URBAN DESIGN STUDIO

BIDWELLS

MARCH 2018

VISION AND DELIVERY DOCUMENT

LAND AT WHITE HOUSE FARM, SPROWSTON, PHASE 3

Quality Assurance

Site name: Land at White House Farm, Sprowston, Phase 3

Client name: Consortium of Hopkins Homes, Persimmon Homes and Taylor Wimpey

Type of report: Vision and Delivery Document

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Signed:

Date: 28.02.2018

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Signed:

Date: 28.02.2018

CONTENTS

1.0 INTRODUCTION

The following chapter introduces the proposed structure and stages of the study, which are then detailed throughout the remainder of the document.

1.1 THE DOCUMENT

Bidwells have been commissioned by a Consortium of developers formed of Hopkins Homes, Taylor Wimpey and Persimmon Homes to promote Land at White House Farm, Sprowston, also known as 'Phase 3' for strategic growth through the Greater Norwich Development Plan Site Allocations process.

The subject site lies to the north of Salhouse Road, Sprowston and adjoins the already allocated site 'GT20' to the west. Phase 1 is largely complete on land to the west, with a site area of approximately 39 hectares. The already allocated site – 'GT20' is identified within the Broadland Growth Triangle Area Action Plan (2017). The site can deliver up to approximately 1350 dwellings and the promotion site known as 'Phase 3' would be a sustainable continuation of the already allocated land.

The Vision and Delivery Statement provides additional material to support the Site's initial submission under the GNDP Call for Sites (Regulation 18) consultation. It demonstrates, with up to date technical evidence, that the site is available, suitable and deliverable.

The document combines both technical and landscape-led design work which has been ongoing over several months to provide a baseline of information and evidence to better understand the opportunities for the sustainable development of the site.

The Vision and Delivery Statement will inform the further promotion of the land through the Greater Norwich Local Plan review process, including its examination and soundness testing and will also act as

Figure 01: Aerial image of the site and it's context

a brief and baseline to help guide and inform any future planning application.

The purpose of the Vision and Delivery Statement (hereafter 'The Vision') and associated supporting material is to demonstrate that the site represents an available, suitable and deliverable location for accommodating residential growth in Greater Norwich and can be allocated with confidence of delivery in the new Plan.

The Vision includes a set of Development and Design Principles, as well as an indicative concept master plan and planning context assessment. These will each inform the future formulation of more detailed planning proposals for the site's development, such as development briefs, detailed master plans and layout plans and ultimately the submission of planning applications. The Principles ensure that development achieves an overall 'Vision' for the site and contributes to meeting the Greater Norwich Area's sustainability objectives, particularly for housing growth and development, whilst delivering over arching sustainable development.

The preliminary concept layout has evolved and been developed following an assessment and appraisal of the site's landscape and townscape character, as well as a consideration of technical investigations into topography, archaeology, ecology, highways, utilities, flood risk and drainage. Summaries of the various technical investigations are included in Section 4.0 of this statement. The technical work demonstrates that there are no technical impediments to the site's development and sustainable and deliverable development can be achieved. Furthermore, the technical work undertaken also demonstrates the ways in which the site can continually provide delivery over the plan period as has been already demonstrated by the same client consortium as part of Phase 1 and Phase 2 development to the west of the site.

2.0

PLANNING CONTEXT

The planning context includes a summary of local and national planning policy.

2.1 PLANNING CONTEXT

This document is submitted to provide information to the GNDP regarding the site's delivery to support promotion through the Greater Norwich Local Plan.

As a starting point we have considered the Joint Core Strategy's Strategic Objectives as we expect these principles will be carried forward into the Local Plan. In particular:

- Policy 2: Promoting good design;
- Policy 4: Housing delivery;
- Policy 6: Access and transportation;
- Policy 9: Strategy for growth in the Norwich Policy Area; and
- Policy 10: Locations for major new, or expanded, communities in the Norwich Policy Area.

The Vision and Delivery document and the accompanying technical reports set out how we have also considered principles within the Growth Triangle Area Action Plan. Including:

- GT1 – Form of Development;
- GT2 – Green Infrastructure;
- GT3 – Transport;
- GT5 – White House Farm (South West); and
- GT20 – White House Farm (North East).

In addition to the above, consideration of the Sprowston Neighbourhood Plan has also been made. Including the Neighbourhood Plan Spatial Vision:

"By 2026 the community of Sprowston will be strong, cohesive, creative and forward-looking. The community will be safer, healthier and more prosperous, sustainable and inclusive. High quality homes will meet people's needs and aspirations in attractive and sustainable places. People will have access to good quality jobs, essential services and community facilities, with less need to use a car."

Specific objectives within the Neighbourhood Plan which are considered relevant to the proposed development are as follows:

- Objective 2 – To allocate enough land for housing, and affordable housing, in the most sustainable settlements;
- Objective 3 – To promote economic growth and diversity and provide a wide range of jobs;
- Objective 4 – To promote regeneration and reduce deprivation;
- Objective 5 – To allow people to develop to their full potential by providing educational facilities to support the needs of a growing population;
- Objective 6 – To make sure people have full access to services;
- Objective 7 – To enhance transport provision to meet the needs of existing and future populations while reducing travel need and impact;
- Objective 8 – To positively protect and enhance the individual character and culture of the area;
- Objective 9 – To protect, manage and enhance the natural, built and historical environment, including key landscapes, natural resources and areas of natural habitat or nature conservation value;
- Objective 10 – To be a place where people feel safe;
- Objective 11 – To encourage the development of healthy and active lifestyles;
- Objective 12 – To involve as many people as possible in new planning policy.

SPROWSTON AS A SUSTAINABLE LOCATION FOR GROWTH

The proposed development of the site is considered to be a sustainable location for growth. Sprowston continues to be a key area for growth within the Greater Norwich area. Within the current JCS, there is a key vision to concentrate growth within the 'Norwich growth triangle'. This is inclusive of Sprowston and states as follows:

(2.15) – "In the case of Broadland, the historical pattern of development lends itself to further expansion with new growth in the parishes of Old Catton, Sprowston and Thorpe St Andrew…"

(The Spatial Vision) – "Growth will be focused on brownfield land in the Norwich urban area and in very large mixed use urban extension within Old Catton, Sprowston, Rackheath and Thorpe St Andrew growth

triangle…"

The site and its immediate vicinity are located within the Norwich Policy Area (NPA). Policy 9 of the Joint Core Strategy states that the NPA is the focus for major growth and development. We consider it appropriate that Sprowston, which is sustainably located on the Norwich fringe, remains a focus for future growth. This is a popular location for people seeking new homes, evidenced by the success of the neighbouring Phase 1 site and this scheme will provide a wide choice of new homes. The proposed Masterplan gives an insight into the possible layout and uses of the site, as well as the connections to already allocated land adjoining to the west and Phase 1 development. As well as the delivery of housing, the site will provide an all-round quality of life for residents and the integration of green-infrastructure, through local parks, play spaces and cycle-ways and circular pathways. The site will be well-connected to the surrounding area and will provide residents with sustainable housing options with close access to recently developed road infrastructure (NDR) and local employment opportunities.

TRACK RECORD OF DELIVERY & HELPING TO ADDRESS THE LOCAL HOUSING NEED

This is a highly deliverable site evidenced by the technical work undertaken as set out in Section 4.0.

The client consortium are committed to the delivery of housing and sustainable development. In 2011, outline planning permission was granted for up to 1233 houses (planning ref: 20080367). The rate of delivery (affordable and market) for this site has been 150 units per year since 2014, with all three housing developers (Hopkins Homes, Taylor Wimpey and Persimmon Homes) all delivering a consistent rate of supply and delivery for much-needed housing within the Norwich Policy Area. In addition to the delivery of housing comes the creation of construction jobs and other jobs associated with this. At present, Phase 1 has generated a significant number of full-time (or equivalent) construction jobs on site and will continue to do so over the construction period.

The consortium has also delivered much-needed infrastructure to the area, including a new Link Road and other secondary roads and utilities capacity and land and contributions for a new primary school. As well as this, Phase 1 delivery will see the protection and enhancement of a proposed Strategic Reserve fronting Salhouse Road. This Reserve will not only see the retention of an ecologically and naturally important plantation, but will also provide an enhanced recreational area for new and existing residents within the area.

LINKS TO HIGHWAYS INFRASTRUCTURE

Development of strategic transport infrastructure in the form of the NDR is well underway and is due to be complete early 2018. This construction of key highways infrastructure will provide strategic access, significantly improve quality of life and environmental conditions in northern suburbs like Sprowston, whilst also providing capacity for comprehensive improvements to the bus, cycling and walking network. The location of the site means that it is linked well to the new highways infrastructure and can provide additional linkages for other non-car modes of travel, including public transport, cycling and walking. Whilst improving the recreational opportunities in the local area.

OPEN SPACE & ECOLOGICAL INTEGRATION & PROTECTION

The indicative Masterplan demonstrates the way in which green infrastructure and ecological protection will be a foundation to the shaping of the development on site. Through the integration of open space, landscaping, creation and retention of green corridors, emphasis of links between spaces and enhancement of ecological biodiversity – including Bats, the indicative masterplan has and will continue to be a landscape led design process taking into account technical constraints and opportunities. The design and layout of the development will ensure that everyone has access a range of different open space types and green infrastructure in order to fulfil their potential and enjoy healthier, happier lives. Furthermore, by ensuring that the master plan is landscape-led from inception until completion, this will ensure the promotion of healthy lifestyles for existing and new residents alike, whilst also ensuring ecological biodiversity is enhanced and preserved where possible.

FOUL WATER & UTILITIES CAPACITY

There are three main utilities that will affect the development area of Phase 3, these are National Grid Gas Plc, Anglian Water (Foul) and UK Power Networks (UKPN). There could be private connections to the existing dwellings of White House Farm but these are not shown on the existing records.

All statutory utility companies that have apparatus within the site or its boundary have been consulted, and communication has yealded the following results:

There are numerous strategies that could be employed to ensure that phase 3 has a suitable gas network to serve the site. Depending on the capacity at the pressure reduction station and correspondence with National Grid will determine the method used. The possible methods are:

- Utilise the existing pressure reduction station to the north of phase 3 and the existing network in Salhouse Road to provide a connection similar to that of Phase 1; or
- Incorporating a gas pressure reduction station into the phase 3 design in the south western corner of the site would enable this to be used as the connection point for the gas network.

Discussion with Anglian Water are on-going regarding foul water, and off-site upgrades are likely to be required along with at least one new pumping station on the Phase 3 site. Some diversion / protection work may be required to the rising main to the north of Salhouse Road too.

UKPN have stated the point of connection for supplying Phase 3 would be from the extended high voltage network from Phase 2.

3.0

UNDERSTANDING THE SITE

This chapter includes a baseline mapping and landscape character study of the site.

3.1 SITE LOCATION

Figure 02: Site Location and wider context

- The site is located on the edge of Sprowston, approximately 4.75km from the regional centre of Norwich;
- The site is located adjacent to an allocated site 'GT20', to which this proposed development would be considered a sustainable extension;
- Existing agricultural land will be converted to mixed usage, with associated infrastructure and open space;
- Site access is proposed off the proposed allocated site 'GT20' to the west and Phase 1, already constructed land further towards the west, with a vehicular connection through to Salhouse Road on the southern boundary of the site; and
- A First Group Bus service (11|12, 'The Pink Line') links east to Wroxham, and east to Norfolk and Norwich University Hospital through the Norwich City Centre. This service currently stops at Mallard Way, to the west of the site, approximately 300m from the north eastern site boundary.

LEGEND

- *Approximate site location*
- *Extent of settlement*
- *Railway Line*
- *Major road*
- *Minor road*
- *Northern Distributor Road (Under Construction)*

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3.2 SITE CONTEXT

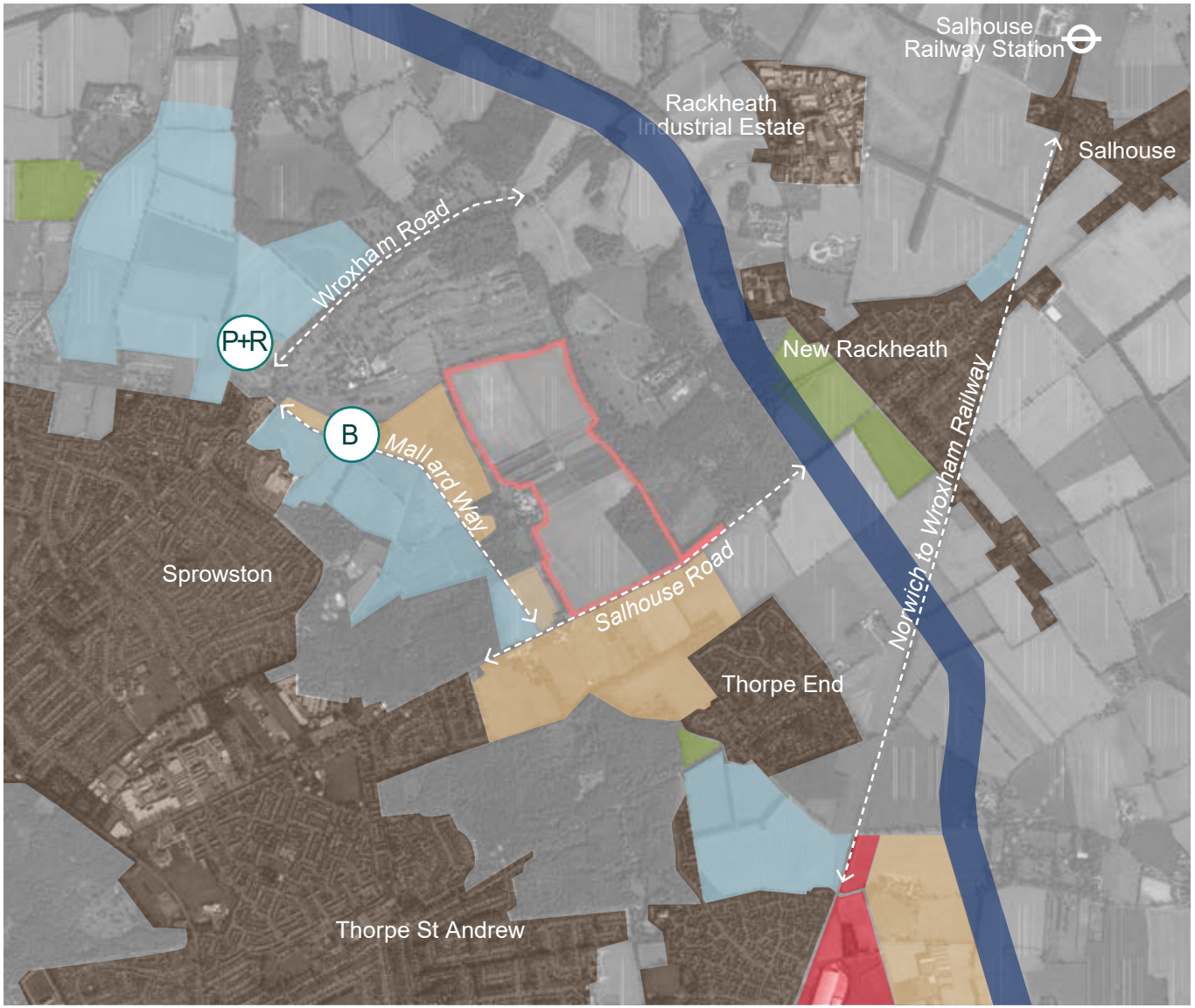


Figure 03: Existing urban areas and site allocations

The site is currently separated from the built form of Sprowston. Existing committed development and mixed use allocations will meet the western and southern boundaries of the site, linking Sprowston and Thorpe St Andrew with Thorpe End to the south.

LEGEND

- *Red Line Boundary*
- *Existing urban area*
- *Mixed Use Allocation*
- *Completion of existing committed development*
- *Employment Allocation*
- *Residential Allocation*
- P+R *Park and Ride*
- B *Bus Stop*
- *Train Station*
- *Route of Northern Distributor Road (NDR) - under construction)*

3.3 NATIONAL LANDSCAPE CHARACTER AREA

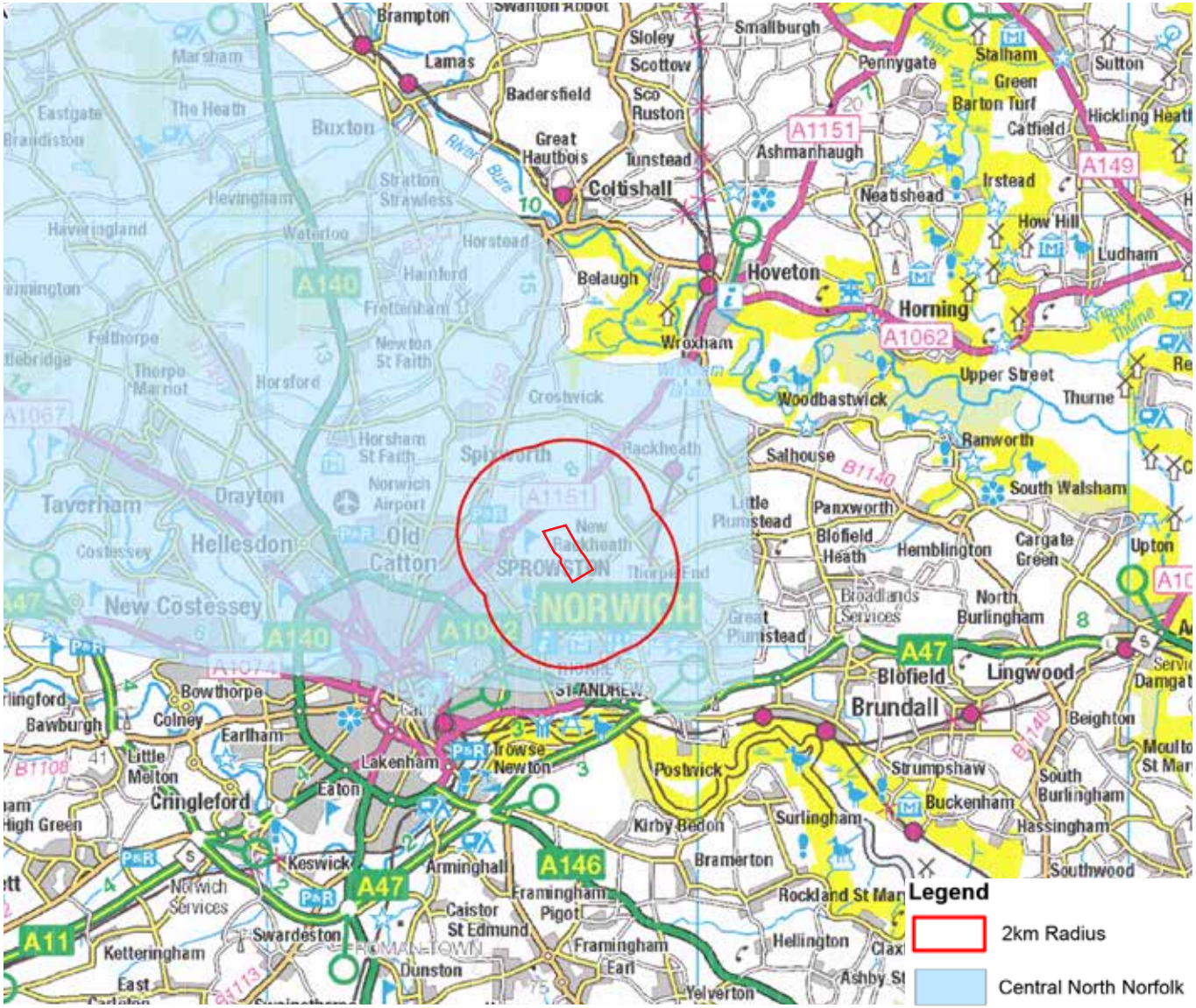


Figure 4: The site, and its location within National Character Area 78: Central North Norfolk.

At a national level, Natural England, with help from English Heritage, produced a document entitled 'The Character of England'. This identifies unique regional areas and sets the scene for development planning and control, and aims to help local authorities and others consider how best to enhance and respect local distinctiveness.

The site sits within the National Landscape Character Area 78: Central North Norfolk. "The gently undulating rural landscape of the Central North Norfolk National Character Area (NCA) stretches from the slightly flatter, more open land of Mid Norfolk NCA, to the prominent glacial landform of the Cromer Ridge and the dynamic exposed coastline of coastal cliffs, where large storm events dramatically shape its character. This is ancient countryside with a long-settled agricultural character, where arable land is enclosed by winding lanes and hedgerows, interspersed with woodland and remnant heath and dissected by lush pastoral river valleys. A patchwork of cultivated land, numerous church spires, distant wooded horizons and big skies dominates the landscape."

This is a predominately tranquil place, with isolated market towns and scattered villages and farmhouses, their red brick, flint walls and pantile roofs an intrinsic and important component of Norfolk's built character, reflecting the underlying geology. The area is rich in 18th-century estates and medieval churches, and the historic city of Norwich provides a cultural and economic centre.

The area is well wooded for Norfolk and important for its remnant heathland, which was once much more extensive."

3.4 BROADLAND DISTRICT COUNCIL LANDSCAPE CHARACTER ASSESSMENT

According to this assessment the site lies within character area E: Wooded Estatelands (sub-category E3: Spixworth Wooded Estatelands). The key characteristics of this area are:

- A pattern of small manor houses, isolated halls and larger estates, with associated parkland extending across much of the area:
- These buildings impart a strongly ordered and human influence over the surrounding landscape;
- Numerous copses, woodlands and small plantations associated with these estates, punctuating a landscape of underlying predominantly arable farmland;
- Settlements have many historic buildings associated with them and a strong local vernacular;
- Strong historic dimension throughout the landscape;
- Woodland provides a sense of enclosure;
- Underlain by a mixed geology of Till, with loams and pebbly soils;

The character area has been divided into 4 subcategories, and the site is situated within Spixworth Wooded Estatelands, which is assessed as having the following landscape sensitivities:

- Mature landscape structure in eastern parts, including large blocks of woodland (including coniferous plantations), tree belts, copses of mature trees, remnant hedge boundaries and hedgerow trees, and parkland trees associated with large houses and halls;
- High landscape and recreational value associated with mature woodland; in particular the woodland located in eastern parts on the settlement edge of Norwich;
- Forms an important landscape setting to the city of Norwich;
- Landscape setting of villages;
- Landscape setting of historic houses and halls; and
- Open skyline in western parts.

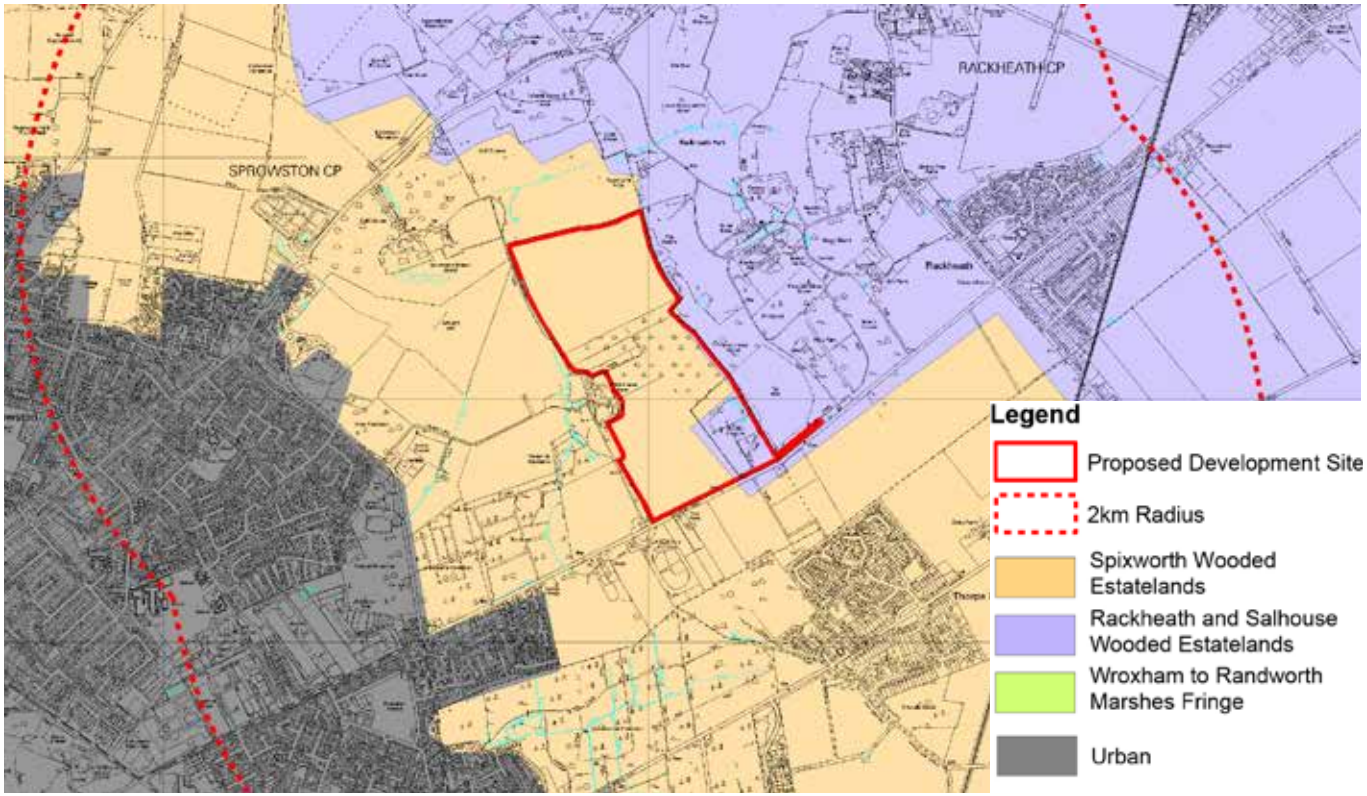
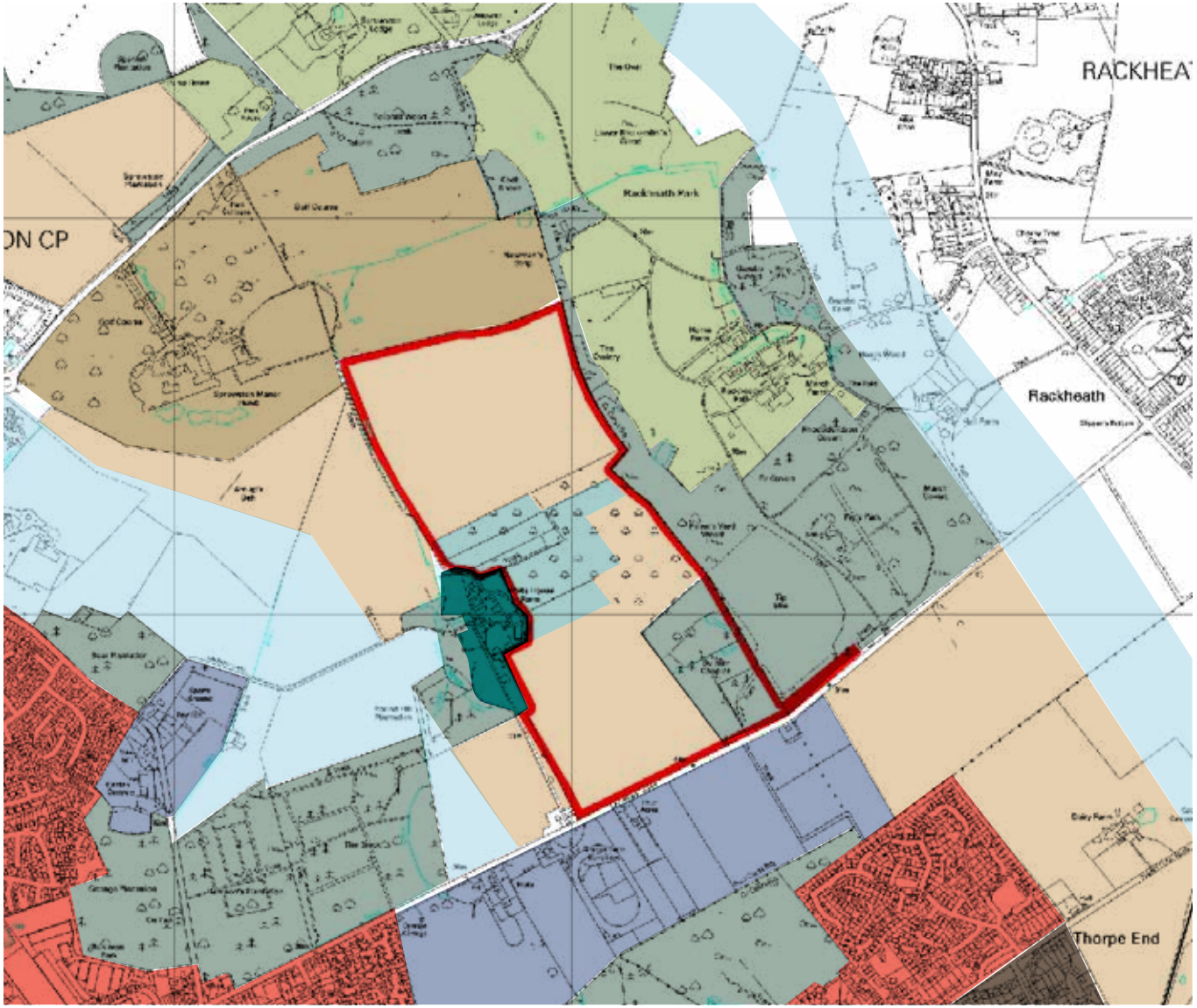


Figure 5: Broadland District Council Landscape Character Assessment

3.5 LOCAL CHARACTER

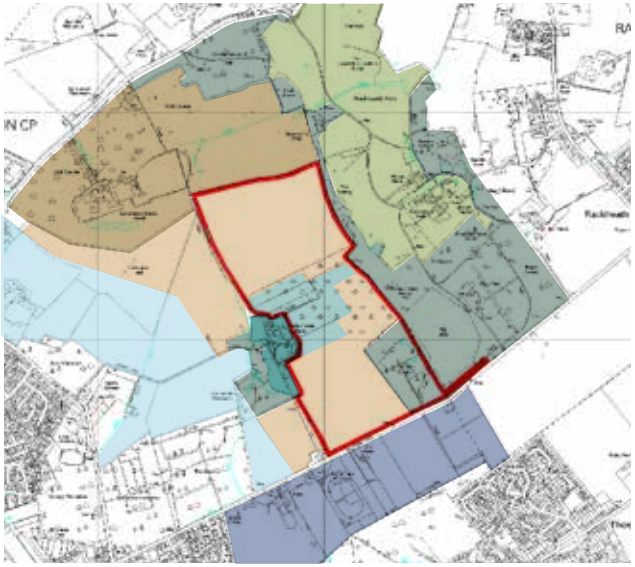


LEGEND

- Red line boundary
- Arable land
- Orchards and fruit growing
- White House Farm "hub"
- Plantation woodland
- Disturbed land - under construction
- Peri-urban land uses
- Residential areas
- Golf course
- Estate parkland
- Thorpe End conservation area

Figure 6: Existing local character

CHARACTER AREA: ORCHARD AND FRUIT GROWING

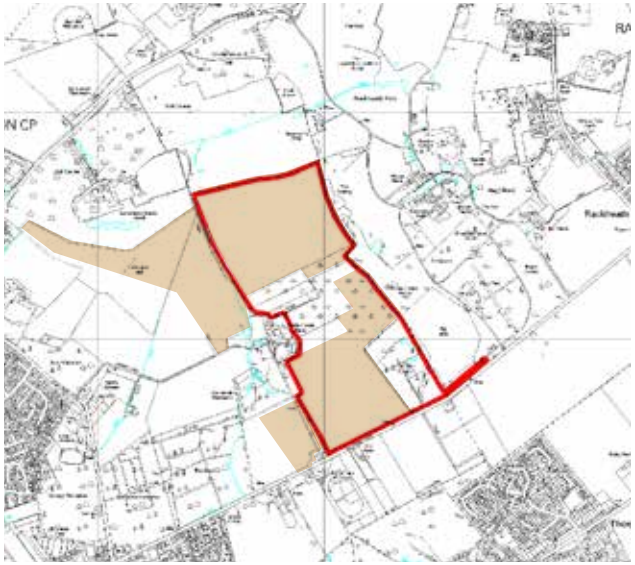


The character area forms the focal point of the site and is made up of orchard of fruit trees, soft fruits and other “pick your own” produce.

1. Fruit orchards with White House Farm in distance;
2. Norfolk heritage variety apple trees;
3. Orchards enclosed by shelter belts.

Figure 7: Images depicting Orchard and Fruit Growing character area

CHARACTER AREA: ARABLE LAND



The spaces within the character area are delineated with features such as tree bets and hedgerows dotted with Oaks and Maples, for example:

4 & 5 The track leading north from White House Farm;

6 The corridor of shrubs and trees between Sprowston Manor Golf Course; and

7 The hedgerow with trees on Salhouse Road.

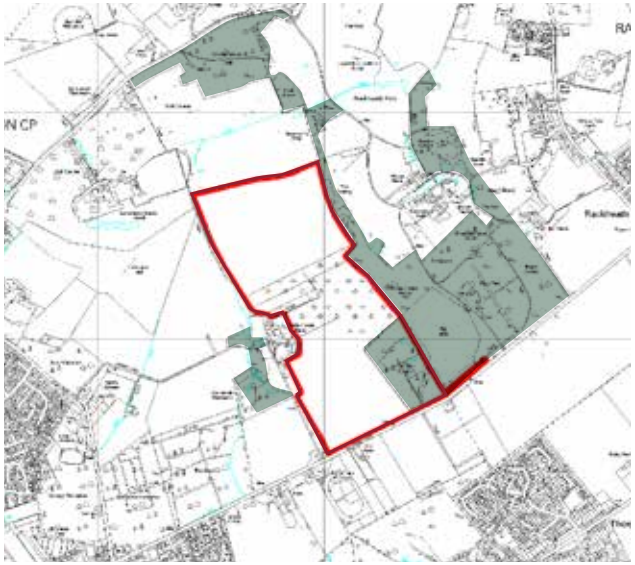
The arable landscape it encloses is formed or large-scale open fields 8 and the orchards described on page 23.

Figure 8: Images depicting the Arable Land character area


8


7

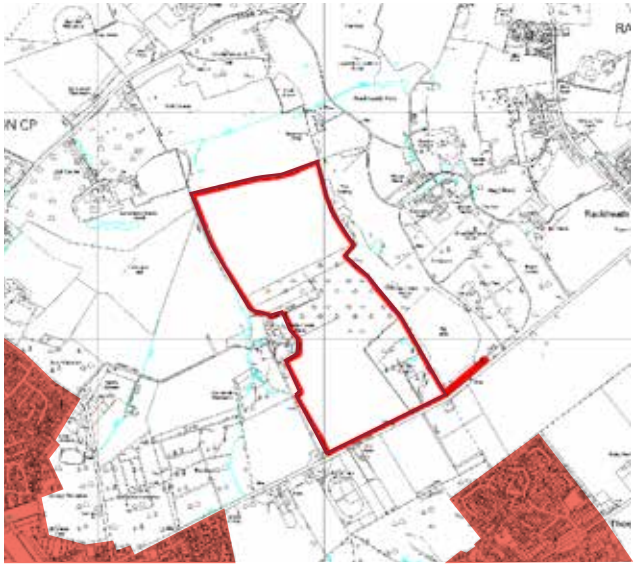
CHARACTER AREA: PLANTATION WOODLAND



The landscape mosaic around Sprowston and Rackheath is rich with areas of woodland. Bulmer Coppice forms a large section of the south-eastern corner of the site, and the woodland patch extends beyond the site, far into the grounds of Rackheath Hall to the east of the site. The woodland is composed of deciduous and evergreen trees and is illustrated in images ⑨⑩ & ⑪

Figure 9: Images depicting the Plantation Woodland character area

CHARACTER AREA: RESIDENTIAL AREAS



The housing stock in the area is varied in age and style, and include:

12 Thatched houses in the Thorpe End Garden Village conservation area.

13 Mid-century houses in Thorpe End

14 Recent Development at Hall Wood Road

Figure 10: Images depicting the Residential Areas character area

3.6 DESIGNATIONS

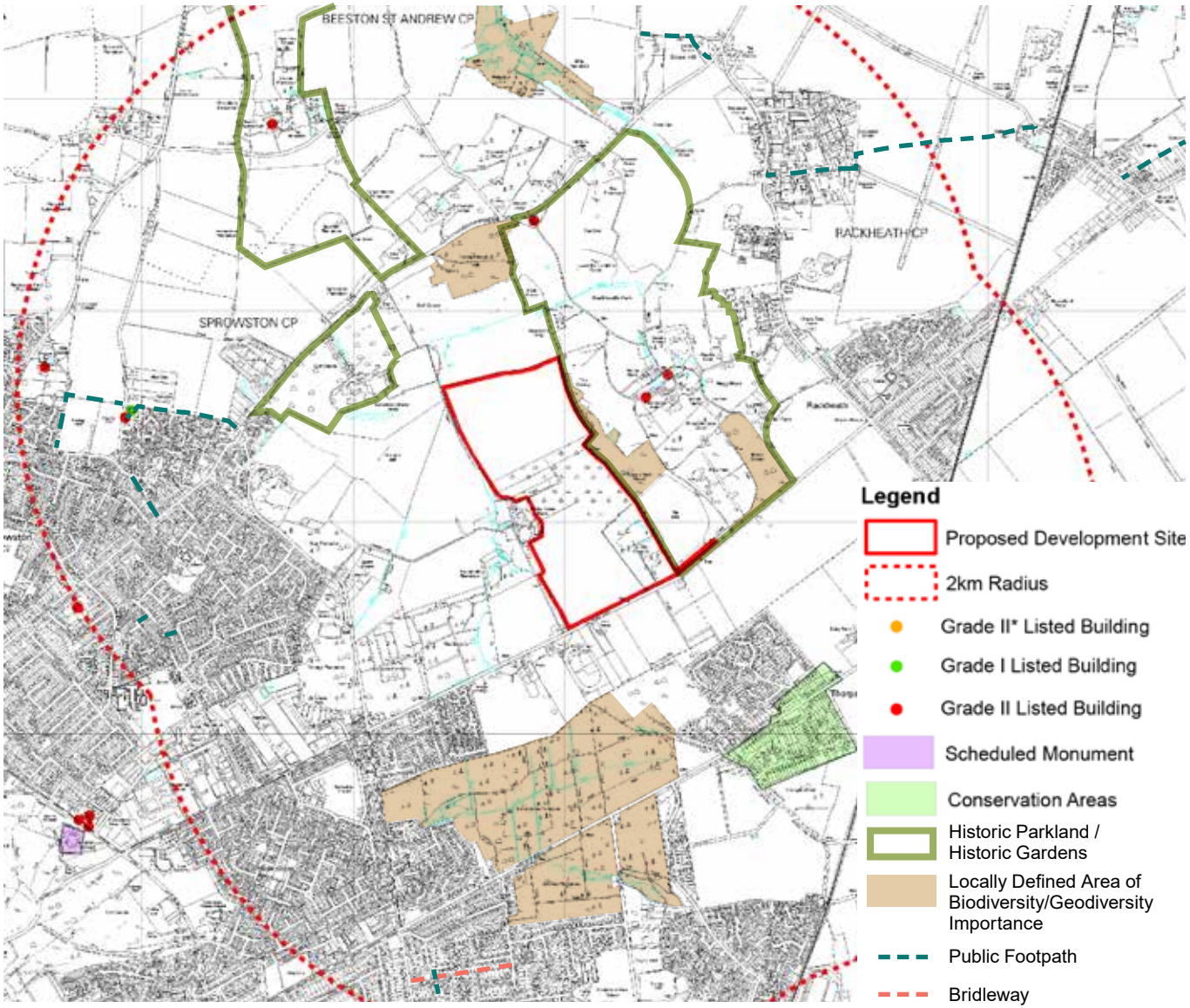


Figure 11: Landscape Designations

The site is not subject to any designations within it's boundary, however any development bought forward on this land parcel will need to respect the landscape designations evident within the site's context.

These designations include:

- A single Grade I Listed Building is located to the west of the site. The Parish Church of St Mary and Margaret will most likely be shielded from direct views of the development by late 20th Century residential development, and the position of the Sprowston Manor Marriott Hotel and Country Club;
- Several Grade II Listed Buildings are located within a 2km radius of the site. Those closest to the site are located to the north and east, Rackheath Hall, along with a Gateway and Bridge associated with its traditional entrance;
- A conservation area is associated with Thorpe End to the south of the site. There is significant separation between the site and this conservation area due to intervening residential development, undertaken in the late 20th Century; and
- The Site of St William's Chapel has been designated a scheduled Ancient Monument, and is located to the south west of the site, along with a cluster of Grade II listed sites, associated with 2nd World War Memorial Cottages.

3.7 TOPOGRAPHY

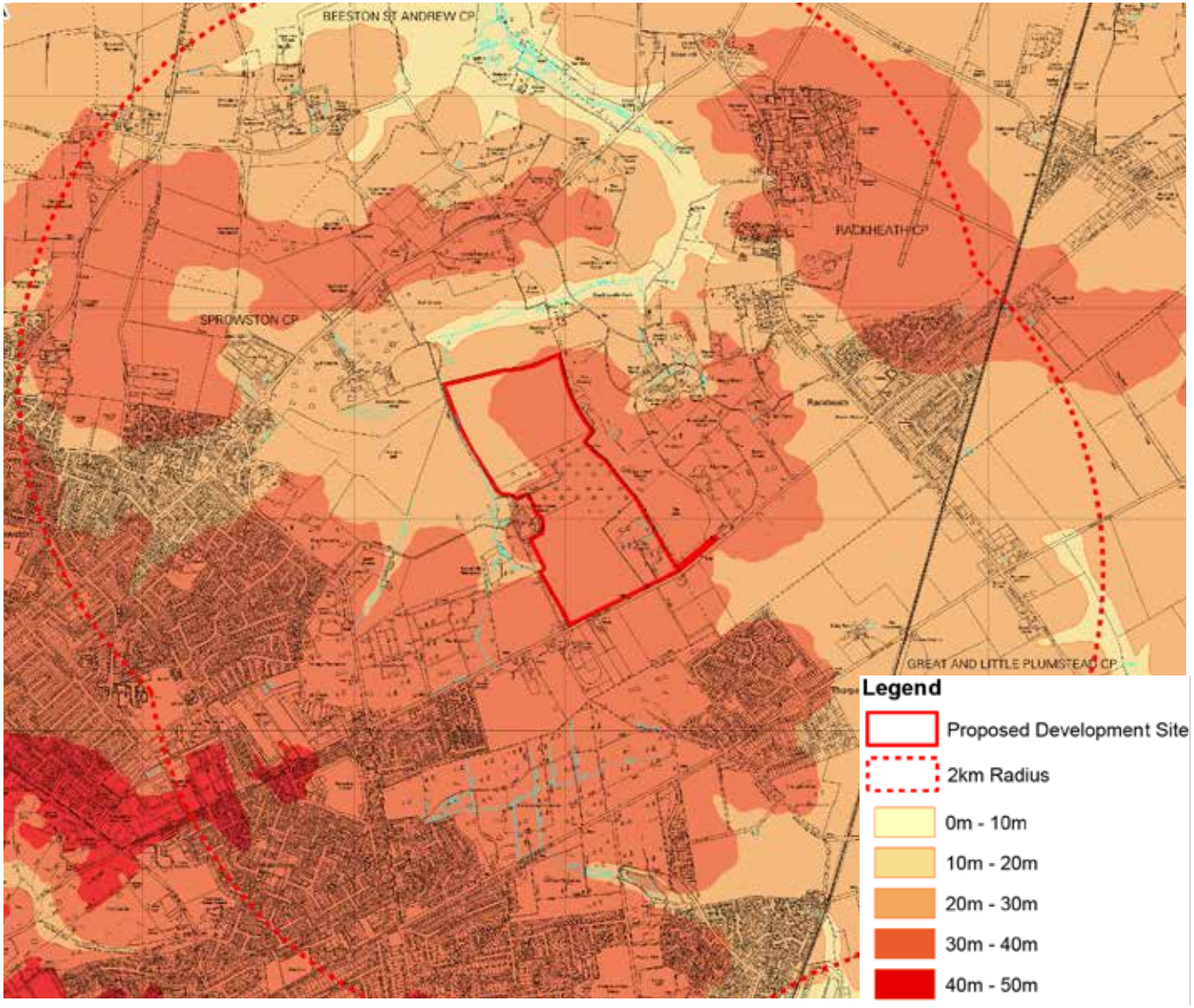


Figure 12: Topography

The site is located on the cusp of the 10-20m and 20-30m heights Above Ordnance Datum (AOD), lower in the northern portion of the site within the area of land associated with Sprowston Manor Golf Club.

Isolated islands of locally raised land associated with the settlements of Rackheath and Beeston, with much higher land located to the south west of the site, towards Norwich proper.

3.8 SIGNIFICANT VEGETATION

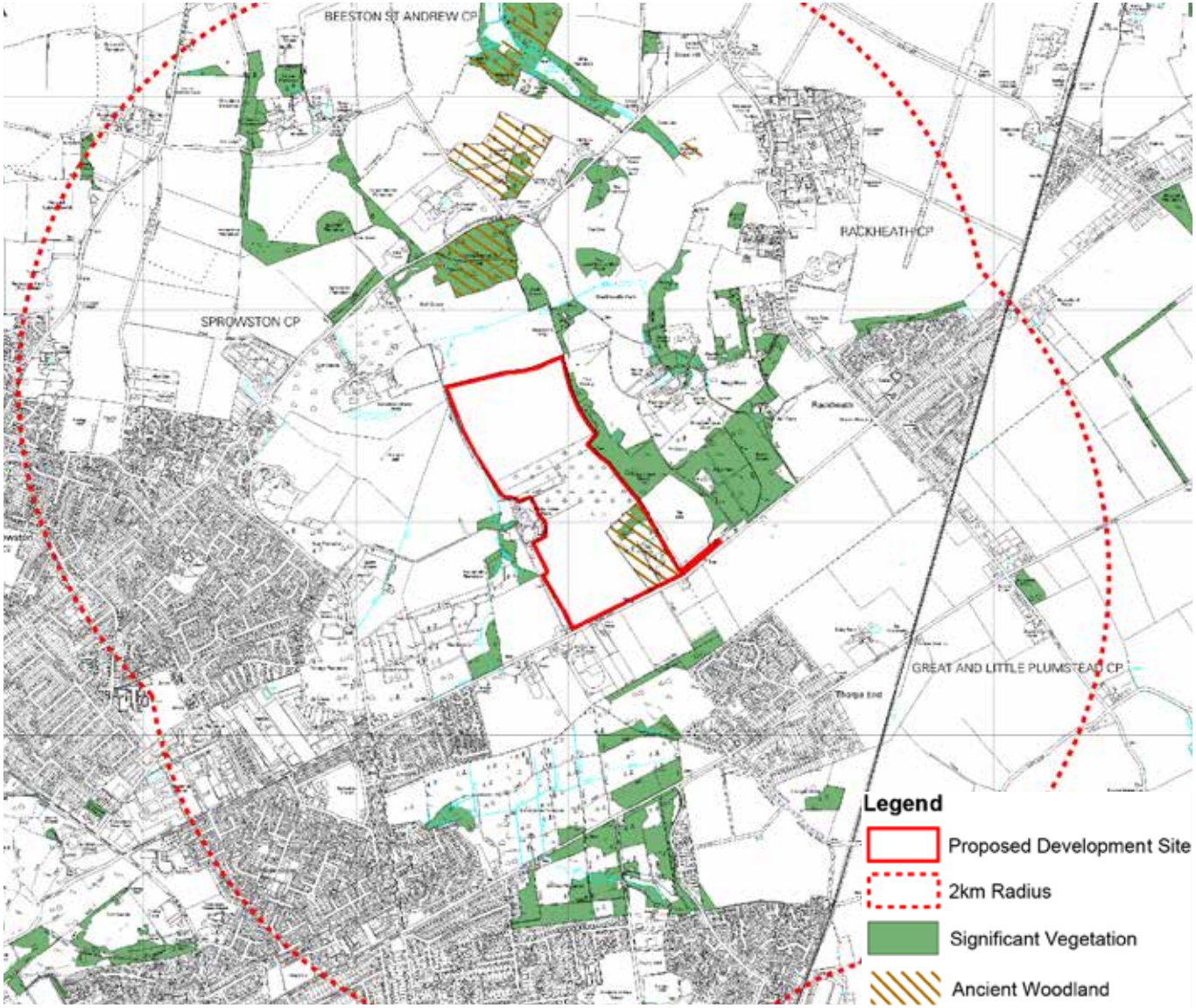


Figure 13: Significant Vegetation

There are many blocks of significant vegetation surrounding the site, related to it's position adjacent to both Sprowston Manor and Rackheath Hall. Outside of this, vegetation is predominantly related to field boundaries or other ecological features. Other key characteristics include:

- A large block of Ancient Woodland is located within the south east corner of the site;
- Significant vegetation is located on the eastern boundary of the site, associated with Rackheath Hall and Pig's Park;
- Significant fragments of woodland are located to the west of the site associated with White House Farm; and
- Much of the surrounding significant vegetation is identified as Priority Habitat Inventory - Deciduous Woodland.

4.0

TECHNICAL SUMMARIES

The following section provides a summary of reports undertaken for:

Ecology
Arboriculture
Drainage and Flood Risk Management
Utilities
Highways
Landscape and Visual Appraisal
Archaeology
Geotoechnical

4.1 ECOLOGY

An Ecological Appraisal and Strategic Assessment has been undertaken by Hopkins Ecology to identify the principal ecological features of the site and to identify appropriate mitigation for the proposed scheme. The principal constraint on the development of the site is considered to be the barbastelle and other bats, with impacts on commuting corridors (the AAP bat corridors) and the loss of foraging habitat. It is thought that careful design at the masterplan stage including measures such as lighting design and the creation of high quality foraging habitat will offer appropriate mitigation and maintain the value of the site for bats.

The site is largely an arable field with a block of woodland and boundary hedgerows. There is also an area of soft fruit. The arable margins are narrow and have a species-poor flora of arable weeds and the fruit areas have grass sward paths and the fruit trees rank grass understoreys. Lines of poplars run through the fruit areas. Adjacent to the east boundary is a woodland that is designated as a County Wildlife Site. On the Phase 3 site itself is a block of coniferous plantation woodland that was planted on an ancient woodland site, and a few mature deciduous trees remain in an otherwise coniferous stand. Along the north-west, north and south boundaries are hedgerows including mature trees; the southern hedgerow is intact but the others feature a number of gaps and are not consistent.

Two 'bat corridors' cross the site as shown in the Area Action Plan, with the barbastelle bat of particular importance locally. Bat surveys identified six species, including barbastelles along the eastern edge and within the fruit areas.

It is not thought that there are significant ecological constraints to the Phase 3 scheme provided that bat corridors are created / retained and that new high quality bat foraging habitats are created for the loss of existing foraging areas.

Great crested newts were not recorded in surveys and the nearest breeding pond is believed to be at Rackheath Hall (more than 300m east). It is thought that the scheme can avoid protected species licensing by erecting an exclusion fence along the eastern boundary to prevent colonisation once farming ceases

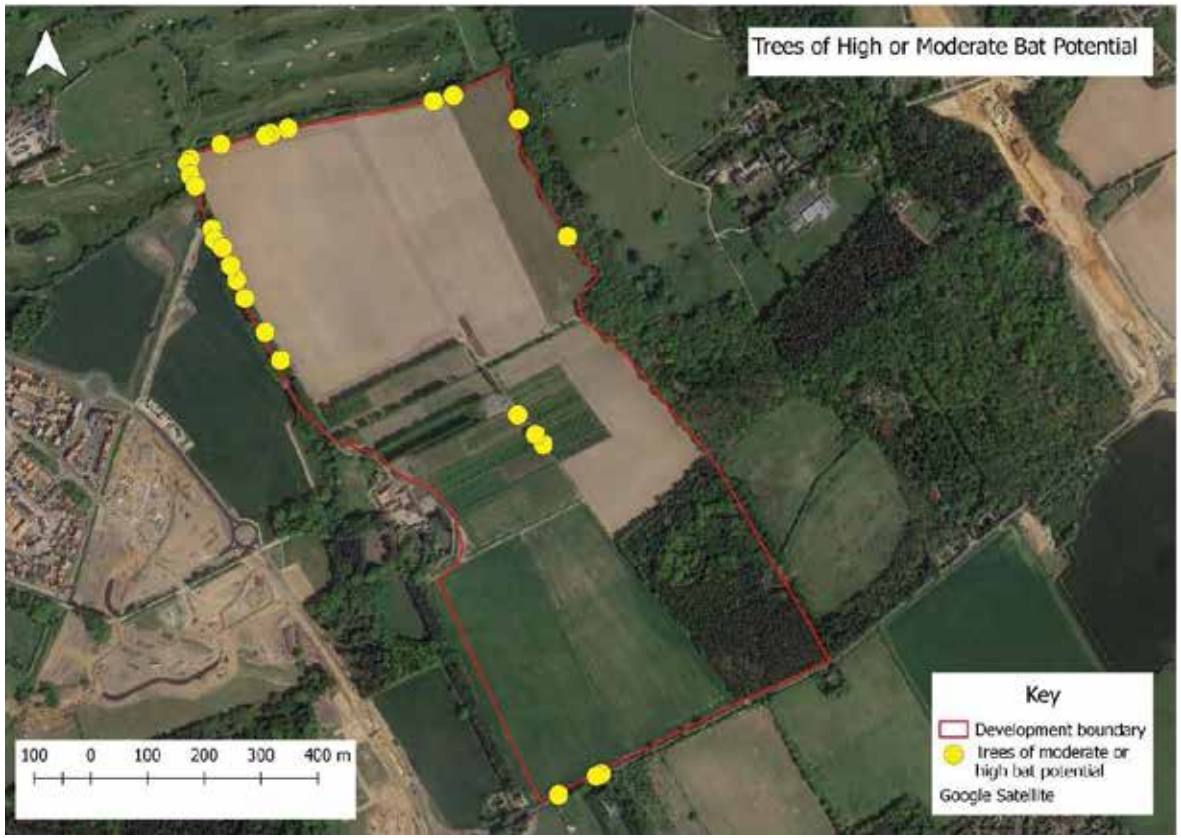


Figure 14: Trees with moderate or high potential suitability for roosting bats, extracted from Hopkin's Ecology's Ecological Appraisal

and the site become more suitable as terrestrial habitat. The appraisal recommends that full assessments for breeding birds and reptiles are carried out prior to the submission of a planning application. These will be undertaken.

Public open space and walking routes within the development will be required to provide mitigation for the otherwise potential increase in recreational pressure on The Broads and its international sites. Similar to above, these will be incorporated and further considered at planning application stage.

Overall, the appraisal and assessment carried out concludes that there are unlikely to be any significant ecological constraints to the Phase 3 scheme provided that bat corridors are created / retained and that new high quality bat foraging habitats are created for the loss of existing foraging areas. The on-site block of coniferous plantation on ancient woodland should be enhanced.

4.2 ARBORICULTURE

A Tree Survey and accompanying Constraints Plan has been completed by Oakfield Arboricultural Services during July 2017. This study has been undertaken in accordance with BS 5837:2012.

The findings of the report include:

- The schedule has been undertaken in accordance with British Standard 5837:2012, *Trees in relation to design, demolition and construction - Recommendations*.
- The surveyed trees (57 individual trees, 15 groups and 4 woodland blocks) have been identified as predominantly Category B (Trees of moderate quality and value) and C (trees of low quality and value).
- 5 Trees and 1 group of trees have been Categorised as Category A (trees of high quality and value).

The report makes the following recommendations:

- Trees of good quality those graded category A and B should be retained and augmented into any layout. Positioning and location of green spaces to these trees would be advisable as they can be incorporated and used as part of public green space or as a back drop to private gardens.
- Category C trees should be retained where they do not restrict design intent.
- Category U trees are deemed to have less than 10 years useful life expectancy and should be removed regardless of any development proposals, in particular where they are in a location that may be considered a danger to public and property.

Figure 15: Extract from Oakfield Arboriculture drawings OAS 17-073-TS01 - OAS 17-073-TS07, showing the northern section of the site

Figure 16: Extract from Oakfield Arboriculture drawings OAS 17-073-TS01 - OAS 17-073-TS07, showing the southern section of the site

4.3 DRAINAGE AND FLOOD RISK MANAGEMENT

A report undertaken by Richard Jackson (July 2017) investigated an initial surface and foul water drainage strategy.

The initial surface and foul water drainage strategy concluded the following:

- There are minimal risks of existing natural surface water flooding of the Site and the ground investigations of the adjacent land known as 'Phase 1' has shown that the ground is likely to be suitable for infiltration techniques following the design processes set by the SuDS Manual and Lead Local Flood Authority;
- Detailed infiltration testing will be required of the Site for a Flood Risk Assessment supporting a planning application;
- Individual properties and private drives could be provided with individual or communal private soakaways, which the sizes of can be determined once impermeable areas and infiltration rates are confirmed but do not represent a viability issue. Adopted highway land is recommended to be directed to open swales for discharging of surface water.
- An alternative and more robust solution would be to discharge all surface water runoff from the dwellings and hardstanding to a few open infiltration basins located at low points on the Site. Given the land availability and layout of the site it is not considered that this affects the viability of the development Site.
- The flood risk assessment on site shows that there is negligible risk to the Site or others in the local area. The various SuDS requirements can be easily accommodated on the Site and can achieve the pollution control requirements set by the SuDS Manual (2015) and can be wholly accommodated on Site.

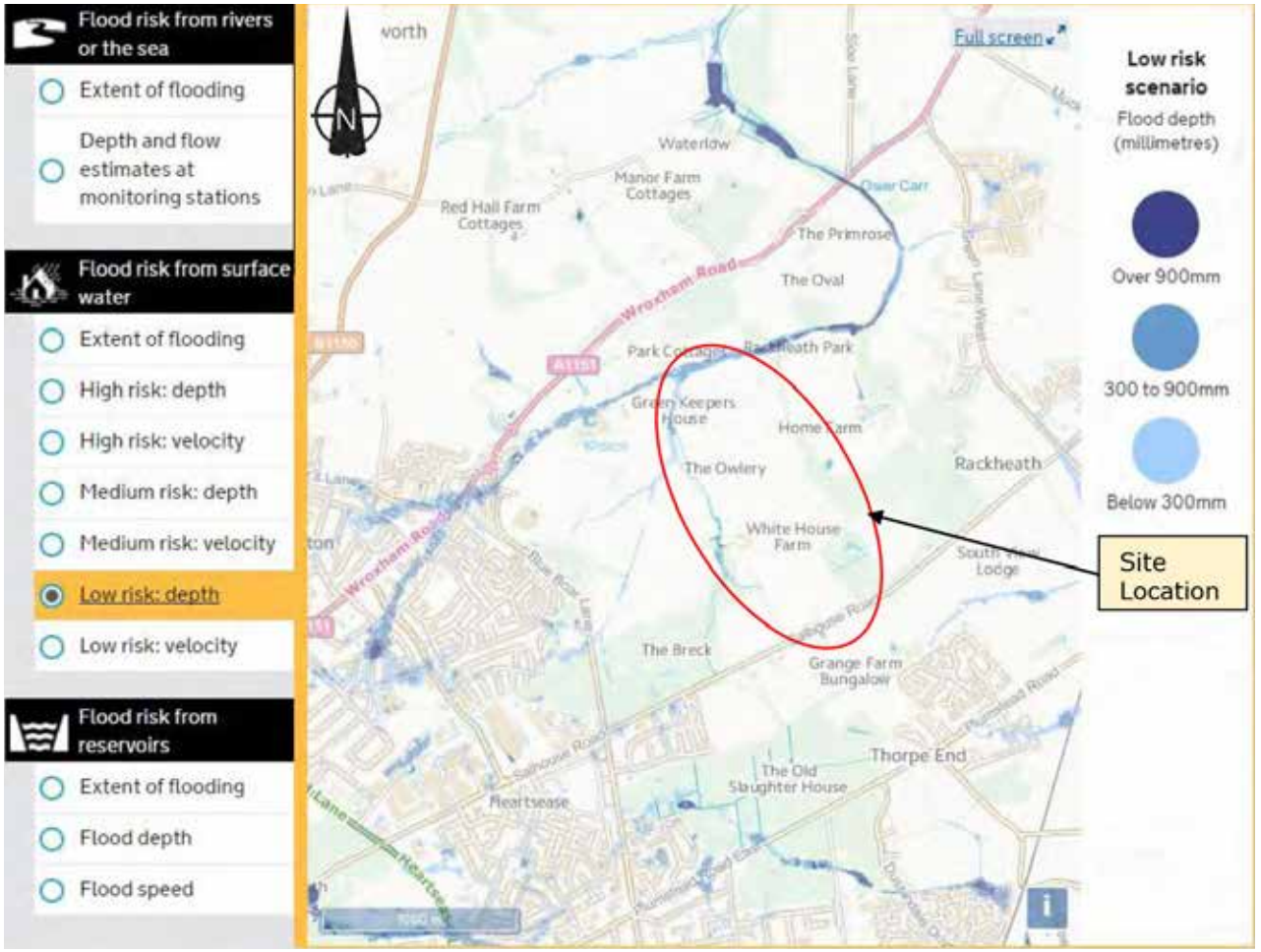


Figure 17: Extract from Richard Jackson report - flood risk

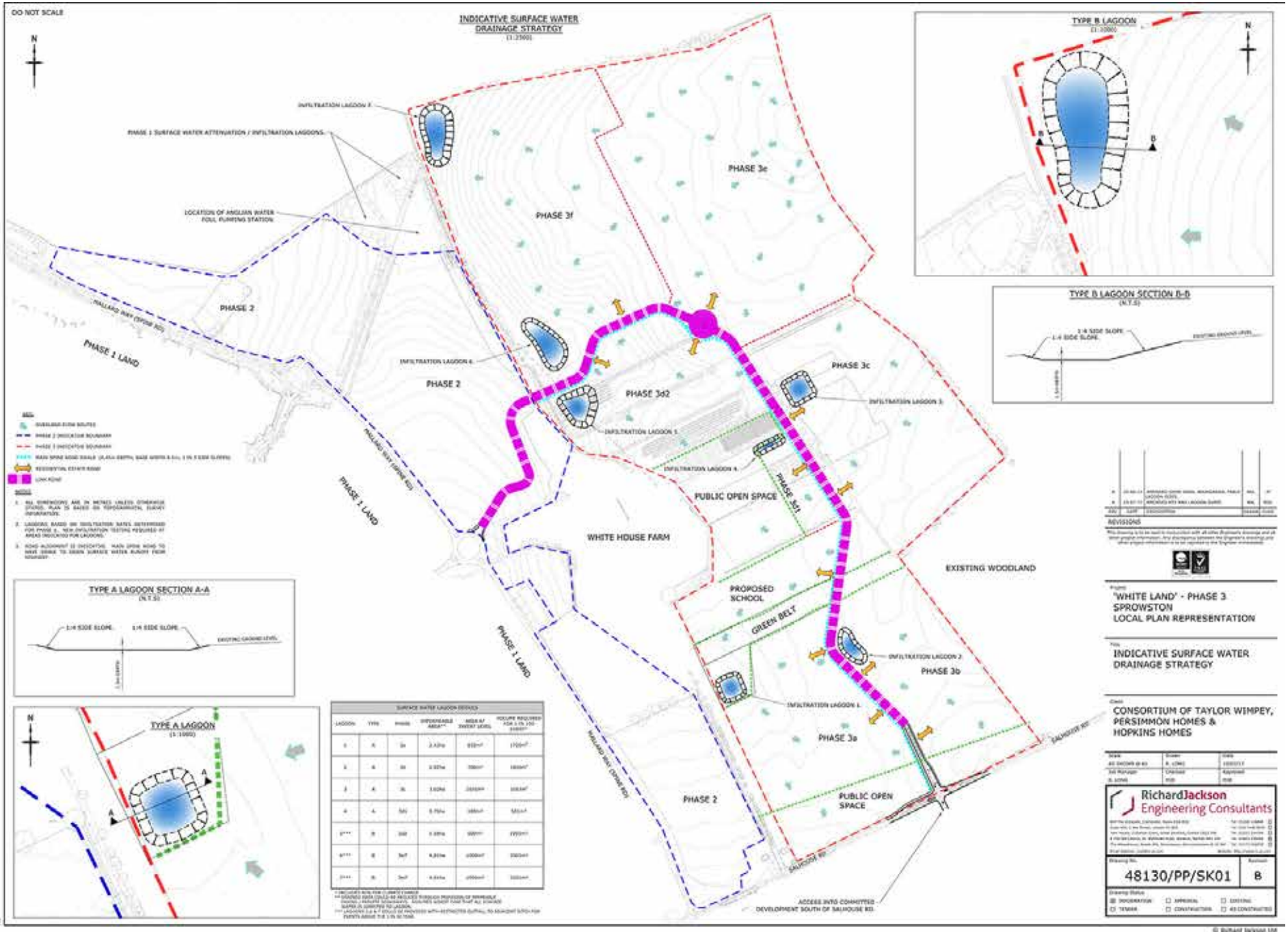


Figure 18: Extract from Richard Jackson report - drainage strategy

4.4 TRANSPORT AND HIGHWAYS

Richard Jackson undertook a transport and highways access appraisal for the site (August 2017).

The main findings of the appraisal are as follows:

- A number of local facilities, including education, lie within walking and/or cycling distance of the Site. The local facilities can be reached via a network of existing footways and cycleways associated with development allocated within the adjacent area of the Site.
- The committed development located south of Salhouse Road is proposing to reduce the speed limit along the road from 40/60mph to 30mph in the vicinity of the Site boundary.
- Footway / cycleway links are recommended to be provided along the Salhouse Road frontage of the Site to connect with Mallard Way (via Phase 2) and also via the internal link road that connects with existing infrastructure on Mallard Way to travel through Phase 1 to Blue Boar Lane or to Wroxham Road.
- There are existing bus services located at the Tesco superstore off Wroxham Road and also via the local Park & Ride service to the northwest of the Site. These existing services provide a minimum of a half hourly bus service to the city centre and other locales such as Norwich hospital. As the Site will be located some distance from these bus stops it would be recommended that an existing bus service is diverted into the Site or a new service provided along Salhouse Road to tie in with the NCC BRT aspirations.
- Norwich train station is located 4.6km to the south-west of the Site providing frequent access to various destinations nationwide; including London, Manchester, Liverpool, Nottingham, Sheffield and Peterborough. Utilising the current and potential expanded NCC recommended Pedalways, there will be a cycle route from the Site to the train station via Salhouse Road. No further off-site upgrades are considered necessary to the footway / cycleway routes.
- Traffic modelling undertaken by the Consultants for the committed development south of Salhouse Road identified that the junctions along the Salhouse Road corridor would operate just within capacity in the assessments horizon year with the development and adjacent development in operation. This is dependent on the opening of the NNDR and the assumptions in the assessment in redistribution of traffic being correct. Recent traffic surveys of Salhouse Road show that daily traffic has only increased by 1.2% in the last two years and is in line with that predicted by NCC in their traffic forecasting for the NNDR assessments.
- As the NNDR is likely to be open in early 2018, then new traffic surveys are recommending to be completed 6 weeks after opening to allow traffic flows to settle to support any future planning application for this Site.
- There is potential to serve the identified Site from Salhouse Road and Mallard Way that would provide safe, effective vehicular access and egress in accordance with current highway design standards and practices. The principle access off Salhouse Road is suggested to be built after the access via Phase 2 from Mallard Way. This is due to the access to Salhouse Road being located opposite an access to the committed development south of Salhouse Road. The form of junction will be similar to that of the required traffic signal junction that will be created at the Mallard Way junction with Salhouse Road, constructed by the Developer of the land south of Salhouse Road. The use of traffic signal junction will enable better incorporation of BRT and cycle access.
- The Site being considered is expected to accommodate some 1,500 residential units. This level of development would be expected to generate around 600 vehicle movements during the AM and PM peaks. It is expected in the biggest peak hour the two-way flow along Salhouse Road and Wroxham Road towards the city would be approximately 140 vehicles on both roads.
- From an initial appraisal of the traffic modelling undertaken by Peter Brett Associates for the development located south of Salhouse Road and an appraisal of expected vehicle distribution towards the city it is not anticipated that the development will have a severe impact on junctions located to the south west of the Site and can be accommodated on the local network with the NNDR operational.
- Given the opening of the NNDR and estimations made by NCC on the traffic redistribution in Norwich are key to the conclusions of the Peter Brett Associates TA and key to the assessment of the level of impact the Site will have on the local network new traffic surveys would be recommended a minimum of 6 weeks after opening of the NNDR.

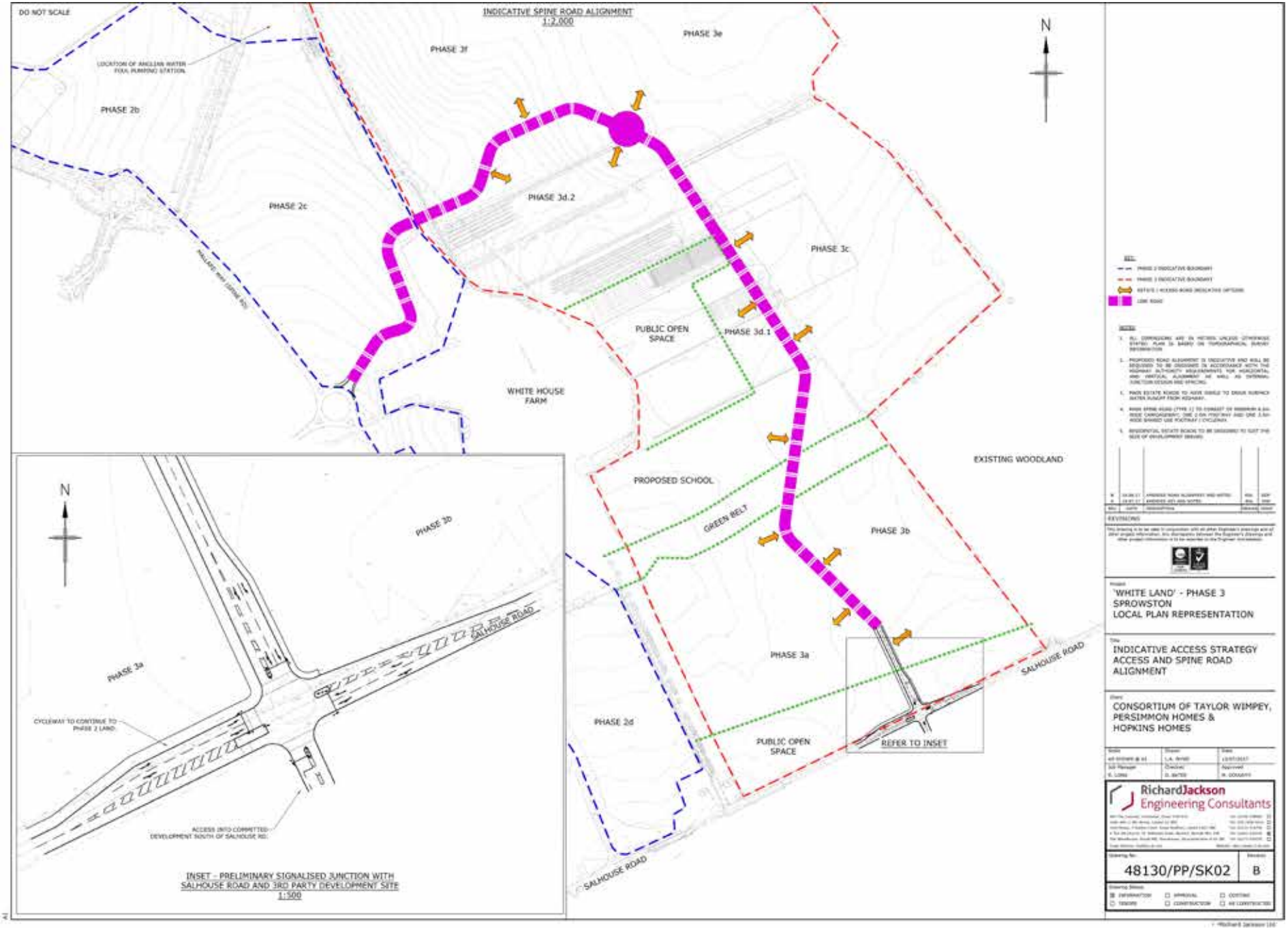


Figure 19: Extract from Richard Jackson report - HIghways strategy

4.5 UTILITIES

Richard Jackson were commisioned to assess the existing utilities within the proposed site (August 2017).

The main findings of the assessment were:

- There are three main utilities that will affect the development area of Phase 3, these are National Grid Gas Plc, Anglian Water (Foul) and UK Power Networks (UKPN). There could be private connections to the existing dwellings of White House Farm but these are not shown on the existing records.
- There is a 200mm diameter steel gas pipe of intermediate pressure (2bar) that runs between Rackheath and Beeston. This has a 14m easement either side of the centreline of the pipe and crosses the southern boundary with Salhouse Road in the south western corner of Phase 3. The main will have to be protected from any excavation work and National Grid will need to be contacted to ensure the main is properly protected during works.
- The gas main and its easement cannot have any private structures built on top, and any excavation works need to be agreed with National Grid. Gardens of dwellings could encroach into the easement of the main, alternatively, the main could also be diverted.
- Anglian Water (Foul) also have assets within the site boundary of Phase 3. There are two rising mains close to the south west boundary of the site near the existing dwelling of 22 Salhouse Road. One of 280mm dimeter and one of 450mm diameter.

Figure 20: Extract from Richard Jackson report: Existing utilities - northern section of the site

BIDWELLS

- The 450mm diameter main should not affect the development proposal, however, no structures can be built over the main or its 3.5m easement. The closest existing foul water sewers are located in the main spine road of Mallard Way.
- The 280mm main which runs along the southern boundary of Phase 3 adjacent to Salhouse Road will have to be managed carefully. The access location from Phase 3 onto Salhouse Road would also have to be specifically located, therefore until this is understood a strategy for the 280mm rising main would be put on hold. The 280mm diameter has a 3m easement and no structures can be built over the main or its easement.
- On the Anglian Water potable records there was no sign of any existing apparatus within the site boundary. There is a 7" galvanised iron main in the verge immediately south of Salhouse Road to the South of the site, which may need diverting
- Discussions with Anglian Water are on-going and off-site upgrades are likely to be required along with at least one new pumping station on the Phase 3 site. Some diversion / protection work may be required to the rising main to the north of Salhouse Road too.
- The buildings of White House Farm are served by high voltage overhead electric apparatus that run adjacent to the access track from the north of the existing buildings. A 3m easement is likely to be required if this apparatus is retained on site.
- BT has overhead apparatus present on the southern side of Salhouse Road and careful consideration will be required for the proposed access road onto Salhouse Road.

Figure 21: Extract from Richard Jackson report: Existing utilities - southern section of the site

4.6 GEOTECHNICAL

A Preliminary Geo-Environmental Risk Assessment has been undertaken by Delta Symonds on behalf of Persimmon Homes, Taylor Wimpey and Hopkins, covering the subject site during July 2017.

Findings of the preliminary report include:

- *The Site is likely underlain by a sequence of Topsoil, which is in turn underlain by Glacial Till in the north, but otherwise over the Sherringham Cliffs Formation (Sand & Gravel), followed by solid geology comprising the Crag Group (Sand & Gravel) and the Lewes Nodular Chalk. The superficial Glacial Till is classified as Unproductive Strata, the Sherringham Cliffs Formation is classified as a Secondary A Aquifer and the Lewes Nodular Chalk bedrock is classified as a Principal Aquifer.*
- *A number of surface water features are present on-Site including a number of balancing ponds and a drain in the northern area and a pond and drains in the eastern area of the Site.*
- *Limited potential sources of contamination have been identified, comprising the agricultural use of the Site and a BGS Recorded Mineral Site, located approximately 10 m south of the Site.*
- *There is considered to be a Low risk of enforcement action by the regulatory authorities under Part 2A of the Environmental Protection Act, the Water Resources Act or the Environmental Damage Regulations. The potential for legal action by surrounding landowners / Third Parties based on the potential for contamination to migrate off-Site (ongoing or historically) is considered to be Low.*
- *Following the C681 risk assessment process; in combination with the high regional bomb risk and lack of post war development it is considered that there would be a low to moderate risk that UXO will be encountered during proposed intrusive investigation works involving borehole drilling/ trial pit excavations; but that a moderate overall risk would apply in a development context; assuming currently perceived extent of likely ground disturbance and construction techniques anticipated.*
- *No potentially substantial geohazards have been identified at the Site.*

The report recommends an intrusive geo-environmental site investigation is undertaken to explore the impacts of any potential contamination and ground gasses on the proposed development. In addition, a detailed specialist UXO assessment should be undertaken (in accordance with C681 2009) to examine risks and any required associated mitigation approaches to be adopted for the site.

Please refer to the Preliminary Geo-Environmental Risk Assessment for further information.

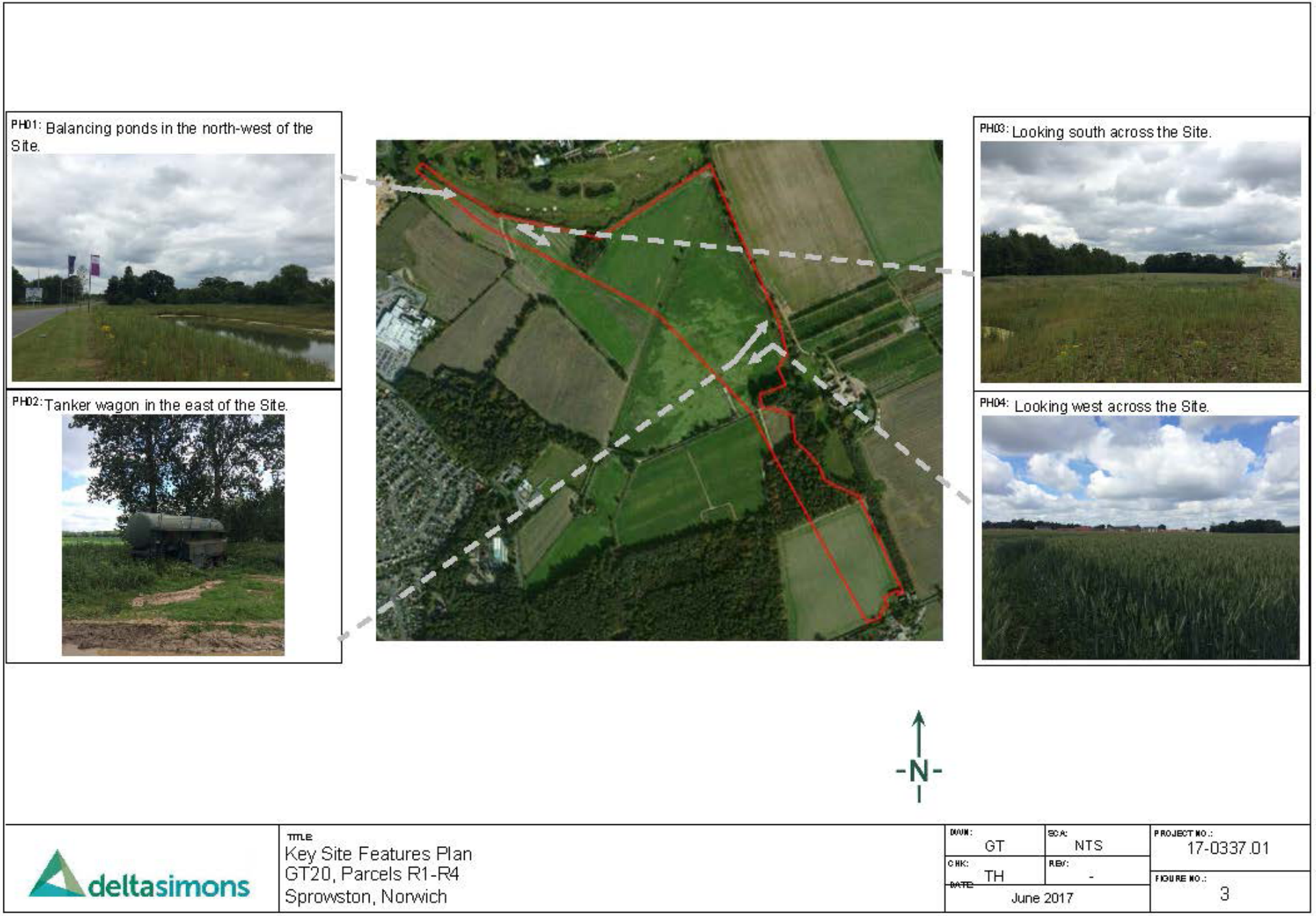


Figure 22: Site Features extracted from Preliminary Geo-Environmental Risk Assessement

4.7 VISUAL ASSESSMENT

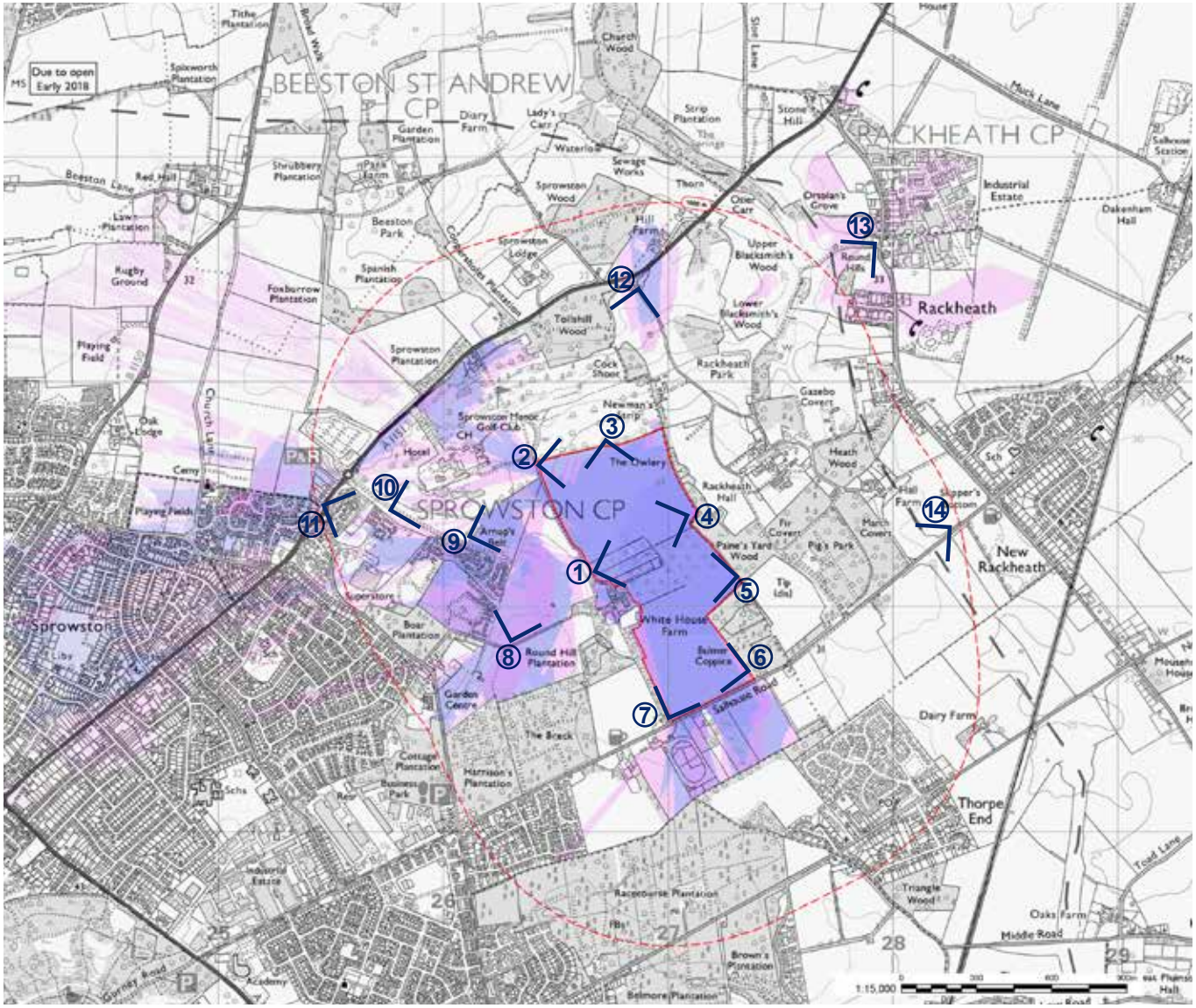


Figure 23: Zone of Theoretical Visibility and Viewpoint Locations

ZONE OF THEORETICAL VISIBILITY

To identify the area from which the development may be visible, and to help calculate the number and location of visual receptors, a computer generated ZTV was produced for a 1.0 km study area (Drawing 04 and Figure 23).

As the master plan has not been developed to detail at this stage, the visibility is based on an indicative three dimensional model of evenly distributed 9m high units through the site (the approximate height of a 2 storey building with pitched roof). This has been superimposed on to a digital surface terrain model of the site and its surroundings (OS Terrain 5, at 5m resolution); enabling a three-dimensional plot of the 'visible areas' to be produced, taking into account screening afforded by landform and significant woodland blocks.

It should be noted that the ZTV represents a 'worst case scenario'; taking into account only major visual barriers in excess of 5m high. Visual barriers less than 5m have not been modelled. In reality considerable additional screening at eye level would be afforded by intervening hedgerows, buildings and other structures.

The ZTV is presented on a 1:25,000 scale Ordnance Survey base and the findings, verified by site observations.

Figure 23 indicates the areas in which the development would be theoretically visible. Areas west of the proposed development, around the ongoing development off Blue Boar Lane, and some areas of Sprowston Manor Golf Club area identified as the main areas of visibility.

VISUAL ASSESSMENT

An assessment of visual effects was undertaken on 30.05.2017 from 14 viewpoints, which were selected to represent typical views from key receptors at varying distances and orientations from the site. (The viewpoint locations were not agreed with Broadland District Council prior to undertaking the assessment).

The viewpoint locations are shown on Figure 23 and representative panoramas follow in this section.

Figure 24
Viewpoint 1. The viewpoint is located on the western edge of the site, approximately 260m north-west of the White House Farm buildings. The view is over a large expanse of arable land, which is enclosed on all edges by either tree belts or woodland.

Figure 25
Viewpoint 2. The viewpoint is located at the north-western corner of the site, on it's boundary with Sprowston Manor Golf Course. The view looks between boundary vegetation towards the site, which is composed of agricultural land, rising towards the centre of the panorama to create a pronounced mounded landform. The site is partially screened by existing vegetation, although the deciduous foliage and ephemeral understorey will dieback in the autumn, reducing the level of screening.

Figure 27
Viewpoint 3. The view looks across the site from the northern edge of the site. Substantial boundary vegetation borders the site to the rear of the viewpoint, as seen at the right and left of the image. A large arable field is central to the view, with far reaching views to the boundary on the opposite side of the field, and the development at Blue Boar Lane beyond it.

Figure 28
Viewpoint 4. Looking across the site from the eastern edge of the site. The site extends across the open farmland and "pick your own" plantations to the tree belts seen in the distance. The land currently undergoing development near Blue Boar Lane is glimpsed in the beyond these tree belts, partially screened by intervening vegetation.

Figure 28
Viewpoint 5. The view is taken on the eastern edge of the site to the north of Bulmer Coppice. The well arable land appears well enclosed by woodland and tree belts.

Figure 29
Viewpoint 6. The viewpoint is located on the southern boundary of the site, on the western edge of Bulmer Coppice. The house seen on the left of the image fronts onto Salhouse Road and shares a boundary with the site. Additional screening would be required here to help reduce the impact of the development on the residential amenity of this property.

Figure 30
Viewpoint 7. Viewing the site from Salhouse Road, near the property that shares two of its boundaries with the proposed site. The property currently overlooks the site, and due care should be taken to ensure impacts on the residential amenity are minimised as far as possible. The proposed development will require a widening of the road corridor, resulting in some loss of hedgerows and trees to the left of the road. Land to the right of the road has also been allocated for development in the local plan.

Figure 31
Viewpoint 8. Looking towards the site from Laundry Lane, over land currently undergoing development. The site is glimpsed beyond the poplars seen in the distance, however once fully developed, any views of the site will be minimal to this location. Houses within the development, particularly those fronting onto Mallard Way, will have views over the proposed site.

Figure 32
Viewpoint 9. The viewpoint is located on Mallard Way, just south of Arnulp's tree belt. The landform falls towards the tree belt in the mid-distance, which forms the eastern boundary of the site, and beyond the site lies on a gently rising topography. The intervening arable land is proposed for allocated for mixed use development in the Growth Triangle Area Action Plan. Any development on the site will be visible to Mallard Way and the houses overlooking it. Should the intervening land be developed the extent of these views would change.

Figure 33
Viewpoint 10. The viewpoint is within the Manor Reach development, west of Mallard Way. Due to the intervening distance and vegetation, as well as the oblique views towards the site, the site is not visible to this location. A more developed master plan at later stages would reveal whether any vegetation removal or taller roof heights would lend views to any roof tops.

Figure 34
Viewpoint 11. The view is located at the end of a Public Footpath on Wroxham Road. The site is not visible to this location due to the intervening buildings on Hall Wood Road.

Figure 35
Viewpoint 12. The viewpoint is located south of the gatehouses to Rackheath Hall, just off Wroxham Road, approximately 600m north-east of the proposed site. The site is completely obscured by the intervening vegetation and landform.

Figure 35
Viewpoint 13. Looking west on Green Lane West, Rackheath, approximately 1.1km east of the site. The site is completely obscured by intervening landform and vegetation.

Figure 36
Viewpoint 14. Looking south-west on Salhouse Road, approximately 1km from the site. Earthworks for the Northern Distributor Road are seen in the near distance. The site is completely obscured by intervening vegetation.

At this stage a full landscape and visual assessment has not been undertaken, instead this summary reflects the findings of a qualitative appraisal to inform the development of the concept master plan (on page 60 of this report). As the findings are not based on any detailed proposals for the Site, they can only give an indicative overview of the possible effects of the development of the Site for residential uses in high-level, generic terms, and can not be considered in isolation from this report. It is also impossible to consider effects in abstract from the considerable changes the environment is continuously undergoing within the framework of the "Growth Triangle Area Action Plan", which effects the context of the Site in all directions. Further assessment work would need to be undertaken to properly assess the effects of developed proposals for the Site, and the cumulative effects of the ongoing development of the area.

SUMMARY OF PREDICTED LANDSCAPE EFFECTS

The Site is currently within a transitory landscape, sitting in the midst of a number of differing land uses which are presently in a state of construction and flux. Land uses include agriculture, estate parkland, urban areas and construction Sites, transport infrastructure and a golf course.

Whilst the Site itself and the land immediately to the south and west of it are currently within rural uses, the urban landscape is growing and approaching the Site. The golf course has an open character but its management and vegetation makes it very discreet from the agricultural landscape.

The precedent for residential development in the area is firmly established within the framework of the Growth Triangle Area Action Plan. Development is either committed or allocated on numerous Sites surrounding the Site to the north, south and west, which, should they all be realised, will ultimately connect the proposed Site with the new urban area of Sprowston, and realign the north-eastern edge of Norwich roughly in line with the proposed Site.

The character of Salhoues Road will become more urban in nature, so mitigation measures will need to ensure that the existing character of the landscape is translated into a more urban language.

The potential landscape effects are identified as follows

Changes to the landform

Changes to the landform would be minimal. The proposed houses would be generally constructed at existing ground level. The main changes would occur with attenuation features which would be formed of a series of sunken ditches and ponds.

Changes to vegetation

The proposals are likely to result in the partial or complete removal of the hedgerow to the south of the proposed Site. It is also likely that the scale of the existing orchard would be moderated to ensure a mix of open space typologies can be achieved.

There are three mature oak trees located centrally within the Site which are proposed for incorporation within the scheme, and the surrounding tree belts and woodland blocks, and tracks within them would become integral parts of the development.

Overall it is predicted that there will be some loss of existing planting, but the diversity and amount of vegetation will be increased through additional tree planting and new wetland vegetation associated with attenuation features.

Changes in land use

It is considered that the change in use from agricultural to residential would be entirely in keeping with the prevailing development within the Growth Triangle. The context of Salhouse Road is becoming increasingly urban in character and this development would reinforce this.

Effects on water courses/bodies

The Site is not in a flood risk zone and no water courses or water bodies would be affected.

Effects on notable landscape features

The Sites notable landscape features comprise of the mature vegetation within it, including Bulmer coppice, the tree belts on the western edge of the Site, the mature oaks to the centre of the Site, which will be retained and incorporated into the scheme. There will be some loss of the existing orchards and the hedgerow along Salhouse Road, however the aim would be to retain parts of these features to minimise the loss of character embodied in these features.

Effects on established footpaths, public rights of way and access

There are no public rights of way within or adjacent to the Site.

Effects on cultural associations/historic setting

The parkland and gardens associated with Rackheath Hall are designated for their historic value in the Broadland District Local Plan. Rackheath Hall and Bridge are Grade II Listed. Again, there is a precedent pattern, or scale of the landscape.

for change within this surrounding area, some of which may fall within the setting of the Listed Buildings or Historic Parkland and buildings.

Changes to the remoteness/tranquillity of the area

Although rural in character, most of the Site is not remote or tranquil in quality. Salhouse Road is a busy road, which will become even busier once the NDR. A bus rapid transit route is also planned for Salhouse Road, which will in itself change its scale and character and tranquillity.

The construction activities surrounding the Site, such as at Phase 1 and around the NDR also impact on the sense of tranquillity and remoteness. The affect of the proposed development on these perceptual qualities would therefore be small.

Changes to the character, pattern and scale of the landscape

As mentioned above, the character, scale and pattern of the landscape is currently in a state of change. The assessment is dependent on a number of assumptions relating to the course and timing of the proposed changes within the area. Assuming the development would comprise predominantly 2-3 storey houses on a similar scale and height to existing nearby, and proposed adjacent development, and the committed and allocated nearby development is realised, the proposed development should not affect the character, pattern, or scale of the landscape.

SUMMARY OF PREDICTED VISUAL EFFECTS

ZTV analysis indicates that the Site is theoretically visible from a relatively confined area, and in reality, considerable screening would be afforded by vegetation and structures surrounding the Site. Views are primarily indicated to the west and south of the proposed site, these are most prominent on land immediately south of Salhouse Road, and west of White House Farm. Views are also indicated within Sprowston Manor Golf Course.

Though the ZTV also suggests there are localized views from Rackheath and the northern edge of Rackheath Park, when tested on the site visit, these views were not discernible from behind intervening vegetation and structures.

The main publicly accessible visual receptors are roads and local services. There are a small number of Public Rights of Way within the search area (though none within the site itself) but no views from these were identified during the course of the appraisal.

Rackheath Park is designated in the Broadland District Council Local Plan as a historic parkland. This parkland is not publicly accessible, but it is considered that the mature and robust tree belt between the Site and Rackheath Park would offer considerable visual screening between the two.

Views from Mallard Way and the west

The land immediately west of White House Farm can be considered as two parts, that west of Mallard Way, which is currently under construction (identified earlier in this report as Phase 1, or Land off Blue Boar Lane), and that east of Mallard Way (allocated in the Broadland Local Plan for mixed use development, policy GT20). Due to the ongoing construction of Phase 1 and Mallard Way it is difficult to gain a comprehensive assessment of the views from this direction.

Open views of the northern half of the Site and any development on it would be available in the vicinity of Arnulp's Belt (viewpoint 9), in part more so because of the elevated topography to this part of the Site. Further tree planting along the edge of the development would minimize views. It is also worth noting that should the land in between Mallard Way and the Site be developed as allocated, the nature and extent of these views would change considerably.

When viewed from Manor Reach (vp 10) intervening vegetation provides more screening and views of the Site are more screened. It is thought that if developed, views of residential houses would be limited to rooftops glimpsed above existing tree belts. Views further afield to the west and north-west of the Site (towards Sprowston Park & Ride and St Mary and St Margaret church) are screened by intervening structures and vegetation, and are likely to be minimal if any.

White House Farm, a private residence and group of commercial premises are located mid-way along the western boundary of the Site. There is existing vegetation surrounding these properties, but new planting, particularly to the south-east of the farmhouse, would help to offer more robust screening of the proposed new development.

Views from Salhouse Road and the south

The current views experienced by road users on Salhouse Road are comparatively rural, comprising hedgerows with trees on either side, and intermittent longer vistas to the landscape south of the proposed site. The proposed development is likely to entail the

loss of some or all of the existing hedgerow to the south of the Site, creating unimpeded views of the development beyond. New vegetation along Salhouse Road could help to soften views of housing, and help to visually tie the development to the wooded character of the surrounding landscape.

There are also a number of existing properties along the southern edge of Salhouse Road, and two properties which adjoin the south-western corner of the Site on the north of Salhouse Road. These two properties would have views across the new development, and offsetting the development from this corner, alongside additional planting would help to soften views of the new development.

Views from the north

Views from the north are likely to be limited to those available in Sprowston Manor Golf Course which shares the Sites northern boundary. The tree belt on this boundary is of variable depth, mostly deciduous and not fully mature. As it matures it will offer better screening, but the addition of some evergreen species would increase year-round cover and interest.

Views from the east

Views from the east are largely screened by the undulating landform and vegetation. The screening offered by the vegetation surrounding Rackheath Park is especially robust, and views of the from the east are very limited.

5.0

MASTER PLAN STRATEGY

The master planning study summarises the site opportunities and constraints and puts forward a concept strategy for the site.

5.1 OPPORTUNITIES AND CONSTRAINTS

LEGEND

- *Red line boundary*
- *Existing landscape framework*
- *Existing fruit orchards - potential open space resource*
- *Landscape buffer and/or screening needed*
- *Existing individual trees to be retained*
- *Offset from tree groups to protect root zones*
- *Existing adjacent dwellings and their grounds*
- *Existing services at White House Farm*
- *Existing roads*
- *Vehicular access points to the site*
- *Possible route of road - 16m wide footprint for road, footpaths and drainage infrastructure*
- *Road widening required*
- *Existing bat corridor*
- *Proposed new habitat for potential bat corridor*
- *Route of Gas Mains*
- *Route of Rising Main (not yet laid)*
- *Utility easements*

Figure 37: Opportunities and Constraints Diagram

Through the baseline mapping, technical information and visual assessment of the site, a number of opportunities and constraints have been identified which provide a framework within which the proposed development will be brought forward. The opportunities and constraints of the site include:

Existing Dwellings

There are three existing dwellings in very close proximity to the site. These are White House Farm and two properties adjacent to the south-western corner of the site on Salhouse Road. Future development should take due care to ensure impacts on their residential amenity are minimised through screening and/or landscape buffers.

Vegetation

LANDSCAPE FRAMEWORK

The landscape in and around the site has a very strong landscape framework that is imbued with the character of the area. It is composed of woodland blocks, hedgerows with trees and tree belts and tracks lined with shrubs and trees. Retaining these features as far as possible will help to retain the character of the landscape and bring visual and recreational amenity to any future development.

OFFSET FROM TREE GROUPS

An offset distance varying between 12-15m to valuable trees within the landscape framework would help to protect their root networks and hence allow the trees to continue to thrive.

EXISTING FRUIT ORCHARDS

As part of the White House Farm farmshop and “pick your own” enterprise, orchards of fruit trees with protective tree belts have been planted. The orchards are a beautiful landscape feature and if retained in whole or in part, could provide development with landscape narrative and history, future residents with a unique amenity space, and potential forage and habitat for a diversity of species, including bats.

EXISTING INDIVIDUAL TREES TO BE RETAINED

Three large Oak trees sit on field boundaries centrally in the site. If retained, these would provide the development with an attractive mature landscape feature.

ADDITIONAL SCREENING AND LANDSCAPE BUFFERS

Additional screening and landscape buffers would be required where there are sensitive adjacencies, frontages or views into the site. These include:

- The north-western corner of the site to Sprowston Manor Golf Club
- The boundary south and east of White House Farm
- The boundary to existing properties on Salhouse Road
- The frontage to Salhouse Road

GREEN INFRASTRUCTURE TO FACILITATE BAT CORRIDOR

A green infrastructure corridor is proposed in line with the Broadland District Councils plans to protect the habitat of the Barbastelle bat, which is known to have colonies in the area. The corridor would be maintained with minimal light pollution and appropriate planting to allow the bats to commute between their roost and forage sites.

Access and Circulation

SALHOUSE ROAD

Salhouse Road forms the southern border of the site. To allow for safe access to the site from its southern boundary, road widening measures will be necessary. The character of the area at large is becoming more urbanised as a result of the development of the Growth Triangle. The new planting strategy for the road frontage would need to accommodate this transition, whilst respecting the expressed character of the more rural roads within the region, which are typically planted with hedgerows dotted with Oaks and other native field trees.

MALLARD WAY

Mallard Way is currently under construction and will serve the new developments to the west of it, as well as the land immediately to the east of it (GT20), which is allocated for mixed use development. A bus service will operate on Mallard Way. This road could also be used to service any development on the land east of White House Farm.

WROXHAM ROAD

Wroxham Road is a major route into Norwich from north-east Norfolk, and runs south-west to north-east some 550m north of the site. Sprowston Park and Ride is located directly opposite the Wroxham Road/Mallard Way Roundabout.

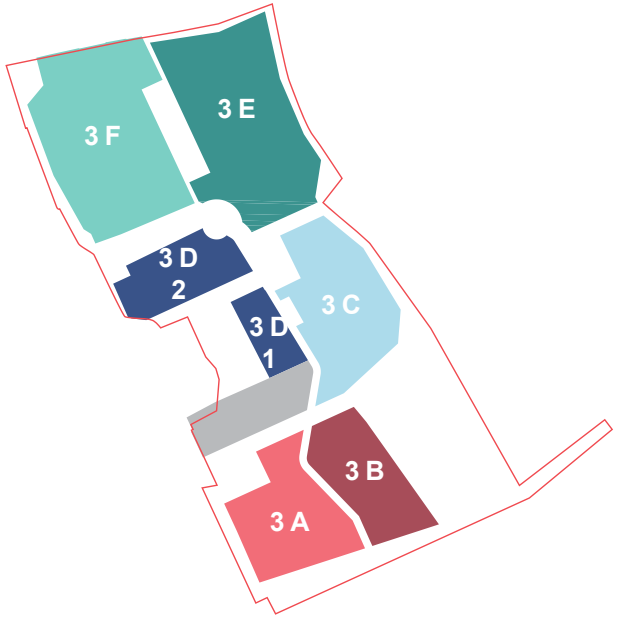
ACCESS POINTS

Access would be from Salhouse Road and across the existing track north of White House Farm. A location is sought for the latter where the more arboriculturally valuable trees at the northern end of the boundary are protected, and a route is found through the Poplar belts which exist closer to White House Farm.

UTILITIES

There is an existing Gas line and planned Mains Rising, which pass through the southern part of the site. These will require standoffs of 10m and 6m either side respectively.

5.2 MASTER PLAN STRATEGY BRIEF



In addition to site specific opportunities and constraints, the brief for the master plan strategy is defined by relevant policy with regards to design, allocation of services and open space within the Broadland District Council Local Plan. Two spatial policies relate to the provision of open space within new development, these are:

POLICY EN3 - GREEN INFRASTRUCTURE

This policy requires residential development consisting of five or more dwellings to provide 4ha of informal open space per 1, 000 population, with at least 0.16ha of allotments per 1, 000 population, along with adequate arrangements for the management and maintenance of green infrastructure.

POLICY RL1 - PROVISION OF FORMAL RECREATIONAL SPACE

This policy requires residential development consisting of give or more dwellings to provide 1.68ha per 1, 000 population, along with the provision of children's play space equating to 0.34ha per 1, 000 population.

TOTAL SITE AREA
68.23ha

PLOT	AREA (HECTARE)	APPROXIMATE DENSITY (DPH)	NO. OF UNITS (APPROXIMATE)	RESIDENTS @ 2.3/U (APPROX.)
3a	5.2	38.5	180	414
3b	3.8	38.5	130	299
3c	5.5	38.5	200	460
3d1	1.4	38.5	50	115
3d2	3	38.5	100	230
3e	10	38.5	350	805
3f	9.5	38.5	340	782
School	2.57	-	-	-
TOTAL	40.97	-	Approx. 1350	Approx. 3105

OPEN SPACE POLICY	HECTARES FOR 3105 RESIDENTS
Formal Recreation = 1.68ha per 1000 residents	5.22
Children's Play Space = 0.34ha per 1000 population	1.06
Informal Recreation = 4ha per 1000 residents	12.42

Figure 38: Illustrative housing numbers

5.3 ILLUSTRATIVE CONCEPT MASTER PLAN

Key:

- Red line boundary
- Development parcel
- School site (2ha)
- Existing landscape framework to be retained/managed/enhanced as appropriate
- Recreational Open Space
- Informal Recreation Space
- Approximate location of attenuation feature
- Primary circulation route
- Access to development parcel
- Primary road connection across parcels
- Pedestrian/cycle routes

Figure 39: Concept Master Plan

BIDWELLS

LANDSCAPE STRUCTURE

The proposed master plan strategy draws on the structure of the surrounding landscape to knit the proposals into their context in terms of vegetation, form, scale and connectivity. Features such as linear tree belts and hedgerows, woodland blocks, existing market garden character, and the ecosystem services that these create to drive the overall form of the master plan. This framework would provide the setting for mixed use development and associated open space, road infrastructure and water sensitive design features.

ACCESS AND CIRCULATION

Access points would be located on Salhouse Road and north of White House Farm. The illustrative master plan locates this access point where currently there is a group of four Populus nigra 'Italica', or Lombardy poplars, to minimise damage to valuable mature native trees further north on this western boundary. Spine road would connect these two points with secondary access to development parcels.

The master plan strategy proposes an extensive network of pedestrian and cycle paths, aspiring to enable residents to access as many amenities from their home using traffic free routes, including;

- A recreational route, or "trim trail" circumnavigating the eastern edge of the site, and connecting with routes in Bulmer Coppice;
- The retention of tracks north and south of White House Farm;
- Low impact tracks through the "bat corridor" and along green infrastructure running east-west to the south of parcels 2e and 2f;
- Routes through public open space, which connects a number of the linear routes.

It is thought that the highly connective network, with a number of circular route options, will provide for families, nature lovers, fitness seekers dog walkers and people of reduced mobility alike.

PUBLIC OPEN SPACE

In addition to the public open space structure around the non-vehicular amenity routes described in the section above, the master plan proposes three primary areas of recreational open space and various areas of informal open space, which also serve to connect areas of habitat.

The three primary recreational open spaces are:

- NORTH OF SALHOUSE ROAD, the space would provide the road with a setting that mediates between the urbanising character of the local area and it's past rural character. The space would provide valuable connections between the track south of White House Farm and Bulmer Coppice, allowing wider communities to access the available facilities. The open space also ensures the loss of residential amenity to the existing properties on Salhouse Road is minimised.
- EAST OF WHITE HOUSE FARM, the open space here would provide a setting to, and connection with the existing service hub at White House Farm, which includes a café, farm shop and day nursery among others. The utilisation of this space allows for the option of retaining some of the market garden features for the benefit of future residents and visitors to the site, and also allows a buffer to be created between the existing dwelling on White House Farm and the site.
- BETWEEN PARCELS 2E AND 2F. The space would help to ensure open space is easily accessible in all parts of the site, and contribute to the aforementioned landscape structure in which the development would nestle. The linear nature maximised the opportunity to easily access the space whilst connecting recreational routes.

DEVELOPMENT PARCELS

The parcels are contained within the landscape structure and provide a total of 40.62HA developable space, which would be developed in varying densities, providing a total of approximately 1350 units.

The layout of these parcels and the master plan at large would be further developed to include smaller areas of local open space and built layouts that continue to build upon the principles set out here.

5.4 ACCESS AND CIRCULATION

Figure 40: Acces and Circulation

LINKS TO HIGHWAYS INFRASTRUCTURE

Development of strategic transport infrastructure in the form of the NDR is well underway and is due to be complete early 2018. The construction of key highways infrastructure will provide strategic access, significantly improve quality of life and environmental conditions in northern suburbs like Sprowston, whilst also providing capacity for comprehensive improvements to the bus, cycling and walking network. The location of the site means that it is linked well to the new highways infrastructure and can provide additional linkages for other non-car modes of travel, including public transport, cycling and walking. Whilst improving the recreational opportunities in the local area.

5.5 MASTER PLAN STRATEGY CONCEPT

Figure 41: Green Infrastructure

OPEN SPACE & ECOLOGICAL INTEGRATION & PROTECTION

The indicative Masterplan demonstrates the way in which green infrastructure and ecological protection will be a foundation to the shaping of the development on site. Through the integration of open space, landscaping, creation and retention of green corridors, emphasis of links between spaces and enhancement of ecological biodiversity – including Bats, the indicative masterplan has and will continue to be a landscape led design process. The design and layout of the development will ensure that everyone has access to a range of different open space types and green infrastructure in order to fulfil their potential and enjoy healthier, happier lives. Furthermore, by ensuring that the master plan is landscape-led from inception until completion, this will ensure the promotion of healthy lifestyles for existing and new residents alike, whilst also ensuring ecological biodiversity is enhanced and preserved where possible.

Linking blocks of existing significant vegetation in the east and west, aiming to improve ecological connectivity. This vegetated bands would seek to reinforce the designation of these areas as Priority Habitat (Decidous Woodland), with selected appropriate species proposed to link these areas.

5.6 ILLUSTRATIVE DESIGN OF BAT CORRIDOR

Figure 42: Location of primary new bat corridor

The bat corridor would be 30m wide and approximately 350m long, connecting Round Hill Plantation in Phase 2 with Bulmer Coppice in Phase 3.

The corridor would include a 4m wide, central foot- and cyclepath, with occasional widenings for rest points with benches. This would be unlit to ensure a bat friendly nocturnal environment.

Either side of the path would be planted with native shrub and ephemeral vegetation to the edge of the path and as understorey, and groups of native trees. Species would be selected for two targeted purposes:

1. To provide as effective as possible screening from light pollution eminating from residential and community activities, as well as from road infrastructure, and
2. To create habitat and forage for a diverse biological community.

Groups of trees, as opposed to a continuous tunnel, are proposed to enhance the safety of the corridor as a recreational feature. The ensuing gaps would be offset from main sources of light, and the immediate residential areas should be designed with minimal light adjacent to the corridors. These will also need to be designed with consideration of the root plates of mature trees in the corridor.

Formal and informal access to the corridor would be created through some of the gaps.

The main road for the development would inevitably pass through the corridor. Minimal, low level and directional lighting would be used for the road through this section.

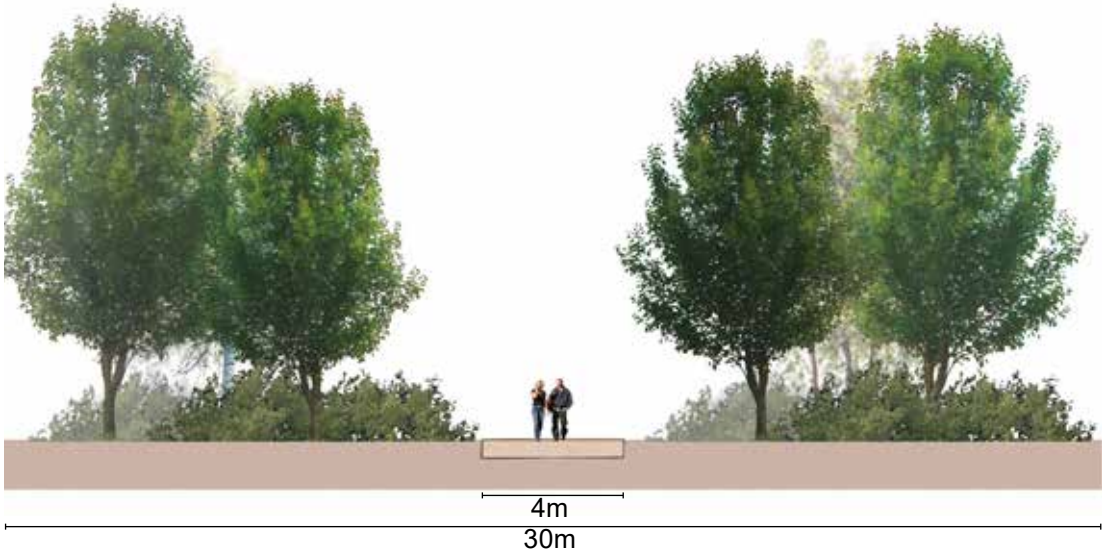


Figure 43: Illustrative typical section across bat corridor

SUGGESTED PLANTING:

UNDERSTOREY

Ligustrum vulgare (Wild Privet)

Prunus spinosa (Blackthorn)

Ruscus aculeatus (Butcher's broom)

Sambucus nigra (Elder)

Taxus baccata (yew)

Viburnum opulus (Guelder rose)

TREE GROUPS

Betula pendula (Silver birch)

Carpinus betulus (Hornbeam)

Fagus sylvatica (Beech)

Ilex aquifolium (Holly)

Pinus sylvestris (Scots pine)

Populus tremula (Aspen)

Quercus robur (Oak)

Sorbus aucuparia (Rowan)

Figure 44: Plan showing an illustraitve layout of a typical section of the bat corridor

6.0

CONCLUSIONS AND NEXT STEPS

The conclusion summarises the main outcomes and recommendations established through the work to date.

6.1 CONCLUSION AND NEXT STEPS

A thorough review of the site constraints, opportunities, setting and location has been undertaken, which has informed the masterplan proposals, including the location of infrastructure and connection to already allocated and constructed development adjoining the site.

DESIGN

The design process will, in turn, inform detailed concept masterplan proposals for the site, with the aim to achieve a sustainable, deliverable and contextually appropriate location for growth within Sprowston.

HOUSING DELIVERY AND SUPPLY

The development of the site would provide a substantial contribution towards housing supply within the Norwich Policy Area. Sprowston is identified as a key area of growth within Norwich. The site is a sustainable location for growth and is well-connected to the surrounding area, including the already allocated site – 'GT20'. It effortlessly provides a continuation of the White House Farm development and allows for a continual delivery of housing units following the delivery of the already allocated GT20 site.

BUILT FORM

The site forms a logical extension to Sprowston, respecting the existing built form as well as other surrounding land uses and adjoining land already constructed and/or allocated to the west of the site. A more detailed landscape-led outline masterplan will create a sensitive extension to the already allocated land to the west, as well as integrating existing landscape features within the site layout to ensure a balance of both buildings and natural features.

PUBLIC OPEN SPACE

Public Open Space is proposed at the heart of the site, creating natural landscaping corridors and viewpoints between the residential areas, with connections and equal access to public open space for all. The types of public open space will be a mix of both formal and informal open space, as well as community allotments. The location of open space throughout the site, will ensure the creation of circular walking and cycling routes to increase recreational opportunities for residents.

ACCESS AND CIRCULATION

Primary access to the site is proposed via Phase 2, north of White House Farm, and from Salhouse Road. The commited development south of Salhouse Road is proposing to reduce the speed limit of the road to 30mph in the vicinity of the site boundary.

In terms of transport the local area is well provided for by existing bus services. It is proposed that existing bus routes would be extended to service the site, in addition to the new service which has already been proposed along Salhouse Road as part of NCC BRT aspirations.

The master plan proposes an extended network of foot and cycleways to connect with routes in Phases 1 and 2, to make local facilities easily accessible to existing and future resisents.

EDUCATION INFRASTRUCTURE

The provision of a new Primary School site within the masterplan has been identified as a requirement through engagement with NCC. This will ensure that the site is sustainable in terms of growth and the needs of new residents to the area. The central location of the school within the subject site enables equal access for all, including walking and cycling opportunities.

The consortium will continue to pursue the allocation of the Phase 3 land through the Greater Norwich Local Plan and monitor opportunities for the preparation and submission of more detailed proposals for the site.

The consortium have been able to demonstrate through this vision and delivery document that Phase 3 will constitute sustainable development.

APPENDIX A
LIST OF FIGURES

BIDWELLS

Bidwell House,
Trumpington Road,
Cambridge
CB2 9LD