

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.

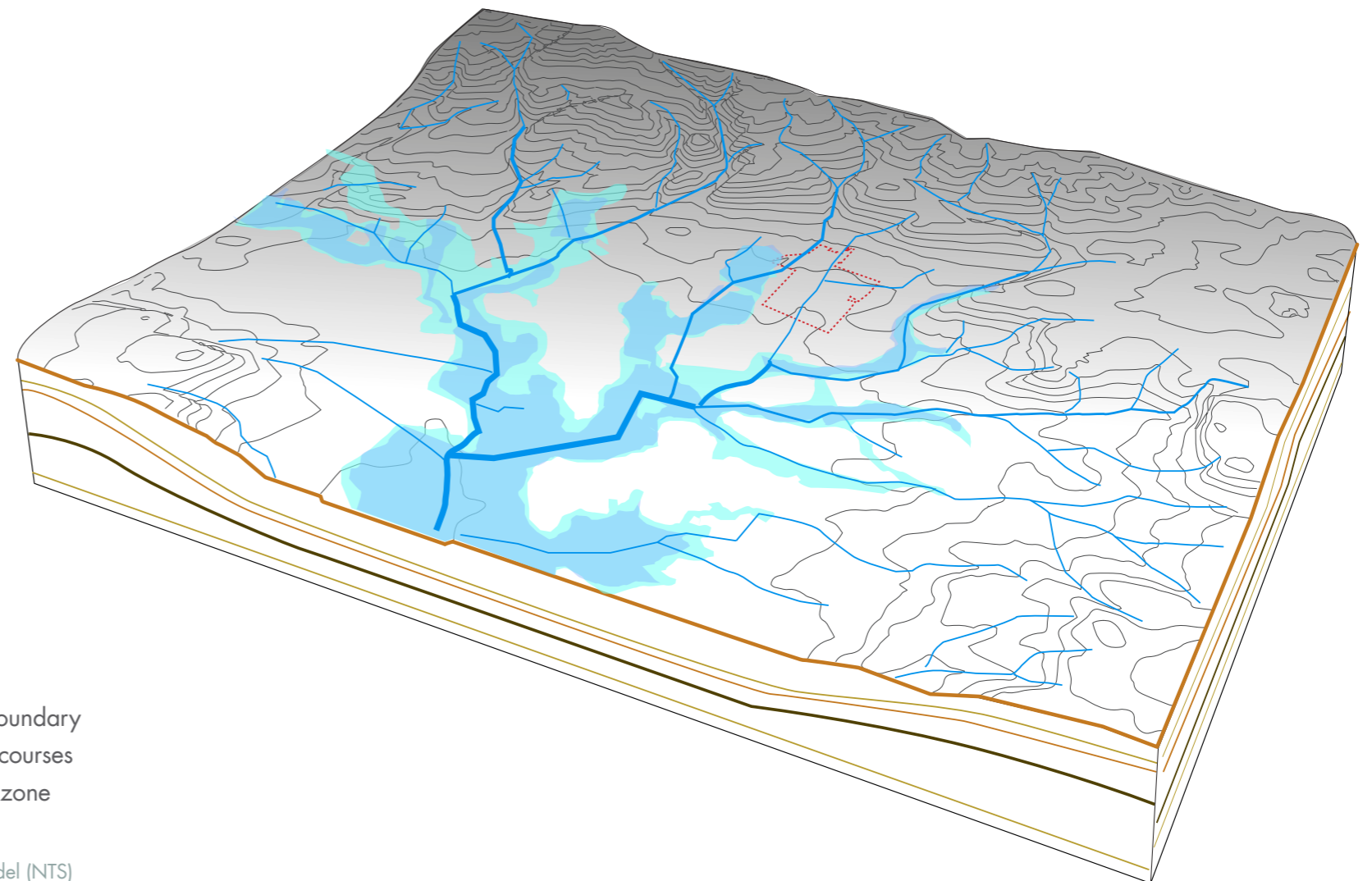
It is understood that West Horndon recently flooded and therefore there is an issue for the village. The site is upstream of the flooding and therefore impacts on the flood zone.

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

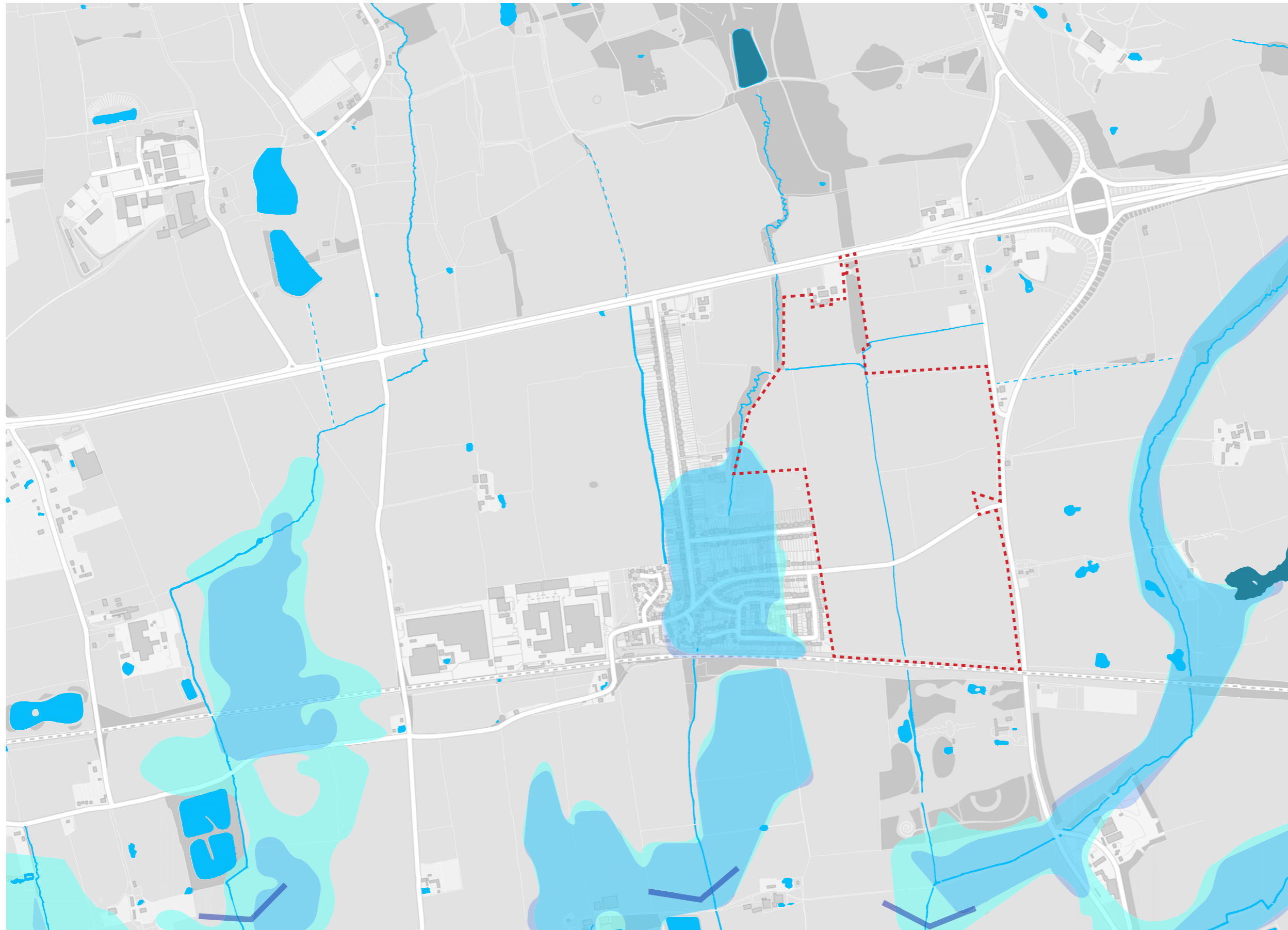
drivers for the masterplan

- 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.

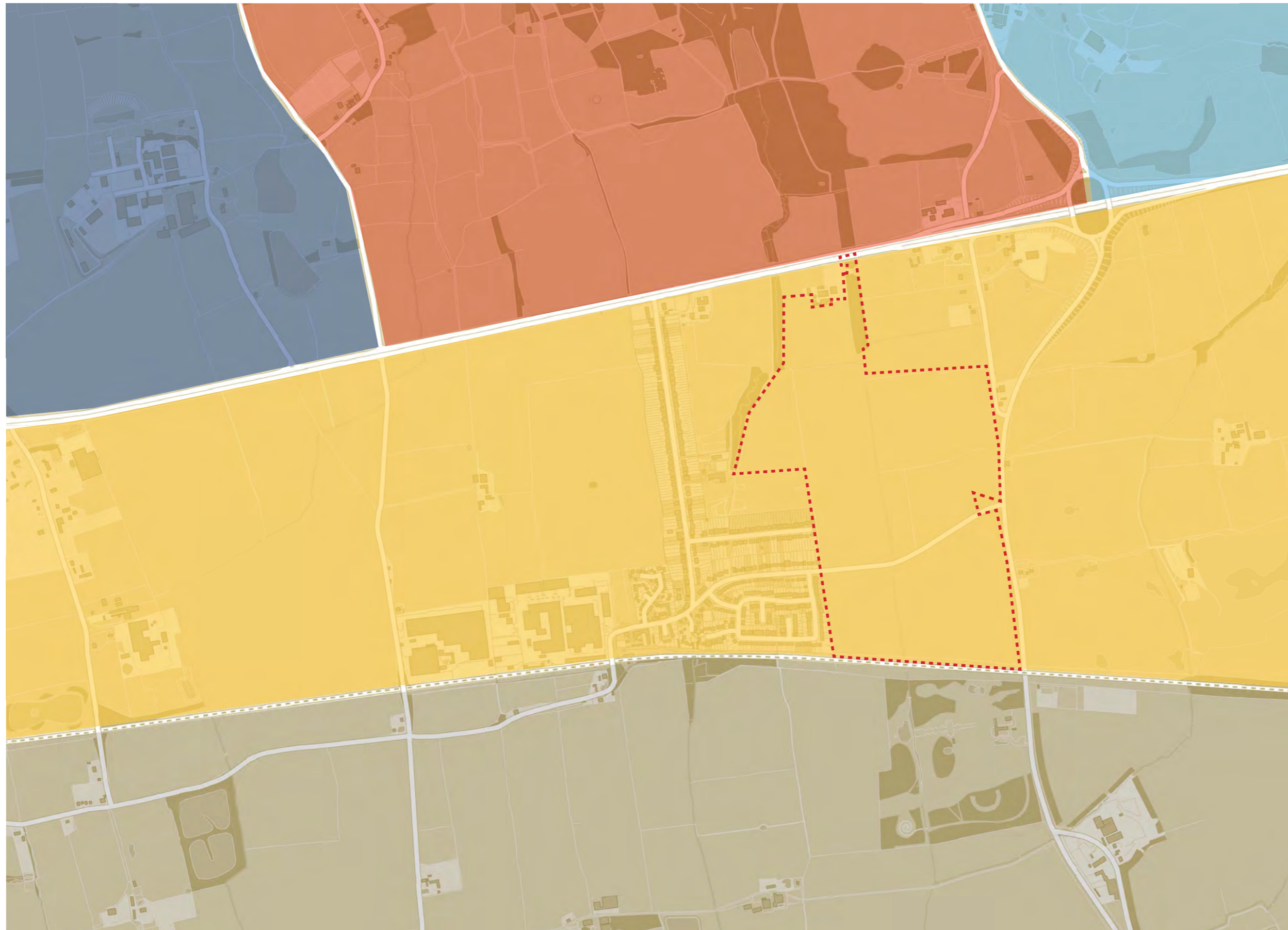
We have also found that the Thurrock character assessment applies similar characteristics to the land immediately to the south of the railway and therefore believe there not to be a separate character to either side of the man made railway embankment, instead the fenlands landscape continues from the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

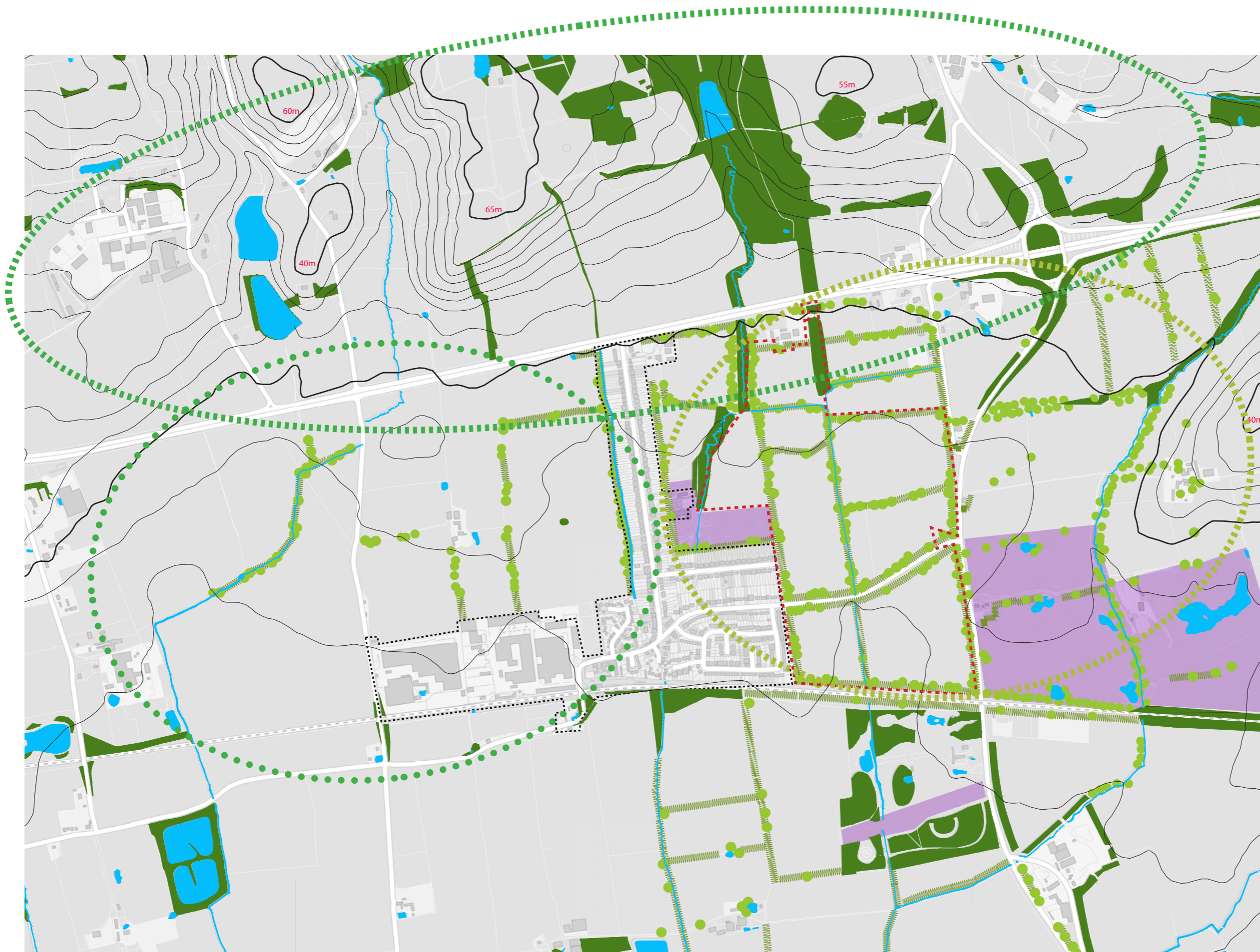
- 1 the wooded hills and slopes to the north which are in part divided from the Thames plain and West Horndon by the main road. The wooded slope character stretches south past the road alignment in places
- 2 The gridded, small scale field structure including elements of leisure and historic woodland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



key

- - - site boundary
- settlement
- water bodies
- topography

landscape structure plan

- recreation, leisure and community
- wooded hedgerows
- woodland structure

site designations and technical features

site designations

The site is wholly located in the London Metropolitan Green Belt. The site is also located to the southern edge of the Thorndon Country Park before it was segregated by the A127. The remnant southern area (to the north of the site) contains a number of designations including:

- Thorndon Country Park Conservation Area;
- the TCP grade II listed park and garden;
- ancient woodland

Further north within the park there is also a scheduled monument and SSSI although these areas lie to the other side of the heavily trafficked A127, a major east/west road corridor.

conclusions for the site justification

- the site is adjacent to a protected landscape and therefore should have boundary protection to retain the character of the park

drivers for the masterplan

- provide woodland buffer to the southern edge of the Thorndon Country Park;
- connect new woodland into the ancient woodland to the west and north to increase local ecological biodiversity

site technical features

The site contains a small number of restrictive constraints that would need to be taken into account when developing it. These include:

- area A: a gas main running perpendicular to Station Road and adjacent to the existing settlement boundary - we see this main as enabling the provision of a landscape and open space buffer between the Cadogan Street housing and the proposed development whilst allowing for pedestrian/cycle connection across it (to ensure permeability);
- area B: a water main running diagonally across the site - this presents the most problematic constraint as it is aligned counter to the strong rectilinear grid site character. We believe a suitable layout can still be accommodated by locating public open space across it, therefore preventing it from impacting on the likely layout.
- area C: a private water main running diagonally across the south western corner of the site - this pipe, although in a poor location for development is considered to be redundant once the field is developed and therefore not a constraint.

conclusions for the site justification

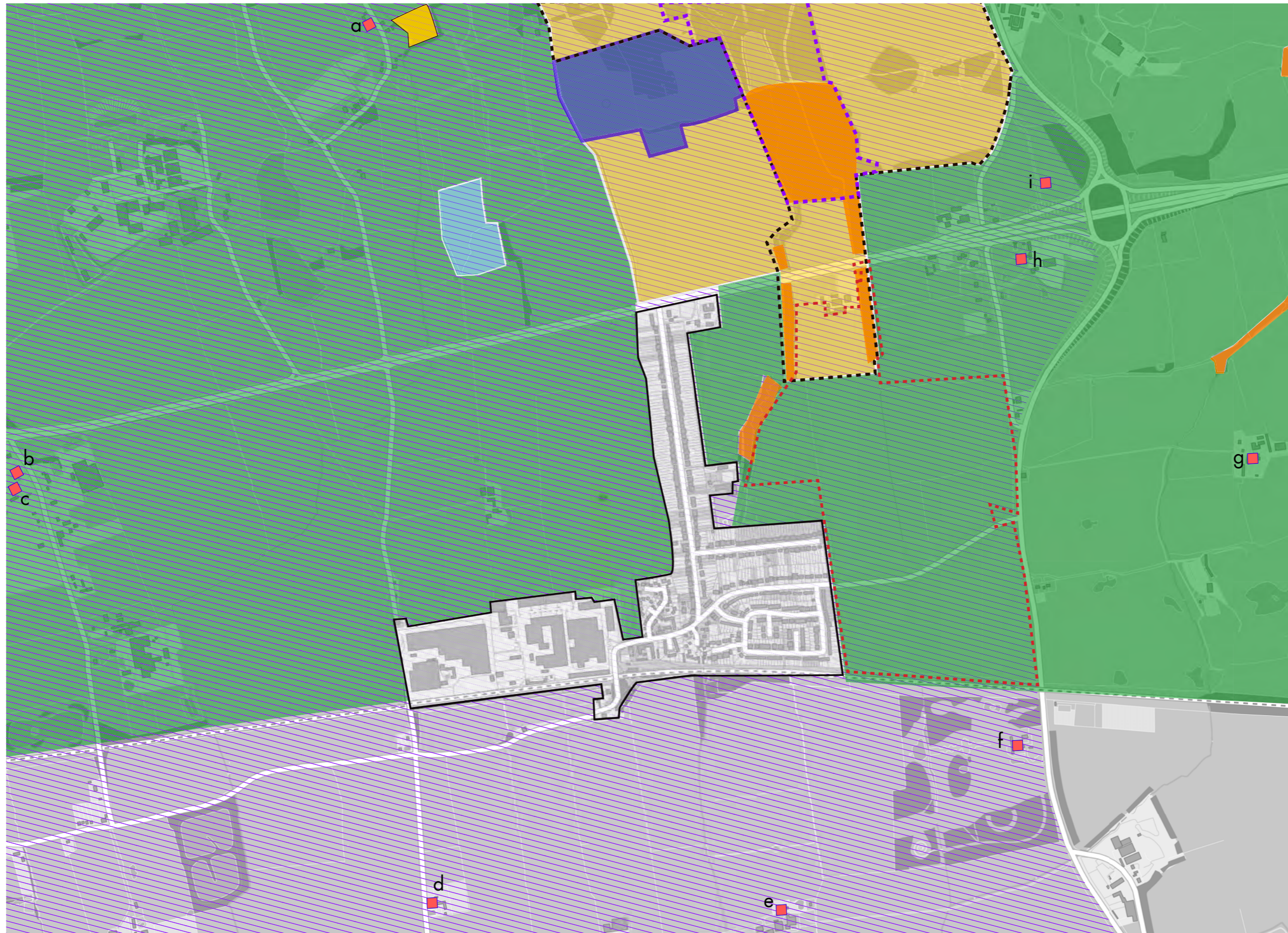
- the technical constraints require some creative layout responses however they do not present any restriction to the deliverability of a suitable solution to the site

drivers for the masterplan

- create opportunities from the constraints by designating a higher proportion of land as public open space



technical features approximate location plan



key

- ⋯⋯⋯ site boundary
 - 2001 Settlements
 - Green Belt
GB1, GB2 ,GB3, H10
 - conservation area
 - scheduled monuments
 - registered parks and
gardens - grade II
 - SSSI
 - ancient and semi-natural
woodland
 - undetermined grassland
BAP Priority Habitat
 - traditional orchard BAP
priority habitat
 - community forests
 - listed buildings
- a. The Fruit Farm
 - b. Little Warley
 - c. St. Peter's Church
 - d. Little Tilingham Hall
 - e. Filed House
 - f. Barnards
 - g. Dunton Hills
 - h. East Horndon Hall
 - i. All Saints Church

local settlement character

As well as a rectilinear landscape structure to the fenlands character area, the urban settlements continue this character. West Horndon is a good example, particularly Thorndon Avenue and Cadogan Street. Further to the south, the villages of Bulphan, Horndon on the Hill and Orsett have similar strong and simple layout. When seen at a larger scale the villages become an intrinsic part of the 'patchwork quilt' effect of the landscape

conclusions for the site justification

- with the strong, intact landscape structure, a layout using similar rectilinear form reflecting the local urban character is entirely appropriate to the site

drivers for the masterplan

- create strong east/west and north/south grid of streets and spaces arranged by the existing landscape structure



West Horndon aerial photo (courtesy of Google Earth 2013)



Bulphan village aerial photo (courtesy of Google Earth 2013)



Orsett aerial photo (courtesy of Google Earth 2013)



Horndon on the Hill village aerial photo (courtesy of Google Earth 2013)
- - - - - site boundary for scale comparison