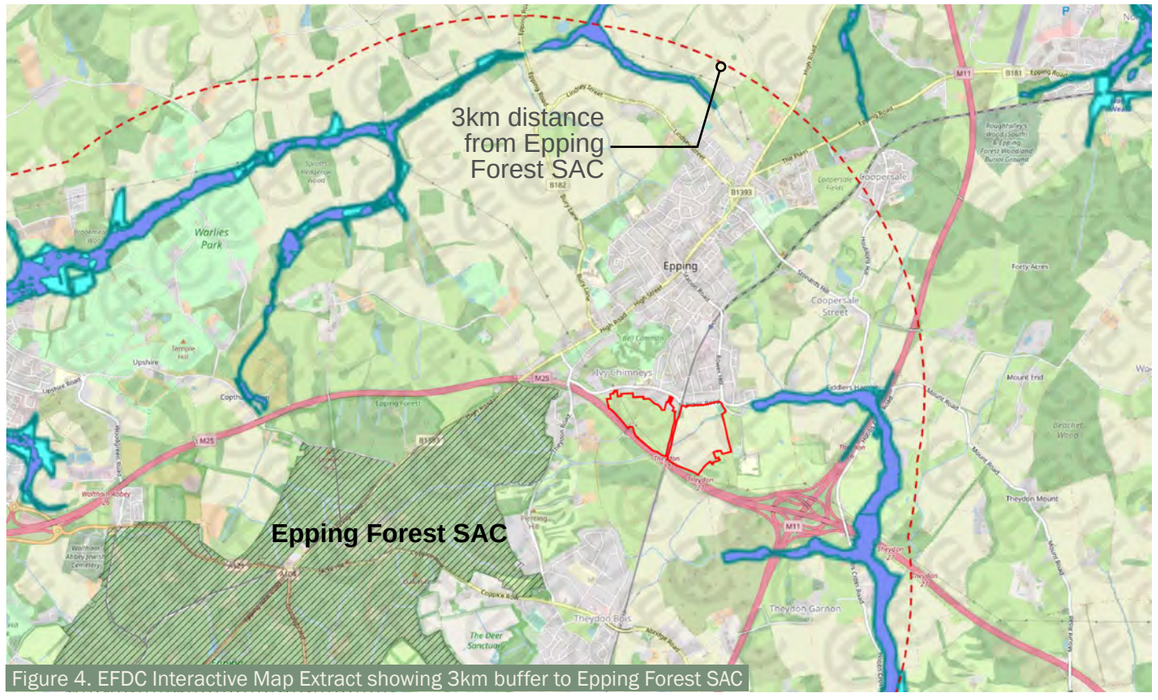


Figure 4. EFDC Interactive Map Extract showing 3km buffer to Epping Forest SAC

The Strategic Masterplan and subsequent applications should be considered and informed by the Quality Review Panel and be subject to public consultation, including in respect of Masterplans, consultation with all those with a development interest in the defined area.

The Strategic Masterplan must incorporate measures to promote and encourage the use of sustainable methods of transportation and provide viable alternatives to single occupancy private car use including car clubs/car sharing or pooling arrangements. Such measures are to be planned in consultation with Essex County Council (and relevant passenger transport providers). The proposed measures should be underpinned by feasibility evidence that comprehensively demonstrates the delivery of modal shift by way of sustainable travel measures. Design codes will be required to be produced as part of detailed planning applications, and agreed with by the Council to support the implementation of the Strategic Masterplans.'

The Plan also includes a number of Development Management Policies covering the Natural Environment and Green Infrastructure, Historic Environment, Design and Environmental Policies. Of particular note in addition to those already mentioned are; SP6 (The Natural Environment, Landscape Character and Green and Blue Infrastructure), T1 (Sustainable Transport Choices), DM2 (Epping Forest SAC and Lee Valley SPA) and DM22 (Air Quality). Other relevant EFDC specific guidance which has informed the approach include:

- EFDC Air Pollution Mitigation Strategy
- EFDC Sustainability Guidance and Checklist /Major Developments - March 2021
- EFDC Green Infrastructure Strategy - April 2021

2.2 Design Guidance

From a vast array of national and local guidance, some key documents are as follows:

National Design Guidance

National Design Guide (Updated 2024)

The Government places great importance on the design of the built environment in the National Planning Policy Framework (NPPF, 2024), which recognises that design quality matters and emphasises achieving well designed places. The National Design Guide, published in October 2019, sets out ten characteristics of well-designed places and demonstrates what good design means in practice. The National Model Design Code (2021) expands on these ten characteristics reflecting the government's priorities.

This SMF document commits to the principles of the National Design Guide and 'the creation of high quality, beautiful and sustainable buildings and places'.(Paragraph 126) This will be achieved through careful and holistic design development that applies good urban design principles.

Secured by Design

Secured By Design is a police initiative that improves the security of buildings and their immediate surroundings to provide safe places to live, work, shop and visit. There are a series of helpful design guides to assist the building, design and construction industry to incorporate security into developments.

Building for a Healthy Life

The proposed site layout needs to create opportunities for both new and existing resident in the adjoining neighbourhood, to be both physically and socially active via the provision of areas of public open spaces. Leisure footpaths should be provided to encourage a healthy lifestyle and increase physical exercise.

The development is committed to deliver the following:

- Accessible and walkable local facilities including play areas and primary school.
- Direct and segregated safe pedestrian and cycle routes to key destinations.
- Active building frontage to public realm to maximise natural surveillance.
- High quality, well-lit and well surveilled pedestrian and cycle routes.
- Local Equipped Area for Play (LEAPs) located within 5 minutes walking distance from dwellings.
- Provision of a network of multi-functional open spaces, including informal amenity areas, as well as informal semi-natural open spaces.

The new guidance Building for a Healthy Life (BHL) is also an useful tool that allows developers, local authorities and local community to evaluate what is important when creating good places to live.

Lifetime Homes Design Guide.

This guidance advocates for enabling residents to live in their homes for longer. All new development therefore shall comply with the LP requirement for all new homes to comply with M4(2) as a minimum.

Manual for Streets (2007)

Sets out guidance on layout and connectivity, streets as quality places rather than just catering for the needs of the motorist. The Essex Design Guide has been updated to reflect the Manual for Streets.

Cycle Infrastructure Design (LTN 1/20)

Proposals for this site will be compliant with this guidance, published in July 2020, on designing high-quality, safe cycle infrastructure.

Active Design

Sport England, supported by Active Travel England and the Office for Health Improvement and Disparities, produced a guide to planning new developments that create the right environment to help people get more active. It sets out ten principles for ensuring new developments incorporate opportunities for people to take part in sport and physical activity.

Distinctively Local

This report includes guidance and case studies to explore how genuinely distinctive and popular places can be created.

ECC Design Guidance

Essex Design Guide

Originally published in 1973 but now a web-based design tool, the Essex Design Guide provides a useful reference during the design process to ensure the development fits with the Essex character and its local context.

The guide covers all aspects from how to achieve character within the housing layout to locally typical house types and street material from a local Essex palette. This guidance focuses on development under 50 dwellings per hectare. A key theme included in the guidance relates to health and wellbeing, in particular recognising how the positive characteristics and qualities of an environment can help people to achieve and experience better quality lifestyles.

A New Development Model for Essex (2023)

A study published investigating the feasibility of new development models in Essex that encourage walking and cycling, and reduce reliance on cars through the design of compact walkable neighbourhoods.

Parking Standards Design and Good Practice

The relevant parking standards are provided in the EPOA Parking Guidance Part 1: Parking Standards Design and Good Practice (2024). Appendix A of the document identifies the site as being ‘Moderate’ to ‘Good’ connectivity.

- 1 bedroom – 1 parking space + 0.25 unallocated visitor spaces
- 2, 3, 4+bedrooms – 2 parking spaces + 0.25 unallocated visitor spaces.

The following cycle parking provision is required:

- 1 space per bedroom (if no garage or secure area is provided within curtilage or dwelling).
- 1 space per 40 dwellings is also required for visitor cycle parking.

The guidance relating to design and layout of car and cycle parking will be followed.

Green Infrastructure Strategy, April 2021 Implementation: Green Infrastructure In strategic Allocations

This document provides detailed requirements for the open spaces and SANG provision within the SEMPA. The main opportunities are seen as the ability of the site to provide complementary network of green open spaces tying together new and existing communities, including the provision of SANG and providing access between existing and proposed communities and into the surrounding countryside.

Garden Communities and Planning School Places. Jan 2022

This document describes how new mainstream state funded schools in Essex, will be established to be consistent with the principles of Garden Communities. It outlines the requirements of the school site and its relationship to the masterplan and movement routes.

EFDC Sustainability guidance & checklist / major developments (+10 units) March 2021

The purpose of this guidance is to help applicants meet EFDC’s goals of becoming net zero carbon by 2030, as well as building strong and integrated communities across new and existing places.

3. 1 Site Context

Site Context Location

Epping is a historic market town located in the district of Epping Forest in Essex. The District is largely rural with over 90% of the land designated as Metropolitan Green Belt. Epping is situated approximately 17 miles (30 km) northeast of London, linked by the London Underground Central line. Immediately to the south of the town lies the M25 motorway.

Epping is surrounded by the northern end of Epping Forest, which is almost 6,000 acres of ancient woodland designated as a 'Special Area of Conservation', in 2005. The countryside of the District is gently undulating, dissected by two river valleys (the Lea and the Roding) and their tributaries.

Figure 5. Epping Forest District - from the EFDC Local Plan

Site Location

The SEMPA is located 1.2km to the south of the centre of Epping, and 0.7km south of Epping tube station. The northern boundary is defined by residential streets that are named Ivy Chimneys Road in the west, then Bridge Hill, Brook Road and then Stewards Green Road in the east. The M25 Orbital Motorway runs along the southern boundary with Epping Golf course to the east. The London Underground Central line runs directly through the SEMPA.

The site has been removed from the Green Belt through the Local Plan.

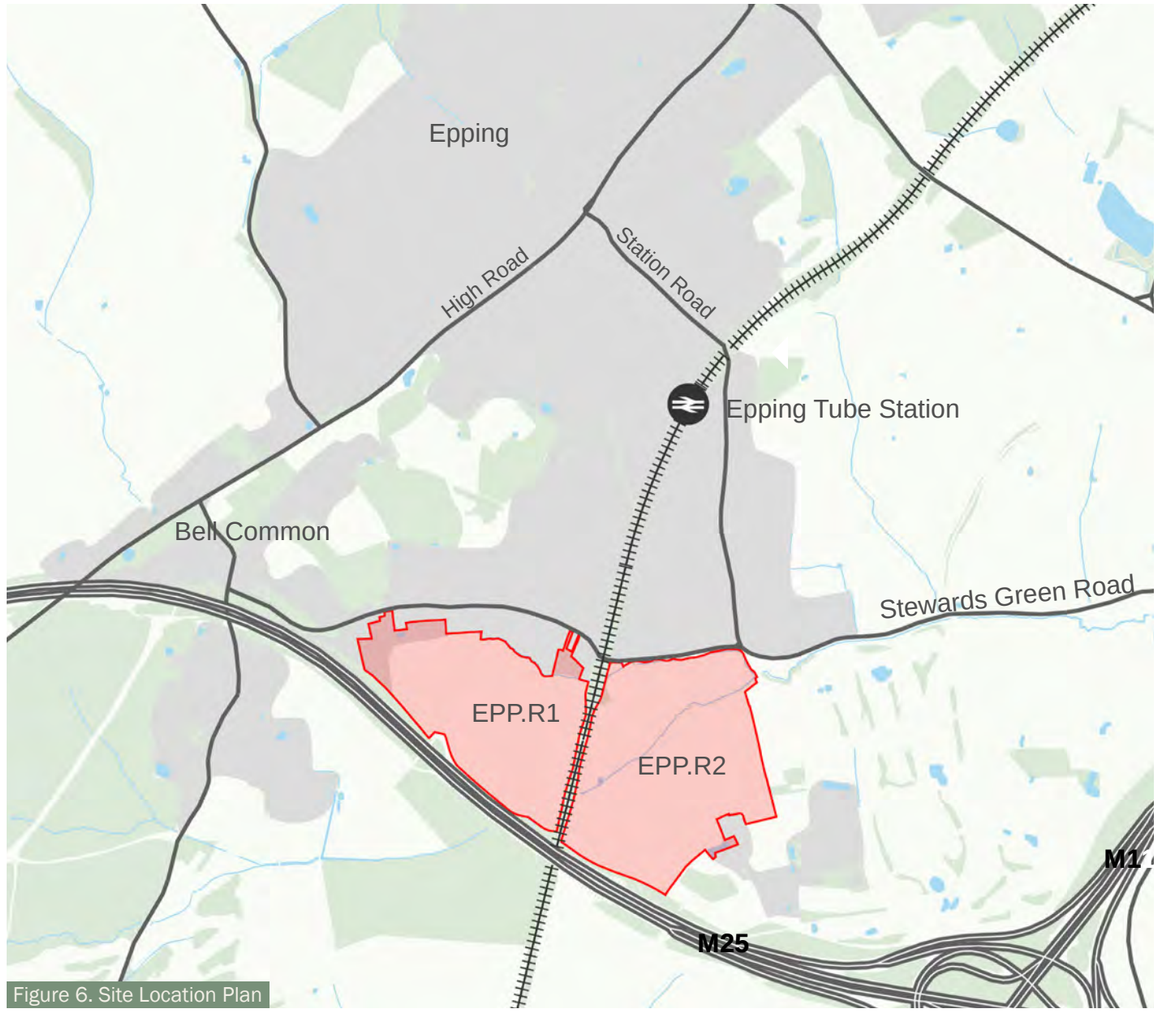


Figure 6. Site Location Plan

Site Assessment

To the west of the site, the northern boundary is defined by residential rear gardens, many of which have mature domestic planting in long plots, providing a soft settlement edge. The site is bisected by the Central Line underground railway line. The short western boundary is timber post and rail fence, used to separate horse paddocks from the site.

The eastern part of the site is bound to the north by Brook Road that forms the existing settlement edge to Epping. This road is characterised by terraced 2-storey housing that looks southwards towards the site. The north-eastern corner of the site contains the existing Recreation Ground, with the remainder of the eastern boundary formed from a treeline of poplars that follows the alignment of Fluxs Lane, with Epping Golf Course further east. The land rises towards the south-east corner of the site, where the Listed Gardners Farm is well-contained by off-site vegetation. The entirety of the southern boundary is formed by the M25 and all the paraphernalia associated with a major transport corridor.

Site Fabric

The western parcel of the site comprises a single large, open and featureless arable field, alongside a small narrow field in the west, separated by a defunct hedge and timber post and rail fence. The site is generally devoid of natural features, save for a short section of a small stream in the south east corner of the western parcel and two small remnant trees along the PRoW.

The eastern parcel is formed from two large arable fields, separated by the treelined brook that heads north-east through the site. A smaller arable field lies to the east of an arm of Fluxs Lane leading to Gardners Farm. The existing recreation ground is located in the north-eastern corner of the site.

Recreational

The western parcel is crossed by one Public Right of Way (PRoW) travelling north-south meeting a bridge over the M25. A second PRoW follows the north-eastern boundary, meeting up with a footbridge across the central line. This footpath continues into the eastern parcel, following the alignment of the brook towards Fluxs Lane. A third footpath connects Brook Road to the north with Gardners Farm to the south-east. A fourth footpath follows the eastern boundary providing access to the south, with a fourth providing access to an underpass below the M25 motorway.

Visual & Perceptual

From the first vantage, the western site looks tranquil, however, upon ascending the ridge, the detracting influences of the pylons, overhead wires and transport corridor become visually apparent. The landscape feels relatively enclosed in the north, with views being curtailed by the existing rising settlement, and to the south by the rising topography. However, from the centre and south of the site, on higher land, the landscape opens up with longer distance views available to the south across the M25 and east over the Central Line. From the elevated south-east corner of the eastern parcel, near Gardners Farm, there are views looking north towards Epping that clearly demonstrate the late-19th and 20th century settlement growth southwards away from the historic ridgeline location. There are also views towards open countryside to the north-east of the site, however fieldwork has confirmed that publicly accessible views from this area are screened and filtered by intervening vegetation.

View looking south-east towards Gardners Farm following the alignment of PRoW 189_21

View looking west towards to the western parcel from PRoW 189-31with southern settlement edge of Epping to the right of view

View looking north towards existing settlement edge of Epping from the western parcel

View looking east across both parcels of the site from PRoW bisecting the western parcel

National Landscape Character

The site is located within **National Character Area (NCA) 111 Northern Thames Basin**, that exhibits the following main characteristics:

- The Northern Thames Basin is a large and diverse landscape with an overarching character of agricultural land, interspersed with woodland, dissected by rivers, and influenced by the urban areas of North London;
- The area retains a substantial legacy of funerary monuments and settlement sites associated with the prehistoric period and was intensively settled in the Roman times, with a number of major and minor towns having a Roman origin;
- The area merges with the outer London suburbs of Enfield, Barnet, Harrow, Hillingdon, and Hounslow;
- The whole area is a combination of countryside mixed in with urban areas, with important habitats and species, especially woodland and wetland habitats, and associated species; and
- The rural area acts as a recreational opportunity for those living in the surrounding towns and cities and the urban areas offer work and recreation opportunities for those living in more isolated villages and settlements in the rural environment

County Landscape Character

The Essex Landscape Character Assessment (2008) identified 35no. Landscape Character Areas (LCA) - geographical areas with a recognisable pattern of landscape characteristics, both physical and experiential, that combine to create a distinct sense of place.

The north-western part of the site lies within **LCA D1 Epping Forest and Ridges**, where key characteristics include:

- Elevated moderate to steep sided ridges, crowned by woodland;
- Very large crescent shaped block of ancient deciduous woodland to the west;
- Wooded skylines;
- Distinctive grassy plains and large ponds within Epping Forest, greens and commons associated with settlements; and
- Small to medium scale pattern of hedged pasture and arable fields with frequent hedgerow trees.

The LCA also notes that the main settlements including Epping have a historically linear form of development, including associated large commons, and although they have been much expanded by modern suburban development this is not widely apparent in the surrounding landscape due to enclosing woodland and/or their own high tree cover.

The remainder of the site, including the eastern parcel, lies within wholly within **LCA C4 Roding Valley**, where key characteristics include:

- Wide valley, deepening to the south;
- Gently to moderately undulating valleysides, occasionally intersected by small tributary valleys;
- Strong pattern of valleyside vegetation with thick hedgerow field boundaries, many hedgerow trees and scattered small woodlands;
- Meadows on flat valley floor, with occasional riverside trees; and
- Tranquil character except in the south.

We conclude that the site shares some characteristics with the wider LCAs:

- The site is a modern sub-urban edge location, with the adjacent settlement having good tree cover;
- The ridge off-site to the west and south-east is well-wooded and forms the skyline; and
- The M25 is a major visual transport route that heavily influences the local character.

However, the site differs from the published LCAs in that:

- It has little, or no, woodland cover;
- It has no remaining functional hedgerows (which have been previously grubbed up); and
- The site is comprises uncharacteristically large field sizes; and
- The M25 has also had a fundamentally disruptive effect on the field pattern.

District Landscape Character

At a District level the entirety of the site lies within the **G2 Theydon Garnon LCA**. This character area is of the landscape type **Wooded Ridges and Valleys**, described as a series of small valleys which are encapsulated by minor ridges, resulting in an undulating landform. An intact historic field system with scatters of veteran trees and patches of ancient woodland which provide an intermittent sense of enclosure within views across the landscape. Strong sense of tranquillity in places, at distance from major road corridors.

Key characteristics of this LCA include:

- The interchange between the M11 and M25 road corridors dominates landscape pattern within this area;
- Both road corridors introduce a source of noise and movement into the area and disturb overall sense of tranquillity;
- Strongly undulating topography in places as a result of the series of ridges and slopes;
- A patchwork of arable and pastoral farmland, often lined with mature hedgerows, containing hedgerow trees;
- Rows of pylons form dominant vertical elements within certain views; and
- A network of minor roads cross the area.

Settlement Edge Landscape Sensitivity Study

This study provides a more detailed understanding of sensitive landscape and environmental features around the edges of the twenty-two principal settlements within the District. The site is identified as being located within the **Landscape Setting Area 4 of** the **Epping / Coopersale Common Fringes** study area.

The study notes that the southern fringe of Epping is characterised by large-scale fields which are lined with mature hedgerows. The route of the M25 motorway crosses these fields and disturbs the sense of tranquillity within this area. The road corridor creates a visual and physical barrier between fields at the southern edge of the town and other arable fields to the south. At the south-western corner of the settlement, the large expanse of woodland within Epping Forest provides a sense of enclosure. At this point, the route of the M25 is within a tunnel.

The majority of the site is determined to be historic fields with boundaries lost, with an overall **Low** sensitivity to change, based on a **Low** overall landscape character sensitivity and **Moderate** overall visual sensitivity.

LEGEND

EPP.R1 and EPP.R2 Boundary

Existing Woodlands, Copses and Tree Belts

Existing Scrub

Existing Water Courses and Features

Contours/Spot Heights (Metres AOD)

National character Area (NCA) Profiles

South suffolk and North Essex Clayland

Northern Thames Basin

East of England Landscape Character Areas

Lowland Settled Claylands

Valley Meadowlands

Wooded Hills and Ridges

Wooded Plateau Farmlands

Essex Landscape Character Areas

River Valley Landscapes

Lee Valley(C3) Roding Valley (C4)

Wooded Hill and Ridge Landscapes (D)

Epping Forest and Ridges (D1)

Wooded Hill and Ridge Landscapes (D)

B River Valley

D Wooded Ridges:

F Ridges and Valleys:

G Wooded Ridges and Valleys

Urban

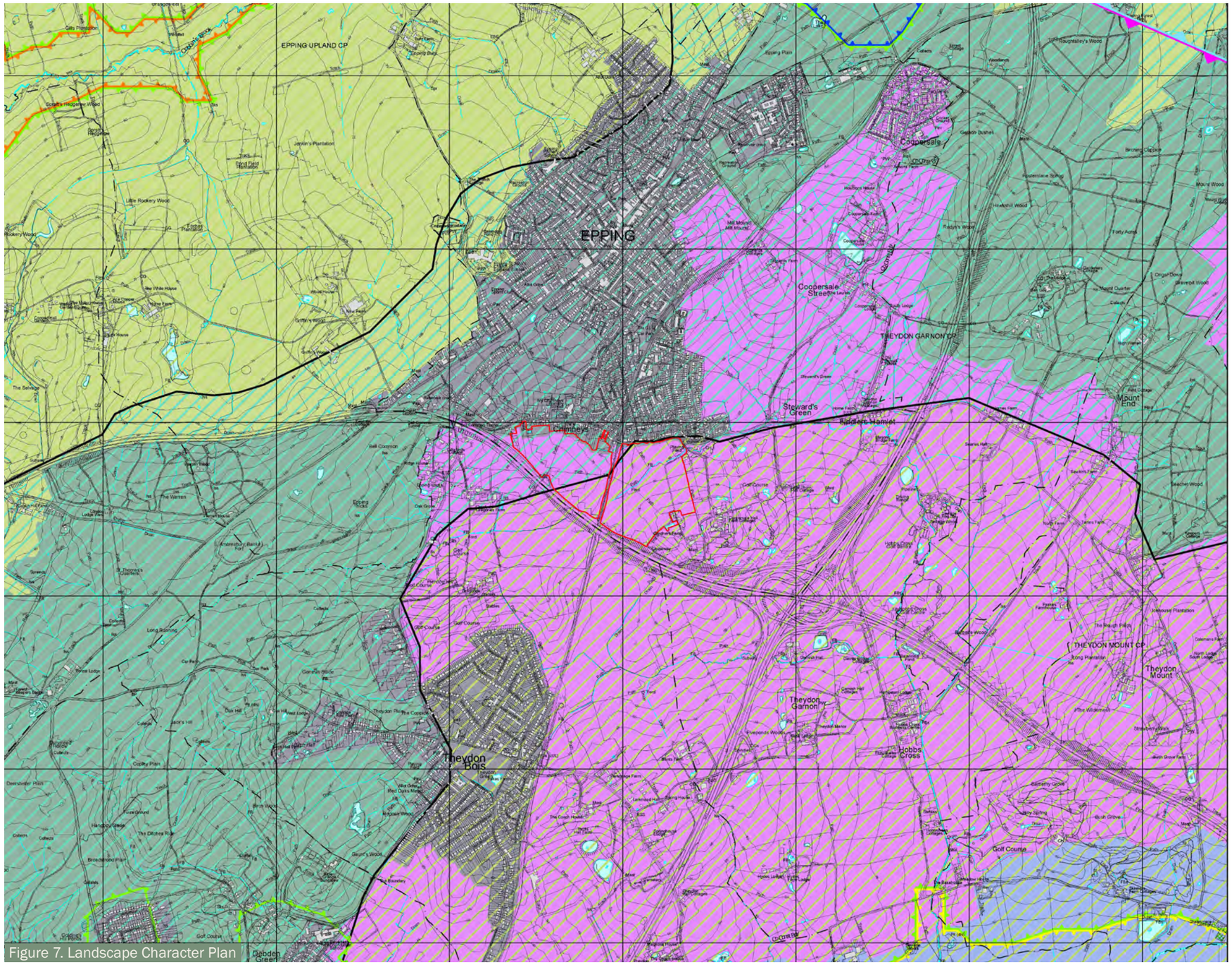
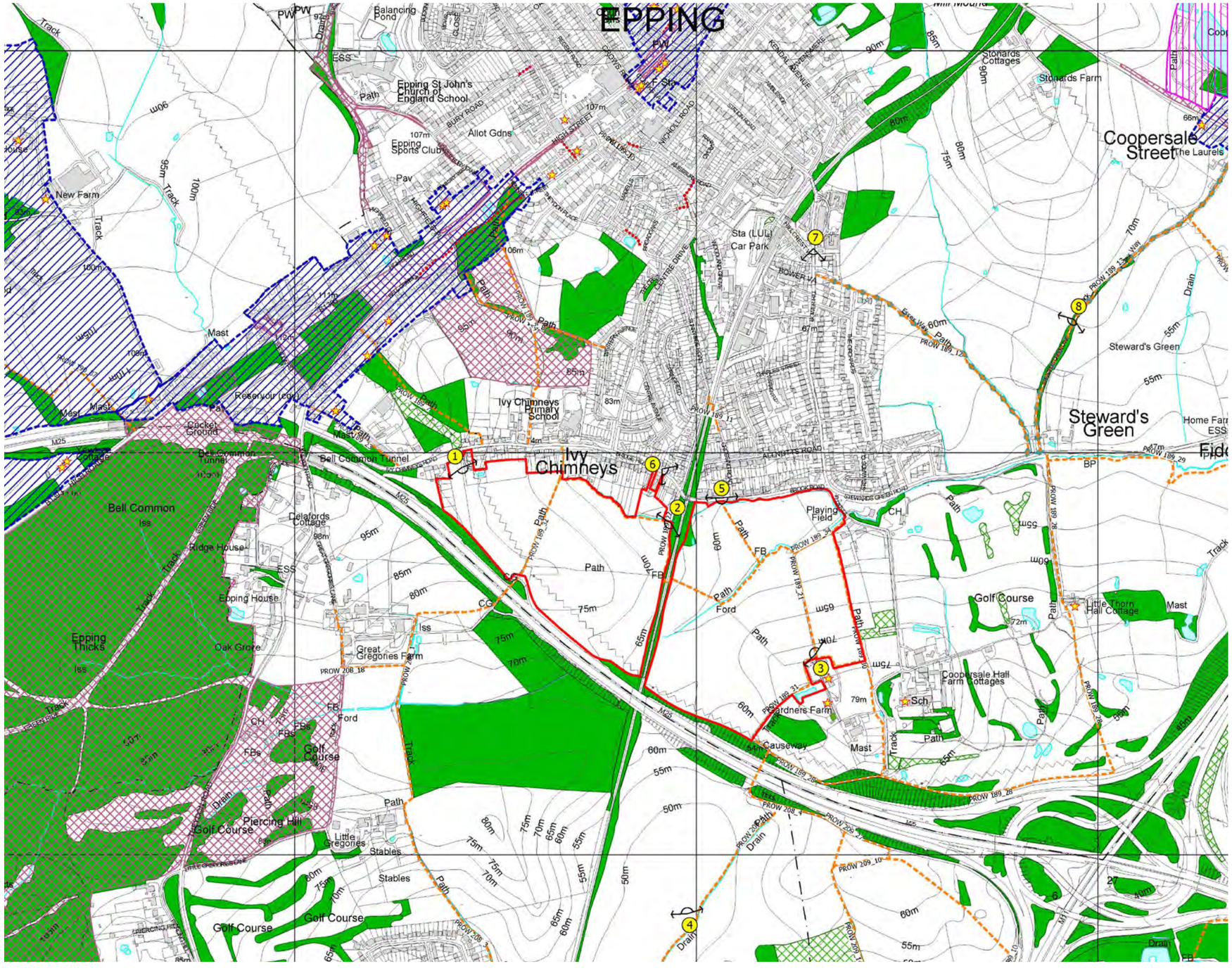


Figure 7. Landscape Character Plan

Key Views

A Landscape & Visual Appraisal of the site has concluded that the visual envelope is very limited:

- The most significant views of the site are limited to receptors in close proximity to the site boundaries (**VP01**, **VP02** & **VP05**);
- There are no longer-range views towards the higher ground in the vicinity of Fluxs Lane (i.e. beyond the 1km study area);
- There are no views towards the elevated ground to the south-east of the site from locations to the south of the M25, however views are available of the western parcel due to topography (**VP04**);
- There are no views towards the site from the Epping Forest SAC;
- There are no views towards the site from any other designated landscapes, including from Coopersale House Registered Park and Garden, or Epping Conservation Area;
- Unobstructed views towards the higher ground within the site from the surrounding PRoW network are limited to footpaths within the site, including from areas to the west of the Central Line (**VP03**);
- Transient and glimpsed views towards the higher ground are available from the road network in the immediate vicinity of the site, but heavily screened and filtered by the boundary vegetation with views available along the PRoW (FP21 189) from Brook Road (**VP05**);
- In general, views towards the site from the road network are almost completely obscured by intervening built form and roadside vegetation and there are two identified locations where channelled views towards the higher land are available (**VP06** & **VP07**); and
- Views from open agricultural land to the north-east are filtered and screened by intervening vegetation (**VP08**).



***VP01**: View from Ivy Chimneys Road looking south towards the site*

***VP05**: View looking south from Brook Road and towards elevated south-eastern corner of the site*

***VP02**: View taken from north-eastern corner of western parcel*

***VP06**: View looking south-east over the Central Line from Bridge Road / Ivy Chimneys and towards elevated south-eastern corner of the site*

***VP03**: View taken from Gardners Farm looking north west across the eastern pacel towards the western parcel*

***VP07**: View looking south along the corridor of Bower Hill and towards elevated south-eastern corner of the site*

***VP04**: View looking north-west from south of M25*

***VP08**: View looking south-west towards the site from agricultural land to the east of Epping and PRoW 189_13*

Trees & Woodland

The well-wooded, ridgeline character of Epping is visible from the elevated south-eastern part of the site. Bell Common and Epping Thicks form a stretch of dense mixed woodland and grassland that emerges from below Ambresbury Banks and Genesis Slade to meander towards Epping and to the south-west of the site. Blocks of Ancient Woodland forming part of Epping Forest are situated to the north-east of Epping at The Lower Forest and enclosing Coopersale approximately 2km to the north-east of the site. There are pre 18th Century Fields surrounding Epping, some of which abut the eastern edge of the settlement. Many of the fields surrounding Epping have suffered boundary loss.

The SAC lies approximately 390m to the south of the western part of the site. There is no intervisibility with the SAC given the well-vegetated site boundaries, in particular along the M25 corridor and to the rear of the residential properties at Ivy Chimneys that adjoin the northern site boundary.

There are blocks of intermittent woodland to the south of the M25 and the M25/M11 interchange is well-screened by existing roadside vegetation. To the east of the site lie the fairways of Epping Golf Course with associated tree planting. The main landscape feature within the eastern part of the site is the treebelt that follows the brook as it heads on a diagonal alignment towards Flux Lane to the north-east.

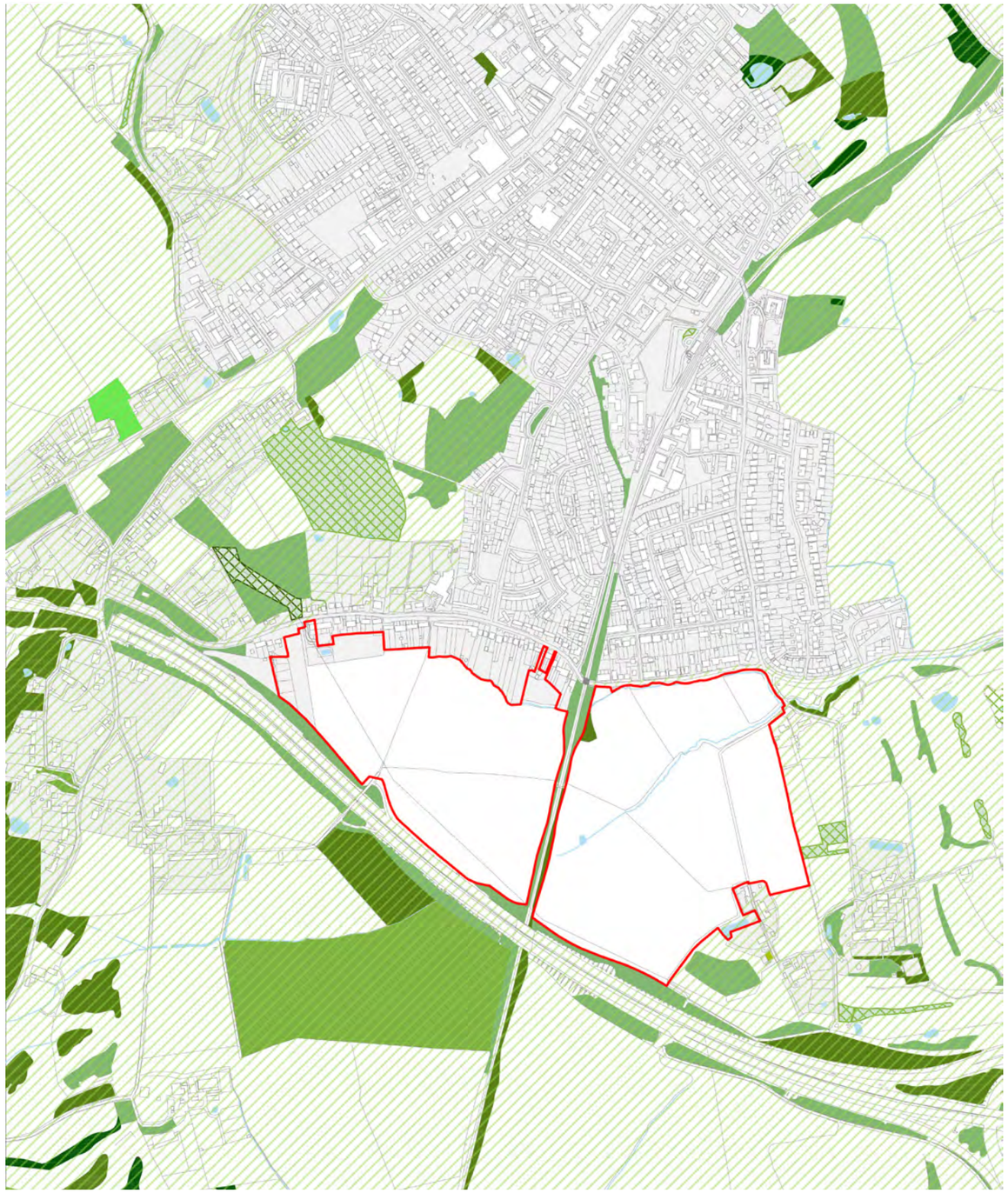
The tree survey has identified higher quality tree stock at the boundaries of the Brook Road Recreation Ground, and isolated specimens elsewhere along the site boundary.

View looking north-west towards the well-wooded ridgeline of Epping from the elevated south-east corner of the site

Epping Forest SAC to the south-west of the site

Tree belt along perimeter of Brook Road Recreation Ground

LEGEND



Open Space Typologies

The District is largely rural and over 92% of the land is currently designated as being in the Green Belt. Agriculture is mainly arable. The southern fringe of Epping is characterised by large-scale fields which are lined with mature hedgerows. The route of the M25 motorway crosses these fields and disturbs the sense of tranquillity within this area. The road corridor creates a visual and physical barrier between fields at the southern edge of the town and other arable fields to the south.

To the south-west of Epping, the large expanse of woodland within the Epping Forest SAC provides a sense of enclosure. At its closest point, the fairways of Epping Golf Course are located approximately 120m to the east of the site, with Theydon Bois Golf Course approximately 500m to the south-west.

Bell Common lies approximately 415m to the north-east of the site. As little as 20 years ago, the majority of Bell Common was open green space. However, as it is no longer managed as a common, the grassed area is rapidly being taken over by scrub and young woodland.

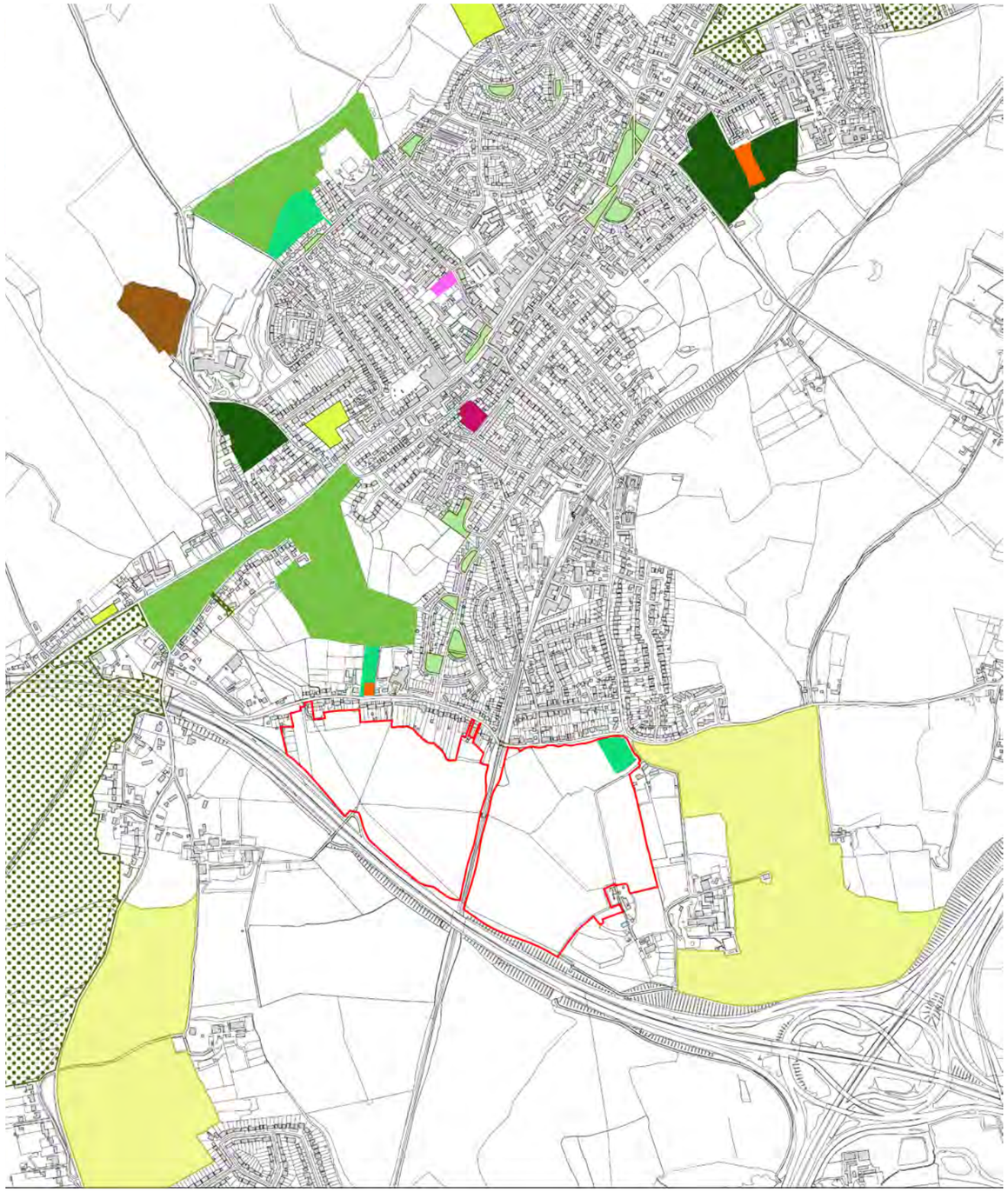
Epping Golf Course looking north

Bell Common to the north-west of the site

Epping Forest SAC

Theydon Bois Golf Course

LEGEND



Wider Movement Network

The site lies to the south of Ivy Chimneys Road, Bridge Hill and Brook Road, which form a continuation of the same road running in an east to west alignment. These streets are best characterised as residential distributor roads, fronted by properties on one or both sides, and with on-street parking.

To the east, Brook Road meets Steward Green Road and Bower Hill at a priority junction. Bower Hill is a residential distributor road which continues north to Epping Underground Station and the town centre. Stewards Green Road is a rural road which leaves Epping to the east.

To the west, Ivy Chimneys Road meets Theydon Road at a priority junction. Approximately 250m north of this junction, Theydon Road meets B1393 High Road at a signalised junction known as 'Bell Common'.

B1393 High Road continues north-east into Epping town centre and south-west towards Epping Forest, and via the A121 to Junction 26 of the M25.

Centre Drive meets Ivy Chimneys Road and Bridge Hill at a priority junction. The residential distributor road provides a route towards Epping Underground Station and the town centre.

Cycle Network

Epping has limited designated cycle provision, but the largely residential nature of the town lends itself to cycling, with relatively lightly trafficked and slow speed environments being prevalent. The town centre of Epping features a number of sets of 'Sheffield' style cycle stands, in areas such as the High Street and at the hospital.

Sheltered secure cycle parking is provided at Epping underground station, offering commuters facilities to store their bikes and providing the opportunity for sustainable multi-modal journeys. The cycle parking is covered and well located - adjacent to the main station entrance with high levels of passive surveillance.

There is an off-road cycle route that connects Epping to Coopersale to the west.

Public Rights of Way (PRoW)

A network of public footpaths run through the site, including:

- Epping 32 / Theydon Bois 1, which runs north-south between Ivy Chimneys Road and the bridge over the M25;
- Epping 22 which runs east-west between site EPP.R1 and EPP.R2, crossing over the railway line at a footbridge.
- Epping 21, 31, 30 and 34, which form a network of routes within site EPP.R2 between Brook Road / Fluxs Lane to the north and an underpass beneath the M25 to the south.

LEGEND

- *Site Boundary*
- *Motorway*
- *'B' Category Roads*
- *Residential Distributor Roads*
- *Minor Streets*
- *PRoW*
- *Bridleway*
- *Cycle Routes*
- *Railway*
- *Railway Station*
- *National Trail*

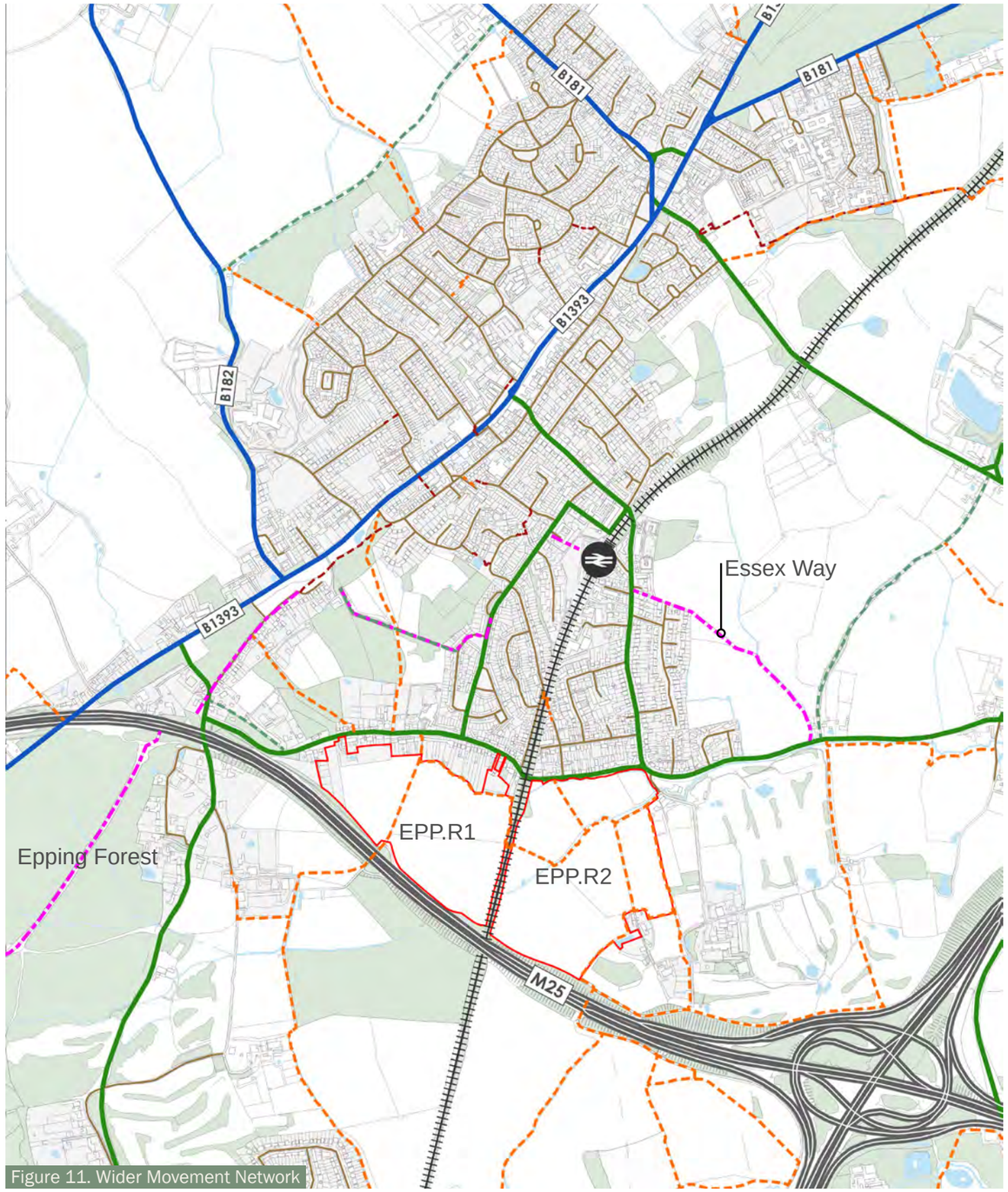


Figure 11. Wider Movement Network

Rail and Bus network

Epping underground station is located approximately 850m (12 minutes) walking distance to the north of parcel EPP.R1 and 700m (14/15 minutes) walking distance to the north of EPP.R2.

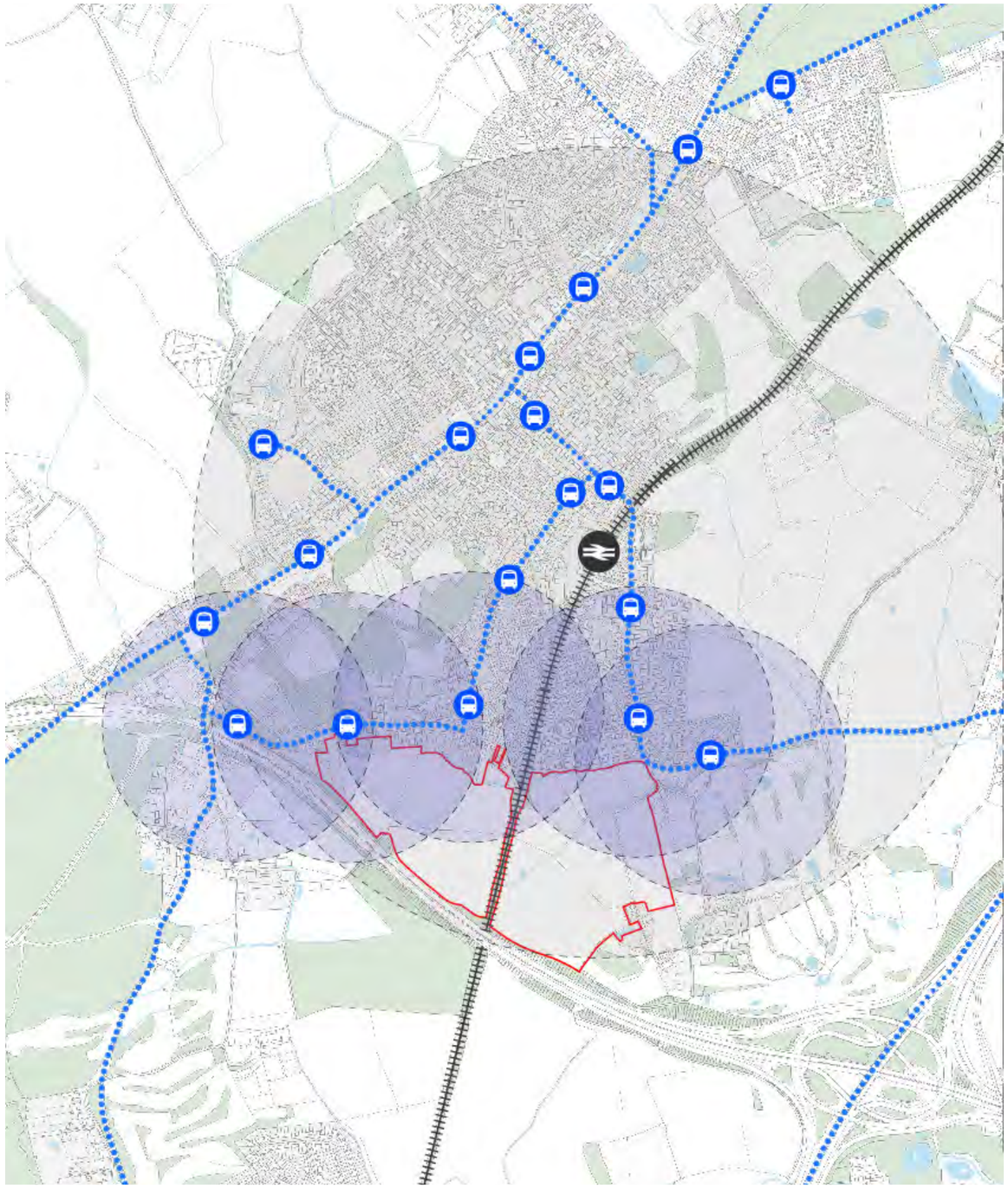
Epping station provides London Underground Central Line services every 6-10 minutes (during the AM peak hour) into central London via Loughton, Woodford and Stratford.

Epping is well served by frequent buses with Epping Underground station benefiting from nine bus services. The 18, 18 A and C and 31 services pass by the site now. operating between Harlow and Coopersale via Epping and the 418/418B offering a service from Loughton to Epping via Abridge and Theydon Bois.

The 20/21 service which leaves from the nearby tube station serves Epping, Harlow and Chipping Ongar has doubled in frequency since late 2024 when a new operator, Central Connect took over bus routes in the area.

Live bus tracking is now available on the operator website. Central Connect plans to increase district bus capacity over the coming years as the districts Local Plan sites come forward for development.'

The closest bus stop to EPP.R1, on Ivy Chimneys Road, features a flagpole and timetable and offers access to the 31, 418 and 418B bus services. The nearest bus stop to EPP.R2 is located on Bower Hill and also benefits from the provision of a flagpole and timetable and serves the 31 bus service. Bus stops on Centre Drive and Stewards Green Road, near to EPP.R1 and EPP.R2 respectively, benefit from the provision of shelter, seating, a flagpole, bin and timetable. The 31 bus is accessible from Stewards Green Road while Centre Drive also serves the 31 along with the 418/418B services.



LEGEND

- *Site Boundary*
- *Bus Route*
- *Bus Stops*
- *Railway*
- *Railway Station*
- *400m/5min. Approx Walking Distance from Bus Stops*
- *1,200m/15min. Approx Walking Distance from Tube Station*

Local Services & Facilities

The closest primary school is Ivy Chimneys Primary School, located immediately north of parcel EPP. R1 on Ivy Chimney Road. The closest secondary school is Epping St John's School, approximately 2km walking distance from the boundary, Coopersale School has extended it's years to include a post primary provision. The closest local convenience store is located on Allnuts Road, approximately 130m walking distances from the EPP.R2 boundary on Brook Road, and 300m walking distance from the EPP.R1 boundary on Bridge Hill.

Epping town centre offers a wide range of facilities including food and non-food retail, pubs, restaurants, and healthcare facilities, and is approximately 1.2km walking distance to the north of the site (EPP. R1 via Centre Drive, EPP. R2 via Bower Hill).

LEGEND

- Site Boundary
- Education
- Employment
- Hotel
- Petrol Station
- Railway Station
- Pub
- Convenience Store
- Cafe
- Library
- Place of Worship
- Town Council
- Fire Station
- Cemetery
- High Street
- Cricket Pitch
- Tennis Court
- Bowling Green
- Play Area
- Allotments
- Golf Course
- Urban Area
- Sports Centre

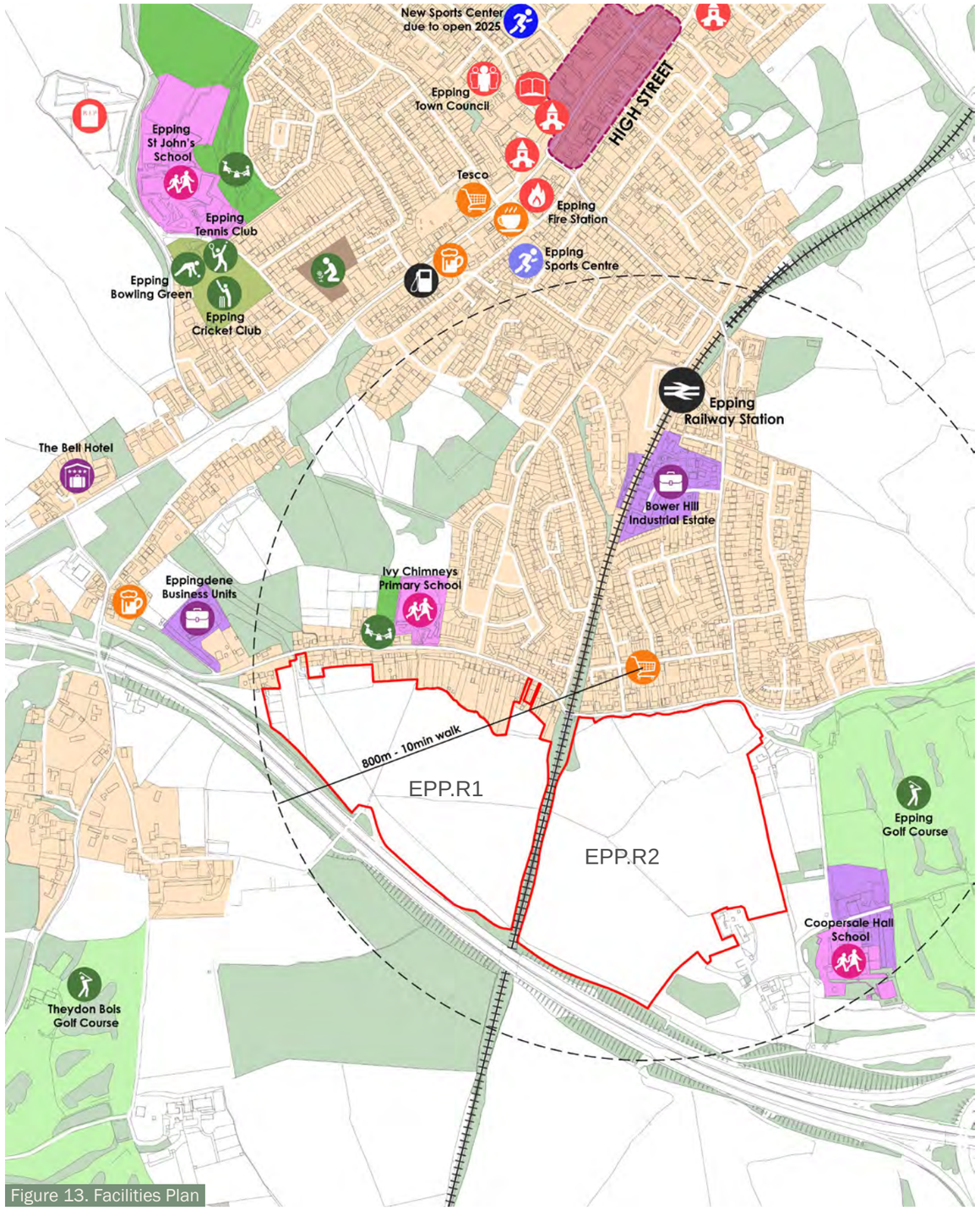


Figure 13. Facilities Plan

Ivy Chimneys School

Epping Golf Course

Convenience Store - Allnutts Road

Epping High Street

Built Heritage

There are no heritage assets located within the site boundary, however, there are three Grade II listed buildings proximate to the site; Gardners Farmhouse, Barn to the North of Gardners Farmhouse and Coopersale Hall.

Coopersale Hall is located to the south-east of the site. It is well screened from the site and there is no historic functional relationship between the two. As such, its significance is unlikely to be affected by the development of the site.

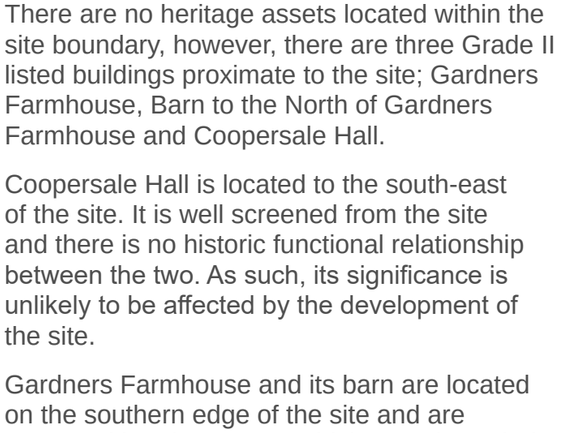
Gardners Farmhouse and its barn are located on the southern edge of the site and are accessed by Fluxs Lane, which runs through the site. There is a historic functional relationship between the site and the historic farm group. Therefore, the proposed development has the potential to result in less than substantial harm to the significance of the listed buildings. Care must be taken regarding the orientation of dwellings in relation to Fluxs Lane in order to preserve its historic interest.

Epping and Bell Common Conservation Areas are located approximately 1km north/north-west of the site. Due to the topography of the area and the substantial intervening built development, the development of the site would not affect the character and appearance of the conservation areas.

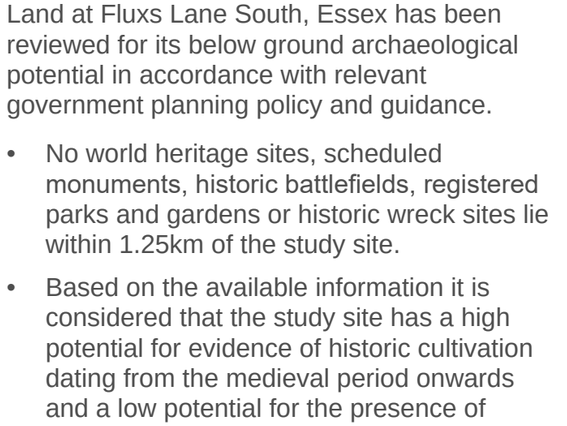
Archaeology

Land at Fluxs Lane South, Essex has been reviewed for its below ground archaeological potential in accordance with relevant government planning policy and guidance.

- No world heritage sites, scheduled monuments, historic battlefields, registered parks and gardens or historic wreck sites lie within 1.25km of the study site.
- Based on the available information it is considered that the study site has a high potential for evidence of historic cultivation dating from the medieval period onwards and a low potential for the presence of archaeological evidence relating to all other past periods of human activity.
- Any archaeological evidence present within the study site is likely to be of local significance only.
- There is a general absence of archaeological investigation within the study site and the vicinity, and therefore there is a degree of uncertainty when determining the site's overall archaeological potential. A number of archaeological investigations carried out within the historic core of Epping have recorded limited archaeological evidence of local significance only.

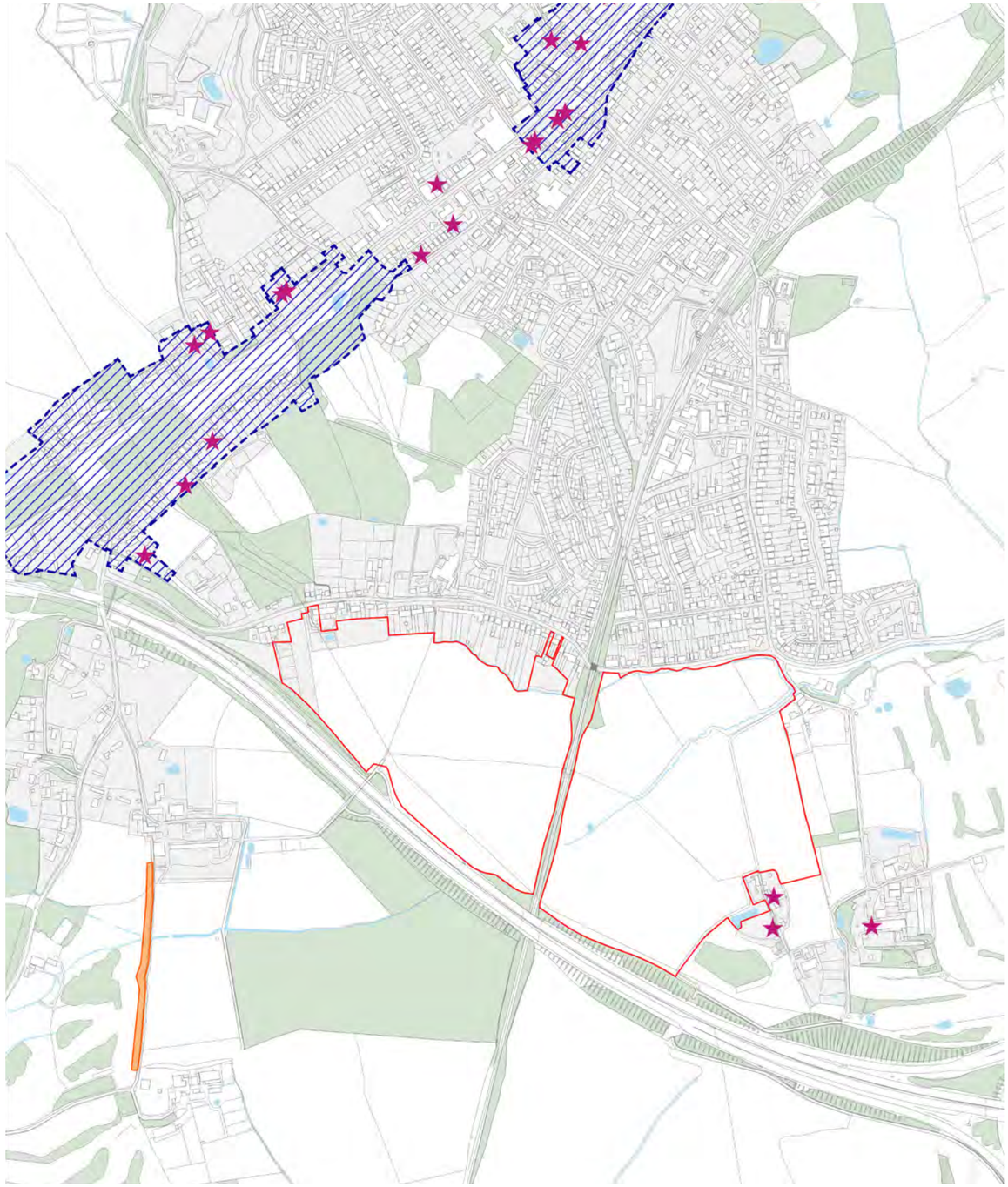


Grade II listed barn at Gardners Farm



Purlieu Bank Scheduled Ancient Monument

LEGEND



Local Character Study

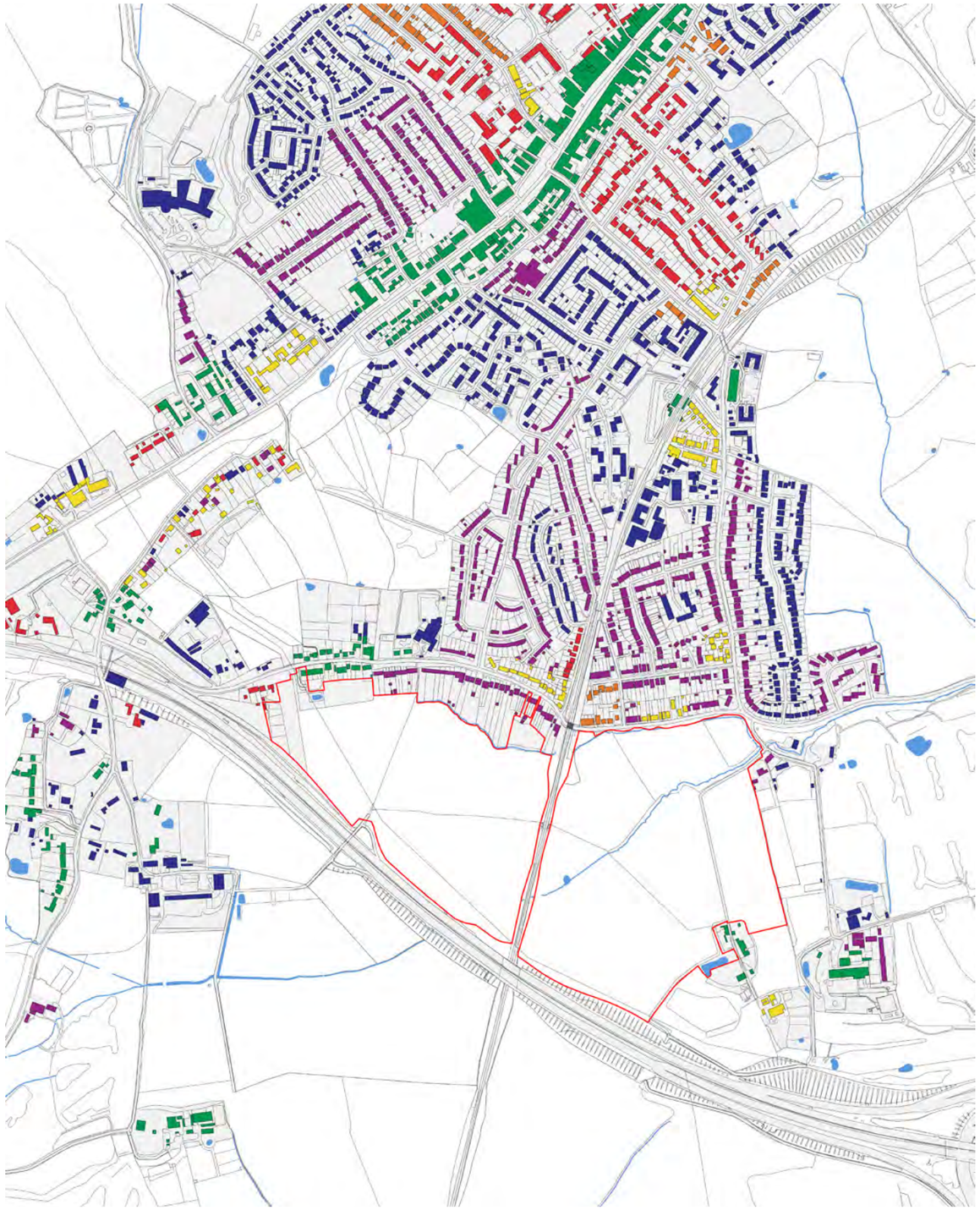
An appraisal of placemaking elements within the context of the site has been carried out with the intention that it informs the design of the proposals.

The study focuses on features of built form within the local area that could be used to create local distinctiveness within a new development. The overall structure of the development will be driven by making the necessary connections into the existing urban fabric, circulation routes, existing tree belts and the required drainage features. However at a finer grain scale there are typologies of streets and spaces that can be used to aid placemaking as well as having a social function.

Local vernacular architecture is presented not to place a requirement that exact replicas are used but that certain features may be picked out that can root the development in the locality. This approach gives developers the freedom to design dwellings with a more contemporary aesthetic which look to the future whilst using locally distinct cues that avoid creating a development that could be anywhere in the country.

Development within Epping

The plan opposite shows the approximate period of original development of the areas of Epping surrounding the site. Areas of the town developed during the 20th and 21st centuries have left areas of distinct building stock whose townscape character is aligned to these periods of development.



Methodology for Character Assessment

A number of study areas were selected on account of their distinctiveness in terms of architectural character or their spatial arrangement, with particular focus on the positive features which make these areas attractive places.

The areas were also selected to represent the transition from urban to rural, with the aim to capture any features that might be applicable to different areas of the proposed scheme.

The study areas are:

1. Town Centre - Epping High Street
2. Residential Street - Brook Road
3. Green Edge - Bell Common
4. Essex Rural Vernacular - Gardners Farm

Included within the appendix is a brief summary of the historic development of the Epping and Bell Common area in order to set the structural framework that has given rise to the urban form that can be seen today.

Figure 16. Study Area Locations

1. Epping High Street - Town Centre

2. Brook Road - Residential Street

3. Bell Common - Green Edge

4. Gardners Farm - Essex Rural Vernacular

Urban → **Rural**

Study Area One

Epping Town Centre

Epping High Street is largely lined by continuous frontage of between two and three storeys. There is a large amount of pedestrian activity and vehicular traffic along this street. The majority of the buildings are in commercial use with shops at ground level. There are a wide range of architectural styles fronting the High Street including local traditional styles, Georgian, Victorian, Edwardian, 1930s, 1960s and 70s ‘modernist’ styles as well as more recent ‘postmodern’ styles that echo the form of some of the historic buildings.

A number of listed buildings, most dating from the 18th century, line both sides of the High Street.

There are several short gaps between the buildings at intervals where alleys and lanes provide access to the areas behind the High Street. The High Street widens at the centre to form a market place, still used today.

The historic buildings tend to have narrow plot widths while the more modern buildings have wider frontages. The varying roof heights and numerous gables, chimneys and dormer windows create an interesting roofscape along the street. Trees also line the street in several places adding greenery and interest to the townscape.

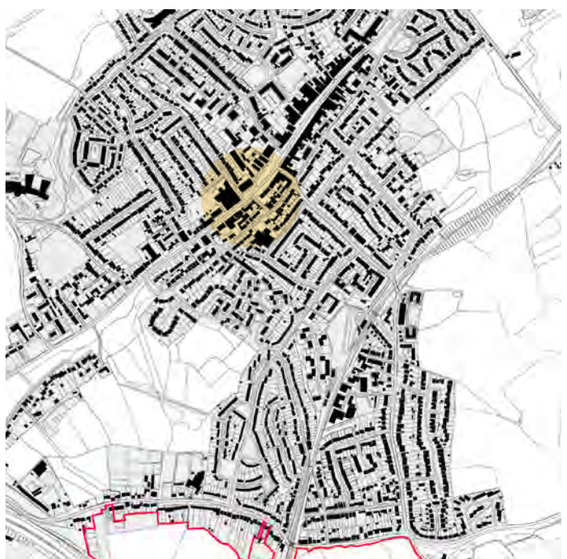


Figure 17. Area Location

Figure 18. Epping High Street Aerial View

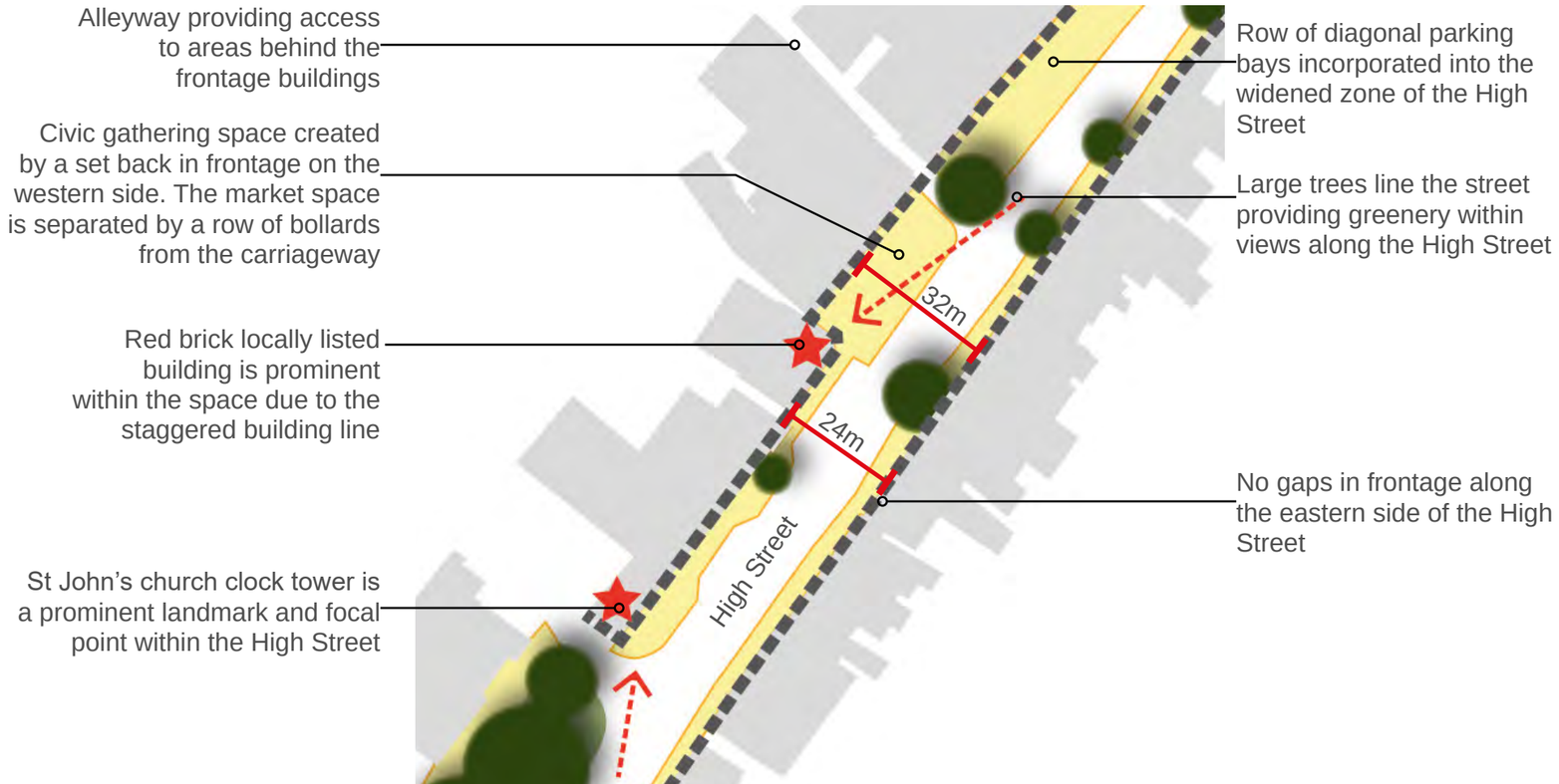


Figure 19. Epping High Street

These 18th Century Grade II listed buildings create an intricate roofscape with variation in ridge height, pitch and form

Formal symmetrical frontage with iron railing enclosure

The building frontage abuts the public realm in some places, while elsewhere a narrow privacy strip is enclosed with fencing

Paved public space, enclosed by continuous frontage

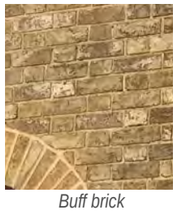
Change of facade material and roof form creates variety

A mix of facade material and storey height within a continuous frontage

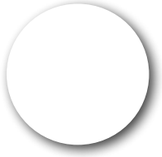
Materials

A mix of materials can be seen along the High Street including, red and buff coloured bricks, white and cream render and clay and slate roof tiles. Window frames are generally white.

Red multi-brick

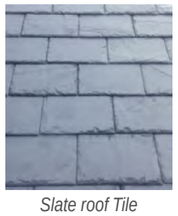


Buff brick



White render/ window surround

Cream render



Slate roof Tile

Red clay roof tile

Potential Design Cues

- Inspiration for areas enclosing key spaces.
- Enclosure created from continuous built form, adjoining roofs varying in height and form creating visual interest.
- Landmark buildings at key locations create a signpost to key spaces.
- Hard surfaced area alongside the main thoroughfare creates the opportunity for a community space.
- Opportunity to create a pared down interpretation of Georgian/Victorian forms such as the tall Georgian windows.

Study Area Two

Residential Street

The residential streets immediately to the north of the site contain dwellings dating from throughout the 19th and 20th centuries. Dwellings were built first along the main streets, then cul-de-sacs were developed at a later date, within the blocks and also backing onto the agricultural land to the east.

Streets tend toward a consistent set back, creating a uniform streetscape character despite the range of architectural detailing present on individual dwellings.

The junction of Brook Road and Bower Hill, developed during the 1930s was selected as an interesting junction example.

Figure 20. Area Location

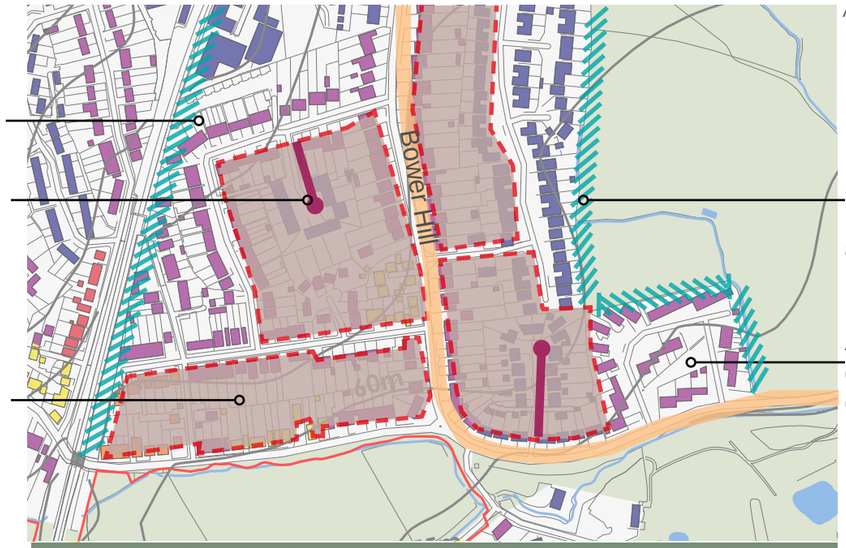


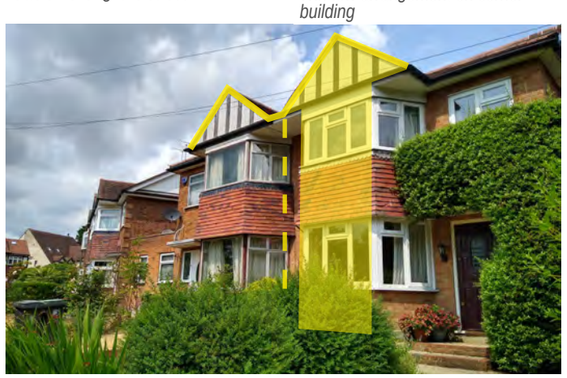
Figure 21. South Epping Figure Ground (with highlighted block structure)

Figure 22. Brook Road and Bower Hill Junction

Consistent set back

Gable fronting the street

Window arrangement on corner building

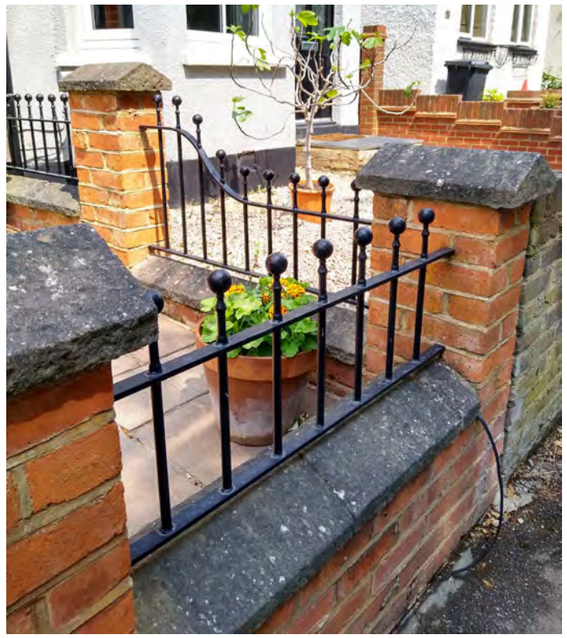


Typical 1930s semi-detached dwelling with pair of double height bay windows with forward facing gable roof

Hipped roof semi with recessed entrance doors and rounded brick archways

Symmetry of built form with brink to ground floor and mock Tudor facade treatment to first floor

Linked frontage interspersed with forward facing gables

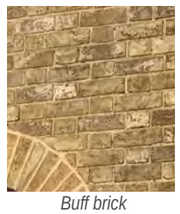


Common front boundary with low brick wall and iron railings

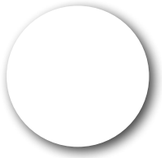
Materials

Varied palette of materials from different periods of construction including red and buff bricks, render of light colour to yellow, timber weatherboarding, and clay and slate roof tiles.

Red multi-brick



Buff brick



White render/ window surround

Cream render

Slate roof Tile

Red clay roof tile

Potential Design Cues

- Inspiration for streets within the core of the proposed development.
- Corner buildings turned to front key vistas.
- Low brick walls in combination with railings and hedges for front boundary treatments.
- Mix of gable roof forms aligned with the street and forward facing gables.
- Predominantly two storeys.
- Double height box/canted bay windows.
- Horizontal change in facade materials between storeys.
- Allow space for trees and hedges within the streetscape.
- Interpretation of Georgian/Victorian forms found throughout Epping.

Study Area Three

Green Edge

Originally known as Beacon Common due to the beacon maintained here to warn of invasion, in the 19th century it became known as Bell Common because of the Bell Inn, a coaching inn which still survives today as a hotel.

This area of Epping provides an historic example of development fronting green space, with a major movement route running along its northern edge. Buildings fronting the common date from between 16th and early 20th Century and has been designated as a Conservation Area, including eight Grade II listed buildings.

There is a wide range of architectural styles surrounding Bell Common with local traditional weather boarded cottages, Georgian houses, Victorian and Edwardian cottages, as well as modern 1960s and 70s detached houses.

Buildings of different styles stand alongside one another. There is a high proportion of late 19th century Arts and Crafts buildings, particularly on the High Road. These Arts and Crafts houses all feature tall decorative brick chimneys, which are a characteristic feature of the skyline of Bell Common Conservation Area.

On the northern side, two storey detached and semi-detached houses are nearly all set well back from the road and obscured from view. However some, including the Bell Inn, sit more prominently beside the road.

Dense stands of mature trees obscure views across the common however as they are well set back from the road the area retains an open character. Glimpses of tall chimneys are often the only sign of dwellings on the opposing side.

On the southern side, vehicular access is provided via an informal shared surface road. Due to the nature of this road and the enclosure created by the large trees within the common, this area has a more peaceful, secluded character.

Figure 23. Bell Common Conservation Area Location

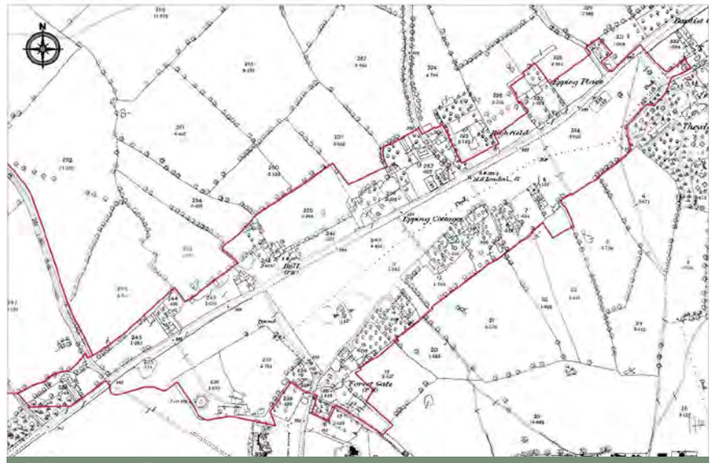


Figure 24. Bell Common Ordnance Survey Map 1873

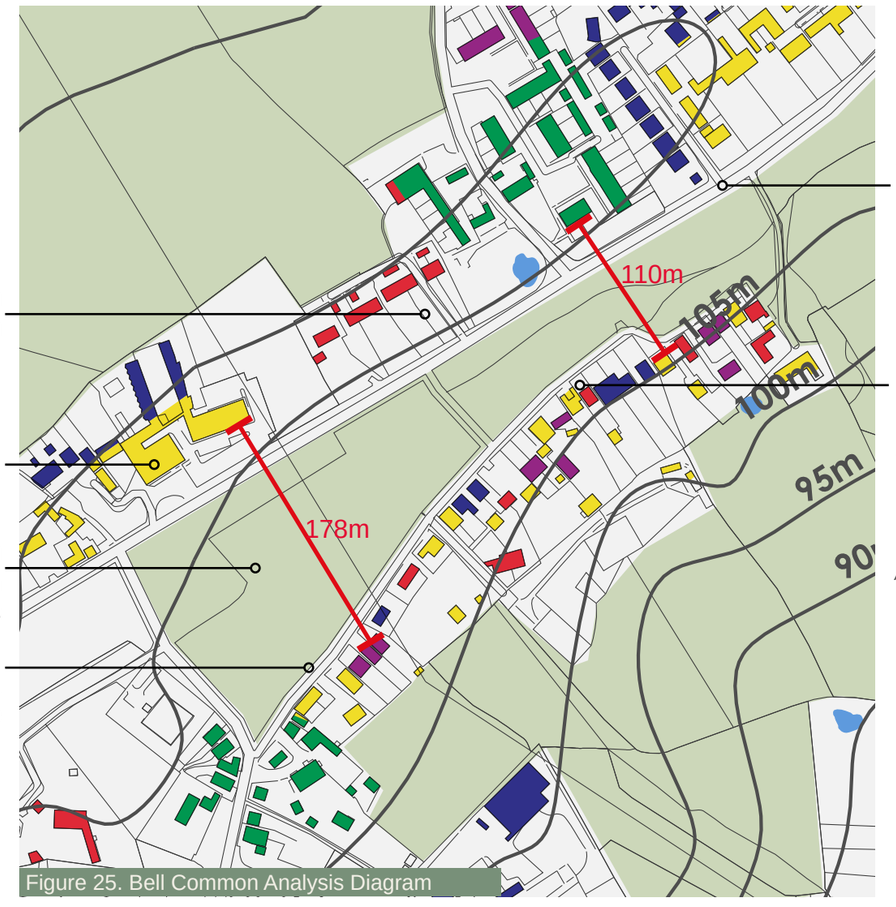


Figure 25. Bell Common Analysis Diagram

Mature, dense tree blocks, obscure views across the common

Half-hip roof with dormers, central chimney and fenestration symmetry

Gravel driveway in front of lean-to garage- paired entrance doors

Mix of roof forms and materials along the frontage

Low level vegetation to front boundaries with higher hedges between properties

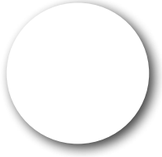
Materials

Red brick with white and cream render, are the main facade materials.

Roof materials are primarily grey slate with occasionally red clay tiles.

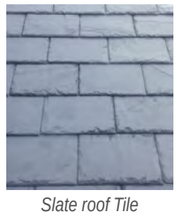
Carriageway and driveways are surfaced with gravel.

Red multi-brick



White render/ window surround

Cream render



Slate roof Tile

Red clay roof tile

Gravel

Potential Design Cues

- Inspiration for tertiary streets fronting open space.
- Low shrub planting to front boundary giving an informal character.
- Mix of gable roof forms aligned with the street and forward facing gables.
- Two storey and 2½ storey dwellings.
- Double height box bay windows.
- Secluded character created by enclosure provided by the mature trees and vegetation with the open space that obscures views across the space.
- White window surrounds contrasting with red brick facade.
- Tall chimneys visible across the open space.

Study Area Four

Essex Rural Vernacular

Situated adjacent to the site is the listed farmhouse and barn at Gardners Farm. The listed farmhouse dates from the 15th Century with later alterations and additions. The building is of two storeys with two eighteenth century dormers. The external red brick chimney stack dates from the sixteenth to seventeenth century and adjoins a contemporary red brick gable.

The barn, dating from the eighteenth century, has a double height, timber framed construction with a gabled central entrance. The barn is weatherboarded, with a steep red tile roof. Attached to the barn on either side are red brick cartlodges which feature pigeon holes at the gable apex. The barn is now in residential use and the originally narrow floor plan has been extensively extended to the rear.

Both demonstrate the typical Essex rural vernacular architectural character. The lane running through the centre of the cluster is defined alternately by building frontage, private courtyard spaces and vegetation. This creates an informal, rural enclosed character. Rear garden boundaries back onto the agricultural fields.

Figure 26. Area Location

Figure 27. Aerial View of Gardners Farm

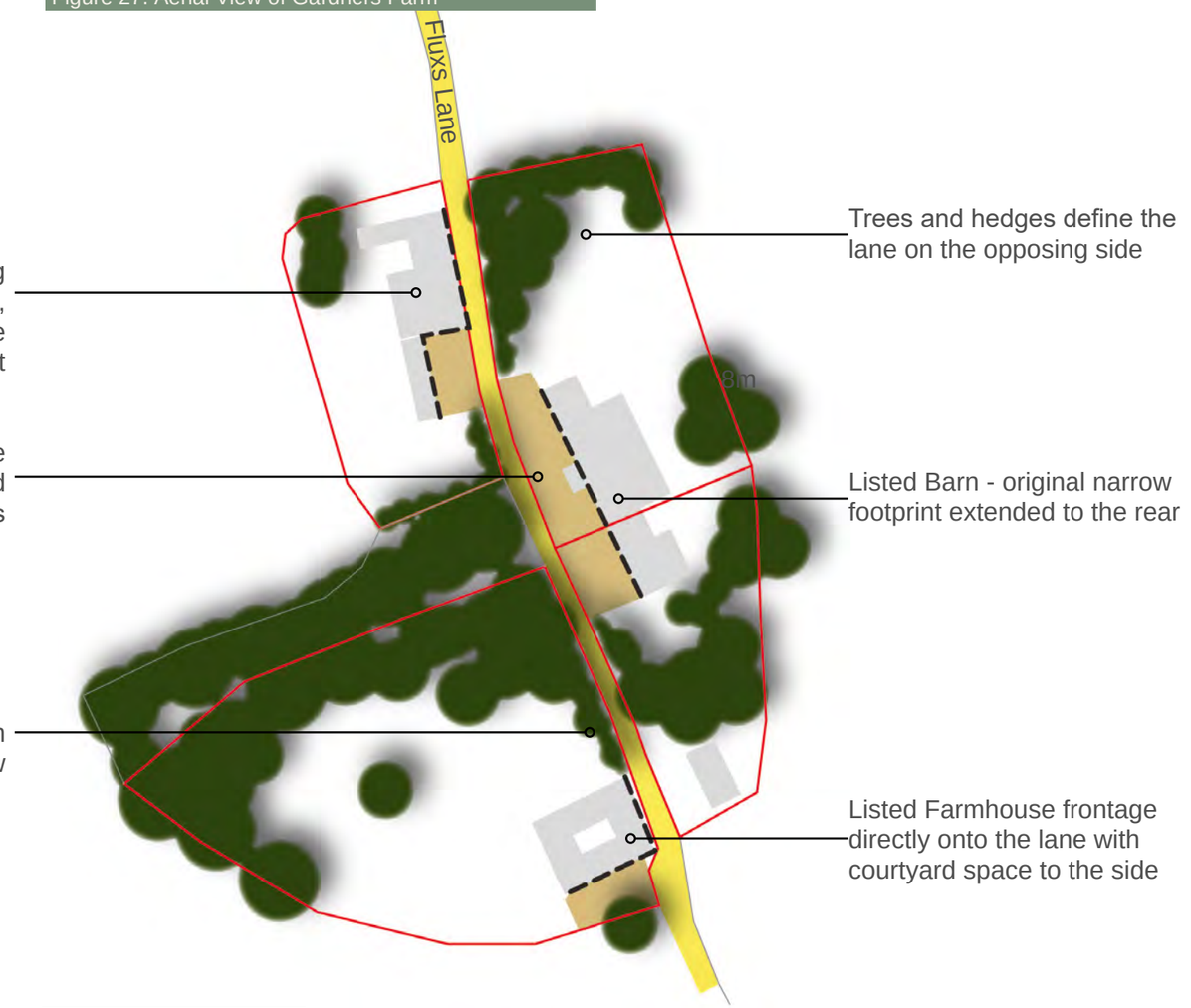


Figure 28. Gardners Farm

1½ storey element with dormers and black painted barge boards

Listed barn with double height entrance

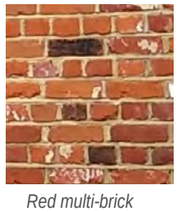
Listed Farmhouse, prominent red brick chimney stacks

Complex roofscape created by numerous additions made over time

Listed barn with front parking court

Materials

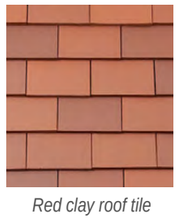
Local vernacular materials predominantly consist of black timber weatherboard, light colour render, multi-tonal red bricks and red plain tiles for roof.



Red multi-brick

Black weatherboard

Cream render



Red clay roof tile

Multi-tonal setts

Potential Design Cues

- Inspiration for low density edge.
- Mix of gable roof forms aligned with the street and forward facing gables.
- 1½, 2 and 2½ storey elements
- Red multi-brick and black weatherboard with occasional render.
- Material changes should occur in a logical fashion, e.g. from one storey to another or to articulate a part of the structure such as a cross gable or window bay.
- Courtyard enclosed with railings and use of a textured surface material.

3.2 Site analysis

Ownership

Land compromising the residential site allocation of the Strategic Masterplan Area, is brought forward by a consortium of four landowners/housebuilders:

- Bellway Homes Limited (Essex);
- Barwood Land;
- Landvest on behalf of Greenacres; and
- Mount Street Development.

Site areas as follows:

	Hectares
EPP.R1	17.72
EPP.R2	23.05
SEMPA	40.77

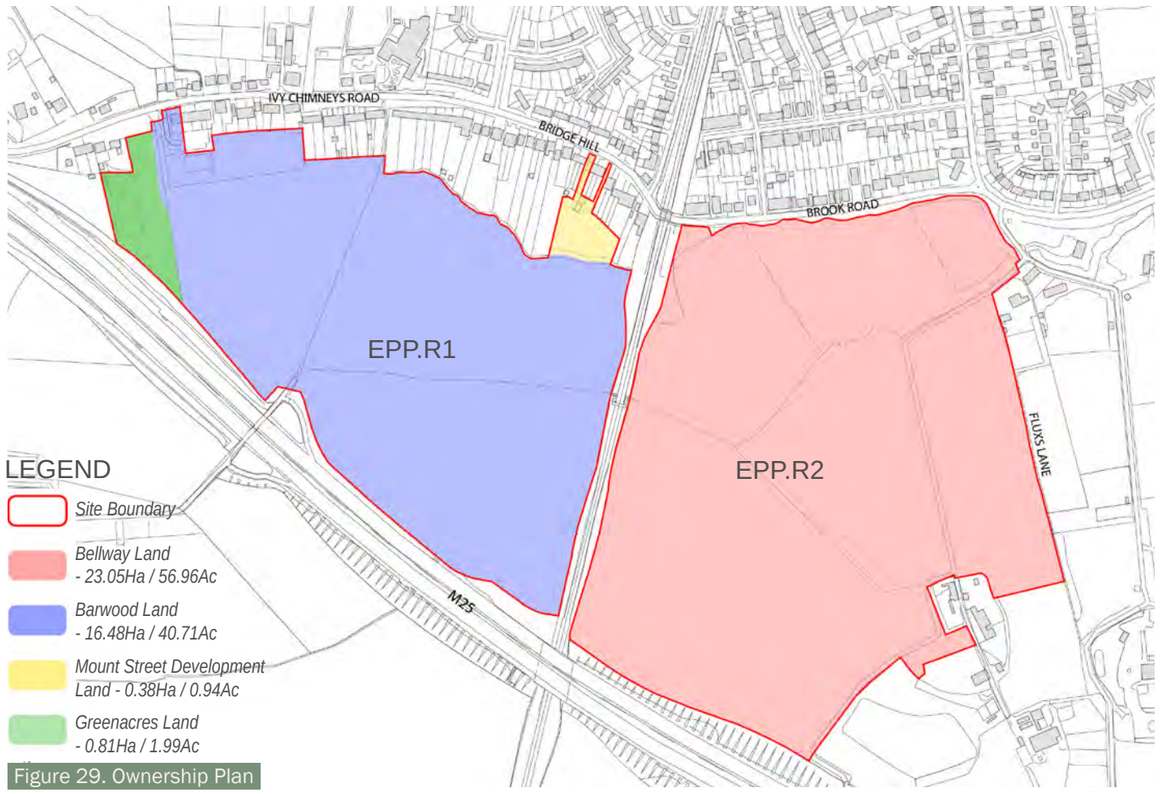


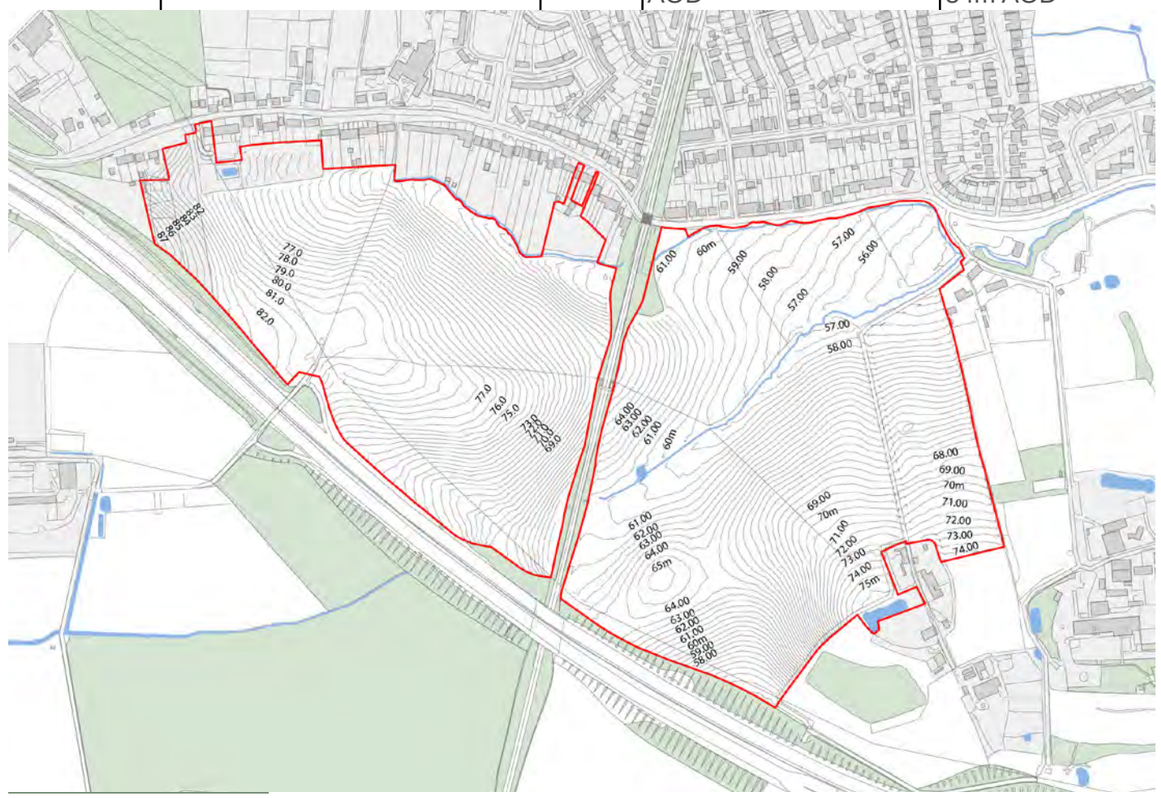
Figure 29. Ownership Plan

Topography

The landform broadly falls from west to east with the highest ground at the far western boundary at 87m AOD. The M25 sits lower than the site in this location. Where the watercourse flows from the site at the eastern boundary the ground level is 54m AOD.

The western side of the SEMPA comprises of a plateau at around 81m AOD in its centre which falls toward the northern treebelt and toward the rail line along the eastern edge.

The eastern side of the SEMPA comprises of a flatter zone to the north of the watercourse. The landform then rises up toward Gardners Farm. The site drops down again in the far south, to 54m AOD adjacent to the M25, causing the motorway to be elevated from the site in this location.



Rail, Pedestrian & Cycle Access

There are currently six public pedestrian access locations around the perimeter of the SEMPA. There is potential for a further two accesses as indicated below.

Pedestrian access can be gained via a small gate on Fluxs Lane which connects to a footway onto Stewards Green Road by means of a crossing featuring dropped kerbs and tactile paving.

Epping PRoW 32 connects EPP.R1 with Ivy Chimneys Road while Epping 21 PRoW connects EPP.R2 with Brook Road. Both of these roads feature good pedestrian provision with footways and street lighting present and allow for onward journeys on foot to be made from the site.

Rail access to the proposed development is provided by the London Underground Central Line to Epping Station. From here, a journey to both parcels can be made via the 418/418B bus service. Or, alternatively by walking (850m/12 minutes to EPP.R1 or 700m/11 minutes to EPP.R2) or cycling (900m/3 minutes to EPP.R1 or 1km/5 minutes to EPP.R2).

The watercourse in EPP.R2 is currently crossed by one pedestrian bridge and a ford as indicated. There is potential to upgrade these features in order to gain vehicular access to both sides.

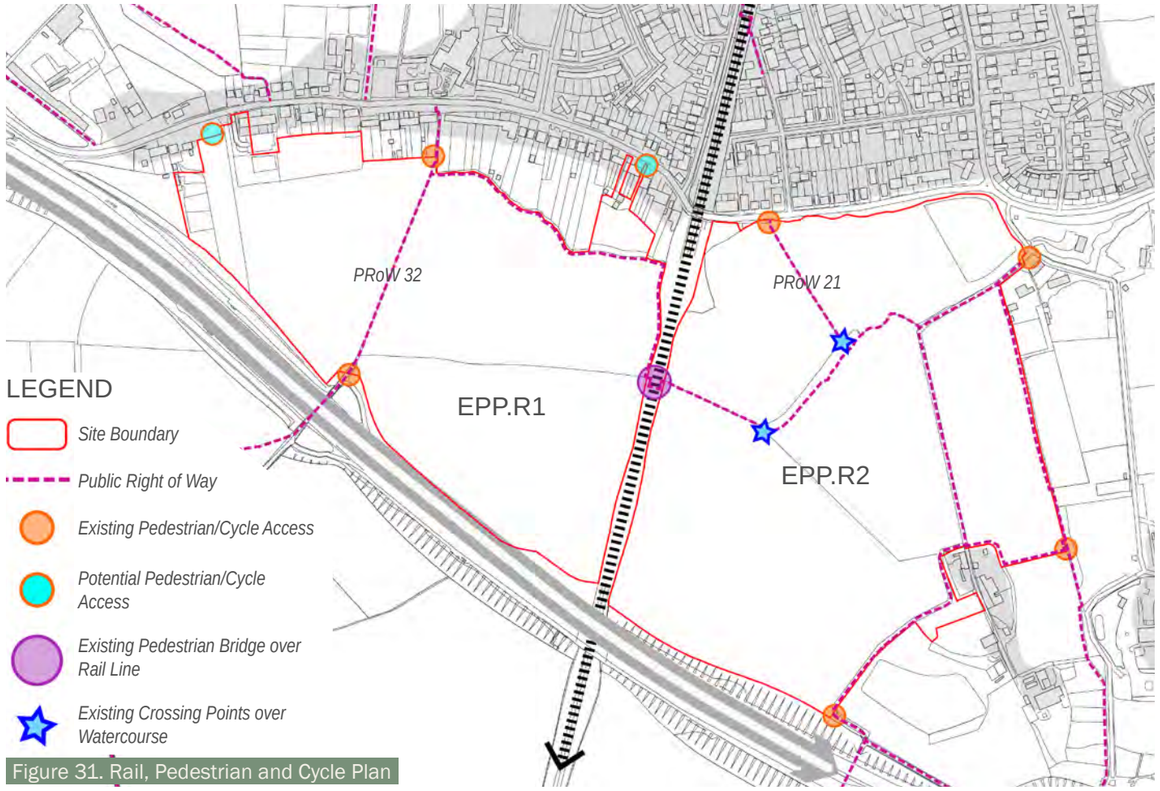


Figure 31. Rail, Pedestrian and Cycle Plan

Vehicular Access

There is potential to gain vehicular access to the SEMPA parcel EPP.R1, from Ivy Chimneys Road. A farm track meets the road at a simple footway crossover. This section of Ivy Chimneys Road provides a footway on the southern side of the carriageway only.

There is potential for a vehicular access to the SEMPA parcel EPP.R2, to be gained from Fluxs Lane via a simple priority junction with Stewards Green Road. Fluxs Lane currently provides access to Coopersale School, a handful of residential dwellings and several small businesses. Both Fluxs Lane and Stewards Green Road presently experience a fairly modest level of traffic, and visibility from Fluxs Lane onto Stewards Green Road is commensurate to the posted speed limit.

On its northern edge, Stewards Green Road features a footway separated from the carriageway by a verge and on-street parking for resident permit holders only Monday to Friday between 10:00 and 14:30. Stewards Green Road is subject to a 30mph speed limit while Fluxs Lane is currently a national speed limit zone.

A small cluster of dwellings may be accessed directly from Bridge Hill. It is not proposed that this access provide a vehicular link to the wider site. Importantly the parcel also provides for the ability to include a pedestrian and cycle linkage through to the north to link with Bridge Hill and surrounding areas of Epping.

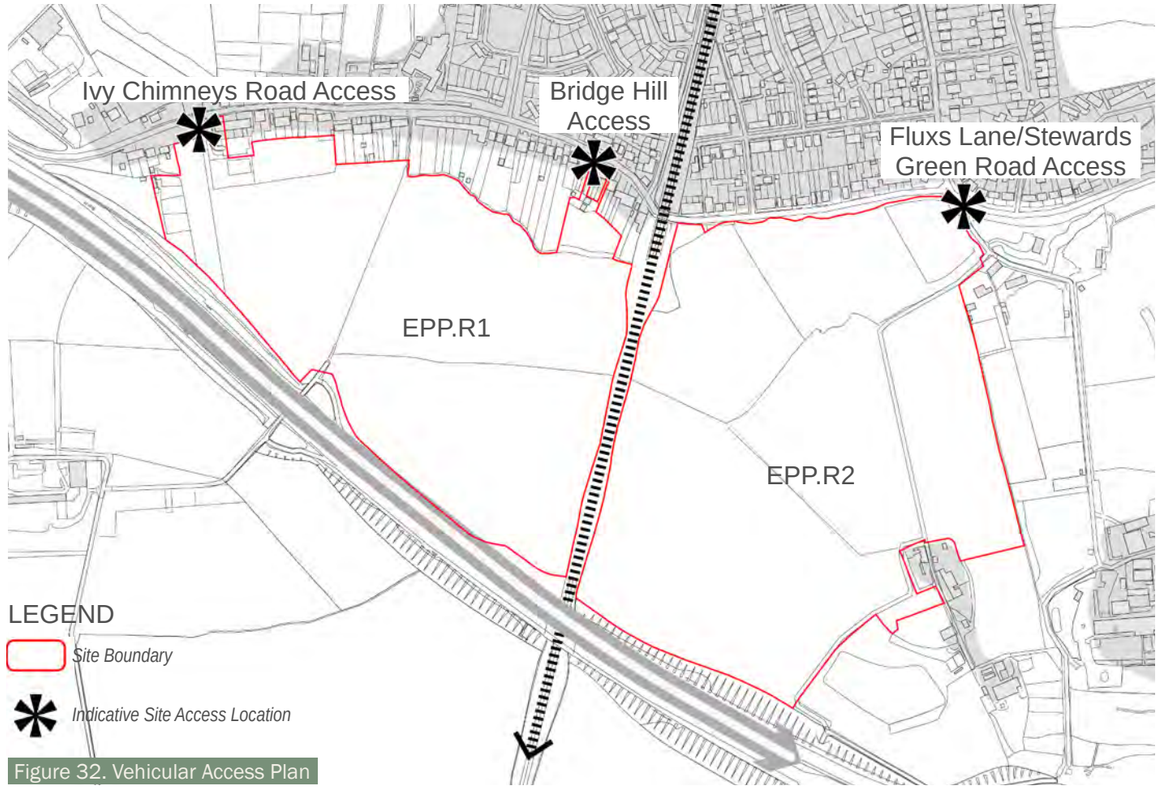


Figure 32. Vehicular Access Plan

Ecology

The majority of the site comprises of arable fields which are generally considered to be of low ecological value. They have a wide margin of ephemeral/short perennial species growing on predominantly bare ground around the edges of the crop. The far western edge is formed of a narrow field of improved grassland which is subject to intensive horse grazing.

However other habitats (including woodland, hedgerows and ponds, as well as a small stream) are of higher biodiversity value and have the potential to support several protected and notable species.

A treebelt runs along the north of the SEMPA and alongside the M25. An active railway runs through the centre which is lined with trees and scattered scrub. A ditch has pooled at its southern end due to a blocked drainage culvert forming a small, likely ephemeral, pond; though a more permanent water body is present immediately to the north of the northern site boundary. A small stream also flows west to east along the northern boundary and small areas of scrub and tall ruderal are scattered across the site.

Designations

No part of the site is covered by any statutory designations though there are two internationally important designations present within 10km of the site boundary, namely Epping Forest Special Area of Conservation (SAC) – which is also designated as a nationally important Site of Special Scientific Interest (SSSI) – and Lee Valley RAMSAR and Special Protection Area (SPA). However, other habitats (including woodland, hedgerows and ponds, as well as a small stream) are of higher biodiversity value, qualifying as Habitats of Principal Importance (HoPI, or “priority habitats”) under the NERC Act 2006, and have the potential to support several protected and notable species.

No non-statutory designated sites are located within the site, however, 15 non-statutory Local Wildlife Sites (LWS) are located within 2km of the site boundary. The closest non-statutory designated site, Bell Common/Ivy Chimneys LWS, is situated on the northern side of Ivy Chimneys road, c.10m north of the site.

Protected and Notable Habitats and Species

A suite of ecological surveys have been undertaken in 2021 and 2023. The species surveys have confirmed the presence of the following protected/priority species within the site:

- A typical assemblage of breeding birds including skylark;
- Great crested newts;
- A typical assemblage of foraging and commuting bats with nothing of particular note recorded during the transect and automated detector surveys in spring, summer and autumn;
- Relatively widespread reptile species (slow-worm) within the field boundary habitats at the edges of the site; and
- Important hedgerows.

The site also has potential to support hedgehog and brown hare. Mitigation measures to protect the above species and habitats during construction and after completion of the development should be implemented to ensure existing site biodiversity is safeguarded.

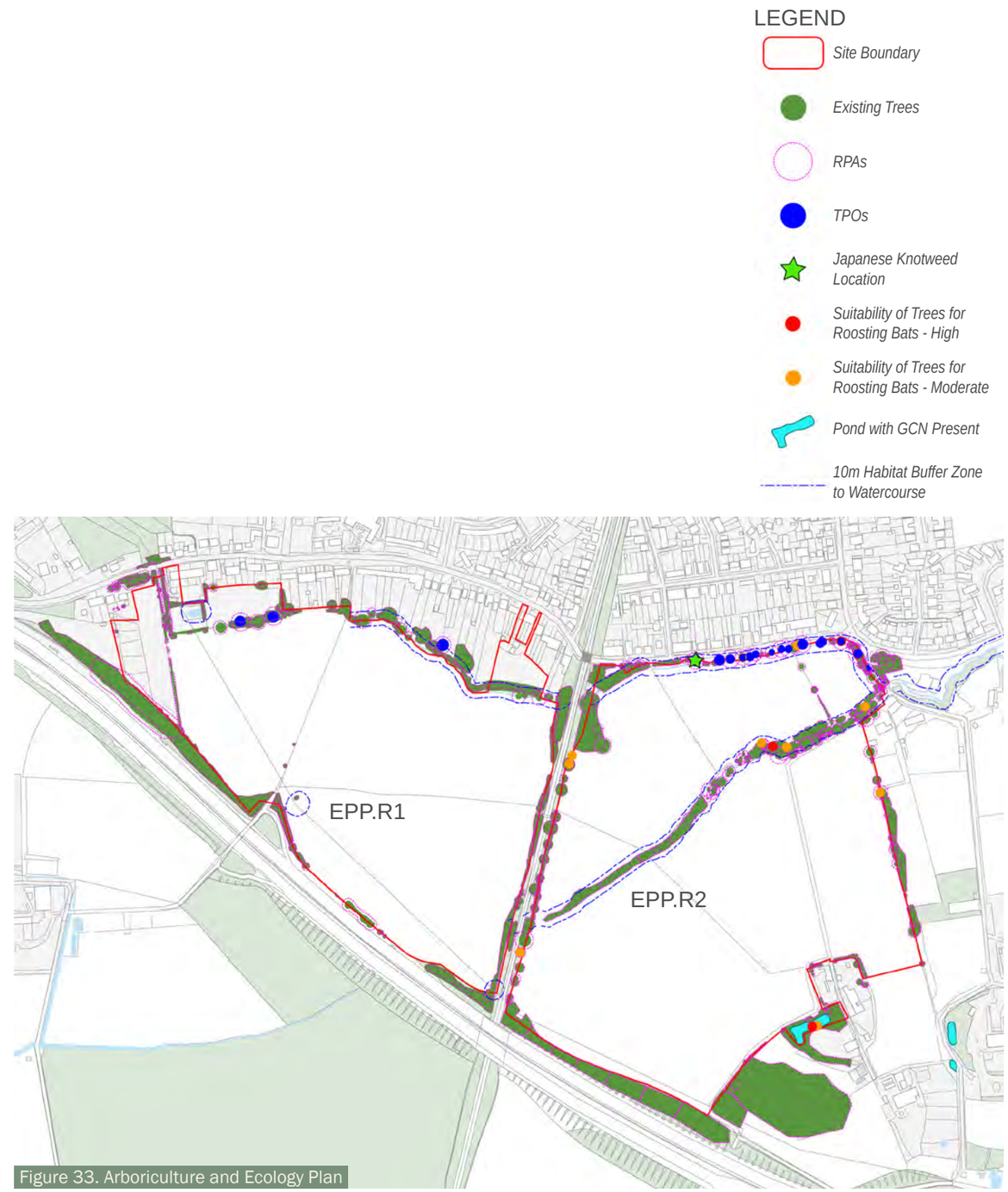


Figure 33. Arboriculture and Ecology Plan

Arboriculture

EPP.R1

The majority the trees surveyed lie around the site perimeter; there are no trees internal to the site. The perimeter trees, for the most part, lie just along or outside the legal boundary of the site, forming part of the rear boundaries to the residential gardens along Ivy Chimneys Road/ Bridge Hill. The remaining trees are located along the network rail land to the east and bordering the M25 to the south.

Two individual trees located off site to the north of the application boundary are protected by Tree Preservation Orders. The arboricultural survey identified a total of 73 items, including 30 individual trees, 29 groups of trees, 13 hedgerows, and 1 woodland. Out of these 73 items, 3 have been categorized as A, indicating high quality; 25 have been categorized as B, indicating moderate quality; and 44 have been categorized as C, indicating low quality. Additionally, 1 item has been categorized as U and is considered unsuitable for long-term retention.

EPP.R2

The perimeter boundaries of the site are a mix of moderate quality category ‘B’ mature trees with occasional high-quality category ‘A’ trees in the form of shelter belts and field boundary vegetation. Infilled around the larger trees is lower-quality category ‘C’ scrub comprising of young, close grown, small, stemmed scrub at circa 4-6m. Some of the moderate quality category ‘B’ trees on the western boundary are off-site within land owned for the adjacent train line.

To the north and northeast along the Brook Road and Fluxs Lane boundaries are 20 mature Oak trees that are subject to a Tree Preservation Order (TPO). One of the Oaks near to the Brook Road to Stewards Green Junction has died and would benefit from being reduced in size to retain its habitat potential whilst removing any potential risk of future limb drop. The remaining trees are a mix of moderate quality category ‘B’ mature trees and lower-quality category ‘C’ trees.

There is a central belt of trees that runs from the east at Fluxs Lane westerly before turning southwest forming a corridor surrounding an existing water course stream. This is a mix of moderate category ‘B’ and low category ‘C’ category trees, with occasional poor-quality category ‘U’. Many of the internal trees are tall and drawn with minimal stem taper compared to the more established site boundary trees. There are sections within the central tree belt where there are natural breaks in the canopies where some low-poor quality Ash trees are located. These breaks provide an ideal opportunity to create infrastructure links from the north to the south with minimal tree loss required.

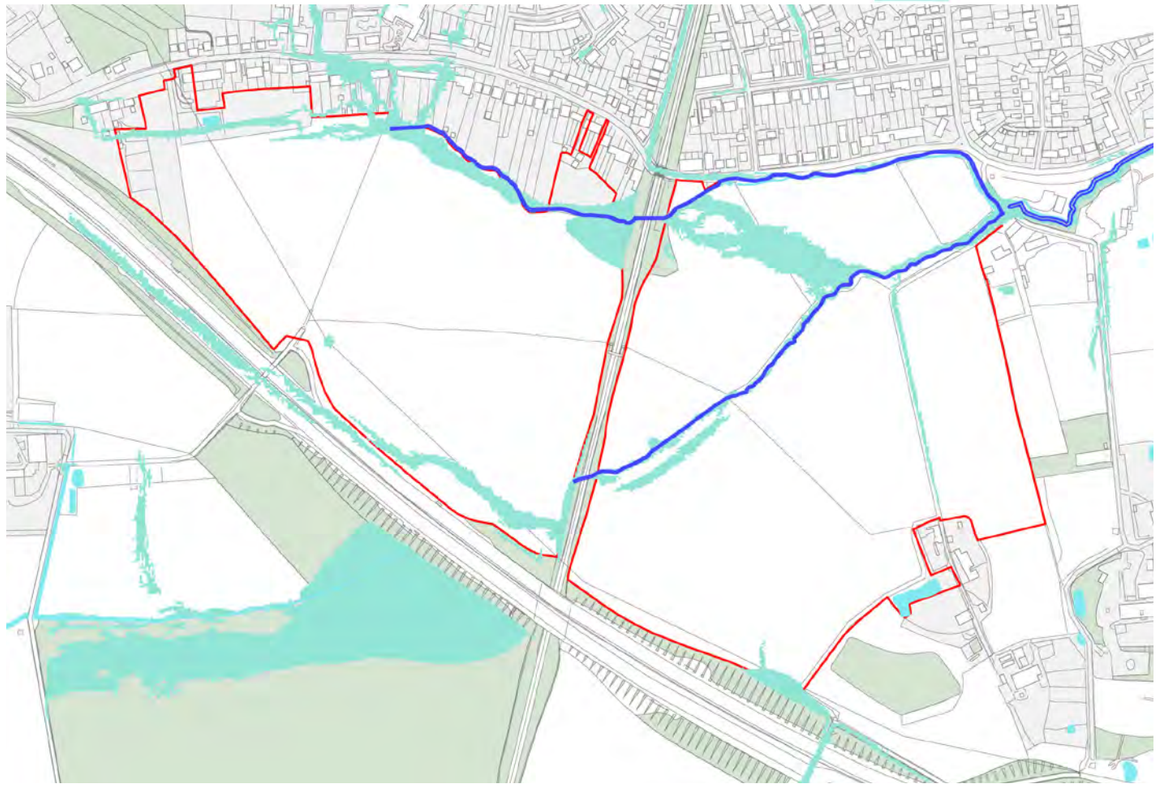
To the south are off-site woodlands and a woodland belt that separate the site from the M25. Both the woodland and tree belts are comprised of a native mix of young to early mature trees. Individually the trees are low in quality category ‘C’ however, as a whole, they form a groupings of moderate quality category ‘B’ due to the continuation of canopy cover through these areas.

Flooding and Drainage

The site is principally drained by two watercourses to the north and south of the site. The northern watercourse is a tributary of the Brookhouse Brook and is classified as an Environment Agency Main River through the site. The southern watercourse forms the Brookhouse Brook, an ordinary watercourse as it enters the site south of the M25, which then becomes designated as a Main River as it becomes culverted under the rail line in the centre of the site.

The site lies wholly within Flood Zone 1 and outside the maximum fluvial flood extents identified on the publicly available Flood Map for Planning.

Surface water flow routes ranging from low to high risk are also identified on the publicly available Long Term Flood Risk Mapping throughout the site.



Utilities and Infrastructure

Existing water supply (Affinity Water), gas (Cadent), electricity (UKPN) and telecoms (Openreach, Virgin Media and Gigaclear) distribution networks are located within the public highways on the boundaries of the site.

Existing local high pressure and medium pressure gas mains (Cadent), a high-pressure oil pipeline (British Pipeline Agency) and overhead 400kV HV cables (National Grid) are located within the site. Buffers required to observe the legal easements and safe working practices associated with these assets are indicated on the plan below.

High voltage electricity lines and pylons running across southern edge

Low voltage electricity lines and pylons running alongside rail line(western side)

Figure 35. Utilities Plan

Ground Conditions

The site is underlain by superficial Head and Lowestoft deposits over bedrock comprising London Clay Formation. Extensive Made Ground up to 4.30m thick was encountered beneath the southern section of the western site area, believed to be related to the contraction of the adjacent M25. Made Ground to a lesser extent was also encountered beneath the eastern area. Anthropogenic material and localised evidence of contaminant impact was noted within the Made Ground along with perched groundwater in the western area. Groundwater was not encountered within the eastern area.

Based on the limited chemical laboratory testing undertaken, no exceedances with respect to human health or presence of asbestos were recorded. Due to the cohesive nature of the underlying soils, the site is considered unlikely to pose a significant risk to controlled waters.

Ground gas monitoring undertake across the western section has shown CS1 (protection not required).

Variable ground conditions are likely to necessitate a range of foundation options depending on depth to appropriate founding strata and influence of trees.

Air Quality

Neither EPP.R1 and EPP.R2 are located within an Air Quality Management Area (AQMA), however AQMA NO.2 is located on High Road, Epping, which is a potential route for traffic travelling to and from both EPP.R1 and EPP.R2.

The main contributor to emissions that would have an impact on existing and future users surrounding the site, as a result of the proposed development, would be the increase in transport emissions due to additional traffic on the surrounding road network. The main contributor to emissions that would have an impact to future users of the SEMPA, is the M25, which bounds the south of both EPP.R1 and EPP.R2.

Existing air quality in the vicinity of the SEMPA has not exceeded the relevant long term pollutant Air Quality Objectives in recent years.

Epping Forest Site of Special Scientific Interest, Special Area of Conservation and Ancient Woodland are located approximately 380m to the west of EPP.R1 and approximately 990m to the west of EPP.R2. The B1393 High Road that passes through Epping Forest is a potential route for traffic from both sites. This could lead to increased traffic through Epping Forest, which has the potential to lead to air quality impacts on sensitive ecological receptors through increased nitrogen and sulphur emissions. It should be noted that both EPP. R1 and EPP.R2 have been considered within the Habitat Regulations Assessment as part of the Epping Forest District Councils Local Plan evidence base, which identified development growth as the primary source of ammonia and NOx on Epping Forest and, as such, mitigation measures will be required for EPP.R1 and EPP. R2, in line with Epping Forest District Council air quality guidance.

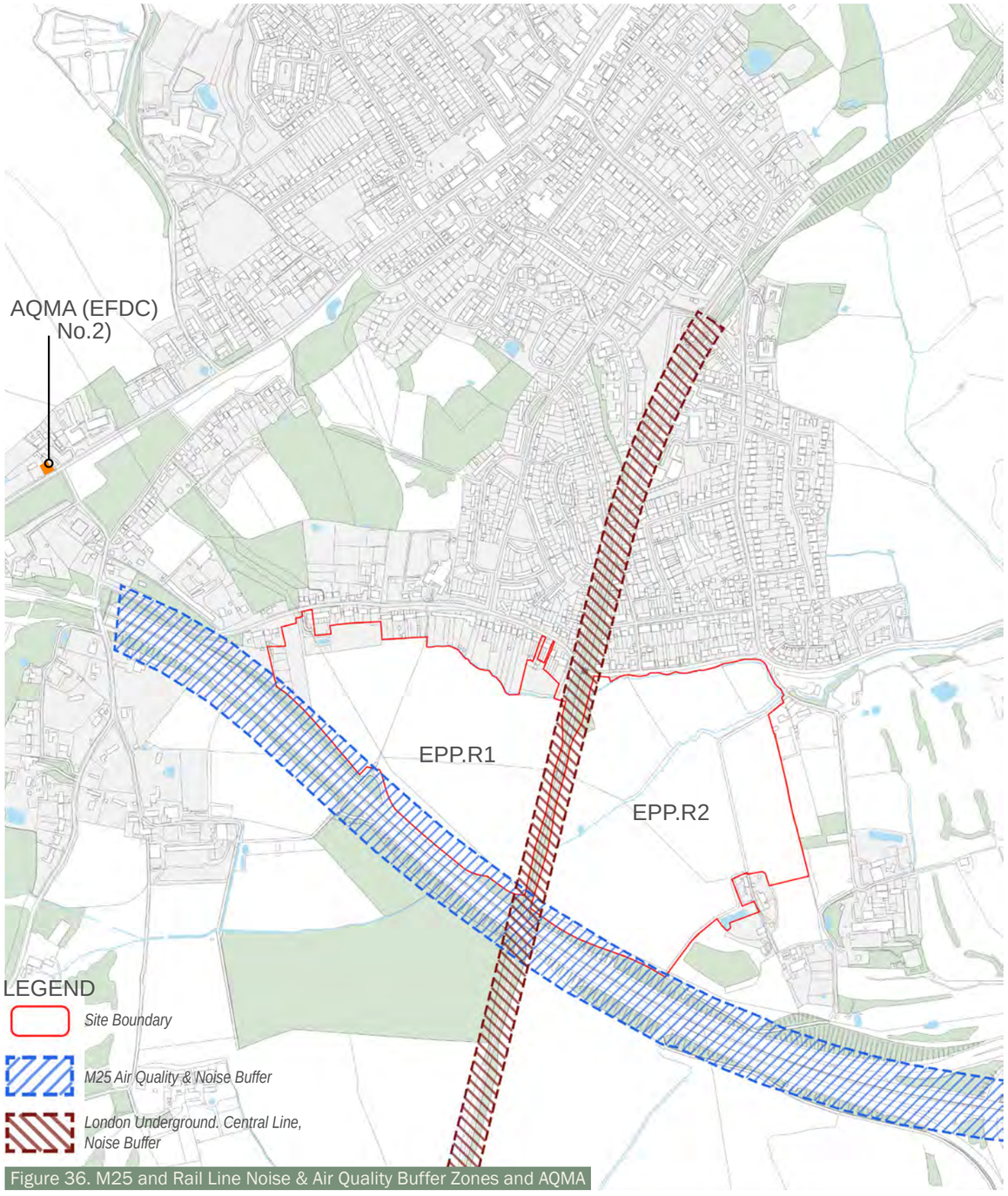


Figure 36. M25 and Rail Line Noise & Air Quality Buffer Zones and AQMA

Noise

Environmental sound surveys have been undertaken across the site. The site was found to be subject to relatively high levels of environmental sound, predominantly from road traffic noise along the M25 to the south of the site. There is additional noise from intermittent, but regular, train movements along the London Underground Central Line; which separates parcels EPP.R1 and EPP.R2.

Environmental surveys have been undertaken within both parcels of land to support the early design proposals. These surveys will be described further within acoustic reports submitted as part of the outline planning applications for both EPP.R1 and EPP.R2. Measurements comprised a mixture of long-term monitoring over a period of at least 7 days, supplemented with additional short-term spot measurements, to quantify the typical ambient (LAeq), maximum (LAmax) and background (LA90) sound levels at multiple locations across the two development parcels.

Noise from the electric cables was not directly observed during the survey or detected within the measured data. The potential bunds will be developed mindful of the pylon easement zones.

Figure 37. Existing Ambient Daytime Sound Levels

3.3 Masterplan Constraints Summary

Planning Policy

- The proposals need to accord with the planning policy framework set out unless material considerations indicate otherwise.
- This includes various infrastructure requirements, levels of open space provision and housing tenure and mix.
- The development proposals need to demonstrate ‘minimum housing quantum’ as set out in the policy and align with best practice design guidance.

Local Community Facilities & Services

- There is a requirement for a new two form entry primary school with early years provision within the site.
- Change to be an opportunity to provide separately accessible community space within the school
- There is a requirement to provide a SANG due to the proximity to Epping Forest SAC.

Access & Movement

- Each side of the rail lines requires a vehicular access. Potential locations are restricted by dwellings backing onto the site boundary or intervening landownership in many locations.
- Due to the subdivision of the site by the Central Line railway there is an opportunity for the provision or enhancement of pedestrian/cycle linkages over the railway line
- Access to Brook Road is constrained by a third party ownership of the watercourse between the road and site boundary.

Landscape & Visual

- Proposals should reinforce planting along the eastern boundary to limit intervisibility with the Green Belt.

Archaeology and Built Heritage

- Archaeology is not a constraint to the masterplan.
- Respect the setting of the listed buildings in the south east corner of the site, ensuring new buildings extend no higher than the 68m contour.
- Retain the alignment of the historic access, Fluxs Lane, and reinstate hedgerow within a green corridor.

Arboriculture & Ecology

- Development proposals need to respond to and retain the high-quality tree belts and woodland blocks, particularly those with TPO’s and those with bat roost potential.

Flooding and Drainage

- The development needs to provide an appropriate capacity of surface water drainage attenuation at the lowest level parts of the site, to maintain surface water runoff rates in accordance with national and local policy.
- Streets within the development parcels need to incorporate appropriate drainage features to convey and attenuation surface water.

Noise

- Mitigation of noise from the M25 will require the construction of noise bunds combined with acoustic fencing. These features will require landscaping to achieve an attractive environment.
- Noise impact from the rail line upon new residents must be mitigated through simple measures such as glazing.

Utilities and Infrastructure

- The layout must take account of existing maintenance and easements associated with overhead electricity pylons and underground gas mains.
- The block layout must consider the position of the pylons to ensure that they do not align with vistas created by the street arrangement.

Air Quality

- The M25 is an air pollution source however this does not impact development and only coincides within pockets of open space which will incorporate additional tree planting.
- Impacts from development traffic on the local road network should be assessed and suitably mitigated as to not cause significant impacts to local air quality as sensitive human and ecological receptors or nearby AQMAs.

Ground Conditions

- Variable ground conditions are likely to necessitate a range of foundation options depending on depth to appropriate founding strata and influence of trees. This does not represent a constraint to the design of the masterplan.

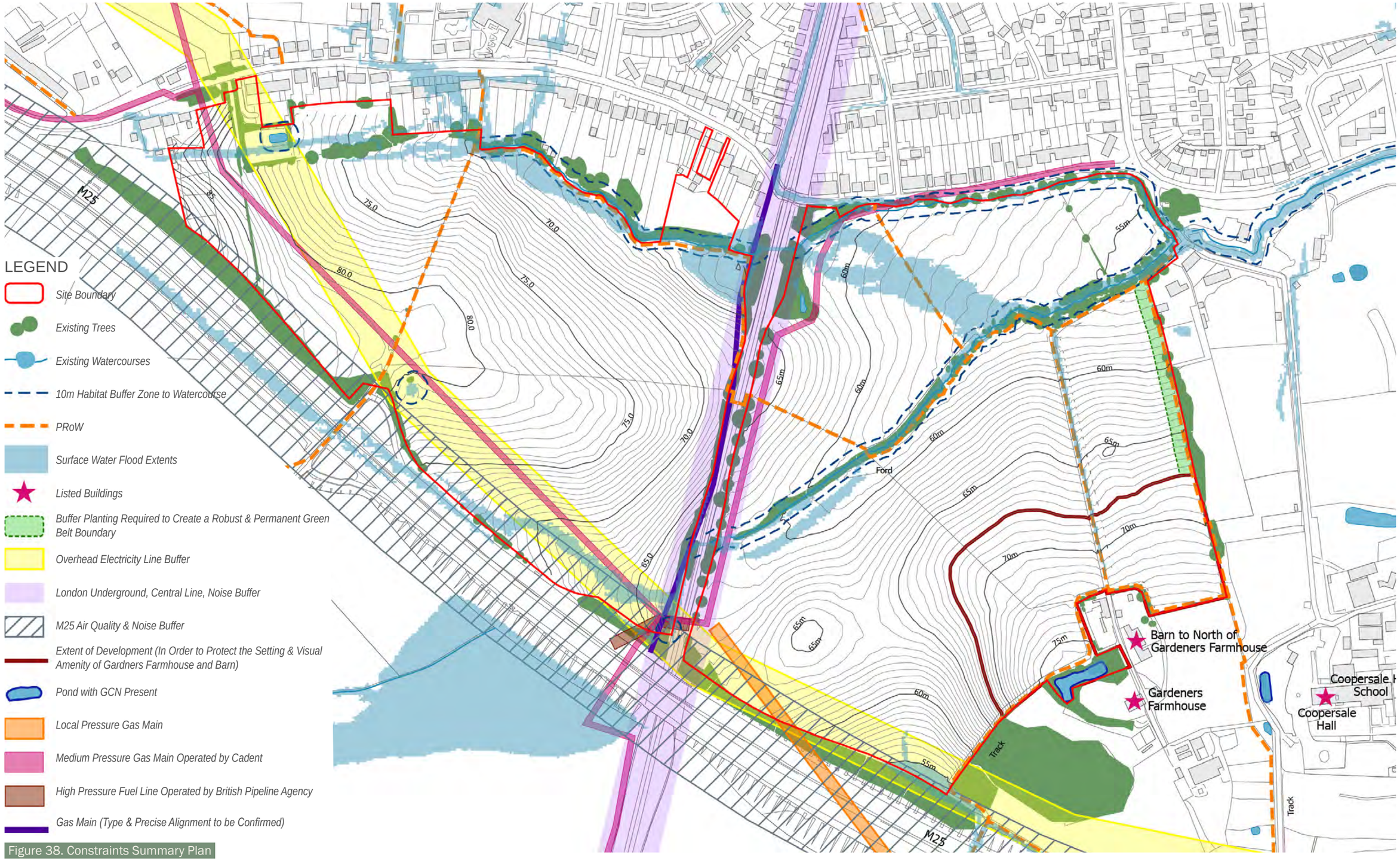


Figure 38. Constraints Summary Plan

3.4 Masterplan Opportunities Summary

Local Community Facilities & Services

- Opportunity to improve connections to existing facilities within Epping, which is only around 1.2km away, and easily accessible by bicycle or bus from the proposed development.
- Opportunity for community space within the school.
- Opportunity for local retail / cafe provision.
- Opportunity to provide formal and informal play including village green kick about space.

Access & Movement

- The extensive network of existing Public Rights of Way provides the opportunity to create a block structure which retains these routes in situ. Routes can be aligned to allow convenient connections to existing pedestrian access points thus providing a connected network of pedestrian routes.
- The opportunity exists to provide three vehicular access junctions from Ivy Chimneys Road, Bridge Hill and Fluxs Lane/Stewards Green Road.
- Opportunity for new or enhanced pedestrian and cycle route over the railway line.
- The large area of SANG required provides the opportunity to create an attractive circular leisure walking route.

Landscape & Visual

- The masterplan can retain the majority of existing trees and hedgerows along the northern boundary thus minimising visual impact of the new dwellings on existing residents immediately to the north.
- Storey heights can be constrained on the high ground and a wooded ridgeline created through tree planting within the SANG, to enhance long distance views from Epping.

Archaeology and Built Heritage

- The architectural design can reflect the local architectural character of the neighbouring settlement.

Arboriculture & Ecology

- There is an opportunity to provide additional trees and vegetation across the site, improving its character and enhance biodiversity.
- The masterplan can retain existing trees and hedgerows around the periphery of the site and along the brook, as structuring elements for future development and providing large areas of natural/semi natural public amenity open space.
- Deliver Biodiversity Net Gain by retaining and enhancing existing trees and hedgerows, with additional landscape planting as part of extensive provision of public open space.
- There is an opportunity for new buildings to contribute to BNG, for example by incorporating bird and bat boxes and other biodiversity enhancements.

Flooding and Drainage

- The existing on-site watercourse offers the opportunity to create multi-functional ecological and amenity open space corridor through the development.

Utilities and Infrastructure

- Development is well positioned to connect into existing utilities delivering the latest in communications such as high-speed broadband providing residents a reliable fast internet connection.

Figure 39. Opportunities Summary Plan

4.1 Introduction

An Engagement Report which was produced in support of the Masterplan and Design Code has been produced for Epping Forest District Council by the Consortium led by Meeting Place. Meeting Place are a specialist in stakeholder engagement in relation to planning and development issues. Epping Forest District Council officers will seek endorsement of the Strategic Masterplan Framework and Design Code by the EFDC Cabinet in accordance with guidance in the adopted Local Plan.

The engagement undertaken accords with Epping Forest District Council's SCI by enabling early engagement with the wider community prior to an application being submitted. Changes have been made following comments received, including the provision of a green buffer adjacent to Ivy Chimneys Road properties and the inclusion of a flexible retail space. Amendments have also been made on the eastern site to reduce crossings of the brook from two to one which has a positive impact on landscape and enhances the focus for community gathering at the school square with the retail/café space.

Engagement with Natural England via their Discretionary Advice Service has informed the design of the SANG, including the location of the SANG wholly on the eastern site with an additional SANG extension on the western site.

4.2 Identify Mechanisms of Engagement

The mechanisms of engagement have include the following;

- Member / Town Council briefing;
- website;
- public consultation;
- six week public exhibition;
- two public engagement events;
- newsletters to the local community; and
- media releases.

4.3 How We Have Engaged

There are various stages of engagement that have been undertaken during the preparation of this SMF and Design Code:

- Early 2023: Initial baseline studies were carried out.
- Throughout 2023: A number of topic-based meetings to inform the Masterplan were held with EFDC and ECC officers.
- December 2023: The draft Masterplan was presented to the Quality Review Panel. Spring 2024: Briefing of EFDC Councillors.
- May 2024: The Masterplan approved by Cabinet for consultation.
- June / July 2024: Formal 6-week public consultation undertaken.
- March 2025: Endorsement of the Masterplan by the Council.

4.4 Feedback Summary

A total of 315 responses have been received from a variety of different people within the community of Epping, raising many views and opinions. This number includes 169 responses via the online feedback survey, 35 responses via the physical Strategic Masterplan Framework and Design Code feedback forms and 111 responses via the info@southeppingmasterplan.co.uk email address.

The majority of these comments were related to key themes, including:

- Infrastructure and traffic concerns.
- Environmental and green space preservation.
- Scale and impact of the development on the immediately surrounding area.
- Enhancement of existing community assets.
- Size and location of homes causing a negative impact on existing neighbours.
- Further clarification on sustainable building practices.
- The impact on Epping Forest.

The Engagement report gives a detailed response to both resident comments and comments received from Statutory Consultees and other interested local organisations.

4.5 Minor amendments following Cabinet endorsement

- Contributions towards offsite community facilities, can also be agreed as part of future S106 Agreements linked to future planning applications if agreed as an alternative to the community provision proposed within the school building.
- The Design Code section of the SMF now stipulates that the western site 'must' have a 'kick about space' rather than 'should' have a kick about space.
- The SMF captures the requirement for reduced parking provision for apartments within the scheme.
- The bridge crossings over the brook at the eastern side of the site have been clarified in the SMF diagrams.

June 2024

South Epping Masterplan Area

Epping Forest District Council

Public consultation

Epping Forest District Council Local Plan has allocated land south of Epping for new homes and associated infrastructure, to meet acute housing and education needs and deliver publicly accessible open space for all.

South Epping Masterplan Area as allocated in the Epping Forest District Local Plan 2011-2033

The developers of the site, in consultation and collaboration with the Council, have been working on a masterplan framework and accompanying design code to define how the masterplan area comes forward, setting the standard in advance of delivery.

The consultation will take place over six weeks from 13 June to 25 July 2024. Following formal consultation, the masterplan will be finalised and then submitted for endorsement by the Council.

The Strategic Masterplan Framework and Design Code will be available for public comment on the dedicated website throughout this period, as well as in person at the **Civic Offices, High Street, Epping, CM16 4BZ** and **public exhibition planned for Tuesday 18 June 2024, 5.00pm - 9.00pm at Ivy Chimneys Road School, Epping CM16 4EP.** If you are looking to attend, we encourage you to walk or use public transport if at all possible due to limited availability of parking.

This newsletter provides more information on the proposed masterplan framework.

The plans

The South Epping Masterplan Area (SEMPA) has been allocated for a minimum of 450 homes including 40% affordable homes, a new two form entry primary school with accessible community spaces and early years provision, significant public open and natural green space, and improved cycle/pedestrian infrastructure in the locality that includes over the rail line.

Benefits include:

- **A minimum of 450 new energy efficient homes, including 40% affordable**
- **Enhancement of walking and cycling facilities**
- **Early years provision**
- **A new two form of entry primary school**
- **Shared community facilities as part of the school**
- **10ha of public open spaces for recreation and increase in biodiversity**

Have your say

Scan this QR code to provide comments and feedback on the emerging Strategic Masterplan Framework and Design Code.

Or visit our website:
www.southeppingmasterplan.co.uk

Figure 40. Community Newsletter

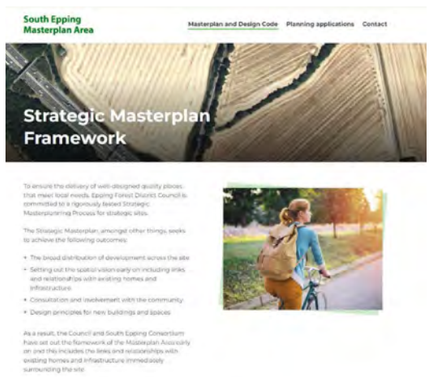


Figure 41. SMF Website

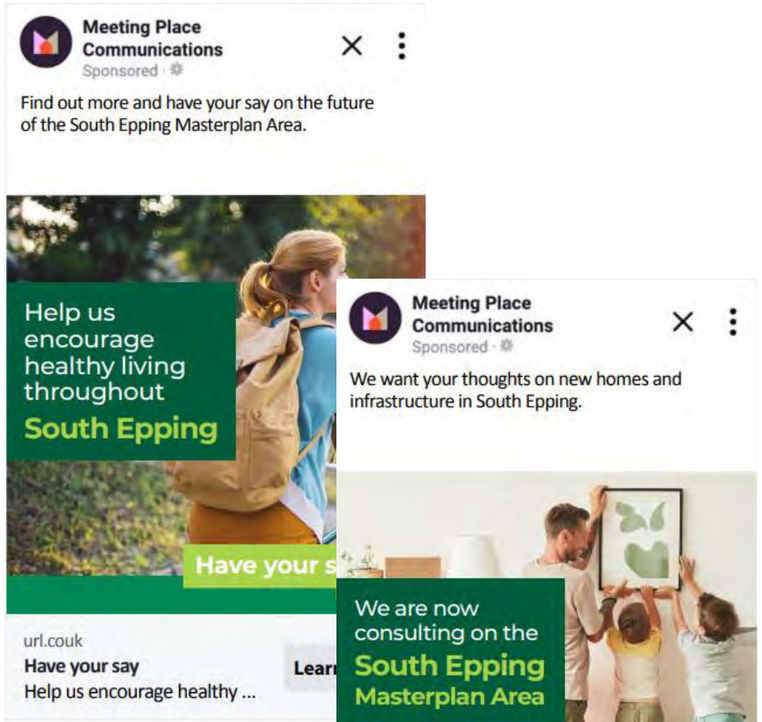


Figure 42. Social Media Posts

Figure 43. Public Consultation Boards

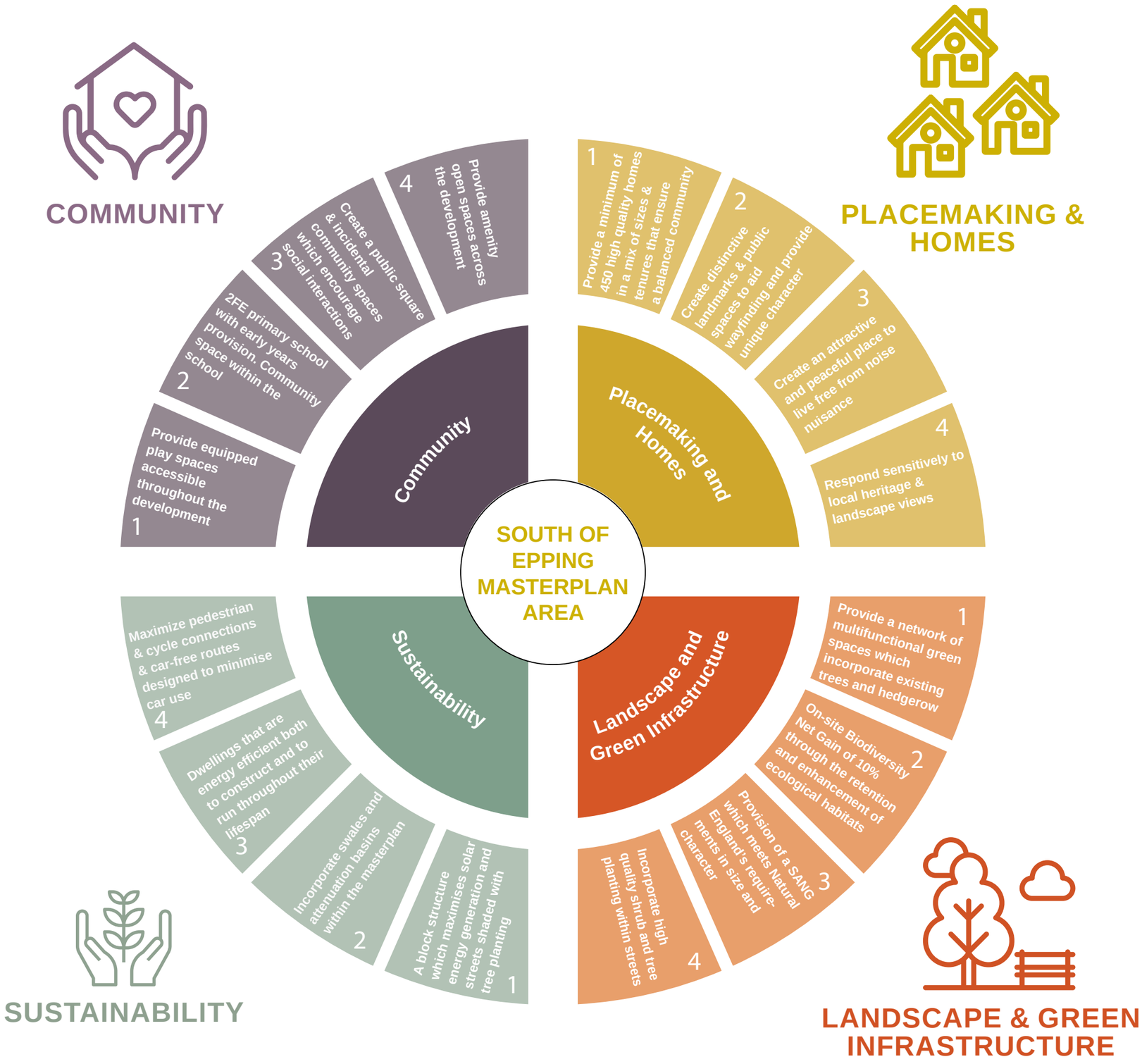
B. STRATEGIC MASTERPLAN FRAMEWORK

5. 1 Vision Wheel

The vision for the design of the development within the South of Epping Masterplan Area is organised under four key themes:

- Community
- Sustainability
- Placemaking & Homes
- Landscape and Green Infrastructure

Each theme has four *specific and measurable* objectives. The SMF and future planning applications will reference back to these key objectives.



5.2 Design Drivers

The masterplan concept is the culmination of a practical sequence of design drivers, shown individually opposite. These diagrams are conceptual and further detail is presented in the following section.

Figure 44. Concept Masterplan

Concept 1 - DISTRIBUTION OF USES

- Residential development and primary school located to the north to ensure accessibility to existing facilities for new residents and accessibility to the school to existing residents.
- SANG provision to the south to allow the visible high ground to remain open.

Concept 2 - ACCESSIBILITY

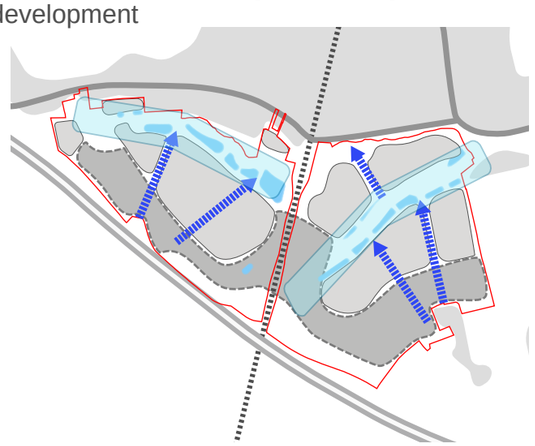
- Provide a comprehensive network of pedestrian/cycle paths linking to existing cycle and pedestrian routes to the town centre and train station to the north. Improvements to pedestrian routes to the south.
- Opportunity to provide or enhance pedestrian/cycle linkage over the railway line

Concept 3 - RETAINED LANDSCAPE

- Existing tree belts along Ivy Chimneys Road/Brook Road, the rail line, the M25 and the brook to be retained.
- Create a network of green spaces linking the valleys with the SANG on the high ground to the south.

Concept 4 - WATER MANAGEMENT

- SuDs features in the form of attenuation basins to be incorporated within green corridors.
- Additional SuDs conveyance channels to be incorporated into the landscape and streets guiding the alignment of the block structure and creating attractive green routes through the development



Concept 5 - PLACEMAKING & WAYFINDING

- Create a sequence of key nodes and spaces along the ped/cycle circulation routes throughout the development.

Concept 6 - VEHICULAR ACCESS

- Provide vehicular access off Ivy Chimney Road in the west and Stewards Green Road/Fluxs Lane in the east.
- A minor vehicular access off Bridge Hill to a serve a cluster of dwellings with pedestrian/cycle only link through to main site.

5.3 Future Trends

In order to ensure the development remains suitable for future generations, potential future trends in lifestyle and climate must be considered and strategies put in place to cater for these changes.

The primary anticipated changes are:

1. **Reduction in private car ownership;**
2. **Changing Live/Work Patterns**;
3. **Climate change;**
4. **Ageing population; and**
5. **Health & Wellbeing.**

1. Reduction in private car ownership

While the car will continue to have its place for the short term future, South Epping must allow for flexibility to accommodate a reduction in private car ownership and encourage a shift to other more sustainable means of transport by providing realistic choices.

Flexible dwelling types

Dwellings with undercroft parking which can be built out later once car ownership declines, offer the opportunity to reduce parking capacity and increase living/office space.

Supporting use of non-car means of transport

- Electric vehicle car clubs, to provide residents with an option for ad-hoc journeys, which in particular would minimise second car ownership; and
- Travel information packs, bus/cycle vouchers, car share schemes and measures to encourage sustainable school travel.
- Provision of cycle parking. The new EPOA parking standards Part 1 and 2 are now in effect requiring parking for cycles and other mobility devices to give greater ease of access to these than cars.
- The proposal for a new primary school with early years provision, a new community space and the introduction of a modest flexible retail provision on site, along with the enhanced sustainable route options within and outside the site will enable more internal trips.
- Enhancing PRoWs within the site and enhancing infrastructure outside the site will encourage people to not use the car for small journeys.
- Contributions will be sought by Essex County Council towards enhancement of public transport provision to the site.

2. Changing Live/Work Patterns

Many people in formally office based jobs are now able to work from home for at least part of the week. Dwellings at South Epping should therefore, include:

- Dwellings designed with flexible and adaptable ground floor plan whereby the resident can configure the ground floor to suit their needs.
- Dwellings with the potential to build over the garage or convert the loft into office space.
- Easily accessible open spaces to encourage exercise while working from home.
- High speed digital connectivity.

3. Climate Change

Climate Change is expected to lead to increasing temperatures, increasing winter rainfall and decreasing summer rainfall. These changes may lead to risks of overheating, flooding, drought and changing climate space for habitats and species. The effects of climate change are driven by the release of Greenhouse Gas (GHG) emissions.

Reducing GHG emissions and incorporating climate resilience measures is a key priority for the proposed development at South Epping.

In this context the development will reduce GHG emissions through consideration of construction stage emissions, and delivering an all-electric development meeting the requirements of the 2025 Future Homes Standard as a minimum, delivering Net Zero Ready homes.

The masterplan will provide space within streets and public spaces for street trees which provide shade during the increasingly hot summers. The street typologies also incorporate open drainage swales to drain surface water during extreme storm events. Block sizes and shapes allow for the orientation of buildings to support passive thermal design measures at more detailed design stages.

Further detail on how the masterplan responds to climate change is covered in sections:

- 6.7 Climate Change, Waste, Energy & Utilities; and
- 6.8 Environmental & Socio-Economic Sustainability.

4. Ageing Population

The UK's population is also getting older. Housing provision needs to change to meet this rapidly growing demand. All homes on the site will be both accessible and adaptable and will meet Local Plan requirements for Part M(2) accessibility which exceeds Building Regulation requirements.

A walkable neighbourhood which incorporates key spaces that facilitate social interactions, are beneficial to older people.

All on-street footways will be accessible to wheelchairs and buggies, well-connected, overlooked and well lit by street lighting. Footpaths within open spaces will be formed from self-binding gravel to provide a more natural effect whilst providing a firm, all weather surface.

5. Health & Wellbeing

An important element of any high quality development coming forward is health and wellbeing being incorporated and delivered as a key underpinning principle. Health and wellbeing are intrinsically linked to the environment in which people live. This has huge implications for people's health and healthy lifestyle choices.

Health inequalities are heavily influenced by a wide range of socio-economic factors including housing, education, jobs and worklessness. The developers and promoters of this site would like to provide every opportunity for development proposals to be able to sign up to the 'Livewell Developer Charter', which commits developers to support the health and wellbeing principles within an accreditation scheme.

5.4 Urban Design Influences

Walkable Neighbourhoods

'A new development model for Essex' is a study investigating the feasibility of new development models in Essex to encourage walking and cycling, and reduce reliance on cars. Although it does not constitute formal guidance, the principal objective of this study was to make recommendations that can be widely adopted across Essex.

Developments at a range of scales and contexts were analysed to ascertain whether they constitute efficient use of land, which is a prerequisite to promoting active travel. The analysis calculated residential density, dwellings typologies, parking ratios and the amount of hard and soft landscape there was within each scheme.

At the strategic stage, the SMF can incorporate the conclusions of this study within the SEMPA by;

- avoiding mono-cultural grassed verges replacing them with low shrub planting to significantly increase the overall quality of the landscape;
- providing car free green corridors running north- south through the development linking the SANG to the semi-natural SuDs areas;
- providing car free frontages at key locations particularly around key public spaces;
- providing a pedestrian only square at the school entrance and a segrated pedestrian/ cycleway which promotes active travel amongst school children by ensuring that walking and cycling is the easiest way to get to school;
- incorporating a compact development form within the lower areas of the site in the form of apartments and terraced townhouses;
- predominantly orientating blocks in a east-westerly alignment to maximise solar power generation potential; and
- providing for biodiversity uplift on-site with generous areas of natural and semi-natural open space created by the existing tree belts and SuDs areas.

At the planning application stage, further discussions with EFDC could allow for;

- a relaxation of back to back distances as a trade off for more generous green corridors dimensions whereby a greater quantity of biodiversity sits within the public realm;
- using house types with integrated garages that could be converted to habitable space according to the resident's needs;
- further pedestrian routes within the block structure indicated by the SMF Framework Plan; and
- a greater proportion of shared, unallocated parking within the overall parking requirement to increase the land efficiency of providing parking spaces which could then be adapted over time.

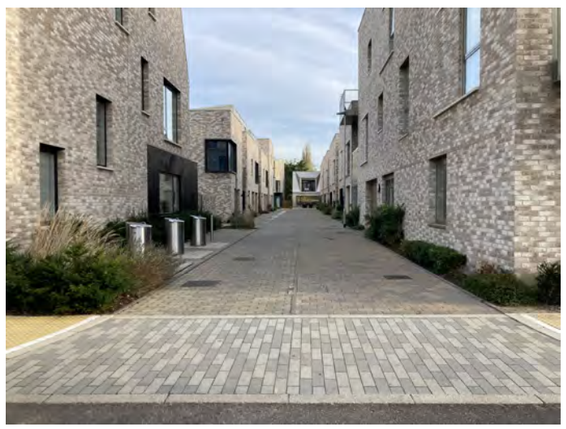
Biodiversity uplift provided on-site within generous areas of natural and semi-natural open space.

Tertiary streets with very low car movement creating play spaces

Extensive planting within verges avoiding mono-cultural grassed verges

Greater permeability for pedestrians than for the car

Pedestrian only routes within the larger block structure



Pedestrian priority routes within the larger block structure

The Avenue, Saffron Waldon

Key features with potential to influence design of development at South Epping.

- Integration of a car free pedestrian route within a green corridor running through the development. This feature creates a community space and a green, natural setting to the dwellings.
- A series of courtyards avoids lining the green corridor on both sides with carriageway. Low key drives crossing the corridor do not dilute the integrity of the space.
- Dwellings use simple architectural detailing yet using materials sympathetic to the historic core of the local settlement.

Segregated pedestrian route runs through the centre of the scheme

Contemporary architectural detailing

Mature lime trees create shade and a community space

Low key carriageway lined by dwellings arranged in a courtyard arrangement

6.1 Masterplan Framework Principles

This section presents advisory principles and illustrative material in order to provide assurance that the mandatory principles set out within the SEMPA Parameter Plans, in the following section, have been tested and can achieve their stated aim.

This is consistent with the EFDC “Strategic Masterplanning Briefing Note” guidance which seeks the preparation of a “high level overarching framework” to ensure effective planning and delivery.

6.2 Land Uses

Uses and Amount

Residential

Housing is the primary land use. The development incorporates a mix of units in terms of size and tenure, ranging from one bedroom apartments to five bedroom detached houses and includes up to 40% affordable housing. The housing mix will be determined at a later stage. There will be an opportunity for self and custom build within the masterplan.

The Illustrative Masterplan uses a mix of block typologies which reflect the variations in the character areas as described in section B8. No block will be larger than 100m by 50m to ensure a walkable neighbourhood. Frontages are orientated to maximise security and natural surveillance whereby fronts of properties overlook streets and public spaces, and back gardens or rear parking are kept private within the block to maximise safety and security. This approach is consistent with the principles established by ‘Secured by Design’ because it maximises ‘active frontages’ on the street, providing natural surveillance.

The location and amount of self and custom build to be determined at the application stage.

Primary School Site

The 2FE primary school is proposed at the entrance to the eastern part of the SEMPA. This is due to;

- the relative flatness of the land which is required for the delivery of suitable sports pitches;
- it being the furthest location from Ivy Chimneys Primary School;
- the potential for existing residents of South Epping to access the school on foot;
- the lack of utility and noise constraints in this location.

Open Space / Green Infrastructure

The Illustrative Masterplan includes a significant amount of open space including:

- a range of child’s play provision;
- a village green as informal kickabout space;
- further amenity greenspace;
- natural or semi natural green space incorporating existing tree belts and watercourses;
- SuDs Basins;
- green corridors containing non-vehicular ped/cycle paths through the development; and
- SANG provision to the south of the built area.
- EFDC will seek a Community Use Agreement with EEC to enable the local community to use the schools playing pitches and hall space out of school hours.

Infrastructure

Development of the site requires the following infrastructure:

- one vehicular road bridge crossing of the watercourse (EPR.R2);
- carriageway linking the access junctions to the development parcels and between parcels;
- foul water pumping stations;and
- one car park either side of the rail line to serve the SANG.
- Opportunity for Provision or enhancement of pedestrian/cycle linkage over the railway line

Illustrative Masterplan

The Illustrative Masterplan (shown opposite) demonstrates an example of how the Mandatory Spatial Principles could be applied.

Whilst the Illustrative Masterplan shows how proposals can respond to key issues identified in the SMF, the details beyond the overarching Mandatory Spatial Principles will need to be tested and developed at further stages of design development through the planning application process.

	Ha per 1,000 population	Required for 450** dwellings in Ha	Masterplan provides in Ha
Residential	-	-	13.24
Primary School Site	-	-	2.10
Amenity Green Space	3.65	3.94	7.06
SuDs Basins (within amenity open space)	-	-	1.72
SANG (Natural England Requirement)	8.00	8.64	11.41*
Acoustic Bund (area not counted as SANG)	-	-	4.31
Infrastructure (Entrance Access/Pumping Stations)	-	-	0.88
Total			40.77

*EPP.R1 3.37Ha, EPP.R2 8.03HA
** Amenity open space and SANG have been calculated on 450 dwellings in accordance with policy. Additional open space would be provided proportionately if more than 450 homes are proposed at application stages.

1. Site for a 2FE primary school site (2.1 hectare)
2. Residential development
3. Natural/semi-natural open space with SuDS basins and existing PROWs
4. SANG with leisure footpaths
5. Vehicular access locations
6. Village Green (re-provided recreation ground) with equipped play area
7. Area required for acoustic mitigation bunds (no public access)
8. SuDS basin within SANG
9. Potential location for enhanced connection over the railway
10. Retained tree belt
11. Green corridor through residential development
12. Amenity open space
13. Fluxs Lane to Gardners Farmhouse and Barn retained within green corridor
14. Planted buffer to the Green Belt
15. SANG car park
16. Potential provision of a flexible retail / cafe space

Figure 45. Illustrative Masterplan

6.3 Green and Blue Infrastructure

The Green Infrastructure proposals for the site utilise and expand upon its natural assets (landform, watercourse, hedgerows and mature trees) to form a comprehensive green framework in which to locate the new neighbourhood.

Strategic Landscape Principles

The masterplan design approach adopts effective and well-considered urban and landscape design measures to ensure that the development is sympathetic to the surrounding built environment and its landscape setting. It delivers a range of benefits for landscape, biodiversity, hydrology and drainage, sports and recreation, health and well-being and climate change.

The Proposed Development will be set within a network of multi-functional green open spaces that will serve all age groups of the existing and new communities. The Local Plan sets out a policy requirement for a substantial area of Suitable Alternative Natural Greenspace (SANG) to prevent an increase in visitor pressure on the Epping Forest SAC. Open space provision will also have regard to the EFDC Green Infrastructure Strategy.

The strategic landscape proposals preserve and enhance the existing range of natural features found within the site, whilst also providing a mix of new formal and informal open spaces offering generous and usable green open space, ranging from gardens, green corridors, parkland, and new play areas.

Strategic Green Infrastructure

The site is relatively divorced from the wider countryside by the M25 corridor to the south, the existing settlement edge to Epping to the north, and Epping Golf Course to the east. The green Infrastructure illustrated on the illustrative masterplan have been designed to provide a complimentary network of green open spaces tying together new and existing communities. In particular, the existing footpaths within the site will be retained to form the structure for a network of green corridors that will provide multi-functional open spaces offering new commuter and recreational routes for pedestrians and cyclists linked to neighbouring communities.

Key components of the strategic Green Infrastructure strategy include the new SANG that will provide a minimum of 10ha of new Green Infrastructure between the proposed residential development and the M25 motorway. There is an aspiration to deliver improvements to walking and cycling opportunities between the eastern and western parts of the site through improvements to the accessibility of the existing footbridge link over the Central Line. The masterplan proposals also have regard to the setting of the Listed Gardners Farmhouse and Barn on elevated land to the south-east of the site, where the SANG will provide a physical and visual separation between the extent of the proposed residential development and the heritage asset.

The primary function of the SANG will be to mitigate for recreational effects on Epping Forest, although biodiversity enhancements will be integrated across the site as a whole and delivered outside of the core BNG areas. SANG proposals have been developed through consultation with Natural England.

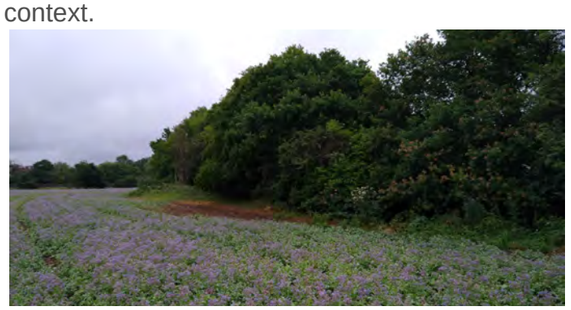
The existing well-vegetated M25 corridor will be reinforced by an area dedicated to the provision of new habitats reaching along the majority of the southern boundary. This area will form part of the wider integrated Green Infrastructure provision, whilst also delivering visual enhancements to the SANG area, vital M25 noise mitigation measures, and a robust and defensible new Green Belt boundary (which will also extend along the eastern site boundary). The new area of habitat will be separated from the SANG via an acoustic bund and fencing.

The northern site boundaries will contribute to biodiversity gain and will introduce a visual buffer between adjacent existing properties at Ivy Chimneys and to the north of Brook Road. The trees and other vegetation associated with the brook that passes through the eastern part of the site will be retained to form a central landscape feature within the masterplan.

The masterplan ensures that play for all ages is integrated within the proposed public open spaces as part of the overall Green Infrastructure strategy, and access to these play opportunities will be enhanced to provide clear walking and cycling routes to link surrounding communities with the masterplan area.

Key Views

There are no publicly accessible long-range views towards the site. The most significant views towards the site are from receptors directly adjacent to and in close proximity to its boundaries which will experience the greatest level of change. These receptors include residents, and users of nearby public rights of way and streets. To minimise and limit any harmful visual effects the boundary vegetation will be reinforced with new planting, and a large number of new street trees will be planted to break-up the perception of massing of the development as seen from the surrounding context.



Existing brook tree belt

The key green infrastructure design principles for South Epping are as follows:

- Protection of wooded ridgelines via the introduction of new tree planting within the SANG area.
- Delivery of multi-functional open space in compliance with EFDC requirements.
- Provision of an informal kickabout space.
- Introduction of a new recreational open space within the SANG to serve as a landscape buffer between the residential dwellings and the M25 corridor.
- Provision of green streets creating a network of green spaces and extensive tree planting to integrate the built development within the landscape.
- New commuter and recreational routes for pedestrians and cyclists throughout the green spaces.
- Increasing biodiversity net gain within the site, with a dedicated area of new habitat created to the south of the SANG.
- Opportunity for Provision or enhancement of pedestrian/cycle linkages over the railway line

View along existing brook corridor

LEGEND

- Retained tree belts along boundaries and watercourses
- Approximate location for larger children's play provision
- Zone of semi-natural open space incorporating SuDs basins
- Suitable Alternative Natural Greenspace (SANG)
- Circular SANG walk inc.play on the way / incidental play
- Blocks of tree planting within the SANG
- Approximate location for SANG car park
- Formal amenity open space
- Potential locations for the re-provision of Brook Road recreation ground
- Zone within acoustic mitigation area (no public access)
- Tree planting along southern and eastern boundaries to provide a robust and defensible Green Belt boundary
- Landscaped gateway area to incorporate planting and built gateway feature
- North-south green fingers through development incorporating planted swales and street trees
- Key views within the site and from access locations
- Additional planting to northern boundary creating a strong planted boundary between adjoining rear gardens

KEY VIEWS FROM EXISTING SETTLEMENT INTO THE SITE

- A — Channelled view from Ivy Chimneys Road toward higher ground along
- B — Channelled view along Bridge Hill toward higher ground
- C — Channelled view along Bower Hill toward higher ground along

Figure 46. Strategic Landscape Principles

Drainage Strategy

A holistic approach to surface water management will be taken, where development proposals will sequentially implement a variety of Sustainable Drainage Systems (SuDs) to sustainably manage surface water runoff, by mimicking the natural drainage characteristics of the site.

This approach will achieve a sustainable drainage solution that balances water quality, amenity, biodiversity and flood resilience. Above ground SuDs will enhance water quality before discharging into the existing on-site watercourses at a site-specific greenfield runoff rate for all events up to, and including, the 1 in 100-year plus climate change (40%) event.

Well-designed SuDs also provide opportunities for communities to enjoy the dynamic nature of the water environment and the different habitats that may be sustained by it. Furthermore it is proposed that the riparian corridors along both watercourses within the site are enhanced as part of the landscaping strategy to enrich the local habitat and amenity provision. The surface water drainage of the site has therefore been considered from the outset, with the water management strategy being an integral part of the overall masterplan for the development.

A foul water drainage strategy has been also developed to demonstrate how the foul water from the proposed development will be managed and connected to the existing Thames Water sewer network. Pumping stations are required for foul drainage (not for surface water), as this cannot drain to the existing Thames Water foul network via gravity.

This will be reviewed in detail as part of a Flood Risk Assessment and Drainage Strategy, which will be submitted to support a future planning application.

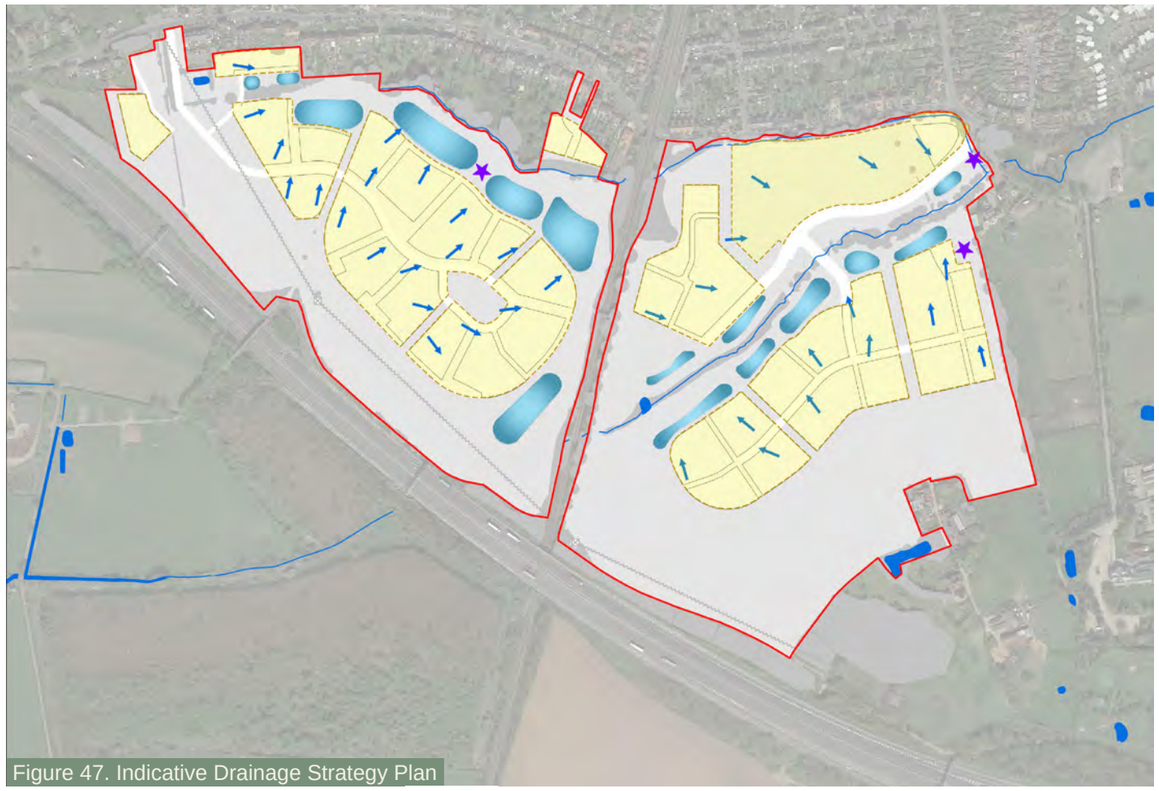


Figure 47. Indicative Drainage Strategy Plan

LEGEND

- *Land South of Epping, East & West (EPP.R1 and EPP.R2)*
- *Catchment Area*
- *Indicative Location of Proposed Attenuation Basins*
- *Surface Water Flow Route*
- *Indicative Location for Pumping Station*

Attenuation basin with areas of standing water planted with wetland plant species

A micropool created within the attenuation basin in order to maintain water presence

Surface Water Drainage Strategy

The surface water drainage strategy for the site uses SuDs. This comprises a combination of swales and detention basins across the development, in order to control surface water run-off into the existing watercourse. Crates could be considered in appropriate locations.

In accordance with ECC's 'SuDs Design Guide for Essex', the SuDs Manual C753 and national government guidance the SuDs across the site have been designed in order to store storm water for the 1 in 100 year + 40% climate change storm event. The inclusion of SuDs throughout the site removes the risk of surface water flooding throughout the new development catchments. To complement the overarching site topography, the proposed development has been spilt into twenty catchments, with eighteen detention basins across the site. Surface water generated from the development footprint within these catchments will be collected and conveyed via a surface water pipe network under the adopted roads and/or within roadside and conveyance swales.

All undeveloped greenfield areas and open space in the south of the site will continue to flow naturally through the site. Surface water that is stored within the basins has been designed to discharge at QBAR (in accordance with the SuDs Manual and national and local government guidance) into the existing drainage network that operates across the site. This therefore reduces the risk of flooding further downstream.

The basins have been located in the lowest lying areas of each catchment in order for surface water to drain naturally via gravity and into the existing features at the most convenient locations. The site currently does not have a system in place that improves the quality of surface water before discharging into the watercourse. The use of SuDs across the site will provide two stages of treatment to surface water before it is discharged into the local drainage network.

Play & Recreation Strategy

EFDC Local Plan Policy DM6 sets out a high level approach to play referencing the Council's adopted EFDC Green Infrastructure Strategy and National Fields in Trust space standards and quantity guidelines to be used as a starting point for provision.

The plan opposite illustrates the overarching indicative strategy in relation to play and recreational provision across the SEMPA.

EPDC's Open Space Strategy sets out the recommended application of quantity benchmarks. The SEMPA will require two Local Areas of Equipped Play (LEAPs) to be located to provide adequate coverage over each land parcel. A number of Local Area of Play (LAPs) will be provided along with a number incidental, play on the way areas, all being subject to passive surveillance. The exact location and play themes of the play elements are to be developed at the detailed design stage. Consideration should also be given to the inclusion of a Local Landscaped Area for Play (LLAP) / Space for Imaginative Play (SIP) which is an alternative provision to complement the proposed LEAPs. The LLAP / SIP located close to the school could provide alternative provision designed specifically for imaginative play without the use of conventional moving equipment to provide a mix of areas for physical activity and areas for relatively, calm relaxation and social interaction.

Play provision should be appropriate for all age groups and offer opportunities for a wide range of movements/skills and encourage imaginative play through formal and informal provisions. The facilities for children and teenagers will be safe and enjoyable, whilst simultaneously creating opportunity for social interaction, helping to contribute to a sense of community. Play will be placed along key routes, nodes of informal play will offer 'play on the way' and break up walking distances between formal play spaces.

The illustrative masterplan shows a Village Green character green space which will provide an informal kickabout space.

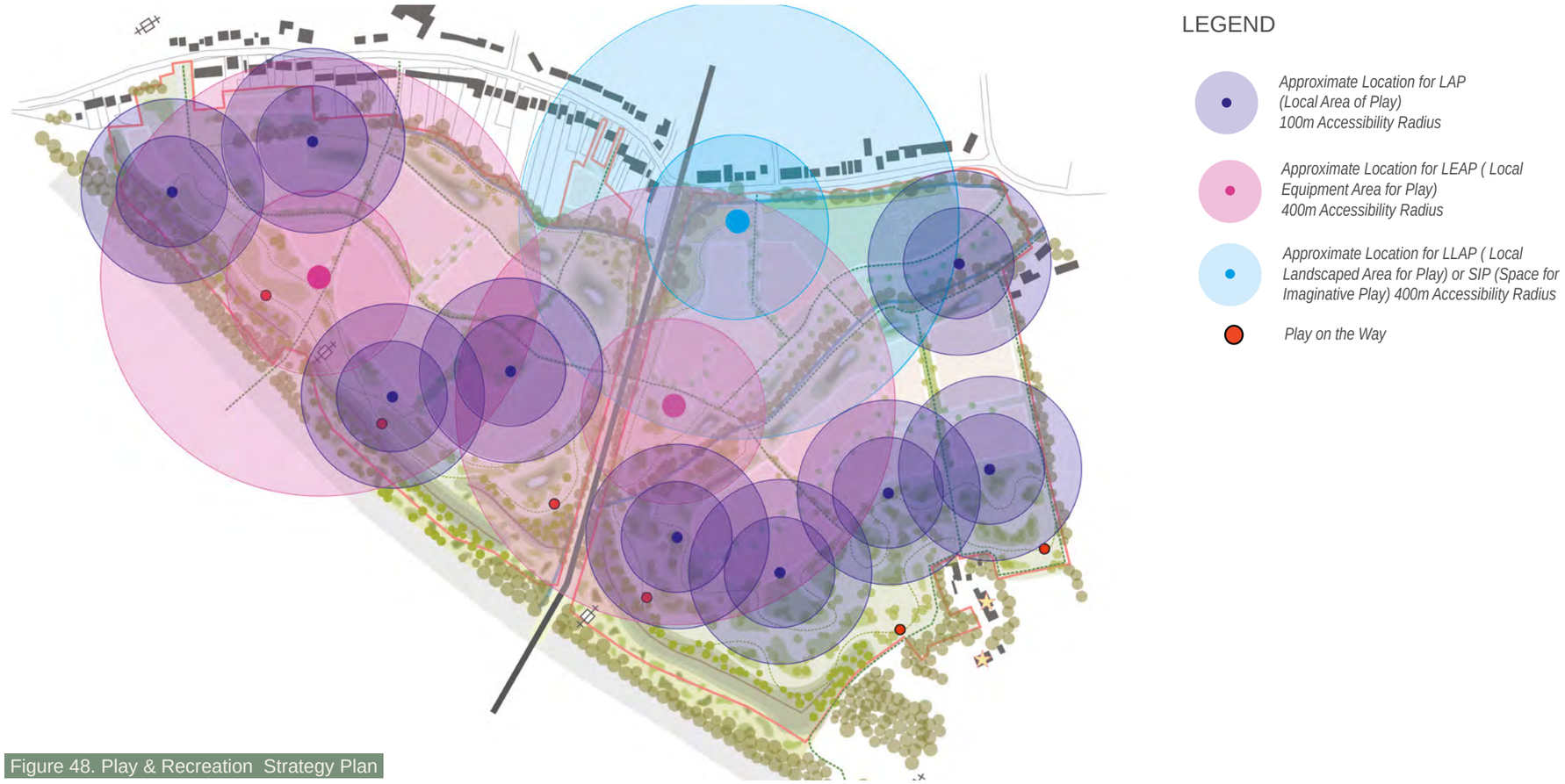


Figure 48. Play & Recreation Strategy Plan

A green infrastructure, open space and play strategy will be developed further based upon these established principles at the outline application stage to set a 'design code' for standards, design and delivery of open space and play provision at the reserved matters stage.

Natural play will be encouraged in the open spaces to enable children to tailor activities to their imaginary games. Reinforcement and enhancement of the existing natural features, including the vegetation and landform, will add to children's enjoyment of these areas.

Comfortable seating will be provided to allow parents, carers, and other visitors to pause / rest when passing through these areas. This will encourage natural surveillance and human activation of these spaces.

Naturalistic play structure for LEAPs

Natural Play throughout the masterplan area

Incidental Play and 'Play on the Way' within the SANG

Green Corridors

The provision of Green / Blue corridors throughout the site has been integral to the development of the masterplan. These will not only provide attractive and safe routes for residents, they will provide important green infrastructure connectivity as part of the biodiversity strategy on site, as well as opportunities for the inclusion of sustainable drainage features.

Throughout the green corridors it is intended to incorporate Sustainable Drainage Systems (SuDs) features as part of an integrated drainage strategy through the site, in keeping with the four pillars of SuDs – Quantity, Quality, Amenity and Biodiversity. SuDs features within these corridors will form part of the surface water management train, potentially providing source control and interception for adjacent highway / footpath run-off as well as conveyance features, taking run-off from adjacent housing parcels to larger detention basins within the lower areas of the site, at the end of the management train.

There is potential for a range of features to be included within the blue / green corridors. The selection of the appropriate SuDs feature will depend upon the specific requirements following design development, these include:

- Requirement for conveyance of flows from adjacent parcels and inclusion of outfalls – invert levels of pipes will determine depths of features and therefore overall size requirements.
- Available space.
- Landscape character of the location.

Keeping water at surface level is preferred wherever possible to maximise opportunities for interception and evapotranspiration from planting, as well as providing a visible route for water which contributes to place making. A broad range of options are available and can be adjusted along the length of the corridor to suit local conditions / required character whilst meeting technical requirements.

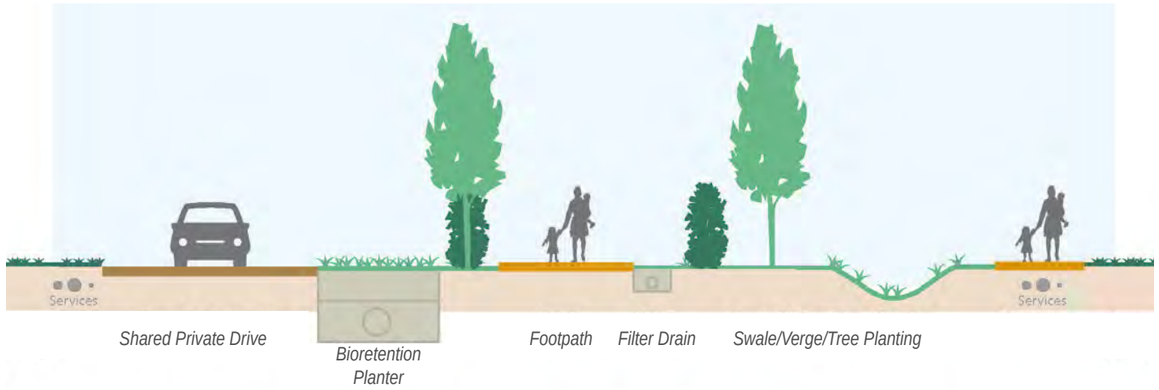


Figure 49. Indicative Green Corridor with Segregated Footpath

Figure 50. Indicative Shared Surface Tertiary Street with Roadside Swale

Swales:

Shallow, broad and vegetated channels designed to store and/or convey runoff and remove pollutants. Banks will be max 1:3 with min of 0.5m flat area to base of swale. Range of planting / seeding options are available depending upon the character that is intended to be created from wildflower to mown banks with marginal planting to base.

Filter Drains:

Shallow excavations filled with rubble or stone that create temporary subsurface storage of stormwater runoff. Filter drains deal with surface water flows from adjacent impermeable surface filtering and conveying flows to downstream SuDs components.

Bioretention Planters (rain gardens):

Landscape planting areas which are typically under drained and rely on engineered soils, enhanced vegetation and filtration to remove pollution and reduce runoff downstream. They will look like attractive planting beds, but generally sit slightly below kerb level / include shallow depression to accommodate storm events. These can be planted with a number of different species, tolerant of a range of conditions, to provide source control for run-off from adjacent surfaces, through flush kerbs / inlets.

Filter Drain

Bioretention Planter

Planted Roadside Swale

Pylons within Landscape

Specified distances between overhead power lines and obstructions such as trees have been nationally determined to ensure safety to the public. Where National Grid determines that woody vegetation infringes statutory safety clearances, then it must be cut and/or removed such that reasonable growth and safe access for future works can be achieved without returning every year to the same site.

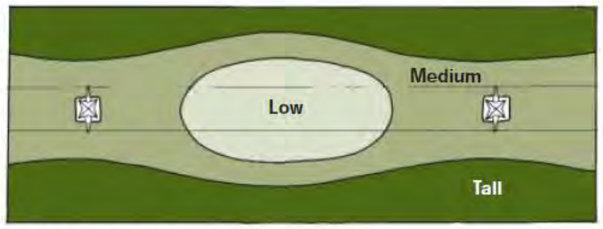
To ensure that future safety problems will not occur and to reduce the need for significant ongoing tree management works, National Grid recommends that only low height and slow growing species are utilised in areas beneath overhead line conductors. Similarly, when planting is proposed very near pylons consideration should be given to the need to maintain access to the pylon base and allow overhead line maintenance activities to take place safely and without causing damage to existing habitats and landscapes

Design Guidelines for Development Near High Voltage Lines

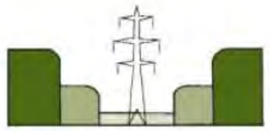
The purpose of this document is to provide greater clarity about the design constraints posed by high voltage overhead lines, along with providing a greater awareness of the opportunities, through good design, to improve the environment and therefore the value of development.

Development proposals and landscape design will be aligned with the recommendations set out within this document.

Typical vegetation form along transmission route.



Typical form of planting zones.



Typical vegetation form crossing transmission route at mid-point.

Figure 51. Extract page from Section 3

Pylon and Power Lines at South Epping

Ecology Strategy

The scheme will result in the provision of new natural green space, as well as enhancement of existing pockets of greenspace such as ponds, woodland and the existing brook. This, along with enhancement and creation of links to existing public rights of way across the site (providing Suitable Alternative Natural Greenspace – SANG), and in addition to the inclusion of appropriate mitigation in accordance with the Air Pollution and Recreational Strategies, will ensure that the integrity of nearby international, national and locally designated sites will be protected. Strategies will also be developed through careful and considered consultation with stakeholders, such as Natural England and the Environment Agency. A project-level HRA and designated sites assessment will be prepared to support the planning application fully detailing appropriate mitigation strategies.

Key proposed measures include:

- Established semi-natural habitats/priority habitats including woodland, hedgerows, ponds and the brook will be retained and buffered from the built development (excepting where access creation is strictly necessary), including a minimum 10m natural buffer to the site watercourse.
- New semi-natural habitats will be created within the buffer zones and within the sites wider POS, including semi-natural grassland areas, new aquatic habitats (SuDS of wildlife friendly design), native scrub and tree planting. These will provide a mosaic of habitats for the sites wildlife, including nesting opportunities for birds, sheltering/ foraging habitats for reptiles, GCN and small mammals, and new bat foraging opportunities.
- The 30 year BNG management plan will set out the future management of these habitats to ensure their optimal condition.
- ‘Dark corridors’ will be maintained along these features to facilitate wildlife movement, through the implementation of a sensitive lighting scheme.
- Species-specific wildlife enhancements including reptile/amphibian hibernacula, bird and bat boxes will be incorporated.

Biodiversity Net Gain (BNG)

The DEFRA BNG metric will be used to establish the BNG baseline units for the site, and to calculate the post-development units, recognising that the site will need to demonstrate delivery of a minimum 10% net gain in accordance with the Environment Act 2022 requirements.

Protected and Notable Habitats and Species

The site is dominated by arable land which is generally considered to be of low ecological value however other habitats (including woodland, hedgerows and ponds as well as a small stream) are of higher biodiversity value, qualifying as Habitats of Principal Importance (HoPI, or “priority habitats”) under the NERC Act 2006, and have the potential to support several protected and notable species. A suite of ecological surveys have been undertaken commencing in 2021 and continuing to date. During these surveys, the following species have been recorded on or adjacent to the site:

- Badgers;
- Roosting, foraging and commuting bats;
- Notable species of bird, including skylark;
- Great crested newts;
- Relatively widespread reptile species (slow-worm);
- Important hedgerows.

The site also has potential to support hedgehog and brown hare. Mitigation measures to protect the above species and habitats during construction and after completion of the development will be implemented to ensure existing site biodiversity is safeguarded.

As per the above, the masterplan will be shaped by a wealth of data collected from ecological surveys and assessments to enable the retention and enhancement of key ecological features, maximising the gains to biodiversity, in line with local and national planning policy.

BNG habitats will require 30 year management plan set out within a detailed Landscape and Ecology Management Plan. Management of the SANG in perpetuity will be secured through the s106 agreements for the planning applications.

Roosting, foraging and commuting bats

Great Crested Newts

Slow Worms

Areas of non-SANG habitat creation

LEGEND

- *Retention, protection and enhancement of higher value habitats such as woodland, mature trees, stream and hedgerows*
- *Creation of semi-natural open space to provide additional resources for bats, badgers, great crested newts and reptiles*
- *Retention of tree belt foraging routes for wildlife*
- *Tree planting creating new foraging routes for wildlife*
- *Creation / enhancement of habitats within acoustic buffer to provide net gains for biodiversity*
- *Protection and enhancement of streams and associated tree belt*
- *Opportunity for habitat creation/enhancement around existing pond*
- *Creation of wildlife friendly surface water attenuation basins*
- *Incorporation of integrated bat and bird boxes within development parcels*
- *Tree planting along southern and eastern boundaries to provide a robust and defensible Green Belt boundary*

Figure 52. Indicative Ecology Strategy

Cultural Heritage Strategy

The illustrative masterplan has been designed to minimise impact on the listed Gardners Farmhouse and Barn to the North of Gardners Farmhouse.

Design considerations for the proposed development include:

- Only developing up to the 68m AOD contour line with SANG separating the listed buildings of Gardners Farm and its barn from the developable edge;
- Taller and more densely developed elements will be situated towards the north of the site on the lower ground;
- Maintaining the alignment of Fluxs Lane to preserve its historic significance. The landscape strategy will include lining the route with hedges and tree planting and the residential layout will ensure dwellings front onto it;
- Constraining storey heights in line with the established built form to the north, predominately two storeys;
- Taking design cues from the style, materials and detailing of buildings within the existing area, whilst not necessarily seek to directly copy them; and
- Maintaining and where possible, strengthening the planting buffers at the boundaries of the site.

Figure 53. Heritage Plan

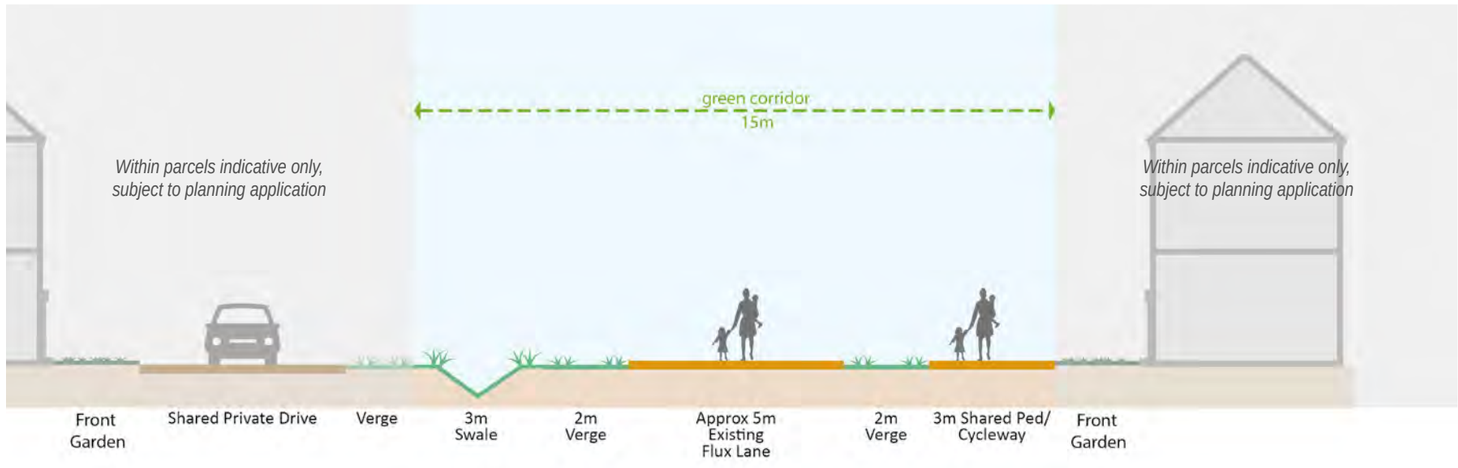


Figure 54. Indicative Fluxs Lane Cross Section

6.4 Acoustic Mitigation Strategy

The site will be developed to achieve appropriate external sound levels within areas designated as Suitable Alternative Natural Greenspace (SANG), and within private external amenity spaces within the residential parts of the development. Guidance on suitable external sound levels will be taken from Natural England SANG guidance, with additional reference to British Standard 8233 for the residential spaces. This will be achieved through the introduction of an acoustic barrier between the southern boundary of both development parcels and the M25. The form of the barrier is to be confirmed, but it is likely to combine earth bunding with acoustic fences at strategic locations to control the spread of sound throughout the site.

It will also be necessary to control external noise to appropriate internal sound levels within new residential dwellings. Again, BS 8233 provides guidance on suitable sound levels to be achieved within habitable rooms. These internal sound levels will be achieved through appropriate acoustic specification of the building envelopes, including the external wall, glazing, and any ventilation systems. The specification of these systems will be subject to further detailed design post planning. However, due to the inherent need to deliver external noise levels in line with Natural England SANG guidance, it is anticipated that achieving suitable internal sound levels will be possible with relatively conventional construction methods.

It will be necessary to ensure that any new development within the South Epping masterplan does not adversely affect existing noise sensitive receptors in the vicinity of the site. Noise assessments will be required to demonstrate that noise from new sources introduced as part of the masterplan can be controlled to suitable limiting levels, which will be derived relative to the background sound levels measured prior to development.

Noise assessments will accompany future planning applications confirming the proposed acoustic mitigation measures.

Precedent of a planted noise mitigation bund

Precedent of engineered noise mitigation bund with planting

Precedent of noise mitigation bund along the edge of a residential development

6.5 Access & Movement Strategy

The integration of development at South Epping with the rest of Epping and the Epping countryside is an important objective in terms of ensuring that new residents have good access to surrounding facilities and open space.

Key Principles

One of the key principles of the South Epping Masterplan is to achieve a development that seeks to promote social, economic and environmental sustainability and equality at each stage of the design and development. Central to achieving this objective will be the creation of 'walkable neighbourhoods'. The benefits of this are many fold and include healthier communities, cleaner air, stronger local economies, and better resilience against climate change.

The access and movement principles set out over the following pages will guide the planning and design of South Epping. They are intended to create a sustainable approach to local and strategic movement and support a range of modal choices for those living, working and going to school within the local neighbourhood, promoting and encouraging active travel as the most attractive and convenient mode. Off-site infrastructure for walking/cycling and vehicle use defined through the planning application stages. The development will include measures to encourage a culture of sustainable travel, accessibility and inclusion based on a user hierarchy of walking, cycling and public transport and then private car use, car clubs and mobility hubs will be explored through the planning applications. This ethos will be promoted in a Travel Plan, which will identify mode share objectives in favour of sustainable and active travel.

Cycle and car parking for residents and visitors will be provided at a level that accords with the recently published EPOA parking standards Part 1 and 2 and take into account the needs of disabled persons and the requirements for Electric Vehicle charging provision. Where possible, the development will embrace the principles in Collaborative Mobility UK's (CoMoUk) guidance document 'New developments and shared transport: cutting car dependency'.

Strategic Connections

The plan on page 69 shows how the strategy for connectivity within the South Epping development site has been considered as part of the wider network of routes and connections across the surrounding area.

The pedestrian and cycle network within the site is also linked to existing walking and cycle routes to the north of the site to provide new residents with access to Epping town centre and underground station and to the south to allow existing and new residents to have access through the site to the SANG and open countryside. LTN120 assessments will define active travel enhancements required offsite at the planning application stage.

Residents will have access to existing bus services that pass near to the site to provide access to nearby towns such as Harlow and bus operators will benefit from improved revenue as a result of increased patronage. Epping Underground Station is on the Central Line providing new residents with a direct rail connection to Stratford and Central London.

Vehicle access is proposed to be provided via junctions with Stewards Green Road for the eastern site and Ivy Chimneys Road for the western site. These will provide access to the local road network and beyond this the strategic highway network for connections to Stansted Airport and Cambridge to the north via the M11 as well as the M25.

Proposals for ensuring access for existing residents from Fluxs Lane are being explored and are likely to comprise gated / barrier access with key fobs for residents. This will ensure new residents cannot use Fluxs Lane

Off-site Mitigation

The package of off-site mitigation to be implemented or contributed to by the proposed development will be determined as part of the planning application process. This may include improvements to pedestrian and cycle infrastructure. There is potential to enhance bus services in conjunction with local operators. These measures will seek to encourage a modal shift and minimise car dependency.

LEGEND

- Site Boundary
- Motorway
- Railway
- Railway Station
- PRoW
- Proposed On-site Pedestrian Routes
- Bus Stops & Routes
- Proposed On-site Cycle Routes
- Aspirational Bridge

Key Facilities

- School
- Employment
- Play Area
- Sports Pitches
- Allotments
- Golf Course
- Sports Centre
- Pub
- Cafe
- Convenience Store

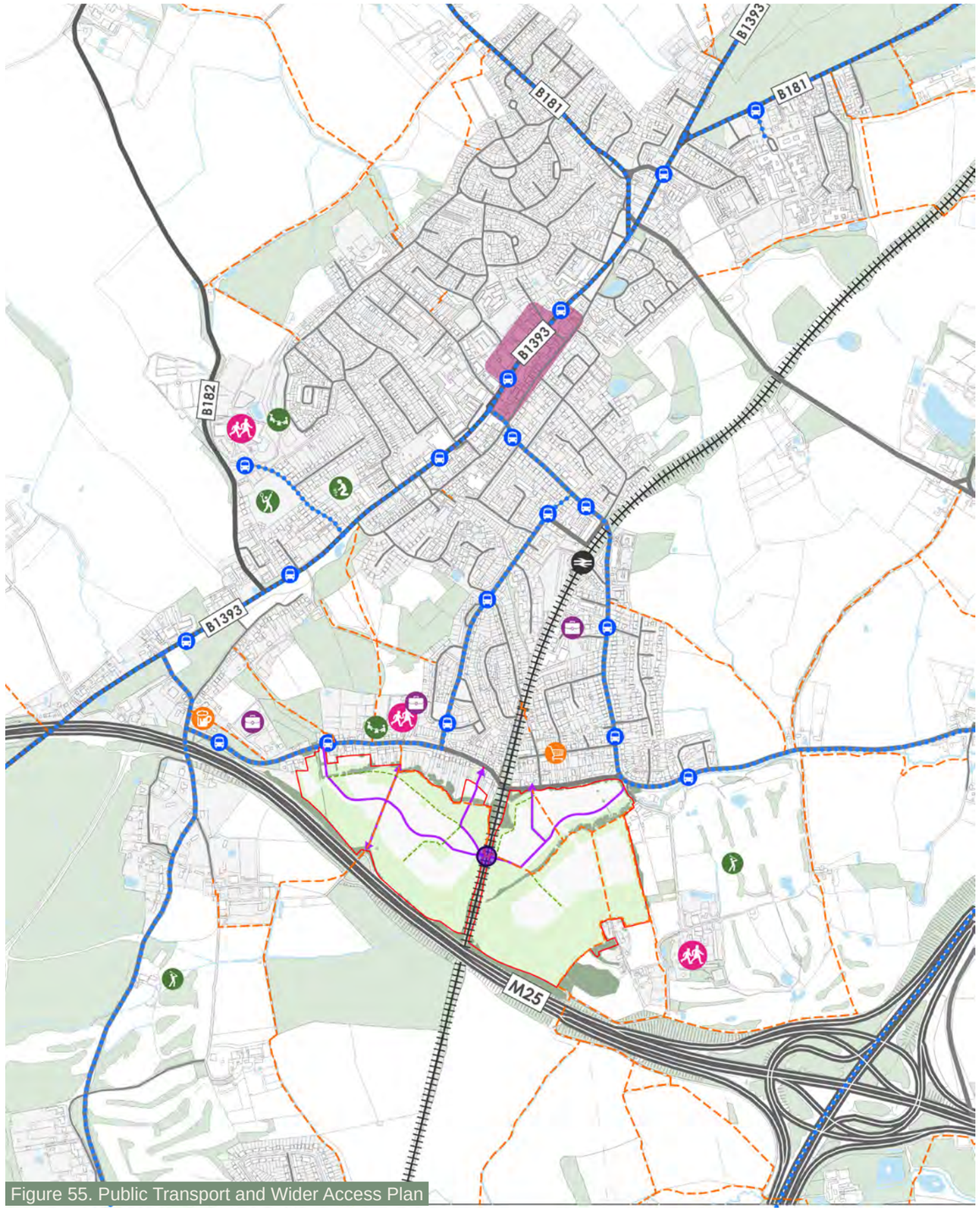


Figure 55. Public Transport and Wider Access Plan

Non-car Modes of Transport

Public Transport

The Epping South site benefits from existing bus services that stop on Stewards Green Road and on Centre Drive providing a public transport connection to Harlow, Loughton and other areas of Epping.

Further bus services are available from Epping Underground Station within walking distance of the site. These provide access to St Margaret's Hospital and nearby town of Waltham Abbey, Ongar, Theydon Bois, Shenfield and Ingatestone.

Epping Underground station provides Central Line services to Stratford and Central London and it provided with sheltered cycle parking facilities adjacent to the station building.

Discussions are due be held with ECC on bus infrastructure enhancements as part of planning applications..

Pedestrian and Cycle

Walking and cycling have been given priority in the masterplan, with the structure providing legible and direct routes that follow desire lines. Key features of the strategy are:

- Walking and cycling routes are designed to be cohesive, direct, safe, comfortable and attractive, and consistent with LTN1/20 Cycle Infrastructure, where practicable;
- All existing Public Rights of Way (PROW) have been incorporated into the masterplan and new footpaths and cycle routes connected to them;
- Routes within the masterplan connect with the wider network of PRoWs and other pedestrian/ cycle ways providing access to the wider Epping urban area and to the Epping countryside to the south;
- The creation of safe, overlooked, attractive routes is critical and will be a key design feature of the proposed green routes and streets. This is to ensure residents and people living nearby are encouraged to utilise these routes and travel by sustainable modes;
- Movement for pedestrians and cyclists will be fully integrated into the masterplan with designated traffic-free routes permeating into the site, promoting active travel.

Cycle Parking

Cycling parking will be provided in line with the recently published EPOA Part 1 standards..

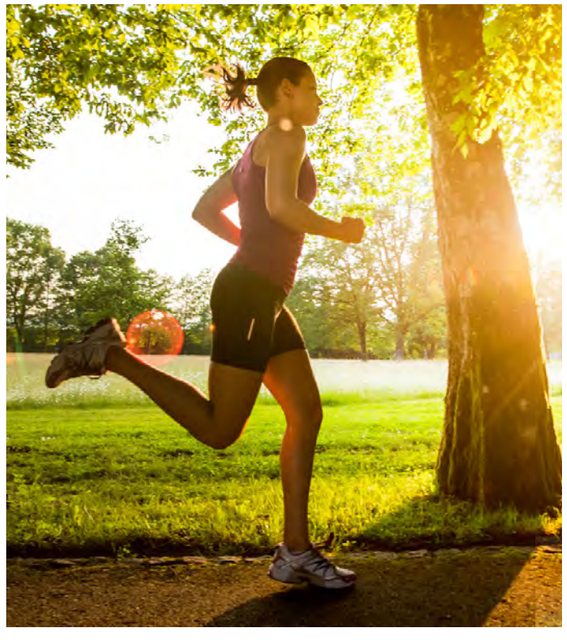
- To make cycling attractive the parking needs to be placed in locations where it is convenient, secure and easy to access and not necessarily shared with other household/ garden possessions.
- Where garages are provided, these will be of a size that facilities the storage of cycles. For houses without garages, suitable facilities within each dwelling will be provided. Cycle parking for houses can be provided in rear gardens or other easily accessible areas, or in secure cycle stores to the front of the properties
- For flats / apartments, storage areas will be provided that are secure (lockable) and covered to provide a high quality facility for residents.
- Visitor cycle parking will be provided at key areas within residential areas. Where appropriate, these will be linked to local centre facilities.
- The provision of inclusive and accessible cycle parking within the site will be a key element of the strategy that will seek to encourage cycling and ensure that it is a clear, preferred choice of travel mode.
- A cycle parking strategy will be developed at application stage.

Active Travel Bridge

Aligned with the Local Plan, there is an opportunity for the development to facilitate the provision or enhancement of pedestrian/cycle linkages over the railway line.

Recreational Routes and SANG

The proposed SANG will have a circular recreational route for pedestrians and cyclists of at least 2.3km in length, for the benefit of new and existing residents of Epping.



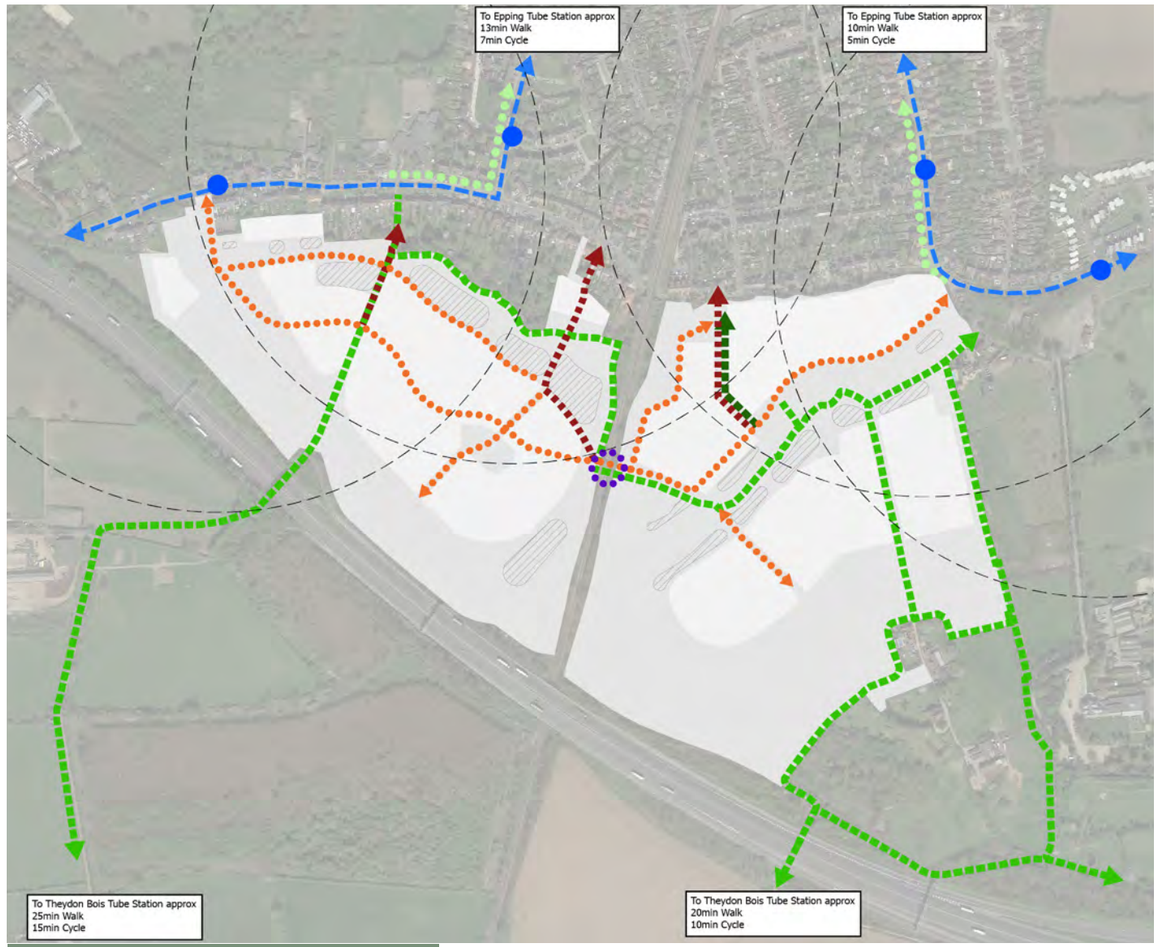


Figure 56. Pedestrian And Bus Connections

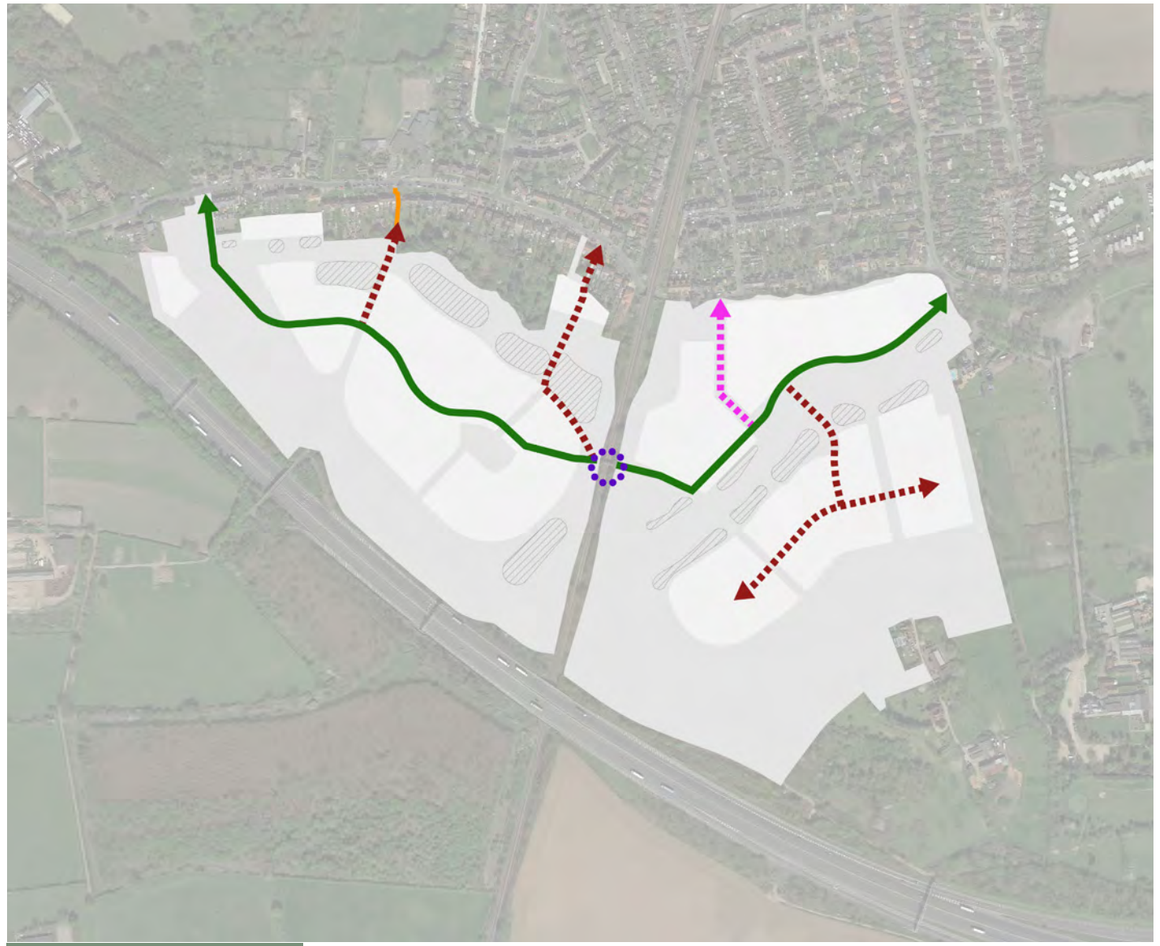


Figure 57. Cycle Connections

LEGEND

- *Existing PROW*
- *Existing PROW diverted around school site*
- *Key existing pedestrian route (outside site)*
- *3m Shared ped/cycle paths*
- *Key proposed pedestrian footpath routes*
- *Potential shared ped/cycle provision across active travel bridge*
- *Bus routes, bus routes and 400m accessibility distances*

LEGEND

- *3m Segregated strategic cycle route*
- *3m Shared ped/cycle paths*
- *Shared ped/cycle on diverted PROW alignment*
- *Improvements to PROW to enable cycle access*
- *Provision or enhancement of walking and cycling crossing via the railway line*

Vehicular Access Strategy

Vehicular Access

Access to EPP.R2 will be gained via an improvement to the existing Fluxs Lane junction with Stewards Green Road. The Illustrative priority junction will be determined following detailed engagement from ECC.

Access to EPP.R1 will be gained via two new priority junctions with Ivy Chimneys Road. A main access junction serves the majority of the development with a minor access junction serving the small parcel at the far west of the SEMPA. The Illustrative priority junction will be determined following detailed engagement from ECC.

A fourth minor access will serve circa nine units from Bridge Hill.

Street Hierarchy

An internal network of streets will provide a safe, legible and permeable layout for all modes within the site. The roads will be designed to meet ECC adoptable standards and allow best-practice transport and urban design principles to be brought forward. The geometry of the street alignment and the dimension of development blocks may be further developed at future stages of the planning process. There will be no vehicular connection across the rail line.

The plan (opposite) shows the indicative alignment for the:

- **Primary Streets:** linking the access junctions at the site boundaries with the residential parcels.
- **Secondary Streets**: providing access for all modes through the residential parcels.
- **Tertiary Streets:** further access requirements will be provided via tertiary streets including shared surfaced streets and shared private drives through to the peripheries of the residential parcels. Further instruction regarding the design and alignment of these streets is provided within section C10.3 Movement: Design Code.

Emergency Provision

ECC do not require a dedicated emergency access for a development of this scale which is aligned with national and local transport policies which do not provide specific requirements for emergency access. However, a secondary point of access to the site for emergency vehicles can be achieved from Fluxs Lane via the development access, which has segregated pedestrian / cycleway provision of sufficient width to be able to accommodate emergency vehicle access into Fluxs Lane, if needed.

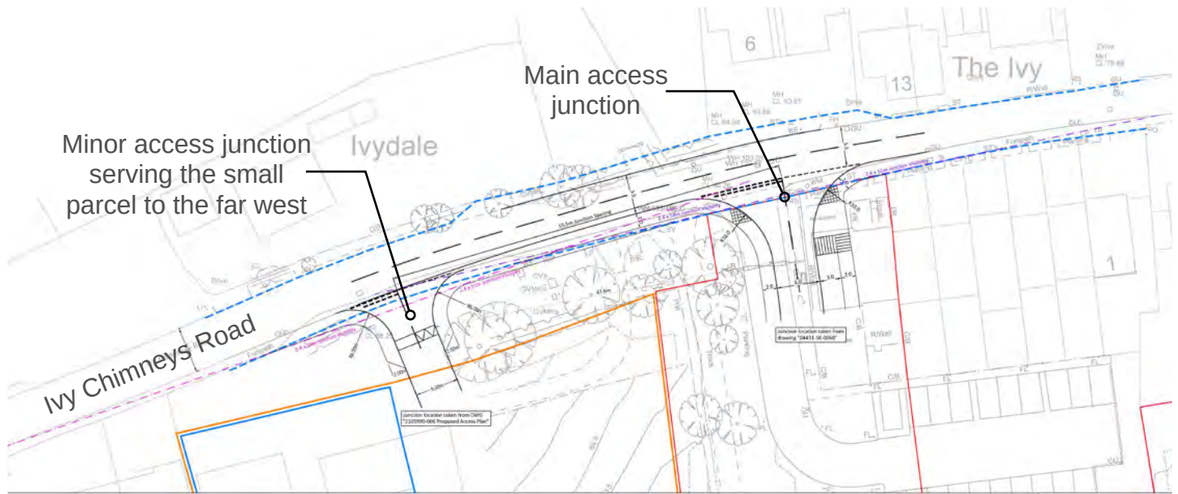
Illustrative Street Cross Sections:

Whilst the street network design will be developed in more detail at future stages through testing and incorporation of best-practice design principles, the illustrative street sections, shown on the following pages, set requirements for:

- The Primary Streets leading from the access junctions.
- The Secondary Streets, single and double sided.
- Secondary Streets incorporating drainage features.
- Circulation routes within green corridors.

Building heights shown in the illustrative sections may vary.

Illustrative Access Junction from Stewards Green Road / Fluxs Lane



Illustrative Access Junctions from Ivy Chimneys Road

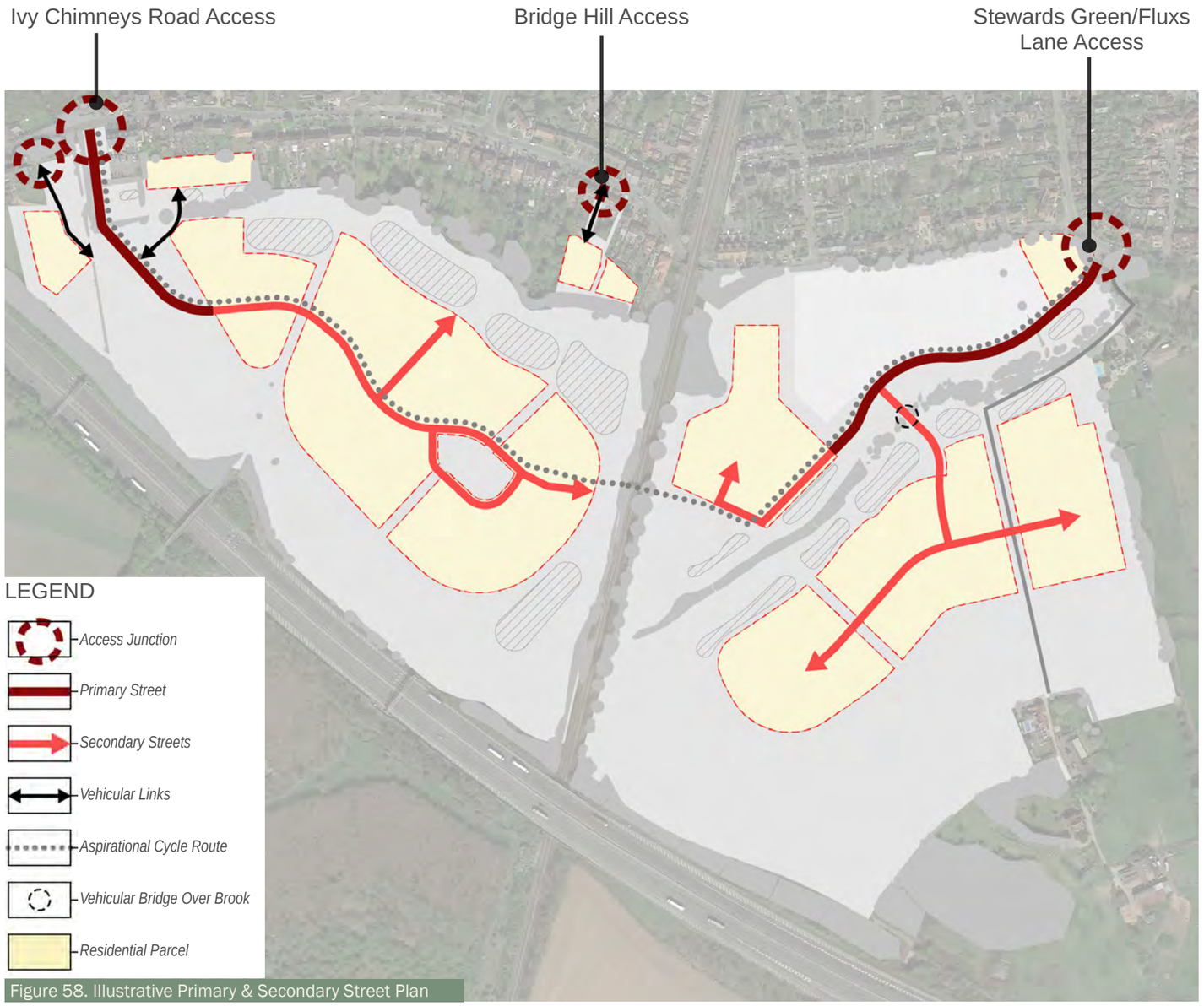


Figure 58. Illustrative Primary & Secondary Street Plan

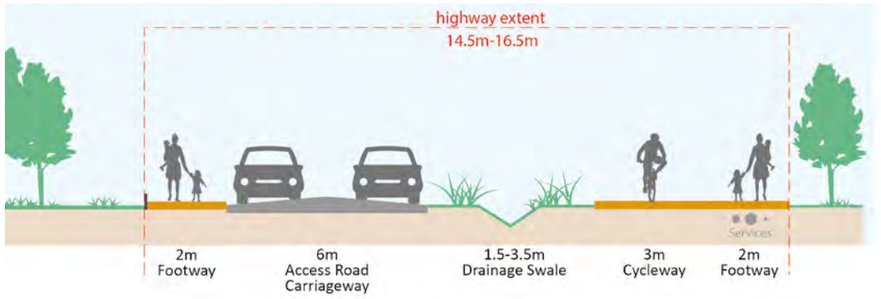


Figure 59. Primary Street from Ivy Chimneys Road Access

Due to utility constraints, the primary access from Ivy Chimneys Road passes through a landscaped open space before entering the residential parcel. Key features of this street will be:

- 2m footpath one side of the carriageway.
- Segregated 3m cycle and 2m footway on eastern side.
- A drainage feature (width to be determined) in between the carriageway and the cycleway.
- 6m carriageway.

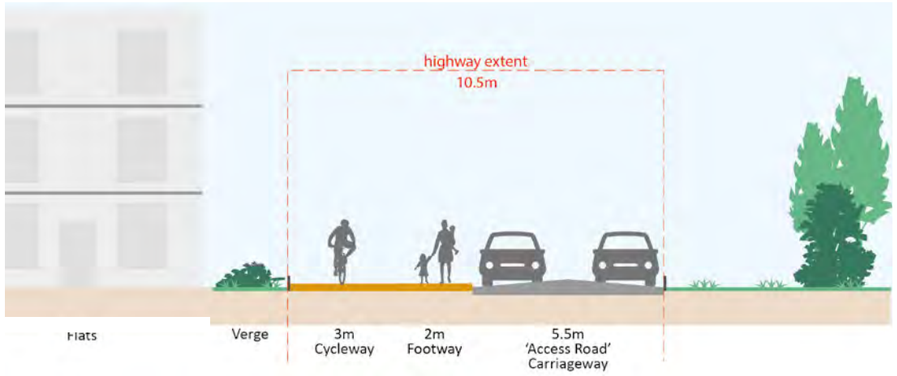


Figure 60. Primary Street from SFluxs Lane/Stewards Green Road

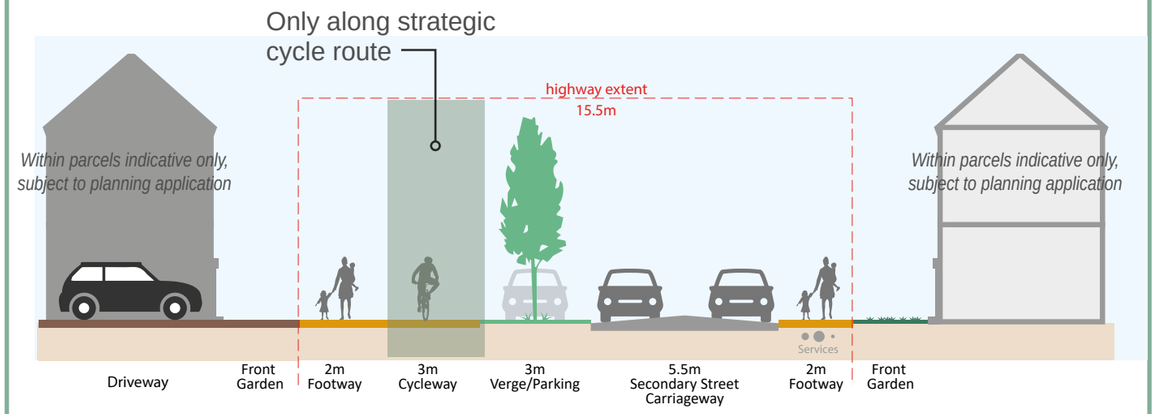
The Primary Street enters the site to the north of the brook tree belt then runs alongside the southern edge of the school site. A segregated cycle/ pedestrian path runs alongside providing access to the school entrance. Key features of the street will be:

- Segregated 3m cycle and 2m footway on the northern side.
- 5.5m carriageway.

Secondary Streets

This street type links to the Primary Streets running from the access junctions and extends through the centre of each development parcel.

Figure 61. Double Sided Secondary Streets



- This street is classed in the Essex Design Guide as a 5.5m wide ‘Access Street’.
- Running through the heart of the development both east and west.
- Direct access will be possible on both sides of the street.
- Potential for the provision of unallocated visitor parking bays within the verge.
- Footpaths provided on both sides of the road with a segregated cyclepath on one side where indicated on the Cycle Connections Plan.
- Strong frontage and consistent building line is maintained to create a sense of enclosure.
- Street trees are provided within the green verge. Where space permits, species will be selected that reach a mature height of between 12-17m.
- Further technical hydraulic modelling undertaken in support of planning applications will determine whether this street type will incorporate SuDs features.

Secondary Streets - Single Sided

This street runs around the centrally located Village Green.

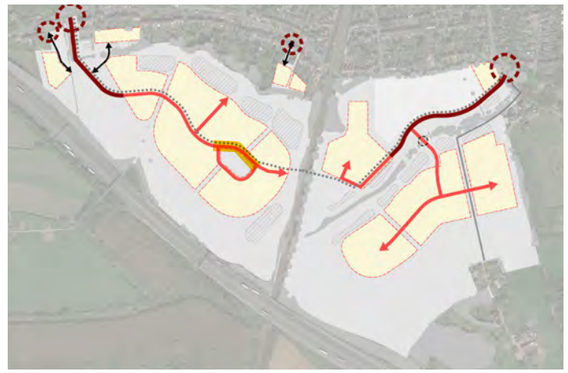
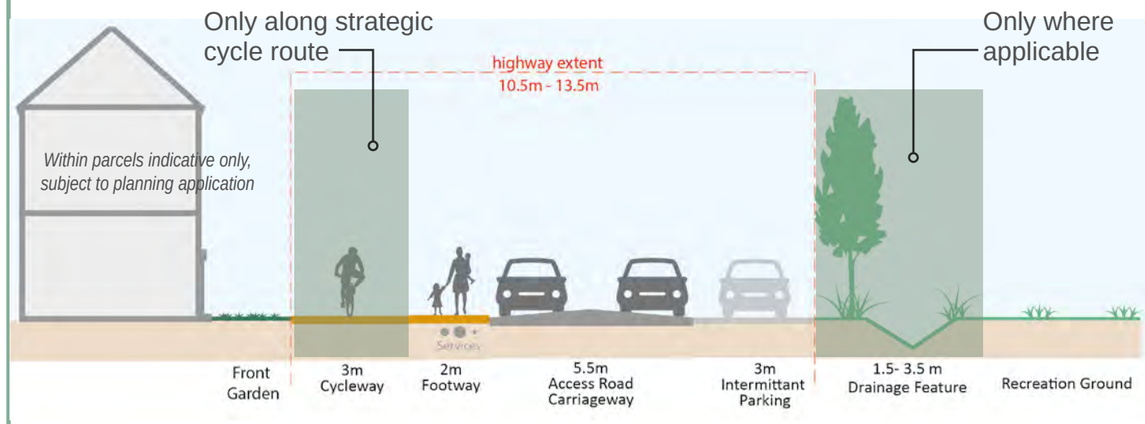


Figure 62. Single Sided Secondary Streets

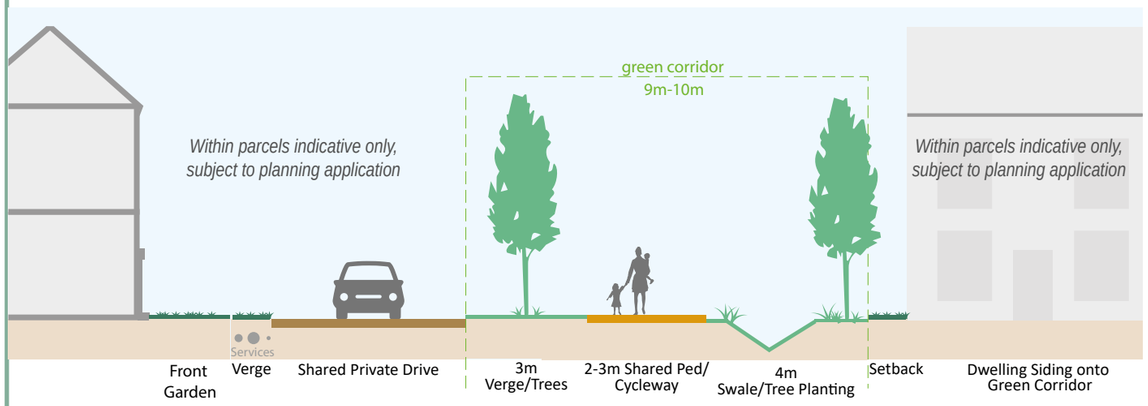


- This street is classed in the Essex Design Guide as an 5.5m wide ‘Access Street’.
- Direct access will be possible.
- Potential for blocks to provide rear courtyard parking thus removing cars from alongside the open space.
- Potential for the provision of small clusters of unallocated visitor parking bays on the open space side.
- Footpath and segregated cycle path (where provided) on the development side.

Green Corridors

The plan shows the indicative location for movement routes which should be retained as green corridors with segregated pedestrian footpaths.

Figure 63. Streets Alongside Green Corridors



- Off-road pedestrian/ cyclepaths will be circa 2m wide. Fluxs Lane retains its existing width.
- Verges planted with shrubs and street trees should line both sides.
- In order to minimise the impact of vehicle movements within the green corridors, dwellings can either ‘side on’ or rear parking courts utilised. Where front vehicle access is required, tertiary streets which have low vehicular movements should be used on one side only.
- Further technical hydraulic modelling undertaken in support of planning application will determine whether this street will incorporate SuDs features and their type and width.

6.6 Urban Form Strategy

Density

There will be a range of housing densities and typologies across the development in order to:

- Respond to topography whereby some areas of the site are more visually prominent than others;
- Support placemaking by creating distinct character variations across the development; and
- Provide the right mix of dwelling types for people at all stages of life and for all budgets, including affordable homes.

The proposed densities set out on the plan (opposite) show density ranges as follows:

- Lower densities of between 30-35 dph are located on the high ground adjacent to the listed buildings are where areas more visually exposed to views from the Green Belt.
- Medium densities of between 35-40 dph are largely located on the mid-ground and fronting the attenuation and brook landscape corridors.
- Higher densities of between 40-50 dph are located on the lowest parts of the site where building height parameters allow for three storey apartments. Located closest to the existing urban edge of Epping, these areas are most closely connected to local services and public transport connections.

Low density development edge precedent

Medium density precedent

High density precedent

30-35 DPH

This density band will typically comprise of:

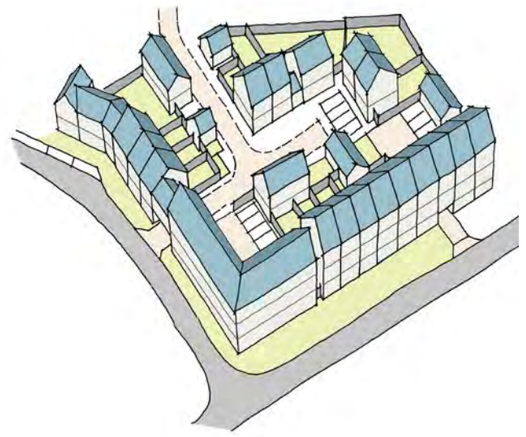
- Approximately 50% large detached family homes with private rear garden and private detached or integral garage and driveway/courtyard parking; and
- Approximately 50% semi-detached and terraced dwellings with private rear garden, private garage and/or driveway/ courtyard parking.

35-40 DPH

This density band will typically comprise of:

- Approximately 50% terraces with private rear gardens and perpendicular parking to the front or within parking courts; and
- Approximately 50% semi-detached/ terraced dwellings with private rear garden, private garage and/or driveway/ courtyard parking.

40-50 DPH



This density band will typically comprise of:

- Approximately 50% terraces and semi-detached dwellings with private rear gardens and allocated parking within rear courtyards or perpendicular parking to the front; and
- Approximately 50% apartments with balconies/communal gardens and rear courtyard parking.

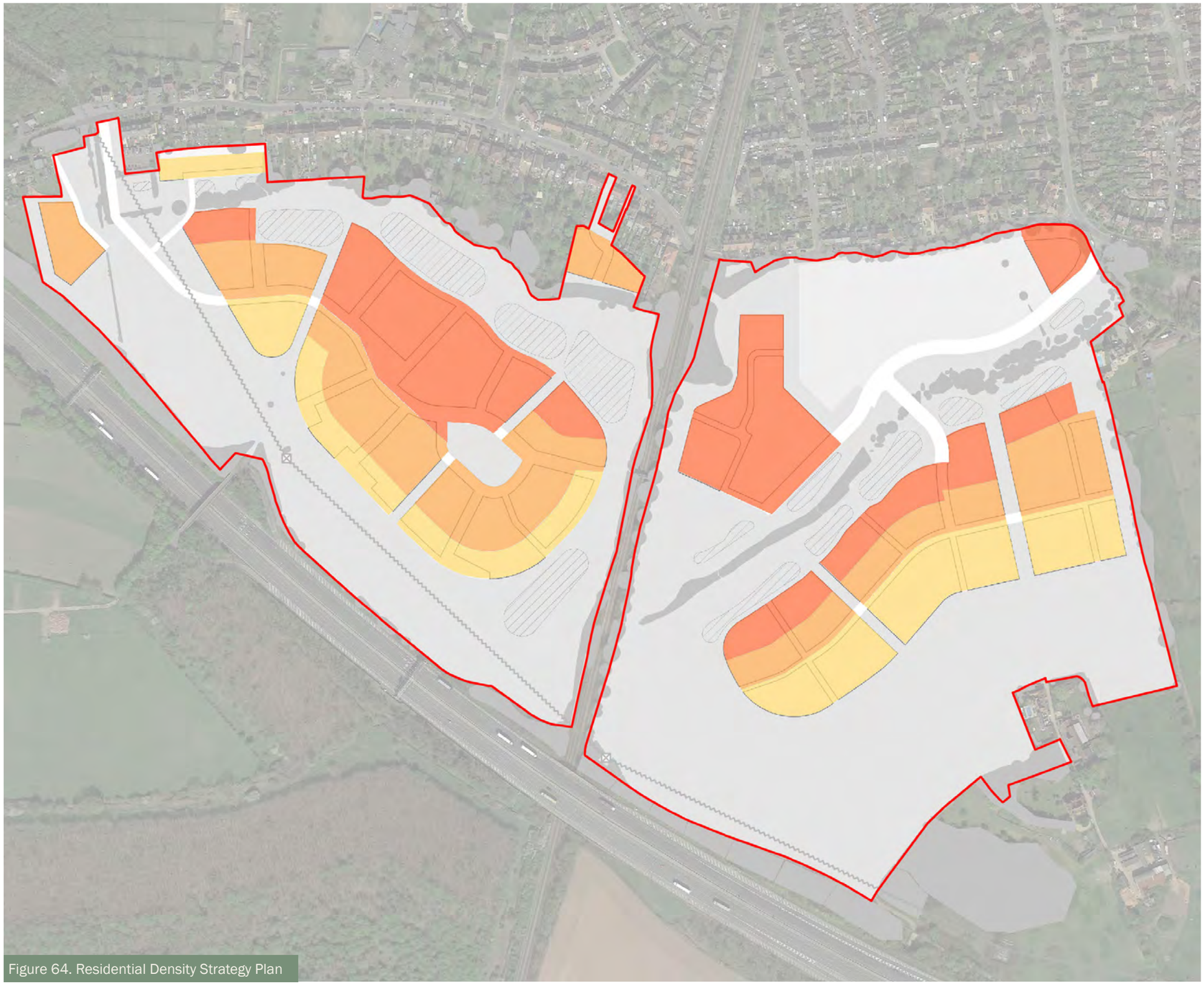


Figure 64. Residential Density Strategy Plan

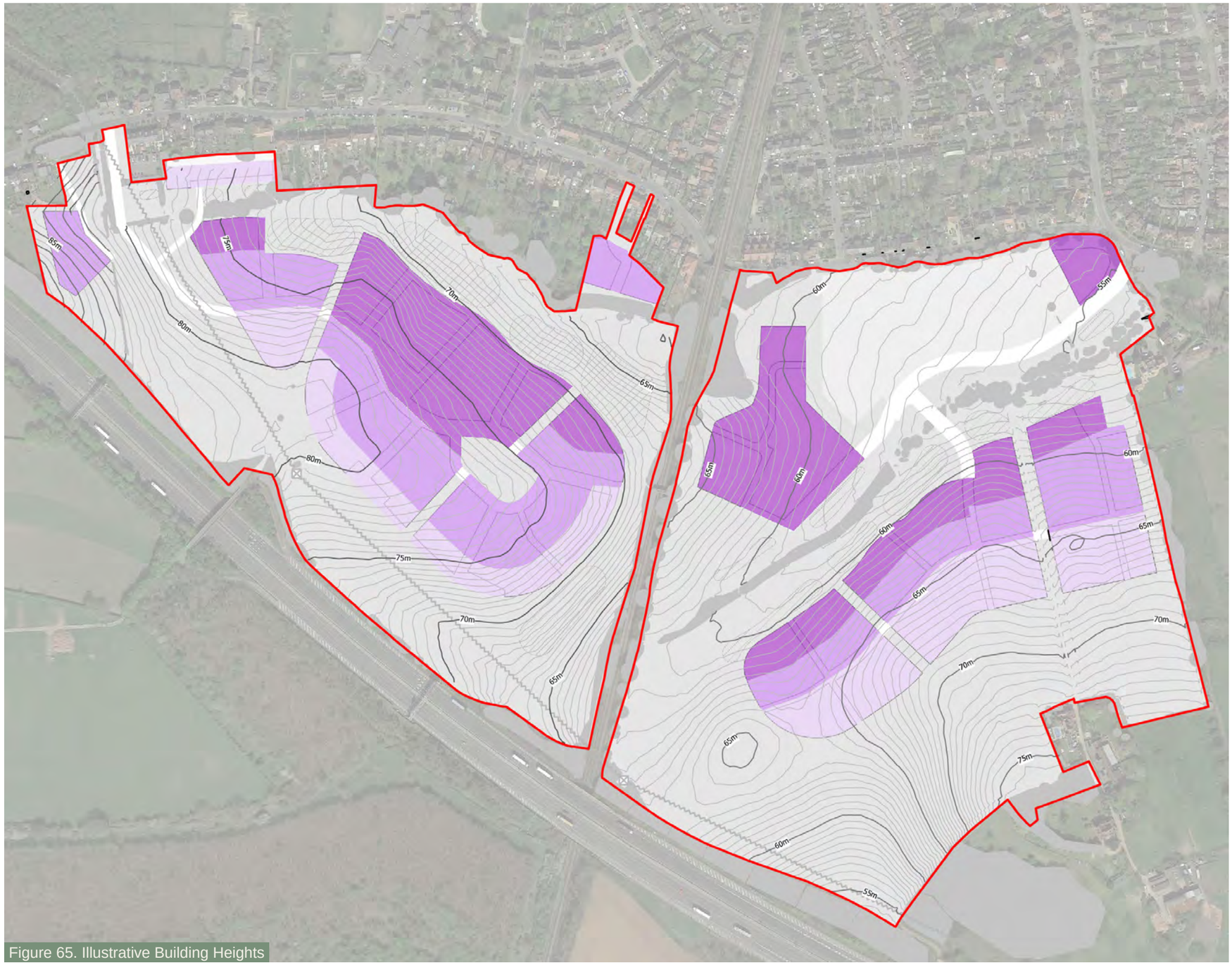
Building Heights & Views

The Building Heights Parameter Plan sets the maximum storey heights for development within the residential development zone. The distribution of building heights across the site has been determined by a combination of factors including:

- appropriate heights to achieve good placemaking;
- to reflect the character of nearby residential areas;
- the potential for visual impact within near and long distance views; and
- the residential densities set out previously.

A variation in storey heights within each zone will allow for key buildings to be accentuated which will create a more visually interesting streetscape. Areas considered most suitable to accommodate three storey development are those on lower areas of the site.

In order to be more sensitive to the setting of the listed buildings and to prevent visibility from the Green Belt, dwellings on the upper slopes, will need to be no more then two storeys in height.



LEGEND

Land South of Epping, East & West (EPP.R1 and EPP.R2)

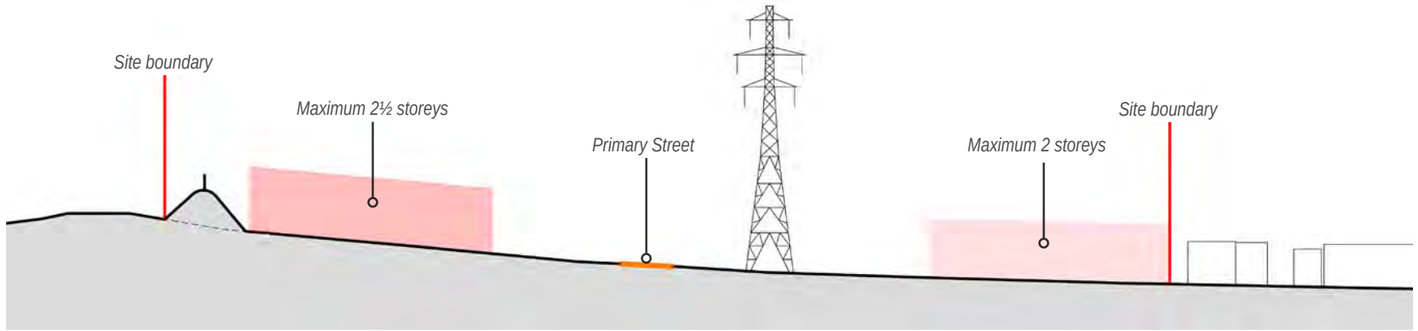
Max 2 Storey (+10.5m)

Max 2.5 Storey (+13m)

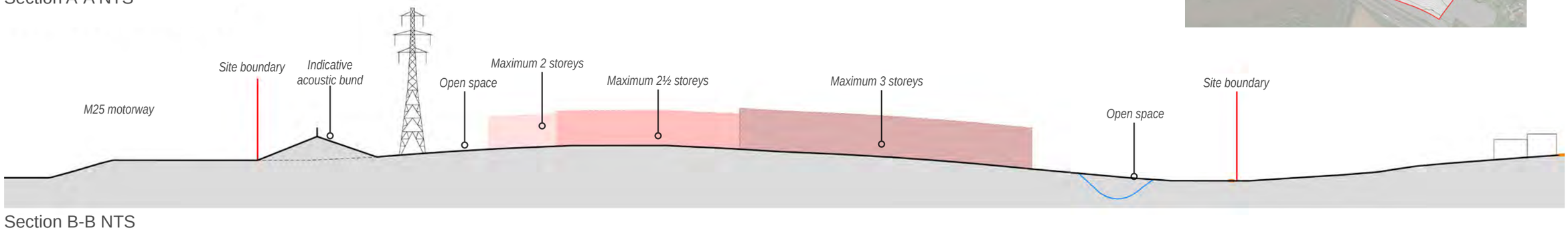
Max 3 Storey (+14m)

Note: Building height parameter subject to +/-2m tolerance.

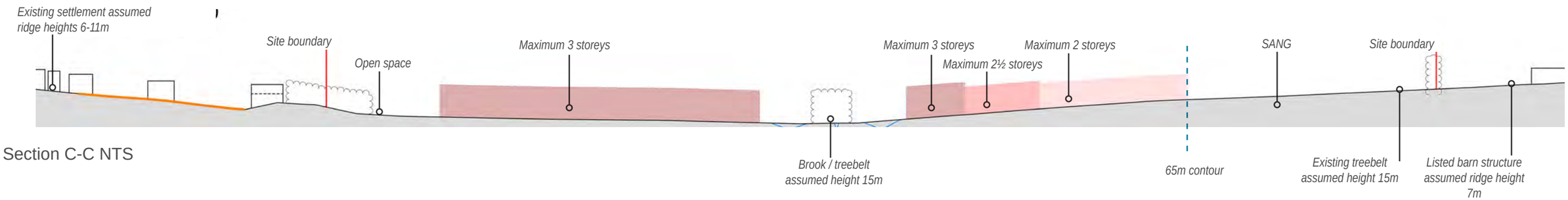
Figure 65. Illustrative Building Heights



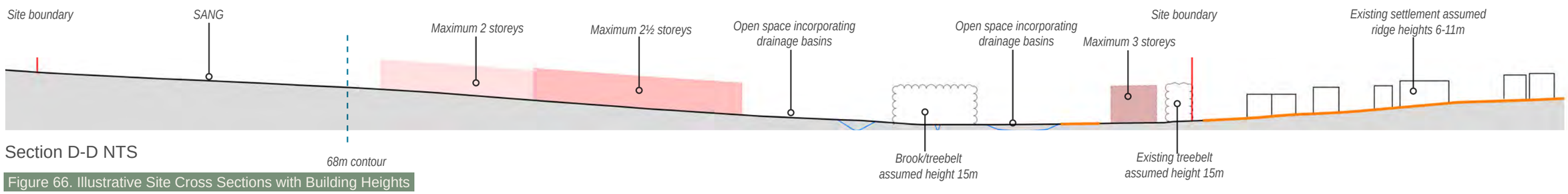
Section A-A NTS



Section B-B NTS



Section C-C NTS



Section D-D NTS

Figure 66. Illustrative Site Cross Sections with Building Heights

Placemaking & Wayfinding

The plan (right) shows the key legibility principles for the SEMPA. These are the key features that will make the place memorable, legible for way-finding purposes and give it a sense of place.

Character Areas

The character area guidance, Section 8.1, sets out the character areas and describes distinct features which will distinguish urban form within each character area. The plan opposite identifies frontages which frame the public spaces of the development.

Key Views and Focal Buildings & Structures

Wherever there is an important view from an entrance or along a street, the vista should be terminated by a landmark building or feature. There are a number of such locations identified on the plan opposite that should be given prominence by virtue of increased storey height, contrasting facade material and/or architectural detailing. Buildings on key corners must have apertures and detailing on all public facing frontages. The block structure should avoid creating vistas along streets which align with electricity pylons.

Key Spaces

A sequence of key spaces are located along a 'Placemaking Spine' which follows the strategic east-west pedestrian/cycle route. Each key space is located at one of the following features:

- A gateway;
- A junction between key routes;
- A key area of open space;
- Outside a community building, in this case the Primary School;

The following pages provide schematic diagrams showing the principle arrangements within each of these spaces. Design Codes accompanying planning applications will provide further detail on how to achieve these principles and on the precise location, design and size of each space/ node.

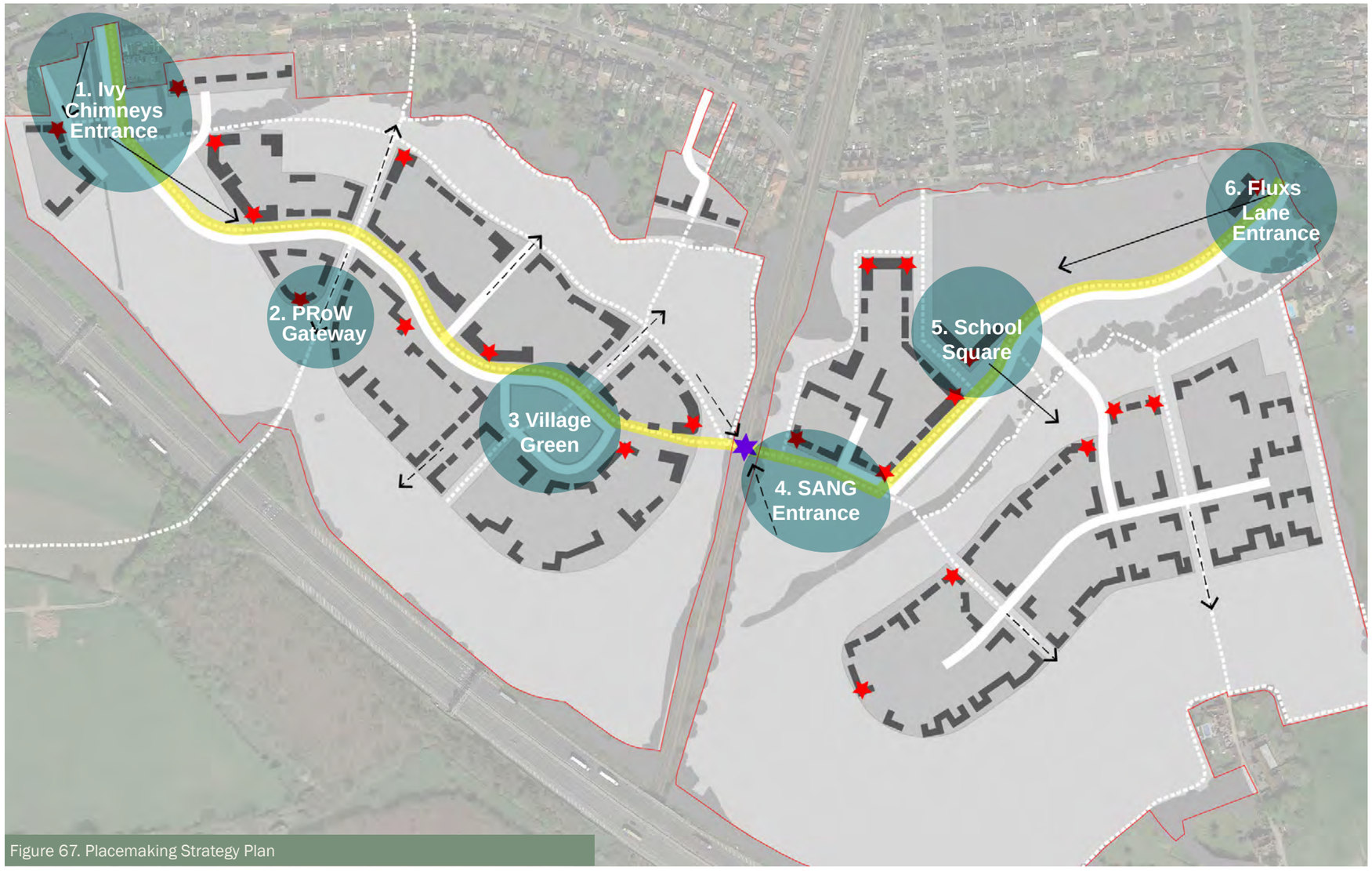


Figure 67. Placemaking Strategy Plan

Key Space 1 - Ivy Chimneys Entrance

The access from Ivy Chimneys Road runs through an area of landscaped open space.Landmark buildings are located on the prominent corners overlooking the open space.

- There is potential for a welcome feature such as a low brick structure incorporating shrub/hedge planting. See precedent image below.
- Dwellings at key corners must provide architectural detailing and active frontages onto the open space.
- To enhance views towards focal buildings and the wider development, where possible, tree planting and low-level shrub planting used to define key viewing lines.

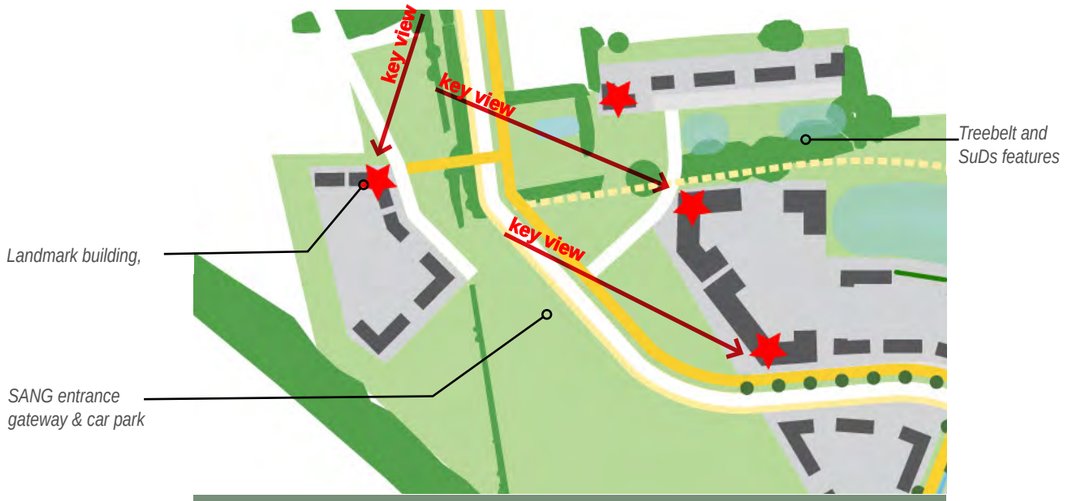


Figure 68. Schematic diagram of Ivy Chimneys Entrance

An example of a low brick structure with clipped hedge and development name creates an entrance feature

A precedent for the entrance area in which urban form is set within landscape

Key Space 2 - PRoW Gateway

The existing PROW from Theydon Bois to the south, which crosses the M25 bridge, is retained within a green corridor through the development. Key features of this space are:

- Built frontage that splays outward to create a gateway entrance space.
- The use of rear courtyard parking which allows landmark buildings to sit close to the development edge and so define the space.
- A landscape dominant and car free space.

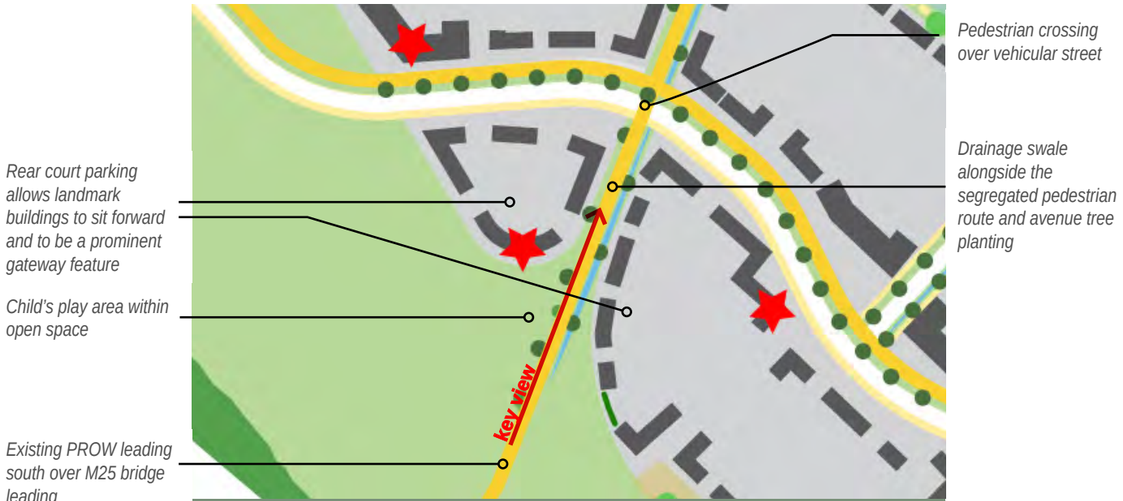


Figure 69. Schematic diagram of the PROW Gateway

Precedent image showing diverging frontage with ped/cycle route running through

Key Space 3 - Village Green

The Village Green provides an informal kickabout space and creates a focal community space within the western parcel. The segregated cycle route running east/west across the SEMPA runs along the northern edge. Key features of this space are:

- Tree planting and drainage swale as part of a north/south green corridor running around the northern edge of the open space.
- Curved frontage creating an intimate scale public space which attractive for play and community gathering.

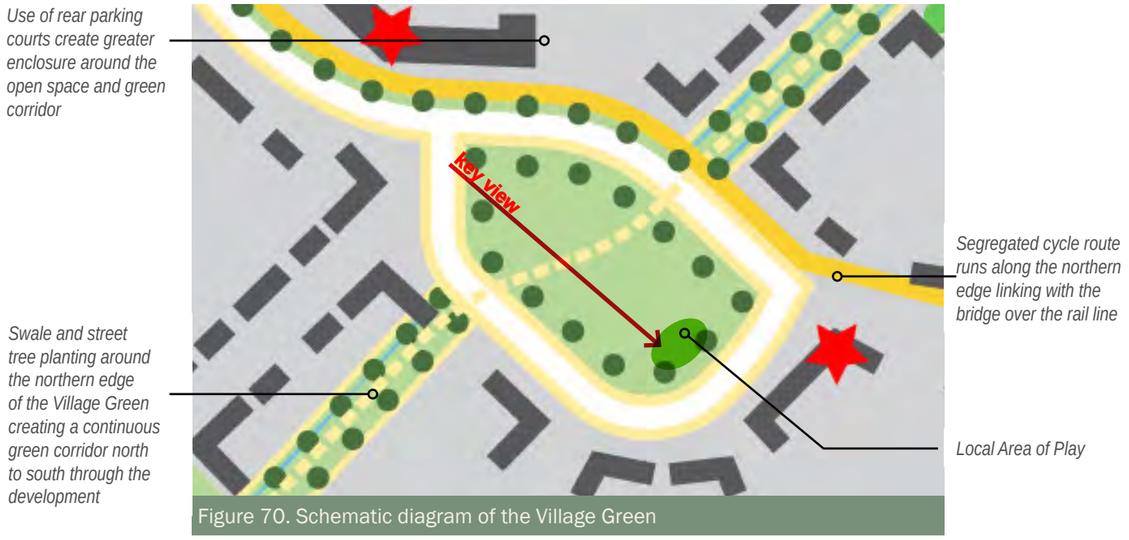


Figure 70. Schematic diagram of the Village Green

A precedent of a grassed area surrounded by dwellings with shrub planting, swales and trees around the periphery.

Key Space 4 - SANG Entrance

There is an aspiration for a replacement shared pedestrian and cycle bridge to create a feature within the landscape. Key features of this space are:

- The highest density area of built form overlook this area of open space. Key corners should be accentuated by an increase in height of roofscape feature.
- Rear courtyard parking to apartments bring the forward frontage at the corners of the parcel.

Figure 71. Schematic diagram of Bridge Green

A precedent of a bridge structure which caters for cycles

Key Space 5 - School Square

A school building located at the south western corner of the school site will create enclosure to a hard landscaped community space, doubling as a gathering space for children and parents. Key features of this space are:

- The enclosure and definition created by built form on three sides and the fourth side defined by the brook tree belt.
- A hard landscaped space sitting outside the secure school site, creating the opportunity for dual use as a community hub.
- The design will include details for surface materials, street furniture and planters, planting and potential for rain gardens.

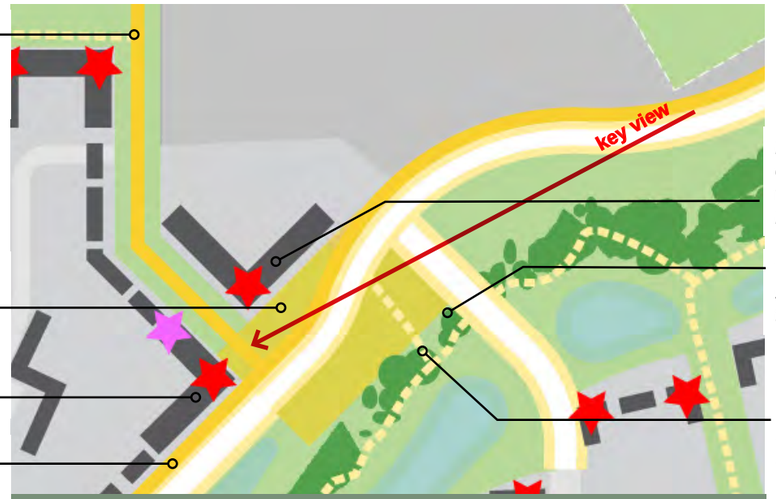


Figure 72. Schematic diagram of the School Square

A precedent of a Primary School building defining a hard landscaped gathering space

Key Space 6 - Fluxs Lane Entrance

Three storey development located at the Fluxs Lane entrance will provide a gateway feature and frontage onto the Brook landscape corridor on the northern side. Key features of this space are:

- The apartments or townhouses that provide frontage onto the Primary Street. with potential for balconies overlooking the brook corridor landscape.
- Parking to the rear allows for the existing boundary trees and watercourse to be retained within an accessible semi-private amenity space.

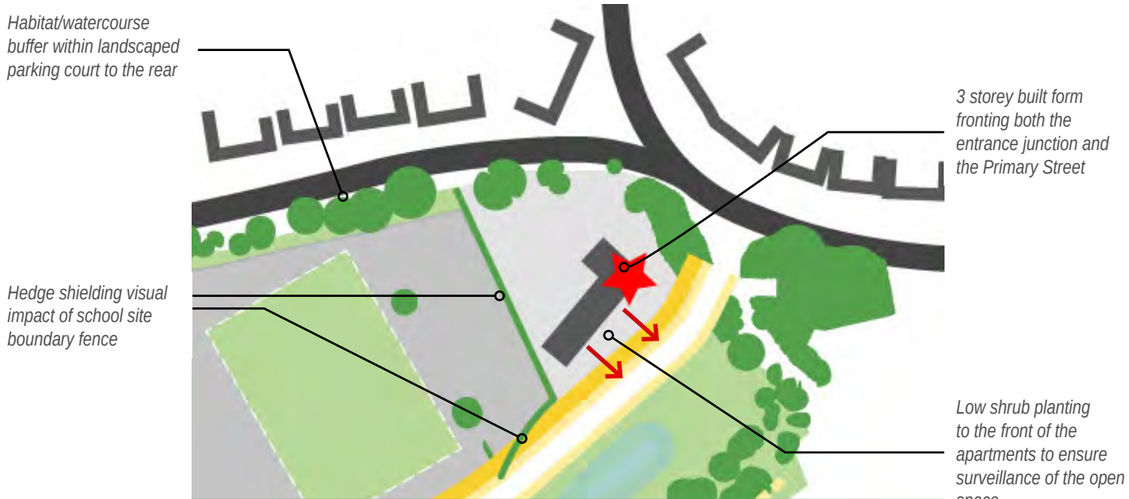


Figure 73. Schematic diagram of the Fluxs Lane Entrance

Precedent image demonstrating a prominent building fronting open space

6.7 Environmental & Socio-Economic Sustainability

Sustainable Design at South Epping

Sustainable design and incorporating measures which mitigate and adapt to climate change are core to the design of the SEMPA. Through the masterplanning process consideration has been given to a wide range of sustainable design measures which align with the objectives of the Local Plan and the Council's Sustainable Guidance and Checklist (Sustainable Guidance Document).

The sustainable design of individual phases of the development will be guided by the measures and considerations set out in this section. The headings reflect those set out in the Sustainable Guidance Document and as a minimum the development will meet the minimum requirements set out.

The sections here describe relevant measures incorporated at the initial masterplanning stage and those measures to be considered as part of the detailed design of future phases of development. Future applications will be supported by a Sustainability Statement setting out how each stage of development will incorporate sustainable design measures. Future Statements will be proportionate to the scale of development coming forward, noting some areas of the development are likely to be significantly smaller than others.

Masterplan Design Considerations

As part of the master planning process a number of sustainable design measures have been considered and will be part of the SMF and detailed design considerations, these include:

- Solar Orientation– Where possible ensuring development plots are organised to facilitate south facing buildings for the provision of Solar PV.
- Passive solar gain – Optimising passive solar gain through orientation, considering potential implications of overheating and use of landscape features and trees to provide shading.
- Balancing the orientation of homes to maximise the benefits of solar gain against good urban design to create access through the development.
- Designing development blocks to allow for flexibility – Creating development blocks which allow for flexible uses, while maintaining opportunities for solar gain, renewable energy etc as far as practicable.
- Incorporating green infrastructure and biodiversity net gain– Providing a network of green infrastructure which supports enhancing site biodiversity helping climate resilience.
- Climate change adaptation – Ensuring the masterplan includes allowance for climate change adaptation, i.e. climate change allowances are incorporated into Sustainable Drainage (SuDs) areas.

Green Infrastructure

The masterplan has been designed to be landscape led and green infrastructure is integral to the development, for example the masterplan includes:

- Consideration of the existing site topography, trees, hedgerows etc to ensure key elements are incorporated into the development where possible;
- Areas of open space;
- SANG;
- Ecological enhancement areas;
- Green corridors linking green and blue infrastructure; and
- Attenuation basins.

In line with the Sustainable Guidance Checklist, the detailed design of future phases of development will include consideration of measures to support green infrastructure provision, including:

- A net gain in biodiversity, aiming for a 10% improvement as a minimum;
- Provision of a stewardship and maintenance strategy;
- Provision of play, community amenity and food production within walking distances;
- Integration of SANG;
- Overheating assessment; and
- Provision of suitable multi-functional green spaces.

Details will be set out as part of a Sustainability Statement prepared to support future applications.

Sustainable Movement

Sustainable access and movement has been prioritised by the masterplan, with consideration to the following measures which align with the Council's Sustainable Guidance Checklist, measures considered so far include:

- Sustainable transport corridors and access to the wider transport network;
- Prioritisation of walking, cycling and public transport;
- Access to key transport links including the Town Centre, train station within a 5 min cycle and 15-20 minute walk;
- On and off-road cycle links;
- Pedestrian links;
- Walking distance of existing bus services; and
- EV charging in line with the Building Regulations

The detailed design of future phases of development will also give consideration to further measures to support sustainable movement, including provision of secure cycle parking. Details of sustainable movement will be set out as part of Transport Assessments and Travel Plans prepared to support future applications.

Water Management

The detailed design of future phases of development will include measures to support sustainable water management, including:

- Provision of water butts for all homes;
- Provision of permeable surfaces where feasible; and
- Homes to achieve the Part G higher water efficiency standard of 110 litres per person per day, making using of efficient fittings such as low flow taps, low volume toilets and baths.

The initial site masterplan includes provisional details on surface water drainage systems, including the provision of sustainable drainage systems (SuDs). Details of the water management proposals and how these align with the Council's Sustainable Guidance Checklist will be set out as part of Flood Risk Assessments and Sustainability Statement prepared to support future applications.

Circular Economy

The detailed design of future phases of development will include measures to support the principles of the circular economy, including:

- Ensuring at least 80% of materials are sourced from ethical and responsible supply chains, for example ensuring all timber is FCS certified;
- Designing homes to be circular-by-design and so that materials can be easily recycled;
- Maximising waste diverted from landfill.

Consideration will also be given to how much of the materials used can be reused, recycled, or are themselves recycled. Circular Economy Statements will accompany planning applications.

Air Quality

The detailed design of future phases of development will include measures to minimise air quality impacts noting the District's Air Pollution Mitigation Strategy, assessing potential impacts on air quality and measures to ensure occupants are not exposed to unacceptable levels of air pollution.

Air Quality Assessments will accompnay future planning applications

Non-Domestic

Where applicable, the detailed design of future phases of development will include measures to deliver sustainable non-domestic buildings. This includes ensuring buildings over 1,000m2 achieve a BREEAM Very Good rating as a minimum, as well as targeting a reduction in operational energy, embodied carbon and potable water use.

Future applications will include information on non-residential building sustainable design as part of a Sustainability Statement. Where appropriate this will include a BREEAM pre-assessment demonstrating are route to achieving a BREEAM Very Good rating.

Health and Wellbeing / Economic Growth and Job Creation

The masterplan aims to incorporate measures to support health and wellbeing, and has included consideration of:

- Creating safe environments;
- Reducing noise pollution;
- Access to sustainable transport links within and outside of the development;
- Areas of play – formal and natural play areas;
- Recreational paths; and
- Edible landscape.

The masterplan also aims to include measures which support economic growth and job creation, including:

- Homes designed for flexible working;
- Provision of a space for a new school which would provide local economic benefits; and
- A flexible retail / cafe space.

The Sustainability Statement will include details of health and wellbeing measures incorporated in future applications in addition to those set out through the masterplan process, for example the provision of flexible workspaces in homes. The Statement will also include details of how economic growth and job creation will be supported by the development.

Community Strength and Social Infrastructure

The masterplan aims to connect to the existing settlement and make on-site provision for social infrastructure through consideration of:

- Connection to the existing settlement through a number of sustainable access routes;
- Provision of a new school and open space accessible to existing residents;
- Walking and cycling provision throughout the development;
- Community facility opportunities within the school; and
- Provision of extensive areas of SANG incorporating leisure walking routes with 'play on the way' facilities.
- Potential for contributions towards existing community spaces to be agreed through future planning applications.

Climate Change

The design of the development will incorporate measures to ensure the development mitigates and adapts to the future effects of climate change. Climate change is anticipated to lead to increasing winter rainfall, increasing temperatures and decreasing summer rainfall. In this context, the Sustainability Statement will include details on measures to be incorporated to reduce carbon emissions, and ensure the long-term resilience of the development. This will include the consideration of:

- Overheating and measures to reduce the risk of overheating through building design and consideration of green infrastructure enhancement;
- Measures to reduce water consumption;
- Use of climate change allowances in the assessment of flood risk and drainage design;
- Increasing site biodiversity including the specification of climate tolerant species; and
- Opportunities to increase the carbon sequestration potential of the site.

The Sustainability Statement prepared to support future applications will include details of measures incorporated in addition to those set out through the masterplan process which enhance community strength and social infrastructure, for example giving further detail on social infrastructure such as recreational facilities.

6.8 Waste, Energy and Utilities

Energy Efficiency and Carbon and Renewable Energy

Given the Council's ambition for low carbon development early-stage consideration has also been given to the Energy Efficiency and Carbon and Renewable Energy strategy for the development. This includes measures being considered as part of the masterplanning process, as well as initial energy and carbon strategy considerations

Delivering Efficient Low Carbon Homes

The initial energy and carbon strategy aims to consider the current local and national planning requirements, and objectives of the Council's Sustainable Guidance Document. The Government's FHS aims to ensure that from 2025 homes are Net Zero Ready, which through an all-electric strategy allows residents to live Net Zero through the purchase of certified renewable electricity.

It is noted that the Council's Sustainable Guidance Document provides a set of standards for development, with minimum requirements and enhanced net zero targets. This includes overarching targets for operational energy, embodied carbon and space heating.

As a minimum homes will be designed to meet the requirements of the 2025, FHS as currently set out, achieving a 75% carbon reduction beyond Part L 2013 through a fabric first approach to design, incorporating low carbon heating such as Heat Pumps and Solar PV to provide on-site energy generation.

As part of the detailed design of homes improvement in energy performance and space heating will be targeted. As a minimum, homes will meet the operational energy intensity and space heating target set in the Council's Sustainable Guidance document, where possible aiming to achieve the Net Zero 2050 target.

The development will also target the 2025 embodied carbon targets of the RIBA 2030 Climate Challenge. These targets support the delivery of Net Zero development and the UK Net Zero trajectory.

There are significant potential challenges in delivering development which sets targets in advance of the 2025 FHS. The 2025 FHS is a significant step change in development requirements, switching from gas to all-electric buildings, use of heat pumps and mechanical ventilation. There are challenges in supply chain management, technical expertise and ensuring new systems work as intended.

This approach is intended as a baseline for consideration against which future planning applications will be assessed, cognisant that technology and solutions to the net zero challenge are evolving over time. As part of detailed or Reserved Matters applications these targets, and those set out in the Sustainable Guidance Checklist need to be tested based on deliverability and viability considerations.

In line with the Sustainable Guidance Checklist the detailed design of future phases of development will include consideration measures to support Energy Efficiency and Carbon and Renewable Energy, including measures to reduce energy demand and carbon emissions such as low u-values, and provision of on-site renewable energy generation to provide a percentage of the sites energy demand.

Waste Management

The detailed design of future phases of development will include measures to support the principles of sustainable waste management, including:

- Measures to support reuse and recycling of waste from construction;
- Setting targets for diverting construction waste from landfill; and
- Designing homes to facilitate waste recycling.

As part of future applications the Sustainability Statement will include construction and operational waste management frameworks including information on key waste targets to be implemented.

Foul Drainage

A foul water drainage strategy has been also developed to demonstrate how the foul water from the proposed development will be managed and connected to the existing Thames Water sewer network.

Utilities

Enquiries made in 2022 to determine the capacity of the existing utility networks to service the proposed development of the land parcel on the eastern side of the railway, comprising approximately 263 residential units and a primary school, yielded the following responses.

- **Water:** Affinity Water confirmed that its existing network has capacity to supply the new development without any need for network reinforcement.
- **Electricity:** The Distribution Network Operator for the area, UKPN, identified a point of connection for the new electricity infrastructure as being at its Lindsey Street Primary Substation, approximately 2.4km from the site. UKPN further identified the need for upgrade works to the Lindsey Street Primary Substation which it confirmed would be completed, subject to the acceptance of its offer which at this time has not been confirmed, by or before a period of just over 12 months. It is noted that the loadings provided to UKPN were derived from a conservative (worst case) assessment of the likely electrical load from the development which, subject to refinement during the detailed design of the development, may possibly yield a point of connection closer to the site and less extensive reinforcement works.
- **Telecoms:** Openreach do not make assessments of the capacity but will provide new infrastructure to new developments in excess of 19 units at nil cost to the developer.
- **Gas:** No capacity enquiry was made with the incumbent gas transporter for the area, Cadent, as the developer is proposing that all units are to have electrical heating, in anticipation of the requirements of the Future Homes Standard coming into effect in 2025.

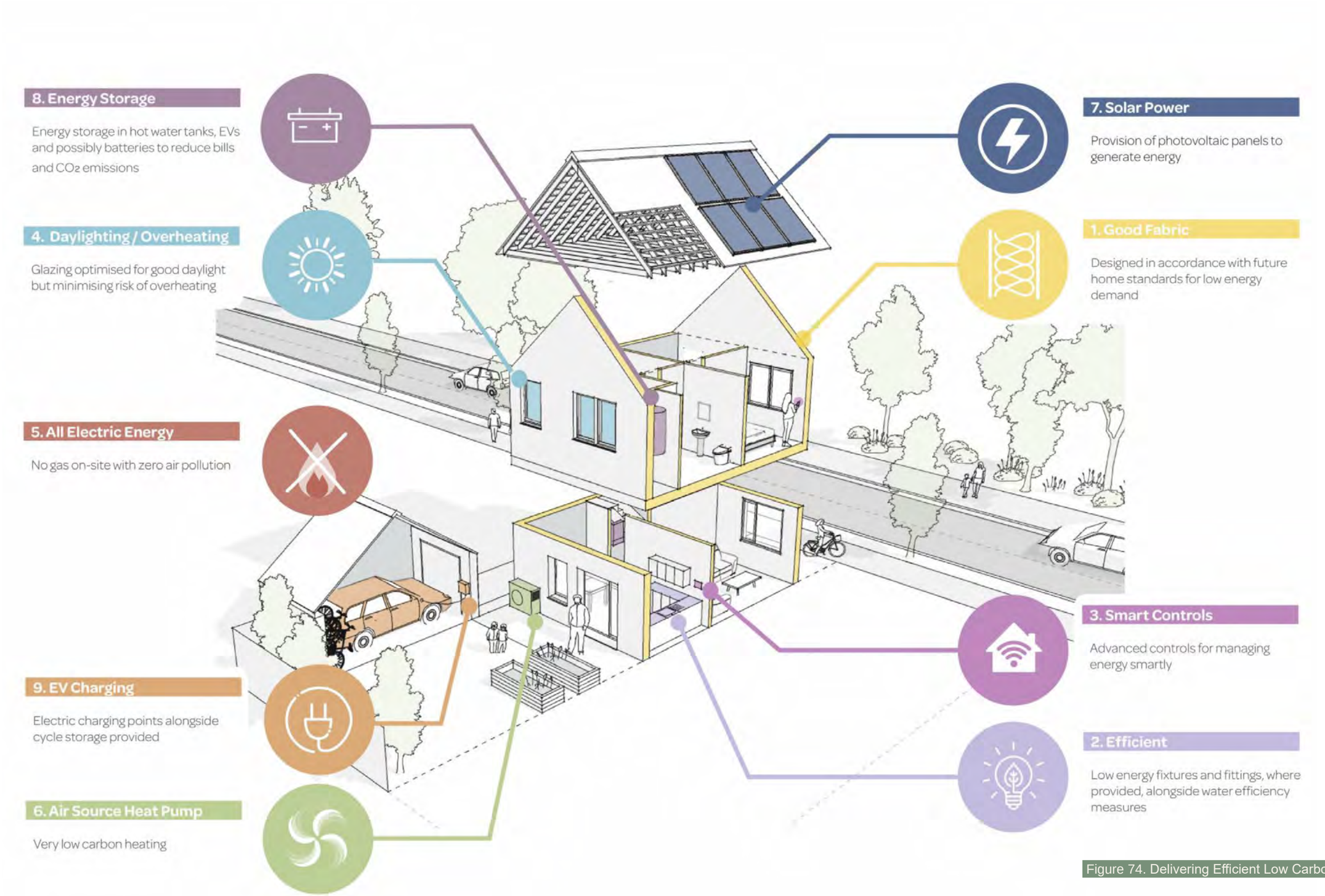


Figure 74. Delivering Efficient Low Carbon Homes

6.9 Strategic Masterplan Framework Plan

All the structural elements are added together to create an indicative overall framework plan, shown opposite.

LEGEND

Site Boundary

Built Form

- Max 2 Storey (+11m)
- Max 2.5 Storey (+12m)
- Max 3 Storey (+14m)
- Indicative Location of School Building
- School Site 2.1Ha
- Potential Ground Floor Retail

Access & Movement Parameter

- All Modes Access
- Vehicular Links
- Existing PRoW
- Key Pedestrian Route
- Opportunity for provision or enhancement of pedestrian/cycle linkages over the railway line
- New All Modes Bridge Crossing over Watercourse
- Pedestrian/cycle Crossing over Watercourse
- Primary Street
- Secondary Street
- Pedestrian / Cycle Access
- Off Road Segregated Pedestrian/ Cycleway
- Off Road Shared Pedestrian/Cycleway
- Shared Ped/Cycle Route on diverted PRoW alignment
- SANG carpark

Green and Blue Infrastructure

- Amenity Open Space
- Village Green (Informal Kick-About Space)
- Children's Play (Equipped or Landscaped)
- Natural & Semi-Natural Open Space
- SANG Provision
- Green Corridors / Streets with Swale
- Indicative Zone for Acoustic Bund to Incorporate Landscape Planting
- Hard Landscaped Community Square
- Indicative Zone for Surface Water Attenuation Basins
- Indicative Location of Pumping Station

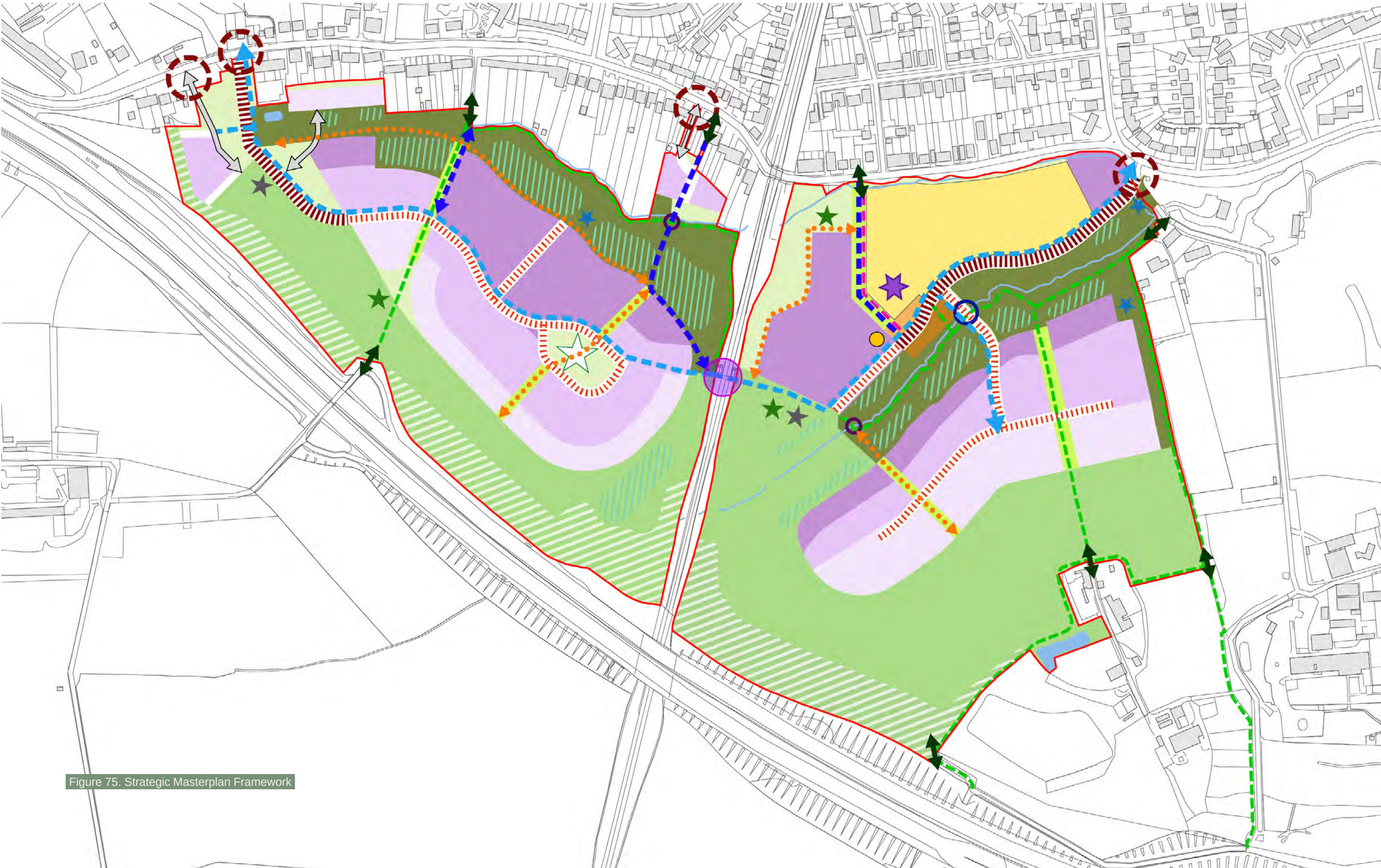


Figure 75. Strategic Masterplan Framework

B7.Parameter Plans

The principles and illustrative material covered within section six give rise to the following five Parameter Plans. These plans provide mandatory spatial requirements however allow for a degree of flexibility with the understanding that more precise and detailed Parameter Plans with less flexible parameters will come forward through subsequent planning applications. Planning applications must be in broad accordance with these parameters. Parameter Plans are provided at a larger scale within the appendix.

Density Parameter Plan

The Density Parameter Plan sets the dwellings per hectare range for the residential development parcels.

LEGEND

- *Land South of Epping, East & West (EPP.R1 and EPP.R2)*
- *Residential - 30-35dph*
- *Residential - 35-40dph*
- *Residential - 40-50dph*

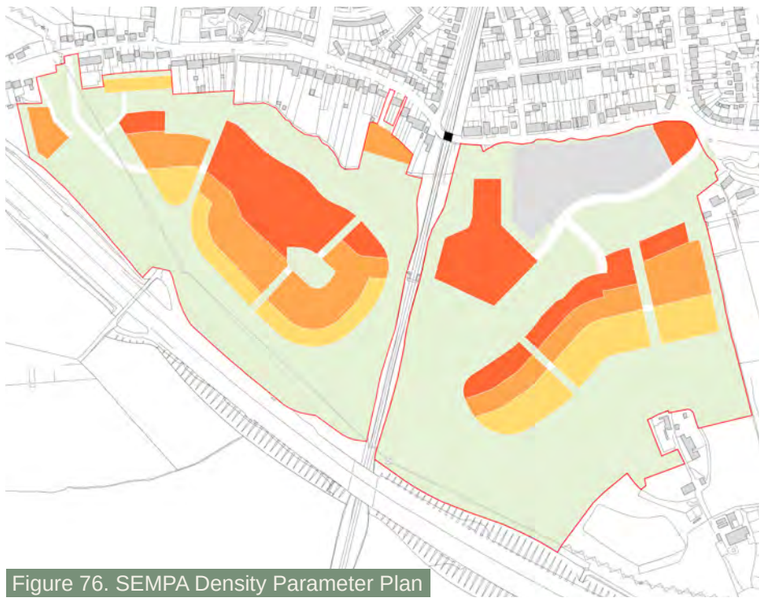


Figure 76. SEMPA Density Parameter Plan

Building Heights Parameter Plan

The Building Heights Parameter Plan sets the maximum storey heights for development within the residential development parcels. The design of the school building will be determined by ECC.

LEGEND

- *Land South of Epping, East & West (EPP.R1 and EPP.R2)*
- *Max 2 Storey (+10.5m)*
- *Max 2½ Storey (+13m)*
- *Max 3 Storey (+14m)*

Note: Building height parameter subject to +/-2m tolerance.

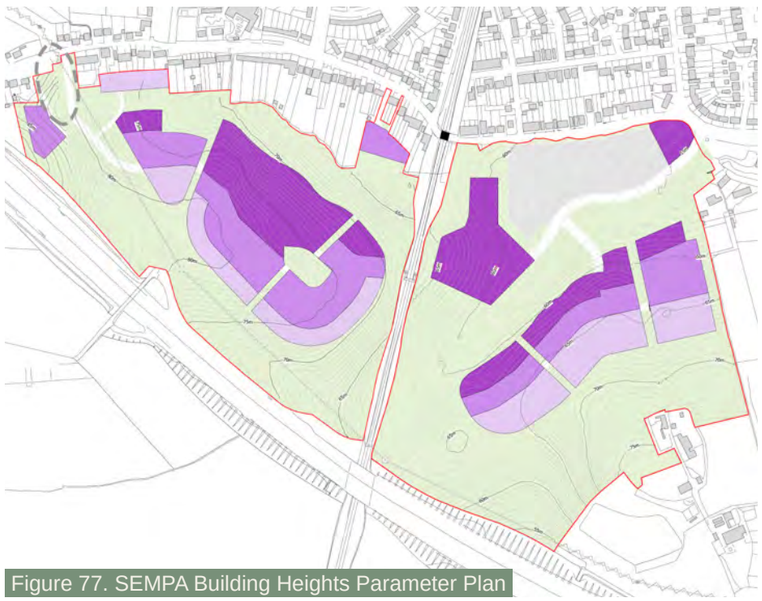


Figure 77. SEMPA Building Heights Parameter Plan

Land Use Parameter Plan

The Land Use Parameter Plan sets the location of land uses throughout the development.

LEGEND

- *Land South of Epping, East & West (EPP.R1 and EPP.R2)*
- *Infrastructure*
- *Publicly Accessible Open Space*
- *Zone for Residential Development (including drainage swales and internal movement routes)*
- *2.1Ha Site for Provision of Primary School by ECC*
- *Indicative Location for Pumping Station*
- *Indicative Location for Play Provision*
- *Indicative location of a new or enhanced bridge*
- *Indicative Location of SANG Car Park*
- *Indicative Zone for Surface Water Attenuation Basins*
- *Existing Trees and Hedgerows*
- *Existing Watercourses*
- *Indicative Zone for Acoustic Bund to Incorporate Landscape Planting (No Public Access)*

Access and Movement Parameter Plan

The Access and Movement Parameter Plan sets the location for vehicular, cycle and pedestrian access into the site, the indicative routes of the primary and secondary access streets, connections between parcels, the potential location of a new bridge over the rail line and SANG car parks.

LEGEND

- *Land South of Epping, East & West (EPP.R1 and EPP.R2)*
- *Existing PRoW*
- *Entrance Roads*
- *Entrance Junction Location*
- *Secondary Streets*
- *Vehicular Link*
- *Residential Parcel*
- *School Site*
- *Key Pedestrian Route*
- *Segregated Cycleway*
- *Provision or enhancement of pedestrian/cycle linkages over the railway line*
- *New Vehicular Bridge Crossing over Watercourse*
- *New Pedestrian/cycle Bridge Crossing over Watercourse*
- *Indicative Location for SANG Car Park*
- *Pedestrian Site Access*
- *Pedestrian/Cycle Site Access*
- *Shared Foot/cycle Route Along Diverted PROW Alignment*
- *Shared Foot/cycle Route*

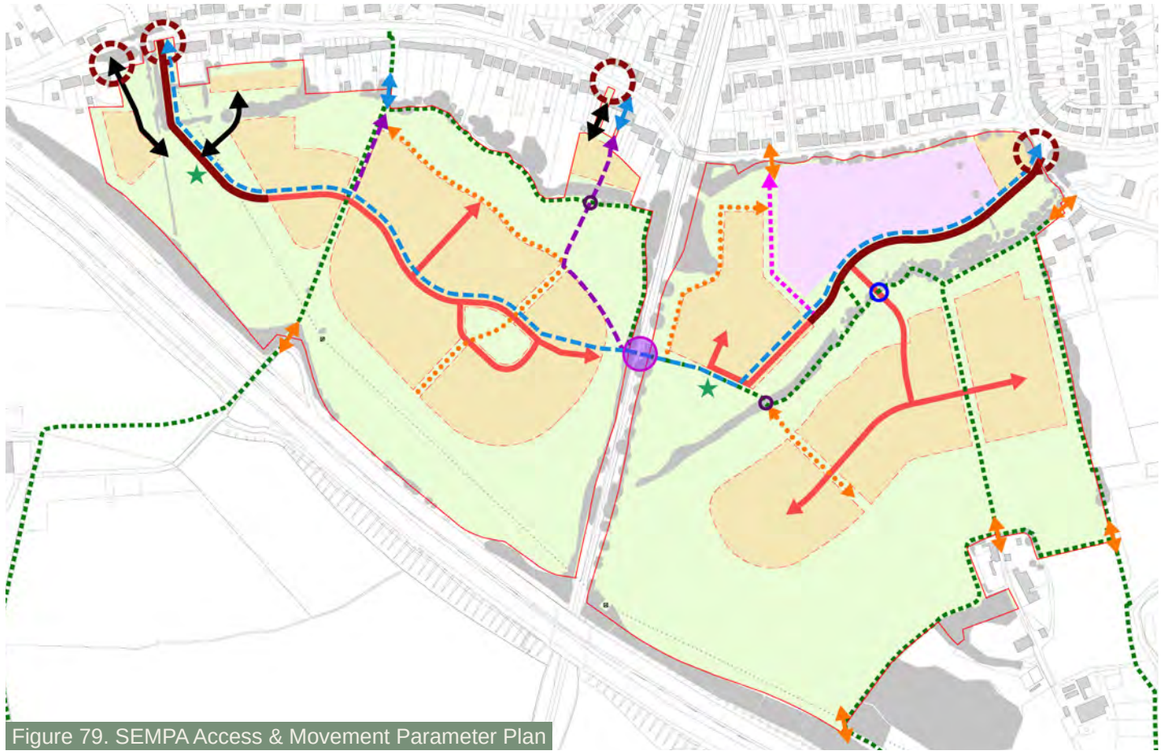


Figure 79. SEMPA Access & Movement Parameter Plan

Green & Blue Infrastructure Parameter Plan

The Green and Blue Parameter Plan sets the location for all categories of amenity open space and play areas as determined by EFDC, the SANG provision, zones for SuDs features and the green corridors running through development parcels.

LEGEND

- *Land South of Epping, East & West (EPP.R1 and EPP.R2)*
- *EFDC Amenity Open Space Categories*
  - *Amenity Greenspace*
  - *Parks & Gardens*
  - *Allotments*
  - *Natural & Semi-Natural Open Space (including SuDs basins and existing trees)*
- *SANG Provision (including SuDs basins)*
- *Green Corridors / Street with Swale*
- *Village Green (Re-provision of Brook Road Recreation Ground)*
- *Indicative Locations for Play Provision*
- *Indicative Zone for Acoustic Bund to Incorporate Landscape Planting (No Public Access)*
- *Indicative Zone for Surface Water Attenuation Basins*
- *Retained Trees*
- *Existing Watercourse / Pond*

Figure 80. SEMPA Green & Blue Infrastructure Parameter Plan

8.1 Creating Distinctive Character

The guidance set out over the following pages provides an initial framework for the development of character within the site.

A series of character areas will be created to create a neighbourhood that is varied, attractive and responsive to its unique context. This section will form the basis of a strategic design code for South Epping.

Character Generators

Character can be defined by things like the typology and density of development, relationship with surrounding landscape features, architectural approach and material selection.

The key drivers for the character areas within the SEMPA are as follows:

- Topography - valley areas where SuDs will be located and high ground which is open to views from beyond the site;
- Relationship to the existing watercourse valley and associated tree belt;
- Urban context in terms of materials, density, storey height and typical built form; and
- Block structure - driven by the proportions of the development area dictated by the constraints and the requirement to create an efficient block structure that is suitable for solar generation.

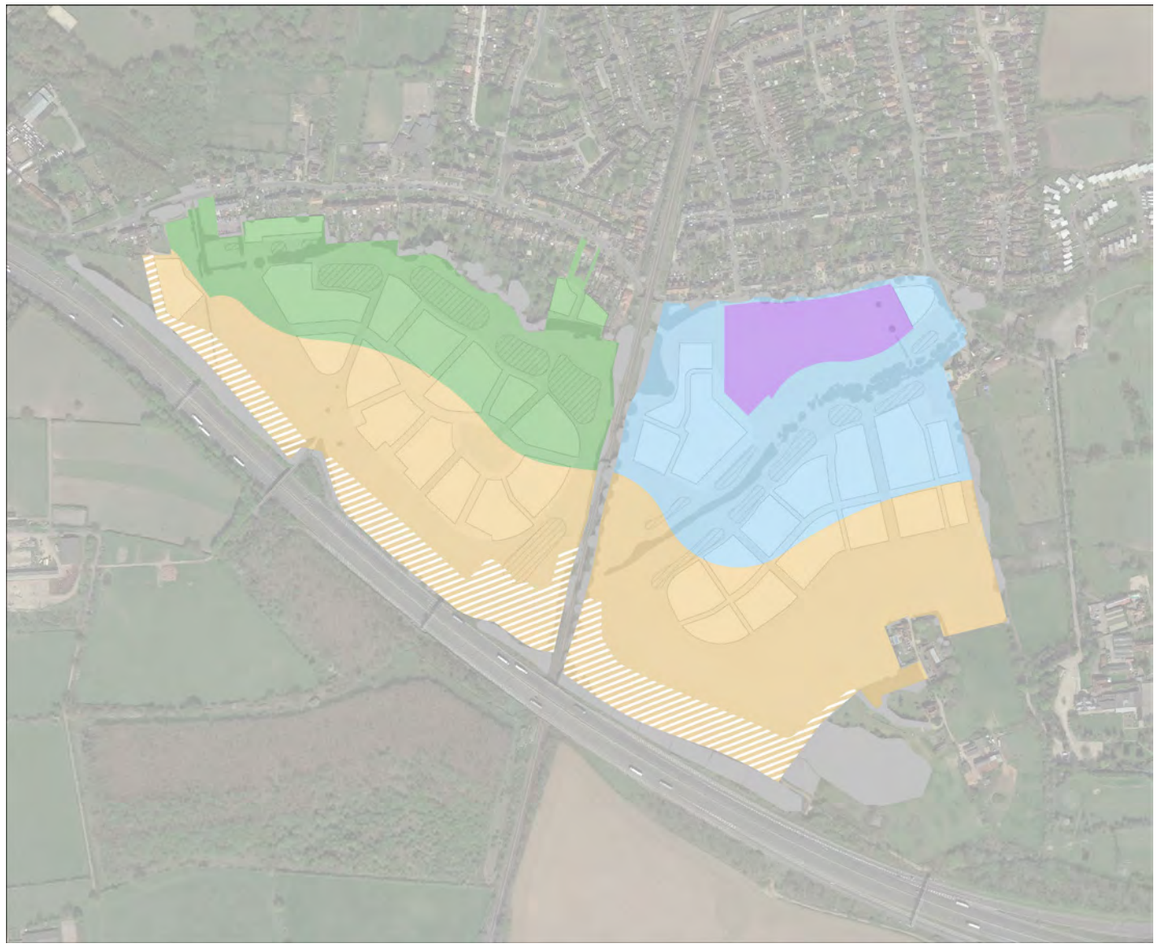


Figure 81. Character Areas Plan

8.2 Primary School Site

Located to the north of the tree belt following the brook, the primary school building will be a key feature creating a community hub within the east of the SEMPA.

Site

- A site area of 2.1 Hectares is provided for the delivery of a two form entry (420 Places) primary school, with early years provision.
- The topography of the site falls from 60m AOD in the west, to 55m AOD at the eastern boundary. This gives an average gradient of 1 in 48. This is well within DDA compliance criteria and a school layout could be delivered across this average gradient.
- The proportions of the site can accommodate sports pitches of 59m by 92m which is the preferred size for primary schools. Some limited ground re-modelling may be desirable to achieve a gradient of 1 in 70 across the pitch.
- The school boundary will have a clearly marked and defensible boundary, gated at all access points. Hedge planting alongside the boundary fence on the western side fronting the amenity open space will shield the visual impact of the fence.
- The northern school boundary will exclude the tree belt and drainage ditch running along the northern site boundary.
- The area of the school site along the northern boundary sitting within the 10m ecologicial buffer zone associated with the drainage ditch will form a no-build zone, maintained as grassland which forms part of the informal play portion of the site.

Site Layout

- The internal layout of the site and design of the school building is subject to future design proposals by ECC, however a schematic diagram of the position of the school building in relation to a hard landscaped community space is provided within the 6.7 Urban Form Strategy, section.
- The school building is located to the south-western corner of the site with playground behind and sports pitches to the east.
- Access to staff parking will be located at the eastern end of the site adjacent to the Primary Street.

Access

- The school will be accessed via the junction on Fluxs Lane/Stewards Green Road. A primary street serves the residential parcel at the entrance, then continues as a secondary street along the southern boundary of the school site, past the school square. A segregated pedestrian and cycle path runs alongside this vehicular route. The square is immediately to the front of the school which accomodates a shared pedestrian/cycle route which runs up to the northern boundary on western side of the site, following a slightly deviated alignment of the existing PROW.

Residential

- In the event that the school does not come forward on this site, an access street can be taken from the Primary Street to serve this parcel.

Figure 82. Key Design Principles for the School Site

8.3 Waterside Character Area

Landscape Character Guidance

Proposed Character

Located along the northern boundary of the development, the Waterside Character Area is a key strategic ecological and water management corridor, building upon the existing watercourse and ecological offerings, as well as acting as a buffer to the rear boundaries of existing residential dwellings.

A network of paths will provide connectivity east-west, as well as north-south via the Green Infrastructure routes that run through the Urban Core and travel north, linking to the surrounding context.

To the northwest of the Character Area, a provision of open space forms a distinct gateway entrance to the SANG provision on site. The use of varying topography, planting and materials creates an area of interest, enticing to users.

Key Landscape Objectives

- This character area plays key role serving as a landscape and visual buffer between the proposed residential development and existing properties at Ivy Chimneys Road and Bridge Hill; and
- The Waterside Character Area will include SuDs attenuation basins and other habitat enhancements, through which footpath connections to north can permeate.

Northern Area to include SuDs features and useable space

Ecological habitat provision with mown walking routes

Planted boundary to offer landscape and visual buffer to rear of residential gardens along Ivy Chimneys Road

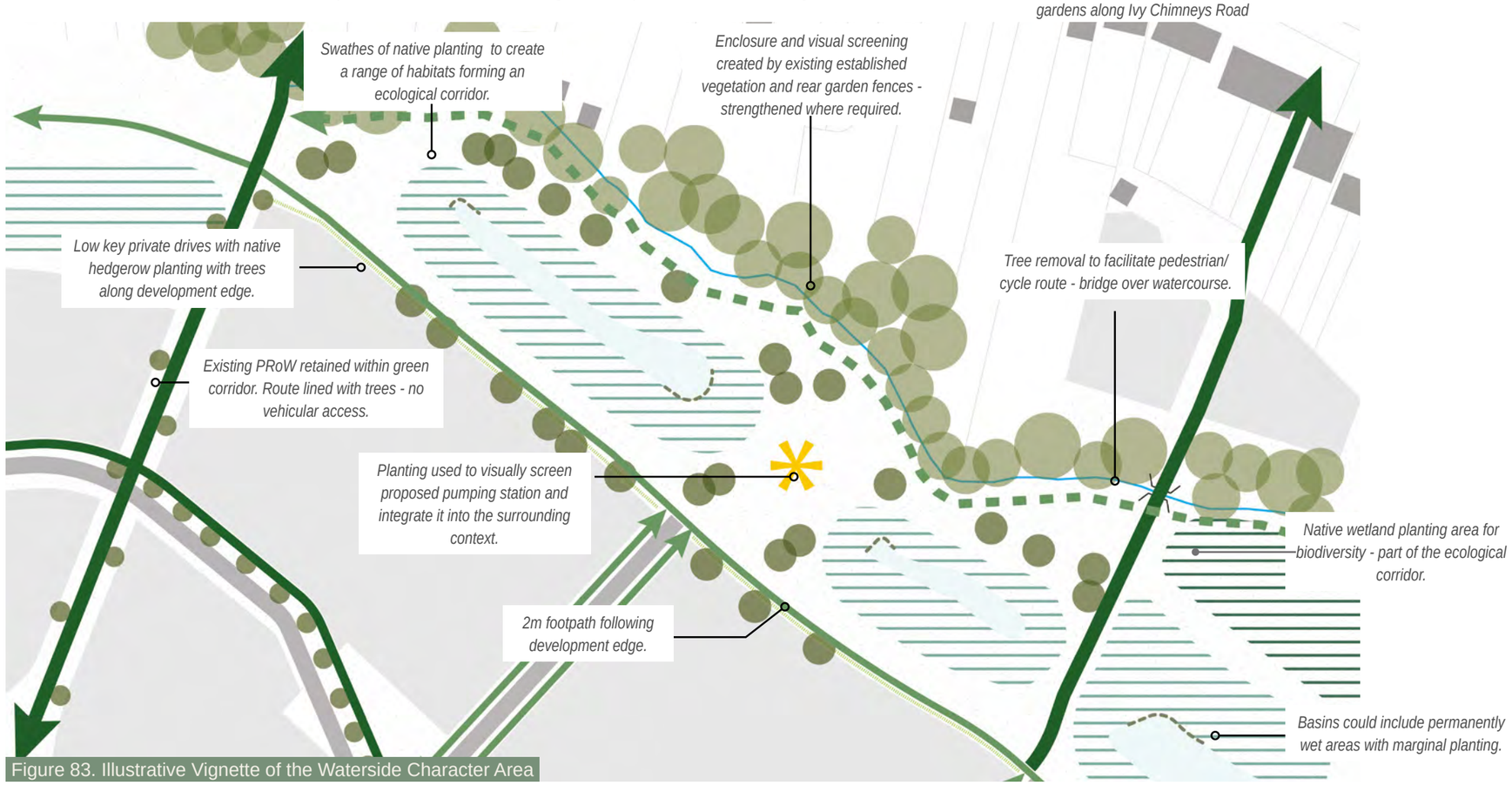


Figure 83. Illustrative Vignette of the Waterside Character Area

Urban Form Character Guidance

A north facing frontage on the lowest part of the site where the attenuation basins are located. This character frontage plays an important role facing towards Epping, existing Public Rights of Way and cycle route running through the open space.

Reference should be made to local character study area 2 - Residential Street and study area 3 - Green Edge.

Urban Form

- Dwellings along the development edge should utilise forwarding facing gables predominantly orientated perpendicular to the street, echoing roof form seen in the local area.
- A mix of semi-detached, terraced, and some apartments are possible, within the 40-50 dph density parameter.
- Potential for blocks to provide rear courtyard parking thus removing cars from alongside the open space.
- Maximum of three storeys.
- Formal build line that may be slightly staggering to add visual interest.

Architectural Character

- A contemporary architectural style.
- Potential for dwellings with a larger proportion of glazing due to the north facing aspect.
- Opportunity for townhouses and apartments with first or second floor balconies benefiting from views across the wide green corridor.
- Simply detailed window and door openings.

Streetscape

- This frontage is punctuated by the swale streets running north to south through the development.
- This frontage is served by tertiary edge lanes or a pedestrian route only.
- Low shrub planting to front garden or service strip if shared surface.
- Where parking is provided on plot within private driveways, garages should be set back from the building frontage.
- Informal (unstructured) play will be encouraged through the introduction of crawling tunnels, small stepping logs, and other naturalistic play features to allow children to tailor activities to their imaginary games. In addition, reinforcement and enhancement of the existing natural features, including the vegetation and landform, will add to children's excitement and imagination, particularly when butterflies (and other living creatures) interact with the space. These natural spaces will offer children the perfect opportunity to test out games they have played with their friends without confining them to specific play equipment.
- Comfortable seating will be provided to allow parents, carers, and other visitors to pause and rest when passing through these areas. This will encourage natural surveillance and human activation of these spaces, encouraging greater numbers of visitors to interact with nature and the outdoor world.

Precedent image of 2.5 storey dwellings with 3 storey corners

Precedent image of 2 storey dwellings coordinating with the development edge frontage

Precedent image of 3 storey dwellings with integral garages

8.4 Brook Valley Character Area

Landscape Character Guidance

Proposed Character

The Brook Valley Character Area is defined by the brook itself and the associated woodland belt vegetation, both of which form an important ecological corridor. The corridor is to be enhanced through habitat enrichment and utilisation as part of the water management system in order to maximise biodiversity.

Key Landscape Objectives

- The retention of the existing woodland belt, that follows the course of the brook valley diagonally through the eastern part of the site, to accommodate SuDs attenuation basins and other habitat enhancements to provide biodiversity improvements;
- The SuDs basins will include aquatic and marginal planting to ensure a naturalistic appearance;
- The basins will include platforms and dipping stations to allow residents to interact with the natural world;
- The main east-west spine road is directed to the south of the brook, crossing at points of low arboricultural importance, and passing through the development parcels to minimise vehicular movements within the brook valley;
- Fluxs Lane will extend southwards from the brook area, climbing gently towards the SANG with an open and tree-lined character;
- Tree removals will be kept to a minimum to preserve the existing character of the brook, and new tree planting will be introduced to reinforce the landscape structure; and
- The ‘Gateway’ to the main SANG area will be located to the north of the brook valley, with car parking facilities for visitors. The circular walk will start and finish at this point.

View along existing brook corridor

The existing treelined character of the brook

Proposed residential dwellings will overlook the brook and SuDs basins

Figure 84. Illustrative Vignette of the Brook Valley Character Area

Urban Form Character Guidance

Bordering the brook landscape corridor which incorporates the watercourse and associated tree belt, this character area provides a backdrop to the landscape while ensuring a high level of natural surveillance is achieved.

Reference should be made to local character study area 1 - Town Centre, area 2 - Residential Street and area 3 - Green Edge.

Built Character Guidance

Urban Form

- Opportunity for linked frontage dwelling types such as terraces optimising use of level ground following the contours either side of the brook landscape corridor.
- Potential for apartment blocks with rear courtyard parking to provide landmarks at key corners.These should be well integrated into the street scene.
- Potential for up to 3 storeys and 40-50dph within the block opposite the school due to its location on the lowest ground.

Architectural Character

- Terraces fronting the open space could use forward facing gables to accentuate corners.
- Dormer windows within the lower portion of the mid terrace roof.
- Varied pitched roof forms as seen in local character study area one, with potential for linked frontage within the higher density block.

Streetscape

- The streetscape will be strongly influenced by the proximity to the tree belt and the intervening attenuation basins. No walls or fences along the development edge.
- Opportunity for rear or side court parking to remove vehicles from sections of the brook landscape corridor frontage. Perpendicular parking should be limited and landscape screening / street tree planting used between blocks of six parking spaces.
- Informal (unstructured) play will be encouraged through the introduction of crawling tunnels, small stepping logs, and other naturalistic play features to allow children to tailor activities to their imaginary games. In addition, reinforcement and enhancement of the existing natural features, including the vegetation and

landform, will add to children's excitement and imagination, particularly when butterflies (and other living creatures) interact with the space. These natural spaces will offer children the perfect opportunity to test out games they have played with their friends without confining them to specific play equipment.

- Comfortable seating will be provided to allow parents, carers, and other visitors to pause and rest when passing through these areas. This will encourage natural surveillance and human activation of these spaces, encouraging greater numbers of visitors to interact with nature and the outdoor world.

Precedent image showing high level of continuity across the frontage

Precedent image of symmetrical arrangements of dwelling forms

Precedent image for apartment building overlooking open space with second floor recessed balconies

8.5 Hillside Edge Character Area

Landscape Character Guidance

Proposed Character

This character area provides the transition area from the residential development to the SANG provision within the southern part of the site. New buffer planting at the eastern boundary of the residential development will create a robust and durable Green Belt boundary.

The SANG will replicate the feeling of being in a natural landscape of similar character to the Epping Forest SAC. The intention is to provide the experience of being in a forest or natural landscape, with the circular walking route passing through woodland glades that will be created following the maturation of the proposed woodland planting

Key Landscape Objectives

The SANG will include a variety of habitat types but will predominantly seek to protect and enhance the wooded ridgeline character that is prevailing in the local area:

- The SANG will provide a variety of routes ranging in distance and interest, incorporating existing public footpaths;
- Legibility will be a key factor with wayfinding signage and information boards along the 2.3km circular walking route;
- Panoramic views will be available from the elevated south-eastern corner of the SANG, looking northwards towards the wooded ridgeline of Epping;
- The acoustic treatment will ensure that the SANG area delivers the required noise levels, and the peace and tranquillity to replicate the feeling of being in a natural landscape; and
- The detailed design will be informed by EFDC's adopted Green Infrastructure, NE GI strategy and ECC GI strategy Strategy and the ongoing consultation with Natural England.

New naturalistic landscape introduced through SANG provision

Circular walking routes to be provided within the SANG

Habitat / biodiversity enhancement along southern edge of the SANG

Figure 85. Hillside Edge Character Area

Urban Form Character Guidance

Located on the upper slopes causing the area to be visible in views from the southern neighbourhoods of Epping. To reduce the impact of development, this character area will be generally limited to two storeys and with a density which is likely to translate into detached and semi-detached housing typologies.

Reference should be made to local character study area 4 - Essex Rural Vernacular.

Built Character Guidance

Urban Form

- Frontage onto the SANG and green corridors will comprise a combination car free streets and shared private drives.
- Variable setbacks to achieve an organic grain to the development edge through the use of courtyard arrangements to break up the development edge.
- Mix of semi-detached and detached dwellings (potential for bungalows) consistent with the low density 30-35dph parameter.
- Two storey maximum.

Architectural Character

- A simplified interpretation of classic residential forms found within the Essex rural vernacular.
- Pitched roof forms, pitched dormer windows
- 1½ storey elements adjoining the main dwelling.

Streetscape

- Hedges & tree planting along the development edge and within front courtyards to help soften the appearance of the buildings.
- Parking is predominantly on driveways or within shared courtyards.
- Where used, private garages will be set behind the building line.
- Texture created through the use of block paving on the carriageway surface.
- Rural aesthetic created through materials.

- Informal (unstructured) play will be encouraged through the introduction of crawling tunnels, small stepping logs, and other naturalistic play features to allow children to tailor activities to their imaginary games.
- Comfortable seating will be provided to allow parents, carers, and other visitors to pause and rest when passing through these areas. This will encourage natural surveillance and human activation of these spaces, encouraging greater numbers of visitors to interact with nature and the outdoor world.

Precedent image demonstrating a contemporary interpretation of a farmstead

Precedent image demonstrating use of black weatherboarding the brick to lower storey on a contemporary dwelling

Precedent image demonstrating a courtyard arrangement

C. IMPLEMENTATION

9.1 Infrastructure, Phasing and Stewardship

Infrastructure

A serviced parcel of land for a 2FE primary school will be transferred to ECC at an appropriate agreed trigger point in the delivery of the SEMPA. ECC will assess the requirement for the school on an ongoing basis prior to indicating when construction will commence. EFDC will seek a Community Use Agreement in consultation with ECC, to ensure the facilities, such as the outdoor sports facilities and indoor hall, are available outside of school hours for wider community use.

The NHS Herts and West Essex Integrated Care Board (ICB) has confirmed that on-site health infrastructure is not required. Work to explore capital projects towards extending or relocating The Limes Medical Practice is ongoing by the ICB. Financial contributions towards off-site health infrastructure will be secured through the S106 Agreement for each planning application.

A flexible retail / café provision is proposed within EPP.R2 adjacent to the public-school square. Provision will be subject to a marketing period and can be designed to be flexible in order to convert to residential use if there is a lack of commercial interest for retail / café use.

The Council's Infrastructure Delivery Plan (IDP) that supported the Local Plan site allocation, provides a guide to the requirements for offsite infrastructure improvement along with what is set out in Policy P1 of the Local Plan. Transport Assessments and LTN 1/20 analysis will be required at planning application stage to inform offsite infrastructure requirements.

The planning applications for each site will include details of any off-site highway works (including improvements to walking and cycling routes) reasonably required to deliver the development. This exercise requires detailed feasibility assessment and is outside the scope of the SMF. Off-site highways works identified through this process will be costed and contributions will be made by each planning application, secured through the S106 Agreements.

Off-site highway improvements will be complemented by the on-site measures set out in the SMF, including high quality walking and cycling routes within the site and proposal for a primary school to enable trip internalisation.

A guidance table is included with this section detailing the infrastructure requirement, site apportionment and mechanism for securing each element of infrastructure. This table reflects the intention at masterplan stage, and it may be subject to change based on S106 agreements for each site at planning application stage.

Phasing

EPP.R1 and EPP.R2 are in multiple land ownerships and will therefore be delivered separately; however, given the relatively small scale of the development in strategic terms, it is envisaged that both sites, will be delivered concurrently.

Bellway is proposing to submit a detailed planning application on the land within allocation EPP.R2. Barwood Land will be pursuing an outline planning application on the land it controls within EPP.R1 (approximately 95% of the allocation EPP.R1). It is further expected that the two smaller sites within EPP.R1 controlled by Landvest (Greenacres) and Mount Street Developments will be subject to separate detailed planning applications.

Each developer / promoter will have different land and technical elements to resolve before starting on site, and each parcel will be setting a separate start on site date with similar build out rates per annum.

It is likely that Bellway (EPP.R2) will commence on site first (Phase 1) and the Barwood Land site will follow (Phase 2). The timings of the Landvest (Greenacres) and Mount Street Developments plots is currently unknown. The commencement of any individual plot will not restrict a subsequent phase from commencing prior to its completion.

The Phasing Plan includes a Phase 0 for Strategic Infrastructure and Earthworks including delivery of the acoustic bund, drainage infrastructure and SANG where required. This will be agreed as part of the planning application stage.

On site EPP.R2, a serviced parcel of land will be transferred to ECC at an appropriate agreed trigger point for the purposes of providing a new primary school. A new community space within the school building but with separate access will be sought by Epping Forest District Council in consultation with Essex County Council or alternatively an existing community facility will be identified for enhancement.

The Masterplan provides the opportunity to deliver a new or enhanced pedestrian and cycle bridge across the railway line. Discussion between TfL, ECC, EFDC and developers / promoters regarding delivery mechanisms and proposed ownership and maintenance of the bridge are on-going. Until a delivery mechanism strategy has been agreed between stakeholders, phasing for a new or enhanced bridge crossing is not yet known.

STEWARDSHIP

Roads

It is anticipated that the majority of roads and streets will be adopted by ECC, although it is noted that roads constructed adjacent to SuDS are not usually adopted by the local authority. The majority of primary and secondary roads will be designed to adoptable standards, as per the Essex Design Guide Street Types.

Public Open Space / SANG

A Management Company will be appointed by the developer of each parcel to manage the Public Open Space. This management company may be a single company to manage all public open space including SuDS and the SANG, by preparing and implementing appropriate long term Management Plans for the delivery of these specific areas. It is recognised that the SANG will have bespoke management requirements that are above the requirements of conventional public green space. Where possible and practical, the developers / promoters will seek to align appointments of the Management Companies across the SEMPA, or at least the standards of maintenance and frequency of management contained within the Management Plans.

BNG

A Management Company will be appointed by the developer of each parcel to manage the BNG land for a period of 30 years in accordance with the Environment Act 2021. This may be the same Management Company as appointed by the developers of each site to manage public open space, including SANG and SuDS.

Village Green

A new Village Green will be provided within parcel EPP.R1. It is envisaged to be managed as public open space by a Management Company (the same as the management company for the Public Open Space on the relevant parcel of land).

Construction

A Construction Management/Traffic Plan will be provided as part of the planning applications to explain how the construction traffic will access the site to ensure the existing highway network is not unduly impacted.

Figure 87. Phasing Strategy Plan

Infrastructure Schedule

Infrastructure Requirement	Site Apportionment	Mechanism for securing infrastructure	Responsibility for delivery
Affordable housing provision	Residential sites on a per development basis	S106 per residential site	Parcel developers and Registered Social Providers
Early years places	Provision for early years places to be made within school site on parcel EPP.R2. EPP.R1 to contribute to places on a per development basis	S106 to secure funding and option period on school site. Level of contribution to be derived from pupil yield of each development using ECC's standard formula for calculating cost per place created.	Essex County Council
Primary school places	Provision for primary school places to be made within primary school site (2.1ha) on parcel EPP.R2. EPP.R1 to contribute to places on a per development basis	S106 to secure funding and option period on school site. Level of contribution to be derived from pupil yield of each development using ECC's standard formula for calculating cost per place created.	Essex County Council
Secondary school places	EPP.R1 and EPP.R2 to contribute to pupil places on a per development basis	S106 to secure funding. Level of contribution to be derived from pupil yield of each development using ECC's standard formula for calculating cost per place created.	Essex County Council
Medical / GP provision	EPP.R1 and EPP.R2 to provide financial contribution towards extension or relocation of The Limes Medical Centre on a per development basis	S106 to secure funding. Level of contribution to be derived using HWE ICB forumla based on number and type of units proposed	Herts and West Essex ICB
Community facilities	Community Use Agreement will be sought to secure use of primary school on EPP.R2 outside of school hours. Ppotential for contributions towards existing community spaces to be agreed through future planning applications.	S106 will seek to secure Community Use Agreement with ECC.	EFDC / Essex County Council
Sustainable urban drainage systems	Sites EPP.R1 and EPP.R2 on a per development basis	Planning applications for each site to provide details of drainage strategy to restrict surface water run-off to a level no greater than its existing 1:1 greenfield runoff rate for all storm events up to and including the 1:100 year plus 40% allowance for climate change. Planning condition requiring details of detailed design and specification and implementation of drainage features	Parcel developers

Open space provision	Sites EPP.R1 and EPP.R2 on a per development basis	Planning applications for each site to provide details of open space provision relating to their development parcel in accordance with this SMF. Planning condition to require details of and / or implementation of landscape specification	Parcel developers
Suitable Alternative Natural Greenspace (SANG) and SANG extension	SANG to be provided on EPP.R2 and SANG Extension to provided on EPP.R1	Planning applications for each site to provide full details of the proposal. SANG on EPP.R2 to be provided prior to 1st occupation of development of EPP.R2.	Parcel developers
Offsite infrastructure improvements (Transport Assessment review)	Sites EPP.R1 and EPP.R2 on a per development basis	Planning applications for each development to be accompanied by Transport Assessment to identify potential contributions local transport infrastructure improvements. S106 to secure any potential contributions	Parcel developers
Opportunity to provide a new or enhanced cycle and footbridge over London Underground Line	Sites EPP.R1 and EPP.R2 on a per development basis	S106 to secure contributions and delivery mechanism.	Parcel developers / ECC
Estate Roads	Sites EPP.R1 and EPP.R2 on a per development basis	Planning applications for each development to provide details of estate roads. Site developer responsible for construction and future transfer for adoption or other long term maintenance arrangement	Parcel developers / ECC
Footpaths and cycle routes	Sites EPP.R1 and EPP.R2 on a per development basis	Planning application for each development to provide details of footpaths and cycle routes through their land. Site developer will be responsible for construction and transfer to ECC for adoption for other long term maintenance arrangement	Parcel developers / ECC
Public transport	Sites EPP.R1 and EPP.R2 on a per development basis	Potential requirement to contribute to existing bus services through S106 Agreement.	Bus service providers / ECC

The table above is provided as a guide to accompany the SMF, detailed infrastructure delivery to be determined for each site at planning application stage.

BROOK VALLEY

D. DESIGN CODE

10.1 Overview

This Design Code will provide a set of ‘high-level’ design instructions that will be used to guide the delivery of the site through outline and reserved matters planning applications. It will be used as a reference document by the Local Authority and individual developers and their design teams to help ensure the coordinated design and delivery of development across the South Epping Masterplan Area.

It will establish a common set of requirements that help promote high quality design without unnecessary prescription or requesting specific details for individual buildings.

The Code has been structured to broadly follow the themes identified in the National Model Design Code (NMDC). However these sections are modified to give emphasis to landscape and built character.

Nature

Expands proposals set in the SMF to provide further detailed instruction on green and blue infrastructure, drainage, ecology and the design of publicly accessible open spaces.

Movement

Expands proposals set in the SMF to provide further detailed instruction on the movement framework, street hierarchy, parking design and servicing.

Public Spaces & Legibility

Expands proposals set in the SMF to provide further detailed instruction on the hierarchy of public spaces multi-functional street design, the design of key junctions and key public realm spaces.

Character & Identity

Expands proposals set in the SMF to provide further detailed instruction on built form and building groupings to aid wayfinding, define community spaces and create a locally distinctive identity.

Mandatory and Non-mandatory Requirements

Each section of the code begins with key objectives to be achieved in future development, followed by more detailed strategies and requirements. This includes requirements for physical infrastructure and key considerations for future design, delivery and management stages.

Coding is stated as either mandatory requirements with the word ‘**must**’ or recommendations with the word ‘**should’**. Mandatory requirements must be complied with; for non-mandatory recommendations, any deviation needs to be justified. This could be due to technical reasons or by demonstrating that an alternative approach would more successfully achieve the design ambitions of the code.

A compliance tracker should be completed by the applicant at the earliest stages of pre-application and updated throughout the planning process.


GREEN CORRIDOR

Key strategies for an integral network of green routes and spaces

- **Nature conservation**: the Green Infrastructure Framework (the 'Framework') **must** protect and enhance existing landscape and ecological features throughout the masterplan area.
- **Site-wide greening**: the Framework **must** deliver a variety of high-quality open spaces, green corridors, and recreational opportunities across the masterplan area, that integrate seamlessly with the wooded ridgeline character of the surrounding context.
- **Sustainable drainage**: the Framework **must** ensure that SuDS features are designed to have a natural, organic form without appearing heavily engineered, whilst also positively contributing to wider green infrastructure provision.
- **Living landscapes**: the Framework **must** help deliver biodiversity and nature conservation supporting wildlife.
- **SANG**: the Framework **must** deliver a substantial area of Suitable Alternative Natural Greenspace (SANG) to prevent an increase in visitor pressure on the Epping Forest SAC.

Purpose of the Green Infrastructure Framework Plan

Nature **must** be incorporated into each aspect of the design, following the approach laid out in the Green Infrastructure Framework. This approach **must** create an integrated network of natural habitats, sustainable drainage, and usable open spaces. When completed, the masterplan **should** deliver an increased quality of life and an improved environment. On this basis, the masterplan proposals **must** be landscape-led. Key documents from Natural England should be used as references, including *Green Infrastructure Principles*, *Green Infrastructure Standards*, *Green Infrastructure Design Guide*, and *Green Infrastructure Process Journey for Developers and Design Teams*.

The Framework provides the key requirements to enable the site-wide masterplan to deliver the necessary variety of multi-functional spaces and green connections; it also identifies the approaches and opportunities that **should** be integrated into existing and proposed green infrastructure.

The masterplan design **must** be sympathetic to the surrounding built environment and its landscape setting. The Framework delivers a range of benefits for landscape, biodiversity, hydrology and drainage, sports and recreation, health and well-being, and climate change. The masterplan **must** preserve and enhance the existing range of natural features found within the Site, whilst also providing a mix of new formal and informal open spaces offering generous and usable green open space, ranging from gardens, green corridors, parkland, and new play areas.

The masterplan **must** be embedded within a network of multi-functional green open spaces that will serve all age groups of the existing and new communities. The existing footpaths within the site **must** be retained, and may be realigned, to form the structure for a network of green corridors that will provide multifunctional open spaces offering walking and cycling links to neighbouring communities. There is an aspiration for eastern and western parts of the masterplan area to be connected through improvements to the accessibility of the existing footbridge link over the Central Line. Play for all ages **must** be integrated within the proposed public open spaces, with clear walking and cycling routes to link surrounding communities with the masterplan area.

Given the topography of the masterplan area and the environmental imperative to manage water and mitigate flood risk in a sustainable way, there is an opportunity for SuDS to contribute to a high-quality, characterful and distinctive place. SuDS **must** alleviate flood risk and mitigate the impact of development, where 'Green Fingers' passing through the development parcels **should** provide an opportunity to create attractive landscapes that improve accessibility, drainage, and biodiversity.

A key component of the masterplan are the proposed SANG and SANG extension that **must** provide a minimum of 10ha of new Green Infrastructure to serve as a buffer between the proposed development and the M25 motorway.

The existing well-vegetated M25 corridor to the south of the SANG **must** be reinforced by an area dedicated to the provision of new habitats extending along the majority of the masterplan's southern boundary. This area **should** form part of the wider Green Infrastructure provision, deliver visual enhancements to the SANG, provide vital M25 noise mitigation measures, and introduce a robust and defensible new Green Belt boundary. This new area of habitat **must** be separated from the SANG via an acoustic bund and fencing.

Site-Wide Green Infrastructure Requirements

i. Green infrastructure proposals **must** be developed collaboratively by qualified landscape architects, ecologists, SuDS engineers, architects and other expertise that may be required. The proposals **must** be developed iteratively with EFDC and other stakeholders.

ii. The proposals **must** demonstrate how connections with neighbouring communities and wildlife will be considered and **should** include as well as mapping of the ecological network.

iii. The proposals **must** deliver a generous, multi-functional network of public spaces to maximise the green outlook for homes and **must** provide legible green routes with consideration of safety once trees and planting reach maturity. The proposed green connections **must** link with the existing PRoW network.

iv. The proposals **must** enhance placemaking and wayfinding by creating positive and distinctive landscape character that responds to existing site features.

v. To minimise and any harmful effects upon views towards the masterplan area, existing boundary vegetation **must** be reinforced with new planting. Street trees **must** be planted to break-up the perception of massing within the identified development parcels.

vi. The trees and other vegetation associated with the brook corridor **must** be retained, other than removals required to facilitate the two road crossings.

vii. The existing vegetation following the M25 corridor **must** be retained and a new area dedicated to habitat improvement **must** be created.

viii. The eastern boundary of the masterplan area **must** provide a robust and defensible new Green Belt boundary.

ix. Play provision for all ages **must** be integrated within the proposed public open spaces, and clear walking and cycling routes **must** be provided to access these play opportunities.

x. The SuDS Framework Plan **must** alleviate flood risk and mitigate the impact of development through nature-based solutions that **should** be incorporated creatively in a way that contributes positively to the quality and appearance of a street or other open space, and the surrounding chatacter area.

xi. Visitor car parking facilities **must** be provided for both the SANG and SANG Extension.

LEGEND

- *Retained tree belts along boundaries and watercourses*
- *Approximate location for children's play*
- *Approximate location for SuDS basins*
- *Suitable Alternative Natural Greenspace (SANG)*
- *Circular SANG walk inc.play on the way / incidental play*
- *Blocks of tree planting within the SANG*
- *Approximate location for SANG car park*
- *Formal amenity open space*
- *Village Green (Informal kickabout green space)*
- *Zone within acoustic mitigation area (no public access)*
- *Tree planting along southern and eastern boundaries to provide a robust and defensible Green Belt boundary*
- *Landscaped gateway area to incorporate planting and built gateway feature*
- *North-south green fingers through development incorporating planted swales and street trees*
- *Key views within the site and from access locations*
- *Additional planting to northern boundary creating a strong planted boundary between adjoining rear gardens*

KEY VIEWS FROM EXISTING SETTLEMENT INTO THE SITE

- A *Channelled view from Ivy Chimneys Road toward higher ground along*
- B *Channelled view along Bridge Hill toward higher ground*
- C *Channelled view along Bower Hill toward higher ground along*

Figure 88. Green Infrastructure Framework Plan

Key strategies for water management

- Implement a variety of Sustainable Drainage Systems (SuDS) to sustainably manage surface water runoff, by mimicking the natural drainage characteristics of the Site.
- To achieve a sustainable drainage solution that balances water quality, amenity, biodiversity and flood resilience.
- Remove the risk of surface water flooding throughout the new development catchments.

Purpose of the SuDS Framework Plan

The site-wide SuDS strategy shown opposite is designed to control the quantity and quality of surface water runoff. Well-designed SuDS provide opportunities for communities to enjoy the dynamic nature of the water environment and the different habitats that may be sustained by it.

The SuDS strategy must be coordinated with topography, ecology, landscape and placemaking and should be prepared with input from a multidisciplinary team of consultants including landscape architects, architects, drainage engineers and ecologists.

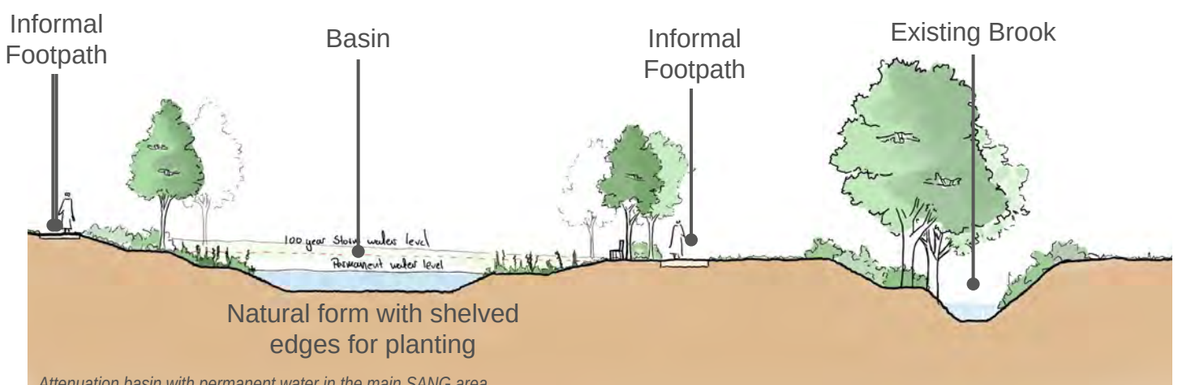
The SuDS strategy must be reviewed in detail as part of a Flood Risk Assessment and Drainage Strategy submitted in support of planning applications.

Key Features of the SuDS Framework Plan

The SuDS strategy comprises a combination of swales and detention basins in order to control surface water run-off into the existing watercourse.

The site currently does not have a system in place that improves the quality of surface water before discharging into the watercourse. The use of SuDS across the site will provide two stages of treatment to surface water before it is discharged into the local drainage network.

Surface water generated from the development footprint will be collected and conveyed via a surface water pipe network under the adopted roads and/or within roadside and conveyance swales.



Attenuation basin with permanent water in the main SANG area

SuDS Infrastructure Requirements

i. SuDS components **must** comprise those elements identified on the site-wide SuDS Framework Plan (opposite) and utilise street verges, green-blue corridors and wetlands.

ii. In accordance with ECC's 'SuDS Design Guide for Essex', the SuDS Manual C753 and national government guidance the SuDS across the site **must** be designed in order to store storm water for the 1 in 100 year + 40% climate change storm event.

iii. The basins **must** be located in the lowest lying areas of each catchment in order for surface water to drain naturally via gravity and into the existing features at the most convenient locations.

iv. SuDS features **should** be incorporated creatively in a way that contributes positively to the quality and appearance of a street or space and the character area it is located in.

v. SuDS features **should** be above ground where possible and visible in the public realm as naturalistic or interesting features to aid placemaking and character, and to raise awareness of the importance of water as a resource.

vi. SuDS features **should** be used on Secondary Streets as indicated on the SuDS plan to collect highways drainage and contribute to the overall attenuation. Opportunities for SuDS features or SuDS tree pits on other streets **should** be maximised.

vii. Permeable paved parking bays **should** be provided on each street to collect surface water and provide treatment.

viii. Swales **must** be designed to improve water quality run-off before it is discharged into the local drainage network and **must** be planted to maximise biodiversity and reduce maintenance requirements.

ix. SuDS basins and swales **must** be designed with shallow slopes no steeper than 1 in 3, and dense planting around the edges of permanent water. There is no intention to have railings around the basins and this **should** be avoided as much as possible as this will enhance multifunctional benefits as stated in the ECC SuDS design guide. Gradients and basin size **should** vary to suit the natural character.

x. On-plot SuDS **should** be provided to help manage individual building water runoff and add to the overall attenuation volume of the development.

xi. Surface water stored within basins **must** be designed to discharge at QBAR (in accordance with the SuDS Manual and national and local government guidance) into the existing drainage network that operates across the site.

xii. All opportunities for integrating SuDS with other activities such as play, recreation, biodiversity, education and improved outlook **should** be explored and incorporated where possible.

xiii. The SuDS strategy **must** include details on the management and maintenance requirements and the plan for adoption or long term stewardship of the various SuDS components.

xiv. A foul water drainage strategy **must** be developed to demonstrate how the foul water from the proposed development will be managed and connected to the existing Thames Water sewer network.

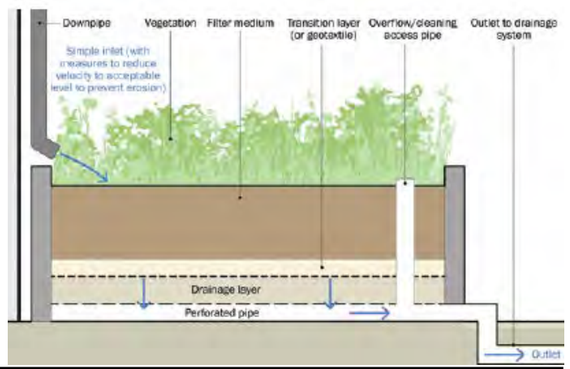


Figure 89. SuDS Framework Plan

Key strategies for ecology

- Enable the retention and enhancement of key ecological features.
- Maximise the gains to biodiversity, in line with local and national planning policy through the creation of new habitat areas and enhancement of existing areas.

Purpose of the Ecology Strategy Plan

The scheme will result in the provision of large new areas of natural green space, as well as enhancement of existing pockets of green space such as ponds, woodland and the existing brook. These measures will enhance the site's overall value for biodiversity.

The provision of this Suitable Alternative Natural Greenspace (SANG) will also help attract visitors away from the nearby international, national and local designated sites such as Epping Forest Special Area of Conservation (SAC) and Lee Valley Special Protection Area (SPA).

Biodiversity Net Gain (BNG)

The DEFRA BNG metric will be used to establish the BNG baseline units for the site, and to calculate the post-development units, recognising that the site will need to demonstrate delivery of a minimum 10% net gain in accordance with the Environment Act 2022 requirements.

Protected and Notable Habitats and Species

The site is dominated by arable land which is generally considered to be of low ecological value however other habitats (including woodland, hedgerows and ponds as well as a small stream) are of higher biodiversity value, qualifying as Habitats of Principal Importance (HoPI, or "priority habitats") under the NERC Act 2006, and have the potential to support several protected and notable species. A suite of ecological surveys have been undertaken commencing in 2021 and continuing to date. During these surveys, the following species have been recorded on or adjacent to the site:

- Badgers;
- Roosting, foraging and commuting bats;
- Notable species of bird, including skylark;
- Great crested newts;
- Relatively widespread reptile species (slow-worm);
- Important hedgerows.

The site also has potential to support hedgehog and brown hare.

Ecology Requirements

i. Proposals **must** demonstrate how they connect with the ecological network outside the site boundary.

ii. The development **must** demonstrate a 10% BNG.

iii. The northern site boundaries **should** be enhanced to provide biodiversity gain.

iv. The design and delivery of the SANG **must** take place in consultation with stakeholders such as Natural England and the Environment Agency.

v. Mitigation measures to protect species and habitats during construction and after completion of the development **must** be implemented to ensure existing site biodiversity is safeguarded.

vi. A 30 year management plan set out within a detailed Landscape and Ecology Management Plan **must** be provided for all BNG habitats areas.

vii. A legally binding agreement to secure the management of the SANG in perpetuity **must** be agreed.

viii. Higher value habitats such as woodland, mature trees, stream and hedgerows **must** be retained, protection and enhanced wherever possible to maintain foraging routes for wildlife.

ix. The development **must** make allowance for areas of semi-natural open space to provide habitats for bats, badgers, great crested newts and reptiles.

x. Tree planting along the southern and eastern boundaries **must** be undertaken.

xi. Areas within the acoustic buffer **should** be used to provide net gains for biodiversity.

xii. Streams and associated tree belt **should** be protected and enhanced.

xiii. Proposals **must** include wildlife friendly habitat creation around attenuation basins and habitat enhancement around existing ponds.

xiv. Development parcels **must** incorporate bat and bird boxes.

xv. Lighting around the perimeter of the development **must** be low level to avoid light nuisance within semi-natural habitat areas.

Figure 90. Indicative Ecology Strategy

SANG Area

The Consortium delivering the masterplan has benefited from the Discretionary Advice Service provided by Natural England (NE). Written advice was provided on 28th March 2024 to address potential adverse effects on the Epping Forest Special Area of Conservation (SAC).

The proposed SANG comprises a larger area to the east of the London Underground Central Line, which bisects the masterplan area. The SANG area **should** be compliant with Natural England's SANG Guidelines to adhered to the written advice provide by NE. The masterplan area **must** also provide a smaller, linear area to the west of the Central Line that would provide a SANG extension.

The two SANG areas **must** be located to the south of the masterplan area, between the proposed residential development and the M25 corridor.

As such, a noise attenuation bund and fence **should** be introduced to ensure that the noise levels within the SANG areas do not exceed NE's SANG Guidelines of 60dB.

To comply with NE's standard SANG provision rate of 8ha per 1000 new population, the proposed SANG and SANG extension **must** meet the requirement according to the number of dwellings, based upon an occupancy rate of 2.4 people per dwelling.

The SANG and SANG extension **should** be linked by the proposed active travel bridge over the Central Line.

The main SANG area **must** contain a circular walking route. The walking route **must** have a minimum separation of 20m with scrub/ tree planting between the paths for screening. Where no screening is provided, a minimum separation of 100m **must** be provided.

The circular path in the SANG and the main linear path in the SANG extension **must** be surfaced appropriately. Resin bound hoggin is the top specification that Natural England accepts for surfacing paths within SANG. Steps may be needed on steeper sections.

The two SANG areas **should** have a wooded character with the path passing through 'glades' of woodland to ensure that intervisibility between users of the footpath is minimised. This approach is considered appropriate given that ridgelines 'crowned' with woodland are prevalent in the local area.

Tree species selected **should** be representative of those found within the Epping Forest SAC, including Oak, Hornbeam, Beech, Silver Birch, Holly and Crab Apple.

Additional fruiting species **should** also be interspersed along the walking route with appropriate interpretation boards. Locally sourced native species **should** be used within the planting scheme.

The higher ground to the south-east of the eastern parcel **must** be designed to provide views looking north towards the Epping ridgeline and the prominent spire of St. John's Church.

The two SANG areas **should** include the provision of benches and picnic areas. The benches **should** be located along the circular path in the main SANG to provide resting points and along the main path in the SANG extension.

Picnic benches **should** be provided near the car parks and at viewing points to invite visitors to increase their dwell time in the SANG.

Litter bins **must** be provided at both car parks and other appropriate locations, (e.g. by picnic benches (see below) and at pedestrian entrances to the SANG from the new housing).

Attractively designed leaflets advertising the SANG **should** be provided to all new residents.

SANG Requirements

i. The size of the proposed SANG **must** meet the required NE standard for the number of dwellings delivered.

ii. The main SANG area **must** contain a circular walking route, and the path together with the main linear path in the SANG extension **must** be surfaced appropriately (e.g. self-binding gravel).

iii. The circular walk within the main SANG area **must** start and finish at the car park within the eastern parcel and the additional walking within the western parcel **must** start at the car park within the western parcel.

iv. Information boards and/or signage at access points **must** be provided to illustrate the layout of the two SANG areas and routes available to visitors.

v. Appropriate parking facilities **must** be located at the vehicular access to both SANG areas at a minimum of 1 space per hectare of SANG. The parking areas **must** be easily and safely accessible by car and clearly sign posted.

vi. Cycle parking **must** be delivered at key access points to the SANG at a minimum of 1 Sheffield hoop per hectare of SANG.

vii. The two SANG areas **must** be dog friendly and fenced to allow owners to take their dogs from the car park to the SANG or SANG extension safely off the lead.

viii. Access points **should** be provided based on the intended visitors of the SANG, with safe access routes on foot from the nearest car park and/or footpath.

ix. The SANG **must** be semi-natural in character or perceived as such where close to existing development and **should** include naturalistic space with areas of scattered/ dense tree and shrub planting.

x. The proposed acoustic mitigation **must** ensure that noise levels within both SANG areas will not exceed 60dB.


SANG

Overview

The site will be developed to achieve appropriate external sound levels within areas designated as SANG, and within private internal and external amenity spaces within the residential parts of the development.

Guidance on suitable external sound levels will be taken from NE's SANG guidance, with additional reference to British Standard 8233 for the residential spaces. This will be achieved through the introduction of an acoustic barrier between the southern boundary of both development parcels and the M25.

These internal sound levels will be achieved through appropriate acoustic specification of the building envelopes, including the external wall, glazing, and any ventilation systems.

SANG Noise Attenuation Bund Requirements

i. The bund will be designed so that the southern side slope on the motorway side of the bund **should** be as steep as possible.

ii. The northern slope facing towards the proposed development **should** have a much shallower gradient to ensure that the walking route within the SANG area is comfortable and accessible for visitors (as illustrated on the opposite page).

iii. The slopes **should** be graded out and tied into the local landform and trapezoidal shapes **must** be avoided.

iv. The bunds **must** be subject to a detailed planting strategy to minimise the impact of the embankments and ensure that the SANG area vegetation establishes quickly to provide the required naturalistic space with areas of scattered/dense tree and shrub planting.

v. Care **must** be taken during the construction of the acoustic bund to ensure that all available top soil within the masterplan area is stripped and stored in an appropriate manner. Soil scientists **should** provide technical guidance on the stripping and storage of topsoil.

vi. The bund **must** be constructed with appropriate depths of topsoil and subsoil. Topsoil and subsoil **should** vary in depth depending upon the type of planting proposed, with deeper planting areas required for trees and shrubs.

vii. The planting areas **should** be free draining to avoid water-logging.

Ground Level & Noise Mitigation Requirements

i. Proposals **must** provide noise levels within internal and external residential environments in compliance with British Standard 8233 for the residential spaces British Standard 8233 for the residential spaces.

ii. Proposals **must** achieve appropriate external sound levels within areas designated as SANG as set out by NE's SANG guidance.

iii. must provide required noise levels for education uses.

iv. Internal sound levels within new residential dwellings **must** be achieved using appropriate acoustic specification of the building envelopes, including the external wall, glazing, and any ventilation systems. The specification of these systems will be subject to further detailed design post planning.

v. Proposals **must** not adversely affect existing noise sensitive receptors in the vicinity of the site.

vi. Noise assessments **must** demonstrate that noise from new sources introduced as part of the masterplan can be controlled to suitable limiting levels, which will be derived relative to the background sound levels measured prior to development.

vii. Areas between the acoustic fencing (or similar) and the M25 **must** be secured from public access.

viii. The acoustic bunds **must** be subject to a detailed planting strategy.

Precedent of engineered noise mitigation bund with planting

Precedent of noise mitigation bund along the edge of a residential development

Precedent of a planted noise mitigation bund

Precedent of a planted noise mitigation bund

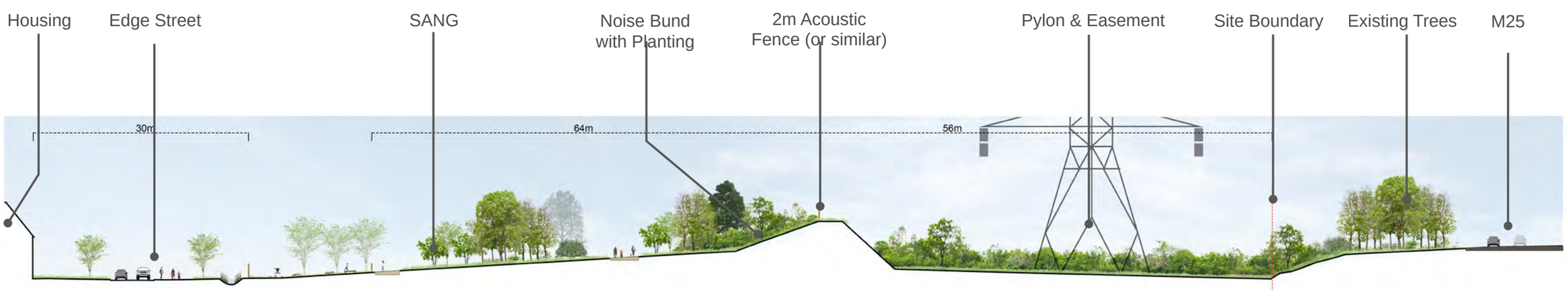


Figure 92. Illustrative Detailed Section Through Noise Bund

Landscape Character Areas

The wider landscape strategy for the Site takes into account the local context and existing landscape features to create three distinct landscape character areas:

- Waterside Landscape Area
- Brook Valley Landscape Area
- Hillside Edge Landscape Area

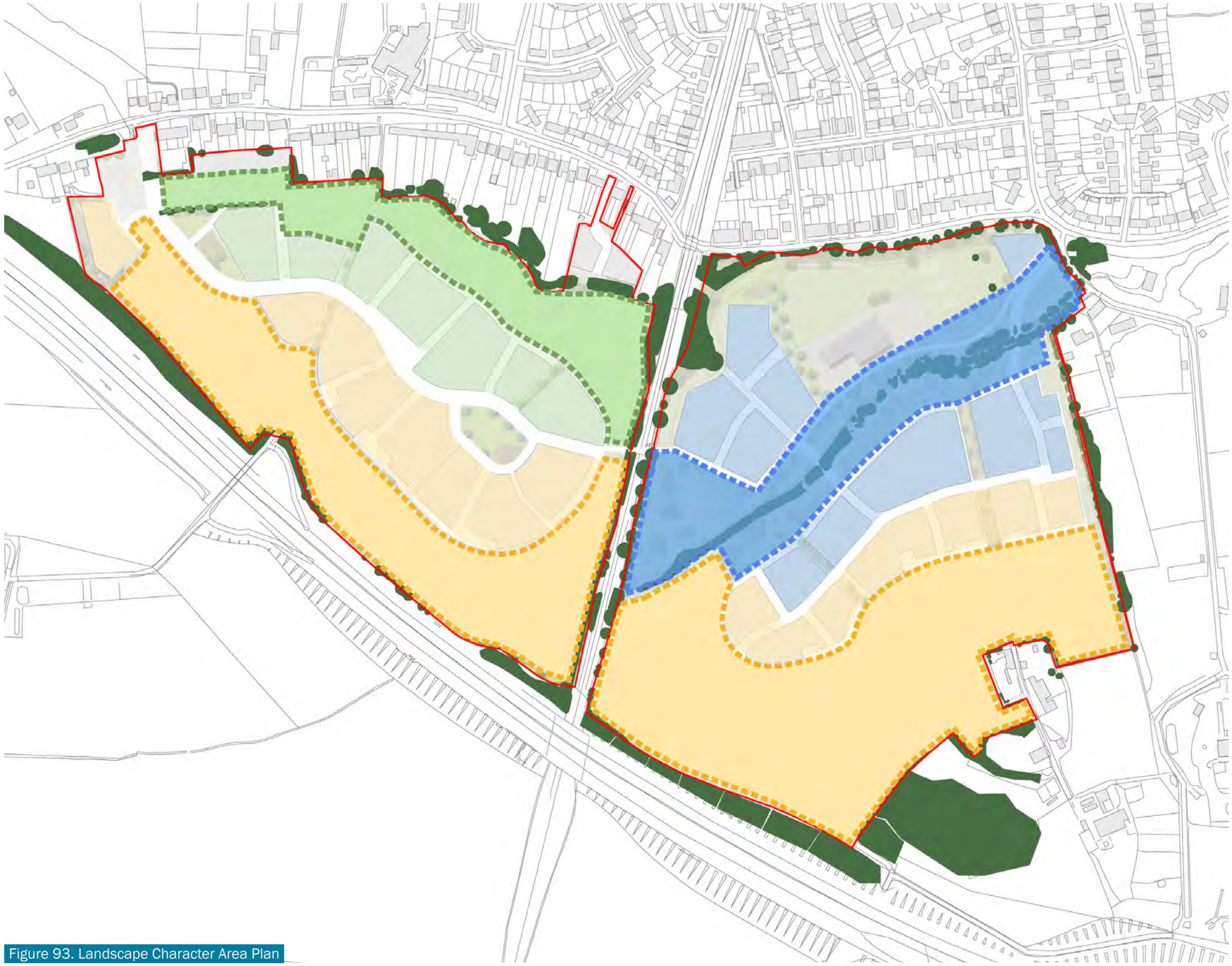


Figure 93. Landscape Character Area Plan

Waterside Landscape Area

The Waterside Landscape Area will be an ecological and water management corridor, building upon the existing watercourse and ecological offerings and **must** act as a landscape and visual buffer between the proposal and existing properties along Ivy Chimneys.

The Waterside Landscape Area **should** provide a network of hierarchical routes for both pedestrians and cyclists and **must** incorporate existing PRoW routes.

Vegetation and planting around attenuation basin (Barton Park, Oxford)

Waterside Requirements

i. The existing vegetation along the northern boundary **must** be retained and strengthened.

ii. A landscape and visual buffer **must** be maintained between properties along Ivy Chimneys and the proposal.

iii. The proposed dwellings **must** be orientated to overlook the Waterside Landscape Area to offer passive surveillance to the space.

iv. The new settlement edge **must** respond appropriately and sensitively to the Waterside Landscape Area.

v. The identified 'Green Corridors' **should** extend into the Waterside Landscape Area allowing surface water runoff to flow into the attenuation basins and increase permeability.

vi. The attenuation basin **must** be of appropriate proportions to allow the space to be used for both water management and amenity value.

vii. The attenuation basins **must** be designed to have an organic form, reflective of their location with aquatic, marginal and water tolerant planting to integrate them.

viii. Attenuation basins **should** be designed to provide permanently wet areas for biodiversity and amenity benefit.

ix. The Waterside Landscape Area **should** include a range of native planting throughout to encourage a range of habitats and associated flora and fauna.

x. The 'Ivy Chimneys Gateway' and 'Gateway' to the SANG extension **should** be located to the north west of the Waterside Landscape Area.

xi. Natural informal (unstructured) play **must** be encouraged to allow children to tailor activities to their imaginary games.

xii. Comfortable seating **must** be provided to allow parents, carers and other visitors to pause and rest when passing through these areas.

xiii. Slopes should be designed to avoid the requirement for fencing to attenuation basins.

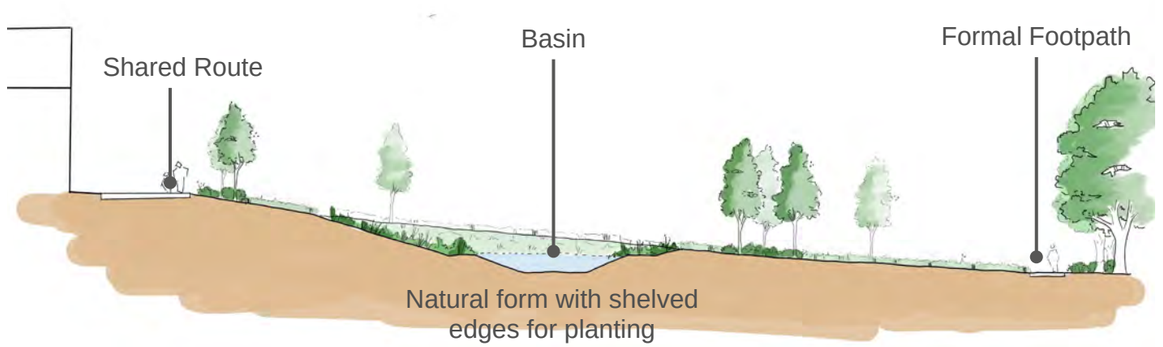


Figure 94. Illustrative Section of the Waterside Landscape Area

Brook Valley Landscape Area

The Brook Valley Landscape Area **must** be defined by the brook itself and the associated woodland belt vegetation, both of which form an important ecological corridor. The corridor **must** be enhanced through habitat enrichment and utilisation as part of the water management system to create interest and maximise biodiversity. The attenuation basins **must** be designed to have a natural, organic form and positively contribute to green infrastructure without appearing heavily engineered. The proposals **must** provide amenity and benefit to all, delivering a variety of high quality spaces for enjoyment of nature.

Native planting along watercourse supports biodiversity

Brook Valley Requirements

i. The existing woodland belt that follows the course of the Brook Valley diagonally through the eastern part of the site **must** be retained to accommodate SuDS attenuation basins and other habitat enhancements to provide biodiversity improvements.

ii. Tree removals **must** be kept to a minimum to preserve the existing character of the brook, and new tree planting will be introduced to reinforce the landscape structure.

iii. The main east-west spine road **must** be directed to the south of the brook, and **must** cross the brook at points of low arboricultural importance, and **should** pass through the interior of development parcels to minimise vehicular movements within the Brook Valley.

iv. The proposed dwellings **must** be oriented to overlook the brook corridor to provide natural surveillance and to help activate the space, and the new settlement edge **must** be sensitively articulated to create interest and variety.

v. The identified ‘Green Corridors’, including Fluxs Lane, **should** extend towards and into the brook corridor allowing surface water runoff to flow into the attenuation basins.

vi. The attenuation basins **must** be appropriately planted with aquatic, marginal, or other water tolerant planting to ensure a naturalistic appearance.

vii. The basins containing permanent water **should** include platforms and dipping stations to allow residents to interact with the natural world.

viii. The ‘gateway’ to the main SANG area **should** be located to the north of the Brook Valley, with car parking facilities for visitors. The circular walk will start and finish at this point.

ix. Natural informal (unstructured) play **must** be encouraged to allow children to tailor activities to their imaginary games.

x. Comfortable seating **must** be provided to allow parents, carers and other visitors to pause and rest when passing through these areas.

xi. Slopes should be designed to avoid the requirement for fencing to attenuation basins.

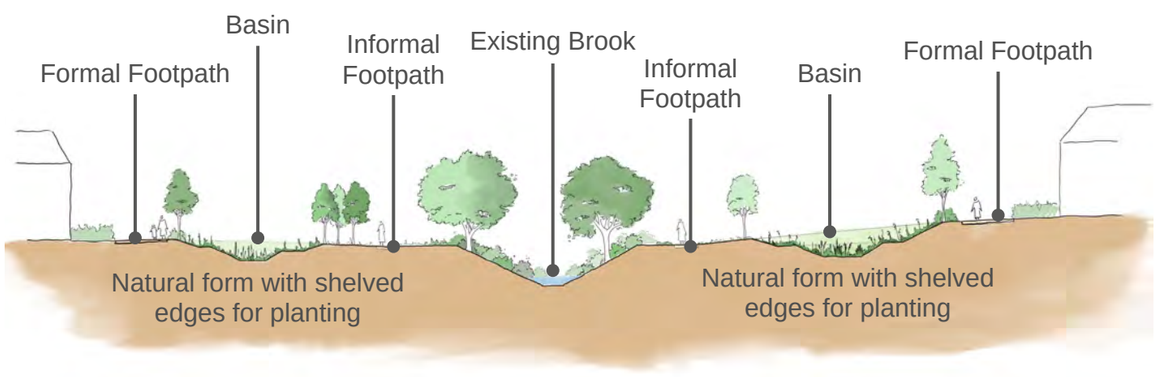


Figure 95. Illustrative Section of the Brook Valley Landscape Area

Hillside Edge Landscape Area

The Hillside Edge Landscape Area **must** provide the transition area from the proposed residential development to the main SANG and SANG Extension within the southern part of the masterplan area. New tree and shrub planting **must** be introduced to soften the new settlement edge and to provide physical and visual separation from the SANG. The SANG areas **should** replicate the feeling of being in a natural landscape of similar character to the Epping Forest SAC. The SANG areas **should** offer the experience of being in a forest or natural landscape, with a 2.3km circular walking route passing through woodland glades that will be created following the maturation of the proposed woodland planting. Additional buffer planting **must** be introduced along the eastern boundary of the masterplan area to create a robust and durable new Green Belt boundary.

Planting softens the appearance of built form and supports biodiversity (Brooklands, Milton Keynes)

Hillside Edge Requirements

i. The new settlement edge, including parking courtyards, **must** include tree, hedgerow, and shrub planting to soften and articulate the appearance of the new built form.

ii. The SANG areas **must** include a variety of habitat types but will predominantly seek to protect and enhance the wooded ridgeline character that is prevailing in the local area.

iii. The SANG areas **must** provide a variety of routes ranging in distance and interest, incorporating existing public footpaths.

iv. To enhance legibility, new wayfinding signage and information boards **must** be provided along the 2.3km circular walking route and other appropriate location.

v. Opportunities for panoramic views **should** be identified and promoted with the SANG areas, looking views looking northwards towards the wooded ridgeline of Epping.

vi. Appropriate acoustic mitigation **must** be introduced to ensure that the SANG areas can be delivered with the required noise levels, providing the peace and tranquillity to create the feeling of being in a natural landscape.

vii. The detailed design of the character area **must** be informed by EFDC's adopted Green Infrastructure Strategy and Natural England's Green Infrastructure Design Guide and **should** be guided by written advice received from Natural England.

viii. Natural informal (unstructured) play **must** be encouraged to allow children to tailor activities to their imaginary games.

ix. Comfortable seating **must** be provided to allow parents, carers and other visitors to pause and rest when passing through these areas.

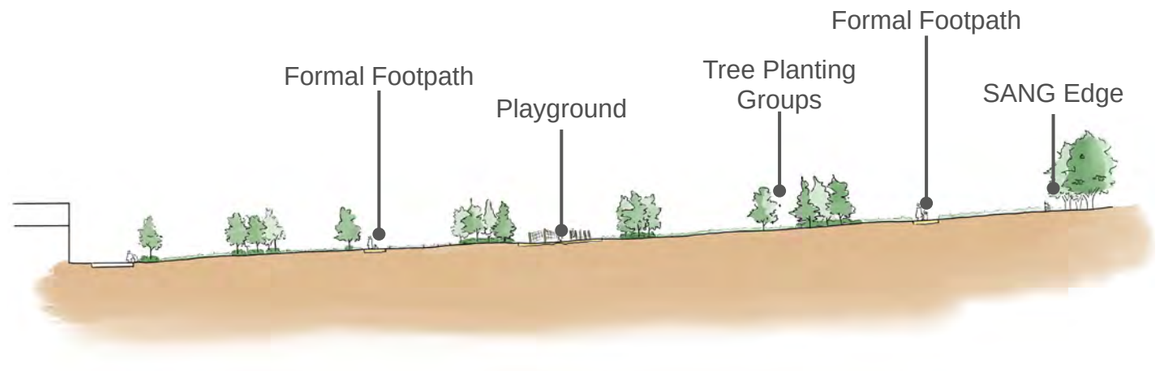


Figure 96. Illustrative Section of Hillside Edge Landscape Area

Key strategies for trees & planting

- Tree planting **must** be based upon a palette of robust species, including native trees that are present locally and within Epping Forest, and non-native trees selected for their ability to adapt to climate change.
- The planting character should be more formal and ornamental within the residential cores, becoming more informal and native towards the residential edges.

Trees & Planting

- Planting **should** be used to differentiate the character of the various character areas, neighbourhoods and streets within the proposed development, and to assist with wayfinding
- Planting **should** be designed for biodiversity and wildlife value and deliver visual and seasonal interest. This should include a consideration of flowering times, scent, autumn colour, winter bark, fruit and berries as well as wildflower habitat and food sources.
- In paved areas or in areas where the rooting zone is restricted, trees **must** be planted using rootcell systems and linear trenches to ensure sufficient long-term rooting volumes and healthy trees which will achieve their optimum height and spread.
- Where on-street parking proposed, street tree species **should** be selected that do not attract aphids or drop fruit.
- All street tree, shrub and herbaceous planting **should** be tolerant of urban conditions - to allow for a variety of species to be used.
- Other small-scale biodiversity interventions **should** be incorporated in residential areas, such as green roofs and walls, window boxes and planters and climbing plants.
- Living roofs (green or brown) **should** be planted/ seeded with drought tolerant wild flowers.
- Street trees **should** be selected and set-out in proportion to the street widths and building heights.
- Trees and shrubs **should** be planted at a spacing and density that allows them to take on their natural form without requiring regular pruning, and taking account of visibility splays, external lighting and signage.
- To mitigate against the effects of possible future pathogens, a range of trees **must** be used rather than relying on one species of street or parkland tree.

Street Tree Planting

- Entrance streets **should** be planted with large trees (20m + height) of the same species per character area, this is to maintain the three distinctive character areas, regularly spaced in a staggered ‘avenue’ at approximately 5 - 20m centres. At junctions different ornamental tree species shall be planted to limit potential impact from disease to single species.
- Secondary streets **should** be planted with medium to large trees (15-20m height) of the same species per street to maintain a unified character, regularly spaced in single rows or staggered pairs. As with Entrance Streets, different tree species shall be planted at junctions to limit the potential impacts from disease to single species.
- Tertiary shared surface streets **should** be informally planted with small ornamental tree species (5-15m height).

Street Tree Requirements

i. As per NPPF guidance, streets **should** be tree lined to positively contribute to character, place-making, green infrastructure and biodiversity.

ii. The tree planting design **should** serve to break-up the massing of built form visible in views towards the development from the surrounding area, such that overtime the appearance will that of partial ridgelines amongst verdant tree canopies.

iii. The selection and placement of street trees **should** soften the visual characteristics of the streetscape and define the hierarchy of roads through tree size, form and species.

iv. Street tree planting **should** be used to define and frame views and vistas throughout the development.

v. Consideration **must** be given to rooting volume and relevant planting guidance such as NHBC to ensure tree-lined streets are achievable. A range of systems are available to allow hard landscaping to be implemented whilst still providing adequate rooting volume for trees. Where hard surfaces are within 2m of any canopy edge at full maturity, a root barrier **should** be installed.

vi. Fruit bearing tree species **should** be avoided within the streetscape to reduce maintenance and potential hazards.

vii. Consideration **must** be given to tree species selection to increase biosecurity, biodiversity, wayfinding and seasonal interest.

viii. The external lighting design **must** be designed to ensure street tree planting can be implemented.

ix. Tree selection **should** be in general accordance with the Illustrative Tree Strategy.

Planting within a service strip on a shared surface street

Street trees and planting within verges

Low level planting between parking

Hedge planting alongside rear garden boundary fronting the public realm

Illustrative Street Tree Palette

Entrance Street trees:
- *Platanus x acerifolia*
- *Tilia platyphyllos 'Rubra'*
- *Tilia tormentosa*

Secondary Street trees:
- *Carpinus betulus*
- *Corylus colurna*
- *Fagus sylvatica 'Dawyck'*
- *Parrotia persica 'Vanessa'*
- *Sorbus aria*

Junction street trees:
- *Acer campestre 'Queen Elizabeth'*
- *Carpinus japonica*
- *Ostraya carpinufolia*
- *Sorbus torminalis*

Green Corridor trees:
- *Acer platanoides*
- *Alnus glutinosa*
- *Betula pendula*
- *Betula nigra*
- *Euonymus europaeus*
- *Fagus sylvatica*
- *Ilex aquifolium*
- *Malus sylvestris*
- *Salix cinerea subsp. oleifolia*
- *Sorbus torminalis*

Shared Surface trees:
- *Acer campestre*
- *Ginkgo biloba 'Mayfield'*
- *Ligustrum lucidum 'Variegata'*
- *Prunus maackii 'Amber Beauty'*
- *Pyrus calleryana 'Chanticleer'*
- *Sorbus asplenifolia*

Courtyard trees:
- *Acer davidii 'George Forrest'*
- *Betula nigra (multistem)*
- *Betula utilis jacquemontii*
- *Prunus 'Amanogawa'*
- *Sorbus aucuparia 'Cardinal Royal'*

Open space trees:
- *Acer platanoides*
- *Alnus glutinosa*
- *Betula pendula*
- *Betula nigra*
- *Euonymus europaeus*
- *Fagus sylvatica*
- *Ilex aquifolium*
- *Malus sylvestris*
- *Salix cinerea subsp. oleifolia*
- *Sorbus torminalis*

SANG trees:
- *Acer campestre*
- *Acer rubrum*
- *Alnus glutinosa*
- *Alnus incana 'Laciniata'*
- *Betula pendula*
- *Betula pubescens*
- *Castanea sativa*
- *Carpinus betulus*
- *Fagus sylvatica*
- *Ilex aquifolium*
- *Malus sylvestris*
- *Prunus avium*
- *Quercus robur*
- *Sorbus aria*
- *Sorbus torminalis*

Native scrub whip planting:
- *Acer campestre*
- *Cornus sanguinea*
- *Corylus avellana*
- *Crataegus monogyna*
- *Ilex aquifolium*
- *Lonicera periclymenum*
- *Malus sylvestris*
- *Prunus spinosa*
- *Rosa canina*
- *Salix caprea*
- *Sambucus nigra*
- *Viburnum opulus*

Figure 97. Illustrative Tree Planting Strategy

Key strategies for play and recreation

- Designated and informal play spaces **must** be created in accordance with the EFDC Open Spaces Strategy and other local authority standards.
- The play areas **must** be integrated into the design of the open spaces, within a safe walking distance of all homes and must include LEAPs and LAPs and and other informal recreational spaces such as LLAPs or SIPs should be considered.
- The design of the designated play areas **should** follow specifications provided by the Fields In Trust (FIT) - 'Creating Great Spaces for All' and other FIT guidance that remains relevant and useful.
- The existing Brook Road Recreation Ground **must** be partially re-provided in the masterplan area to the west of the Central Line, in the form of a Village Green.
- Informal and incidental play **should** be provided throughout the masterplan area, and within the SANG and SANG extension areas.
- The number and locations of all LAPs, LEAPs and other informal recreational spaces such as LLAPs or SIPs and play on the way **must** be agreed with EFDC as part of subsequent planning applications.

Play & Recreation Principles

- Each play space **should** be designed specifically for its location, to suit different ages and abilities and encourage social interaction.
- Sites for imaginative play **should** include natural landscape features (e.g. boulders, landform and logs) as well as integrated play features (e.g. ditches and tunnels) alongside more conventional play equipment, in order to encourage imaginative play.
- Play potential **should** be considered in all elements of the landscape design as children will often find play opportunities in unexpected places.
- 'Green gyms' **should** be provided to inspire people of all ages to engage in activity.
- The siting of designated play areas **should** preclude opportunities for the overlooking of nearby gardens or dwellings, and potential loss of privacy and creation of nuisance.
- Perimeter fences are generally considered inappropriate although some fencing **should** be considered if the site adjoins one or more road.

Local Area of Play (LAP) Requirements

i. LAPs **must** be located within a 100m walking distance of all dwellings and are best positioned beside a pedestrian route that is well used.

ii. LAPs **should** occupy a well-drained and reasonably flat site surfaced with grass or a hard surface.

iii. The recommended minimum activity zone **should** be 100m^2 and a buffer zone of 5m minimum depth **must** separate the activity zone and the forward-most part of the nearest dwelling that faces the LAP.

iv. Gable end or other exposed walls **should** be protected from use for ball games by, for example, providing a dense strip of planting of 1 metre minimum depth. The buffer zone includes varied planting to provide a mix of scent, colour and texture.

v. LAPs **should** contain demonstrative features that allow young children to identify and claim the space as theirs.

vi. LAPs **should** have a 600mm guard rail, low fence or planting to indicate the perimeter. Similarly, depending on location, there may need to be a barrier limiting the speed of a child entering or leaving the LAP.

vii. There **should** be a sign indicating that the area is for children's play and that dogs are not welcome.

Local Equipped Area of Play (LEAP) Requirements

i. LEAPs **must** be located within 5 minutes walking time of the child's home and are best positioned beside a pedestrian route that is well used.

ii. LEAPs **should** occupy a well-drained, reasonably flat site surfaced with grass or a hard surface, together with impact absorbing surfaces beneath and around play equipment or structures as appropriate.

iii. The recommended minimum activity zone **should** be 400m2 and a buffer zone of 10m minimum depth **must** separate the activity zone and the boundary of the nearest property containing a dwelling. A minimum of 20m buffer zone **must** be provided between the activity zone and the habitable room facade of the nearest dwelling.

iv. Where these minimum distances apply, careful consideration **should** be given to the design of any means of enclosure, planting scheme and/or other physical features on the boundary of the residential property.

v. The LEAP **should** be designed to provide a stimulating and challenging play experience that should include equipment providing opportunities for balancing, rocking, climbing, overhead activity, sliding, swinging, jumping, crawling, rotating, imaginative play, social play, and play with natural materials such as sand and water, or other activities.

vi. The number and nature of equipment and structures **should** be a matter for local consultation and decision although a minimum provision of six play experiences is recommended.

Sport Provision Requirement

i. The re-provided Recreation Ground (Village Green) **must** provide a kick around area.

If LLAPs or SIPs are to be considered the following consideration apply:

Local Landscaped Areas for Play (LLAP) Requirements

ii. LLAPs **must** be located within 5 minutes walking time of the child's home and are best positioned beside a pedestrian route that is well used.

iii. LLAPs **should** occupy a well-drained, imaginatively landscaped site suitable and used for play.

iv. LLAPs **should** have little or no equipment but is imaginatively designed and contoured, using as far as is possible natural materials such as logs or boulders which create an attractive setting for play. Planting should be varied to provide a mix of scent, colour and texture.

v. The recommended minimum activity zone **should** be 900m2.

vi. It **must** be designed to provide a suitable mix of areas for physical activity and areas for relatively calm relaxation and social interaction.

vii. Enclosure **should** be considered by the manager but the boundaries **should** be recognisable by landscaping. Perimeter fences are generally considered inappropriate - though some fencing may be necessary if the site adjoins one or more roads. Depending on location, there may need to be a barrier limiting the speed of a child entering or leaving the site.

viii. Seating **should** be provided.

ix. The area **should** be recognisably available for use by children, the open space is to be shared use and enjoyment by all sections of the community.

LEGEND

LAP (Local Area of Play)
100m Radius

LEAP (Local Equipment Area for Play)
400m Radius

LLAP (Local Landscaped Area for Play) or SIP (Space for Imaginative Play) 400m Radius

Play on the Way

Figure 98. Play & Recreation Plan

Key strategies for ecological features

- Bat and bird rooting features **must** be included within the proposals and **should** be integrated within the building fabric where possible.
- Reptile and amphibian habitat and hibernacula **must** be provided within the masterplan area.
- Garden fencing **must** allow access for hedgehogs.

Ecological Feature Requirements

i. Bat roosting features **should** be provided on buildings located close to areas of green space and those buildings within the control of the Affordable Homes Management Company. They **should** comprise "bat tubes" or an equivalent bat roosting feature, incorporated into the external wall of buildings.

ii. The positioning of bat roosting features **must** consider external lighting – to ensure that light spillage onto roosting features and habitat links is minimised; and landscape planting or retained vegetation - to ensure that suitable foraging habitat and habitat links are located near to new roosts.

iii. Bird nesting features **should** be distributed throughout the development site. Features **should** be predominantly provided on buildings close to areas of green space. They **should** comprise integrated nest sites, designed specifically for house sparrows (also suitable for use by other similar sized hole-nesting species) and be constructed from high quality materials.

iv. The noise attenuation bunds along the M25 corridor **must** be designed to provide suitable habitats for reptiles, with a wildflower meadow that is infrequently mown and new hibernation site.

v. Rear garden boundaries of properties and fencing around the open spaces **must** allow for access by hedgehogs.

Feature	Installation height on building	Aspect	Grouping	Other comments
Bat tube or roosting feature	>2.5m above ground level	South-facing (or south-east or south-west)	Desirable to group up to 3 tubes together	Avoid locating close to windows
House sparrow 'terrace' (2 nest chambers in one box)	>2.5m above ground level	North-, east-, or west-facing	Desirable to group terraces	Avoid locating above windows or doors

Bat tube integrated within building fabric (ref: Schwegler Natur)

Bat tubes (3no.) integrated within a rendered finish (ref: Schwegler Natur)

Bat tube for slated & tiled pitched roofs (ref: Just Lead)

Sparrow terrace integrated within brick / concrete walls (ref: Schwegler Natur)

Sparrow terrace in insulating concrete block & brick (ref: Wienerberger)

Reptile / amphibian hibernacula (ref: Preston Montford Field Centre)

Key strategies for external lighting

- The external lighting proposals **must** be incorporated into masterplan area in a manner that puts nature first, whilst also complementing the buildings and public realm.
- The proposals **should** utilise a consistent palette of fittings that minimise clutter and provide appropriate lighting levels to ensure safety.
- The proposed lighting **must** be of an adoptable standard, energy efficient, contemporary in style, sustainable, fit for purpose, cost effective and have suitable access for ongoing maintenance where sited in adoptable highway areas. Lighting units must be ecologically sensitive, providing zero upward light pollution.

External Lighting Requirements

i. The external lighting **must** be designed to British Standard BS 5489-1:2013, BS EN 13201-1:2015 or CIE 115 (or any updated British Standards) in adoptable areas.

ii. The lighting provisions **should** correspond to the Essex Design Guide - Lighting Development Specifications, with selections taken from the specified palette.

iii. The lighting proposals **must** incorporate LED light sources.

iv. DALI CMS Compatible Intelligent lighting systems **should** be installed in the entirety of the development and integrated into Essex County Council's management system for adoption.

v. Lighting units **should** be column mounted where possible at heights no greater than 8m, or fixed on buildings where possible, minimising clutter.

vi. Lighting units **must** be sited away from property windows and access points as far as is reasonably practicable, preferably at property boundaries.

vii. Low level light solutions such as bollards or solar studs **should** be put forward as possible alternatives for full lighting installations, especially in public open spaces and on cycle paths.

viii. The lighting palette **should** be consistent across a street or open space.

Column lighting should include LED luminaires (ref: Schréder)

Column lighting should be include motion detectors where possible to allow variable light levels on footpaths and cycleways (ref: Schréder)

Dimmable bollard lighting with 'Darksky' approval should be used where possible (ref: Forms & Surfaces)

Low level solar studs should be considered where possible (ref: Solareye)

Low level lighting in Brook Corridor and Waterside areas where bats are likely to follow and roost in existing vegetation

Low level lighting in and around sensitive ecological areas

Key strategies for active and sustainable travel

- Provide safe and attractive cycling and walking routes throughout a street network that is easy to navigate.
- Integrate the development into South Epping to ensure that new residents have good access to surrounding facilities and open space
- Design streets and open spaces with a positive character that responds to function and hierarchy.

Purpose of the sustainable movement plan

One of the key principles of the South Epping Masterplan is to achieve a development that seeks to promote social, economic and environmental sustainability and equality at each stage of the design and development. Central to achieving this objective will be the creation of 'walkable neighbourhoods'. The benefits of this are many fold and include healthier communities, cleaner air, stronger local economies, and better resilience against climate change.

The access and movement principles set out over the following pages will guide the planning and design of South Epping. They are intended to create a sustainable approach to local and strategic movement and support a range of modal choices for those living, working and going to school within the local neighbourhood, promoting and encouraging active travel as the most attractive and convenient mode. The development will include measures to encourage a culture of sustainable travel, accessibility and inclusion based on a user hierarchy of walking, cycling and public transport and then private car use. This ethos will be promoted in a Travel Plan, which will identify mode share objectives in favour of sustainable and active travel.

The plan (opposite) shows how the strategy for connectivity within the South Epping development site has been considered as part of the wider network of routes and connections across the surrounding area.

Key Features of the sustainable movement plan

The pedestrian and cycle network within the site is also linked to existing walking and cycle routes to the north of the site to provide new residents with access to Epping town centre and underground station and to the south to allow existing and new residents to have access through the site to the SANG and open countryside.

Residents will have access to existing bus services that pass near to the site to provide access to nearby towns such as Harlow and bus operators will benefit from improved revenue as a result of increased patronage. Epping Underground Station is on the Central Line providing new residents with a direct rail connection to Stratford and Central London.

Active Travel Bridge

There is an aspiration to replace the existing pedestrian bridge over the rail line with one suitable for cycles to improve connectivity across the SEMPA site. Land is proposed to be safeguarded within the spatial masterplan to facilitate the delivery of any proposed bridge. The proposed timing and delivery are currently being negotiated between EFDC, ECC, TfL and the developers.

Sustainable Movement Requirements

i. Walking and cycling routes **must** be designed to be cohesive, direct, safe, comfortable and attractive, and consistent with LTN1/20 Cycle Infrastructure

ii. A cycle route **must** run from east to west across the SEMPA linking the Ivy Chimneys Road access junction in the west with the Stewards Green/Fluxs Lane access in the east.

iii. The east-west segregated cycle path **must** adjoin to a series of shared ped/cycle routes linking to the northern boundary access locations, in order to maximise accessibility to key destinations within Epping. These routes **must** be lit and clearly signposted

iv. A segregated east-west cycle route **must** connect with the active travel bridge location irrespective of the timing of its construction.

v. The east-west segregated cycle route and footway **must** run from the Steward's Green access to the school entrance square.

vi. All existing Public Rights of Way (PROW) **must** be incorporated into the masterplan and new footpaths and cycle routes connected to them to create a comprehensive network.

vii. Routes within the masterplan **must** connect with the wider network of PRoWs and other pedestrian/ cycle ways outside the site, providing access to the wider Epping urban area and to the Epping countryside to the south.

viii. Movement for pedestrians and cyclists **must** be fully integrated into the masterplan with designated paths alongside the central street and traffic-free routes permeating into the site, promoting active travel.

ix. The street network **must** incorporate segregated pedestrian and cycle routes to key destinations that are car-free.

x. These routes **must** be well lit and natural surveillance **must** be maximised through enclosure from dwelling frontage on both sides.

xi. Routes along green edges **must** contribute to the active travel network.

xii. Homes **must** be designed to maximise overlooking of the street and the perception of safety. All ground floor homes **must** have front doors to the street.

xiii. Continuous and level footways **must** be provided on both sides of access roads except where a shared-surface street design approach is used. See also Section 04: Public Space – street design.

xiv. Street design **must** include measures to prevent ad-hoc parking that impedes or blocks footways and cycleways.

xv. Sustainable transport infrastructure **must** be supported by services such as demand-responsive transport, car-clubs, reliable real-time travel information, parcel delivery lockers, and e-scooters and bikes.

xvi. A package of off-site mitigation to be implemented or contributed to **must,** dependent on outcome of transport assessment, accompany any planning application. This **must** include improvements to pedestrian and cycle infrastructure between the site and Epping tube station and potential enhancements to bus services in conjunction with local operators.

xvii. Consideration should be given to reduced parking provision below ECC standards for the proposed apartments

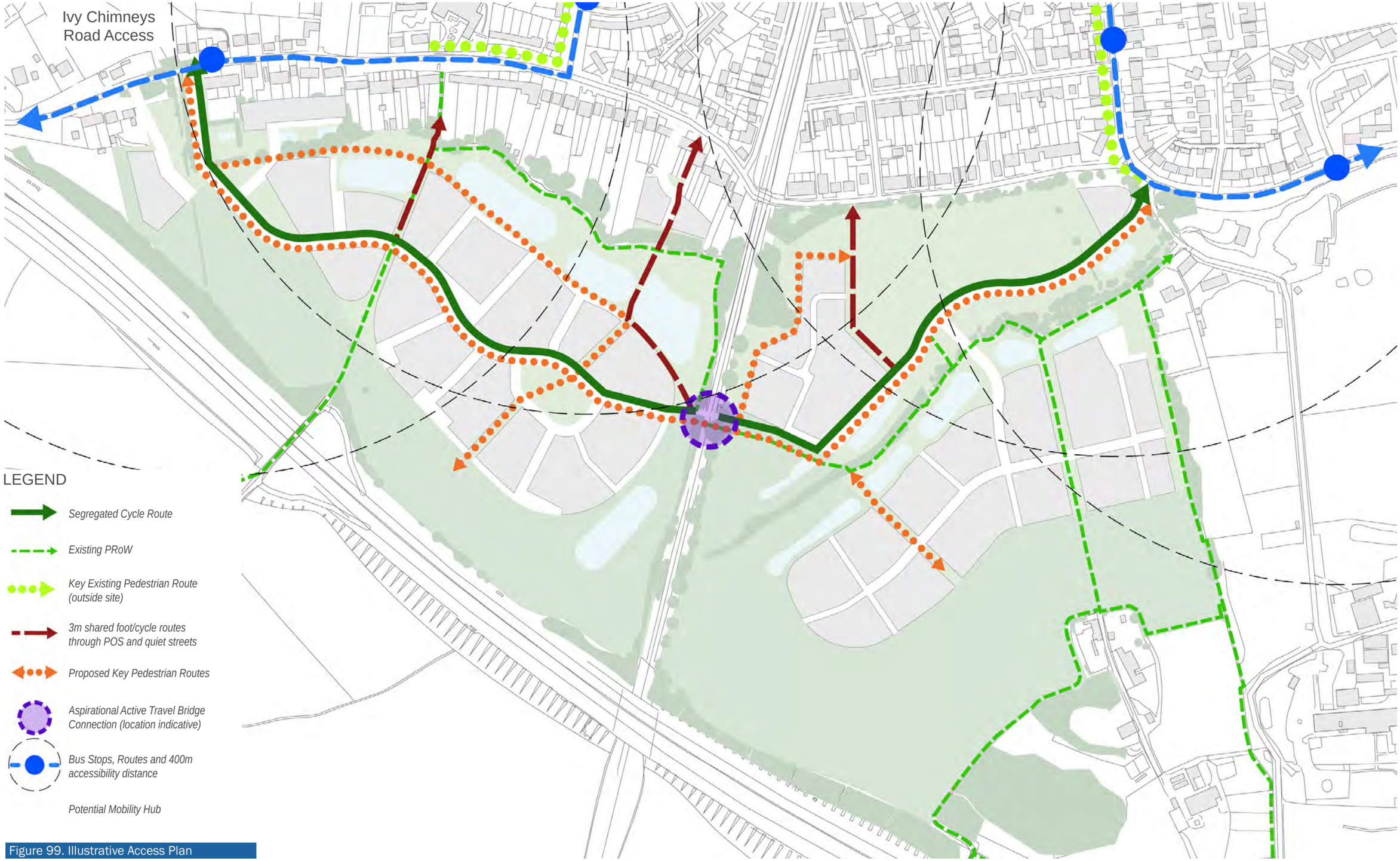


Figure 99. Illustrative Access Plan

Segregated Cycle Route Requirements

i. In line with LTN 1/20 guidance the design team **should** include sustainable transport expertise, who cycles regularly and understands the practical aspects.

ii. All active travel routes across the site **must** be reviewed in consideration of the Active Travel England scheme review tools, including the route check tool.

iii. Cycle lanes **should** be continuous and two-way, and **should** align with the detailed guidance within LTN 1/20. Where a route is also used by pedestrians, separate facilities **should** be provided for pedestrian and cycle movements.

iv. Where a cycle lane is provided for two way movements, it **should** be a minimum of 3m in width, and **must** not fall below an absolute minimum width of 2m. A one way cycle track **should** measure a minimum of 2m in width, but **must** not fall below an absolute minimum width of 1.5m. The absolute minimum width **should** only be used for sections where there is a physical constraint on an existing road. The active travel network **must** be clearly signposted, be visually appealing, and easily accessible.

v. Active travel routes **must** benefit from good lighting and the maximum level of natural surveillance.

vi. Residential properties **should** be designed to optimise views of the street and create a sense of safety. Ground floor residences **must** have entrances facing the street.

vii. Active travel routes **should** be planned with regard to the gradients within the site and, where practical, **should** be planned so that gradients are not steeper than 1 in 20.

viii. Street designs **must** prevent any ad-hoc parking which may impact on the pedestrian or cycle infrastructure.

A change in material identifying segregated cycle and pedestrian route

Tactile pavement used at junction of segregated cycle/footpath and road

ix. The housing layout **should** minimise crossings of the segregated cycle route through use of the following: provision of resident parking on side streets, rear parking courts, use of apartments or grouped accesses.

x. A change in surface material **must** visually distinguish the cycleway from the footway.

Requirements for Pedestrian and Cycle Links through Development Parcels

i. The housing layout **must** be designed to accommodate the desire lines of pedestrians creating a comprehensive and interconnected network of routes.

ii. The development **must** encourage parents and children to opt for sustainable transportation methods by ensuring safe pedestrian and cycling routes to the primary school.

iii. Cycling **should** be on carriageway if traffic modelling shows that the volume of traffic is low enough that this can be achieved safely in line with LTN 1/20 table 4.1. Cycling priority **should** be designed in through choice of materials, traffic calming measures and the design of junctions.

A safe active travel connection between housing

Pedestrian and cycle link through development parcel

Leisure Route through Open Space

i. Routes through open space **should** contribute towards the active travel network and **must** cater for both pedestrians and cyclists.

ii. Where possible, leisure routes **should** embrace and enhance existing public rights of way across the site.

iii. Pedestrian and cycle infrastructure through open space **must** be accompanied by appropriate wayfinding, ensuring the community is integrated with its surrounds.

iv. Leisure routes **must** include places to rest and stop and incorporate cycle parking, where needed. They **should** be appropriately lit, while being cognisant of the environment which surrounds them.

v. Access to homes adjacent to any leisure route **should** be provided and natural surveillance of any route **should** be incorporated into the design.

vi. Vehicular access (save for emergency) **must** be avoided on any leisure route through open space.

vii. Leisure routes across the development **should** reflect LTN 1/20 principles by providing an attractive route for all users, while remaining coherent by contributing and linking to the wider active travel network delivered by the development.

viii. Leisure routes throughout the development **should** consider Active Travel England scheme review toolkits, specifically the path check tool.

Leisure route to accommodate and enable active travel

Typical informal leisure route

Leisure Route along Development Edge

i. Where gradients are steep leisure routes **should** be designed to work with the levels, meandering as necessary to provide suitable gradients for pedestrians and cyclists.

ii. Lighting **must** be sensitively designed to minimise impact on ecology.

iii. Leisure routes **must** be provided with signposts.

iv. Every opportunity **must** be explored to connect the edge of the site to the surrounding community, to maximise permeability of the development and connection to adjacent infrastructure.

v. Places to stop and rest **must** be included within the leisure route, supported by secure cycle parking as required.

vi. Vehicular access to the route **must** be prohibited, except where emergency routing is required.

vii. Leisure routes across the development **should** reflect LTN 1/20 principles by providing an attractive route for all users, while remaining coherent by contributing and linking to the wider active travel network delivered by the development.

viii. Leisure routes throughout the development **should** consider Active Travel England scheme review toolkits, specifically the path check tool.

Precedent informal route in Harlow

Informal footpath/leisure route along development edge

Key strategies for vehicular access and movement

- Balance the need for vehicular access with a high-quality public realm.
- Limit the impact of motorised vehicles on streets and open spaces.

Purpose of the vehicular movement plan

Whilst sustainable movement should be the priority, cars will still be necessary for some journeys, and access needed for delivery vehicles, emergency services, refuse collection. Vehicle movement and parking should be accommodated in the masterplan in a way that encourages more sustainable modes of travel and limits the impact of motorised vehicles on streets and open spaces.

The site-wide strategy for vehicular movement shown opposite illustrates how the need for vehicle access should be balanced with a high-quality public realm.

ECC has confirmed that a dedicated emergency access in not required for a development of this scale which is aligned with national and local transport policies which do not provide specific requirements for emergency access. However, a secondary point of access to the site for emergency vehicles can be achieved from Fluxs Lane via the development access, which has off road shared pedestrian / cycleway facilities of sufficient width to be able to accommodate emergency vehicle access into Fluxs Lane, if needed.

Key features of the vehicular movement plan

The bisection of the Site by the rail line prevents a through route for vehicles across the site.

The geometry of the street alignment and the dimension of development blocks may be further developed at future stages of the planning process. There will be no vehicular connection across the rail line.

The vehicular movement plan shows the indicative alignment for the:

- **Entrance Street (EDG Type E):** linking the access junctions at the site boundaries with the residential parcels.
- **Secondary Streets (EDG Type E)**: providing access for all modes through the residential parcels.
- **Tertiary Streets (EDG Type F, G & H):** providing further access, including through shared surfaced streets, private drives and courtyard squares through to the peripheries of the residential parcels.

Vehicular movement strategy requirements

i. All roads, with the exception of private drives, **must** be designed to an adoptable standard and allow best-practice transport and urban design principles to be brought forward.

ii. The hierarchy of streets **must** be clearly differentiated through scale, enclosure and character. See also Section 04: Public Space and Section 05: Built Form.

iii. The main vehicular accesses **must** be provided from Ivy Chimneys Road and Stewards Green/Fluxs Lane, additional secondary access points **should** be provided from Ivy Chimneys Road or Bridge Hill in order to deliver the masterplan as currently proposed.

iv. Each access junction **must** been subject to capacity testing, with any additional off-site modelling to be agreed with ECC, as Highway Authority in support future planning applications.

v. Vehicular movement **must** not be provided from the Bridge Hill access through to the main development. Access **should** be provided via the pedestrian/cycle network only as outlined in the previous section.

vi. An internal network of streets **must** provide a safe, legible and permeable layout for all modes within the Site.

vii. The north-south green corridors **must** not be fronted by vehicular streets on both sides at any point. Where vehicular access is required this **should** be provided by a private drive on one side only.

viii. Staff and service access **must** be provided to the eastern end of the school site.

ix. Play spaces **must** have car free aspects on a minimum of two sides.

x. Design speeds **must** not exceed 20mph throughout.

xi. Lower speeds **should** be encouraged through good street design. See Section 04: Public Space, Street Design.

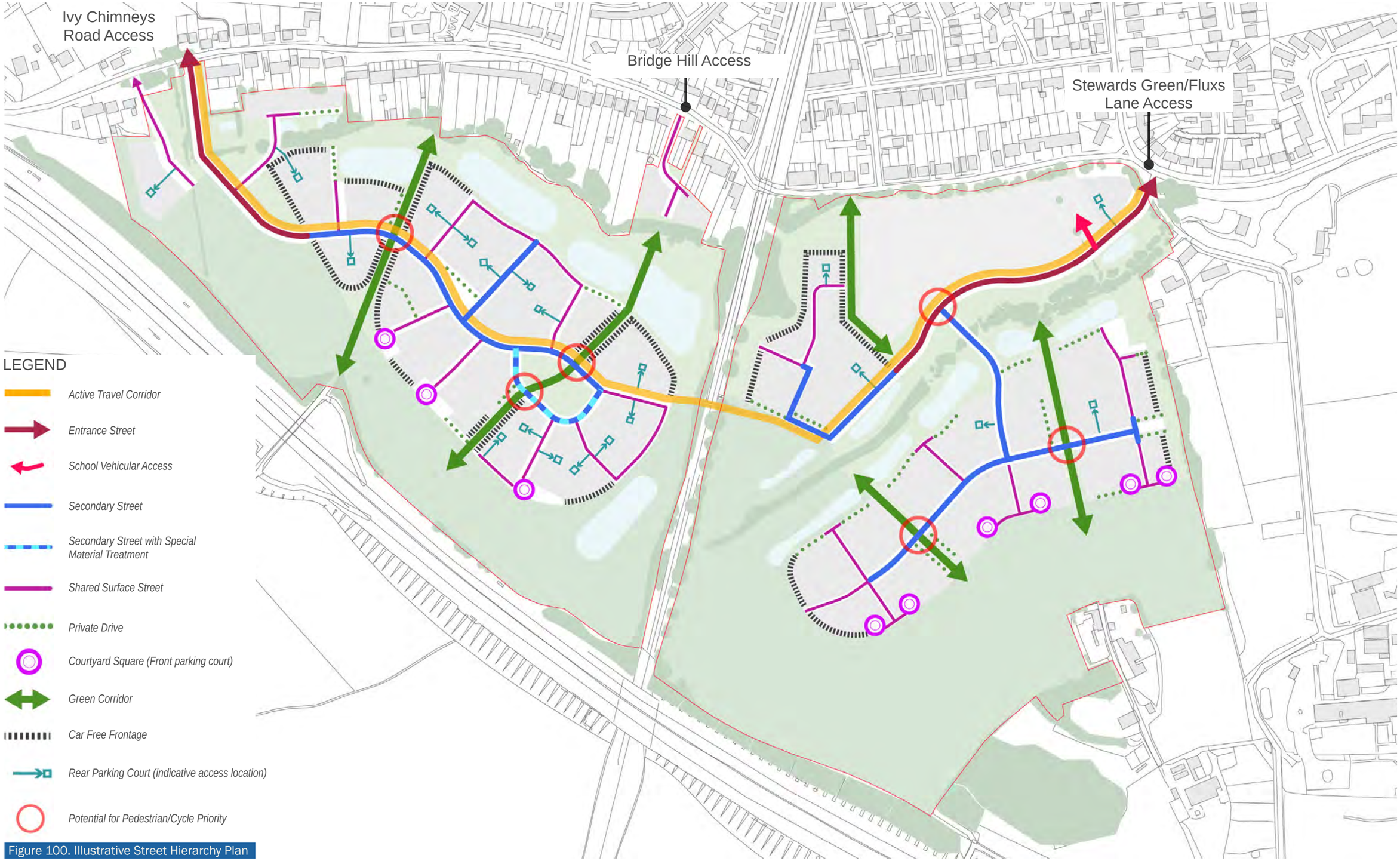


Figure 100. Illustrative Street Hierarchy Plan

Parking Strategy

The provision of inclusive and accessible cycle parking within the site will be a key element of the strategy that will seek to encourage cycling and ensure that it is a clear, preferred choice of travel mode. To make cycling attractive the parking needs to be placed in locations where it is convenient, secure and easy to access and not necessarily shared with other household/ garden possessions.

Parking quantum will need to be assessed at application stage based on the appropriate technical studies, accounting for proposed active and sustainable travel measures and proposed parking controls. The car parking strategy is designed to ensure that streets are not car dominant and that a high quality streetscape character is achieved. It also ensures that adequate provision of on-street visitor parking to prevent unauthorised parking on drainage features.

The site-wide car parking requirements provide a range of parking types and potential for housing typologies across the site, including on-street and on-plot parking. This site-wide parking plan sets out which each parking type is applicable.

Cycle parking requirements

i. Cycle parking **must** be provided in accordance with the minimum standards identified in EPOA Part 1 standards.

ii. Where garages are provided, these **must** be of a size that facilities the storage of cycles. For houses without garages, suitable facilities within each dwelling, such as garden sheds **must** be provided. Cycle parking for houses **should** be provided in rear gardens or other easily accessible area, or in a secure cycle store to the front of the properties. Where located in rear gardens, rear access **should** be provided.

iii. For flats / apartments, cycle storage areas **must** be provided that are secure (lockable) and covered to provide a high quality facility for residents.

iv. Visitor cycle parking **must** be provided within the public space to the front of the primary school and any other key nodes and spaces as appropriate.

v. A cycle parking strategy **must** be developed at Planning Application application stage.

vi. The development **should** embrace the principles in the Collaborative Mobility's UK (CoMoUK) guidance document 'New developments and shared transport: cutting car dependency'.

Site-wide car parking requirements by road type

vii. Parking **must** take into account the needs of disabled persons.

viii. All dwellings **must** make provision for electric vehicle charging.

ix. No parking **must** be located immediately adjacent to play areas to maximise natural surveillance and enhance safety.

Entrance Street (EDG Type E)

x. Visitor parking **should** only be provided where it is not deemed to detract from the landscape character at the entrance gateways or compromise visibility of the junctions.

Secondary Street (EDG Type E)

Homes on both sides

xi. Resident parking **should** be on-plot.

xii. Visitor parking bays **must** be provided within designated bays within the verge allowing for an adequate avenue of street trees to be maintained.

Homes on one side (surrounding the Village Green)

xiii. Resident parking **should** be on-plot or within rear-parking courts.

xiv. Visitor parking bays **should** be provided around the edge of the open space. This parking **should** be sensitively designed in clusters of no more than four spaces and must not block key views.

Incorporating drainage features

xv. Perpendicular resident parking and unallocated visitor parking **should** only be located on the side of the street opposite a drainage feature.

Shared Surface Street (EDG Type F)

xvi. Resident parking **should** be on-plot or within rear-parking courts.

xvii. Where frontage is car-free, dwellings **should** be served by rear parking courts.

xviii. Visitor parking bays **must** be provided within designated bays distinguished by material colour change.

Courtyard square (EDG Type G)

xix. Most resident and visitor parking **should** be located within the semi-private central courtyard, however occasional dwellings may have on-plot parking.

xx. Visitor parking bays **should** also be provided within designated bays within the courtyard square.

Private Drive (EDG Type H)

xxi. Resident parking **should** be on-plot.

xxii. The width of the private drive **should** be variable to accommodate any additional resident parking requirement and visitor parking bays.

ON PLOT parking requirements

Driveways

i. Driveways in front of a double garage **should** be the width of the garage.

ii. Driveways **should** be a minimum of 5.5m deep or 6m in front of garage doors to avoid vehicles overhanging the footway.

iii. Tandem parking **should** be kept to a minimum and where used **should** be for no more than two cars on the driveway.

iv. Driveways **should** be grouped to maximize continuous length of verge especially those containing drainage features.

v. Both single and shared drives **must** have adequate manoeuvring space to allow vehicles to enter and leave all garages and parking spaces when all other available parking spaces within the street are full.

Garages and Carports

vi. Garages and car ports **should** be provided on plot and not grouped elsewhere

vii. Where parking in front of integral garages is located in front of the building line, adequate planting **must** be provided to avoid over dominance of the cars.

viii. Garages **must** have a minimum size of 7.0m x 3.0m internal dimension. This accommodates two cycle parking spaces.

ix. Garages **should** be set back to enable parked cars to sit behind the building line.

Allocated perpendicular parking serving terraces or semi-detached dwellings

x. Perpendicular parking bays **must** be 5.5m long and 2.9m wide.

xi. Spaces **must** be overlooked by windows on front of property.

xii. Spaces **must** have street tree planting and a landscape strip between every 4 spaces to soften visual impact.

OFF PLOT parking requirements

On Street Visitor Parking

xiii. On-street vehicle spaces **must** be in unallocated, designated bays and forming part of the adopted highway network. Where a street does not form part of the adopted highway network, any parking **should** be allocated or privately managed.

xiv. Parallel parking bays **must** be 6m long and 2.9m wide.

xv. Runs of parking bays **must** be broken up by trees and planting.

xvi. Parking bays **should** be located at least 6 metres from minor junctions and **should** not impact pedestrian and cyclist visibility at crossing points.

xvii. All visitor parking **must** be accommodated within the street scene to discourage indiscriminate parking.

Front Parking Courts Requirements

xviii. Front parking courts **should** only be used on the development edge as indicated on the Street Hierarchy Plan

xix. Front parking courts **should** be designed to accommodate turning heads

xx. Landscaping **must** be carefully designed to mitigate the dominance of parked cars within the courtyards and enhance their appearance.

Shared Parking Area (SPA)

xxi. SPA's **must** be overlooked and could be gated for secure and controlled access

xxii. Perpendicular car parking spaces **must** be provided with a minimum dimension of 5.0m x2.9m accessed from 6.0m wide carriageway.

xxiii. Accesses **must** be a minimum of 4.8m wide, including where beneath FOGs.

xxiv. SPA's **should** be adequately lit, and have sufficient space for the inclusion of sustainable landscape areas to include trees, shrubs and grass to soften their appearance.

xxv. The use of enhanced materials to improve the visual appearance of these spaces **must** be provided.

xxvi. Parking **should** be broken up using trees and/or shrubs when continuous in groups of more than 5-6 consecutive car parking spaces.

xxvii. Parking courts **must** be adequately lit, and have sufficient space for the inclusion of sustainable landscape areas to include trees, shrubs and grass to soften their appearance.

Shared Rear Parking Courts

xxviii. Parking courtyards **should** be served by no more than six dwellings.

xxix. Rear parking courts **should** only be used where necessary to facilitate car-free frontages.

xxx. Access to rear parking courts **must** be overlooked and **must** not be located directly opposite another rear parking court access.

Precedent Images

Garage set back to avoid visual impact of parked cars

Parking in front of building line is well screen with planting

Rear parking court well overlooked and landscaped

Visitor parking within verges in between tree planting

Fire and refuse access strategy

Fire and refuse access must be strategically planned across the site from the earliest stage to ensure that all buildings can be serviced without requiring all streets to be of a scale and character to accommodate servicing vehicles. The strategy will impact block dimensions, street design and materials and street adoption strategy.

Provision of convenient bin storage will be most challenging on terraced typologies with shallow front threshold spaces and no access to the rear, however there are high-quality precedents where an enclosure is designed as part of the built form and helps to emphasise the rhythm of the houses along the street.

The relevant bodies must be consulted in development of the strategy and where there are potential conflicts between the technical servicing guidance and placemaking requirements, this should be resolved with the local authority and relevant body.

Current standards and guidance:

Fire tenders:

Approved Document B (AD:B) Vol 1 and 2:

- There should be vehicle access for a pump appliance to within 45m of all points within a dwelling house.

Refuse and recycling vehicles:

EFDC Waste and Recycling provisions for new residential and business developments. Good practice guide for developers.

- Refuse collection will be made only from those dwellings within 25m of an adopted road.
- Storage areas for waste containers should be sited so that the distance householders are required to carry refuse does not usually exceed 25m (excluding vertical distance).

Essex Design Guide: Refuse Collection:

- Refuse collection will be made only from those dwellings within 25m of an adopted road.
- In other cases, it is necessary to provide a shared bin collection point screened by an above eye-level wall. This should be located within 25m of an adopted road.

Refuse and recycling requirements

i. A waste and refuse strategy **must** be provided that provides details of service access and bin storage for individual homes and flats and non-residential premises.

ii. Refuse vehicles **should** be able to proceed mainly in a forward motion. Any turning heads **must** be well integrated into the street design. Fire tenders can be reversed subject to meeting AD:B requirements.

iii. Communal bin stores for flats **must** be integrated into the main building footprint at ground floor with rear access to avoid blank frontages. These **must** be easily accessible by residents under shelter from a communal door but **must** not be accessed directly from inside the block for security purposes.

iv. Individual households **should** have waste storage enclosures that are well-designed as part of the built form and street scene and convenient to use.

v. For detached/ semi-detached homes without rear access for refuse collection, the enclosure **should** be located behind the building line. On smaller terraced, it would be more appropriate to provide a well-designed enclosure for communal bins.

vi. Where a block has a rear parking court, all homes in the block **should** use the parking court for refuse collection regardless of whether they are served by the parking court.

vii. Where refuse access is provided to the rear, a suitable bin enclosure **must** be provided in the rear garden.

viii. Dwellings within private drives **should** have a communal collection point within 10m of an adopted road.

ix. Waste storage enclosures **must** be designed to accommodate all refuse bins provided by the Council. Currently this is two 180-litre wheelie bins and a 55-litre bin. Road-end collection points **must** be designed to accommodate all the bins from each household served by that collection point on any given bin collection day.

*Based on Essex Design Guide.

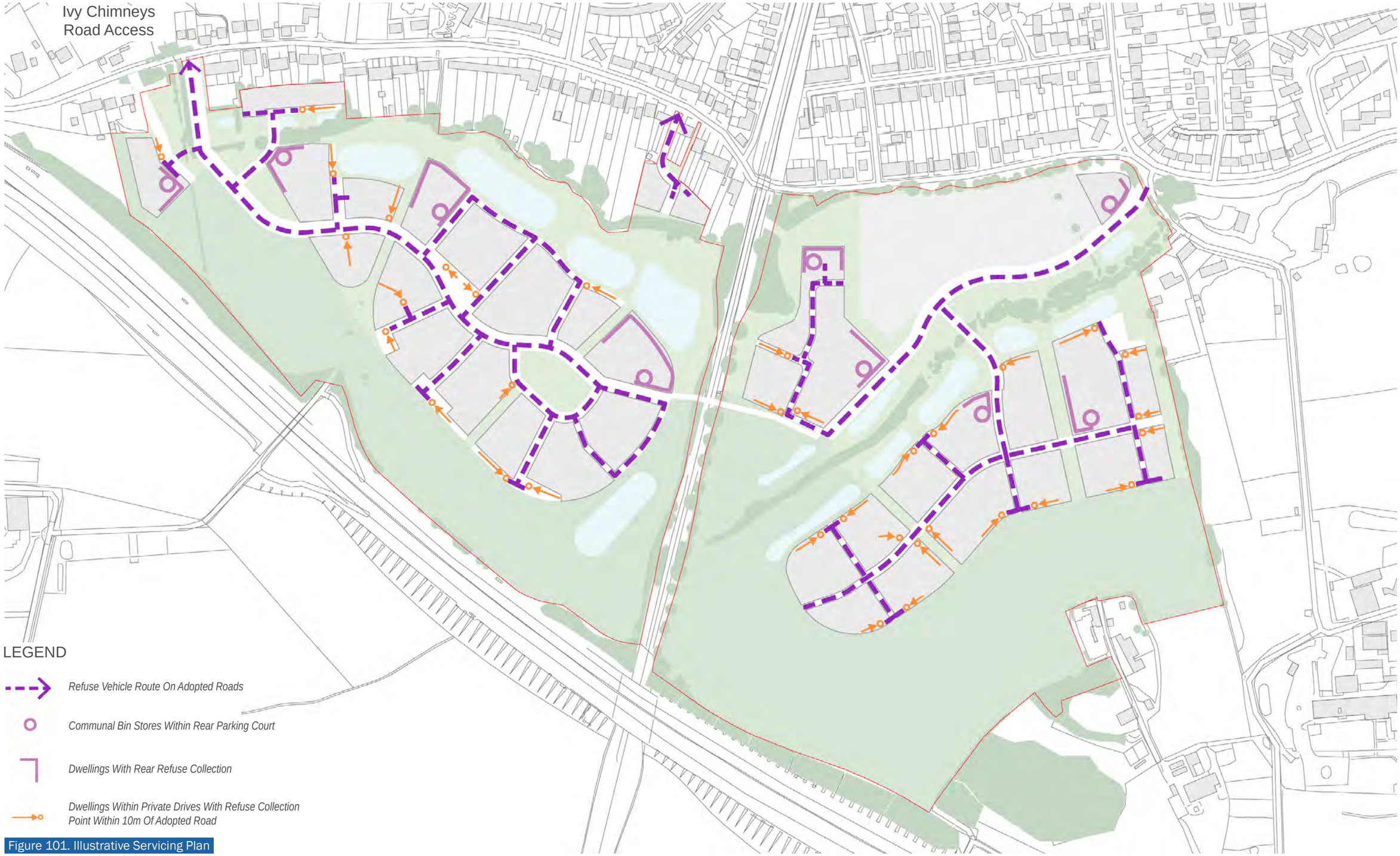


Figure 101. Illustrative Servicing Plan

Key strategies for uplifting and safe streets and spaces

- Create high-quality public realm which prioritises pedestrian and cycle movements, and encourages social interactions.
- Create a sequence of distinctive spaces throughout the development to ensure legibility.
- Incorporate overlooking, generous provision for natural play and a range of informal and formal leisure routes throughout the development

Purpose of the Public Space Strategy Plan

Indicative locations of components of the public space network are illustrated on the plan opposite.

Key features of the public space plan

Key components described within this section are:

Streets as Spaces

1. Secondary Streets
2. Shared Surface Streets
3. Courtyard Squares
4. Private Drives
5. Green Corridors

Articulation to corner building - precedent from Upton, Northampton

Key Junctions

1. Secondary Street/Green Corridor
2. Secondary Street/ Tertiary Street
3. Active Travel Route / Secondary Street
4. Secondary Street Junction

Key Public Spaces

1. Ivy Chimneys Entrance Gateway
2. Village Green
3. School Square
4. Fluxs Lane Entrance Gateway

Public Space & Legibility requirements

i. Public realm spaces **should** provide a range of infrastructure, including:

- Public seating;
- Tree(s) to provide shade;
- Cycle parking;
- Play elements;
- Signage;
- Waste & recycling bins; and
- Safe lighting levels.

ii. Public realm spaces **must** have a coherent character of materials to aid wayfinding and consistency.

iii. Key community spaces **must** be framed by groupings of buildings that have a legible and distinctive identity. Grouped buildings do not have to be the same style but **should** have connecting or common features to provide coherence.

iv. Public realm spaces **should** not require fenced enclosures or railings and **should** be well integrated with the street network.

v. The function of open spaces and their boundaries and the public, private or shared nature of them **must** be clearly defined to encourage their use, maintenance and ownership.

vi. Lighting **must** be provided on all streets and key open spaces. The type of lighting **must** be appropriate to the character and function of the space and coordinated with tree planting to avoid shadowing.

vii. Seating **must** be provided in open spaces and along active travel routes. Seating design **should** be high quality, appropriate to the character of the street or space and vary in design to accommodate different users including shading devices.

viii. Litter, recycling and dog waste bins **must** be provided at the School Square, Village Green and both SANG car parks as a minimum.

ix. Play-on the-way **must** be embedded into the public space network.

x. Legibility **must** be reinforced with landmark buildings at key points along active travel routes. There **should** be a consistent approach to building features to identify these markers.

xi. All streets and junctions **must** be designed to prioritise the most vulnerable street user, starting with pedestrians, then cyclists, then public transport, then private vehicles.

xii. Vehicle markings and signs **should** be minimised, whilst meeting parking control requirements.

xiii. Ad-hoc parking **must** be discouraged through design measures such as street layout, the provision of designated parking bays, material choice, verge planting and street furniture.

xiv. There **should** be high-speed digital connectivity, including full fibre and 5G to all parts of the public realm network, with flexibility to upgrade to the latest technology in the future.

xv. Infrastructure **should** be considered at an early stage and designed sensitively as part of the public realm.

Key Views and Focal Buildings & Structures

xvi. Wherever there is an important view from an entrance or along a street, the vista **should** be terminated by a landmark building or feature. There are a number of such locations identified on the plan opposite that **should** be given prominence by virtue of increased storey height, contrasting facade material and/or architectural detailing.

xvii. Buildings on key corners **must** have apertures and detailing on all public facing frontages.

xviii. The block structure **must** avoid creating vistas along streets which align with electricity pylons.

Figure 102. Public Space Strategy Plan

Secondary Streets

This street type links to the Entrance Streets running from the access junctions and extends through the centre of each development parcel.

This street is classed in the Essex Design Guide as type 'E- Access Road'.

Secondary Streets should target driver speeds at a maximum of 20mph which should be enforced with speed-restraint design. The Secondary Street must allow manoeuvring space of 6m to facilitate egress from domestic parking spaces.

The street should not exceed the maximum gradient of 8%, but steeper gradients will be considered where the retention of existing topography is desirable, subject to the use of a special surface finish that affords better adhesion.

Secondary Street Requirements

i. Secondary Streets **should** not be wider than 15.5m between private thresholds unless hydraulic modelling demonstrates a greater requirement for drainage features within the verge.

ii. Secondary Streets **must** not comprise more than two vehicular lanes at any point with a design speed of 20mph.

iii. Direct access **should** be possible on both sides of the street.

iv. Footpaths **must** be provided on both sides of the road with a segregated cyclepath on one side where indicated on Cycle Connections Plan (see SMF Section 6.6 Access & Movement Strategy).

v. Where the segregated cycle path runs alongside a Secondary Street, it **should** be continuous across junctions, and be located on one side of the carriageway only. Cycle lanes **should** be in line with LTN 1/20.

vi. The cycleway **should** be surfaced in a contrasting colour material - to be agreed with ECC Highways.

vii. Corner radii leading to side streets **should** be as tight as possible, **should** not be greater than the depth of the verge between the carriageway and footway/cycleway, and **should** not be greater than 3m.

viii. Speed-restraint measures (20mph zone) **should** be located at maximum intervals of 60m, starting within 50m of the entry junction or zone.

ix. Carriageway surface material to the south of the village green **should** be block paving or similar to encourage slow traffic movements and distinguish this as a pedestrian priority environment (despite the EDG requirement that this street have segregated footways in order to serve the quantum of development present to the south of the village green).

x. Streets **must** be in accordance with the Essex County Council Design Guidance and Street Materials Guide.

Place Requirements

xi. Strong frontage and consistent building line **must** be maintained to create a good sense of enclosure within the building height parameters set out in section 10.4 Character and Built Form.

xii. The housing layout **must** minimise the number of crossings of the segregated cycleway through the use of rear courtyard parking, provision of parking on tertiary streets and/or grouped accesses.

xiii. Built form, character, boundary treatments and typologies **should** reflect the character areas as set out in section 10.4 Character and Built Form.

Parking Requirements

xiv. Refer to Section 10.2 Parking Strategy.

Service requirements

xv. Street drainage to be determined **should** be incorporated within verges. Refer to Section 10.1 Drainage Strategy.

xvi. Lighting **should** be on columns specified to suit the intended character of the street.

xvii. Car chargers and lighting columns **must** be placed to ensure cycleway and footway widths are not restricted.

Landscape requirements

xviii. Soft landscape verges **must** incorporate drought resistant shrub planting and street trees wherever junction visibility permits.

xix. Verge planting **must** include an appropriate selection of shrub and herbaceous plants to bring seasonal interest to the streetscape.

xx. Streets **should** be planted with regularly placed medium to large trees (15-20m height) of the same species per street to maintain a unified character.

xxi. Particular attention **should** be given to the landscape treatment of junctions between Secondary Streets and Green Corridors.

xxii. Planting **should** be aesthetically pleasing and incorporate complementary green infrastructure solutions to support the wider drainage strategy.

xxiii. The planting palette **should** be evergreen, for year-round aesthetic sensibility, and relatively low-growing to maintain traffic and driver visibility.

xxiv. The location of planting **must** be carefully coordinated with other utilities and services to avoid underground conflicts.

xxv. Planted areas **must** be maintained regularly, particularly after any major rainfall or storm events, to weed, prune, and replace dead or dying planting.

Planted verge between asphalt carriageway and footpath

Suggested material character - detailed interaction and specification to be agreed with the ECC highways authority.

CARRIAGEWAY
Grey colour hot rolled asphalt

CYCLE WAY
Contrasting colour hot rolled asphalt

FOOTPATH
Grey colour hot rolled asphalt

CROSSING POINTS
Buff coloured, tumbled concrete block

PARKING BAYS
Buff coloured, tumbled concrete block

RESIDENTIAL FRONT BOUNDARY
Low wall/hedge

Secondary Street key plan

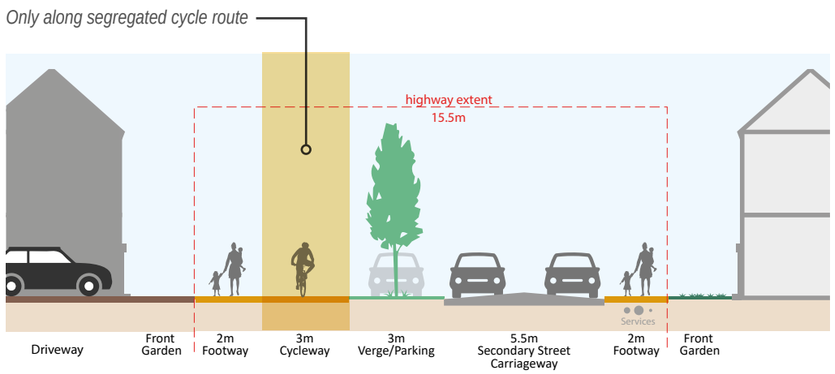


Figure 103. Illustrative Double Sided Secondary Street

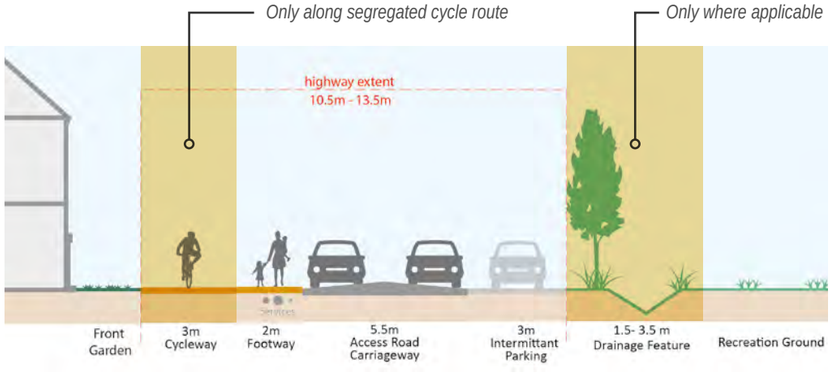


Figure 104. Illustrative Single Sided Secondary Street (around Village Green)

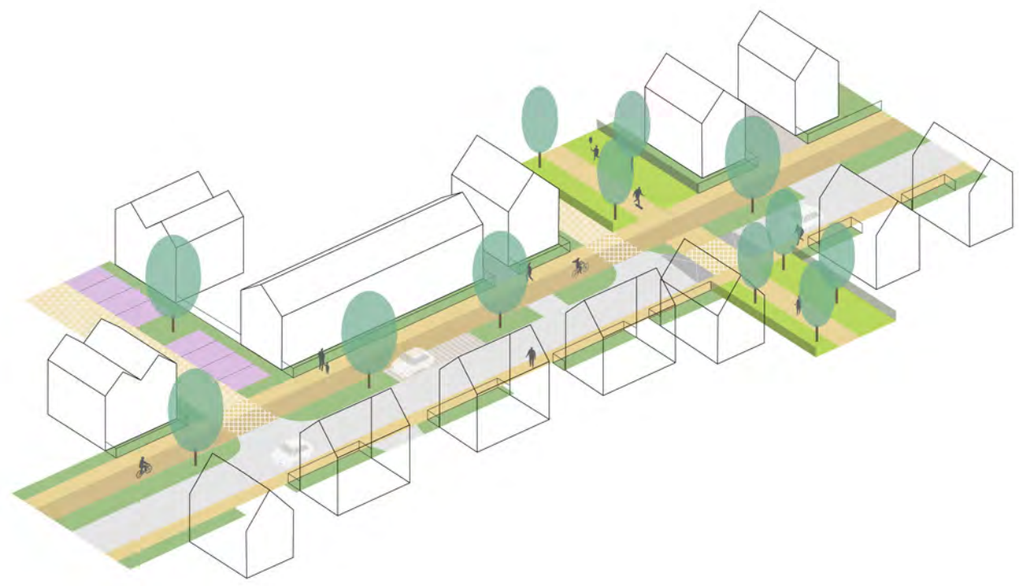


Figure 105. Illustrative Secondary Street Arrangement

LEGEND

- Carriageway
- 3m segregated cycle way
- Footpath
- Ped/Cycle Priority Crossing Point
- Tertiary Street
- Ramp
- Soft Landscaping
- Unallocated Visitor Parking
- Allocated Parking Bays within Shared Surface Street
- Green Corridor

Shared Surface Streets

This street type links to the Secondary Streets and serves the peripheries of the development.

Serving no more than 25 units in a cul-de-sac and being no more than 125m in length, these are classed in the Essex Design Guide as type "F - Minor Access Street".

Shared Surface Streets are designed to accommodate vehicles, pedestrians, and cyclists. The street will prioritise safety and accessibility for all users through distinct character to reduce vehicle speeds and provide minimal physical barriers. The design therefore encourages active travel users and vehicle users to mix safely without preventative means to ensure trips by all modes from residential dwellings can be made successfully.

Shared Surface Streets typically utilise distinct materials to establish a mixed use environment while maintaining vehicular access. Street furniture, greenery, and landscaping can often be utilised to encourage active use of the street. Other design elements include raised crossings and traffic calming. These streets embody a blend of functionality and aesthetics, promoting inclusivity and interaction among users.

Suggested material character - detailed interaction and specification to be agreed with the ECC highways authority.

CARRIAGEWAY

Red/Grey coloured, tumbled concrete block

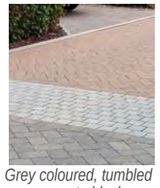
PARKING BAYS

Grey coloured, tumbled concrete block

RESIDENTIAL FRONT BOUNDARY

Low Shrubs Planting

ENTRANCE MARKING



Grey coloured, tumbled concrete block

GARDEN BOUNDARY

Brick with hedge planting

Tree planting within shared surface streets - precedent Newhall, Harlow

Shared Surface Street Requirements

i. These streets **must** have a combined pedestrian and vehicular surface width of at least of 6m behind a driveway to allow manoeuvring space. This is to facilitate egress from domestic parking spaces.

ii. The maximum gradient **should** typically be around 8%, but steeper gradients will be considered where the retention of existing topography is desirable, subject to the use of a special surface finish that affords better adhesion.

iii. A straight section of carriageway **must** be provided from the junction with the secondary street for a distance of 15 metres.

iv. Shared Surface Streets **should** not be wider than 15m between private thresholds unless hydraulic modelling demonstrates a greater requirement for drainage features within the verge.

v. Direct access **should** be possible on both sides of the street with a design speed of 20mph

vi. Cycling **should** be on carriageway due to low volume of traffic on this street type. Cycling priority **should** be designed in through choice of materials, traffic calming measures such as localised narrowing as shown illustrated opposite.

vii. The housing layout **should** ensure speed-restraint through deflection in street alignment by alternating the location of trees and parking bays and carriageway surface material.

viii. Streets **must** be in accordance with the Essex County Council Design Guidance and Street Materials Guide.

Place Requirements

ix. Built form **must** create a good sense of enclosure within the building height parameters set out in section 10.4 Character and Built Form.

x. Built form, character, boundary treatments and typologies **should** reflect the character areas as set out in section 10.4 Character and Built Form.

Parking Requirements

xi. Refer to Section 10.2 Parking Strategy.

Service requirements

xii. Street drainage to be determined. Refer to Section 10.1 Drainage Strategy.

xiii. Lighting **should** be on columns specified to suit the intended character of the street.

xiv. Car chargers and lighting columns **must** be placed to ensure cycleway and vehicular movement widths are not restricted.

Landscape requirements

xv. These streets **should** be informally planted with small ornamental tree species (5-15m in height).

xvi. Street trees, shrub and herbaceous **should** be strategically located along the street to breakup runs of parking and to prevent anti-social parking.

xvii. Soft landscape areas **must** incorporate drought resistant shrub planting and street trees wherever junction visibility permits.

xviii. There **should** be planting alongside areas of hard-standing wherever possible.

xix. Planting **should** be aesthetically pleasing and incorporate complementary green infrastructure solutions to support the wider drainage strategy.

xx. The planting palette **should** differentiate and emphasise the various character areas within the masterplan area and to bring seasonal interest to the streetscape.

xxi. The location of planting **must** be carefully coordinated with other utilities and services to avoid underground conflicts.

xxii. Planted areas **must** be maintained regularly, particularly after any major rainfall or storm events, to weed, prune, and replace dead or dying planting.

Shared Surface Street

Shared Surface Street key plan

Figure 106. Illustrative Typical Shared Surface Street

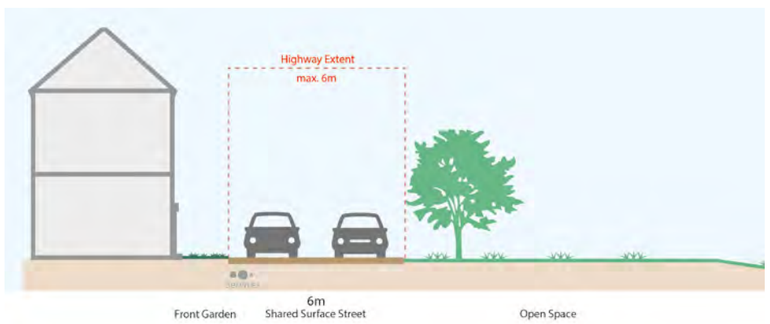


Figure 107. Illustrative Shared Surface Street Along Development Edge

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Hedg
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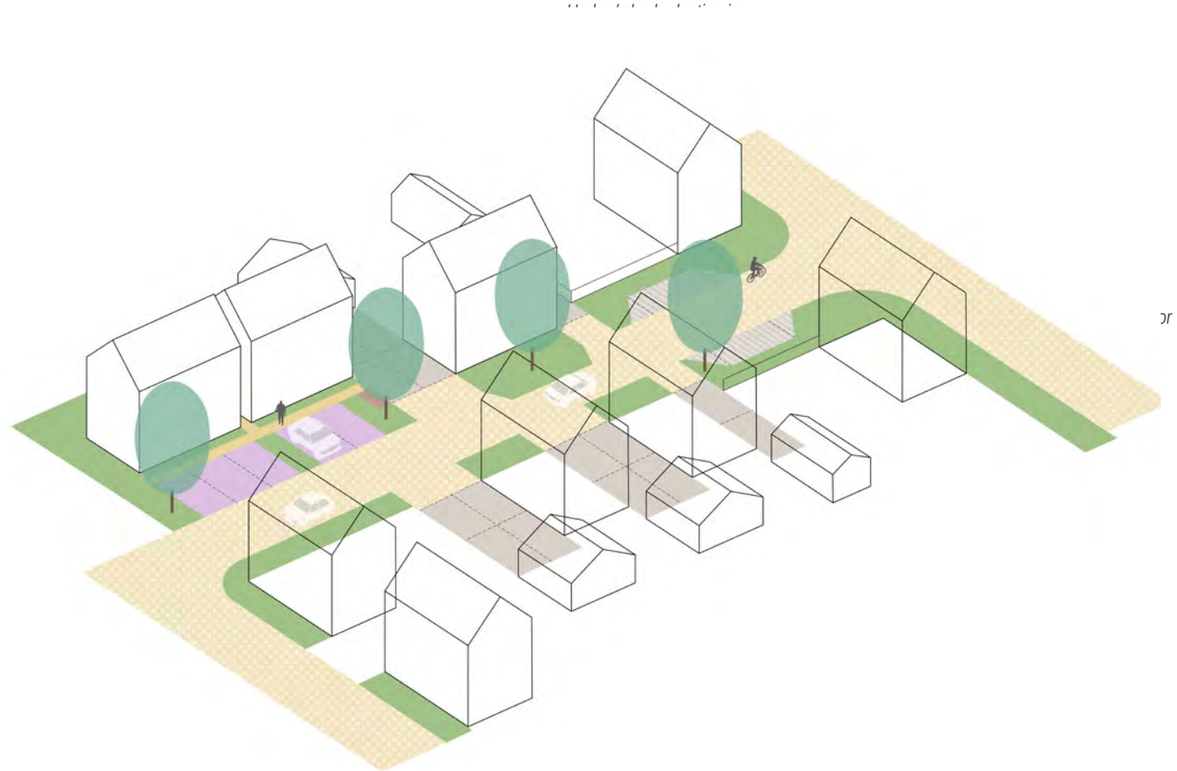


or

LEGEND

- Adopted Shared Surface
- Soft Landscaping
- Visitor Parking
- Bin Collection Area
- Allocated Parking Bays
- Private Driveway Parking

Courtyard Squares

This street type links to the Shared Surface Streets and serve the southern peripheries of the development.

Serving no more than 20 units in a cul-de-sac these are classed in the Essex Design Guide as type “G - Mews Court”.

Well integrated parking within Courtyard Squares will be necessary to enable car parking to blend into the street environment, and create a well-design development that will be more attractive for people to choose to walk or cycle.

Courtyard Square Requirements

i. These streets **must** have a combined pedestrian and vehicular surface width of at least of 6m behind a driveway to allow manoeuvring space. This is to facilitate egress from domestic parking spaces.

ii. Localised narrowings **should** be provided where appropriate for character purposes.

iii. The maximum gradient **should** typically be around 8%, but steeper gradients will be considered where the retention of existing topography is desirable, subject to the use of a special surface finish that affords better adhesion.

iv. Courtyard Square **should** not be wider than 15m between private thresholds unless hydraulic modelling demonstrates a greater requirement for drainage features within the verge.

v. Direct access **should** be possible on both sides of the street.

vi. Cycling **should** be on carriageway due to low volume of traffic on this street type. Cycling priority **should** be designed in through choice of materials, traffic calming measures and the design of junctions.

vii. The housing layout **should** ensure speed-restraint through the placement of trees and parking bays and carriageway surface material.

viii. Special junction detail featuring entrance ramp/table **should** indicate the entrance the courtyard square.

ix. Courtyards **must** be in accordance with the Essex County Council Design Guidance and Street Materials Guide.

Place Requirements

x. Built form **must** create a good sense of enclosure within the building height parameters set out in section 10.4 Character and Built Form.

xi. Built form, character, boundary treatments and typologies **should** reflect the character areas as set out in section 10.4 Character and Built Form.

xii. Windows, doors or other projections **must** not extend over public areas.

Parking Requirements

xiii. Refer to Section 10.2 Parking Strategy.

xiv. Courtyard parking **should** be overlooked, and **should** be permeable for through movement by active travel modes.

xv. Spaces **should** provide some buffering between existing property edges/fences.

xvi. The parking **should** be developed with higher quality materials, including a high quality surface material to contribute to a shared surface environment.

Service requirements

xvii. Street drainage to be determined **should** be incorporated within verges. Refer to Section 10.1 Drainage Strategy.

xviii. Street lighting is not required.

xix. Car chargers within the courtyard **must** be placed to ensure vehicular movement widths are not restricted.

Landscape requirements

xx. There **should** be planting alongside areas of hard-standing wherever possible.

xxi. Street trees and planting **should** be used to provide a buffer between plots and the courtyard area. This soft landscaped privacy strip **must** be a minimum of 0.5m in depth.

xxii. Small ornamental tree species, of 5-15m in height, **should** be informally planted in this space.

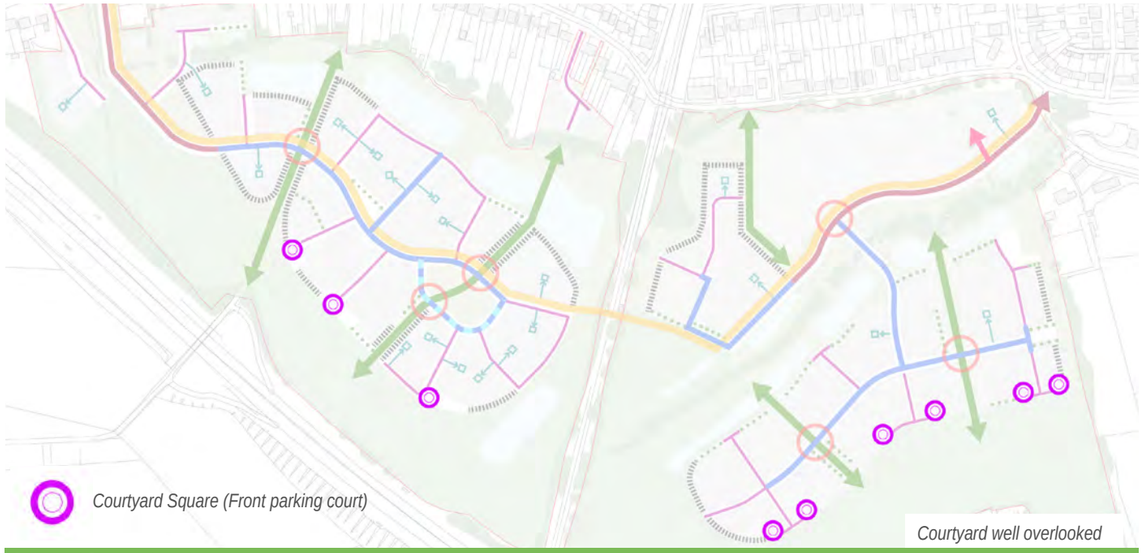
xxiii. A landscaped verge and/or street trees **should** be used to separate a maximum of four parking spaces.

xxiv. The planting palette **should** be evergreen, for year-round aesthetic sensibility, and relatively low-growing to maintain traffic and driver visibility.

xxv. Location of planting **must** be carefully coordinated with other utilities and services to avoid underground conflicts.

Suggested material character - detailed interaction and specification to be agreed with the ECC highways authority.


Courtyard (Polnoon)



Courtyard Squares key plan

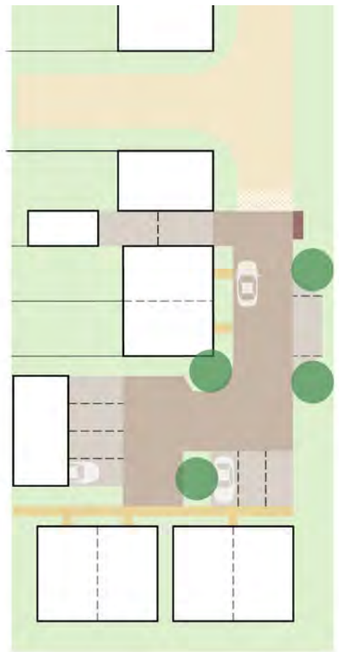


Figure 109. Illustrative Courtyard Arrangement Plan

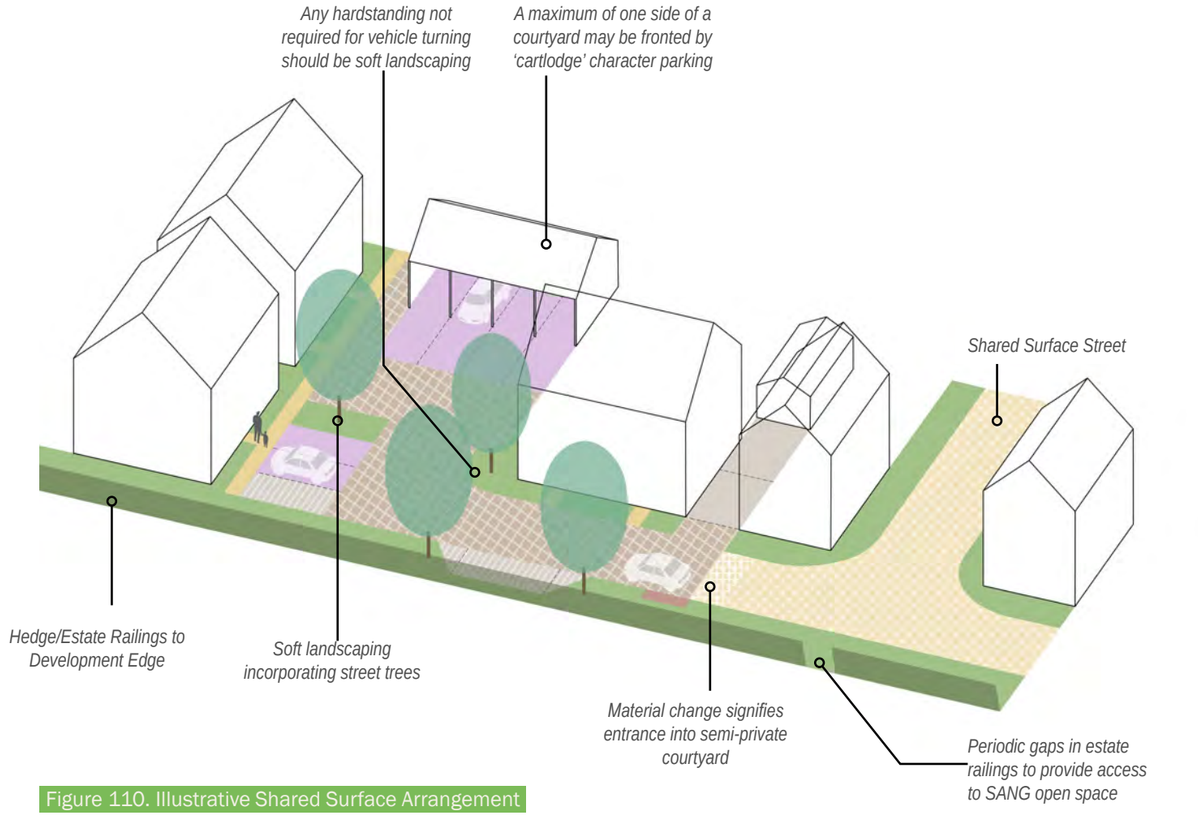
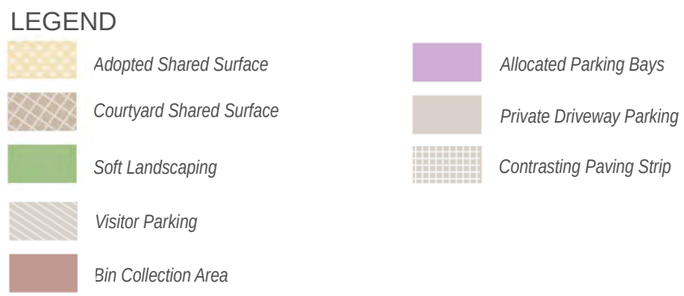


Figure 110. Illustrative Shared Surface Arrangement



Private Drives

This street type links to the Secondary and Shared Surface Streets and serves the peripheries of the development.

Serving no more than 5 units with a desirable maximum length of 18m, these are essentially a “Street Type H” Shared Surface.

Private Drives accommodate access to dwellings for all modes, through design to reduce vehicle speeds and movements to create safe and direct walking and cycling connections between properties and the wider active travel network.

Suggested material character - detailed interaction and specification to be agreed with the ECC highways authority.

Private Drive Requirements

i. These streets **must** have a combined pedestrian and vehicular surface width of at least of 6m behind a driveway to allow manoeuvring space. This is to facilitate egress from domestic parking spaces.

ii. Localised narrowings **should** be provided where appropriate for character purposes.

iii. Typically, refuse collection vehicles will not enter private drives, and any dwellings more than 25m from the highway **must** have a bin-collection point within that distance within 10m of the adopted highway.

iv. Parking facilities for each dwelling **must** be provided clear of the shared drive area, turning space, passing bays etc.

v. Drop kerbs **should** be provided to facilitate wheelie bin collection.

vi. Localised narrowings **should** be provided where appropriate.

vii. This road type **should** be a maximum of around 50m in length.

viii. The maximum gradient **should** typically be around 8%, but steeper gradients will be considered where the retention of existing topography is desirable, subject to the use of a special surface finish that affords better adhesion.

Example of Private Drive

ix. Direct access **should** be possible on both sides of the street.

x. Cycling **should** be on carriageway due to low volume of traffic on this street type. Cycling priority **should** be designed in through choice of materials, traffic calming measures and the design of junctions.

xi. The housing layout **should** ensure speed-restraint through deflection in street alignment by alternating the location of trees and parking bays and carriageway surface material.

xii. Private Drives **must** be in accordance with the Essex County Council Design Guidance and Street Materials Guide.

xiii. Shared surface private drives **must** provide access to a maximum of five dwellings.

xiv. Shared surface **should** be level surface with a change of material for pedestrian footways and shared surface crossing zones to indicate pedestrian priority

xv. A private drive taking access from a county route or street types A-E [Secondary Street] **should** be 5.5m wide for the first 6m from the street, tapering over 6m down to a minimum width of 3m.

xvi. Vehicle and pedestrian sight-splays **should** be in keeping with Manual for Streets guidance.

Place Requirements

xvii. Built form **must** create a good sense of enclosure within the building height parameters set out in section 10.4 Character and Built Form.

xviii. Built form, character, boundary treatments and typologies **should** reflect the character areas as set out in section 10.4 Character and Built Form.

xix. A constricted entrance **should** be created enclosed by buildings or walls for the first 8m back from the approach street (except for the 1.5m by 1.5m pedestrian visibility splays).

Parking Requirements

xx. Refer to Section 10.2 Parking Strategy.

xxi. Parking facilities for each dwelling **must** be provided clear of the shared drive area, turning space, passing bays etc. Adequate manoeuvring space **must** be provided to allow vehicles to enter and leave all garages and parking spaces when all other available parking spaces are full.

Service requirements

xxii. Street drainage to be determined **should** be incorporated within verges. Refer to Section 10.1 Drainage Strategy.

xxiii. Lighting **should** be on bollards specified to suit the intended character of the street.

xxiv. Car chargers provided on private driveways only.

xxv. Refuse collection vehicles **should** not enter private drives, and any dwellings more than 25m from the highway **must** require a bin-collection point within that distance, residents **should** not have to carry a bin more than 30m (excluding vertical distances). Drop kerbs **should** be provided to facilitate wheelie bin collection. Any dwelling more than 45m from the highway will necessitate use of the drive by fire tenders, in which case specifications **should** be as indicated in the ‘Access for Fire Tenders’ section of this guide, i.e. a minimum width of 3.7m and capable of carrying a 12.5-tonne vehicle.

Landscape requirements

xxvi. There **should** be planting alongside areas of hard-standing wherever possible.

xxvii. Planted areas, such as front gardens, **should** be aesthetically pleasing and incorporate complementary green infrastructure solutions.

xxviii. The planting palettes **should** differentiate and emphasis the various character areas within the masterplan area and to bring seasonal interest to the streetscape.

Private Drive

Private Drives key plan

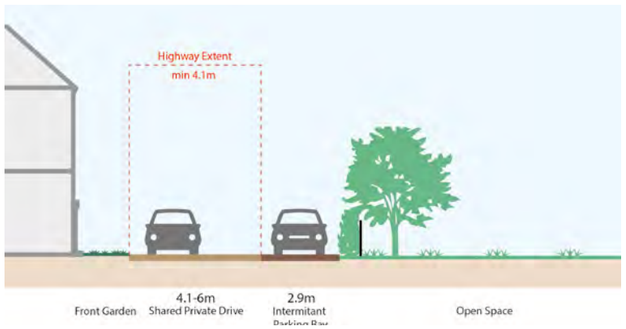


Figure 111. Illustrative Section Through Development Edge

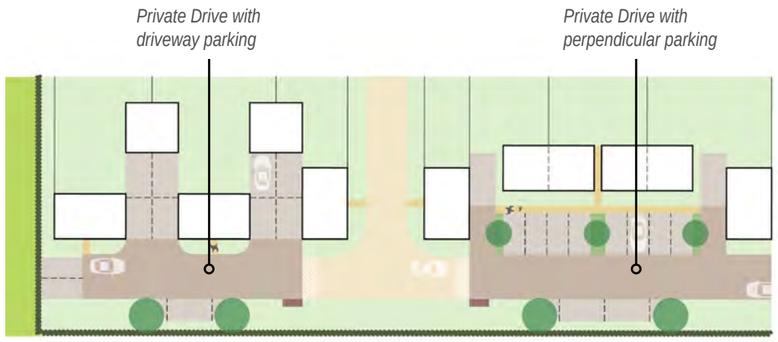


Figure 112. Illustrative Private Arrangement Plan

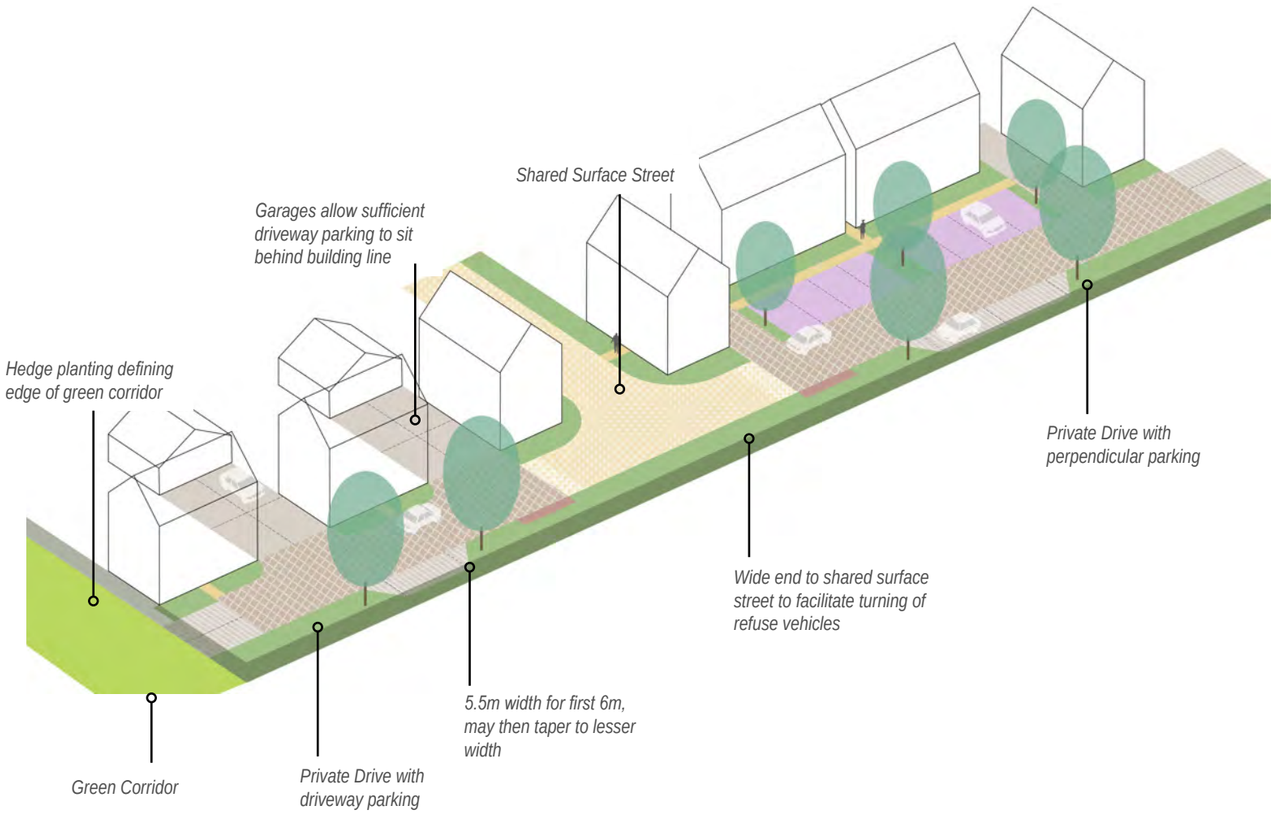
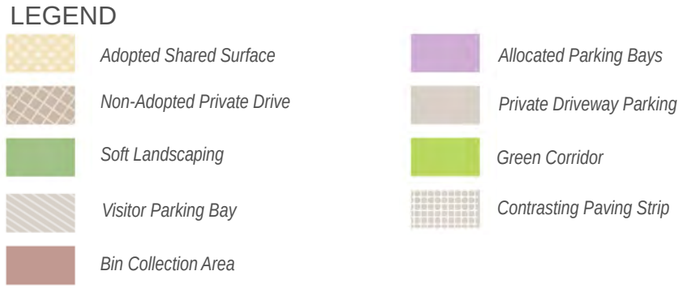


Figure 113. Illustrative Private Drive Arrangement



Green Corridors

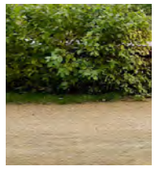
Providing essential pedestrian and cycle permeability through the development parcels, these a cycle / pedestrian only routes.

A series of well-designed green corridors connecting the development parcels and the wider Epping area will encourage active travel users throughout the site. The route will be designed to accommodate recreational space for residents, support biodiversity and habitats, and provide series of landscaping characteristics to produce an attractive route for all users.

Paths through the green corridors will form part of leisure and active travel routes throughout the development, and should reflect the principles thereof (see also Section 10.2 - Sustainable Access & Movement).

Suggested material character - detailed interaction and specification to be agreed with the ECC highways authority.

Foot/Cycleway



Green Corridors key plan

Green Corridor Requirements

i. Vehicle access **must** not be provided along the green corridor foot/cycleway.

ii. The foot/cycleway **must** have a minimum width of 3m.

iii. Vehicle streets **must** not be located along one side of the green corridor however a private drive is permissible the opposing side.

iv. The foot/cycleway **should** have priority where crossing a vehicular carriageway, indicated through materials and a level surface.

v. The green corridor **should** have a maximum width of 20m between private thresholds.

vi. The housing layout **must** ensure the foot/cycleway is well overlooked particularly considering the location and eventual height of trees.

vii. Surface material **must** be in accordance with the Essex County Council Street Materials Guide.

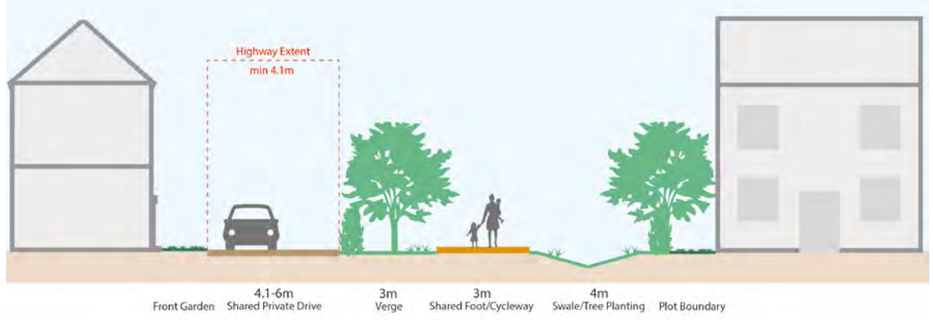


Figure 114. Typical Green Corridor

Place Requirements

viii. Built form **must** create a good sense of enclosure within the building height parameters set out in section 10.4 Character and Built Form.

ix. Built form, character, boundary treatments and typologies **should** reflect the character areas as set out in section 10.4 Character and Built Form.

x. Convenient walking access **must** be provided from the homes fronting onto the green corridor.

Service requirements

xi. Street drainage to be determined **should** be incorporated within the green corridor. Refer to Section 10.1 Drainage Strategy.

xii. Lighting **should** be on low level bollards specified to suit the intended character of the street.

Landscape requirements

xiii. These routes are key community assets, incorporating landscape, tree planting, SuDS, play, community growing, social and recreation spaces therefore **must** be an integral part of the design.

xiv. Particular attention **should** be given to the landscape treatment of junctions between Secondary Streets and Green Corridors

xv. The character of these areas **should** be natural and planting **should** be aesthetically pleasing and incorporate complementary green infrastructure solutions.

xvi. These corridors **must** be tree-lined with medium to large trees (15-20m in height) on either side of the swale.

xvii. The tree planting **should** be in continuous tree pit corridors to maximise the volume of soil for the roots.

xviii. The swale **must** be planted with appropriate vegetation that can withstand waterlogged and drought conditions, whilst also contributing to the proposed naturalistic character.

xix. Swale banks **should** generally be seeded but can include planting to base and/or banks.

Example of a Green Corridor

GREEN CORRIDOR

Key Space 1 - Ivy Chimneys Entrance Space

The Ivy Chimneys Road entrance road runs through a landscaped open space. Landmark buildings are located on the prominent corners on either side of the Entrance Street.

- There is potential for a low brick structure incorporating shrub/hedge planting to create a entrance welcome feature.
- Dwellings at key corners must provide architectural detailing and active frontages onto the open space.
- To enhance views towards focal buildings and the wider development, where possible, tree planting and low-level shrub planting used to define key viewing lines.

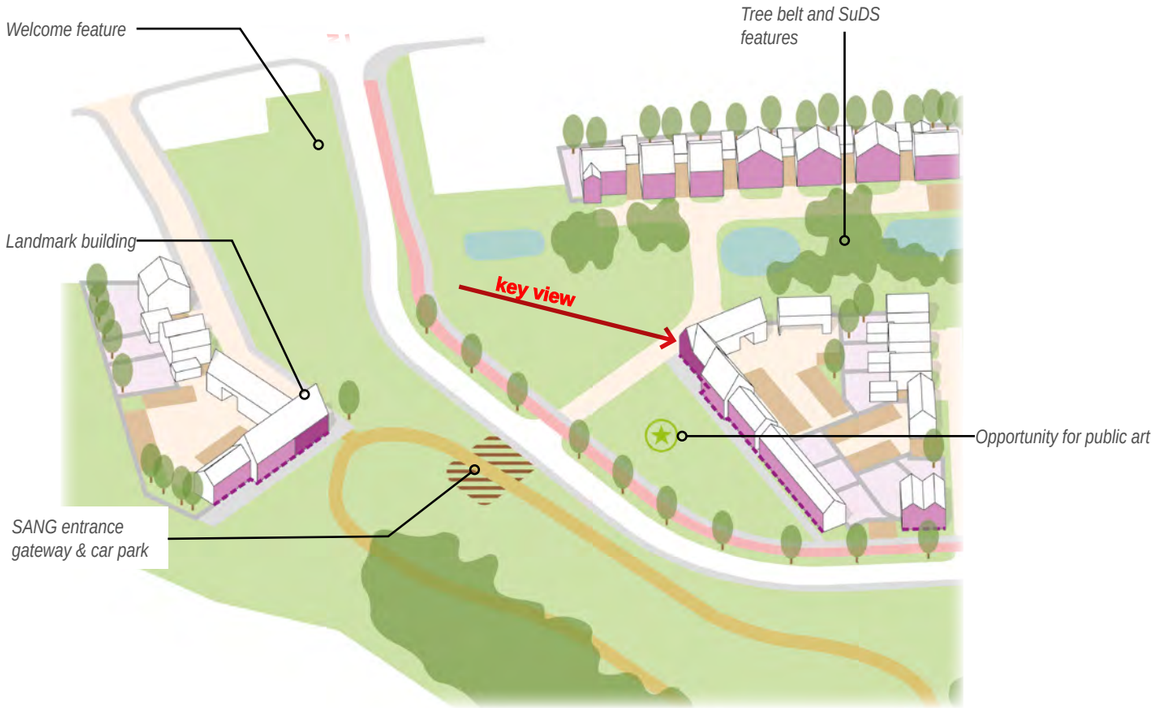


Figure 115. Schematic diagram of the Ivy Chimneys Entrance Space

Ivy Chimneys Entrance Space Requirements

i. The built form upon arrival at the Ivy Chimneys Entrance **must** be of architectural merit, creating key views and focal points.

ii. Building heights **must** be sensitive to the existing built form along Ivy Chimneys.

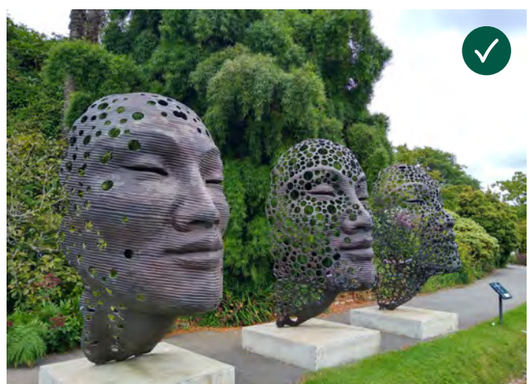
iii. Where the overhead power line easement allows, tree, hedge and shrub planting **should** be implemented, where trees are not feasible, shrub and hedge planting **should** be implemented.

iv. Planting **must** be used to define the gateway entrance.

v. Only trees and vegetation required for access **should** be removed.

Precedent Images

An example of a low brick structure with clipped hedge and development name creates an entrance welcome feature



Public Art precedent

Sculpture incorporating biodiversity habitat

Key Space 2 - Fluxs Lane Entrance

Up to three storey development located at the Fluxs Lane entrance will provide a gateway feature and frontage onto the Brook landscape corridor on the northern side. Key features of this space are:

- Apartments or town houses providing frontage onto the Entrance Road with potential for balconies overlooking the brook corridor landscape.
- Parking to the rear allows for the existing boundary trees and watercourse to be retained within an accessible semi-private amenity space.

Fluxs Lane Entrance Requirements

i. Three storey elements **must** be located toward the southern edge of this development parcel to ensure a sensitive relationship with existing two storey dwellings on Brook Road and Stewards Green Road.

ii. The built form **must** create a landmark feature at the entrance through rich architectural detailing of the key corner.

iii. The 10m habitat buffer to the watercourse **must** be preserved as undeveloped semi natural landscape.

iv. The boundary fencing associated with the school playing fields **must** be disguised by hedging and a minimum 2m landscape strip maintained on the development parcel side.

v. A single vehicular crossing of the segregated cycle route **should** be provided to gain access to this parcel.

vi. Rear courtyard parking **should** be utilised to enable a car free frontage and minimise crossing points of the cycle route.

vii. Low level drought resistant shrub planting **must** be provided to the front of apartment buildings to separate the built form from the cycle path.

viii. Only those trees required to facilitate the entrance junction **should** be removed.

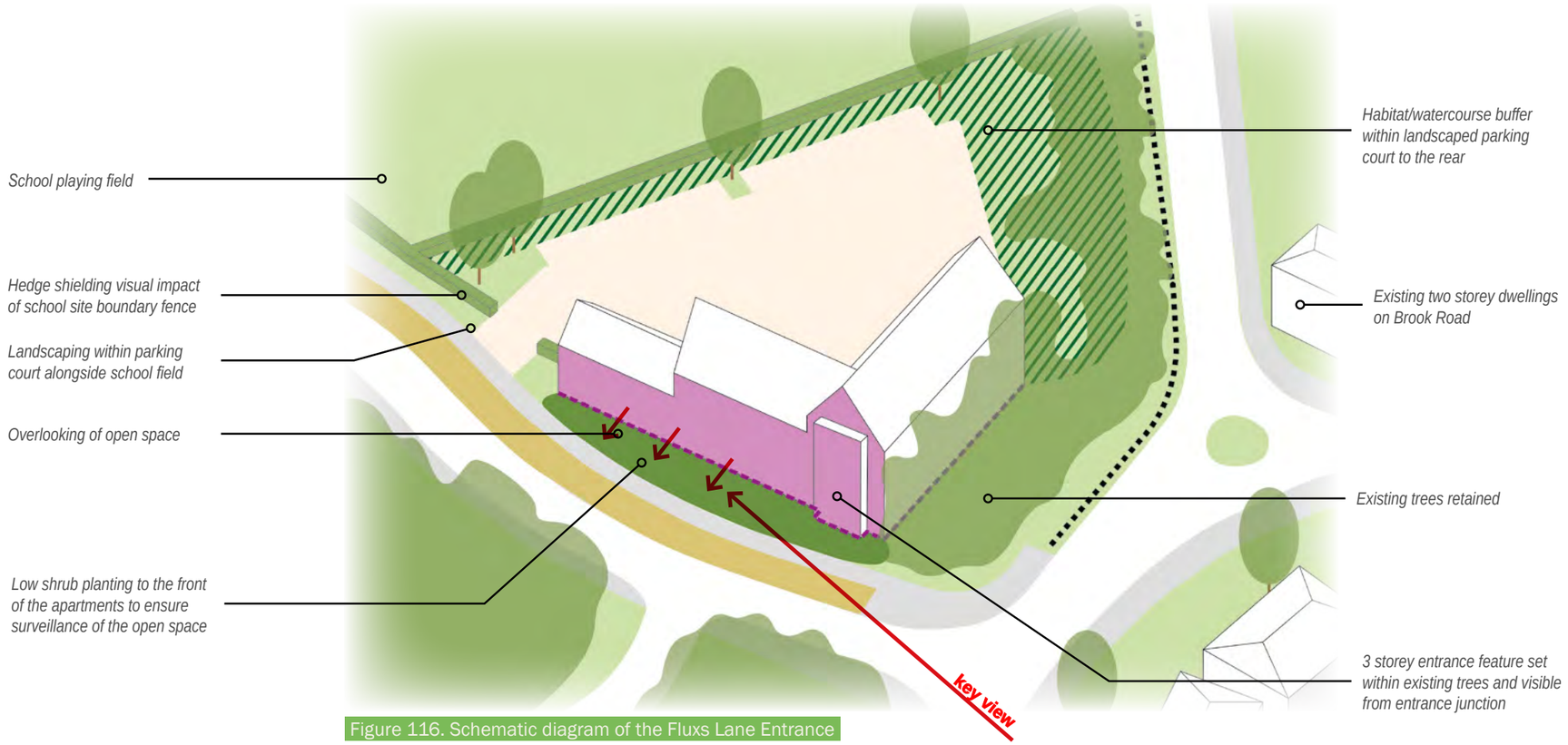


Figure 116. Schematic diagram of the Fluxs Lane Entrance

Precedent Images

Precedent image demonstrating a prominent building fronting open space

Precedent image demonstrating facade detailing at key corner

Frontage incorporating a mix of 2½ and 3 storey dwelling types with rear parking

Key Space 3 - Village Green

The Village Green creates a focal community space within the western parcel. Key features of this space are:

- The footpath within the north/south green corridor runs across the open space.
- The segregated cycle route runs along the northern edge.
- A LAP incorporating a feature structure located within the Village Green to be visible at the end of vistas from the west.

Village Green Requirements

i. Built form **must** provide a good sense of enclosure to the space by ensuring continuity of frontage at particularly at key locations.

ii. Roof form **should** highlight the intersections between the Village Green and the routes which radiate from it, with particular emphasis where the green corridors meet the Village Green.

iii. Corner buildings with articulation to both the front and side façades **must** define key intersections.

iv. A level crossing of contrasting material to the carriageway **must** align with the route of the north/south green corridor footpath.

v. The number of crossings of the segregated cycleway **should** be minimised through the use of rear courtyard parking, parking on tertiary side streets and/or grouped accesses.

vi. The play space **should** provide a focal structure visible within views along the main street.

vii. Building heights **should** be maximised within the permitted parameters in order to maximise enclosure of the space.

Figure 117. Schematic diagram of the Village Green

Precedent Images

A precedent of a landscaped open space with a swales running alongside one edge with shrub and tree planting

The play area becomes a focal feature within the space

Precedent showing the intersection between the green corridor and the carriageway around the Village Green

viii. Where terraces with perpendicular parking form part of the frontage they **should** only be used in limited areas such as at the end of the vista from the west and on the southern side where there is no cycle route.

Landscape requirements

ix. Seating **should** be provided for supervision and social interaction.

x. Signage indicating ownership, age range limitations and other management requirements **should** be clearly displayed for the play space.

xi. Litter and dog bins **should** be place where they are clearly visible and located at entrances/exits to ensure they are convenient.

xii. All lighting within the Village Green **must** ensure an inviting, safe and useable space during all hours of the day, whilst being considerate of local wildlife using nearby green corridors.

xiii. Peripheral planting **should** provide a defensible boundary due to the surrounding road network. However, it **should** be maintained at a height that allows the space to be passively surveyed.

xiv. Cycle racks **should** be provided to encourage the use of the nearby active travel route to travel to and from the Village Green.

Key Space 4 - School Square

A school building located at the south western corner of the school site will create enclosure to a hard landscaped community space, doubling as a gathering space for children and parents prior to the opening of the school gates. Key features of this space are:

- Two sides of the space is defined by built form and the third is defined by the existing tree belt following the brook.
- A hard landscaped space sitting outside the secure school site boundary creating the opportunity for dual use as a community hub.

School Square Requirements

i. Rear courtyard parking **must** be utilised serving dwellings within the parcel immediately to the west of the school square, to remove cars from this space.

ii. A residential building of increasing height **must** define the western side of the school square. As a prominent building in views from the Fluxs Lane entrance, this frontage **must** be well articulated especially within its roof from.

iii. The segregated foot/cycleway **must** run alongside the southern edge of the hard landscaped square.

Landscape Requirements

iv. The School Square **should** function as a focal space suited to the provision of formal and informal community-oriented events.

v. The School Square **must** be designed as meeting place and **must** effectively use surface materials and defensible space to welcome all users whilst ensuring safety.

vi. Street trees **must** be provided within the School Square to frame the space and to provide containment, **must** not compromise the flexibility of the space.

vii. Additional below-canopy peripheral planting **should** be incorporated provide a defensible boundary to the square.

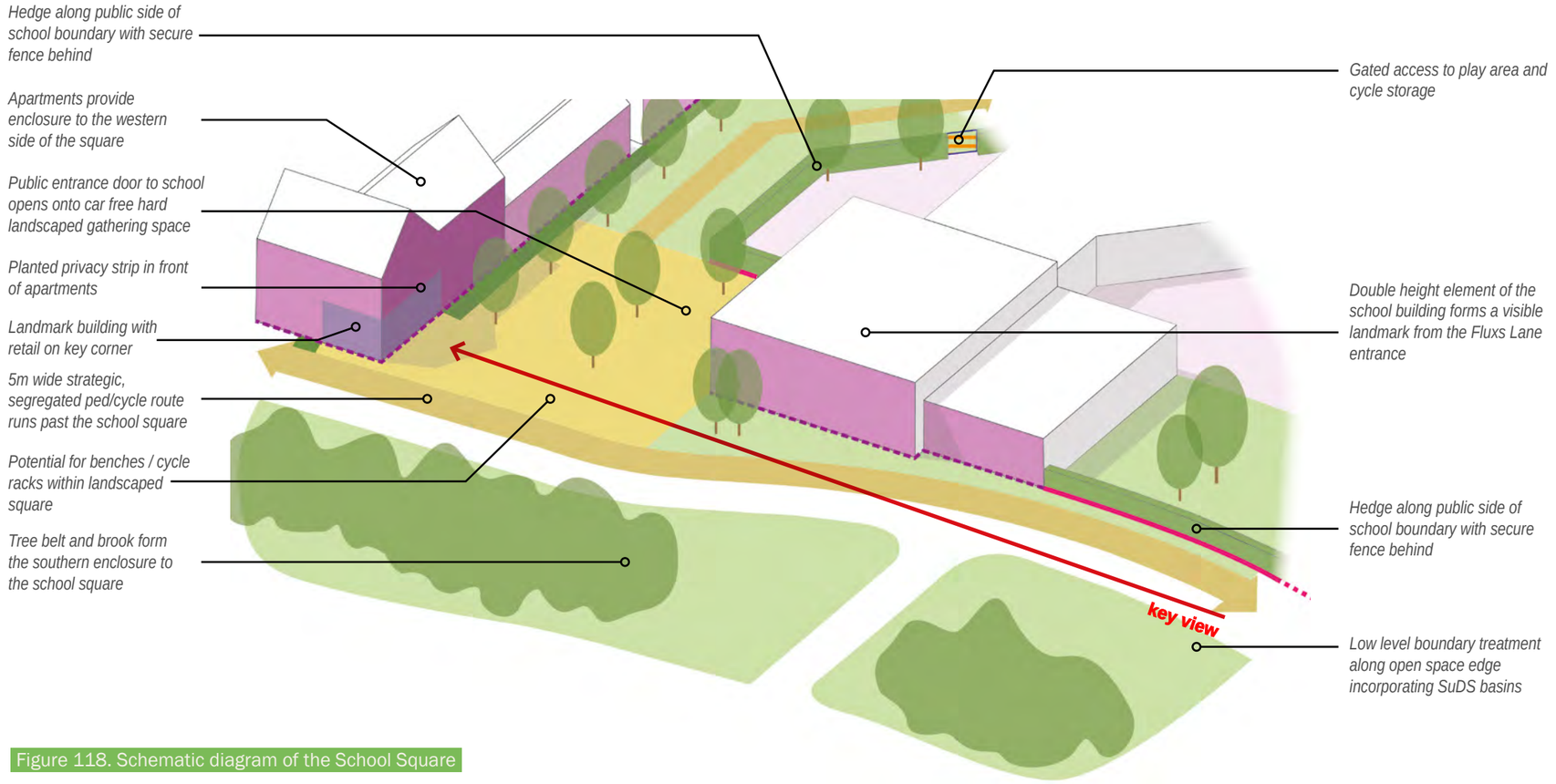


Figure 118. Schematic diagram of the School Square

Precedent Images

A precedent of a education building creating a backdrop for a hard landscaped public gathering space

viii. Seating **should** be provided for supervision and social interaction.

ix. Street art **should** be explored to enliven and enhance the public realm. Street art **must** be of the highest quality, be informed by public participation and involvement, have local relevance and significance, and involve artists in the design process.

x. The School Square **must** be accessible to people with a range of abilities with clearly signed routes and wayfinding.

xi. Routes to the School Square **must** have step-free alternatives.

xii. The School Square **must** use tactile surfaces to delineate space for those with visual impairments.

xiii. Litter and dog bins **should** be placed where they are clearly visible and located at entrances/exits to ensure they are convenient.

xiv. External lighting within School Square **must** ensure an inviting, safe and usable space after nightfall, whilst also being considerate of local wildlife living in the Brook Valley.

xv. Retail provision on the school square should be clearly legible as a retail element in it's architectural and threshold treatment.

Key strategies for a compact, human-scale built form

- Use the landscape setting and topography of the site to inform the built form and block structure.
- Allow dwellings to sit comfortably in their setting through scale, form, sensitive boundary treatments, considering key views between the site and neighbouring heritage assets.
- Ensure dwellings are of an appropriate scale in relation to the surrounding neighbourhood of South Epping, taking design cues wherever possible to create a distinctive local character.
- Maximise the potential benefits of passive solar design through effective site layout.
- Mitigate the visual prominence of electricity pylons.
- Incorporate variety within the streetscape, punctuated by moments of key spaces accentuated through built form and landscape design treatments to facilitate ease of wayfinding.

Purpose of the Character Strategy Plan

In addition to the network of public realm spaces described above, character within the SEMPA will be generated by the dwellings themselves. Overarching requirements of building height and block structure are provided for the whole SEMPA followed by instructions according to the character areas.

The character areas described within the SMF have been further articulated through the identification of frontages. It is important that the frontage character varies according to the street or space type onto which they front. This provides each street with a distinct character and identifies the street within the street hierarchy.

See Also:

EFDC Local Plan Policy SP2, SP3 and DM9

Essex Design Guide

Epping Conservation Area character appraisal

Bell Common Conservation Area character appraisal

Distinctly Local (PTEA and Proctor Matthews Architects)

Essex Design Guide - Alternative Development Models (Jas Bhalla Architects)

Within each character area frontages either face:

- The development edge;
- The internal street network;
- Secondary streets; or
- Key spaces.

The plan opposite identifies the frontages within each character areas and the following pages provide requirements for building line, frontage and typology requirements for each. This should be read in conjunction with the vehicular access, street hierarchy, parking and public space requirements.

Built form requirements

i. Primary frontages **must** address the highest ranking street or open space most strongly.

ii. The higher ranking frontage **should** feature the most overlooking and most continuity of built form at corners (least blank frontage) and the most articulation. Exceptions to this hierarchy may be made where frontages must also respond to key gateways or vistas.

iii. The building line and frontages **should** be consistent with the principles described in the table associated with each character area.

iv. Streets, open spaces, parking courts and access points **must** be well-overlooked. Activity and natural surveillance **must** be maximised through the placement of doors, windows and balconies as well as the density of dwelling frontage.

v. Blank frontages to streets and open spaces **must** be minimised.

vi. All ground-floor dwellings **must** have their principal entrances clearly defined and emphasised through the architecture.

vii. Connecting features which allow semi-detached and detached dwellings to form a continuous frontage **must** be integral to the design of the dwelling.

viii. Development edges **must** be framed by special frontages, as described, that contribute to the quality and character of the space as well as the perception of overlooking and activity.

ix. Reference **should** be made to local vernacular built character study to inform the architectural design of dwellings, the composition of groupings, and frontages. A summary of those elements from the SMF character study that may be drawn upon are provided on the following pages.

Roof forms

x. Roof forms **must** vary to support character and wayfinding. More varied roof heights and forms **should** be used around key nodes and primary junctions whereas smaller streets **should** have more consistent roof lines.

xi. Roof form and orientation **should** consider optimum orientation for photovoltaic panels.

Architectural Design

xii. While each character area has materials palette containing slight variations, there **must** be a coherent and consistent SEMPA wide approach to material selection that responds to street and open space hierarchy in order to aid wayfinding and sense of place.

xiii. There **should** be a SEMPA wide coherent and consistent approach to architectural design which is modified within each of the character areas to provide variety within this overarching design approach.

xiv. Materials and architectural style **should** transition gradually between character areas, avoiding any abrupt or discordant changes in character.

Streetscape

xv. Elements such as boundary treatments, setbacks and parking **must** follow the requirements as set out within each character area.

xvi. All boundary treatments visible from the public realm **must** be designed to contribute positively to the street scene and must be of high quality e.g. brick wall or hedges.

Figure 119. Character Area & Built Form Plan

Block Structure Principles

Developable land should be used efficiently to maximise the land available for high-quality new homes. Compact development will support many of the design ambitions of the code including walkable, legible and human-scale streets, improved overlooking of open spaces and the opportunity to orientate buildings and blocks for maximum energy efficiency. A compact block form will be required to deliver an appropriate density.

Block Structure requirements

i. The overall layout **must** be based on a grid of small perimeter blocks in broad accordance with the Design Code Sustainable Access and Movement and Street Hierarchy Plans (in Section 02: Movement) and the SEMPA SMF Access and Movement Parameter Plan.

ii. The block structure **should** be in broad accordance with the Character and Built Form plan on the previous page, with flexibility in precise dimension and geometry of blocks. Blocks **must** not be combined to create larger blocks. Smaller blocks may be tested.

iii. Block structure **should** respond wherever possible to key strategic views and vistas and maximise opportunities for further views to site features and landmarks.

iv. The site layout **must** be planned to address the topography and therefore the gradients of streets.

v. Blocks **should** be broadly orientated to maximise north/ south frontages to dual-aspect homes.

vi. Block size and typologies **must** vary across the site in line with the density strategy as well as the character of the street or space that the building fronts on to. Types of block are shown opposite. On the lower parts of the site, back to back garden blocks, with or without internal mews/parking courts and apartment blocks all are appropriate. However on the higher more visually exposed land, Edge Courtyard forms **should** be used to reflect the character of the rural Essex vernacular and create a more informal development edge.

vii. All blocks **must** have built form on the corners and the corner building frontages **must** contribute to the public realm through habitable room windows and balconies, facade articulation and threshold/front garden design.

viii. At intersections between key routes, apartments or specific corner house typologies **must** be used to minimise blank frontage whilst providing adequate rear garden amenity and privacy.

ix. Specific corner house typologies **must** also be used where a secondary frontage of a block is not well overlooked.

x. Corner buildings **must** maintain the building line or step forward intentionally to provide focal points or pinch points/ bookends for positive placemaking.

xi. Corner houses and apartments **should** be designed to fit the angle or curve of the street, i.e. where the corner is not a right angle this **must** be reflected in the built form.

xii. The block structure **must** take account of the position of the electricity pylons and avoid streets aligned which create framed views of an electricity pylon.

xiii. Dwellings **should** be set back from the development edge, where they are adjacent to an electricity pylon, by a front parking court and generous edge planting.

Back Garden to Back Garden Block

xiv. Back to back blocks are formed by single family dwellings, with active frontages enclosing and overlooking the street or public realm.

xv. Back to back blocks **must**:

- Clearly identify and distinguish between public and private realm;
- Observe minimum garden sizes as set out in the Essex Design Guide; and
- Observe minimum back to back distances between rear façades as set out within the Essex Design Guide unless otherwise agreed.

Figure 120. Illustrative example of block typology

Perimeter Blocks with Internal Mews or Parking Court

xvi. Perimeter blocks will typically include a combination of single family dwellings and apartment buildings, with amenity space and parking to be primarily provided within an internal court for apartments.

xvii. Perimeter blocks with mews or parking courts **must**:

- Be well overlooked to provide passive natural surveillance;
- Be attractive and well designed, and provide occasion for informal play and social interaction;
- Include planting and a combination of hard and soft landscaping;
- Clearly identify the separation between public and private realm, with a controlled and potentially secured access.

Figure 121. Illustrative example of block typology

Apartment Blocks

xviii. Apartment blocks will generally be used in higher density areas. They have the specific purpose of accommodating apartment buildings with their associated parking courts.

xix. Apartment blocks **must**:

- Avoid single aspect north facing units;
- Provide a combination of communal and private outdoor amenity space to standards set out within the Essex Design Guide
- Have clearly identifiable entrances that address the public realm;
- Clearly mark the separation between public and private realm;
- Provide ground floor units with outdoor defensible space or balconies that are secure from external access;
- Have well lit and secure access to communal bike and refuse storage for residents only;
- Ensure that all apartments have space to dry clothes either within the apartment or within a communal facility.
- Provide communal outdoor spaces that are private and not visible from the street or other public areas but overlooked by the occupants of the dwellings they serve.

Figure 122. Illustrative example of block typology

Edge Courtyard

xx. Located with the Hillside Edge character area this arrangement utilises parking within front courtyards.

xxi. Edge courtyards **must**:

- Be well overlooked to provide passive natural surveillance;
- Be attractive and provide occasion for informal play and social interaction;
- Include planting and a combination of hard and soft landscaping screening parking bays within the courtyard to reduce visual impact of parked cars when viewed from the SANG.

Figure 123. Illustrative example of block typology

Heights strategy

The overall heights strategy is based on the SEMPA SMF Building Heights Parameter Plan. Further heights refinements have been made to suit the additional work undertaken on block structure and placemaking.

Local landmarks

It will be important to include variety in building heights and roof forms within streets to avoid monotonous streetscapes and skylines. The plan opposite indicates where moments of height should be used as landmarks at key nodes or to terminating vistas. These height markers will avoid the development appearing as a solid mass of built form.

Street enclosure

Whilst all streets will need to be residential in scale, the ratio of building height to street width will have a significant impact on the character of the street. Taller buildings and narrower street widths give a greater sense of enclosure.

Building Height requirements

i. The overall heights strategy **should** be generally in line with the plan opposite. However these heights should be regarded as maximums, not targets. Where there are deviations, these **must** be justified in technical or placemaking terms.

ii. Building heights **must** be tested for visual impact on key points in the surrounding areas alongside proposed ground levels.

iii. Apartment buildings **should** be modelled to create a varied roofline.

iv. Streets **should** include variety in building heights and roof forms to avoid monotonous streetscapes and skylines.

v. Taller built elements (indicated by asterisk in plan) **should** be provided at points that terminate vistas or at significant nodes. For example:

- Around green spaces;
- At key site gateways;
- At key intersections such as the junctions detailed in the Public Space and Identity section;
- At corners; and
- Terminating key vistas.

vi. The degree of enclosure within streets **must** correspond to street type. Where this cannot be achieved due to limitations on building heights, a sense of enclosure **should** be incorporated by other means such as tree planting or house typologies with continuous frontage such as terraces.

vii. Building heights **must** consider daylight and sunlight to private amenity, habitable rooms and other internal spaces that require natural light.

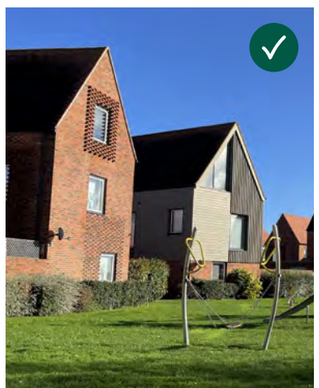
Architectural Form & Character References

Example of tall building at key corner

Example of tall building at key corner coordinating architecturally with neighbouring two storey dwellings

Example of taller building at corner with material change and forward facing gable

An example of two taller buildings at a key junction, with variation in roof type and material



Taller buildings siding onto a green corridor

Figure 124. Building Heights Strategy Plan

Mandatory Requirements

An overview of the Waterside Edge Character Area is provided in SMF Section B.5.

Reference should be made to local character reference pages 162-163.

- **Density Parameter - 40-50dph (small portion of 35-40dph)**
- **Building Height Parameter - 3 storey maximum (small portion of 2½ storey)**
- **Refer to Village Green Key Space for frontage requirements in this location**

** For Key Space Frontage see Section 10.3 Public Spaces & Legibility*

Required Features Across the Character Area

Urban form requirements

i. Key prominent corners **should** be defined by three storey apartment buildings with rear courtyard parking thus removing cars from key spaces.

ii. The housing layout **must** enable green corridors to be car free on one side with potential for a private drive to run along the opposing side.

iii. The build line **should** be predominantly consistent however dwellings may be slightly staggering to add visual interest.

Built form requirements

iv. A predominance of dwellings incorporating forward facing gables **should** be used in order to create a rhythm of gables along the development edge and coordinating design motifs used along adjacent internal streets.

Architectural character requirements

v. A contemporary architectural style **should** be adopted with simply detailed window and door openings.

vi. Material colours observed in the local Georgian/ Victorian architecture **should** be reflected.

vii. Windows should be vertically proportioned with decorative brick detailing to brick dwellings. Some dwellings should feature horizontal bands to help with façade proportions.

viii. Dwelling design **should** feature a larger proportion of glazing within the north facing façades.

ix. Dwellings fronting tertiary streets **should** echo the style and form of the principal northern development edge frontage but in a two storey format.

Boundary treatment requirements

x. Brick wall, black railings and clipped hedges are typical front garden boundary treatments found in the area and should to reflected as set out in the table opposite.

xi. To support the variety of dwelling types a variety of boundary treatments designs should be used.

Architectural Form & Character References


Precedent image of 3 storey dwellings with forward-facing gables


Precedent image of 2.5 storey dwellings with 3 storey corners


Precedent image of 3 storey dwellings with integral garages


Precedent image of 2 storey dwellings coordinating with the development edge frontage

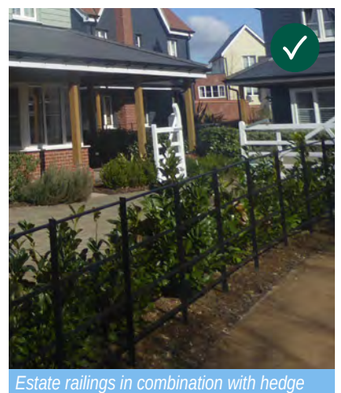
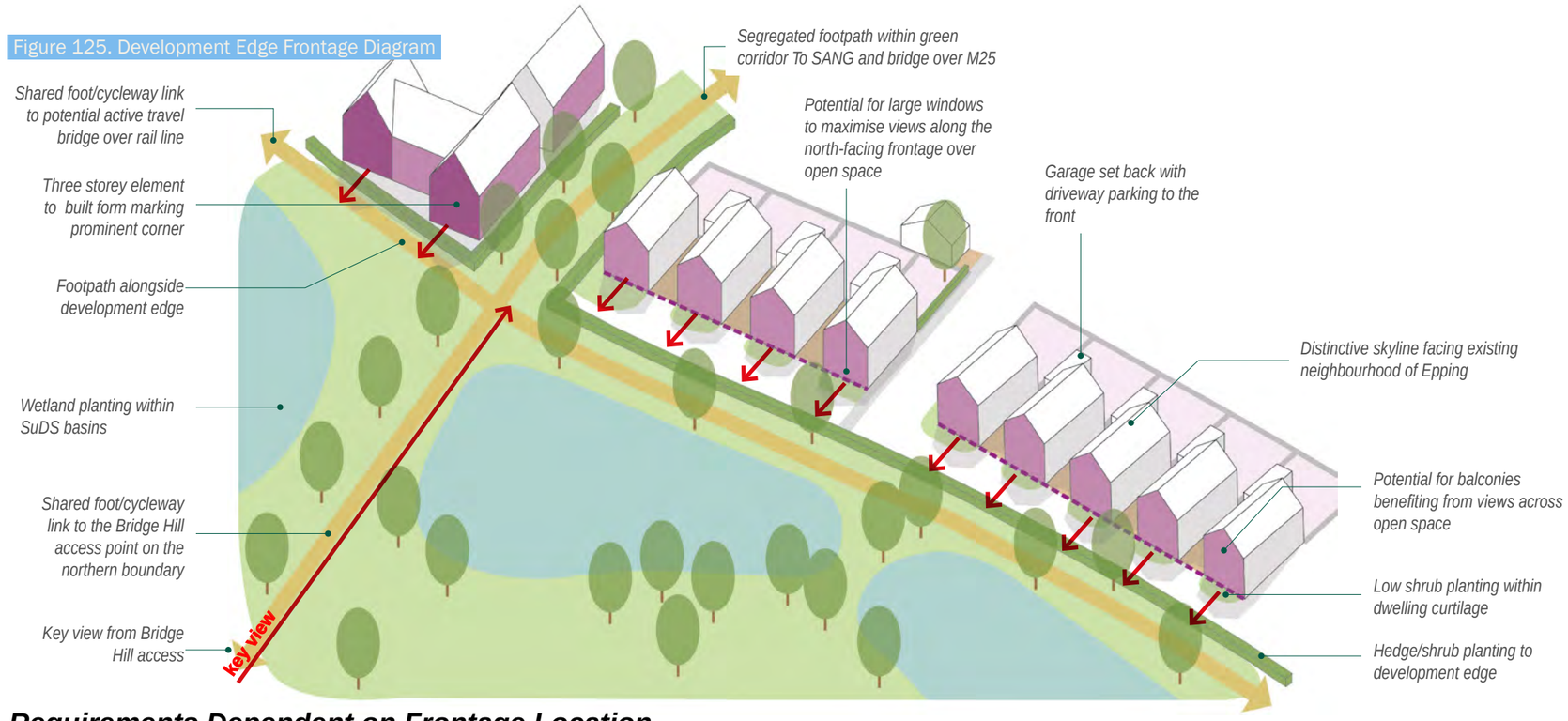

Estate railings in combination with hedge planting development edge boundary

Figure 125. Development Edge Frontage Diagram

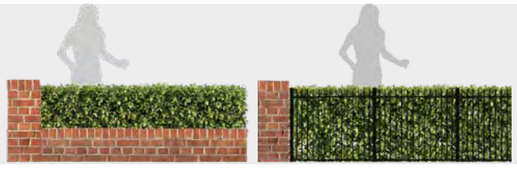


Materials Requirements

xii. This character area **should** adopt a limited material pallet to ensure a coherent visual aesthetic is created. The emphasis **must** be buff brick on pale cream and white rendered façades.

xiii. Roof materials **should** be primarily grey slate with occasionally red clay tiles.

Requirements Dependent on Frontage Location

	Building Line & Built Form	Boundary Treatments & Setback	Boundary Illustration	Typologies
Development Edge Frontage	• A regular rhythm of forward facing gables must be apparent • Formal, consistent building line within groupings • 1st/2nd floor balconies benefiting from views across the wide green corridor should be considered	• Estate railings in combination with hedge planting separating the private drive/shared surface street from the footpath/shared foot/ cycleway within the open space • Low shrub planting within dwelling setback, no walls or fencing		• 3 and 4 bed town houses in pairs /terraced or link detached • 1 and 2 bed apartments in key locations
Internal Tertiary Street Frontage inc. alongside Green Corridors	• Less density to building line than along Secondary Streets • Roof form should echo that of the development edge but greater degree of flexibility	• Low shrub planting within dwelling setback, no walls or fencing • Any street tree planting must not be included within private defensible space • Rear garden boundaries where visible to the public realm must be brick.		• 2, 3 and 4 bed terraced and semi-detached dwellings, occasional detached dwelling • FOGs, especially along green corridors
Secondary Street Frontage	• Maximise density of build line through use of connected dwelling types • Should have a coherent materials palette either side of Street	• Low wall with hedging or estate railings with hedge planting, to pavement edge within the plot boundary. • Rear garden boundaries where visible to the public realm must be brick.		• 2 storey terraced, semi detached and detached dwellings • 1 and 2 bed apartments in key locations

The Waterside Edge Character Area makes reference to buildings at:

- **Bell Common Conservation Area, Epping;**
- **Brook Road, Epping;**
- **Epping Town Centre Conservation Area; and**
- **Newhall, Harlow.**

This page demonstrates area provides reference for housing layout, materials, public realm treatments and architectural features.

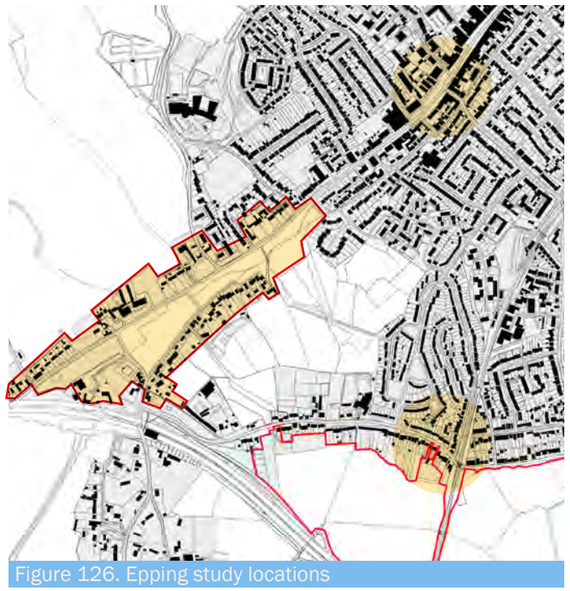


Figure 126. Epping study locations

Housing Layout Area Requirements

xiv. Dwellings located within the Waterside Edge Character Area **should** reflect the following features:

Window composition & proportions Symmetrical arrangement of vertically proportions windows within the gable facade.

Roof form: Forward facing gables are a key feature of the development edge frontage.

Materials: changes should occur in a logical fashion, e.g. from one storey to another or to articulate a part of the structure such as a cross gable or window bay.

Building Line: Repetition of built form within dwelling groupings.

Roof form: Mix of roof orientation along frontages facing internal streets.

Architectural detailing: Simplified interpretation of Georgian/ Victorian architectural features such as ground floor bay windows, brick banded at first floor level and overhanging eaves.

Verge planting: Low shrub planting at junction between development edge and tertiary streets.

Materials: Predominantly buff brick and white/ cream render with slate (colour) roof.

Mandatory Requirements

An overview of the Brook Valley Character Area is provided in Section B.6.

Reference should be made to local character reference pages 166-167.

- **Density Parameter - 30-35dph.**
- **Building Height Parameter - 2½ and 3 storey maximum.**
- **Refer to School Square Key Space for frontage requirements in this location**

** For Key Space Frontage see Section 10.3 Public Spaces & Legibility*

Required Features Across the Character Area

Urban form requirements

i. Potential for apartment blocks with rear courtyard parking to provide landmarks at key corners. These **should** be well integrated into the street scene.

ii. Frontage density is in general tighter along the landscape edge with more flexibility within the parcels

Built form requirements

iii. Gable roofs **should** be predominantly aligned with the street to maximise south facing potential for solar energy generation.

iv. Perpendicular parking **should** be limited and landscape screening / street tree planting used between blocks of six parking spaces.

Architectural character requirements

v. The architectural style **should** reflect a simplified interpretation of Georgian/ Victorian architectural features as observed in the local area. (See following pages)

vi. Windows should be vertically proportioned with decorative brick detailing to brick dwellings. Some dwellings should feature horizontal bands to help with façade proportions.

vii. Within internal streets, smaller units arranged in semi/terraces **should** have decorative stone window surrounds.

viii. Weatherboarding **should** provide accents for corner turning units.

Boundary treatment requirements

ix. Brick, black railings and clipped hedges are typical front garden boundary treatments found in the area and should to reflected as set out in the table opposite.

x. To support the variety of dwelling types a variety of boundary treatments designs should be used.

Architectural Form & Character References

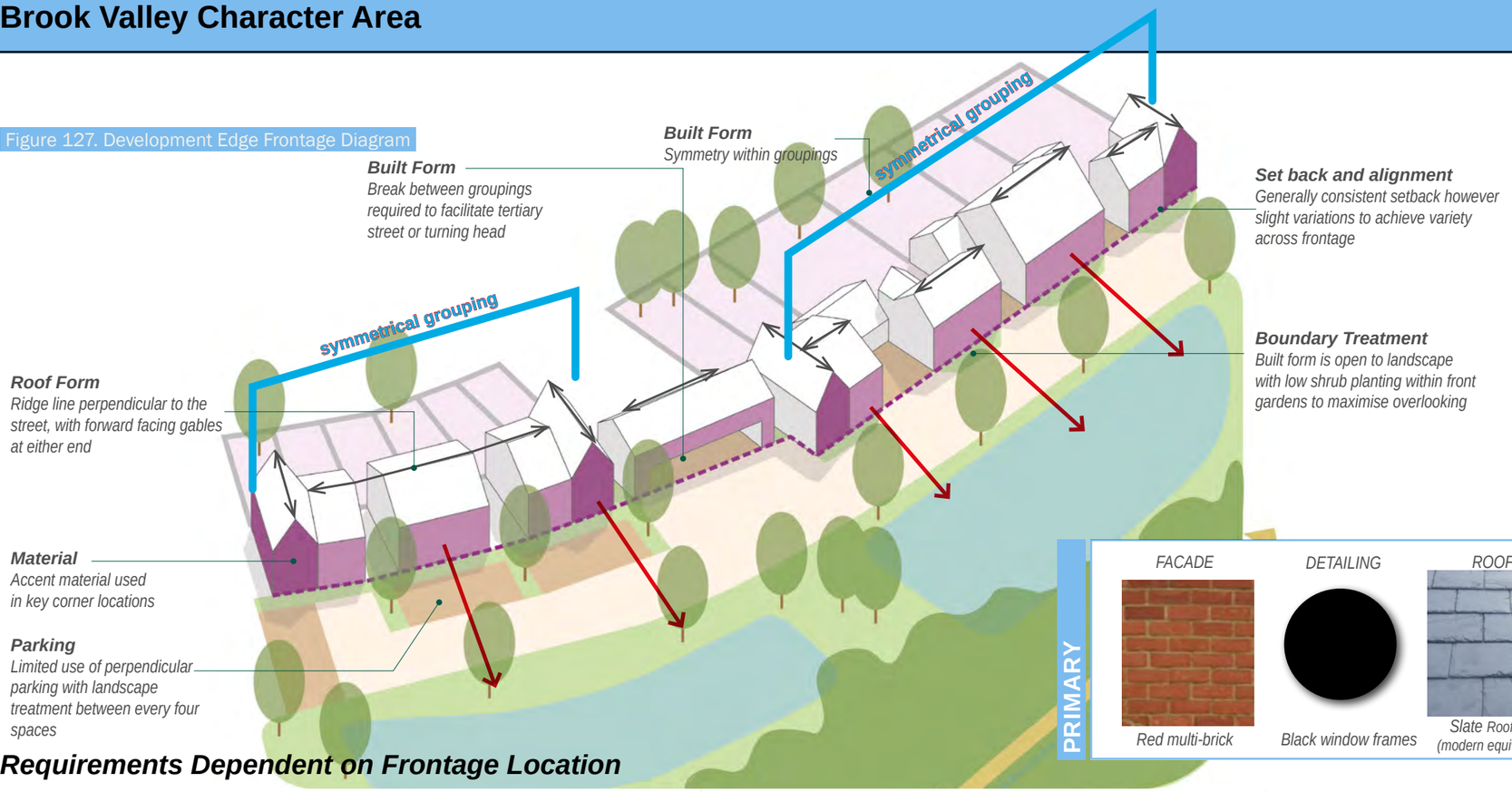
Precedent image showing high level of continuity across the frontage

Precedent image of symmetrical arrangements of dwellings along each section of frontage

Precedent image for apartment building overlooking open space with second floor recessed balconies

Precedent image of 3 storey dwellings with integral garages

Figure 127. Development Edge Frontage Diagram

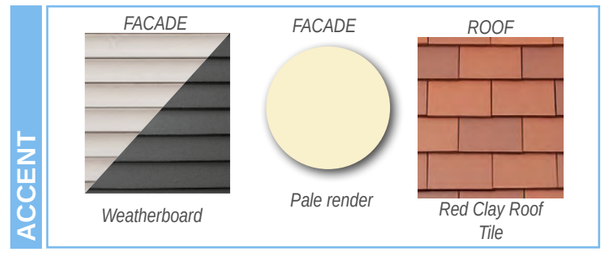


Materials Requirements

xi. Materials which resemble the local vernacular materials **should** be the predominant materials used within this character area.

xii. A red multi brick **should** be the main facade materials with accents created with weatherboarding and pale shades of render.

xiii. Roof materials **should** be primarily grey slate with occasionally red clay tiles.



Requirements Dependent on Frontage Location

	Building Line & Built Form	Boundary Treatments & Setback		Typologies
Development Edge Frontage	• Symmetry in dwelling groupings should be apparent • Groupings **should** use forward facing gables to accentuate corners with forward facing gables • Maximise density of build line through use of connected dwelling types	• Low shrub planting within plot boundary • No walls or fences to development edge in order to maximise overlooking of open space		• 2 storey terraced, semi detached and detached dwellings • 1 and 2 bed apartments in key locations
Internal Tertiary Street Frontage inc. alongside Green Corridors	• Less density to building line than along Secondary Streets	• Low shrub planting to front boundary, no walls or fences • Any street tree planting must not be included within private defensible space • Rear garden boundaries where visible to the public realm must be brick.		• 2, 3 and 4 bed terraced and semi-detached dwellings, occasional detached dwelling • FOGs, especially along green corridors
Secondary Street Frontage	• Maximise density of build line through use of connected dwelling types • Should have a coherent materials palette either side of the street	• Low wall with hedging or estate railings with hedge planting, to pavement edge within the plot boundary. • Rear garden boundaries where visible to the public realm must be brick.		• 2 storey terraced, semi detached and detached dwellings • 1 and 2 bed apartments in key locations

The Brook Valley Character Area makes reference to buildings at:

- **Bell Common Conservation Area, Epping;**
- **Brook Road, Epping;**
- **Epping Town Centre Conservation Area; and**
- **Newhall, Harlow.**

This page demonstrates area provides reference for housing layout, materials, public realm treatments and architectural features.

Figure 128. Epping study locations

Housing Layout Area Requirements

xiv. Dwellings located within the Brook Valley Character Area **should** reflect the following features:

Building Line: Consistent build line, buildings adjoin with minimal gaps

Window composition & proportions : Vertical window proportions often in a symmetrical arrangement within each dwelling

Built form: Close visual connection between the publicly accessible open space and the dwellings fronting the Brook Valley

Roof form: Forward facing gables within a gabled roof aligned with the street

Front Boundaries: Hedges and low brick wall and iron railings

Parking: Perpendicular parking broken up by shrub planting and street tree planting.

Materials: A mix of facade material and storey height within a continuous frontage

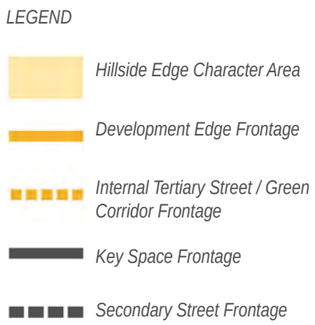
Public realm: Precedent for the school square, hard landscaped space alongside key movement route

Mandatory Requirements

An overview of the Hillside Edge Character Area is provided in SMF Section B.7.

Reference should be made to local character reference pages 171-172.

- **Density Parameter - 30-35dph and 35-40dph**
- **Building Height Parameter - 2 and 2½ storey maximum areas**
- **Refer to Village Green Key Space for frontage requirements in this location**



** For Key Space Frontage see Section 10.3 Public Spaces & Legibility*

Required Features Across the Character Area

Urban form requirements

i. Variable setbacks to achieve an organic grain to the development edge **should** be achieved through the use of courtyard arrangements.

ii. Back to back garden blocks **should** be used throughout the remainder of the character area unless rear parking courts are required to remove cars from green corridors.

iii. Where green corridors run through the character area, due to the narrow width of the development parcel, it **should** be suitable to side dwellings onto the green corridor in order to avoid vehicular movements within this space.

iv. Permeable paving will be proposed in the shared parkings areas and courtyards.

Built form requirements

v. FOG units where the parking area is open, reminiscent of traditional rural cart lodges.

vi. Where used, private garages **must** be set behind the building line.

Architectural character requirements

vii. The architectural style **should** reflect a simplified interpretation of the Essex rural vernacular as observed in the local area. (See following pages)

viii. Roofs **must** be pitched.

ix. Windows **should** be vertically proportioned with decorative brick detailing to brick dwellings. Some dwellings should feature horizontal bands to help with façade proportions.

x. Within internal streets, smaller units arranged in semi/terrace **should** have decorative stone window surrounds.

Boundary treatment requirements

xi. Brick, black railings and clipped hedges are typical front garden boundary treatments found in the area and **should** to reflected as set out in the table opposite.

xii. To support the variety of dwelling types a variety of boundary treatments designs **should** be used.

xiii. There **should** must be planting alongside areas of hard-standing wherever possible.

Architectural Form & Character References

Precedent image demonstrating use of white weatherboarding

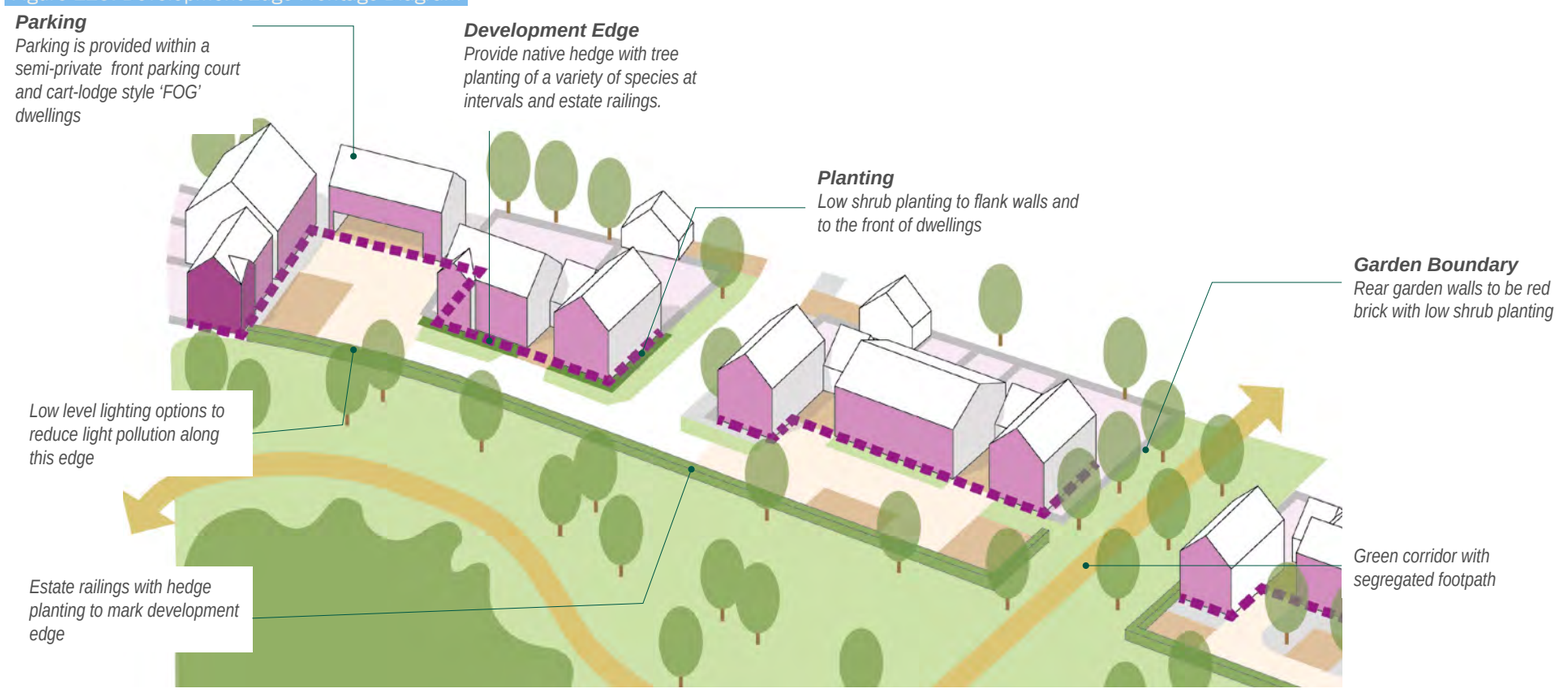
Precedent image demonstrating use of black weatherboarding the brick to lower storey on a contemporary dwelling

Parking area visually open to the development edge

Suitable boundary treatment

Suitable rear garden boundary treatment

Figure 129. Development Edge Frontage Diagram

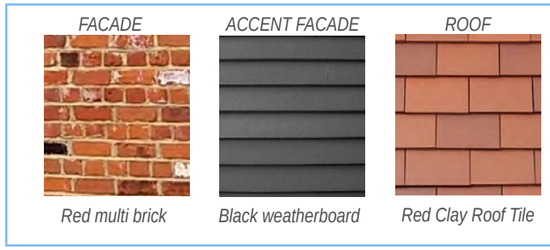


Materials Requirements

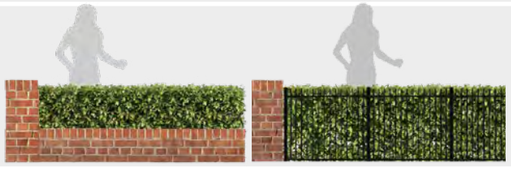
xiv. Materials which resemble the local vernacular materials **must** be the predominant materials used within this character area.

xv. The palette of materials **should** consist of light coloured weatherboard, light colour render with occasional red brick frontages and red clay roof tiles. Setts or small format paving should be used courtyard areas.

PRIMARY



Requirements Dependent on Frontage Location

Frontage Type	Building Line & Built Form	Boundary Treatments & Setback		Typologies
Development Edge Frontage	• Building line should appear fragmented and arranged around in a series of front courtyards with varying setbacks and interspersed with landscaping	• Low shrub planting within plot boundaries, no walls or fences within parking courtyards • Courtyard squares should reflect the farmstead character through dwellings abutting the courtyard in places with minimal privacy strip. • Development edge estate railing with hedge planting to allow view from the dwellings across the SANG.		• 3, 4 & 5 bed detached dwellings • 3 bed semi-detached, with occasional 2 bed terraces • FOG units with open parking (cartlodge aesthetic)
Internal Tertiary Streets inc. alongside Green Corridors	• Less density to building line than along Secondary Streets • Maximise surveillance through corner dwelling types which have apertures to both front and side elevations esp. if limitations of block depth does not permit dwellings to front	• Low shrub planting to front boundary, no walls or fences • Any street tree planting must not be included within private defensible space.		• 2, 3 and 4 bed terraced and semi-detached dwellings, occasional detached dwelling • FOGs, especially along green corridors
Secondary Street	• Maximise density of build line through use of connected dwelling types • Should have a coherent materials palette either side of Street	• Low wall with hedging or estate railings with hedge planting, to pavement edge within the plot boundary. • Rear garden boundaries where visible to the public realm must be brick.		• 2 storey terraced, semi detached and detached dwellings • 1 and 2 bed apartments in key locations

Hillside Character Area Local Character Reference

The low density southern edge takes its cue from the Essex Rural Vernacular as exemplified by the buildings at Gardners Farm.

These historic farmsteads provide reference for housing layout, materials, public realm treatments and architectural features.

Housing Layout Area Requirements

xvi. Dwellings within this character area **should** reflect the majority of the following layout principles:

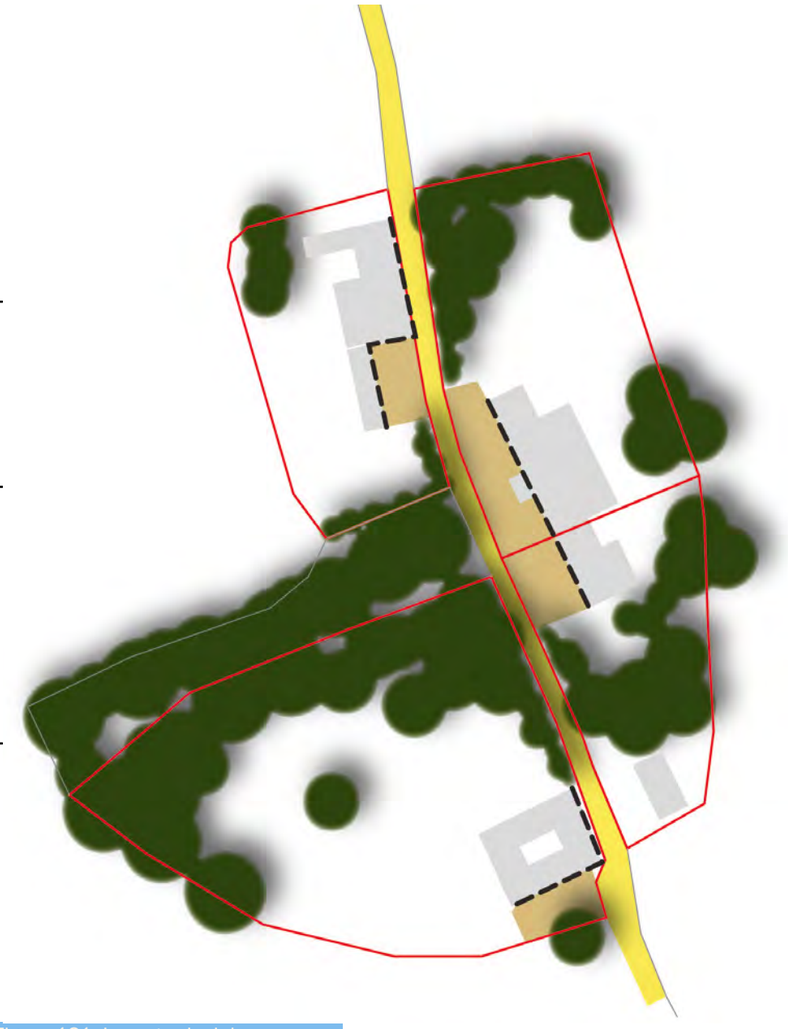


Figure 131. Layout principles

Figure 130. Area Location

Building Design Requirements

xvii. Reference **must** be made to the Essex Design Guide. In particular the following features **should** be reflected:

Storey Heights: Dwellings with adjoining elements of differing storey heights i.e. some 1½ and 2 storey elements

Front Boundaries: Low shrub planting

Architectural detailing: pitched red tile roof, a combination of render and red multi brick, black window frames

Roof form: Mix of gable roof forms aligned with the street and forward facing gables particularly accentuating the main entrance.

Front Boundaries: Metal railings with low brick wall potential boundary treatment

Materials: changes should occur in a logical fashion, e.g. from one storey to another or to articulate a part of the structure such as a cross gable or window bay.

Parking: Front parking court with a textured, multi-tonal block

APPENDICES

Green and Blue Parameter Plan

Figure 132. SEMPA SMF Green & Blue Infrastructure Parameter Plan

Density Parameter Plan

Figure 133. SEMPA SMF Density Parameter Plan

Building Heights Parameter Plan

Figure 134. SEMPA SMF Building Heights Parameter Plan

Land Use Parameter Plan

Figure 135. SEMPA SMF Land Use Parameter Plan

Access and Movement Parameter Plan

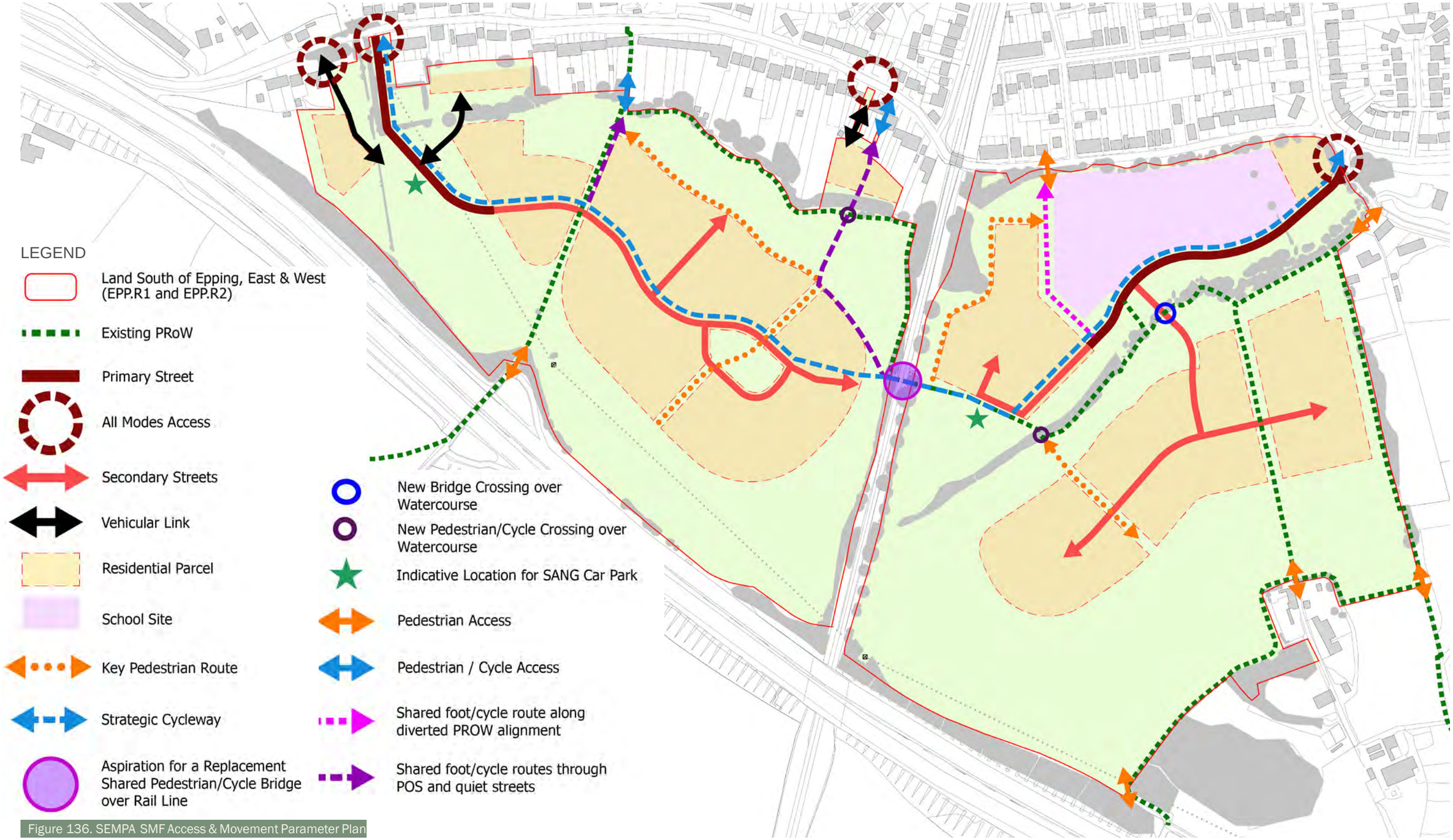


Figure 136. SEMPA SMF Access & Movement Parameter Plan

Local Character Study - Historic Development

OS Map 1885-1900

- Epping developed as a linear market town, along the main trading route between London and East Anglia. An almost continuous ribbon of buildings has formed by this time along the High Street, many of which are today listed.
- A railway station was built at Epping in 1865 part of the Great Eastern Railway branch line. The northern tip of Epping Forest has a similar relationship to the site as exists today.
- The triangular arrangement of Bell Common is in evidence, surrounded by residential dwellings. Dispersed development has developed along Ivy Chimneys/Stewards Green Road and around the rail station but between the site and the High Street is predominantly still open farmland.
- Apart from Gardners Farm and Coopersale Hall situated to the south of the Site, there is very little development within its vicinity as the area is mostly comprised of agricultural fields.

OS Map 1888-1913

- In the late 19th century the High Street was thriving contained many shops and business.
- By the early 20th century, the town had expanded considerably and there were many new houses around the edges of the town around roads that had been laid out in the late 19th century such as St John's Road, Hartland Road and Kendal Avenue
- Further infill of residential dwellings had taken place along Brook Road, towards Bell Common and by 1938 this had continued north from Brook Road to the station.
- At this time development is still predominantly confined to movement routes rather than housing estates typical of the the twentieth century.

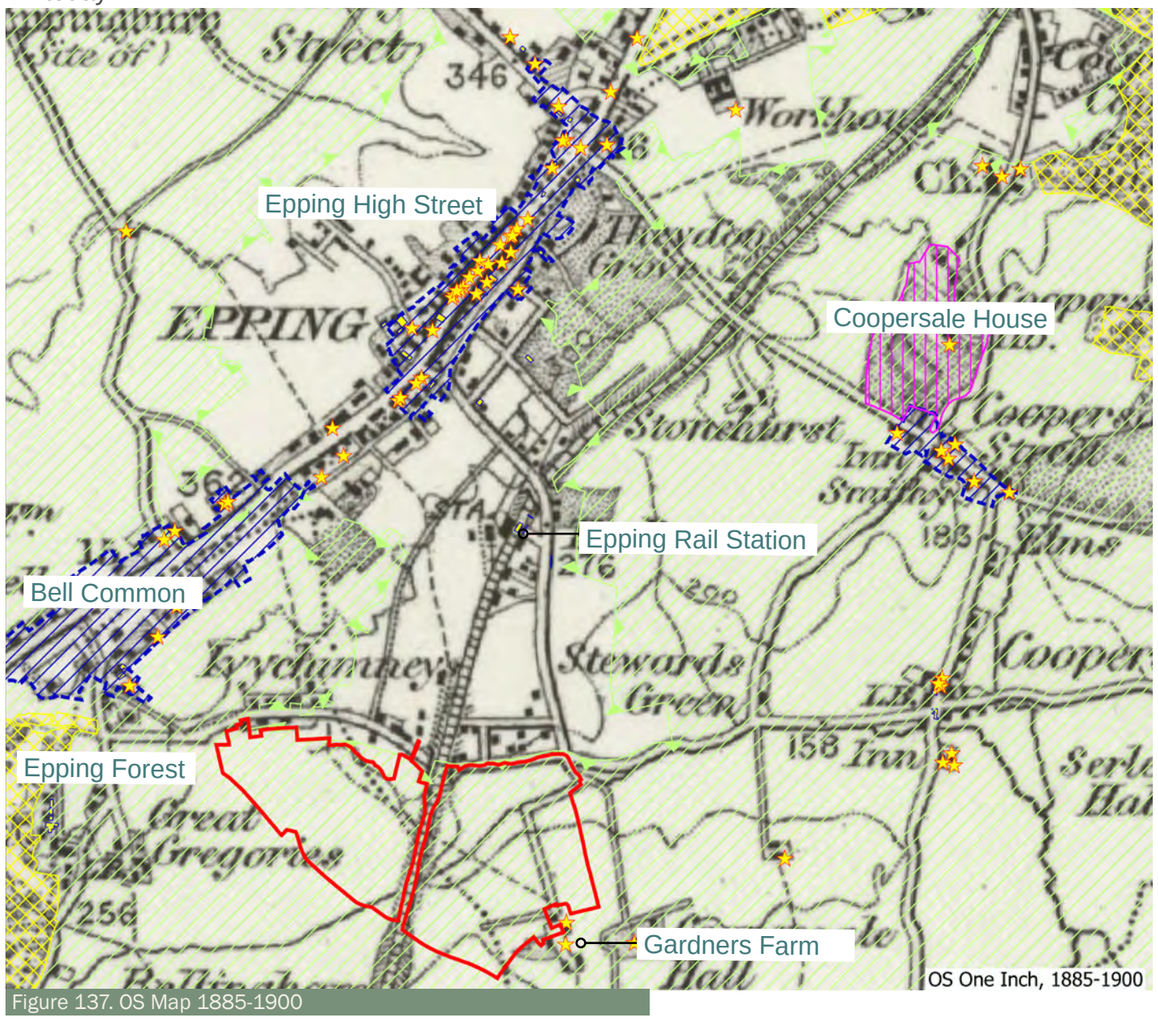


Figure 137. OS Map 1885-1900

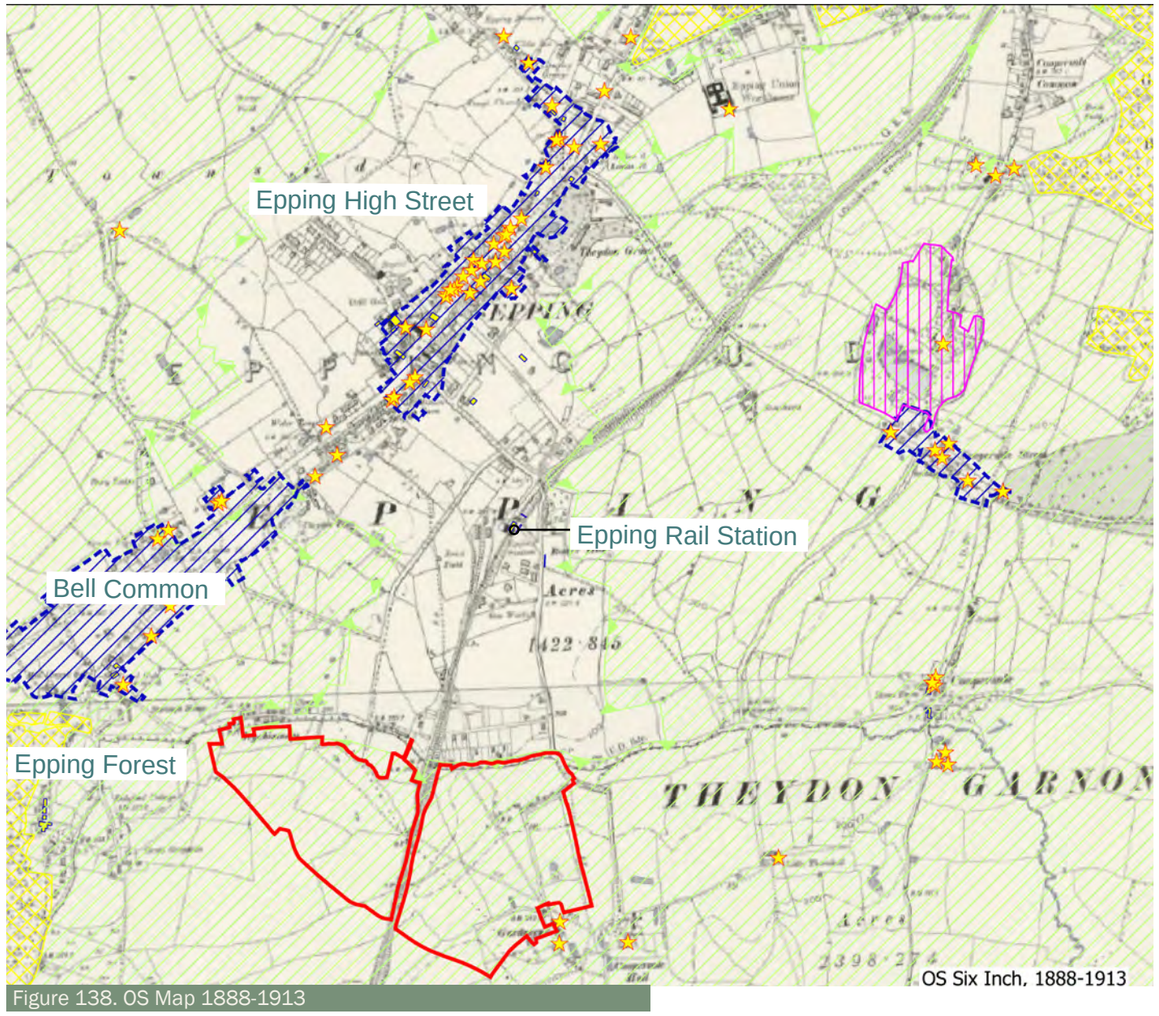


Figure 138. OS Map 1888-1913

OS Map 1949-1971

- By the mid twentieth century, extensive housing development has occurred both flanking the High Street and on the south facing slopes surrounding the rail station.
- These two parts of the town are linked via Station Road.
- The Great Eastern train line became part of the London Underground's Central Line in 1949. Regular train services stopped running onward to Ongar from Epping in 1994.
- Epping has become a thriving town with a variety of shops, services, industries and amenities.
- Epping Forest was designated as a Site of Special Scientific Interest in 1953 and a Special Area of Conservation (SAC) in 2005 in recognition of its national and international conservation importance.
- The London Metropolitan Green Belt was designated in 1953 preventing any significant expansion of the town.

OS Map 2002

- In 1980, the M11 motorway was completed, linking London with Cambridge and Norwich. The motorway passes 1.5km to the east of Epping. In 1986, the M25 was completed which runs along the southern boundary of the site. The M25 runs within a tunnel beneath Bell Common created to avoid impact on the ecologically important Epping Forest and the Bell Common conservation area.
- By the twenty-first century, while the overall extent of Epping has not increased significantly due to the constraint of the greenbelt, in-fill development has intensified the urban form.
- While some of the historic buildings along the High Street have been replaced with later twentieth century buildings, the centre of Epping retains much of its historic character.

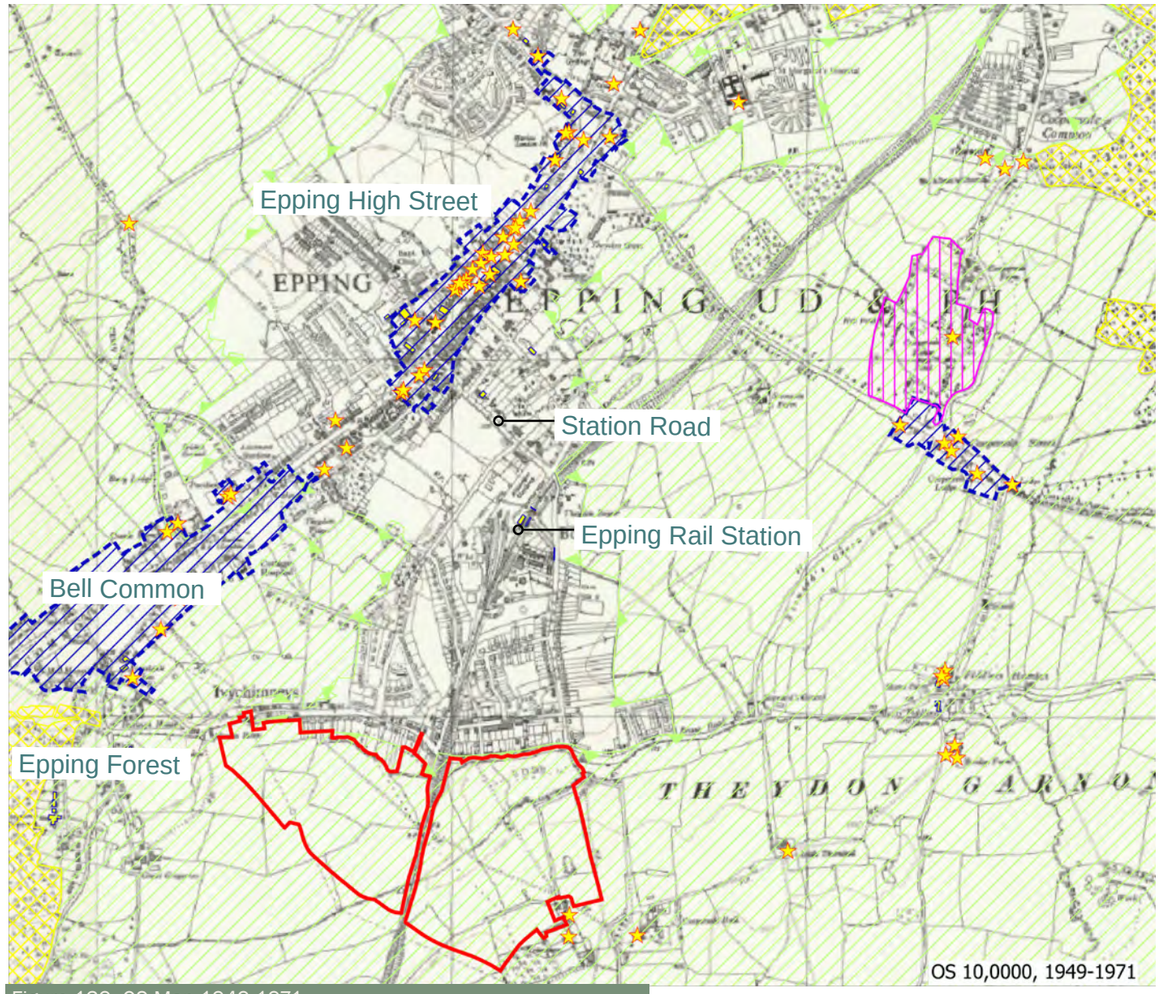


Figure 139. OS Map 1949-1971

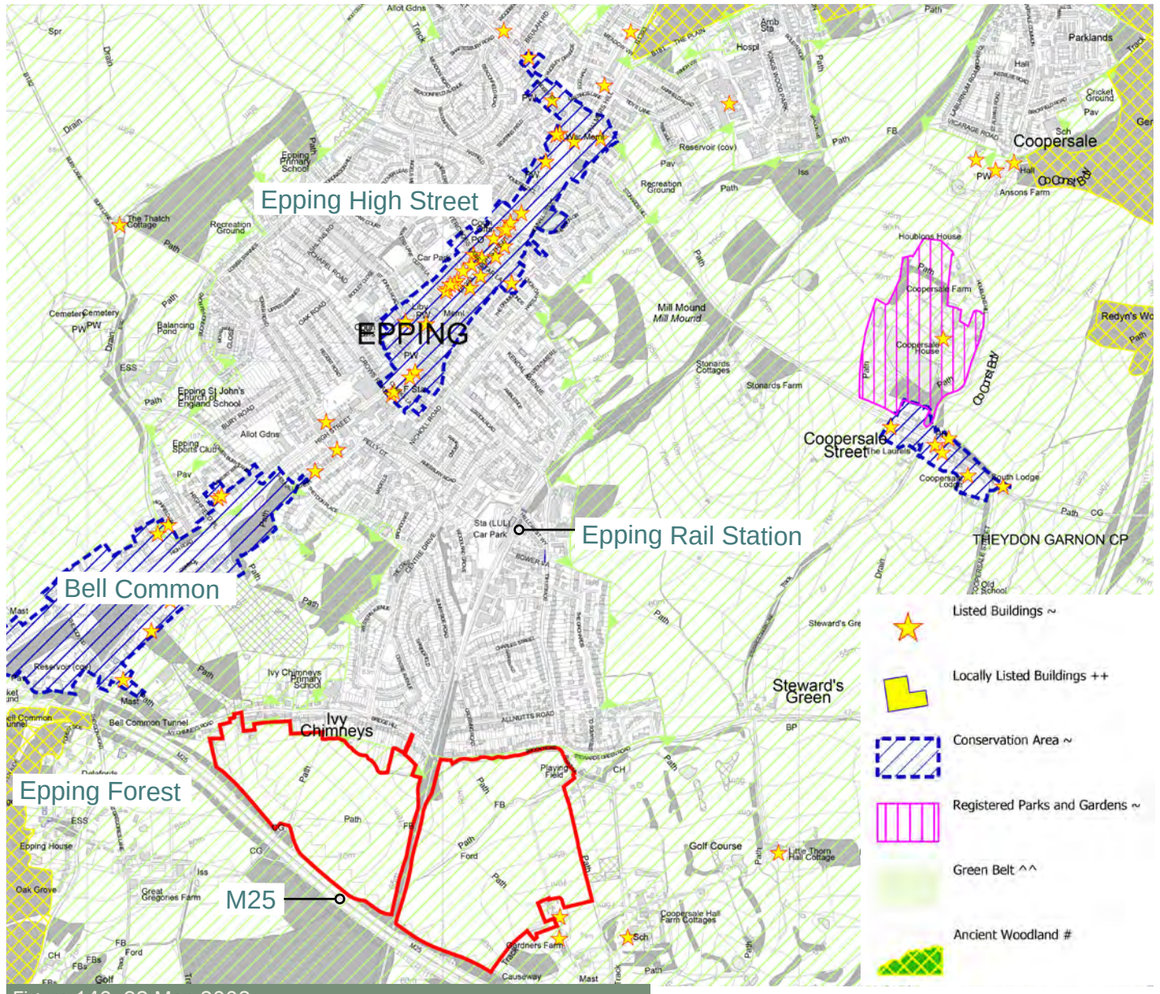


Figure 140. OS Map 2002

Opportunities and Constraints Plan (Technical Version)

Planning policy

- The proposals need to accord with the planning policy framework set out unless material considerations dictate otherwise.
- This includes various infrastructure requirements, levels of open space provision and housing tenure and mix.
- The development proposals need to demonstrate that they align with best practice design guidance.

Local community facilities & services

- Epping is around 1.2km away and easily accessible by bicycle or bus, therefore connections to existing facilities by walking and cycling will be a priority.
- There is a requirement for a new primary school with early years provision within the site.
- There is a requirement to provide a SANG due to the proximity to Epping Forest SAC.
- There is potential for contributions to be made towards existing community spaces to be agreed through future planning applications.

Access & Movement

- The opportunity exists to provide three vehicular access junctions from Ivy Chimneys Road, Bridge Hill and Fluxs Lane/Stewards Green Road.
- The block structure and open space provision should allow the retention of existing Public Rights of Way insitu and be aligned to allow convenient connections to existing pedestrian access points.
- Due to the bisection of the site by the rail line there is an aspiration to connect the two halves via a replacement pedestrian/cycle bridge.
- Provide a circular leisure walking route within the SANG.

Landscape & Visual

- Retain existing trees and hedgerows around the periphery of the site and along the brook, as structuring elements for future development.
- Reinforce planting along the eastern edge to limit intervisibility with the Greenbelt.
- Limit storey heights on the high ground and create a wooded ridgline in long distance views through tree planting within the SANG.

Archaeology and Built Heritage

- Archaeology is not a constraint to masterplan.
- Respect the setting of the listed buildings in the south east corner of the site, ensuring new buildings extend no higher than the 68m contour.
- Retain the alignment of the historic access, Fluxs Lane, and reinstate hedgerow within a green corridor.
- Observe the local architectural character to allow for elements to be reflected within the character of the new development.

Arboriculture & Ecology

- Development proposals should be shaped to retain the high-quality trees and woodland blocks, particularly those with TPO's and those with bat roost potential.
- Opportunity to provide additional trees and vegetation across the site, improving its character and enhance biodiversity.
- Deliver Biodiversity Net Gain by retaining and enhancing existing trees and hedgerows, with additional landscape planting as part of extensive provision of public open space.
- Consider the potential for new buildings to contribute, for example by incorporating bird and bat boxes and other biodiversity enhancements.

Flooding and Drainage

- The development needs to provide an appropriate capacity of surface water drainage attenuation at the lowest level parts of the site, to maintain surface water runoff rates in accordance with national and local policy.
- The existing on-site watercourse offers the opportunity to create multi-functional ecological and amenity open space corridor through the development.
- Streets within the development parcels need to incorporate appropriate drainage features to convey and attenuation surface water.

Utilities and Infrastructure

- The layout should take account of existing maintenance and easements associated with overhead electricity pylons and underground gas mains.
- Block layout should consider the position of the pylons to ensure that they do not align with vista created by the street arrangement.
- Development is well positioned to connect into existing utilities delivering the latest in communications such as high-speed broadband providing residents a reliable fast internet connection.

Air Quality

- The M25 is the largest pollution source to new receptors at EPP.R1 and EPP.R2.
- Suitable mitigation measures should be implemented to avoid significant impacts to future receptors on site.
- Impacts from development traffic on the local road network should be assessed and suitably mitigated as to not cause significant impacts to local air quality as sensitive human and ecological receptors or nearby AQMAs."

Ground Conditions

- Variable ground conditions are likely to necessitate a range of foundation options depending on depth to appropriate founding strata and influence of trees. This does not represent a constraint to the design of the masterplan.

Noise

- Mitigation of noise from the M25 will require the construction of noise bunds combined with acoustic fencing. These features will require landscaping to achieve an attractive environment.
- Noise impact from the rail line upon new residents will be mitigated through simple measures such as glazing.

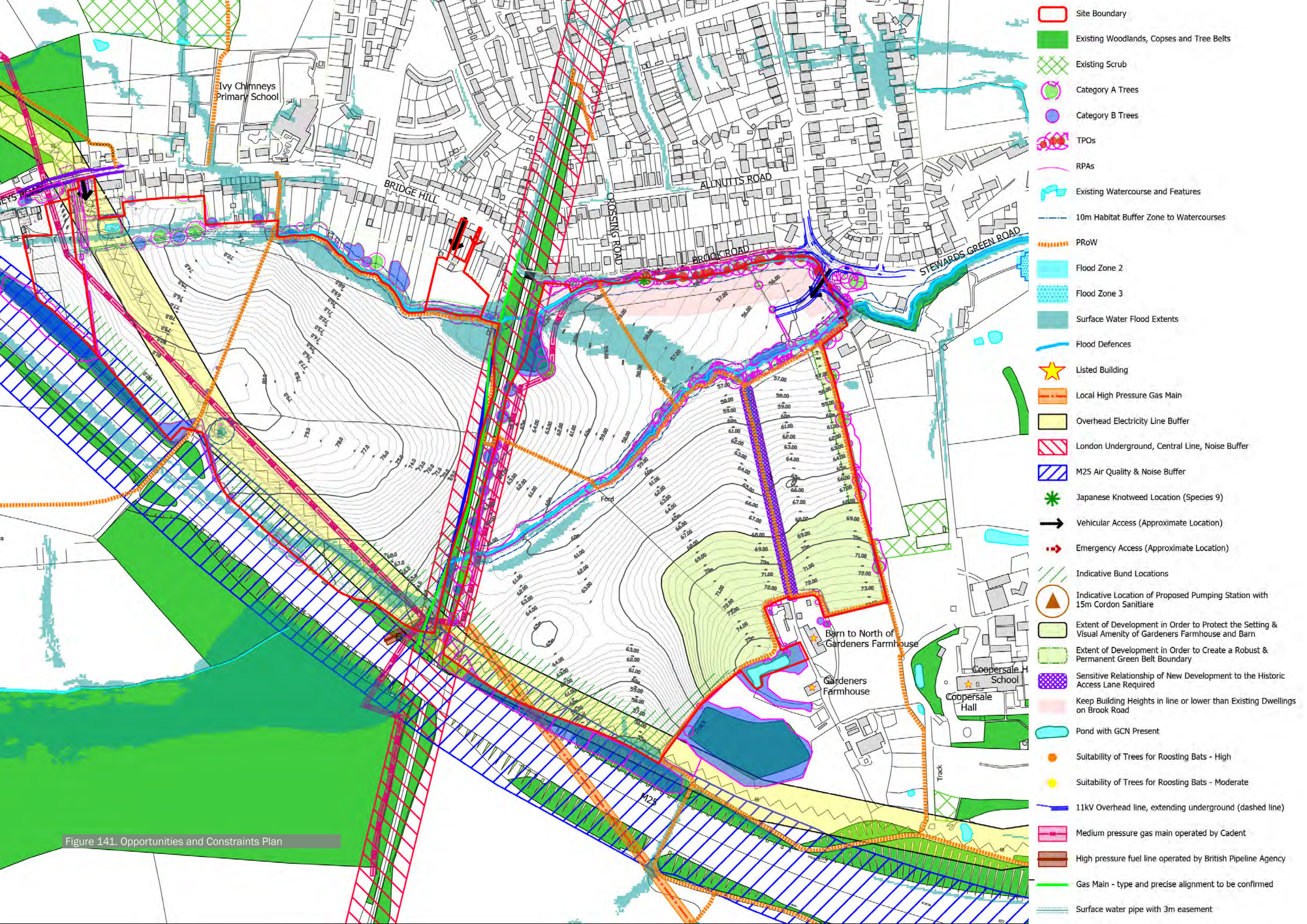


Figure 141. Opportunities and Constraints Plan

Epping Forest District Council Civic Offices, 323 High Street, Epping, CM16 4BZ
T 01992 564000 www.eppingforestdc.gov.uk