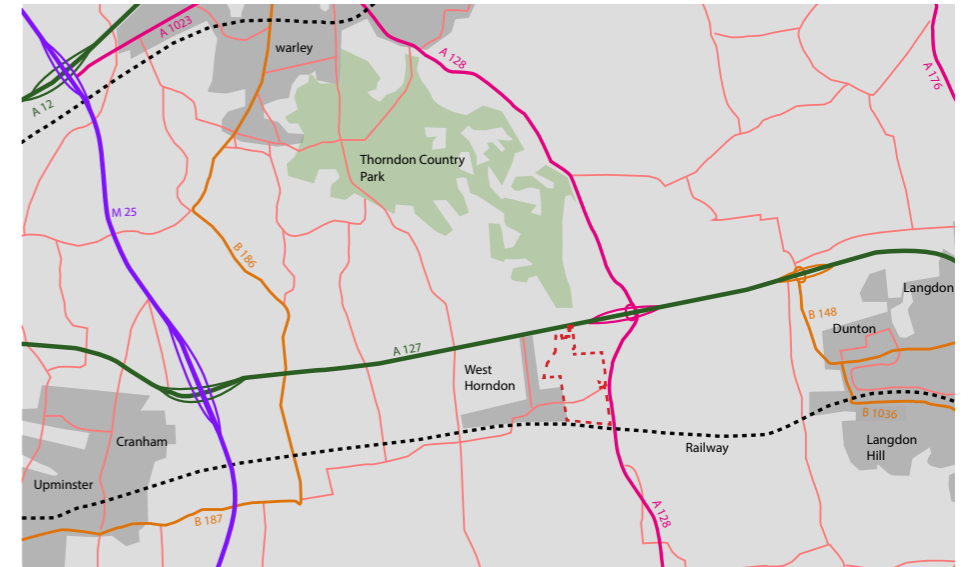
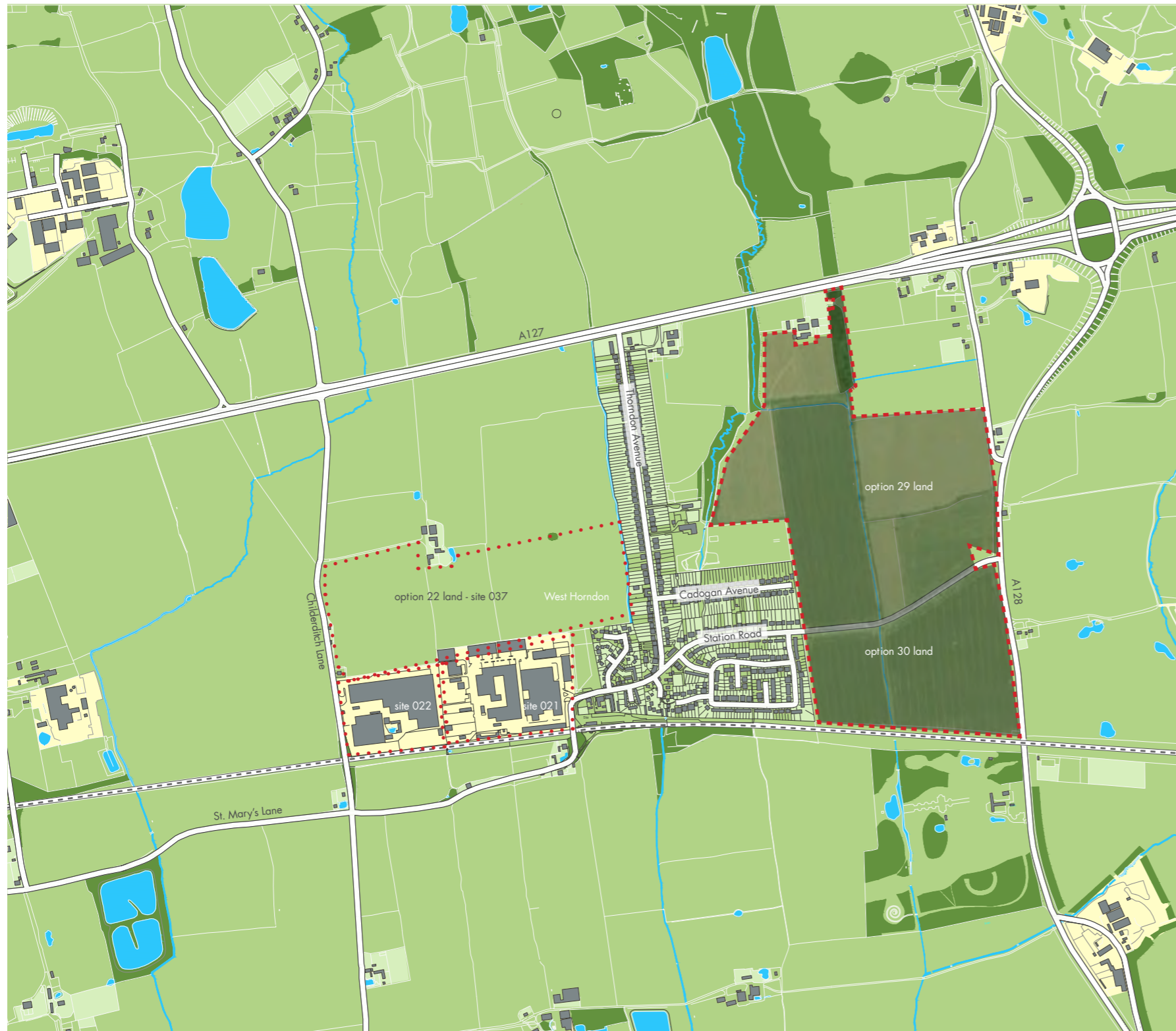


# site location and information



site location plan (NTS)  
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- site boundary (option 29 and 30 land from the SAR)
- ..... option 22 land from the SAR (partly promoted by E&A Strategic Land and including sites 037, 021 and 022 from Policy DM23)

## the site location

The site is located directly to the east of West Horndon. It is within easy access of the A127 and A128 and connects in to the existing village and its key community facilities of the primary school and local park. It comprises low-grade agricultural land which is contained and parcelled by a strong and intact structure of hedgerows. The site also lies to either side of the main access into West Horndon, Station Road.

The population of the village from the 2011 census was 1537 in an urban area of 0.643km<sup>2</sup>.

# summary of analysis

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The following analyses have been summarised into the key information that will inform the decision making authorities with the evidence base as to the merits of this site for the purposes of a deliverable housing led mixed use new community. The analyses do not always indicate positive development conditions but also identify if this is the case, what mitigation can be made to at least neutralise the issue.

site history

topography and geology

site visibility

hydrological overview

landscape character

site characteristics

site designations and technical features

local settlement character

# site history

The local area has largely been shaped by the natural geography; the Thames, Mar Dyke and Hole Craven Creek to the south and the Langdon/Horndon Hills to the north.

The district is gridded with roads, settlement, hedges and ditches as the lower fenland has been artificially drained, occupied and farmed. Important east – west routes, either rail or road, run perpendicular to north - south drainage, settlement and hedgerow lines that mirror linear parish boundaries.

West Horndon is one of a group of three rectilinear parishes in the north of the district, on the junction between the wooded ridges and the Thames plain.

The area has always been sparsely populated and the character of settlement has its roots in scattered farmsteads and notable country estates. Royalty and gentry have shaped the landscape which has been radically changed in the last century. The Essex sporting gentry frequented the area for hunting and steeplechasing (ca. 1860).

It is likely that there was no road running over the fenland until the early 18th Century. Roads were confined to the hills and many of these are now marked by public rights of way and narrow lanes.

The Three Farms of Nuttys, Tillingham and Blankets occupy ancient sites around West Horndon, which were bisected by the London to Southend Railway extension in 1886. The development of a station at West Horndon stimulated the growth of an 'industrial township' and linear low density residential settlement followed in the 20th Century.

In 1937, The Essex Brick Company began operations on the land to the north of West Horndon, which was taken over by Costain

Concrete Co. in 1946. In 1938 an agricultural machine company opened a factory adjacent to West Horndon Railway Station which has now closed. The current industrial activity located to the west of the station began in 1940 and is still in operation today.

The land around West Horndon has changed with the impact of road and rail development, as well as changes in farming practice. The once grazed lands of the fens have been developed to accommodate modern arable farming practice, resulting in the opening up of the fields and the loss of farm boundaries, which is more noticeable to the west side of the village where the land is exposed and open and the impacts of its industrial setting are significant.

The history of the village of West Horndon is relatively recent and following the building of the railway in 1886 (and known as East Horndon at the time). Prior to this the land was agricultural, broken down in a strong north/south orientation with lanes leading to the Thames Estuary to the south. St. Mary's Lane/Station Road is an old east/west route on which West Horndon station was located, one of few east/west routes in the vicinity.

The landscape structure also contained this strong north/south orientation with linear woodlands and denser hedgerows following drainage channels, also leading to the Thames. These linear routes and landscape have since been broken by east/west road and rail corridors which still presents a clear grid structure to the landscape up to present day.

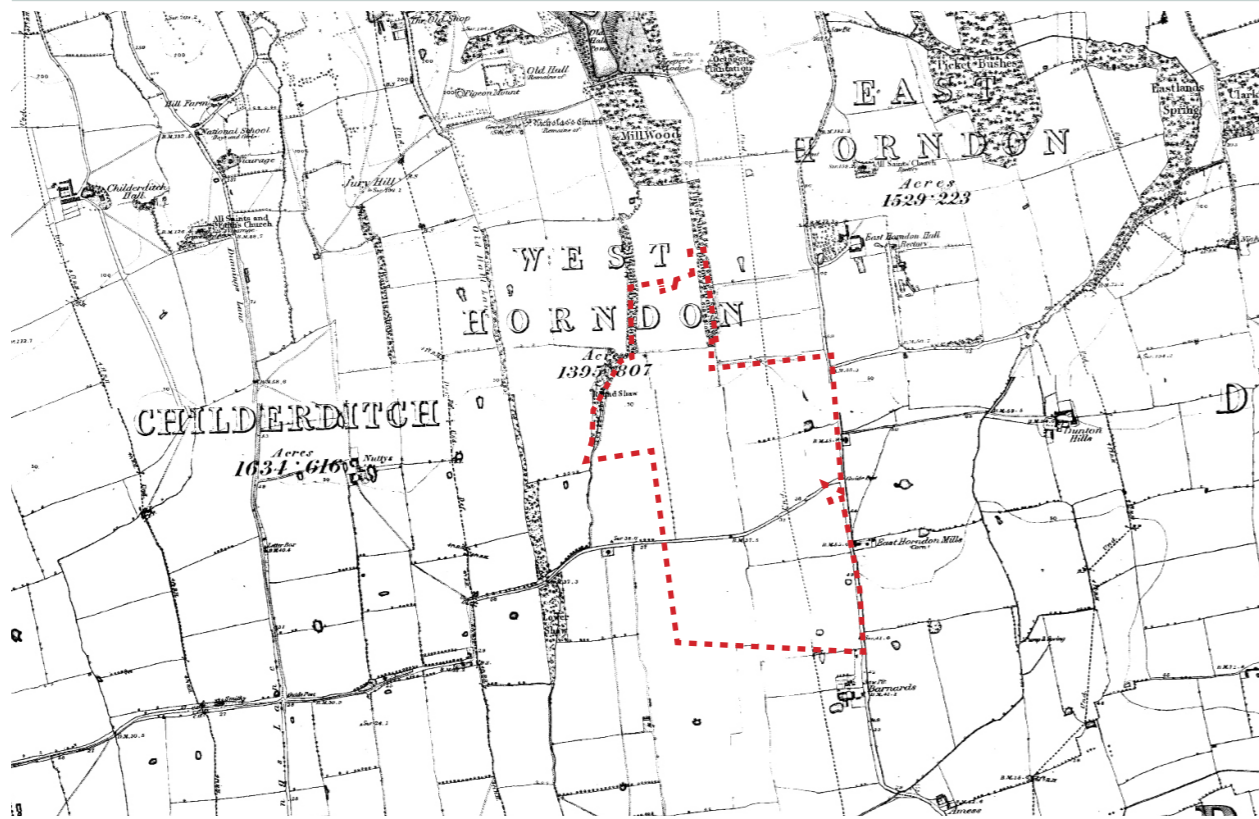
The area has always been sparsely populated and the three manors that comprised the Parish recorded 21 inhabitants in 1066, rising to 184 in 1931.

## conclusions for the site justification

- The site still contains drainage channels and strong north/south alignment

## drivers for the masterplan

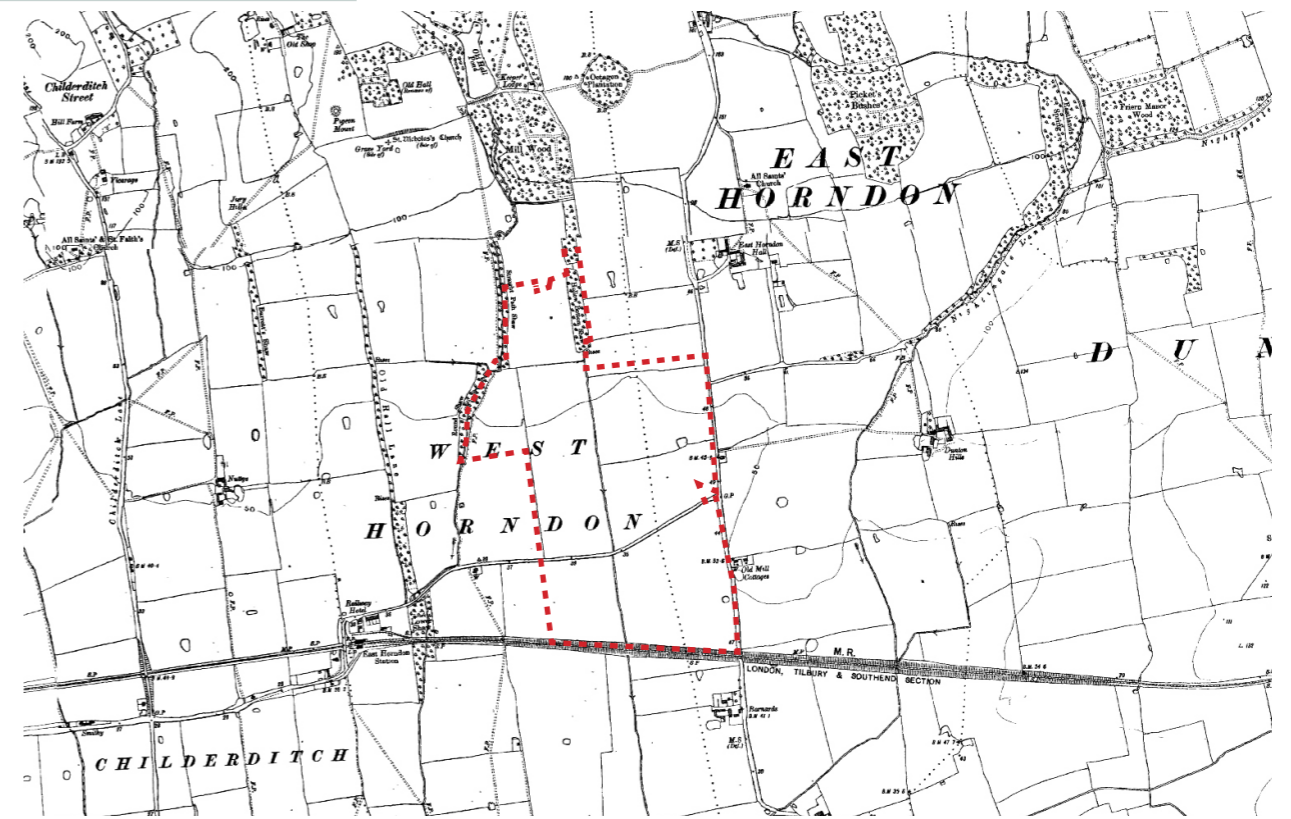
- geometric and gridded green infrastructure to be enhanced
- opportunity to mitigate industrial and cultural patterns through significant buffer planting
- interpret local linear pattern within development
- encourage incorporation of farmstead focus to development hamlets



----- site boundary

Historic mapping of circa 1872-1881

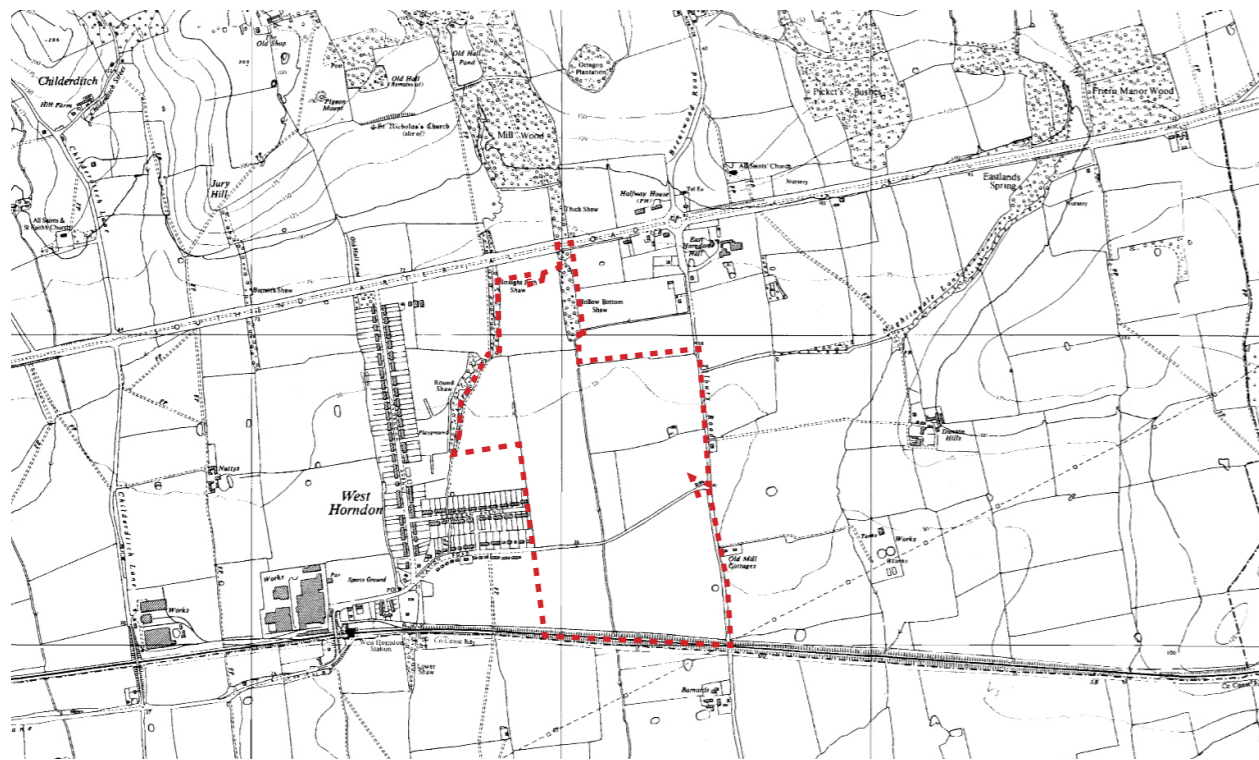
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----- site boundary

Historic mapping of circa 1921

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----- site boundary

Historic mapping of circa 1960

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----- site boundary

Historic mapping of circa 1977-1991

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# geology and topography

## geology

### Bedrock geology

The flooding of the area by the sea in the Eocene period laid down the 'London Clay Formation' in the London Basin. This comprises clays, silts and sands which reach depths of 150m in area local to the site.

To the north of the site, remnants of the superficial geology known as the 'Bagshot Beds' create the localised upland that encloses and shelters the site. These sandy ridges have been heavily eroded by water action creating an undulating topography across the slopes.

### Superficial geology

Head geologies of clays silts and sand overlay this London clay, comprising gravel, sand and clay depending on upslope source and distance from source. Poorly sorted and poorly stratified deposits are formed mostly by solifluction and/or hillwash and soil creep. Essentially the area's superficial geology comprises sand and gravel, with lenses of silt, clay or peat and organic material.

Alluvial lines meander through this clay geology in a north - south orientation at regular intervals, marking historic drainage courses.

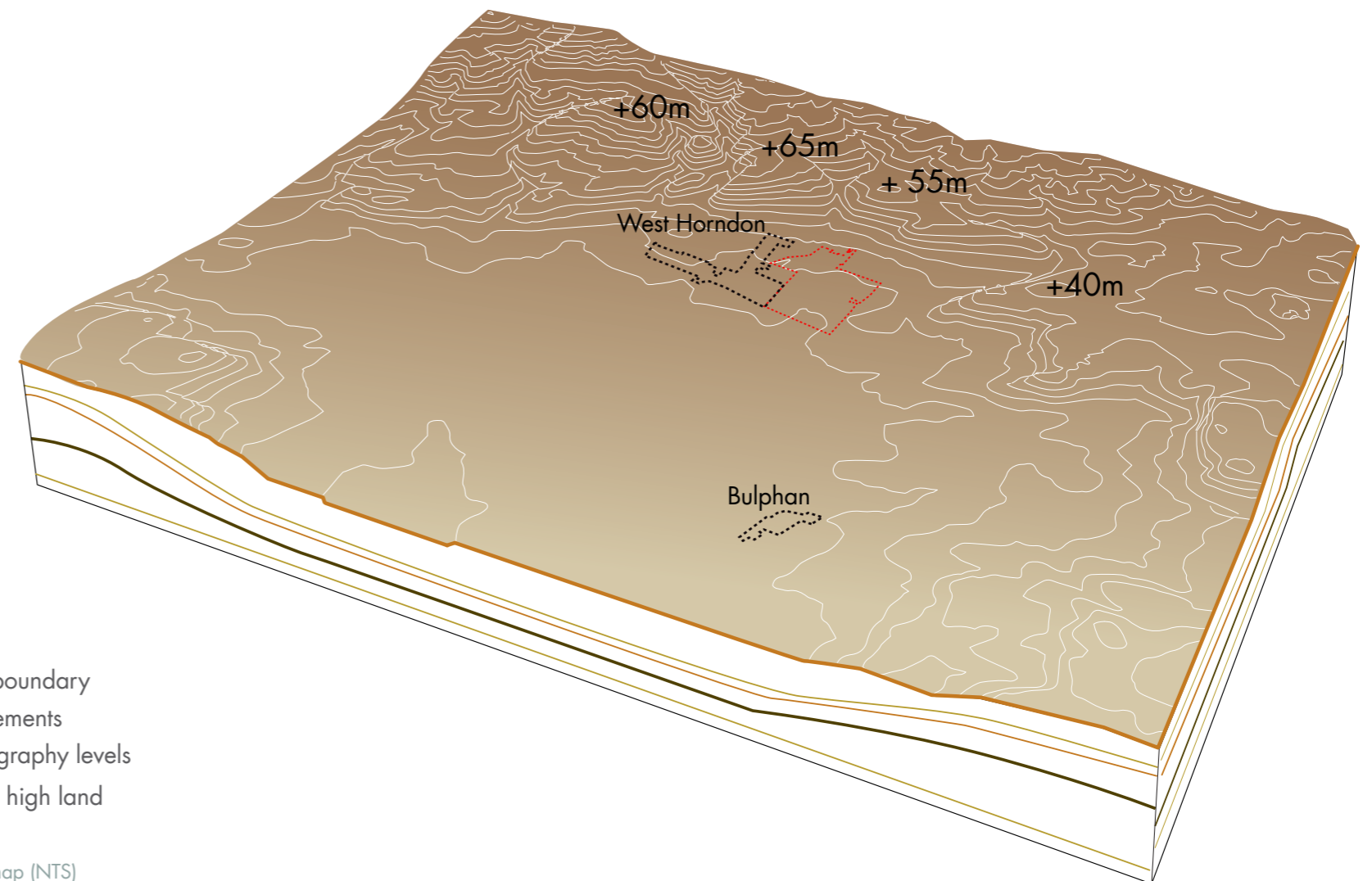
(Sources: British Geological Society and GeoEssex)

## topography

The site lies at between 10m and 20m ASL, falling north to south. It is at the same level as the village on the flattening lower slopes of the hillsides to Thorndon Country Park.

The land rises up to the Country Park north of the A127 to a level of up to 65m ASL. These local hills wrap to the north west, overlooking the western side of the village and around to the east at slightly lower levels.

- the site is relatively flat but what slope there is has an ideal southerly aspect with easy access
- the site is enclosed and sheltered by upland to the north and east



topography map (NTS)



- key
- - - site boundary
  - - - settlement
  - alluvium - clay, sand and gravel
  - head clay, sand and gravel
  - glaciolacustrine deposits, mid pleistocene - clay, silt and sand
  - head - clay, sand and gravel
  - glaciofluvial deposits, mid pleistocene - sand and gravel
  - lowestoft formation - diamicton
  - + local high points

# site visibility

## overview

An initial visual analysis of the site and its environs identified the enclosure and visual qualities of the site and its relationship with neighbouring settlements and the landscape context. In summary:

The land east of West Horndon (east site) comprises eight fields lying within a low lying, level landscape, sloping imperceptibly to the north from 10-20m AOD. There is a large belt of trees associated with its north-western flank, close to the village of West Horndon. The east site's fields are rectilinear in shape, lined by hedgerows and watercourses which follow a broadly north-south and east-west orientation. The east site is split by Station Road which runs broadly in a east-west direction. The early field pattern system appears broadly intact. The east site backs onto a number of houses within West Horndon. The east site is bound on its northern and eastern flanks by large roads; the A127 and A128 respectively. These two roads are bounded by strong belts of vegetation which enclose the site.

The land to the west of West Horndon (the west site) comprises a mix of brownfield industrial land to the south with an area of greenbelt arable farmland to the north. The three arable fields have a relatively weak hedgerow pattern. Its northern edge is open and marked by a low ridgeline. Its eastern boundary is marked by housing at West Horndon whilst its western edge is marked by Dunning Lane which is lined by hedgerows. The A127 lies north of the site beyond the ridgeline, the road is lined by a dense hedgerow and trees. The site lacks an obvious northern edge to it.

## conclusions for the site justification

- The combination of a well established network of hedgerows and hedgerow trees in combination with the low level topography of the land combines to significantly limit visibility of the east site from the surrounding land to the south, east and west. The west site is more visible due to a less well established network of hedgerows and no defined northern edge.
- Open views of both sites are possible from the footpaths and public access land associated with the Thorndon Country Park South. These views are sensitive and frequented by many visitors. Nonetheless the expansive views experienced from Thorndon Country Park South are defined by a mix of both rural and urban elements. Industrial elements such as chimneys and factories and infrastructure elements such as bridges and large roads define the character of the views from the park.
- Existing vegetation within the east site and the Thorndon Country Park South limits the visibility of the east site from western sections of the Country Park. In contrast, the west site is very open, lacking a strong vegetation network and is highly visible when viewed from western sections of the park; notably from views 8 and 9.
- A strong network of landscape structure planting would integrate the development of the east site into the wider landscape in time. The existing hedgerow network should be retained and bolstered with new tree planting. New hedgerows and tree planting as proposed on figure 5 will help to integrate the development into the landscape and reduce its visibility from the Thorndon Country Park South. It is assessed that any visual harm resulting from the development of the east site could be limited through mitigation planting. The west site would be harder to assimilate into the landscape. It is highly exposed in

views from the western sections of the Thorndon Country Park South and lacks a clear northern boundary.

- It is therefore concluded that a landscape led approach to the development of the east site will not give rise to any significant landscape and visual effects and will enhance landscape character and restore lost landscape features typical of the area. The lack of an established network of vegetation associated with the west site and the lack of an obvious northern edge to the site means it will be harder to assimilate new housing at the west site into the development.

## drivers for the masterplan

- strengthen the existing network of landscape structure to mitigate development on the site
- selectively add additional hedgerows to further assist in mitigating development impact





+ Viewpoints

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# site visibility continued



Viewpoint 1: View westwards from Childerditch Lane south of the A127, distance from west site approx 500m; distance from east site approx 1100m; 20m AOD.

Views to the east site are blocked by the vegetation associated with properties in West Horndon. The roofs of houses within west site would be visible. The change in the view would be relatively minor.



Viewpoint 2: View westwards from the Church of All Saints, north of the junction of the A127 and A128, distance from east site approx 600m; distance from west site approx 1400m; 45m AOD.

New houses within the east site would appear within the existing, dense network of vegetation which partially screens portions of both the east site and west site. The houses would appear within the mid ground of the view. A small number of houses within the west site would be visible. The changes in view would be relatively minor. The essential character of the view would not change.



Viewpoint 3: View westwards from Station Road west of the junction with the A128, distance from east site approx 0m; distance from west site approx 1000m; 12m AOD.

The view looking westwards along Station Road is dominated by the road and a low clipped hedge. New housing would appear above the existing hedgerows on either side of the road. This would represent a moderate change in view. A strong landscape structure of additional woodland planting would maintain a rural approach to West Horndon and reduce the visual impact of the housing.



Viewpoint 4: View eastwards from Station Road east of West Horndon with the A128, distance from East Site approx 0m; distance from west site approx 600m; 10m AOD.

The view looking eastwards along Station Road would undergo major change. New housing would appear above the existing hedgerows and block views to the Langdon Hills. A strong landscape structure of additional woodland planting would maintain a rural approach to West Horndon. Field 2 would benefit from being divided by a new hedgerow.



Viewpoint 5: View east from the edge of West Horndon Park, distance from east site 0m; distance from west site approx 1500m; 15m AOD.

XXXXX



Viewpoint 6: View south from Octagon Plantation Country Park, distance from east site approx 700m; distance from west site approx 1500m; 50m AOD.

The east site can be seen in the mid-ground of the view. However the site forms only a small proportion of the overall view and is visually broken up by existing vegetation within the site. New houses would be visible however they would appear as a natural extension to West Horndon. In order to reduce the visual impact of the development, existing hedgerows should be maintained and planted with trees. Field 3 should be bisected by a new hedgerow and trees. Housing within the west site would be largely screened from view. The changes in the view would be minor.



Viewpoint 7: View southwards from public footpath within Thorndon Country Park South, distance from east site approx 600m; distance from west site approx 1100m; 40m AOD.

This 90 degree open, panoramic view takes in the hills of Kent and the towers of London. However roadside planting on the A127 screens a large proportion of both sites. The roofs of houses at both sites would be visible in the mid-ground of the view however the change in view would be minor.



Viewpoint 8: View southwards from public footpath within Thorndon Country Park South, distance from East Site approx 800m; distance from west site approx 900m; 55m AOD.

Views of new housing at the east site would be possible. However the homes would represent a relatively minor and insignificant change in the view. Housing at the west site would be highly visible due to the lack of intervening vegetation between the site and the viewer. This would represent a moderate change in the view.



Viewpoint 9: View southwards from public footpath at Jury Hill within Thorndon Country Park South, distance from east site approx 900m; distance from west site approx 900m; 55m AOD.

Views of new housing at the east site would be blocked by existing vegetation on the hill slope south of the Thorndon Country Park South. Housing at the west site would be clearly visible and appear as a large block of housing in the centre of the view. It would be difficult to screen the new housing at the west site effectively.



Viewpoint 10: View westwards from the junction of the entrance of Nuttys Farm and Childerditch Lane, distance from west site approx 0m; distance from east site approx 1100m; 15m AOD.

No housing at the east site would be visible. The addition of new housing at the west site would significantly change this view.



Viewpoint 11: View northwards from the footpath east of Field House, distance from west site approx 1000m; distance from East Site approx 800m; 8m AOD.

New housing at both sites would be almost entirely screened by existing off and on site vegetation.



Viewpoint 12: View northwards from the footpath east of Blankets Farm, distance from west site approx 2500m; distance from east site approx 2600m; 5m AOD.

New housing at both sites would be entirely screened by existing vegetation off site.



Viewpoint 13: View westwards from Byway to the east of A128 , distance from west site approx 1500m; distance from east site approx 500m; 20m AOD.

The view is highly enclosed by the lane's surrounding vegetation. No new housing would be visible at either of the sites.



Viewpoint 14: View westwards from footpath east of church at Dunton Hall, distance from west site approx 2900m; distance from east site approx 1400m; 35m AOD.

The local topography blocks views to both sites.





Viewpoint 15: View northwards from Dunnings Lane , distance from west site approx 1600m; distance from east site approx 2000m; 6m AOD.

This northward looking view encompasses the Thorndon Country Park South to the north. The foreground of the view is dominated by Dunnings Lane which is enclosed by hedgerows which restrict the openness of the view. Neither site can be seen.



Viewpoint 16: View westwards from car park of Dunton Plotlands Nature Reserve, distance from West Site approx 3400m; distance from East Site approx 2500m; 15m AOD.

This view looking west features rolling arable fields which are dissected by the London to Southend Railway. Views to both sites are blocked by a low ridgeline running through the Dunton Hills Golf Club.

# hydrological overview

The context of the site has largely been shaped by the natural and managed hydrology over the clay beds; the site lies within the Thames river catchment area which runs east - west, ca. 5km to the south of West Horndon. Its tributaries of Mar Dyke and Hole Haven Creek create punctuate the Thames plain either side of the village, which is further divided by a series of north - south streams that fill quickly on the impervious soils in heavy rain.

There was a water mill on the Mardyke at Purfleet in the 14th century and from about 1760, sluice gates protected the lowlying land through which the Mardyke flows from the tidal and saline Thames.

In the 19th century and earlier, the Mardyke was navigable to Bulphan. Using a network of drainage ditches, manure from London was brought to local farms and agricultural produce taken to market. In the 18th century, when the river was still tidal, it may have been navigable as far as Orsett Hall at high tide.

The area of West Horndon is gridded with roads, settlement, hedges and ditches as the lower fenland has been artificially drained, occupied and farmed. Geometric gridded fields have been drained into peripheral streams, creating an even mesh of water lines across the clay plain.

As expected the main drainage channels and streams run southwards from the glacial valleys to the north. The low lying land at West Horndon leads to potential flooding in the village. The site lies just outside the 1:100 year flood zone but adjacent to it.

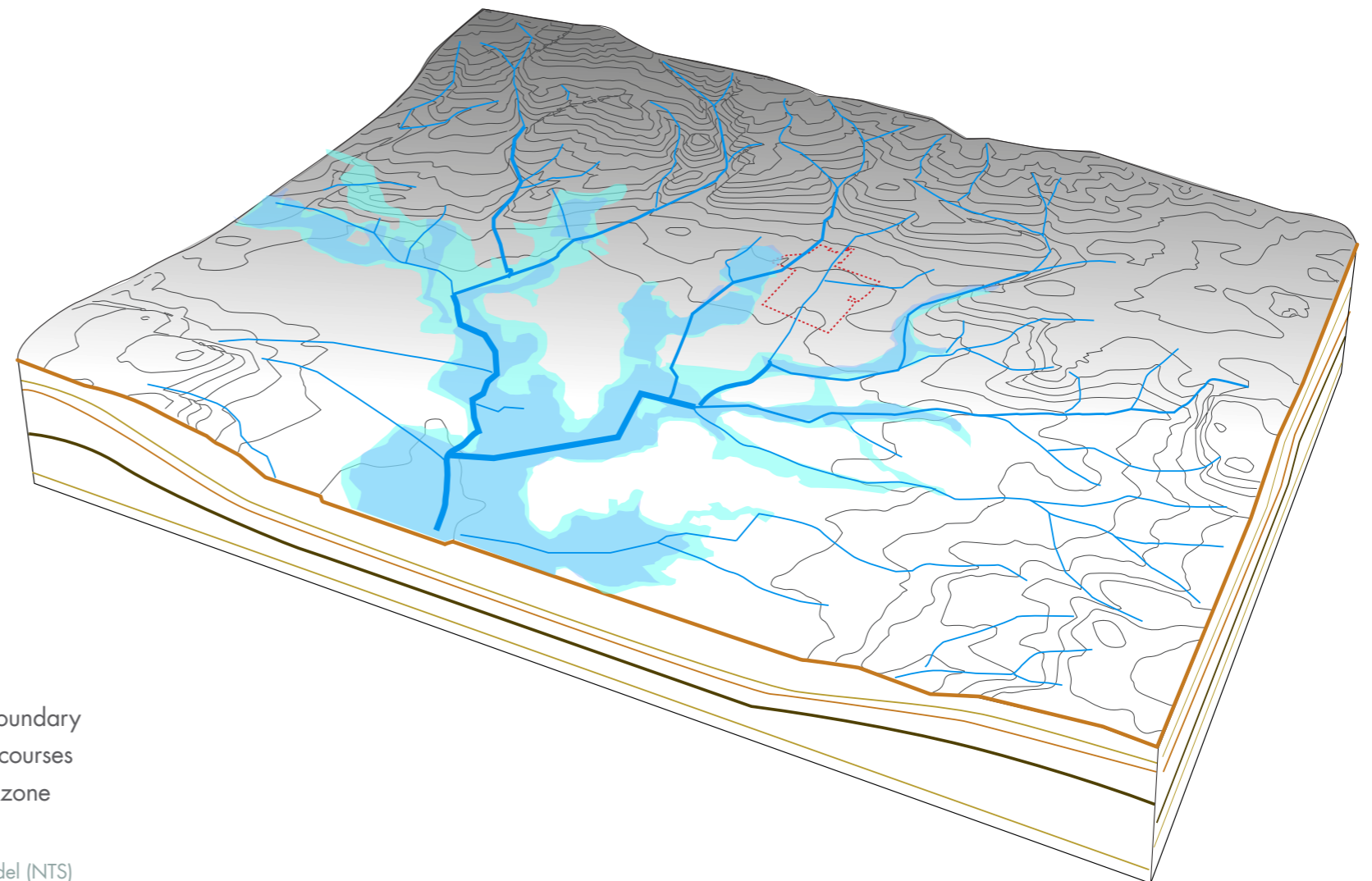
It is understood that West Horndon recently flooded and therefore there is an issue for the village. The site is upstream of the flooding and therefore impacts on the flood zone.

## conclusions for the site justification

- as the site lies adjacent to the flood zone and alongside a main drainage channel there is potential to use the site to help minimise flooding downstream by capturing and storing surface water, releasing it at a lower rate particularly during flood events
- the aim should be to reduce any surface water run-off compared to current greenfield rates to assist with local flooding issues

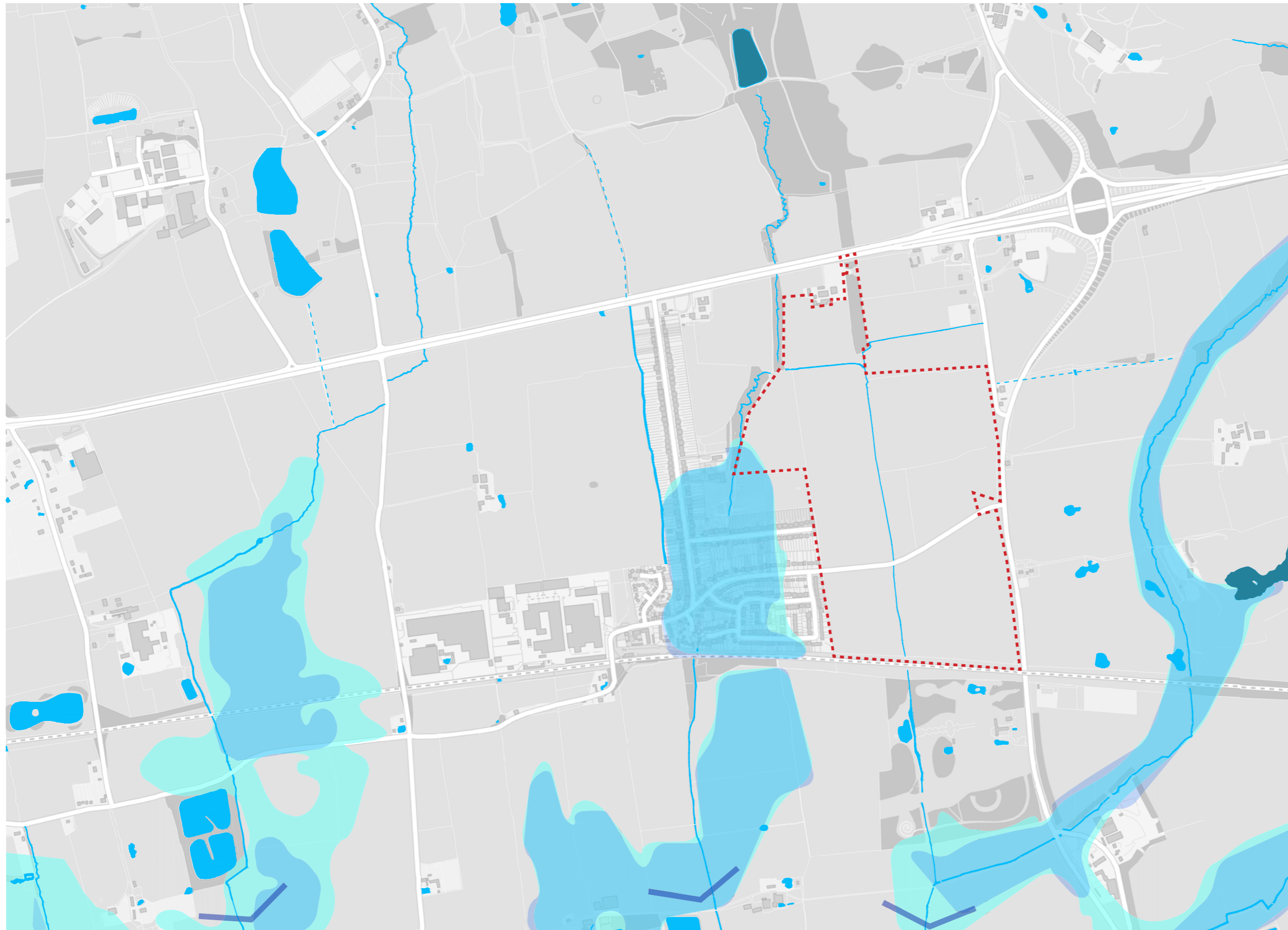
## drivers for the masterplan

- provide wetlands to reduce flood risk
- create varying habitats through wetland areas
- create a variety of public routes through wetlands to improve amenity



- site boundary
- watercourses
- flood zone

hydrology model (NTS)



key

- site boundary
- water bodies
- reservoirs
- ornamental pools
- 1:100 flood zone
- extent of extreme flood
- watercourses

# landscape character

## national landscape study

The national assessment of landscape character designates the landscape around West Horndon as Northern Thames Basin. This relates to:

- an intermediate physiography of rolling undulating areas under 1000ft;
- Clayland landcover; and,
- in a settled agricultural landscape

## local scale character assessment

At a Borough scale, identified by Brentwood borough Council, the landscape character around West Horndon the site has been designated G1 Horndon Fenland. The characteristics include:

1. large, arable pasture fields
2. predominantly flat topography
3. Mature hedgerow field boundaries
4. Relatively sparse settlement pattern
5. Views to surrounding wooded hills to the north
6. Long distance views to pylons and Tilbury Power Station

### Proposed Landscape Strategy Objectives

*Conserve - seek to protect and enhance positive features that are essential in contributing to local distinctiveness and sense of place through effective planning and positive land management measures.*

*Enhance - seek to improve the integrity of the landscape, and reinforce its character, by introducing new and/or enhanced elements where distinctive features or characteristics are absent.*

*Restore – seek to reinforce and/or reinstate historic landscape patterns and features that contribute to sense of place and time depth, by repairing distinctive elements that have been lost or degraded.*

### Suggested Landscape Planning Guidelines

- Conserve the relatively sparse settlement pattern and generally rural character of the area.
- Ensure that any appropriate new development responds to the existing settlement pattern and uses materials which are appropriate to local landscape character.
- Conserve the setting of West Horndon, through careful consideration of the existing landscape structure.
- Conserve views to landmark churches to the north.
- Seek to screen visual detractors (such as the edges of the small industrial estate in West Horndon, and large agricultural buildings).

### Suggested Land Management Guidelines

- Conserve and enhance the existing hedgerow network by planting hedgerow species appropriate to local landscape character.
- Establish arable field margins as important nature conservation habitats.
- Seek ways to mitigate the visual impact of the railway and A127 corridor through introducing new and strengthening existing parallel shelterbelts where appropriate.
- Introduce new woodland planting in the form of shaws and copses, as well as hedgerow trees.

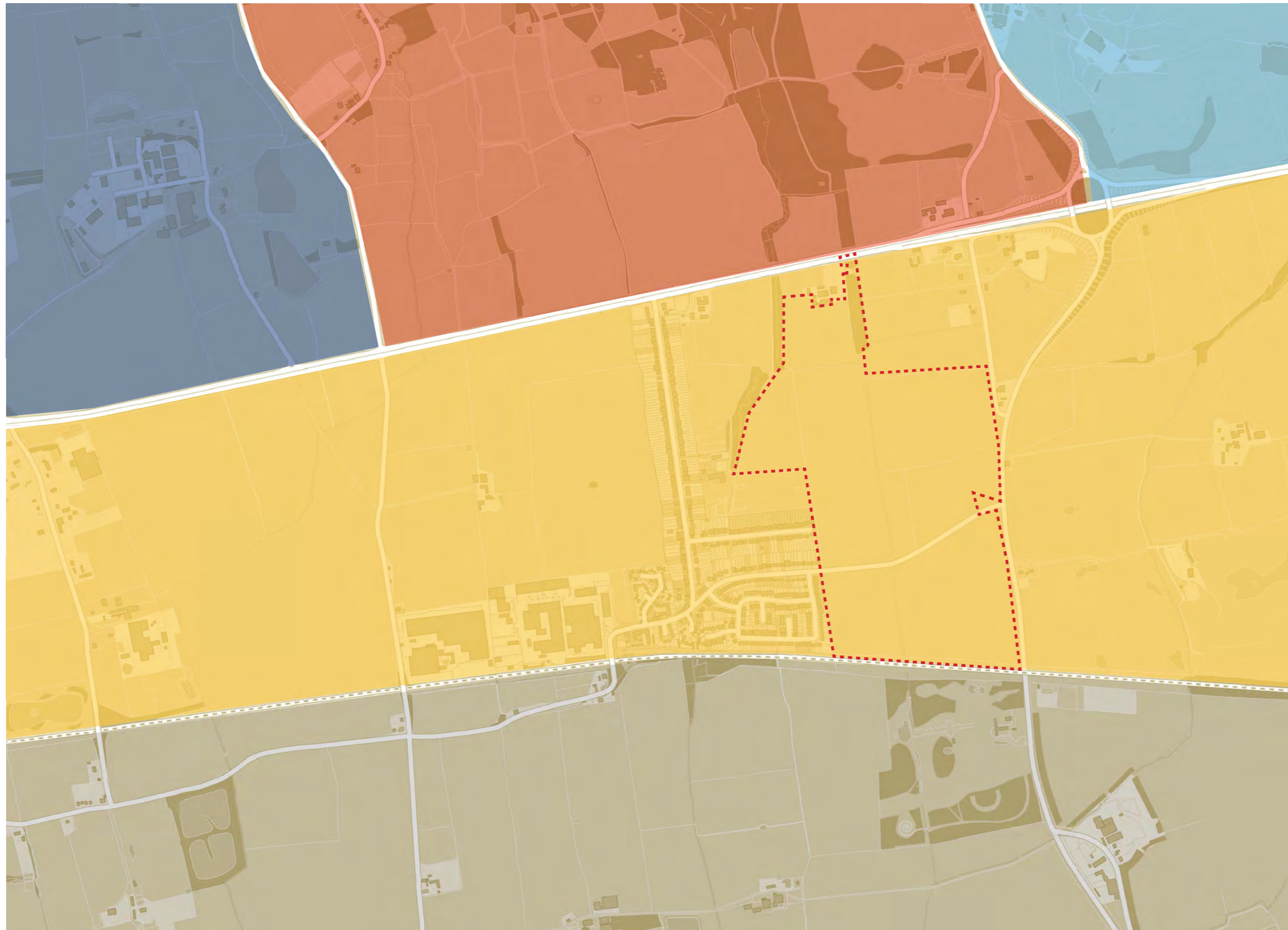
We have also found that the Thurrock character assessment applies similar characteristics to the land immediately to the south of the railway and therefore believe there not to be a separate character to either side of the man made railway embankment, instead the fenlands landscape continues from the lower slopes at the A127 towards the Thames Estuary.

## conclusions for the site justification

- the character of this area is a landscape defined grid with north/south dominant features
- the character should be reinstated where necessary or reinforced if not
- seek to meet the suggested Land Management Guidelines

## drivers for the masterplan

- strengthen existing east/west hedgerow and north/south woodland grid



key

- site boundary
- F13 Great Warley wooded farmland
- F9 Little Warley wooded farmland
- F14 Ingrave & Herongate wooded farmland
- G1 Horndon fenland
- Bulphan/Orsett fen (Thurrock Borough)

# site characteristics

Scale – to the north east of the village settlement area, the land is compartmentalised by small to medium sized fields bounded by ‘treed’ and mature shrub hedgerows to approximately 3-4m high on average. The historic field patterns remain largely intact, as well as fragments of the historic woodland shaw that encloses the southwards running stream. To the north west and south of the settlement, the historic field pattern and boundaries become more disjointed. Larger field patterns give rise to a more open farmed setting, field boundaries have been lost and the landscape character feels more exposed. Further south the fields open out to become large, open arable fields on a slightly higher plateau of land. The historic rectilinear landscape pattern breaks down at this point, along Fen Lane at Bulphan.

Enclosure – fences, clipped hedges, wooded shaws, drainage lines and wooded boundaries are typical of the lowland setting to the village. A mixture of larch lap fence and ornamental hedge planting mark the existing settlement boundaries that range in condition and height. The varied plot boundaries are mixed and weak in terms of robustness of character. The custodianship of management of these private plot boundaries varies considerably and would benefit from enhancement if opportunities arise.

Visual character and key views – views immediately around the village are short to medium distance in length, interrupted by buildings, industry and roads. Historic views to the church spires of Little Warley and East Horndon command views out of the village area to the north, anchoring the settlement into its setting. Views to the south of the settlement are constrained by the railway line, scattered buildings and treed horizons.

Condition and management – the condition of the landscape is disturbed, and while some evidence of the historic grain remains, there are visual and audible distractions on the tranquility and quality of the site. The management of the field boundaries varies;

on the eastern side of the viillage the boundaries are mature in height but immature in diversity and would benefit from management to enhance their visual and ecological value. To the west and the south of the village, the practice of hedgerow management is different in that many have been grubbed out or cut hard back.

Shape – broadly rectilinear, geometric, straight and dog-legged field boundaries and road patterns create an ordered, legible and organised landscape and settlement grain.

Topography – low lying, gently falling southwards, consistent falls with localised folds marking drainage lines.

Settlement and buildings – scattered historic hamlets and farms, mixed with more contemporary residential settlement, industrial and business use create a fragmented pattern.

Cultural pattern and associations – there are local associations with private landowners, country estates, fenland farming and industrial development. The area has links with gentry and royalty and was used for sporting and farming pursuits.

Distinctive features – industrial skylines, main east-west transport routes and enclosing landform to the north

There are three distinct local character types at a detailed scale;

- 1 the wooded hills and slopes to the north which are in part divided from the Thames plain and West Horndon by the main road. The wooded slope character stretches south past the road alignment in places
- 2 The gridded, small scale field structure including elements of leisure and historic woodland belts to the east of the settlement
- 3 The exposed open farmland to the west and south of West Horndon.

## conclusions for the site justification

- the land to the east of West Horndon is more appropriate for phased development parcels as its green infrastructure remains intact and is well established
- the character of the site is well defined and should be enhanced by any development

## drivers for the masterplan

- strengthen the green grid;
- connect public open space on the site into West Horndon Park;
- potentially provide improved access to the Thorndon Country Park