



HYDROLOGY

Key

- Combined Application Boundaries for the Gilston Area
- EA Protection Zones
- EA Nitrate Vulnerable Zone (NVZ)
- Existing watercourses
- Existing water bodies
- EA Flood Risk Zone 3
- EA Flood Risk Zone 2
- EA Flood Risk Area Harlow Thames

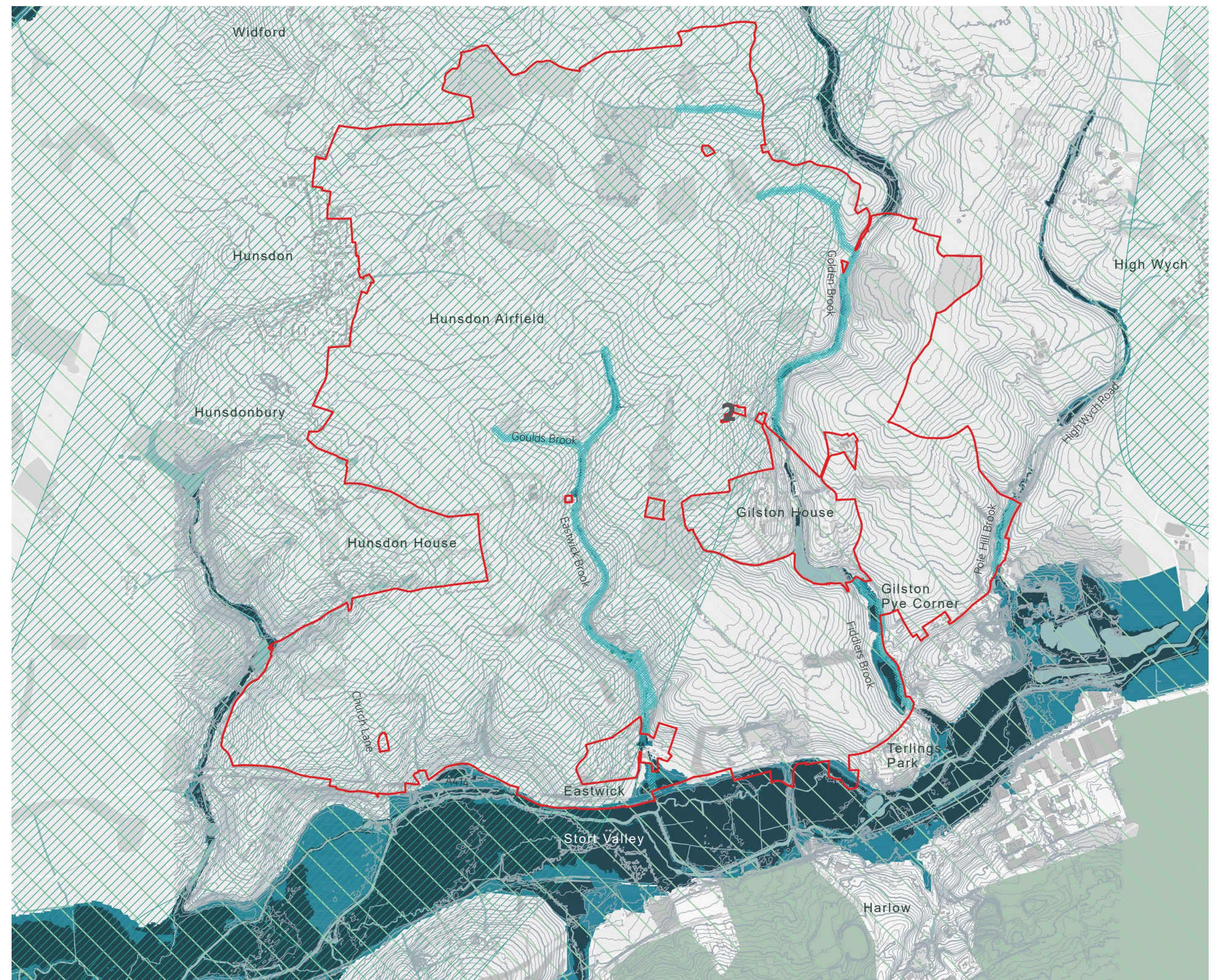


Fig.44 Hydrology

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4.5 Geology

Considerations

The site geology consists of drift deposits of boulder clay resting on glacial sand and gravel. Where the boulder clay has become eroded on the valley sides, sand and gravel are present in localised areas on the surface.

Where the three north-south valleys have cut through the sand and gravel, the streams flow on head deposits of locally derived clays, silts and sands.

The soils on site are classified as Soilscape 9: lime-rich loamy and clayey soils with impeded drainage that promotes base-rich pastures and classic chalky boulder clay ancient woodlands. The underlying geology is formed of sedimentary bedrock consisting of clays, silts, sand and gravel that derive from the Palaeogene Period.

The floodplain of the Stort Valley consists of alluvial silty sand, clay and peat, which is underlain by a variable thickness of chalky flinty terrace gravels that crop out in small patches on the extreme south western edge of the study area.

The geology of the wider area is reflected in the architectural vernacular of the area with Church buildings and garden walls employing flint and pudding stones

Opportunities

Generally the porosity of soils is poor and high in clay content, which will have an impact on the site soil management strategy through construction and be a consideration for the project water management strategy.

Opportunity to use site won topsoil for proposed horticultural and tree planting should be informed by appropriate soil lab testing with recommendations for reuse.

The land use review of the existing estate will consider and make recommendations for the sustainable ongoing management of soils for food production in the wider agricultural estate is also a key consideration.



Fig.45 Ploughed fields with clay soils and flint towards Eastwick



Fig.46 Clay fields on Hunsdon Airfield



Fig.47 Flint and clay brick on St Mary's Church



Fig.48 St Botolph's Church flint walls and clay tiles



GEOLOGY

Key

-  Combined Application Boundaries for the Gilston Area
-  Bedrock - White Chalk Subgroup
-  Bedrock - Lambeth Group
-  Bedrock - Thames Group
-  Superficial - Till
-  Superficial Alluvium
-  Superficial - Glacial Sand and Gravel
-  Aquifer - High Productivity
-  Aquifer - Low Productivity
-  Rock with essentially no ground water

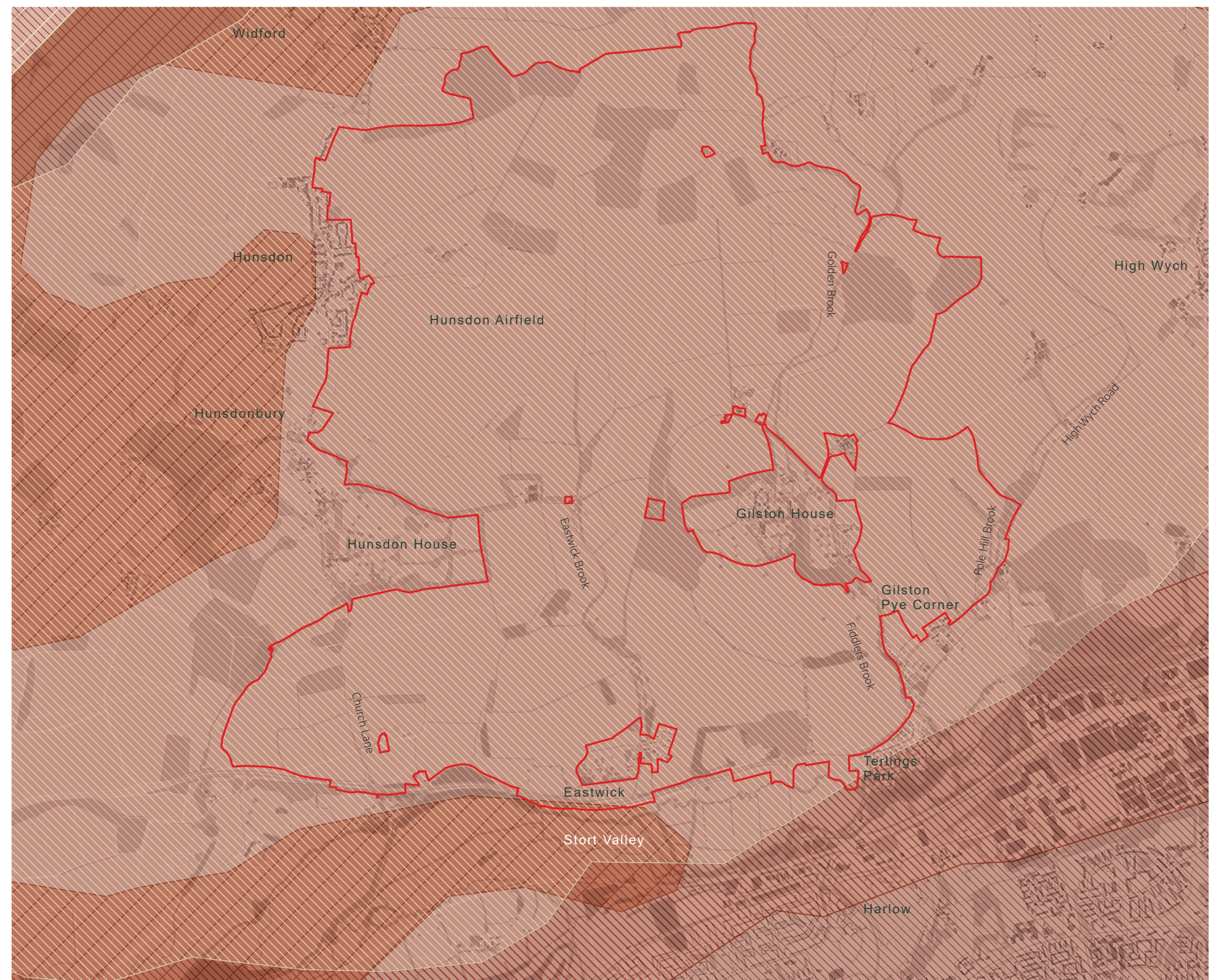


Fig.49 Geology

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4.6 Arboriculture

Considerations

The woodlands change in character across the site from broadleaf hardwood woodlands of hornbeam coppice and Oak in the north through Oak, Ash dominated woodlands interspersed with Parkland trees of Lime and Chestnut. In the Stort Valley and its tributaries, the woodland has a more riparian wet woodland character of Willow, Poplar and Alder.

Holloways and hedges include Field Maple, Hazel, Hawthorn, Blackthorn, Elder and Spindle

The woodland trees provide an important ecological feature within the landscape which is otherwise used for agriculture that has limited ecological value. The blocks and remnants of ancient woodland are important visual and historic features within the landscape and include Ancient woodland (defined as land that has had continuous woodland cover since at least 1600 AD).

Treeworks Environmental Practice has undertaken an outline BS 5837:2015 Trees in relation to construction survey of all trees and hedges across the PFP estate and Ian Keen for Village 7. Maydencroft Forestry consultants have undertaken a UK Forestry Commission management plan for the woodland on the PFP Estate which sets out ongoing management criteria for nature preservation, production and public access depending on the sensitivity of individual woodlands.

The woodlands will require protection and careful integration into the development together with a potential buffer zone to help protect them from increasing recreational pressures. The parameter plan 02 establishes the following buffers:

- Woodlands: 10m
- Ancient Woodlands: 20m
- Hedgerows: 5m either side
- Veteran Trees: Natural England guidance: A buffer around an ancient or veteran tree should be 15 times the diameter of the 'tree' or 5m from the edge of the crown, whichever is the greater

Additional topographical and arboricultural surveys were undertaken as part of the SLMP in strategic locations to inform the design process.

Opportunities

- To maintain the woodlands good health and retain their character both during and after the potential development of the Gilston Area.
- To maximise the woodland's potential for local biodiversity gain
- To balance the need for areas for nature alone with areas for recreational activity
- To promote the access and interpretation of heritage sites within the woodlands such moated monument sites and listed WWI sites



Fig.54 Black Hut Wood, Hunsdon Plateau



Fig.56 Cockrobin Lane

- To create new woodlands to improve habitat connectivity
- To integrate woodland into the productive land strategy
- To create a framework for new tree-planting which will strengthen existing landscape character and reinforce the current tree-cover by putting in place long-life species to gradually replace those which succumb to age/diseases. The framework would also provide an opportunity to plant new species to increase diversity and improve overall future resilience to climate change, pests and diseases.



Fig.55 Coppice Stools Battle's Wood, Hunsdon Plateau



Fig.57 Lime and Chestnut Avenue Gilston Park (Village 01)



Key

- | | |
|---|--|
|  | Combined Application Boundaries for the Gilston Area |
|  | Greenbelt |
|  | Conservation Area |
|  | Tree Preservation order |
|  | Ancient and Semi-Natural Woodland |
|  | Ancient Replanted Woodland |
|  | National Inventory Woodlands - Shrub |
|  | National Inventory Woodlands - Coniferous |
|  | National Inventory Woodlands - Young Trees |
|  | National Inventory Woodlands - Broadleaved |
|  | National Inventory Woodlands - Mixed |
|  | Parkland |
|  | Woodland |
|  | Tree Survey Information |
|  | Veteran Trees |
|  | Ancient Woodland Buffer - 20 meters |



Fig.58 Arboriculture



4.7 Habitats

Considerations

There are a number of distinctive habitat types in the development site which have been defined by the East Hertfordshire Local Biodiversity Action Plan. These habitat types, existing woodlands, hedgerows and designated sites have been mapped out in the adjacent diagram to illustrate extent and context within the wider environment. **Additional topographical and arboricultural surveys were undertaken as part of the SLMP in strategic locations to inform the design process.** These are further punctuated by hedgerows and veteran trees. The main habitat types include:

- Permanent pasture
- Woodland
- Wetlands/ grazing marsh
- Neutral grassland

Several designated sites exist within and adjacent to the site. These include SSSI, SAC, LNR and Local Wildlife Sites, forming part of a hierarchy of nature sites based on their level of statutory protection and administrative level of importance.

The scheme has committed to achieving a minimum biodiversity net gain of 10% or more for the development as a whole.

Opportunities

The proposals identified in the biodiversity strategy will ensure that the Gilston Park Estate development will bring about net benefits to biodiversity. Development in the area can be seen as an opportunity to deliver ecological improvements.

Habitat enhancements aimed at improving habitat connectivity to include woodland, hedgerow grassland, wetland, reed beds, aquatic vegetation and riparian environments linking the Stort Valley and its tributary streams.

- Reinforcement of broad-leaved woodland habitats.
- Gilston Park recognised as a strategic/significant GI asset and a historic landscape for conservation and historic connectivity.
- Habitats for key target species such as amphibians, badgers, water voles and barn owls

Key Policy Considerations

There is a raft of key wildlife legislation, planning policy and guidance and biodiversity conservation objectives aimed at safeguarding and enhancing the countryside and natural

environment as well as protecting flora and fauna. The aims and objectives of these acts, policies and documents are described in full by EPR Consultants in the relevant section(s) of the Environmental Statement (GPE15) for the respective Outline Planning Applications.

- East Herts Local Biodiversity Action Plan
- Habitats of principal importance' as defined by Section 41 of the NERC Act 2006.

- Biodiversity Net Gain Schedule 7a of the Town & Country Planning Act
- Environmental Bill 2021
- Hertfordshire's State of Nature 2020 Herts and Middlesex WWT
- HGGT Sustainability Checklist = Garden Town Quality
- EHDC SLMP scope requirement to update Ecology surveys



Fig.59 Coppice Woodland, Hunsdon Plateau



Fig.60 Meadow, Golden Brook Valley



Fig.61 Scrub towards Eastwick



Fig.62 Gilston Serpentine lake (off site)



HABITATS

Key

-  Combined Application Boundaries for the Gilston Area
-  Ancient and Semi-Natural Woodland
-  Ancient Replanted Woodland
-  Tree Survey
-  SSSI
-  SSSI Impact Risk Zones
-  Great Crested Newts
-  PHI - Coastal and Floodplain Grazing Marsh
-  PHI - Broadleaved Deciduous Woodland
-  PHI - Mixed Mainly Broadleaved Deciduous Woodland
-  PHI - Good Quality Semi-Improved Grassland
-  PHI - Lowland Fens
-  PHI - Lowland Meadows
-  PHI - No Main Habitat but Additional Habitats Present
-  Traditional Orchards
-  Local Nature Reserve
-  Veteran Trees
-  Local Wildlife Site
-  River Buffer
-  Ancient Woodland Buffer
-  Hedgerow Buffer



Fig.63 Habitats

Opportunities and Considerations

4.8 Heritage

Considerations

The existing site principally comprises arable fields, with sites of specific historic interest generally confined to the villages, conservation areas and listed and designated sites. Initial research and trial trench evaluation of the site has revealed a complex landscape that has been inhabited since early Prehistoric times; with evidence coming to light from the Mesolithic period through to the Modern period.

With the exception of the airfield, human activity from the early Medieval period onwards remains focused around a rural farming landscape featuring small villages, manor houses, barns and scattered farmsteads.

Three structures of Medieval origin are located in close proximity to the site; the churches at Eastwick, Hunsdon and Gilston, one site of 15th century origin (Hunsdon House), seven dating to the 17th century, ten to the 18th century and the great majority dating to the 19th century. Four further buildings are of late 19th-early 20th century date and the remaining structures are all from the 20th century.

During the second half of the 19th century a great rebuilding of the area took place as a result of the sale and development of the Gilston Estate to John Hodgson in 1851. The result of Hodgson's overhaul is a planned model Victorian estate, much of which survives unaltered.

The remaining structures are all of 20th century origin, with a few examples originating in the first half of the century, and the majority being of post war origin, as can be seen at Eastwick.

Two rare and significant resources that make up the built environment within the proposal area are:

- The pre-Gilston Estate structures, many of which are already listed.
- The Gilston 'planned estate'. This model estate is a rare resource of regional significance
- The site also includes Ancient Woodlands (refer to 4.6 of this report)

Heritage considerations are defined on submitted V1-6 OPP parameter plans 1 & 2.

Refer to Appendix E. Conservation Management Plans for the Mount and Eastwick Moated Sites Scheduled Monuments for further details

Opportunities

Gilston Park Estate includes a range of local landscape elements and features, some of which are of historical and cultural value and which contribute to local distinctiveness and sense of place. These include characteristic black timbered barns, medieval moated structures, three parish churches, parkland, a WWII airfield & associated defenses, and buried archaeology. Many of these are either listed, scheduled or protected within conservation areas. Pre-19th century historic fields and tributaries within the River Stort corridor are also associated with this



Fig.64 Hunsdon Black Barns



Fig.66 Views to Gilston House

historic setting. The strategy responds sensitively to the historic parkland and landscape features to ensure that development has an appropriate visual and landscape relationship.

Key Policy Considerations

- Policy HA1 Designated Heritage Assets
- Historic England Conservation principles, policies and guidance



Fig.65 St Botolph's Church



Fig.67 Hunsdon WWII Airfield listed structures



HERITAGE

Key

- Combined Application Boundaries for the Gilston Area
- Conservation Areas
- Registered Parks and Gardens - Grade II
- Scheduled Monuments
- Listed Building - Grade I
- Listed Building - Grade II*
- Listed Building - Grade II

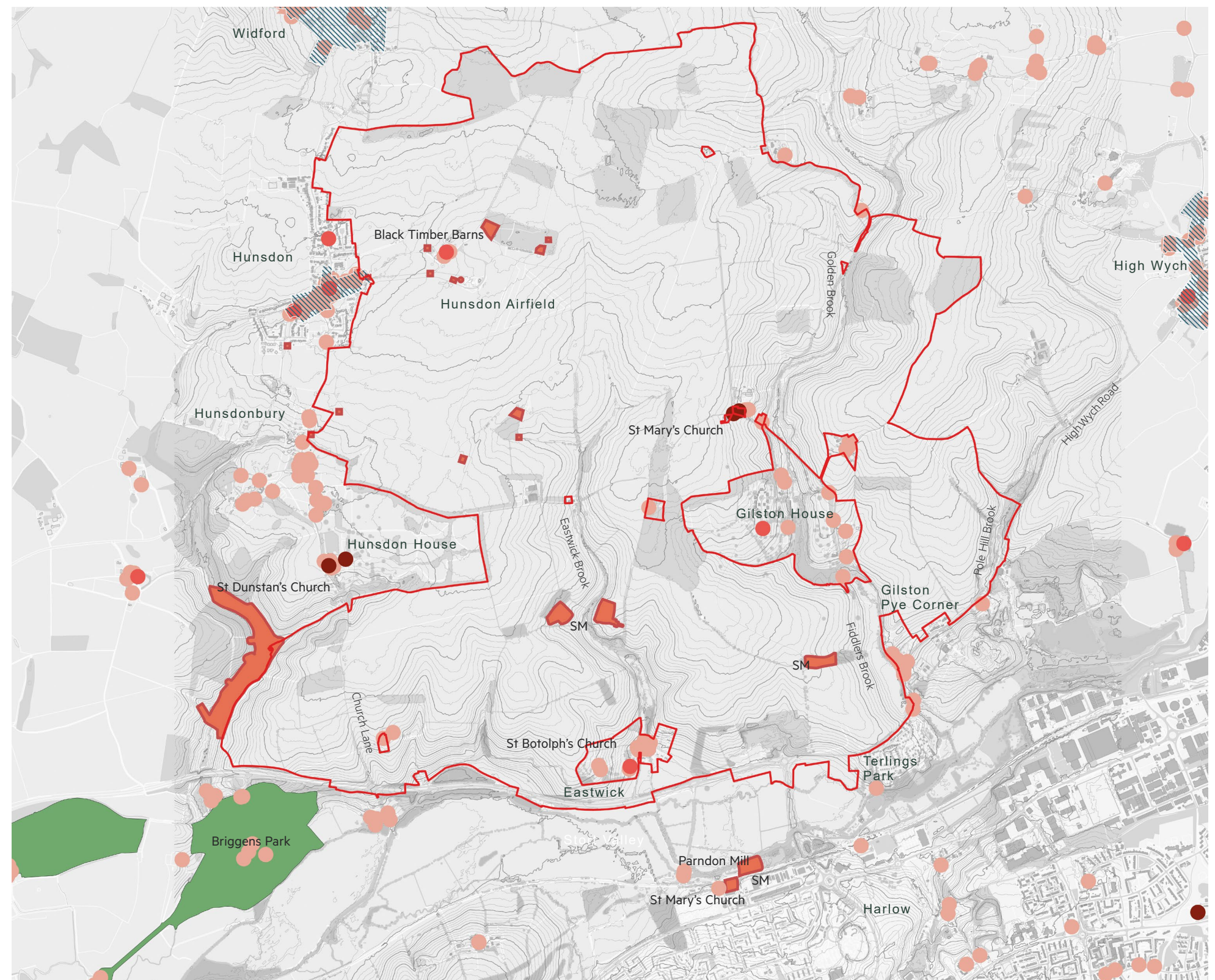


Fig.68 Heritage



Opportunities and Considerations

4.9 Access

Considerations

The site is crossed by a network of existing Public Rights of Way (PROW) including footpaths, bridleways and byways which link in to surrounding villages and settlements as well as the national networks of the Stort Valley.

Many of the routes are linked to existing defensible landscape features such as holloways, hedgerows and valleys, however some routes cross open fields

Opportunities

Many of the routes are linked to existing defensible landscape features such as holloways, hedgerows and valleys, which are hardwired into the layout of the development, however some existing routes cross open fields and offer more flexibility in terms of integration into the proposals and would be subject to stopping up or diversion orders (e.g. Village 02 Eastwick and Gilston 25).

Where possible, existing and proposed PROW should be integrated into green corridors, existing habitat connections, tree lines, or hedgerows that will be enhanced as landscape connections. The landscape corridors also provide attractive environments for the network of existing PROW and permissive routes that will be retained, adapted and greatly increased in number as an integrated component of the site-wide sustainable transport policy promoting cycling and walking for active modes of travel as well as recreation.

There are also opportunities to reveal and enhance the site's natural and built heritage through the pedestrian and cycle networks.

A bespoke wayfinding and interpretation strategy and family of furniture should be developed through the RMA process



Fig.69 Eastwick and Gilston 024 towards St Mary's Church

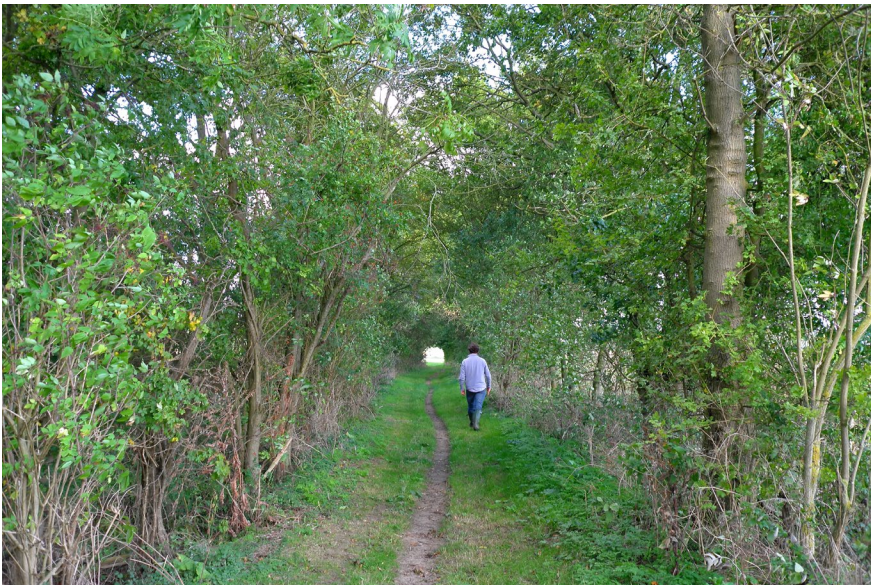


Fig.70 Eastwick and Gilston 002 Cock Robin lane



Fig.71 Eastwick, Gilston and Hunsdon Public Rights of Way information board



Fig.72 Lime Tree avenue permissive route



ACCESS

- Combined Application Boundaries for the Gilston Area
- Railway Station
- Railway Track
- National Cycle Network On Road
- National Cycle Network Traffic Free
- Countryside and Rights of Way
- Roads / Restricted Local Access Road
- Public Rights of Way Bridleway
- Public Rights of Way Byway Open to All Traffic
- Public Rights of Way Footpath
- Public Rights of Way Restricted Byway

HW: High Wych

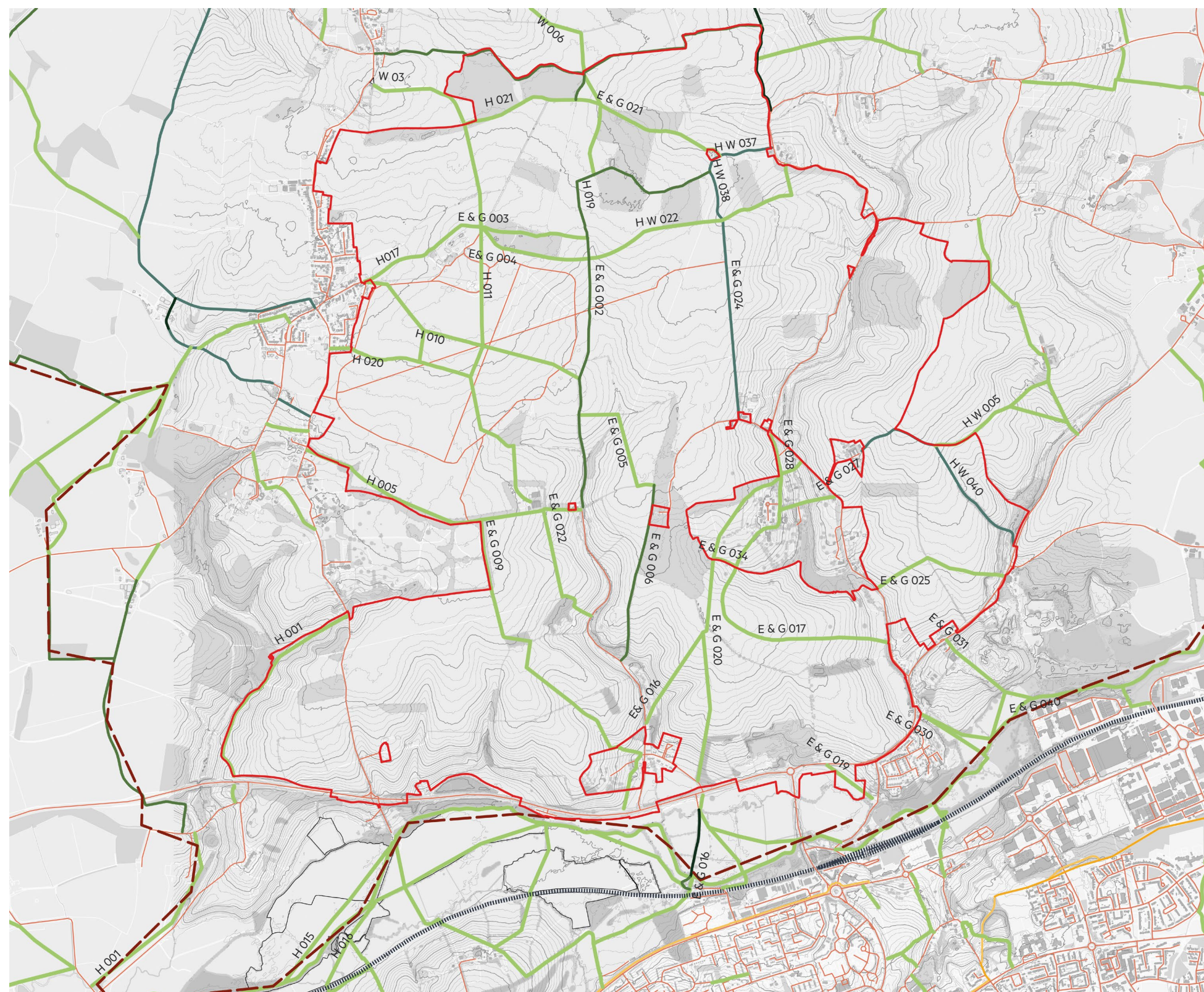


Fig.73 Public Right of Way networks

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4.10 Settlements and Amenities

Considerations

The existing settlements of Gilston, Eastwick and Hunsdon include Public Houses, village halls and parish churches. However, the other essential services and amenities are principally located in nearby Harlow.

Opportunities

Opportunities to deliver public realm and public open space benefits to existing settlements that directly surround the site. The existing communities could benefit from enhanced access to parks, play facilities, community sports facilities, as well as the semi-natural open spaces that will be retained to the west of the power line corridor.

Opportunities to partner with the diocese on the roles, uses, access and enhancement of the existing places of worship within the development as early wins.

Importance of sustainable transport links to Harlow station and Harlow town.

Supports the requirements for the creation of new community facilities such as schools, sports and play for the new development as described in the submitted OPP Development specifications



Fig.74 St Mary's, Parndon Church



Fig.75 Harlow Station



SETTLEMENTS AND AMENITIES

Key

- Combined Application Boundaries for the Gilston Area
- 1 Cemetery
- 2 Golf Course
- 3 Religious Grounds & Places of Worship
- 4 Allotments and Community Growing
- 5 Play Space
- 6 Public Park or Garden
- 7 Playing Field
- 8 Art Gallery
- 9 Museum, Library or Police Station
- 10 Primary & Secondary Education and Sports & Leisure Centre
- 11 Post Office
- 12 Medical Care Accommodation
- Railway Station
- 13 Other Sports Facilities
- Village Hall

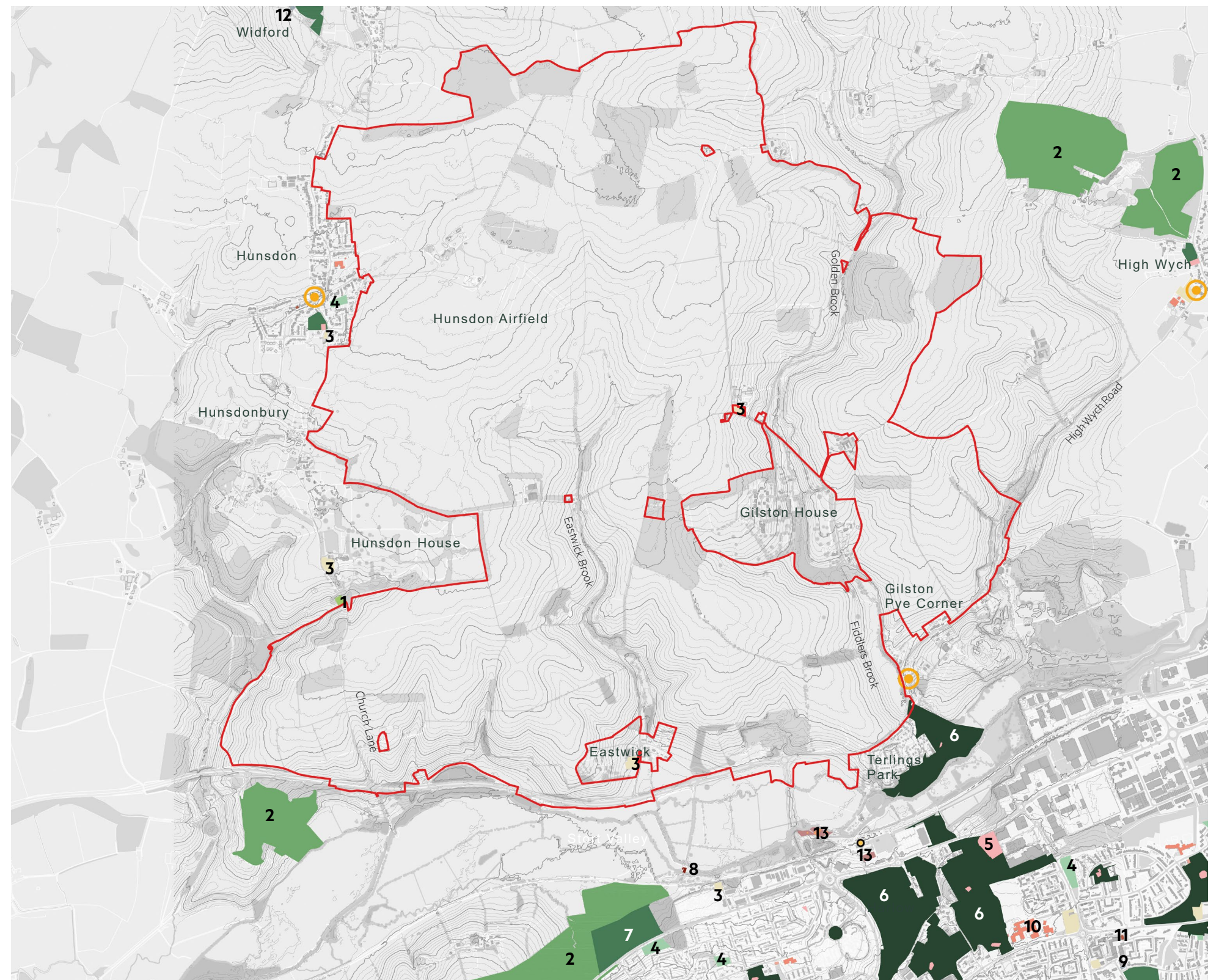


Fig.76 Settlements and Amenities



4.11 Key views and visual impact

Considerations

GL Hearn landscape architects undertook landscape character assessment for villages 1-6 and Churchman Thornhill Finch for Village 7. These documents were submitted in the respective OPP Environmental statements. Viewpoints within the development area from these assessments are indicated on the opposite pages. In addition, internal views of interest have been identified in the Gilston Area Neighbourhood Plan and are also identified known as ‘Cherished views’.

The site combines large open vistas across the plateau areas with views across the Stort Valley to Harlow, with more internal views screened by woodlands and the topography of the tributary valley corridors.

Specific analysis of these sensitive views to GLVIA guidelines has been raised by HCC Officers and may require further testing.

Opportunities

There are opportunities for the future masterplanned parklands and urban forms to respond to key views of focal points such as the Church Steeples and barns.

Refer to Appendix D - Technical Appendix on Key Heritage Views in the Gilston Park Estate for further details



Fig.77 Hunsdon Airfield



Fig.78 Gilston Park



Fig.79 Stort Valley



VIEWS

Key

- Combined Application Boundaries for the Gilston Area
- ▨ Conservation Areas
- Registered Parks and Gardens - Grade II
- Scheduled Monuments
- Listed Building - Grade I
- Listed Building - Grade II*
- Listed Building - Grade II
- LVIA Key Views

Locally Cherished Views as Identified in the Neighbourhood Plan

- Long Distance Views
- View Towards and From Distinctive Landmarks
- View of Open Countryside

Views identified in Development Specification 2020



1. View of St Mary's church from Gilston Lane
2. View of St Mary's church from south-east
3. View of St Mary's church from south west
4. View from formal terrace of Gilston Park House across the gardens towards the lake
5. View out from Gilston Park House looking south across the former park
6. View out from Gilston Park footpath looking south-west along former drive
7. View of Gilston Park House from the former drive within the park
8. View of Mount from Gilston Lane
9. View from near the Mount and Lime Avenue towards Gilston Park House
10. View towards the Mount from the Lime Avenue
11. View of Eastwick church from lane into Eastwick Village
12. View out from the eastern moated site (Moated site and associated earthworks south-west of Home Wood) looking north west
13. View out from the eastern moated site looking north
14. View out from the eastern moated site looking south
15. View out from the eastern moated site looking west towards the other moated site
16. View out from the western moated site (Moated site south of Eastwick Hall Farm) looking east towards the other moated site
17. View out from the western moated site looking north
18. View from Hunsdon House looking east

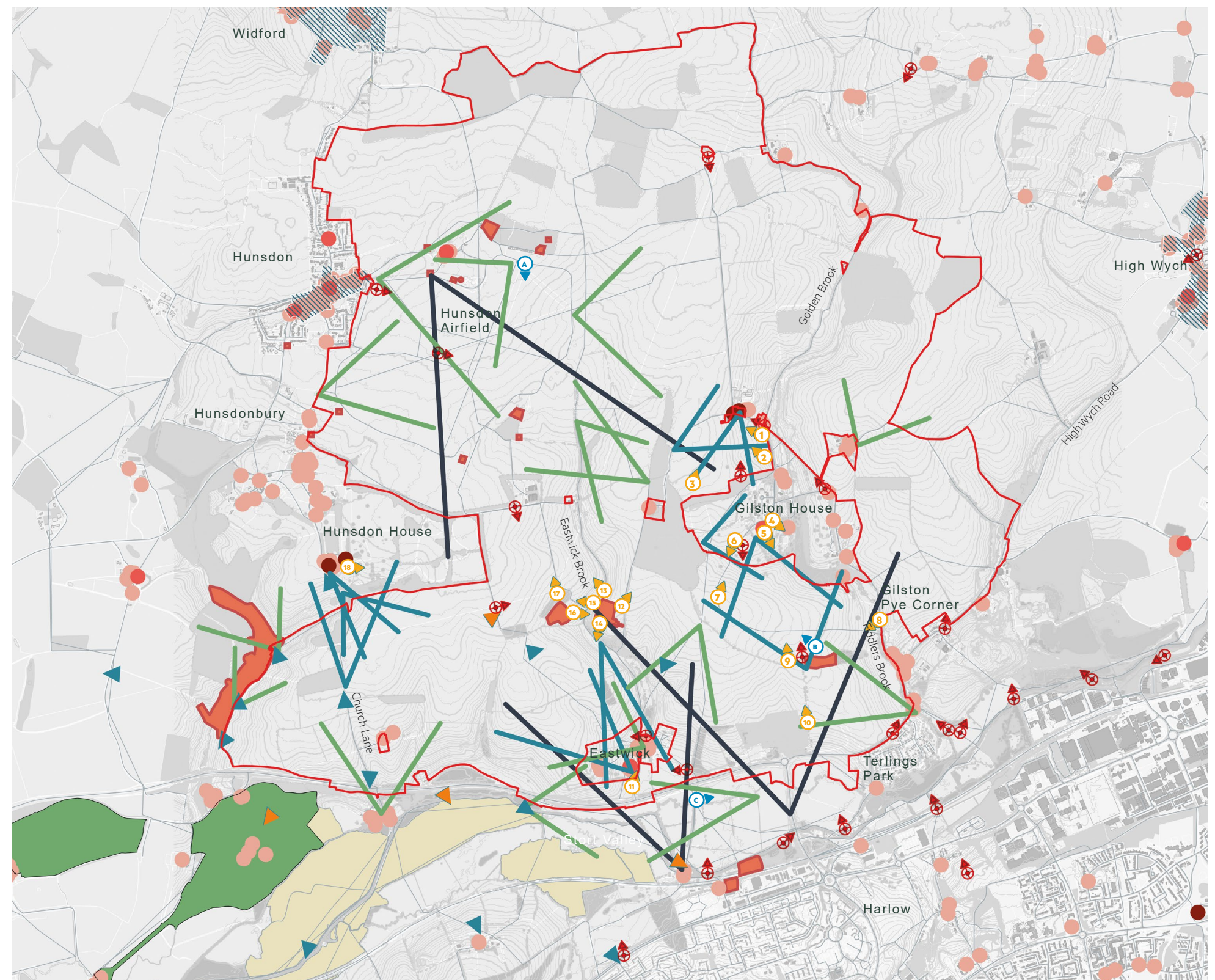


Fig.80 Views



4.12 Tenancies

Considerations

The site is covered by 6 principal tenancies and smaller individual tenanted properties or woodlands and watercourses with sporting and fishing rights.

Knight Frank is undertaking a Land Strategy Review to set out a strategy for the ongoing agricultural and forestry management and productive use of the estate throughout the course of the development and beyond.

Opportunities

Sustainable agricultural policies in line with the emerging Environment and Agriculture Bill underline the opportunity to support Biodiversity Net Gain with a shift from arable agriculture to other productive landscape management including rewilding, productive woodland flood meadow and woodland pasture grazing.

The existing land ownership within the Stort Valley has the potential to meet the objectives of the Stort Catchment Partnership for habitat linkages between Hunsdon Mead and Harlow through a shift in landscape management.

Opportunities in developing existing farm buildings for other uses.

The scale of the Gilston Park and Village 7 landholdings creates positive opportunities to extend access to the countryside through an integrated network of PROW and permissive routes.

Working with tenants to ensure the ongoing productivity and maintenance of the landscape until the stewardship body takes over landscape management is a key consideration.



Fig.81 Overall Farm



Fig.82 Hunsdon Black Barns



Fig.83 Eastwick Lodge Farmhouse



Fig.84 Overall Farm



TENANCIES

Key

Combined Application Boundaries for the Gilston Area

Village 1-6

Village 7

Sporting Rights - Hunsdon Lodge

Sporting Rights - Home Wood

Fishing Rights - Ware Angling Club

1. Hunsdon Lodge and Eastwick Hall Farm
2. Overhall Farm
3. Channocks Farm
4. Eastwick Lodge Farm East
5. Eastwick Lodge Farm West
6. Eastwick Lodge Farm South
7. Land at Eastwick Lodge
8. Land adjoining 3&4 Whitehall Cottages
9. Eastwick Hall Farmhouse
10. 72 Eastwick Hall Cottages
11. 73 Eastwick Hall Cottages
12. 2 Dairy Cottages
13. Overhall Farmhouse
14. 5,6,7 & 9 Church Cottages
15. Great Pennys Farmhouse
16. High Trees Cottage
17. Land adjoining Actons Cottage
18. Eastwick Hall Farmyard
19. Building 5, Eastwick Hall Farmyard
20. Hunsdon Black Barns
21. Gilston Park Airfield
22. Concrete Crushing Plant
23. Hunsdon Lodge Farm Clay Pigeon
24. Unit 10b - Eastwick Lodge
25. Unit 15 - Eastwick Lodge
26. Eastwick Lodge Farmhouse
27. Unit 13b and 14b - Eastwick Lodge
28. Unit 16, Eastwick Lodge
29. Unit 8, Eastwick Lodge
30. Unit 15b, Eastwick Lodge
31. Hunsdon Lodge Compound

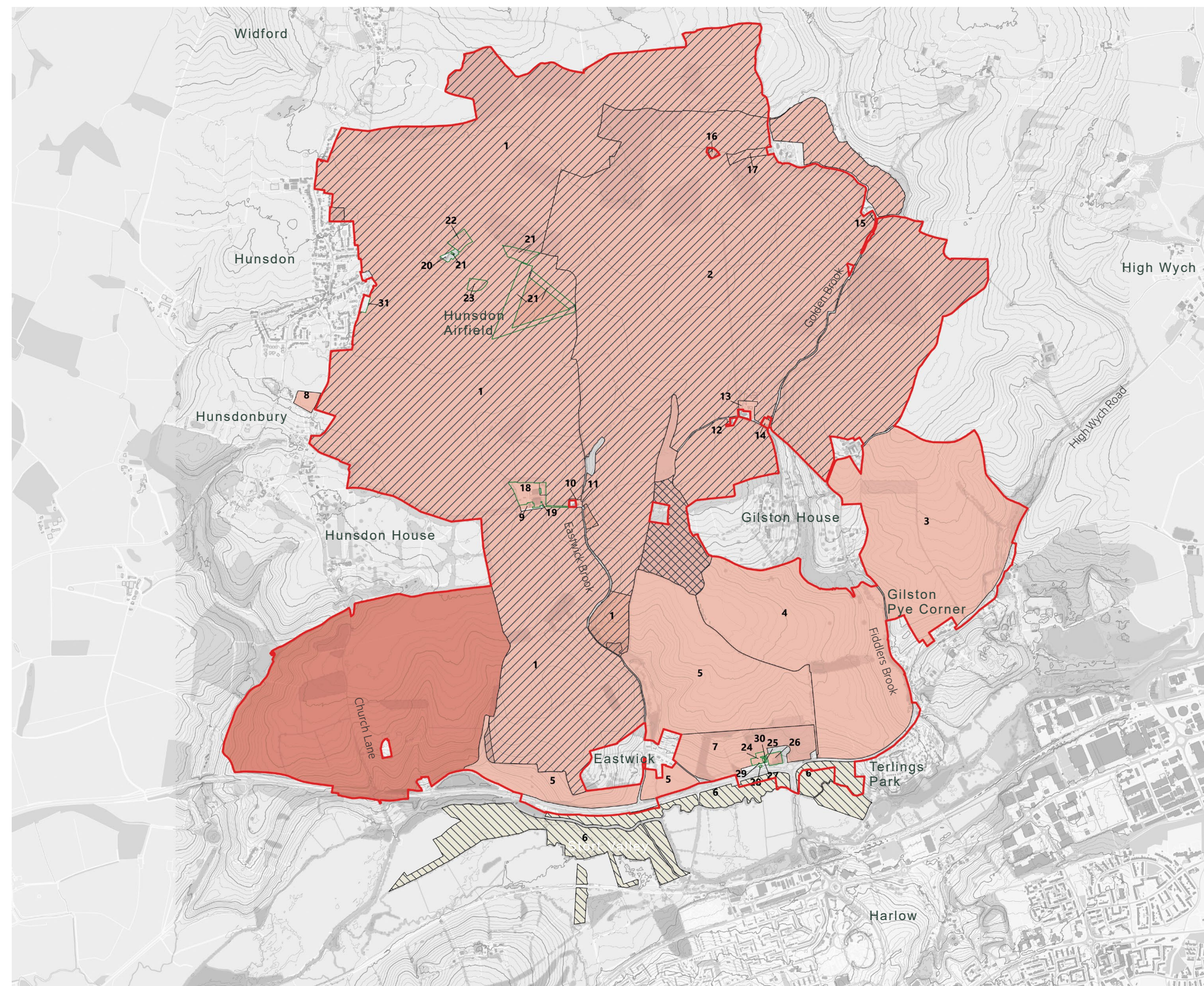


Fig.85 Tenancies

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4.13 Highways Infrastructure

Considerations

Existing lanes run along the tributary valleys from north to south across the site connecting existing dwellings, settlements, churches and agricultural field access.

To the South of the site the A414 and Eastwick Lane form a busy road corridor with associated road noise intruding in to the site

Opportunities

Consideration of the retention of the existing HCC Highways network of lanes and traffic from the new development will be managed in relation to this especially at crossing points.

Consideration of appropriate existing tracks and lanes as part of the site-wide network of walking and cycling routes

Consideration of noise mitigation and screening of the A414.

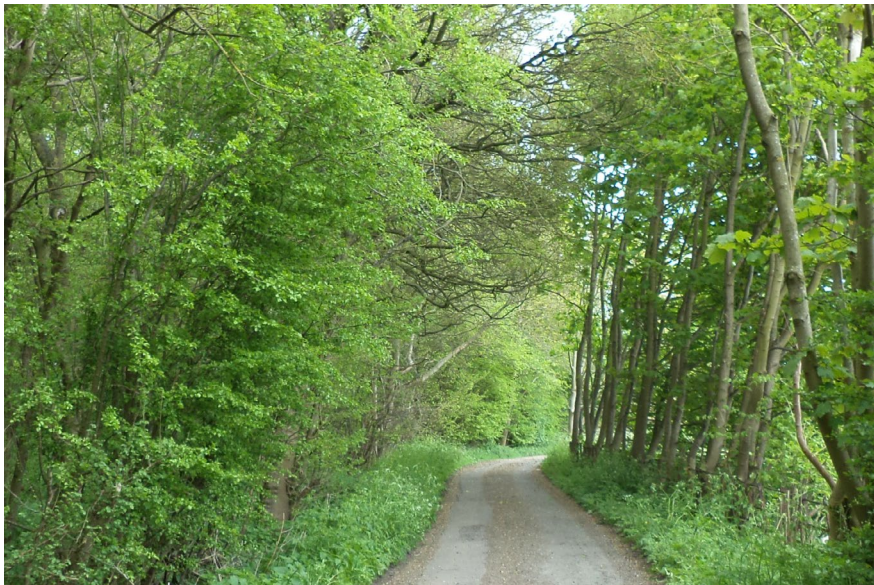


Fig.86 Homewood



Fig.87 Eastwick Valley



Fig.88 A414



Fig.89 Golden Valley



INFRASTRUCTURE

Key

- Combined Application Boundaries for the Gilston Area
- Railway Station
- Railway Track
- National Cycle Network
- Local Access Road
- Secondary Access Road
- A Road
- B Road
- Minor Road
- Local Road
- Restricted Local Access Road
- Public Rights of Way
- - - Harcamlow Way (long distance Harlow-Cambridge footpath)
- - - - - Eastern Stort Crossing

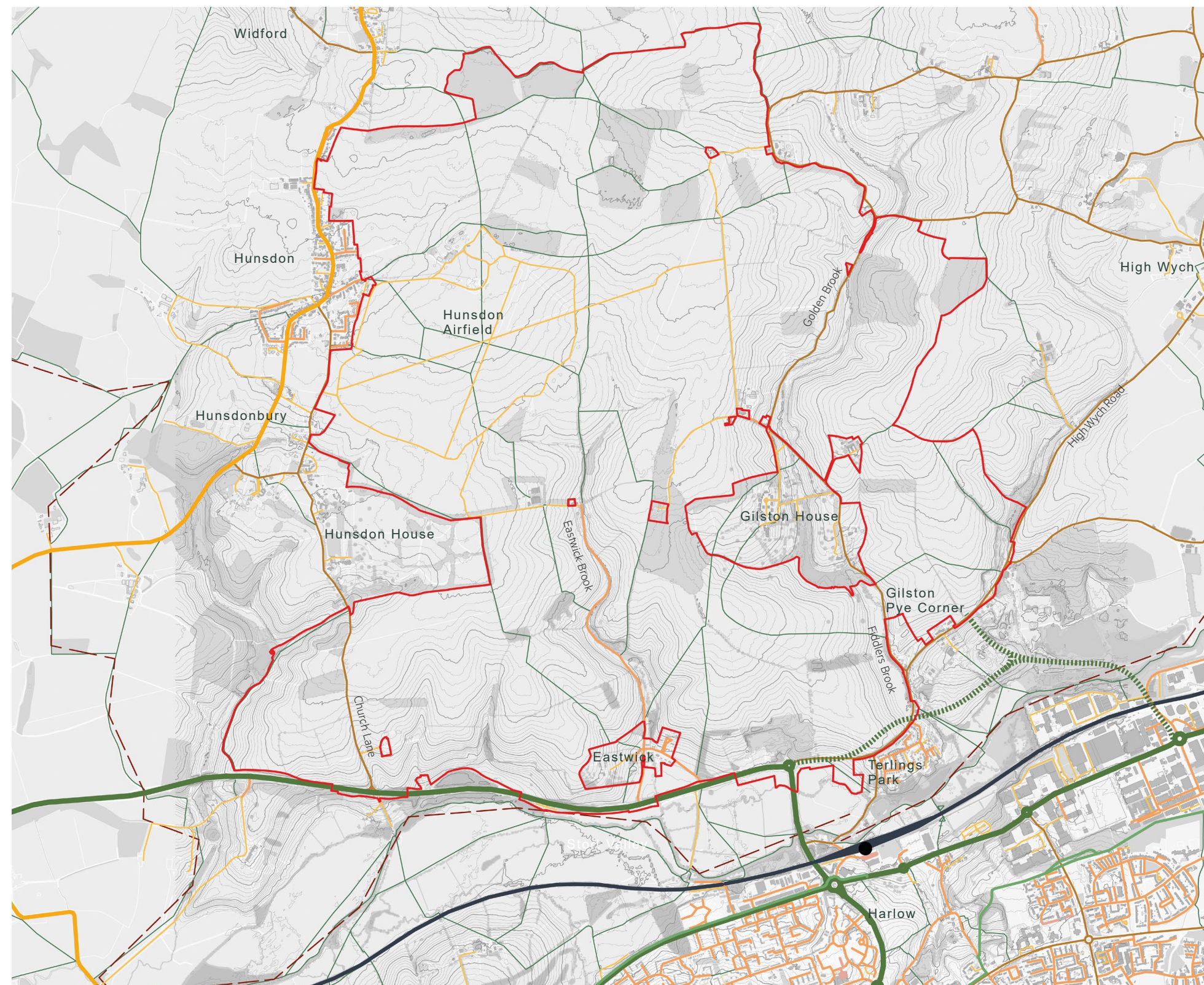


Fig.90 Infrastructure

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4.14 Utilities

Considerations

Key utility considerations include a pylon corridor, a water main that runs down the western valley, and a gas main that skirts the eastern and northern boundary of the site. The Parameter Plan and Development Specification set out the following easements to the existing utility infrastructure on site:

- Water main: 16m easement to either side
- Gas main: 125m easement to either side of the high pressure gas main
- Overhead power line: 118m easement to either side of the 400Kv electricity line

Opportunities

Opportunities to blur the built edge of the development in the proximity of power lines through amenity and habitat uses.



Fig.92 High Voltage transmission lines within the Gilston Park Estate



Fig.91 High Voltage transmission lines to the west of Home Wood looking towards the future village 7



UTILITIES

Key

- Combined Application Boundaries for the Gilston Area
- 11 kVA Overhead
- 11 kVA Underground
- 33 kVA Overhead
- 33 kVA Underground
- 266 kV Grid and Pylons
- Gas
- Water
- Foul Sewer

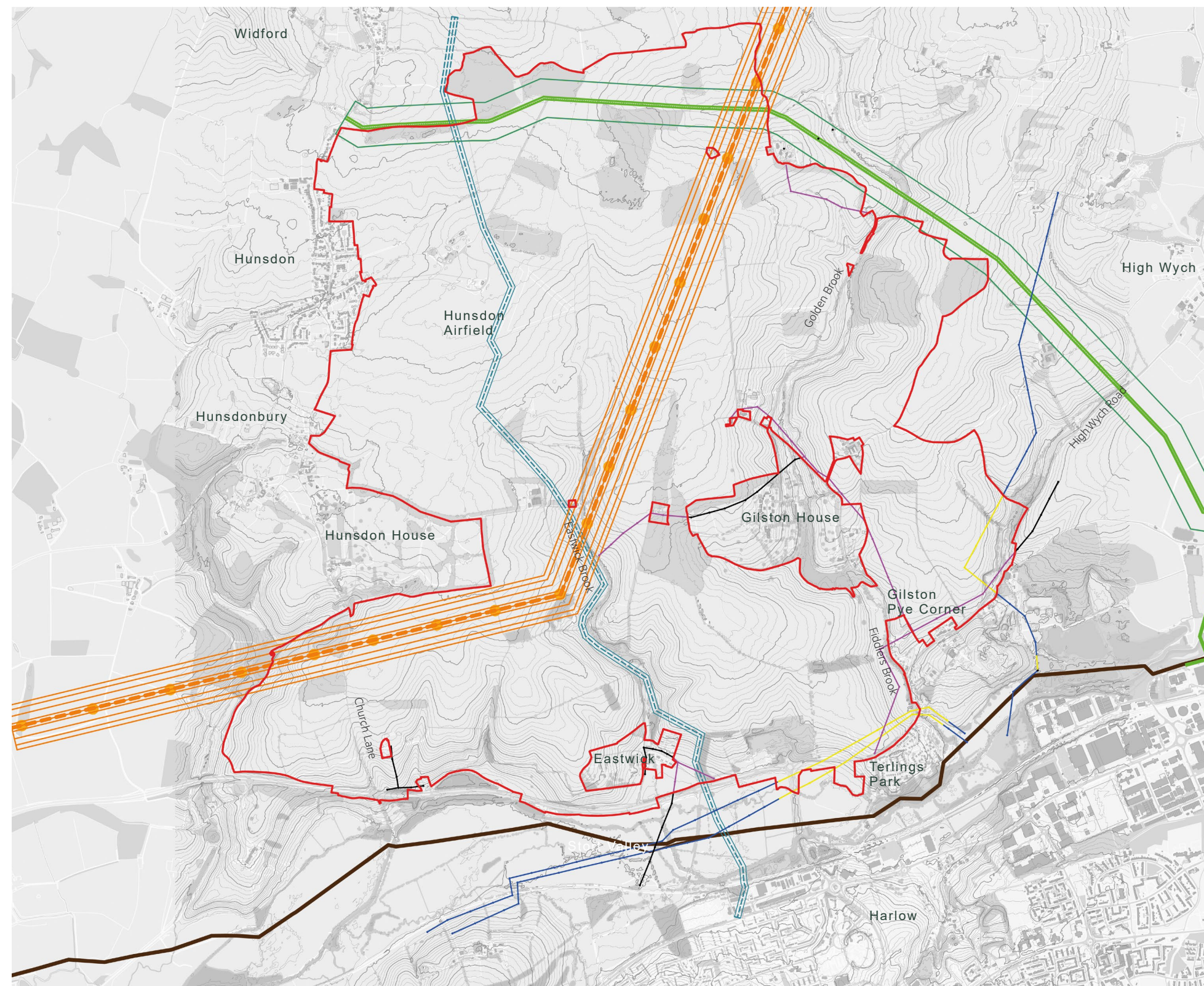


Fig.93 Utilities

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4.15 Watercourse Improvement Opportunities

Potential Mitigation Measures

The following opportunities for potential mitigation were identified through consultation with the Environment Agency:

- River survey to investigate sources of phosphorus
- Undertake campaign with agricultural holdings to identify sources of phosphorous from farming practices and seek improvements through engagement with tenants
- Create method for prioritising which holdings to inspect/approach to seek improvements
- Potential to undertake planform restoration of waterbodies which will help to create riffle, pool, glide sequences
- Planform Restoration and development of in channel features at monitoring site at Fiddlers Bridge, Gilston.

These will be further considered through relevant planning condition discharges



Fig.94 Hydrology engineers analysis of on-site conditions

Key

— Combined Application Boundaries for the Gilston Area



REACH 1

- Pressures:
 - Flow restricted by Stort water level.
 - Channel modification (resectioning/realignment).
 - Redundant in/cross channel structures.
 - Poor water quality (enrich eutrophic conditions).
 - Some sedimentation of bed.
 - Overshading of channel.
 - Diffuse water pollution (oil from nearby business).
- Opportunities:
 - Raise bed to improve flow conditions & bed diversity.
 - Remove overabundant structures (road culvert difficult to modify).
 - Introduce channel morphological diversity.
 - Introduce woody debris.
 - Thin bankside vegetation.
 - Manage pollution risk from nearby business.
 - Establish diffuse flow across floodplain in wetland.
 - Lower local floodplain.
 - Enhance floodplain morphological diversity & vegetation communities.



REACH 2

- Pressures:
 - Channel modification (recovering)
 - Diffuse water pollution (arable fields)
 - Unsewered domestic sewage discharges
 - Overshading of channel by extensive Sycamore trees & vegetation
- Opportunities:
 - Impact from agriculture will be removed by scheme
 - Connect existing unsewered properties to the new foul water scheme
 - Thin bankside vegetation appropriately
 - Allow channel naturalisation to continue
 - Retain developing bed features where possible
 - Create insert floodplain in line with natural development through the reach



RIVER REACHES



REACH 3

- Pressures:
 - Channel modification (realigned by road)
 - Left bank vetted
 - Debris/rubbish in channel
- Opportunities:
 - Reinstate new channel offset from road in adjacent field



REACH 4

- Pressures:
 - OS maps indicate pre
- Opportunities:
 - Consider removal of weir and any other structures present
 - Potential to create/enhance wetland close to existing amenity pond, although outside of scheme extents



REACH 5

- Pressures:
 - Channel modification (resectioning/realignment)
 - Channel impacted by structures (culvert)
- Opportunities:
 - Area outside of planning boundary



REACH 6

- Pressures:
 - Channel modification (historic resectioning/realignment)
 - Channel impacted by short culverts for field accesses
 - Some fine sediment deposition
 - Diffuse water pollution from agricultural suspected
 - Potential for unsewered domestic sewage discharges (not confirmed)
- Opportunities:
 - Ensure floodplain connectivity
 - Provide riparian habitat improvements
 - Ensure new flow regimes does not disrupt fine sediment transport balance
 - Retain and enhance online wetland areas
 - Create new local wetlands in the valley bottom where possible/appropriate
 - Potential to clear channel of excessive vegetation
 - Consider removing existing structures, especially where redundant
 - Connect any unsewered properties to new foul sewer network

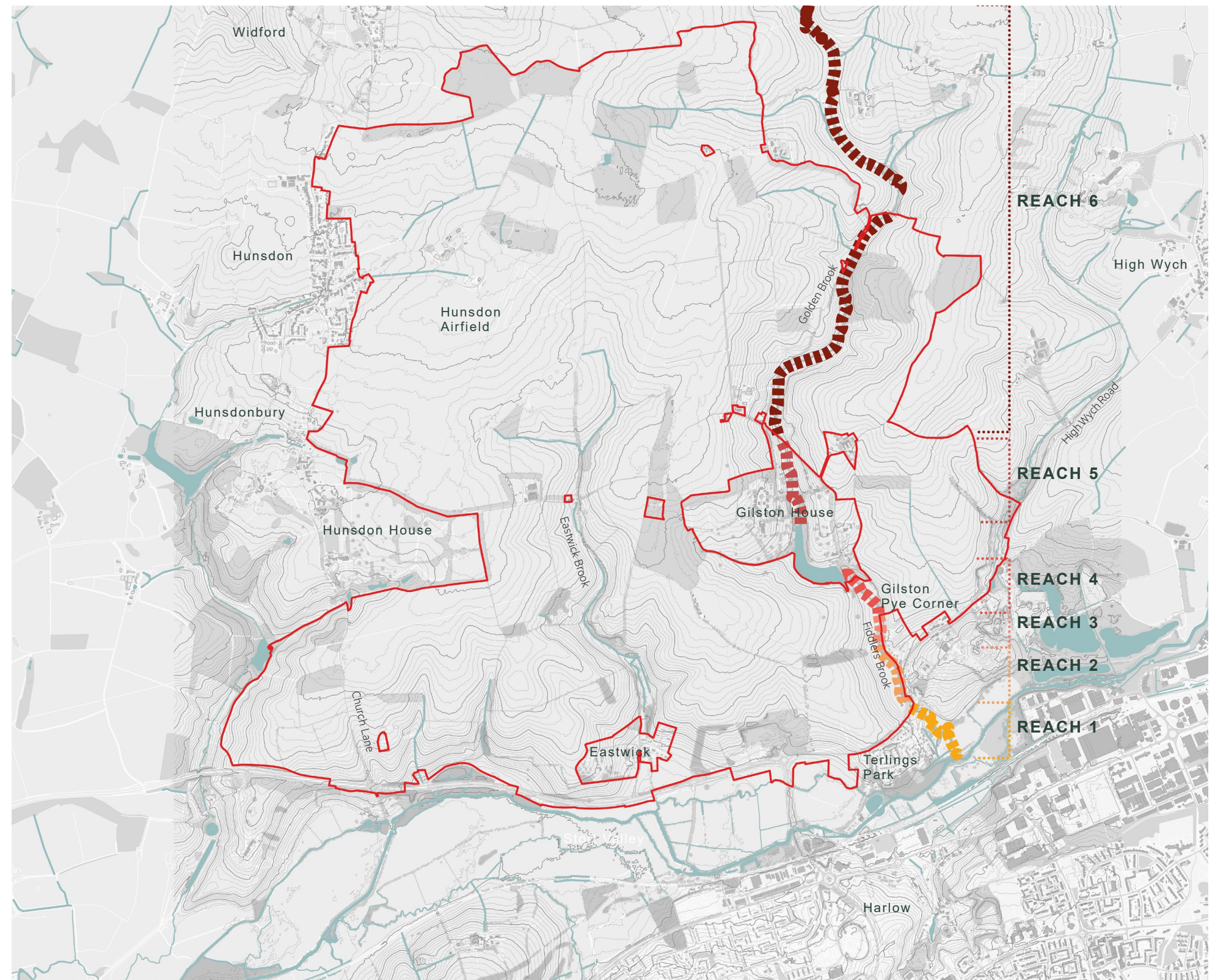


Fig.95 River Reaches

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4.16 Opportunities and Considerations - Summary

Key Considerations

The adjacent plan sets out the combined key considerations for the landscape masterplan. These have been identified as those elements represented through local policy and statutory requirements, as well as key built intervention of the Village boundaries and STC defined within the OPP Parameter Plans

Key Challenges

The mapping analysis of each component of the landscape highlights areas where potential features and requirements overlap, presenting particular challenges as identified below:

- 1. St Mary's Church heritage / Gilston Fields Sports / Views interface
- 2. Golden Valley - SuDS & Pedestrian/cycle Access
- 3. Golden Valley - STC Corridor/Golden Brook interface
- 4. Gypsy, Traveller and Travelling Show People site / Ancient Woodland
- 5. Gilston Park / STC / Golden Brook / Village 2 Entrance Interface
- 6. Golden Brook River Restoration
- 7. Village 1 Buffer / Ancient Monument / Gilston Park
- 8. Village 1 Entrance / Gilston Park
- 9. Gilston Park Ancillary Buildings - Pavilion & V1 Mansion Blocks

10. Stort Valley Ecology / Access / Landscape Management

11. Lighting / Ecology / Heritage / STC

12. Village 7 Buffer / Landscape Corridor

13. Village 7 Sports / Ecology / Residential Views / Power lines

14. Home Wood - Ancient Woodland / STC interface

15. Home Wood - Ancient Woodland / Pedestrian Access

16. Hunsdon Airfield - Agriculture / Land management / Ecology / Access

17. Hunsdon Airfield - Play / All Modes Parking

18. Cock Robin Lane - Access / Ecology / Character

19. Village Buffer / Food production / Power lines

Refer to Character Areas section for further details

Key

-  SLMP Study Area
-  5m Contours
-  Existing watercourses & waterbodies
-  EA Flood Risk Zone 2
-  EA Flood Risk Zone 3
-  20m Ecological Buffer to key watercourses
-  Ancient and Semi-Natural Woodland
-  Ancient Replanted Woodland
-  Veteran Trees
-  Local Wildlife Site
-  Great Crested Newts
-  Woodland Buffer
-  Hedgerow Buffer
-  PROW - Footpaths & Bridleways

KEY CONSIDERATIONS

-  Scheduled Monuments
-  Listed Building - Grade I
-  Listed Building - Grade II*
-  Listed Building - Grade II
-  266 kV Grid and Pylons
-  Gas
-  LVIA & Dev Spec Key Views
-  Neighbourhood Plan Key Views
-  Village Development
-  STC Corridor
-  Gypsy, Traveller and Travelling Show Person Site Provision

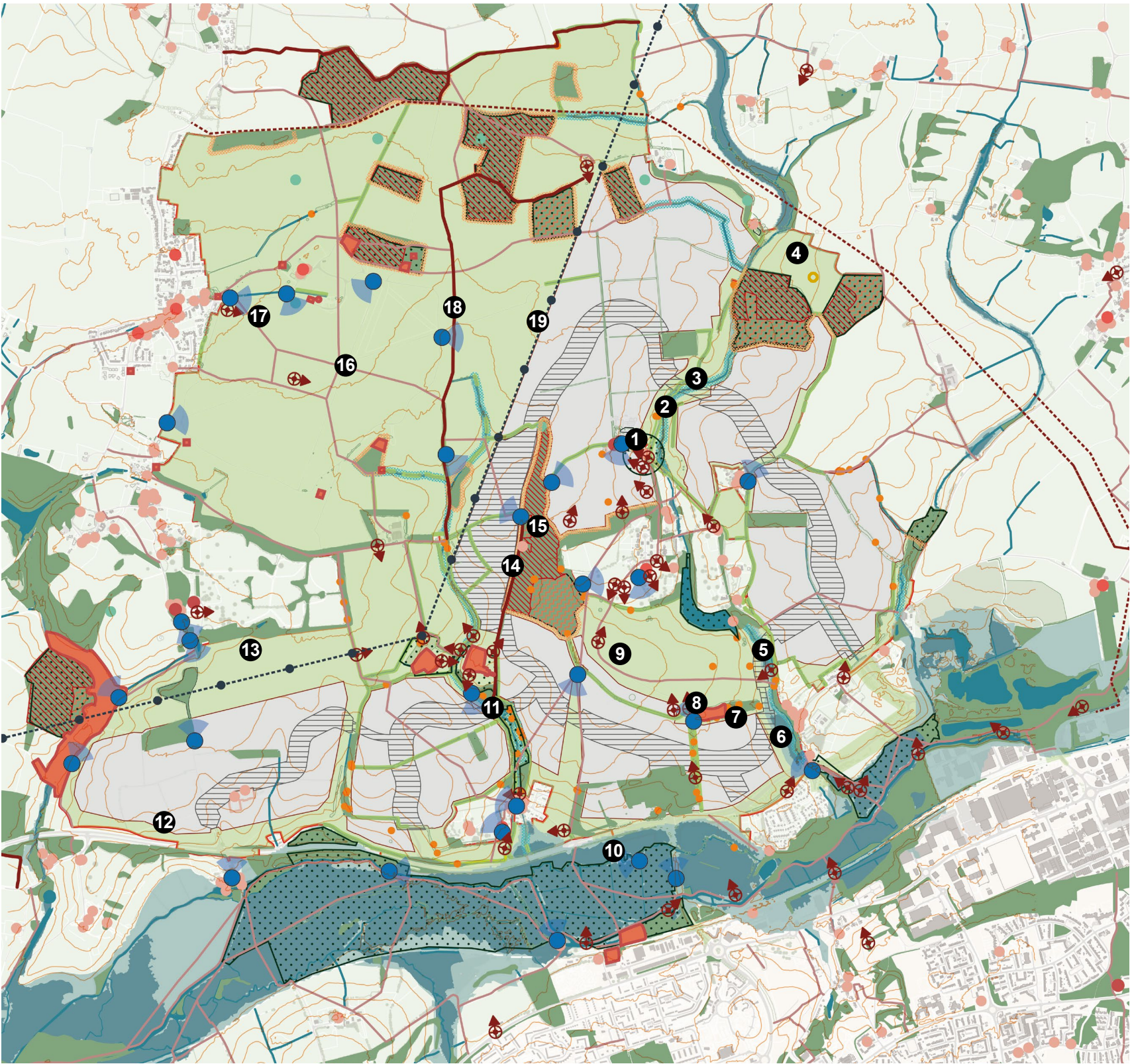


Fig.96 Key Considerations and Challenges Plan



Part A

A community living in harmony with nature

*230 hectares of Countryside Parks across
Hunsdon Airfield and Eastwick Wood
Countryside Parks*

Developing a Framework

Chapter 5

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5.1 Opportunities

Key Opportunities

The adjacent plan sets out the combined key opportunities for the Strategic Landscape Masterplan. These fall into two categories:

1. Opportunities to protect, enhance and increase resilience of the landscape:
 - Increasing habitat and biodiversity across the site through strategies to consider wildlife benefits through all SLMP interventions
 - Protect heritage features through consideration of setting, views and materiality
 - Utilise SuDS within the landscape to create sustainable drainage and reduce flood-risk
 - Protect and enhance the character of the landscape and consider key views
2. Opportunities to connect people with nature, and promote health & well-being:
 - Provide access to the countryside through an extensive network of pedestrian and cycle routes
 - Support active travel priority for the scheme through integrating the STC within the landscape
 - Promote healthy lifestyles through provision of sports pitches & open space for outdoor recreation and play
 - Create opportunities for community food production

The following specific opportunities are also identified:

Key Opportunities

The SLMP Strategies identify opportunities for the vision and core principles of the study to be realised:

1. Using views of St Mary's Church as a focal point to develop the character of Gilston Fields, creating new footpath links and local centre for community activities around the new cricket pitch
2. Golden Valley - Integrating a robust SuDS strategy sensitively within the valley corridor through multiple interventions designed to work with existing contours and provide a graduated storm-water drainage network whilst ensuring pedestrian and cycle permeability and enjoyment of the valley is maintained
3. STC Crossings - Establishing design principles for STC Corridor crossings with full consideration to pedestrian and cycle access, habitat connectivity, integrated sustainable drainage, flood risk, maintenance access, landscape character and visual attributes, whilst also allowing opportunity for creative design solutions suited to these key sensitive locations
4. Opportunity for a key entry point into the landscape of Gilston Park where it interfaces with the STC. Creation of a beautiful streetscape experience for people travelling along the route and safe, legible and attractive entry point into the park.
5. Proposed river restoration for a stretch of Fiddler's Brook, introducing sinuous path for the watercourse together with floodplain scrapes to both protect existing infrastructure and create riparian habitat

6. Opportunity to consider historic landscape pattern, heritage and interpretation in relation to heritage assets
7. Village 1 Entrance / Gilston Park - opportunity for a hub of community activity to be created incorporating community orchard, integrated play, wayfinding, sports pitches and primary school access
8. Establish key design principles for the Gilston Park Pavilion including facilities, key routes, access
9. Develop strategies for creation of meaningful landscapes within the Village corridors which sensitive provide integration with the surrounding landscape
10. Determine design principles to protect wildlife corridors and important views within Hunsdon Community Park
11. Establish design principles to protect the Ancient Woodland where this interfaces with the STC, and to improve pedestrian access whilst protecting natural habitat, in line with the Development Specification
12. Create engaging new play facilities which take inspiration from their landscape setting and provide a wide variety of opportunities for all to enjoy play
13. Protect the character of landscape features whilst ensuring they are suited to increased use
14. Identify a variety of ways to create a diffused Village buffer along the power line corridor including opportunities for sports, SuDS and community food production

OPPORTUNITIES PLAN

- Key

Combined Application Boundaries for the Gilston Area

Character Area Zone - Woodland

Character Area Zone - Plateau

Character Area Zone - Parkland

Character Area Zone - Valley

Existing Woodland

Existing Ancient and Semi-Natural Woodland

Existing Ancient Replanted Woodland

Existing Local Wildlife Sites

Existing PROW network

STC route

Existing Key Heritage Assets

Heritage Hot-spots

Focus locations for Key Views

Ecological Enhancement Opportunities

Strategic Movement Opportunities

Strategic SuDS Opportunities

Village Development

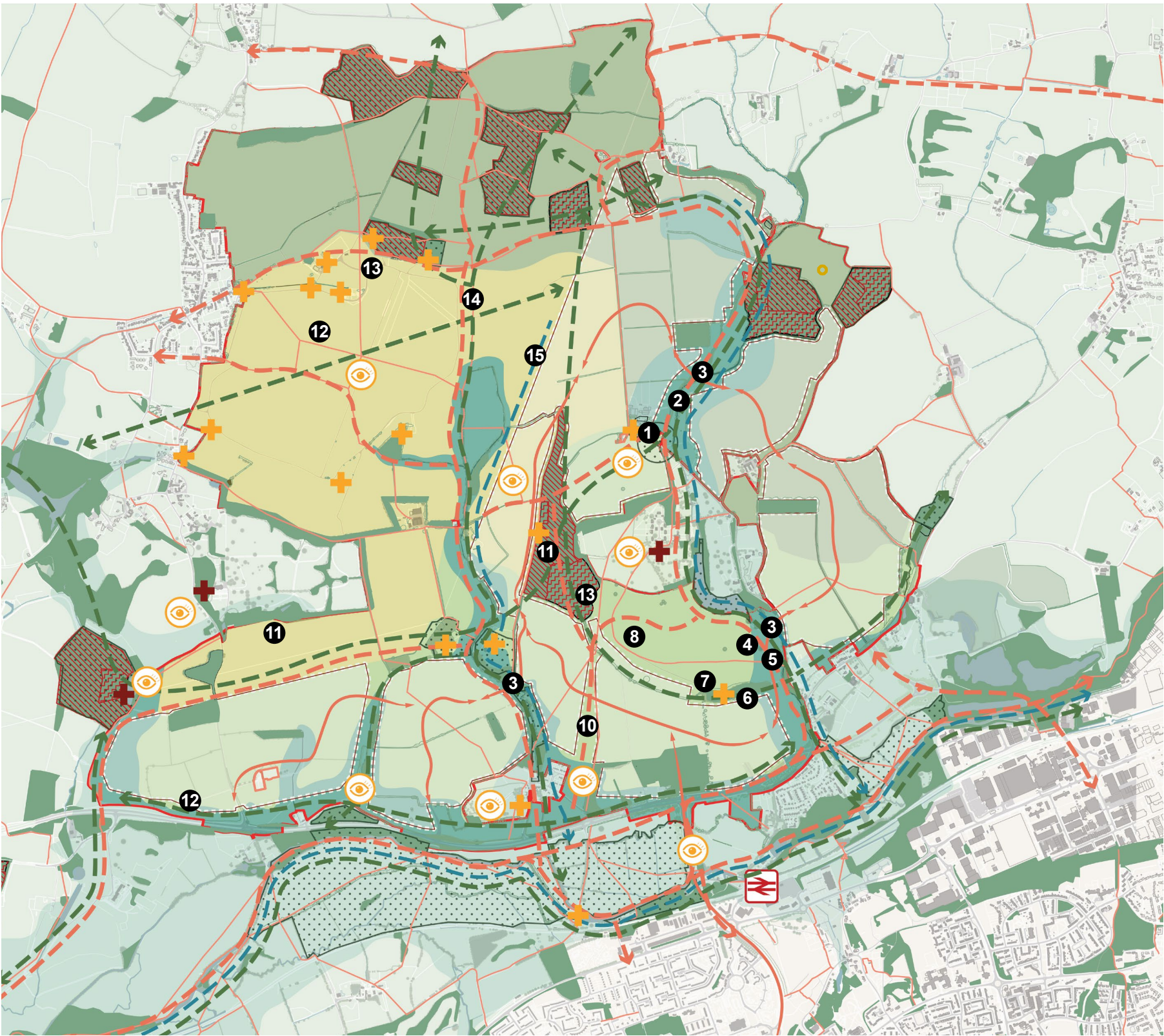


Fig.97 Opportunities

5.2 Green Infrastructure

Green Infrastructure Context

The location of the Gilston Area on the northern valley slopes of the Stort Valley provides great potential for connections to strategic Green Infrastructure and leisure and recreational activities within Harlow and the surrounding area. The Stort Valley is home to a wide variety of outdoor pursuits, leisure and recreational activities that form a regionally significant green corridor linking to the Lea Valley and the Olympic Park beyond. Hatfield and Epping Forests are other significant GI assets in the wider area.

There is a raft of GI policy and guidance documents covering the area including the following key documents:

- East Herts Green Infrastructure Plan - Final Report, Land Use Consultants, March 2011
- Green Infrastructure Plan for the Harlow Area, Chris Blandford Associates, 2005
- Stort Valley Feasibility Study, The Landscape Partnership, 2007
- Harlow Open Space and Green Infrastructure Study, Land Use Consultants, July 2013

Key green infrastructure policy objectives can be summarised as follows:

- Improved access to the Stort Valley and the countryside north of Harlow. A 'Green Infrastructure Gateway' to Harlow is identified south of Eastwick village.
- Identification of the Stort Valley as an area for enhanced river environment for informal recreation, natural play and discovering and accessing nature. Increasing people's awareness and involvement with nature.
- Habitat enhancements aimed at improving habitat connectivity include grassland, wetland, reed beds, aquatic vegetation and riparian environments linking the Stort Valley and its tributary streams.
- Reinforcement of broad-leaved woodland habitats.
- Gilston Park recognised as a strategic/significant GI asset and a historic landscape for conservation and historic connectivity.

Enhancement of site heritage, including moated sites and the airfield

Green Infrastructure Strategy

The OPP proposals create the opportunity to deliver Green infrastructure policy objectives for the area by delivering multi-functional green infrastructure such as new habitat connections, footpath and cycle path networks and spaces of recreation, sports and leisure. Green Infrastructure can be woven through the strategic landscape masterplan and village masterplans to reinforce village character.

In a similar way that the existing site landscape character informs the character of the parks, the OPP set out the aim for villages to each have an individual character expressed through existing and proposed landscape features that shape the fabric of each neighbourhood to create a recognisable identity. These illustrations describe specific examples of how this character is expressed within individual villages.

These include potential proposed features such as boulevards and village squares as well as the integration and reinforcement of existing landscape features such as the holloways and Avenues.

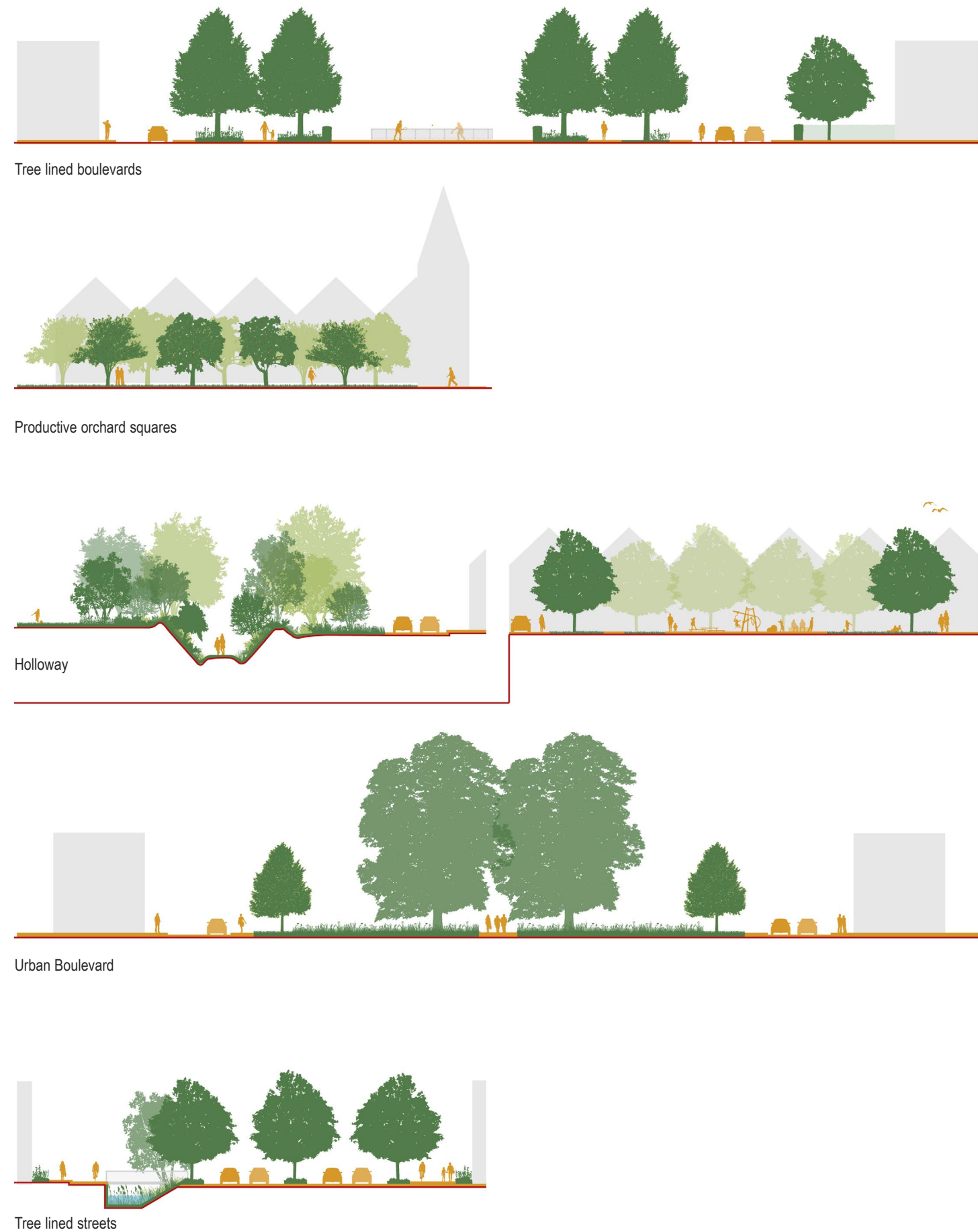


Fig.98 Green infrastructure and landscape character (from OPP stage)



GREEN INFRASTRUCTURE

Key

- SLMP Study Area
- Existing Woodland and Hedgerow
- Woodland Buffers 20m
- Waterway Buffer 20m
- Existing Hedgerows
- Village Corridors
- Strategic Green Corridors
- Parks
- Community Trust land in Agriculture
- Stort Valley
- Primary blue/green ecological corridor
- Primary Ecological Corridor
- Secondary Ecological Corridor
- Primary Movement Corridor
- Secondary Movement Corridor
- Formal Sports Provision

NOTE: Detail of landscape features within village boundaries to be addressed by the respective VMPs, not the SLMP



Fig.99 Green Infrastructure

5.3 Blue Infrastructure

Key Strategies

The Blue Infrastructure Strategy focuses on the following vital components of water management:

- Relationship to existing rivers and watercourses. Understanding of the potential impacts and opportunities to enhance habitats, manage capacity and improve water quality
- Flood management
- Surface Water Management.

Rainwater runoff water management strategy

Water is a key theme in the new landscape and a sound drainage and water surface management strategy is integral to the layout and function of Gilston Area.

An analysis of the existing site topography, ridge-line watersheds and existing water-bodies has informed how surface water is to be collected and retained across the site. The intention is to use water creatively in the landscape and public realm in order to create an interwoven network of Green and Blue Infrastructure that reinforces the landscape character of the development by adding to visual amenity, structure and local biodiversity.

The tributary valleys of the Golden Brook, Fiddlers Brook and Gould's (Eastwick Valley) Brook provide the opportunity for strategic areas for the collection and storage of run-off water from the plateau and steeper valley slopes. In contrast, the Stort Valley is predominantly within the 100-year event flood zone and therefore cannot be considered for storage.

The site's relatively steep gradient (approximately 1:30 to valley slopes, with locally steeper gradients, including within Village 1) presents an interesting challenge in terms of the creation and utilisation of storage volume.

The overlying clay soils across the site mean that infiltration rates are poor which limits the potential for soak-aways. As a result attenuation is the main component of the proposed SuDS system.

Where possible, swales will be aligned parallel to contour lines in order to maximise storage and surface area for infiltration. Where this is not possible, they will be aligned to follow the slope, and 'weirs' will be designed at intervals to retain surface water, increase storage volume and also enable easy maintenance.

The drainage system provides the opportunity to enhance the proposed high quality public realm and open green spaces with a swale and pond network providing green fingers extending from the tributary valleys into the public realm, enhancing the local biodiversity through new habitats for flora and fauna such as reed lined channels and wetland systems rich with marginal aquatics.

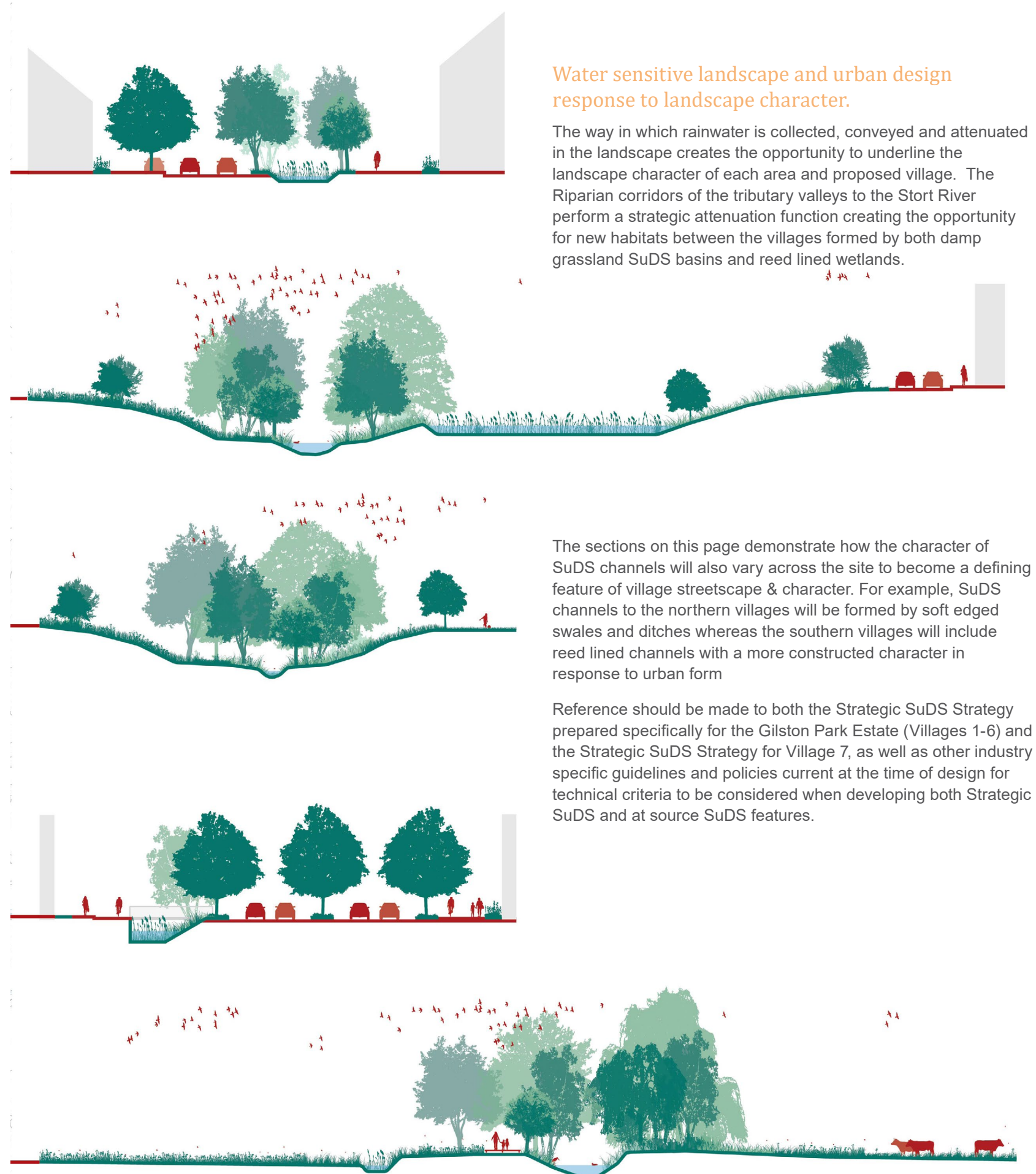


Fig.100 OPP concept section illustrating how bio swales and attenuation basins may respond to landscape character across the site. Not reflective of Village proposals