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WOKINGHAM STRATEGIC SITES REPORT 2021

PREPARED ON BEHALF OF
WOKINGHAM BOROUGH COUNCIL
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1.0 INTRODUCTION

Purpose of the Strategic Framework Masterplanning Commission

Wokingham Borough Council (WBC) is preparing a new Local Plan – referred to as the Local Plan Update - for the period to 2037. Landowners and other stakeholders have promoted land across the borough for potential development including some sites of a scale for strategic growth. WBC is in the process of assessing the merits of all promoted land. In order to better understand the suitability, capacity and infrastructure needs of strategic scale opportunities, WBC has procured masterplanning and technical support from David Lock Associates and Stantec.

This report considers the opportunity of two strategic sites:

- Land at Hall Farm / Loddon Valley; and
- An extension to the South Wokingham Strategic Development Location (SDL).

The commission also involves the preparation of the following work to support the wider Local Plan Update:

- Strategic masterplan options development, in consultation with landowners, the community and key stakeholders, to support the assessment of the capacity, viability, achievability and deliverability of two areas of land for potential strategic scale development.
- To support the consideration of the options for the two sites, detailed viability assessment, strategic flood risk assessment and renewable energy mapping.
- Transport modelling work to understand the specific impacts of potential development scenarios on the transport network, and consequent air quality modelling.

This report covers the strategic masterplan options development, including infrastructure and viability. Separate technical reports, led by Stantec, cover the transport modelling, renewable energy, flood risk and air quality matters.

The outputs of the masterplanning commission will be used as evidence to assist WBC in understanding the potential of these sites, and in so doing assist with defining reasonable alternatives for managing development in the new Local Plan. The two sites subject to this study, or any combination of them, may or may not be included as proposed allocations in the new Local Plan. For the avoidance of doubt, the masterplanning commission is not a decision-making study, nor does it commit WBC to any particular strategy for managing growth.

Study Brief and Scope

The project brief sets out the following study objectives:

- To identify, and set out options/ proposals to manage and mitigate wider spatial planning impacts insofar as they originate from the delivery of the sites;
- To facilitate a single agreed joint masterplan and an associated agreed delivery profile, which will inform policy options for development of the sites, including any potential allocation within the Local Plan Update;
- To ensure that all infrastructure requirements associated with the sites along with delivery profile are identified and agreed; and
- To ensure that the masterplanning of the sites is, where appropriate, informed by the views and objectives of key relevant stakeholders and partners with the intent of having an agreed policy approach and delivery profile.

Role and Structure of this Report

This report sets out options considered and a preferred masterplan for each site, in response to the brief. It explains the information used as the basis for masterplanning and it explains how consultation with both technical and community stakeholders has informed the masterplans. It also provides a list of infrastructure requirements in relation to each growth scenario and sets out a summary of a viability appraisal exercise. As well as the overall masterplan, guidance is provided for each site on design objectives and principles. This illustrates how development of the sites could achieve high quality design and sustainable development. In this context, the remainder of this report is structured as follows:

- **Section 2:** methodology, including explanation of the engagement workshops that have taken place.
- **Section 3:** market Assessment.
- **Section 4:** Hall Farm / Loddon Valley including site context and analysis, vision, strategic masterplan, design principles and infrastructure and delivery.
- **Section 5:** South Wokingham SDL extension, including site context and analysis, vision, strategic masterplan, design principles and infrastructure and delivery.
- **Section 6:** High Level Viability Assessment.
- **Section 7:** Conclusions.
- **Appendices:** Summary environmental reports, viability assumptions and summaries of the technical and community representatives' workshop.

2.0 METHODOLOGY

An integrated approach to preparing the strategic masterplans has been taken based upon the following iterative stages:

- Project set-up and structured discussions;
- Environmental constraints and contextual analysis;
- Technical stakeholder workshops;
- Community representatives' workshops; and
- Generating design options and strategic masterplans.

Project set-up and baseline assessments

Three key project meetings were held with the client team. The inception meeting allowed for brief clarification, an initial discussion on the key site issues and opportunities and sharing of relevant information, including planning applications. The second project meeting allowed for the sharing of initial concept plan options on the sites and a discussion about technical issues to resolve design and development choices. The third project meeting presented further iterations of the masterplans including capacity and technical considerations. More technical discussions between the team and officers also took place with regards to flood risk, transport and infrastructure.

Meetings were also held with the main landowners/site promoters to gain an understanding of their views on the development potential at each location and information and plans were shared by the promoters to assist with understanding site potential.

Site environmental constraints and contextual analysis

In parallel with the structured discussions, key constraints were mapped and analysed including flood risk zones, areas of archaeological potential, listed buildings, nature designations, landscape designations, tree preservation orders, ancient woodland, air quality management areas, public open spaces, public rights of way and cycle paths. In relation to Hall Farm / Loddon Valley, neighbourhood plan designations and policies on the natural and heritage environments were also mapped. Composite maps of existing planning permissions or planning applications (largely related to the east of Shinfield area) were also prepared as well as plans of nearby facilities.

Baseline viability was also reviewed. An analysis of the residential and commercial markets for each location was undertaken to gain an insight into the local property market dynamics, local demand and supply. The Stage 1 viability exercise also included a review of the Community Infrastructure Levy (CIL), residential sales evidence and market activity, commercial occupancy rates and recent transactions, and land values based on transactional information. Moreover, site specific market issues affecting each location were examined.

Technical workshops

Three virtual technical stakeholder workshops were held, to cover both strategic sites, comprising the key themes of: (i.) green and blue infrastructure; (ii.) transport and movement; and (iii.) community wellbeing. Cross cutting themes in each also included housing and employment needs and environmental objectives (not least the climate change emergency). The aims of the workshops were to:

- raise awareness of the work and provide an opportunity to inform and influence the work;
- seek technical input in relation to key risks, relevant policies and potential solutions;
- increase the level of certainty around the level of infrastructure required to support the development; and
- establish a constructive dialogue with key stakeholders which continues beyond the project.

A written summary of key points was prepared and is appended to this report. Representatives of WBC (including landscape, flood risk, transport, education and countryside officers); Bracknell Forest Council and Reading Borough Council officers; and key landowners and site promoters attended and contributed to the discussions.

Community representatives' workshops

Two workshops for community representatives were held, one for each location. Both workshops, involved a range of representatives from WBC (ward councillors, lead Members and officers). For the Hall Farm / Loddon Valley site, it also involved representatives from Shinfield Parish Council; Arborfield and Newland Parish Council; Earley Town Council and Winnersh Parish Council. For the South Wokingham workshops, representatives from Wokingham Town Council and Wokingham Without Parish Council participated.

Both workshops began with an explanation, by council officers, of the current Local Plan position and the masterplanning commission. For the first activity, participants were divided into groups to discuss the strengths, weaknesses and opportunities of the location. The workshops also included an exercise using a digital tool called CHLOE (Conceptual Hexagonal Landuse Overlay Engine). Developed in-house by David Lock Associates, CHLOE is an interactive masterplanning and reporting tool that promotes discussion and engagement by allowing its users to engage and contribute to the design process.

The main uses included in CHLOE exercises and mapped by participants included:

- Residential (low, medium and higher densities).
- Mixed use local centres.
- Employment areas.
- Secondary schools and/or primary schools.
- Suitable Alternative Natural Green Space (SANG).
- Sports pitches.
- Other open space (amenity space, allotments).
- Other infrastructure (including roads).

Each site was displayed on a hexagonal grid and the touch screen used to indicate the land use type for each hectare (or smaller area if set). A dashboard alerts the user to whether there is a deficit or surplus of open space types or schools according to the amount of residential use plotted.

As approaches are built up tile-by-tile using CHLOE, live updates are reported back to guide the user through the design process allowing them to make informed decisions about education provision, open space standards and other infrastructure to ensure that the development in question is sustainable and that the area's needs are met.

Reasonable assumptions were set for each site, including residential densities, household size, child yield and open space standards. A togglable layer can show or hide the site's constraints and opportunities, such as: drainage, topography, existing nearby facilities, green infrastructure and transport to provide more detailed information to the user about the area in question. There was also the ability to highlight particular facilities that should be sought using icons, such as play spaces, cafés, shops or libraries.

For Hall Farm / Loddon Valley, each small group was tasked with testing the site capacity of about 4,500 dwellings whereas for South Wokingham groups were given a potential target of 800 dwellings. In both cases, it was made clear that the exercise was undertaken on a without prejudice basis and did not signal agreement of the development or the proposed housing numbers.

Each group provided key feedback points about the thinking behind the final output. Whilst each output is not to be taken literally as a masterplan scenario, a number of themes or ideas were taken from the exercise for further consideration in the masterplanning process. The feedback reports can be found in Appendix 2.

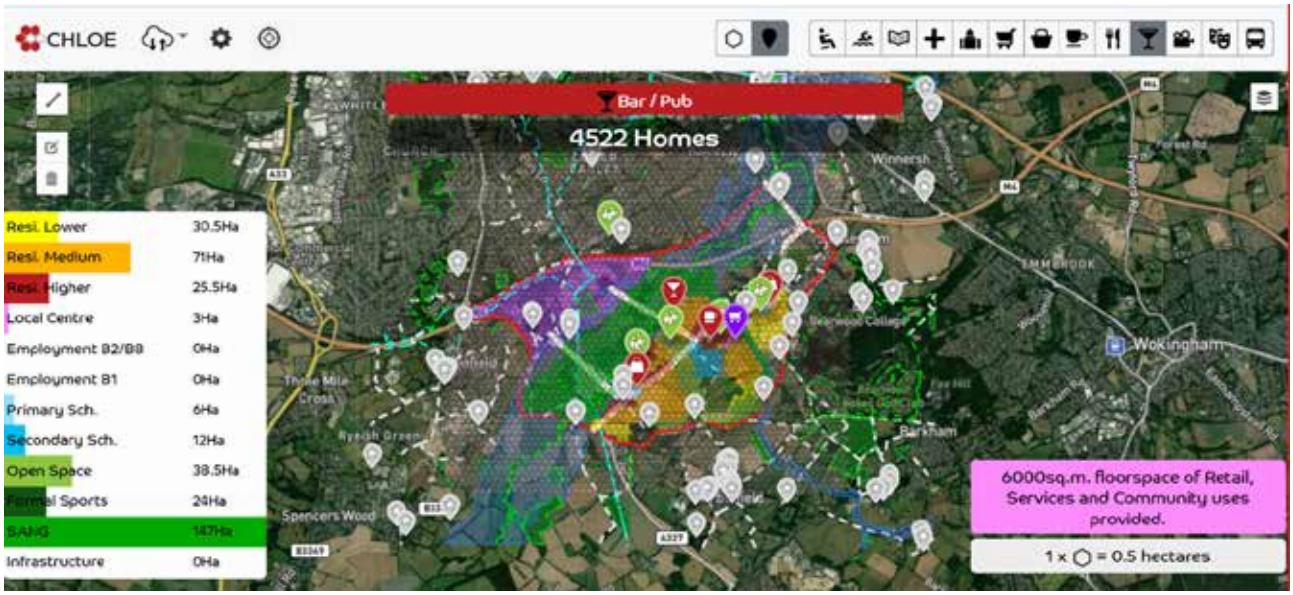


Figure 1: CHLOE Land Use tool

Generating design options and strategic masterplans

Following on from the workshops, a high-level vision for each site was formulated to act as a reference point for the design work. Initial concept plans were prepared based on a synthesis of the discussions, contextual analysis, the workshops and in the context of achieving the vision. A number of high-level options were explored and tested with the client before being evolved into the preferred option presented in this report. The masterplans were further developed for each site, particularly taking into account the wider implications of development for landscape, settlement pattern, built form and connectivity. The masterplans were placed within the context of, and guided by, the vison underpinned by strong design principles aimed at promoting sustainable and balanced communities.

A fundamental objective of new growth in Wokingham is to enable more sustainable travel choices including active travel and sustainable transport infrastructure to support development. The transport implications of each growth scenario (including the likely infrastructure to support development) were also developed, including an assessment of how this would integrate into a wider transport strategy for the borough.

Based upon the background analysis, concept masterplanning, and transport and wider infrastructure assessments the following preferred scenarios were finalised for each of the sites:

- Hall Farm: Residential development of 4,500 dwellings to the East of the River Loddon.
- South Wokingham SDL Extension: development of 835 dwellings.

Testing the scenarios

Following the finalisation of the framework masterplans and the required supporting infrastructure, the recommended scenario was subject to a viability assessment in order to establish the extent to which viability issues support or constrain development opportunities. This work was undertaken within the context of proposals and policies of the emerging Local Plan Update and National Planning Policy Framework paragraphs 34 and 58 and Planning Policy Guidance (ID: 10-001-20190509 to ID: 10-029-20190509), in order to identify whether the sites would be deliverable and/or developable if allocated within the Local Plan Update. This includes the consideration of affordable housing and required infrastructure, as well as taking into account climate change targets and the need for biodiversity net gain.

3.0 MARKET ASSESSMENT

Economy

Recent forecasts for the UK economy (August 2021) show stronger growth in 2021 than previously projected for UK GDP. This is in light of strong economic data in March and April 2021 and steady progress in easing restrictions, rolling out vaccinations and a lower rate of new COVID-19 infections. The global outlook has also improved, driven by the large US fiscal stimulus and a faster pace of vaccinations in the EU.

However, some commentators see the recovery potentially short term with Suren Thiru, Head of Economics at the British Chambers of Commerce, stating that 'the UK economy is in a temporary sweet spot with the boost from the release of pent-up demand .... Beyond the strong short-term outlook, notable economic scarring from the pandemic is projected to weigh on economic activity once government support winds down and drive an uneven recovery across different sectors and groups of people.

The UK housing market, despite Brexit and the Coronavirus pandemic, has still exhibited growth. Analysts at Savills have predicted strong growth in the UK housing market throughout the coming years, especially in the north and Midlands. The firm has recently published its annual comprehensive five-year housing market predictions.

At the time of writing, there are a number of factors affecting the housing market. This includes the speed of the UK's economic recovery and levels of unemployment and income growth. The easing of social distancing measures and lockdown restrictions and the vaccination program could boost buyer sentiment. If needed, further government intervention is likely to continue to support the sector in future. Interest rates are another factor impacting the housing market. Lower mortgage interest rates have made borrowing more affordable for homebuyers and property investors. Currently, the Bank of England base rate sits at the record low of 0.1%. According to Savills, this will remain the case until 2024.

Housing market conditions for 2021

In 2020, UK house price growth increased by an average of 7.3%, despite the economy contracting by -10%. People's desire to move and the stamp duty holiday outweighed the uncertainty surrounding finances and jobs.

Despite a small fall in house prices in July 2021, Savills has predicted UK house price growth for 2021 is expected to continue to rise and reach 9% by end of the year (Savills UK housing market update August 2021). Transactions, whilst still high, have begun to fall off following the end of the stamp duty holiday. In addition, the mortgage guarantee scheme, introduced in the Spring budget, could bring a broader range of buyers into the sector. From a Berkshire perspective, house prices have seen an average 10% increase over the year since October 2020.

UK house price growth in future years

In 2022, Savills forecasts prices to increase by 3.5% across the UK, with the highest growth in London. The shape of longer-term growth is considered to be difficult to predict given the unprecedented conditions of the last 18 months but a major price correction is not being forecast. UK house price growth is projected to increase by 3%, 2.5% and 2% over the following three years (2023, 2024 and 2025 respectively), and over the five years to 2025, the national estate agency forecasts prices to rise by 21.5%.

Savills believes London, the south-east and the east will lead house price growth in 2021. After that, the estate agency forecasts stronger growth in areas further from the capital. This will be in markets that are home to lower house price to household income ratios, leaving more room for house price growth.

The post-pandemic market

Some changes evidenced during the last eighteen months, however, may well persist for the longer term. The high number of housing market transactions has been driven in part by the Stamp Duty holiday but for others there has been a desire to relocate or seek housing more desirable or suitable to work home balance. This has included some looking to move to the countryside while others are opting for urban locations near parks and green space. Dedicated space for an office or extra bedroom and access to a garden or balcony have become more prominent features of house purchase and rentals, as has top-speed broadband. These trends were already well underway before the COVID-19 pandemic, and they are now accelerating.

Build-to-rent developments in particular are adapting well to what many people want from modern living. Many feature designated areas for working and provide high speed internet. With new-build developments, most will also have better energy efficiency ratings; and many developers are embracing advanced technology, improving the lives of occupants.

Figures from the Economic Statistics Centre of Excellence showed that, in 2020, the capital had experienced an unprecedented exodus of people, with nearly 700,000 (just under 10% of London's population) relocating away from the city.

	% of homes bought by Londoners 2020	YoY increase
Sevenoaks	62%	39%
Windsor &Maidenhead	38%	27%
Oxford	33%	17%
Rushmoor	27%	15%
Eastbourne	20%	15%
Wokingham	33%	13%
Stevenage	19%	12%
Luton	29%	10%
Epsom & Ewell	62%	10%
Brighton & Hove	19%	10%
Gravesham	30%	9%
Watford	45%	9%
Spelthorne	75%	8%
Surrey Heath	14%	7%
Basildon	28%	6%

Source: Hamptons

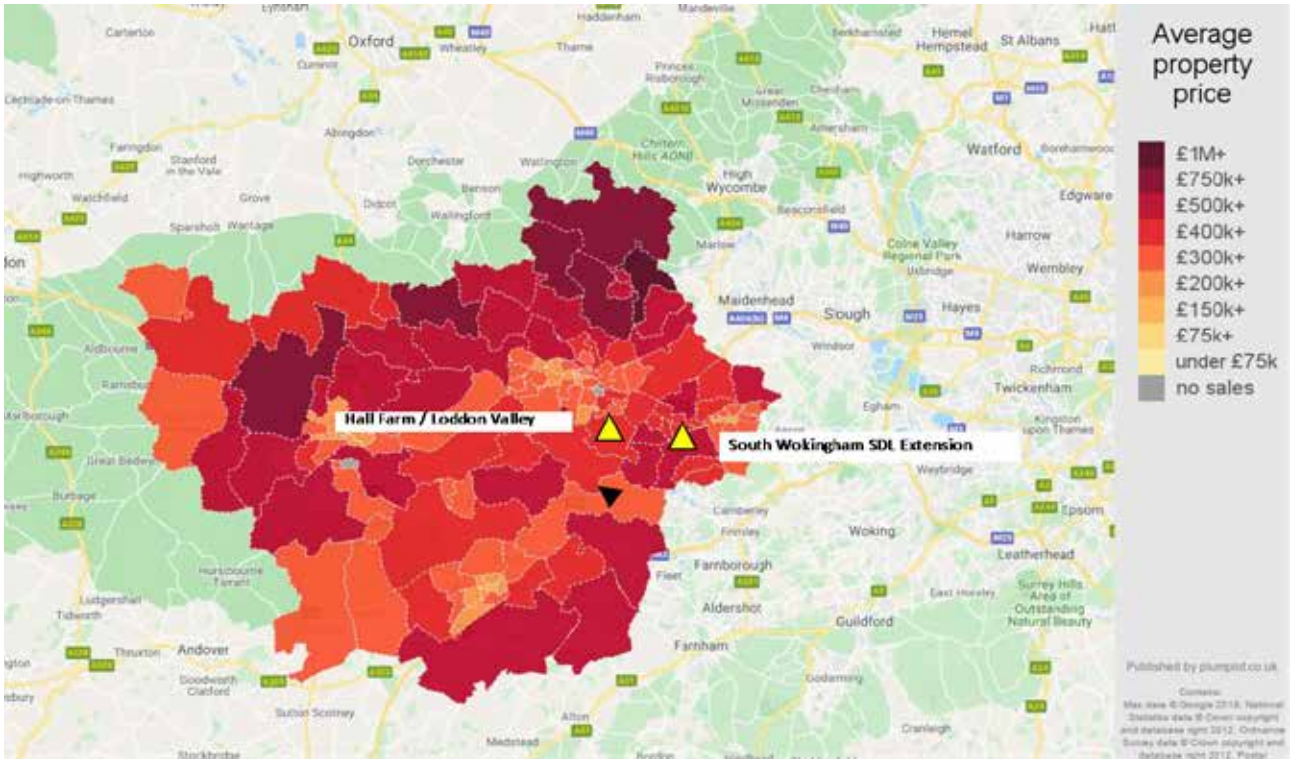


Figure 2: Plumplot data for RG (Reading) postcode (source: Plumpot https://www.plumplot.co.uk/Berkshire-house-prices.html

The Thames Valley area has always been popular with buyers looking to move out of London and has seen an increase in demand particularly for higher value property. The following table, from agents Hamptons, shows the top 15 local authorities with the biggest increase in the share of homes bought by Londoners.

The latest data from plumplot.co.uk for July 2020 to June 2021 shows mean average price of £445k for the Reading postcode is the 23rd most expensive postcode - including both sites - out of the 105 areas in England and Wales.

The mean average increased by £47.7k over the last 12 months to June 2020. The mean for an established property was £449k and for a newly built property the mean average price was £401k. Most properties were sold in the 300-400k price range (25.3%), followed by those in the £500-750k (18.4%). The chart below gives a breakdown by price range.

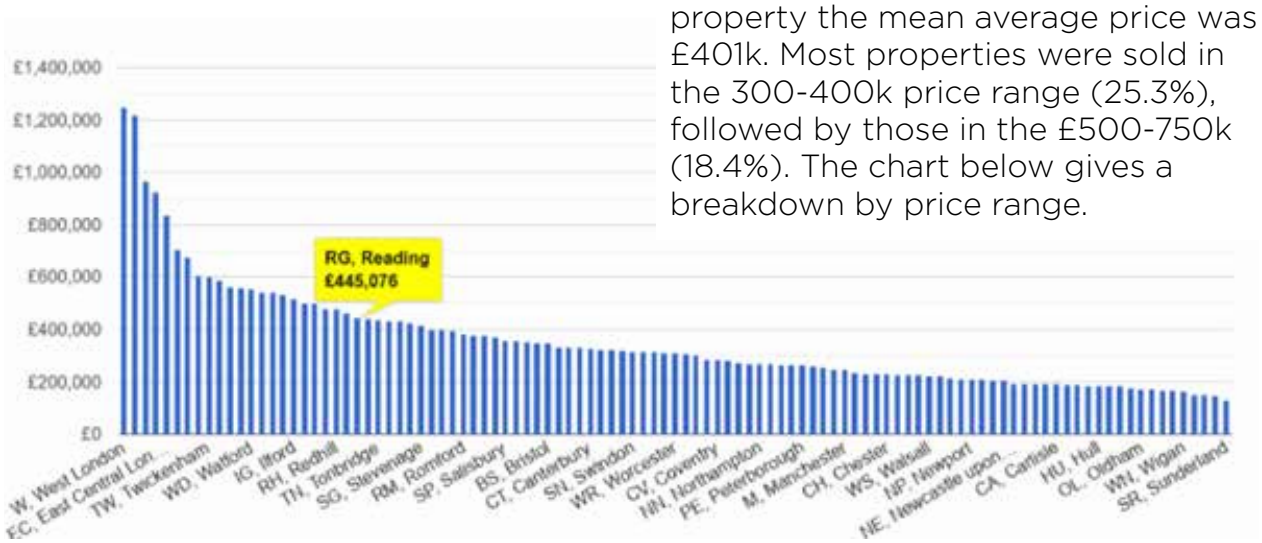


Figure 3: RG postcodes house price rank by mean average price (source: Plumpot https://www.plumplot.co.uk/Berkshire-house-prices.html)

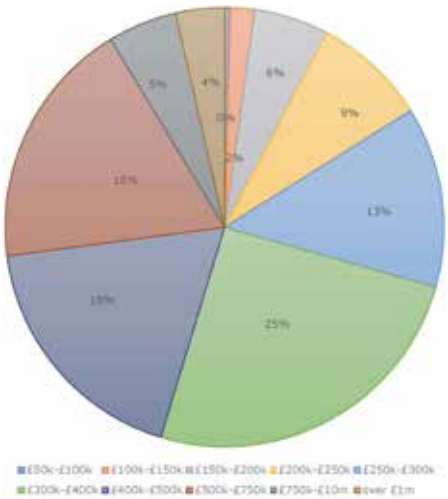


Figure 4: RG postcodes property sales by share of mean average price range

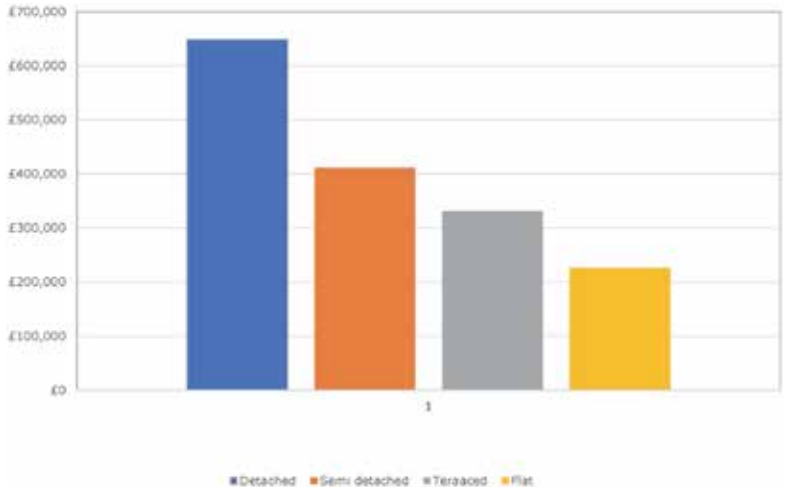


Figure 5: RG postcodes mean average price house types versus flats (July 2020-June 2021)

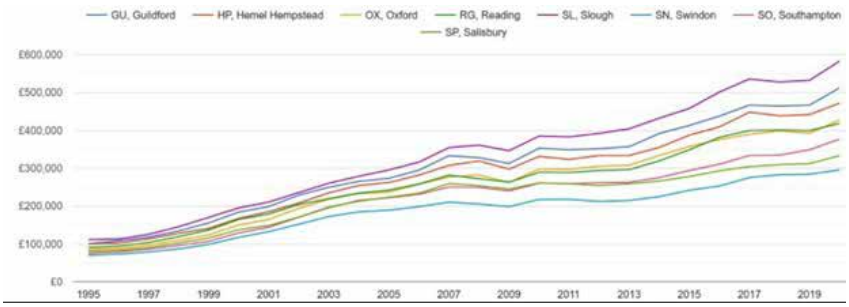


Figure 6: RG postcode yearly mean average price comparison with other nearby postcode areas

Zoopla Area Guide for Shinfield - April 2021

The following map and data are taken from Zoopla and provide a snapshot of mean average property values for Shinfield (April 2021).

Figure 7: Heat Map for Shinfield area showing value profile

Property type	Average current value	Average £ per sq ft	Average # beds	Average £ paid (last 12m)
Detached	£592,568	£323	4.2	£599,497
Semi-detached	£387,532	£328	3.1	£397,053
Terraced	£351,027	£331	3.0	£376,890
Flats	£233,882	£325	1.8	£232,615

Mean Average value data (all properties sold 12 months to April 2021)

Figure 8: Source - Zoopla

The above information gives a general indication of the market for all property in RG post codes and the Shinfield area, but to inform the high-level viability assessment a more detailed analysis has been carried out with particular emphasis on new and more modern homes for Shinfield and South Wokingham. From this analysis, we have judged that a mean average indicative price square metre for new-build to test for viability purposes is in the region of £4,600. This gives rise to indicative house prices as follows, which also reflects feedback received from the developer market:

Type	1 bed flat	2 bed flat	2 bed house	3 bed house	4 bed house	5 bed house
Size m2	50	70	79	102	140	176
Value/m2	£4,600	£4,600	£4,595	£4,600	£4,600	£4,546
Price	£230,000	£322,000	£363,005	£469,200	£644,000	£800,096

Table 2: Mean average prices per square metre in Shinfield amd South Wokingham

4.0 HALL FARM / LODDON VALLEY

4.1 Site Context and Analysis

Site introduction

The wider study area extends between the new Shinfield Bypass (Eastern Relief Road) to the west and Mill Lane, Sindlesham to the east. The northern boundary is defined by the B3270 Lower Earley Way to the north of the M4 motorway, whilst Arborfield Road, Church Lane and Mole Road/ B3030 together form a southern boundary.

The site is bisected north-west / south-east by the River Loddon valley, a low-lying river valley that remains largely intact and is identified as a proposed Valued Landscape in WBC's Valued Landscape Topic Paper (January 2020). A large area of land north-west of the river falls with Flood Zones 2 and 3, indicating that it is not suitable for development. Bearwood Reservoir and dam are located outside of the study area, to the east.

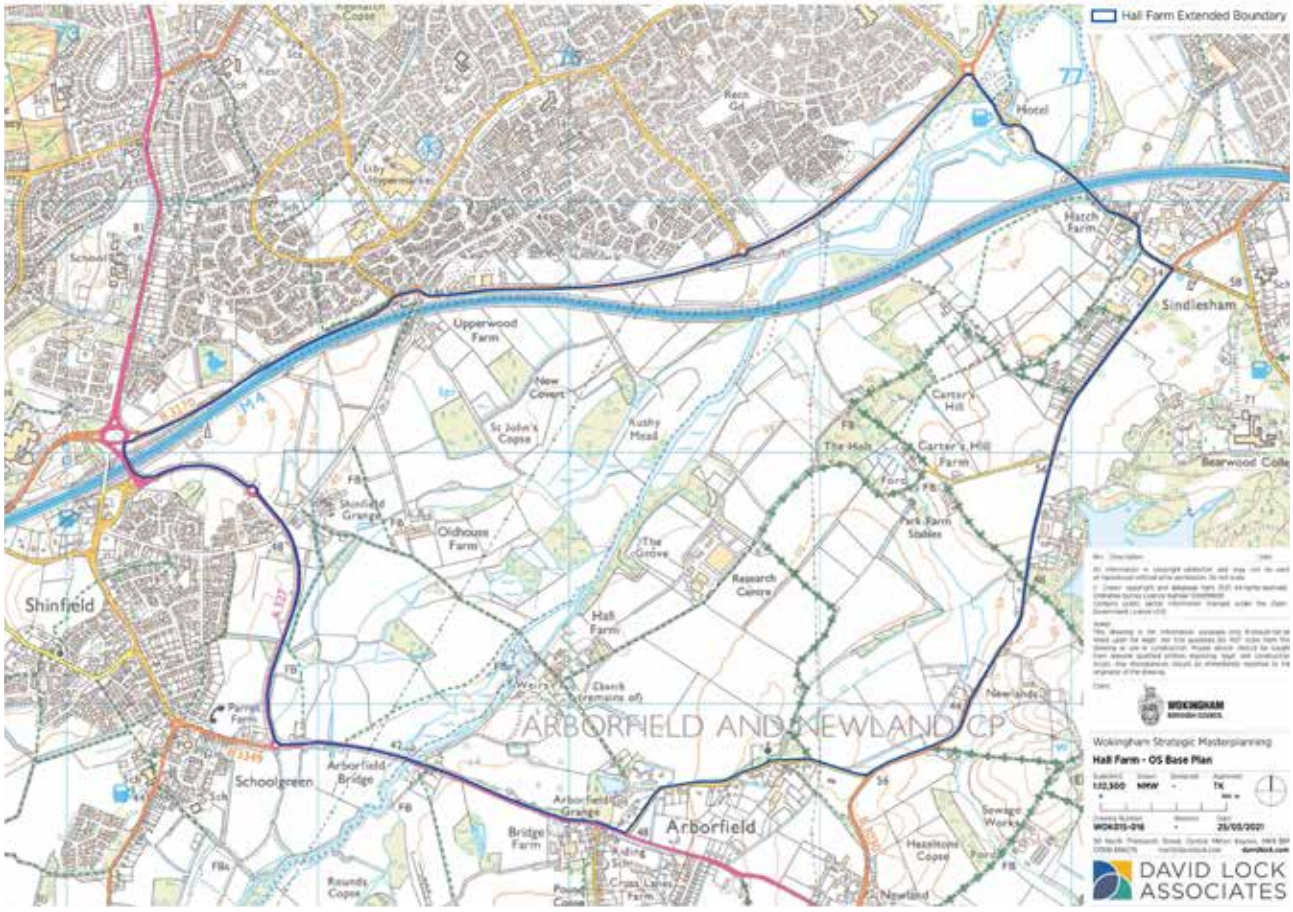


Figure 9: Hall Farm and East of Shinfield Study Area

The principal focus of this study is land to the south-east of the River Loddon, an area measuring approximately 282 ha. The majority of the study area is owned by the University of Reading, whilst land at Hatch Farm in the east is being promoted for 400 residential units by Bellway Homes. WBC own land adjacent to Lower Earley Way north of the M4, and a small southern section of Loddon Valley is owned by Thames Water Utilities Ltd.

To the south-east of the river, land is mainly in agricultural use, with field boundaries defined by trees and remnant hedgerows. The University's Centre for Dairy Research is located within the site, comprising several larger agricultural buildings. There are also smaller clusters of homes and farm buildings where Copse Barnhill Lane, Carters Hill, Julkes Land and Parkcorner Lane converge towards the east and at Hall Farm towards the west. Each of these clusters includes a small number of Grade II listed buildings, and a Scheduled Monument lies adjacent to Hall Farm.

The site has several attributes which indicate it may be appropriate for strategic scale development. It is mainly flat and unencumbered by any major physical constraints. It offers the prospect of new homes within close proximity to existing and new of jobs including at the existing Thames Valley Science Park and consented film and tv studios. It is well connected to the wider transport network, and benefits from recent investment in the Shinfield Bypass (Eastern Relief Road); existing public transport routes connecting the area to central Reading and Wokingham could be extended to include the site. At the same time, development of a strategic nature is likely to result in impacts which will need to be mitigated. These are highlighted within this and subsequent sections of this report.

Agricultural fields to the south of the River Lodden

Carters Hill

Relevant Planning Applications & Permissions

The planning history for Hall Farm / Loddon Valley was primarily associated with the agricultural and/or horticultural uses undertaken at the farms located across the area, or changes to existing residential properties. Land beyond the flood zone to the north-west of the river already benefits from outline planning permission for a University of Reading' Thames Valley Science Park. Supported by the Core Strategy and Managing Development Delivery Document, the Thames Valley Science Park (TVSP) has been expanding within University-owned land to the west of the site. Phase 1 of TVSP was given outline planning permission for 18,580sqm of floorspace in May 2010 and is now occupied by approximately 80 different science and technology companies. Phase 2 was granted outline permission for 57,110sqm of floorspace in July 2017. Phase 3 is expected to provide a further 40,000sqm of science and technology floorspace. A Full application for the erection of TV Studio Building including studio space, workshop/storage area and production/office to form part of 'Cine Valley' was resolved to be granted permission in October 2021 subject to completion of S106 legal agreement and referral to Secretary of State.

To the south of Cutbush Lane, planning permission was also granted in March 2019 for the British Museum Archaeological Research Collection, consisting of a 15,600sqm research and storage facility with 80 parking spaces, currently under construction. Outline consent was also granted for up to an additional 15,000sqm of research and storage floorspace for use by the British Museum.

Adjacent to the west of the British Museum site, a full application for the erection of film studio stages and workshops (for a temporary period of 5 years) was permitted in March 2021. This will include a workshop within the Thames Valley Science Park.

It is understood that the University of Reading are currently developing further proposals for this part of the site. In the longer term, additional medical uses are also proposed, including a potential major teaching

Thames Valley Science Park

hospital. This is subject to an options appraisal, business case and a bid to Treasury by the Royal Berkshire Hospital.

Together these proposals contribute to the University's development concept for the area, an enterprise which aims to create a hub of commercial, recreational and scientific activities based on film and media; innovation and tech; heritage and arts and health and life sciences. This part of the site may accommodate in the region of 60-65 hectares of employment uses.

The University is promoting a limited amount for housing to the west of the River Loddon including key worker homes and care facilities as part of a wider masterplan.

The other principal area of landownership is located within the eastern part of the site at Mill Lane, which is owned by Hatch Farm Land Ltd. An outline planning application for 87 residential dwellings, neighbourhood centre, public open space, as well as highway alterations along Mill Lane itself was recently withdrawn.

British Museum Archaeological Research building under construction

Planning Policy context

Existing Planning Framework

The existing development plan for Wokingham comprises the **Core Strategy (2010)** which sets out the overarching strategic policies for the future development of the borough up to 2026, and the **Managing Development Delivery Local Plan (2014)** containing more detailed policies to guide the determination of planning applications. The development plan also comprises the **Replacement Minerals Local Plan for Berkshire (2001)** and the **Waste Local Plan for Berkshire (1998)**, together with two made **Neighbourhood Plans**.

The **Core Strategy** policies that are most relevant to the Hall Farm site are considered to be as follows:

CP1 – Sustainable development: sets out the overarching principles for development including to ensure that development enhances the overarching sustainability through minimising impact on the environment and contributing towards target of zero-carbon.

CP4 - Infrastructure Requirements: requires appropriate arrangements for the provision of infrastructure, services, community and other facilities required to support development

CP8 - Thames Basin Heaths Special Protection Area: requires relevant development to demonstrate that adequate measures to avoid and mitigate any potential adverse effects on the Thames Basin Heaths Special Protection Area are assessed and delivered.

The majority of the Hall Farm / Loddon Valley Site falls within the zone between 5-7km from the closest part of the Thames Basin Heaths SPA, whilst the southern part of the site falls within the zone which is within 5km from the closest part of the Thames Basin Heaths SPA.

The Thames Basin Heaths Mitigation Strategy provides framework for delivery of appropriate mitigation for residential development in this area. Appropriate SANG (Suitable Alternative Natural Greenspace), either within or close to Site needs to be identified whilst Habitats Regulations Assessment, and Environmental Impact Assessment will be required.

CP9 - Scale and location of development proposals: The scale of development proposals in Wokingham borough must reflect the existing or proposed levels of facilities in that location.

CP11 - Proposals outside Development Limits (including countryside): an overarching policy that aims to protect the separate identity of settlements and maintain the quality of the environment. Proposals outside of development limits are not normally permitted.

CP16 – Science Park: supports the development of a Science Park to the South of the M4 in Shinfield parish.

CP19 – South of the M4 Strategic Development Location: This identifies an area south of the M4 motorway, for a sustainable mixed-use development to be delivered by 2026 including: phased delivery of around 2,500 dwellings, appropriate employment and retail facilities.

"The Managing Development Delivery Local Plan policies of particular relevance to Hall Farm / Loddon Valley SDL are the following:

Policy CC09: Development and Flood Risk - requires all sources of flood risk, including historic flooding, are to be taken into account during the planning application process to avoid inappropriate development in areas at risk of flooding. Development proposals in Flood Zones 2 or 3 must take into account the vulnerability of proposed development. It states that development must be guided to areas of lowest flood risk by applying the sequential approach with the objective of ensuring the betterment of existing conditions is achieved.

Policy TB13: Science and Innovation Park - policy approach that requires new proposals to be appropriate to use of the site as a Science and Innovation Park, including research and development, laboratories and high tech uses. It additionally seeks to maintain the visual separation between the Science and Innovation Park and the settlements of Shinfield (North of M4), Earley and Shinfield Village.

Policy TB23: Biodiversity and Development – requires the incorporation of new biodiversity features together with the enhancement of existing features within development proposals. This includes the need to ensure ecological 'permeability' within new development through wildlife corridors integrated into the wider green infrastructure network.

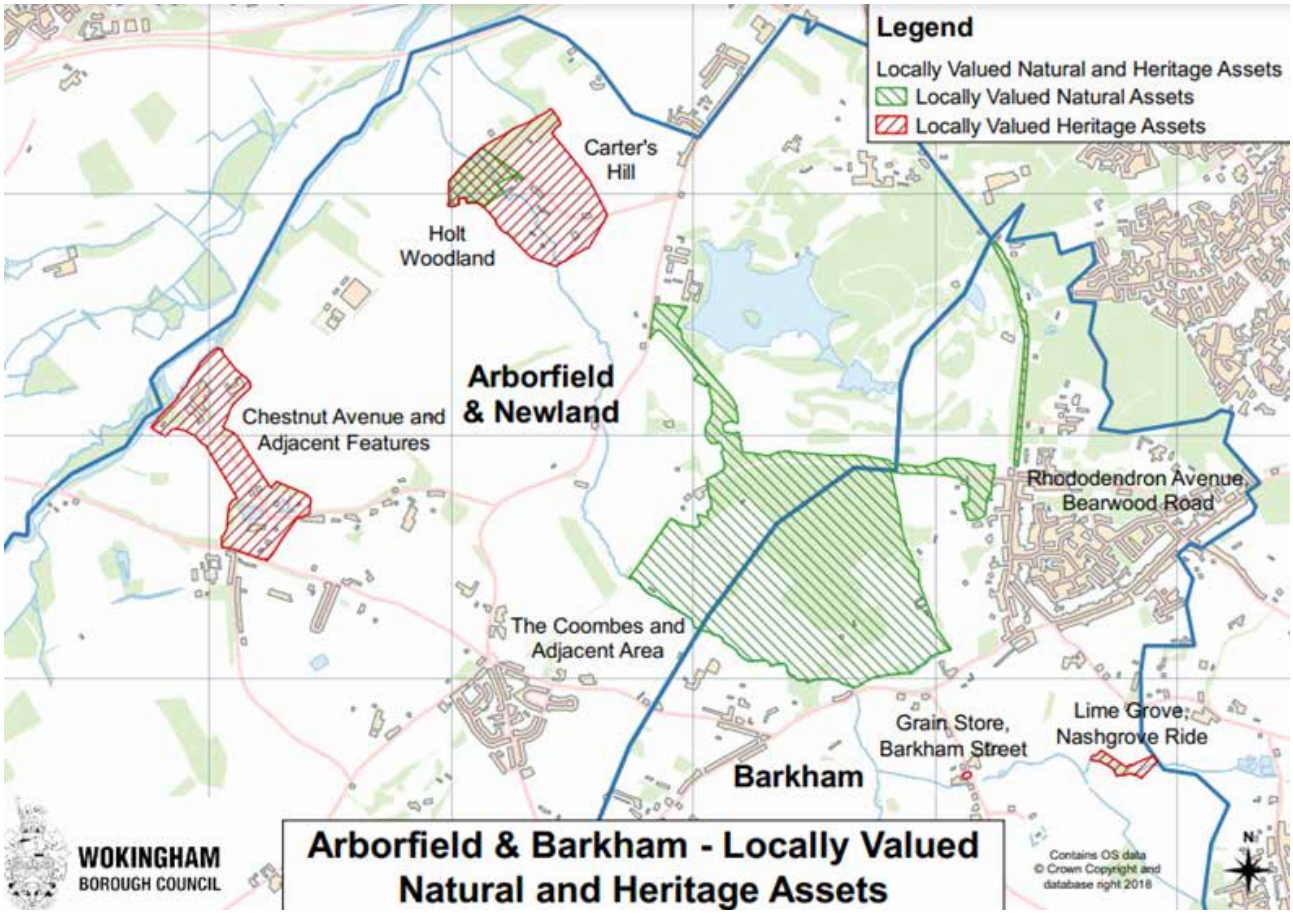
Policy TB25: Archaeology - requires development to provide an assessment of the impact on archaeological remains, within identified areas of high archaeological potential. This assessment will result in protecting existing remains in situ or for their excavation, recording and archiving.

Policy SAL07: Sites within Development Limits allocated for employment/ commercial development – permits new employment/commercial uses at eight sites, including at The University of Reading Science and Innovation Park, Cutbush Lane, Shinfield of around 55,000 sqm for science and innovation uses.

Neighbourhood Planning

Of relevance to the Hall Farm / Loddon Valley site, the Shinfield Neighbourhood Plan was 'made' in February 2017, whilst the Arborfield and Barkham Neighbourhood Plan was 'made' in April 2020. These neighbourhood plans form part of the development plan and will be a material consideration in the determination of planning applications by WBC within the Parishes of Arborfield and Barkham, and Shinfield.

Whilst both of these neighbourhood plans seek the preservation of the character of the countryside and separation of settlements, of particular note to the Hall Farm / Loddon Valley site is the designation of 'Locally Valued Natural and Heritage Assets' as set out within the Arborfield and Barkham Neighbourhood (Policy IRS4). This requires development proposals to demonstrate how they protect or enhance the historic and natural character of the area, including Carters Hill, and Chestnut Avenue.



Extract from Arborfield and Barkham Neighbourhood plan

Emerging Planning Policy

WBC is currently preparing a Local Plan Update for the period to 2037. A Draft Local Plan was published for consultation in February 2020, however due to a change in circumstances following publication, the strategy is no longer considered achievable. The revised Local Plan Update is anticipated to be published in late 2021 for consultation. Once adopted, the Local Plan Update will replace policies contained within both the Core Strategy and the Managing Development Delivery Plan. The below sets out the key draft polices of relevance to Hall Farm / Loddon Valley:

Policy SS5 South of the M4 Strategic Development Location – this allocates land to the south of the M4 motorway for a sustainable, well-designed mixed-use development, with associated housing, employment and social and physical infrastructure. It also enables the further expansion of the Thames Valley Science Park.

Policy C1: Active and Sustainable Transport and Accessibility - promotes the use of active and sustainable transport measures including integration of walking and cycling routes

Policy C8: Green and Blue Infrastructure and Public Rights of Way - highlights the key principle that existing areas of green and blue infrastructure of the borough will be protected and enhanced, and that development proposals should provide opportunities for improvements and enhancement. The policy specifically notes that development proposals should improve or contribute towards the establishment of a Loddon/ Blackwater riverside footpath and bridleway, to accommodate dual use for all users.

Policy DH5 The Historic Environment - Development proposals should conserve and seek to enhance, wherever possible, the archaeological, architectural, artistic or historic interest of all heritage assets, including the contribution to this interest made by their setting.

Policy DH6 Archaeology - similar to the exiting policy approach, this draft policy requires assessment of locations within Areas of High Archaeological Potential and requires archaeological remains to be preserved in-situ, or recorded and placed on deposit.

Policy NE2 Thames Basin Heaths Special Protection Area – requires new development to demonstrate that adequate measures to avoid and mitigate any potential adverse effects are delivered, in accordance with the Thames Basin Heaths Special Protection Area Avoidance and Mitigation Strategy. This includes the provision of Suitable Alternative Natural Greenspace (SANG) together with contributions towards Strategic (pan-SPA) Access Management and Monitoring (SAMM).

Policy NE6 Landscape Character, Value and Green Routes – this makes clear that development proposals will only be permitted where they protect and enhance features that contribute to the character, quality and interpretation of Valued Landscapes.

Policy NE8 Development and Flood Risk – ensures that all sources of flood risk are assessed, with proposals in Flood Zones 2 or 3 required to take into account the vulnerability of proposed development. A sequential approach is taken, although in exceptional circumstances new development in areas of flood risk will be supported if wider benefits that outweigh flood risk.

Policy MW2: Minerals Resources and Infrastructure - Development proposals for non-mineral development within the Mineral Safeguarding Areas will only be permitted where: it incorporates the prior extraction of minerals in an environmentally acceptable way unless the extraction is not viable, feasible, or practicable.

In addition, the Central and East Berkshire Joint Minerals and Waste Local Plan was submitted for examination in February 2021. This will replace all previous Minerals and Waste Plan policies and will guide all minerals and waste decision-making within the area. Draft Policy M2 enables the safeguarding of sand and gravel resources and requires non-mineral developments to fully consider potential for prior extraction to be maximised.

Environmental and Technical Constraints

Transport and Access

The site is located in close proximity to the strategic road network with the M4 motorway traversing the north of the study area, and the A327 located to the south. To the west of the site the Shinfield Eastern Relief Road connects to the B3270 which provides a route to Junction 11 of the M4. To the south, the A327 provides a connection between Shinfield, Arborfield and Barkham. Mole Road forms an eastern boundary to the site, and links Arborfield with Sindlesham.

Significant new transport infrastructure would be needed to enable housing development. There is an opportunity inherent in the masterplanning process to consider how development would be brought forward under the current Local Transport Plan (LTP3) and the emerging LTP4. The LTP identifies a range of potential and committed projects aimed at improving travel choices at a regional and local level. Masterplanning also presents scope to examine the likely needs arising from employment and studio developments to the east of Shinfield, particularly in the event that a major teaching hospital is delivered.

Projects which could form part of a future LTP and Infrastructure Delivery Plan and which are particularly relevant to the wider site include:

- A possible new M4 junction between junctions 10 and 11. Whilst not necessarily required to serve new housing development, the prospect of a major teaching hospital or a significant increase in employment on land East of Shinfield is likely to be dependent on a new motorway junction. Wider benefits could be delivered through a road corridor connecting to the A327 and Arborfield Relief Road to provide an alternative route to and over the M4. To the west connections to the Shinfield Relief Road and the B3270 would afford good access to Green Park and Reading. National Highways have indicated a futureproofing approach which

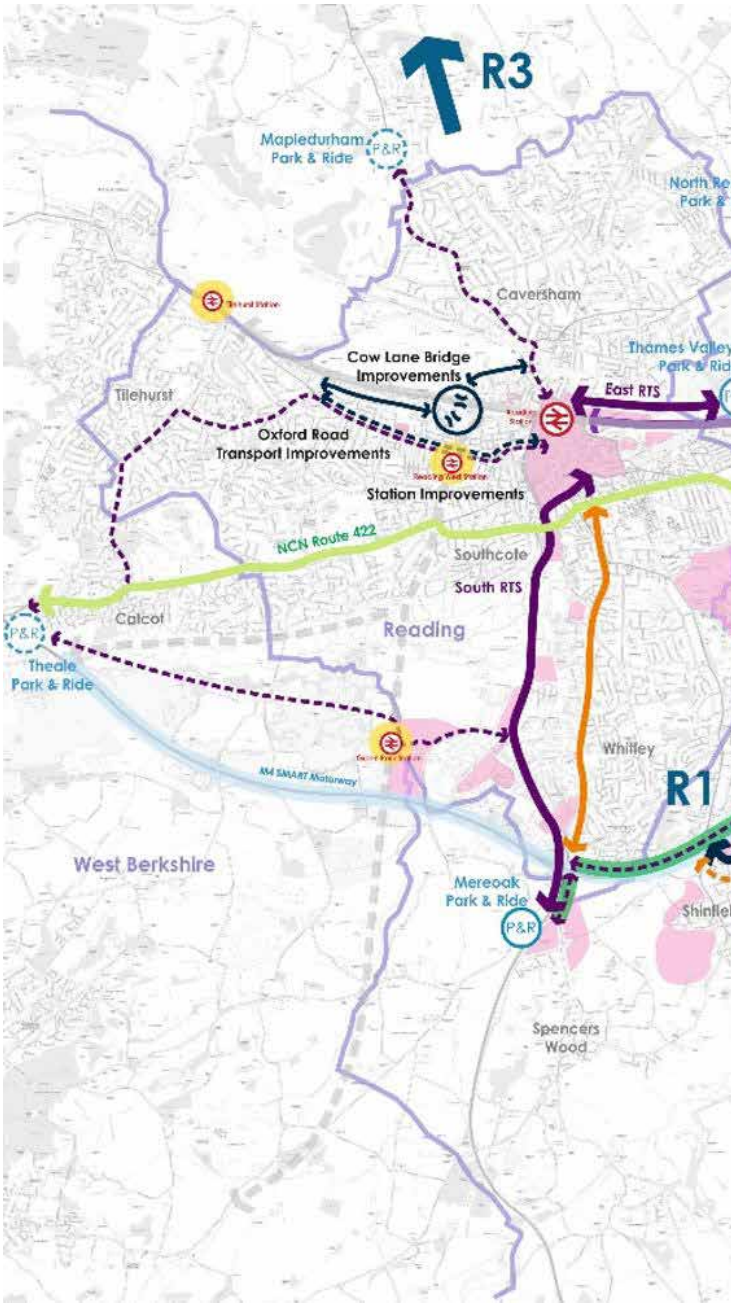
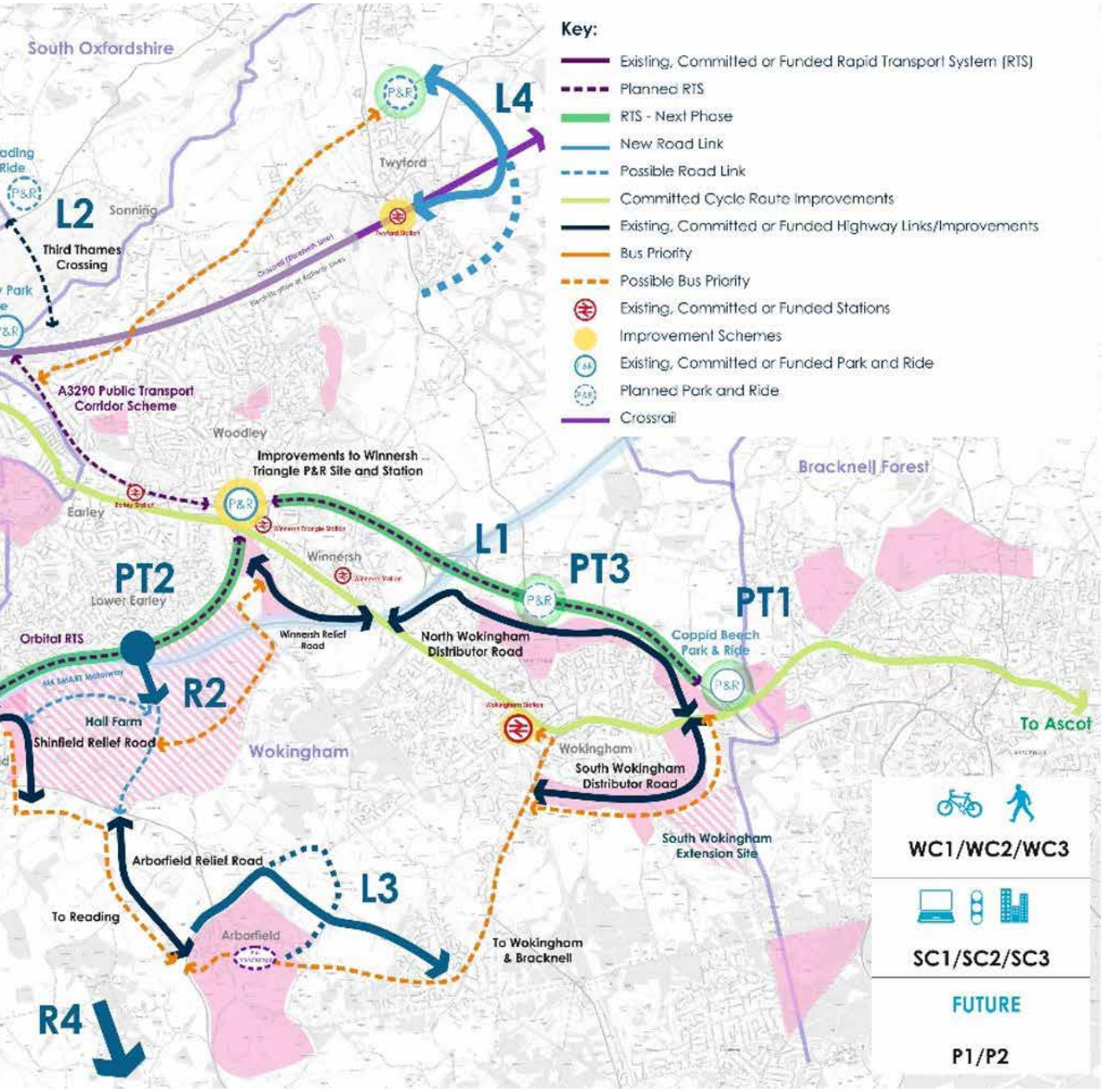


Figure 10: Future Access & Movement Options



would therefore safeguard the potential for a new M4 junction in this location.

- Initially, a bridge over the M4 could be delivered to connect to Lower Earley Way. Also, a corridor of land could be safeguarded to accommodate a future strategic north-south arterial road through Hall Farm. The bridge could be designed in such a way that it could later be expanded to a full motorway junction at a point necessitated by the occupation of a teaching hospital or additional employment.
- Within the site new roads would be needed to link the Shinfield Eastern Relief Road and pedestrian and cycle links (to meet LTN 1/20 or equivalent standards) to the residential area east of the River Loddon, facilitating a connection between a future teaching hospital and a potential M4 junction. The crossing over the River Loddon would require sensitive design flood compensation and landscape mitigation.

- The planned Rapid Transit System (RTS) / potential autonomous bus route expansion from Thames Valley Park to Winnersh Triangle, and next phase expansion from Winnersh Triangle to Mereoak could be facilitated. Any infrastructure proposals for Hatch Farm could if necessary enable a public transport link to Winnersh Relief Road. RTS stops could be accommodated within the site, along with bus priority measures, to connect directly with employment opportunities at Winnersh Triangle, Thames Valley Park and Reading town centre.
- In addition to RTS there are opportunities to enhance existing or provide new local bus services to Arborfield, Winnersh, Wokingham, the University and central Reading. Dedicated bus links incorporating bus priority measures to enhance journey times.
- There is genuine potential to create extensive walking and cycling connections, including greenways, which will strengthen connections between existing built areas. The Loddon Valley long distance pedestrian route which runs through the site could be retained and enhanced, linking Shinfield in the west to Sindlesham in the east. Additional connections across the Loddon Valley connecting new employment and new residential development would contribute to WBC's ambition to provide traffic free routes to connect the SDLs across the borough.
- To mitigate the impact of growth at a local level, several off-site highway interventions are likely to be needed. These could include: the dualling of Lower Earley Way between the Winnersh Relief Road and Meldreth Way; improvements to Meldreth Way and Rushey Way roundabouts; and dualling the northern section of Shinfield Relief Road between Thames Valley Science Park access and A327/B3270 roundabout north of the M4.

Flood Risk

The River Loddon traverses the site flowing north-eastwards, whilst Barkham Brook also flows through the eastern section. There is a network of drains across the site which are tributaries of the River Loddon and Barkham Brook and are largely designated as Ordinary Watercourses.

Whilst the majority of the site lies in Flood Zone 1 (areas with a low probability of river flooding) there are also significant corridors of Flood Zone 2 (medium probability) and Flood Zone 3 (high probability) along the Main Rivers and at the confluence of the Barkham Brook and the River Loddon. Flood risk will be a significant constraint for any potential transport links to the M4 through Flood Zone 3. Where possible, the developable area should be based on land outside of Zones 2 and 3.

The site is generally at very low risk from surface water flooding, however there are particular areas of localised high risk surrounding the River Loddon and Barkham Brook, as well as to the north of Cutbush Lane East and Church Lane. There is also a localised area of medium risk of surface water flooding west of the River Loddon which is likely to be associated with low lying ground and the network of drains in this area.

WBC is assessing potential for a Flood Alleviation scheme with the Environment Agency, adjacent to the M4 Motorway which is intended to reduce flood risk downstream to the existing road network and communities. This could influence the flood levels and fluvial flood risk associated with the River Loddon in the area.

Bearwood Lake lies to the east of the site and is a classified as a Category A reservoir (where a breach could endanger lives). The Environment Agency's Flood Risk from Reservoirs mapping indicates that there is a risk in the event of a failure of Bearwood Lake. However, the risk of a reservoir failure is considered negligible as reservoirs in the UK are under a strict regime of inspection and maintenance such that the likelihood of failure and the risk from a failure are considered to be mitigated to an appropriate level.

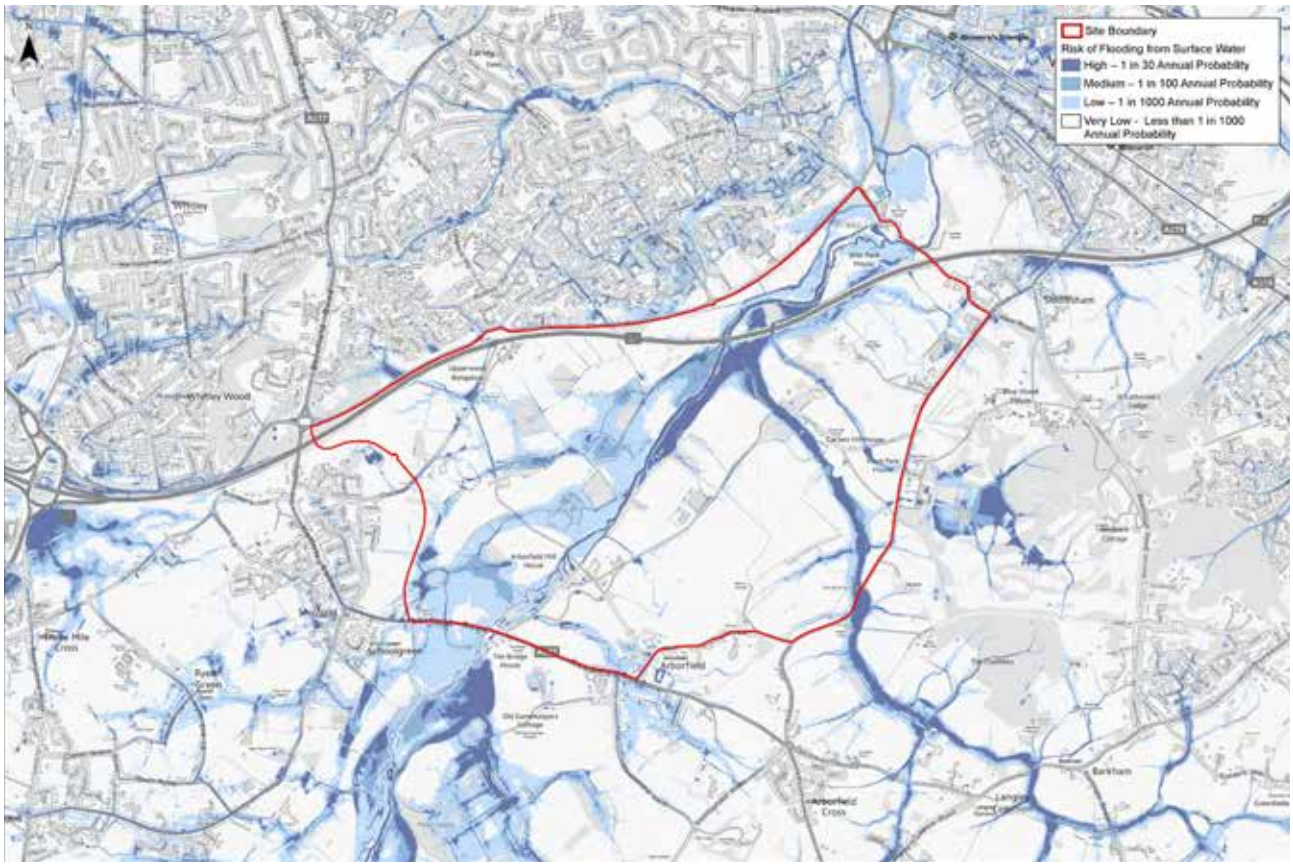


Figure 11: Flood Risk (source: Stantec)

Ecology

Whilst much of the site consists largely of arable or pasture field units where habitat is minimal, there are habitats of rich ecological value associated with the site. This includes floodplain grassland surrounding the River Loddon and Barkham Brook riparian habitats running through the Site. The River Loddon itself contains a number of braided channels and vegetated islands and is fed by a network of tributaries and drains, which create rich wetland habitat. Pockets of deciduous woodland, some of which is designated Ancient Woodland also occur within the site, as well as hedgerows, ponds, scattered trees and parkland with trees. The habitats within the site have the potential to support a variety of protected or otherwise notable species including Bats, Breeding Birds, Reptiles, Badgers, Great Crested Newts and Otter, Water vole and white clawed Crayfish.

River Loddon

Air Quality

An Air Quality Management Area (AQMA) extends along the M4 which borders the northern perimeter of the site. This extends into areas 60m either side of the motorway meaning a section of the site will be within an AQMA. A constraint on the site will be emissions from traffic using the M4, to the north of the site, as such any development proposals on the site will need to ensure an appropriate standoff distance between sensitive uses such as housing and the M4. Reading Road south of the site, and Mole Road to the east may also present a constraint due to road traffic emissions. An appropriately detailed air quality assessment will be required to accompany any planning application should the site progress in order to demonstrate that any proposed layout is acceptable and development traffic is not having an undue impact on air quality.

Noise and vibration

The M4 to the north is a significant source of noise and vibration. Development inside this area will need to consider proximity distance and/or barrier mitigation to ensure that development would be within guideline noise and vibration levels. Arborfield Road, and Reading Road to the south of the site, could also be a potential noise constraint. The layout with regards to locations of private external amenity areas would need to be considered in areas close to these highways.

Barkham Brook

Landscape Character and Valued Landscapes

The Wokingham Borough Landscape Character Assessment (LCA) identifies a number of character areas, including describing key characteristics, and acts as a positive tool to guide land uses and planning, including the strategies and guidelines for the management of future change.

The assessment shows the Hall Farm / Loddon Valley site to cross over several landscape character types. The area to the west of the River Loddon is within Spencer's Wood Settled Farmland (J3) and then separated from Hall Farm by Loddon Valley (A2). The main development opportunity area to the west of the River Loddon is partly within Arborfield River Terrace (C1), an agricultural landscape above the Loddon Valley and, further east, Arborfield/Barkham Settled Farmland (J2).

Common recommended guidelines that could be incorporated into a sensitive design approach, include:

- conserving and enhancing hedgerows, field boundaries and existing woodland;
- increasing the extent of native deciduous woodland;
- maintaining open views where possible;
- conserving, enhancing and managing the remnant wetland and woodland habitats;
- adopting a sensitive approach to urban edges, through, for example, use of mature trees to create a more positive urban / rural interface;
- conserving historic features, including those associated with the General Headquarters Line (GHL) from the Second World War (along the Loddon Valley);
- maintaining and enhance the character of rural leafy lanes (including as "greenways", for example); and
- using appropriate tree planting to help integrate new or existing roads into the landscape;

Part of the site falls within the River Loddon Valued Landscape and is adjacent to the Bearwood and Barkham Valued Landscape, both proposed as Valued Landscapes within the Local Plan Update. Initial assessment undertaken by WBC notes that the River Loddon Valued Landscape runs the entire length of that part of the river within the borough. It mostly occupies the 'Loddon River Valley' and 'Loddon River Valley with Open Water' Landscape Character Areas (LCA) as identified in the Wokingham Borough Landscape Character Assessment (WBLCA) (2019).

Utilities

There are three high voltage (expected to be 33kV or above) overhead electricity cables located in the centre of the Hall Farm / Loddon Valley site (north to south); parallel to Mole Road; and to the south west corner of the site also crossing the A327. These cables have an associated easement and "sag and sway" envelope that limits development directly adjacent. Any development on site will need to consider the no build zones from these cables as a minimum, but the preferred approach should be to work with the power companies to secure the undergrounding of the cables. A network of overhead and underground cables service the existing properties on the site and this network will need to be extended or may need to be diverted to accommodate the new development.

The SSE Generation Availability Mapping indicates that the local substation (Arborfield) is 'partially constrained' and the Long Term Development Statement (LDTS). states that it has firm capacity approximately equivalent to the 2023/24 forecast demand. This implies that reinforcement / upgrade works may be required to support future development at the site.

SGN (Scotia Gas Networks) assets are also located within the site, no major accident hazard pipelines have been identified within the site. It is likely that low pressure gas mains serve the existing properties on site and this network may need to be diverted to accommodate any new development. SGN has identified that there are capacity restrictions in the Wokingham and Reading areas and are in the process of producing a strategy to provide additional capacity. However, planned growth in 2021 should be anticipating the cessation of gas and oil heating in 2025 in accordance with the Government's targets, with attention being focused on first reducing the energy requirements of the home, and second utilising renewable energy.

Thames Water own and operate the potable water network in the area. Small diameter pipes are likely to supply the existing properties on site and may have to be diverted to accommodate any new development. Thames Water has indicated that there is anticipated to be sufficient available capacity within the Thames Valley Berkshire's Water Resource Zones to maintain supply up to 2035.

Thames Water also own and operate the wastewater network in the area. Small diameter sewers are likely to be connected to the existing properties on site and may have to be diverted to accommodate any new development. An upgrade to the Arborfield Sewage Treatment Works and sewerage network is likely to be required to accommodate the proposed growth in the area.

Heritage

The site contains the site of the former St Bartholomew's Church, which is scheduled under the Ancient Monuments and Archaeological Areas Act 1979 (as amended). In addition, there is a listed family tomb on the site, and a listed Farmhouse.

The village of Arborfield itself also contains the listed Church of St Bartholomew and the Old Rectory Building. There are also listed buildings (Grade II) at Shinfield Grange including Badger Cottage and Cutbush House within the western part of the site. To the east of the Hall Farm / Loddon Valley site is Bearwood College, a registered Historic Park and Garden.

There are extensive areas of high archaeological potential within the site, as defined in the current Local Plan. Within these areas it is considered likely that Romano-British, medieval and post medieval remains could be found. An Archaeological Assessment would need to accompany any development proposals and detailed investigations and mitigation may be required to be in accordance with a written scheme of investigation.

Another feature of interest is known as the 'stop line' or GHQ line (General Headquarters Line), built to limit a potential German invasion of southern England in the second world war. It is understood most of the features or structures associated with this are within the Loddon Valley.

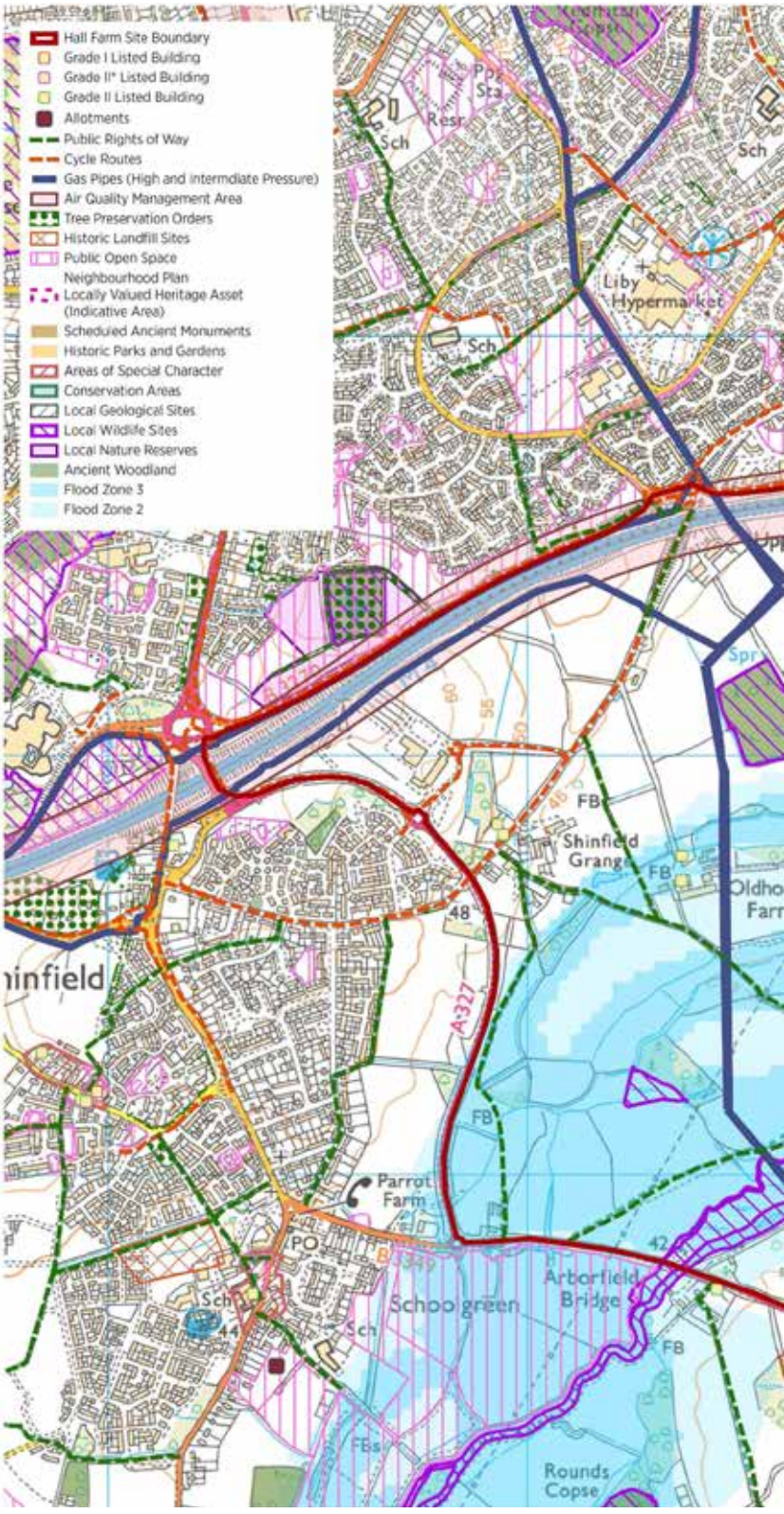
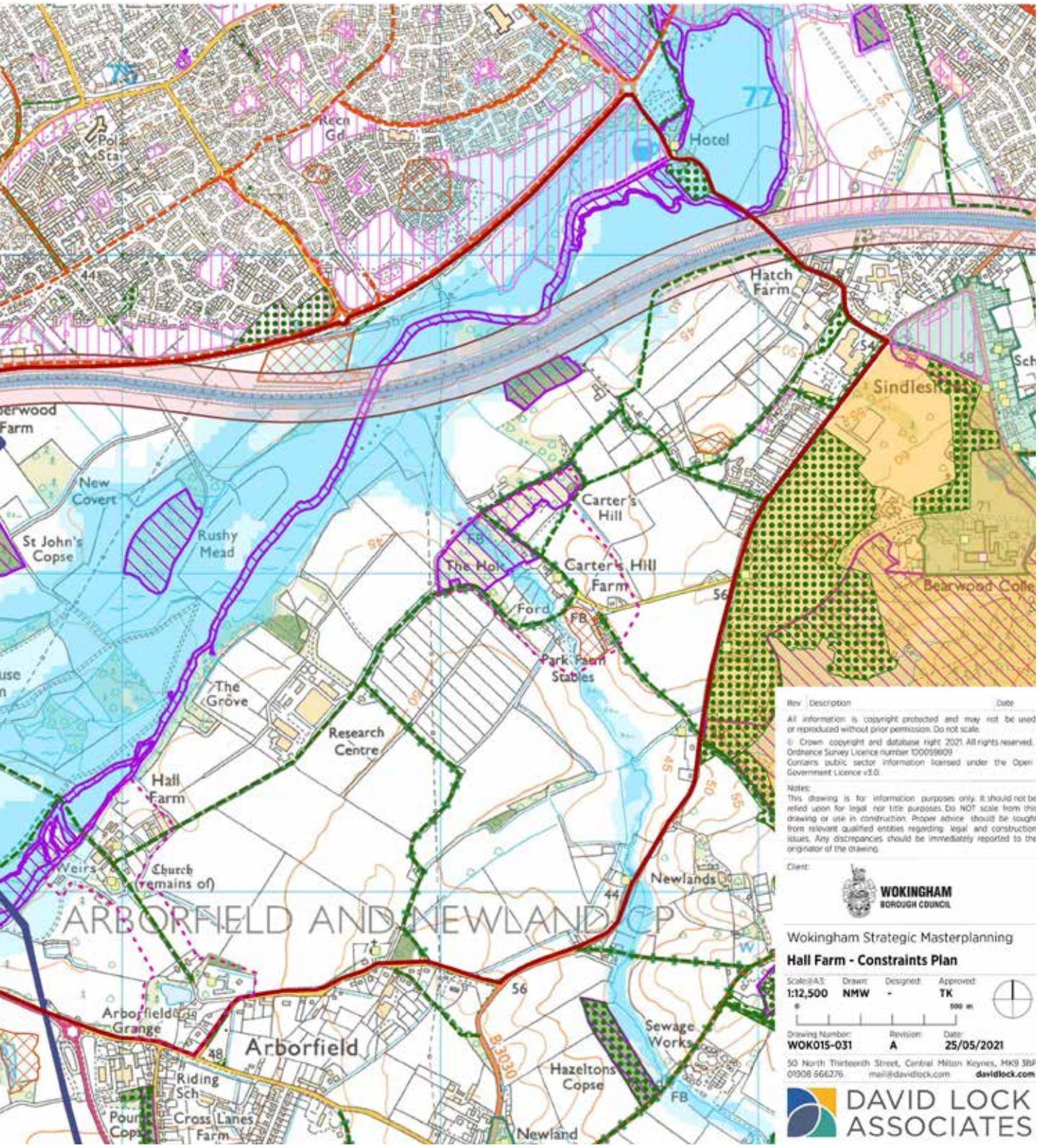


Figure 12: Constrains Plan


Hotel
Recn Gd
Pol Sta
Hatch Farm
Sindlesham
New Covert
St John's Copse
Rushy Mead
Carter's Hill
The Hole
Carter's Hill Farm
Ford
FB
Park Farm Stables
Bearwood Colle
The Grove
Research Centre
Hall Farm
Weirs
Church (remains of)
ARBORFIELD AND NEWLAND CP
Newlands
Arborfield Grange
Arborfield
Riding Sch
Cross Lanes Farm
Newland
Hazeltons Copse
Sewage Works
B3030
Rev Description Date
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Client:
WOKINGHAM BOROUGH COUNCIL
Wokingham Strategic Masterplanning
Hall Farm - Constraints Plan
Scale@A3: 1:12,500
Drawn: NMW
Designed: -
Approved: TK
Drawing Number: WOK015-031
Revision: A
Date: 25/05/2021
50 North Thirteenth Street, Central Milton Keynes, MK9 3BP
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DAVID LOCK ASSOCIATES

Minerals and Waste

The Minerals and Waste Framework (BJSPU, 2007) shows the River Terrace Deposits on the site to be within a Mineral Safeguarding Area, that is an area identified in order to ensure due consideration of the possibility of mineral extraction prior to development or of the compatibility with current or future mineral operations is undertaken in the determination of certain non-mineral planning applications. The Local Plan Update (Policy MW2) does support prior extraction of minerals, and where not viable, recovered through industrial extraction as part of the construction process and reused on site.

The Central and Eastern Berkshire authorities are working in partnership to produce a Joint Minerals and Waste Plan which will guide minerals and waste decision making in the Plan area. The Joint Plan was submitted to the Secretary of State for independent examination in February 2021, which once adopted will replace the adopted Minerals and Waste Plans for Wokingham Borough. Hearing sessions were held in September and October 2021, and subject to the further consideration of outstanding matters it is anticipated the Joint Plan will be adopted in 2022. Submitted Policy M2: Safeguarding sand and gravel resources, seeks to safeguard sharp sand and gravel resources against sterilisation by non-minerals development. Geological data shown on the submitted Policies Map shows large parts of the site could benefit from the presence of sand and gravel resources and are therefore located in a Minerals Safeguarding Area. Prior extraction of winnable minerals resources should therefore be considered, by preparing a Minerals Resource Assessment (MRA) which determines the type, depth and quality of sand and gravel deposits.

Sustainable Resources

Development at Hall Farm / Loddon Valley will be expected to achieve high levels of resource efficiency as part of WBC's drive towards carbon neutrality. As part of this, new residential development will need to take account of the Future Homes Standard due to come into effect in 2025. This ensure that new homes in England are futureproofed with low-carbon heating systems and high levels of energy efficiency to enable the production of 75-80% less carbon emissions than currently. Changes to Part L (conservation of fuel and power) of the Building Regulations will come into force in 2022, whilst a full technical specification for the Future Homes Standard likely to be subject to consultation in 2023, with the necessary legislation introduced in 2024, ahead of implementation in 2025.

Existing and Proposed Community Services and Facilities

The site is well served by higher order facilities in Reading and Wokingham town centres. At a local level, Shinfield supports a good range of community services, but these are insufficient for a new strategic development. Investment in social infrastructure will be an essential building block of a successful and sustainable community.

Technical stakeholder workshops indicated that new development should include planned provision for:

- a new secondary school
- 3 new primary schools
- early years education
- local convenience shopping
- a flexible community hub, capable of providing a range of functions including meeting places, space for the delivery of local services (library, healthcare), a local cafe and shared workspaces.

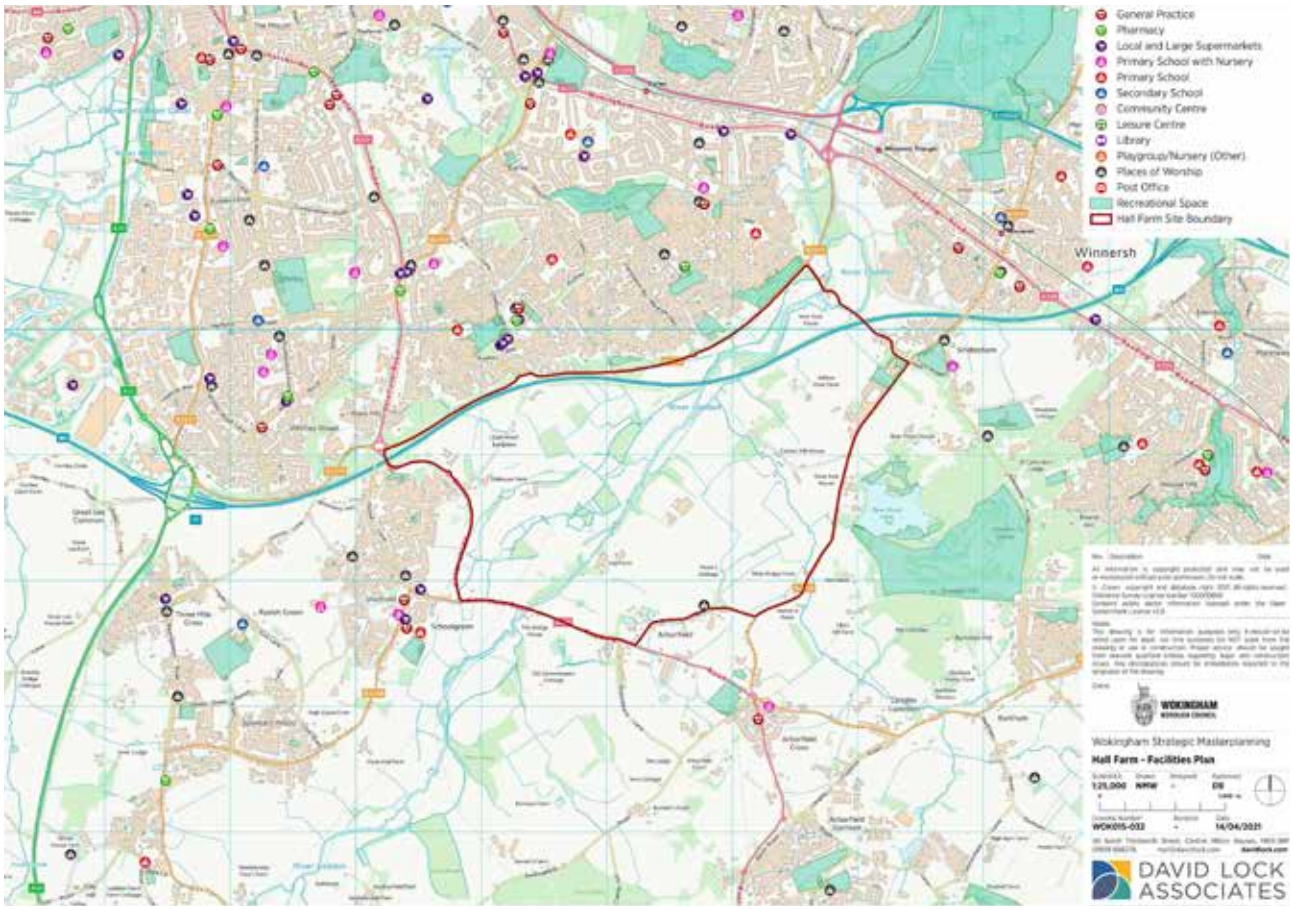
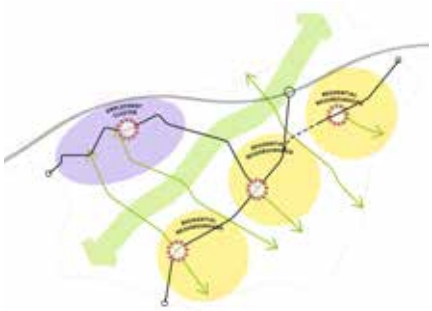


Figure 13: Community facilities

Summary of Masterplanning Considerations

The following points summarise key considerations for strategic scale development, with particular regard to achieving integrated land use and transport planning, promoting sustainable development and the delivery of infrastructure to support the growth of community. These factors should inform future masterplanning.



- The site comprises a large expanse of farmland with few environmental constraints to development. Proximity to growing employment opportunities to the East of Shinfield, alongside good opportunities for public transport connectivity to the wider area, indicates that subject to appropriate masterplanning and mitigation the site is a potential location for delivering sustainable development. On this basis, masterplanning should seek to test the capacity of the site to derive maximum benefits in the event that it is allocated for development, and to ensure sufficient critical mass to support a range of community facilities and infrastructure delivery.

- Green and blue infrastructure should be considered comprehensively. A dominant feature of the site is the River Loddon. It offers excellent opportunities for biodiversity, SANG, informal recreation, water activities and general amenity. The benefits of living close to and having good access to green open space and nature are well documented, indicating that any development here would benefit from adjacency to the Loddon Valley, which could form the principal feature within a wider green infrastructure network which also incorporates existing hedgerows, mature trees, small areas of woodland and local wildlife sites.

- Current flood zone mapping indicates that the land to the north-west of the river, and also along the Barkham Brook, is constrained. Opportunities for residential development exist to the south-east. Sustainable drainage systems should be adopted to manage surface water; these should be designed to provide a varied landscape rich in habitat.

- Sensitive edges at Sindlesham and Arborfield, and a potential risk of coalescence. This can be avoided through a masterplanned approach which can define a clear stand-off from existing settlements as part of the wider approach to landscape design and strategic planting.
- Existing heritage assets within the site have the potential to act as a focus for placemaking. Consideration should be given to the future setting of heritage assets including the scheduled monument and grouping of farmsteads around Carters Hill.
- The proximity of the employment development to the East of Shinfield ensures homes can be built in close proximity to jobs, reducing the need to travel. Good connectivity within the site by all modes will be essential to delivering a more sustainable development, and there can be particular emphasis on active travel. Existing Public Rights of Way (PRoW) should be retained and form the starting point for a new walking and cycling network which serves both recreational and commuter needs.
- Clear opportunities exist to extend and enhance the RTS and local bus services indicate that any development can be well integrated into the public transport network, leading to reduced reliance on the private car for journeys beyond the site including to major employment destinations. To optimise this opportunity, the principle of 'Transit Oriented Development' can be adopted to deliver walkable neighbourhood units centred around public transport stops.
- Substantial investment will need to be made in community and social infrastructure. In planning new neighbourhoods, consideration should be given to the location of schools, play areas, local and community facilities, elderly housing and local shops. Locating these uses adjacent to public transport stops to form 'community hubs' will create the opportunity for multi-purpose trips and generate opportunities for community cohesion.
- Throughout the site this will be further enhanced by a variety of dwellings and tenures. The site lends itself to a number of character areas which respond to the different site features, including the river corridor.

- To achieve good public transport connections, a bridge over the M4 is likely to be required, connecting to Winnersh Triangle, along with a link along Mill Lane to Winnersh Relief Road. These routes will facilitate the expansion of the RTS from Mereoak to Winnersh, delivering an important ambition of the LTP.
- The prospect of a future major teaching hospital indicates a possible future requirement for strategic road infrastructure including a new M4 junction and strategic road connecting to the Arborfield Relief Road for onward travel south to the M3. Whilst the delivery of a hospital is not yet a certainty, the site should be masterplanned to safeguard the opportunity for appropriate infrastructure whilst still accommodating planned residential growth. This requires particular attention to site planning: whilst providing direct access to the trunk road network, a new junction could in turn encourage travel by car as opposed to sustainable means. In addition, it would add non-development traffic which would need to be planned and managed to avoid a detrimental impact on residential neighbourhoods.
- The M4 motorway is a source of noise and air quality pollution, it is likely that some mitigation (potentially acoustic bunding) would be needed in parts to protect some areas of development.

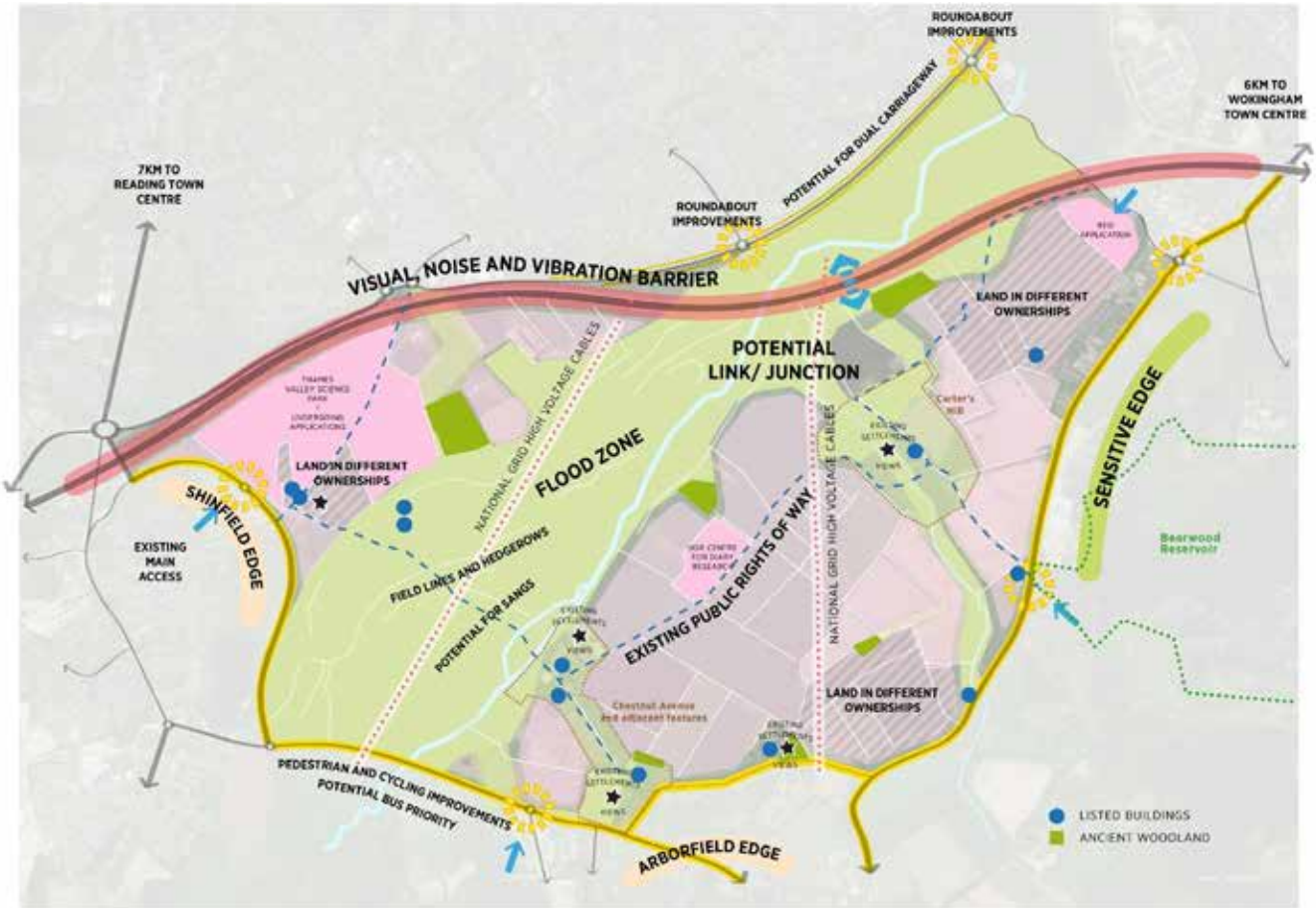


Figure 14: Summary of constraints and opportunities

Alternative Approaches to Masterplanning the Site

Initial scenario testing of masterplanning options was previously undertaken in 2020. Whilst this assessed a smaller site than the current Hall Farm and Loddon Valley Study Area, the objective of the scenario testing was, in essence, to examine the extent to which different configurations of development might generate development that was sustainable, viable and deliverable. All of the tested scenarios were based on a spatial framework which utilised the River Loddon valley and existing woodland and hedgerows as the basis for a green and blue infrastructure network to structure the site.

Scenario 1

Scenario 1 acheived 200,000 sqm of science park/ employment use to the north of the river and 3,300 dwellings, two primary schools and two local centres to the south. The river valley provided 40 hectares of SANG. The two principal uses function mostly as separate entities but are connected by pedestrian and cycle ways which cross the river valley. Separate access points were achieved, but vehicle connections between the two would be dependent on the existing road network.

Figure 15: Scenario 1

Scenario 2

Scenario 2 included 2,930 dwellings and two primary schools and local centres. Homes were located predominantly to the south of the river, with a limited number north of the river. 120,000 square metres of employment land was retained in the north of the site, but a further 21 hectares of potential employment land was shown to the south of the river where it can function alongside new homes. To support the full integration of all parts of the site, a new road crossing of the river valley was shown, giving access to a new M4 junction.

Figure 16: Scenario 2

Scenario 3

Scenario 3 sought to maximise residential development on the site by reducing the amount of employment land. It achieved 4,000 dwellings, supported by three primary schools and local centres. A more substantial neighbourhood was created to the north of the river alongside 120,000 square metres of employment. Housing only was provided to the south of the river. 48 hectares of SANG was provided in accordance with SANG standards. The site was connected internally by a network of pedestrian and cycle routes.

Figure 17: Scenario 3

Viability assessments were undertaken for each scenario, based on options including an M4 bridge crossing and an M4 junction. All three scenarios were deemed viable if a bridge crossing is included. With an M4 junction, Scenario 1 achieves marginal viability, scenario 2 was not viable, whilst Scenario 3 was arguably viable. Viability in each instance is influenced by the amount of housing achieved relative to the amount of overall land. The viability assessment outcomes are summarised below:

Scenario		Viability
Scenario 1	Bridge	Viable
	Motorway Junction	Marginal
Scenario 2	Bridge	Arguably viable
	Motorway Junction	Not viable
Scenario 3	Bridge	Viable
	Motorway Junction	Arguably viable

The findings of the options testing indicated that should the development concept be pursued by the University, Scenario 1 provides the best steer for masterplanning the site, i.e., the employment land is located north-west of the river, and residential focused to the south-east.

This conclusion has been carried forward in the framework masterplan for the enlarged Hall Farm / Loddon Valley site, which now includes land at Hatch Farm within the north-eastern part of the site, and potential for a greater number of dwellings.

4.2 Framework Masterplan

Vision

The Hall Farm / Loddon Valley SDL offers strong potential for a new Garden Community of around 4,500 dwellings. The site attributes will be harnessed to ensure a sustainable settlement set within a high-quality environment that is characterised by its abundant green spaces and access to a wider green network.

Hall Farm is large enough to benefit from comprehensive site planning and development. All of the physical and social infrastructure and facilities needed to support the growth of community will be delivered at a rate commensurate with the delivery of new homes.

This self-sufficiency at local level will be further reinforced by the close proximity of several thousand new, skilled jobs in prospect at the University of Reading's land East of Shinfield. Furthermore, the opportunity to extend Reading MRT to serve the site, coupled with the potential for active travel within this relatively flat site, signals an opportunity for a development which is not planned around high levels of car dependency. To achieve this, the development will reinforce this through the design of accessible neighbourhood centres, sustainable travel priority routes and planned walking and cycling routes connecting residential areas with East of Shinfield. Heritage assets will act as the foundation of placemaking to ensure the new community is rooted in local identity and history.

An extensive green network will enrich residents lives on a daily basis. From greenspace on the doorstep through to access to the wider countryside, destination parks, food growing and green streets, residents will enjoy a sense of living within a natural and healthy community. Green infrastructure will provide a framework for Biodiversity Net Gain, best practice in Sustainable Urban Drainage and community engagement. Maintenance and guardianship of these shared spaces will be ensured through a stewardship programme which provides scope for community input and eventually leadership as the community matures.

Framework Masterplan

In order to deliver this Vision, the framework masterplan includes the following features:

- Potential provision of approximately 4,500 dwellings on land to the south-east of the River Loddon, as part of a mixed-use community.
- Residential uses focused at three distinct neighbourhoods, each containing co-located local centre / community facility and a primary school. The central neighbourhood additionally includes a 12 FE Secondary School.
- A comprehensive network of green spaces, including over 65 hectares of SANG within the Loddon Valley, and policy compliant quantum of informal and formal open space.
- Development areas that avoid sensitive locations, including areas of flood risk, existing woodland, locally identified areas of historic importance, and existing settlements.
- Green corridors that permeate across the site to not only link areas of ecological value but to also enable active travel routes and greenways that link residential areas with leisure and employment destinations. This includes north-south connectivity and the potential to extend the River Loddon long distance footpath.
- Sensitive edges at Arborfield and Sindlesham to avoid potential coalescence as part of the wider approach to landscape design and strategic planting.
- Provision of local transport hubs, including dedicated bus links and infrastructure across the site, to enable provision of priority bus services that link residential and employment areas, as well as linkages into Arborfield, Winnersh, Wokingham, and central Reading.
- A transport network that enables flexibility with a future-proofed bridge over the M4 that could be converted to a new motorway junction should the need arise. Also, a reserved strategic route corridor that can provide extra capacity should a hospital (and the new M4 motorway junction) come to fruition.
- Wider potential to extend RTS across the wider network, along the East-West corridor between Thames Valley Park, Winnersh Triangle and Mereoak. This includes a connection along Mill Lane to the Winnersh Relief Road, and a direct link via the M4 bridge to Winnersh roundabout.

Design & Development Principles

The principles listed in this section provide further detail on the opportunities that are embedded within the Framework Masterplan to inform the policy framework including the Local Plan update and any subsequent Supplementary Planning Document (SPD).

- Development at Hall Farm should be brought forward under the guidance of a site wide masterplan which clearly identifies the common elements of green infrastructure, connecting access, drainage and movement networks, the locations for schools and other community facilities and a set of design standards to ensure sustainable development.

Many of these principles embed and reflect Garden Community principles, enabling a well-planned, sustainable place with a clear and distinct sense of identity.

Figure 18: Framework Masterplan


Lower Earley
B3270
LOWER EARLEY WAY
M4
B3030 MOLE ROAD
Sindlesham
Arborfield
LC
PS
MU
SS

Green & blue framework

- The masterplan for Hall Farm / Loddon Valley should be landscape led, and should utilise the Loddon Valley, Barkham Brook, existing woodland and hedgerows, Public Rights of Way, flood zone land and heritage buildings as the starting point for a network of green infrastructure supporting a multi-functional landscape. This landscape should achieve the following:
    - Support **health and wellbeing** through proximity to nature and convenient active travel routes between homes and key destinations such as schools, jobs and local shops.
    - Build in **resilience to climate change** through Sustainable Drainage Systems (SuDS) to provide for wetter winters and prolonged periods of intense rainfall. Include urban SuDS such as raingardens and rills, along with green roofs, within development parcels as a priority over draining directly to sewers. Attenuate water to control discharge rates and to create a varied landscape and a variety of habitat.
    - Further enhance resilience to climate change through a **strategic and woodland planting** scheme to promote carbon sequestration. Deliver **advance planting** to help establish character and habitat. Line all streets with trees to help cool and clean the urban environment as temperatures rise.
    - Shape neighbourhoods within **strategic open spaces** so that residents have easy access to the wider network of green infrastructure. Provide a network of recreational footpaths and cycleways which link to the countryside beyond. Include SANG within this network to enable longer walks through natural countryside.
    - Create an exciting range of **play areas for all ages**, from small play spaces near to homes to adventure play destinations, and opportunities for informal sports through the provision of Multi-Use Game Areas (MUGAs). Ensure formal sports pitches cater for a range of organised sports for all ages and interests.
    - Utilise green networks to support **sustainable movement**. Plan movement networks to align with green corridors to improve connectivity and encourage more local travel without the car.
    - **Enhance biodiversity** through a variety of different habitats capable of supporting the site's existing ecology and new species. Ensure the green network includes wild areas with minimal maintenance regimes to attract insects, small mammals and reptiles.

- Design in opportunities for **local food production** from allotments to community orchards and community gardens, and support communities to participate in growing their own food.
- Incorporate **community meeting places** within the green network to accommodate organised events. Use the setting of heritage buildings to bring a sense of local identity and richness to these places.

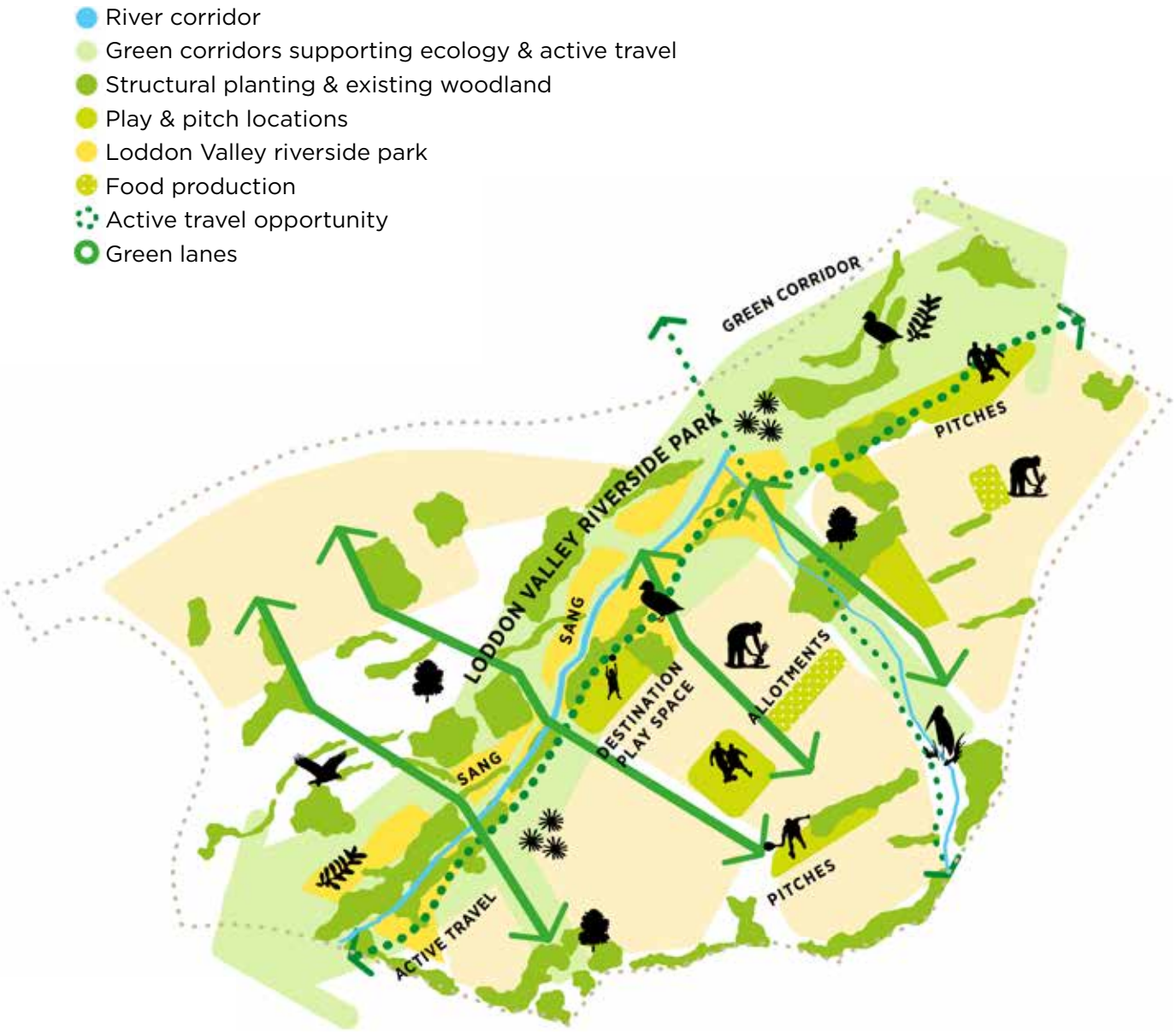


Figure 19: Green & blue framework plan

Neighbourhood Framework

- The masterplan should establish a series of identifiable neighbourhoods which are resilient, compact, safe and friendly places characterised by active streets, attractive homes for all, and with good access to everyday services and facilities. Neighbourhoods should be planned as follows:
    - Scale neighbourhoods so that they can each support a new primary school that can become a focal point for the community. Each neighbourhood should have between 1000-1500 homes.
    - Co-locate local shops and other community facilities such as community halls and health facilities (ideally GP provision) near to primary schools to encourage community interaction and multi-purpose trips. Ensure these uses are located at the most accessible place within the neighbourhood so that residents walk and cycle to them and design the local street network to achieve this.
    - Provide spaces for co-working to support home and remote working. Consider the scope for incubator units and space for start-ups. Ensure all community and commercial buildings are BREEAM excellent.
    - Incorporate public space for community events and informal meeting. Include seating, good lighting, planting for shade and rain gardens for interest to that these spaces are well used.
    - Deliver a range of homes for all ages and household types and sizes. Locate homes for the elderly and small households near neighbourhood centres. Ensure all homes have gardens, balconies or terraces to enhance wellbeing and planting.
    - Ensure homes are designed to accommodate home working, with good digital infrastructure. They should be warm in winter and cool in summer, energy efficient and have low levels of embodied carbon. Passivhaus standards should be the goal.

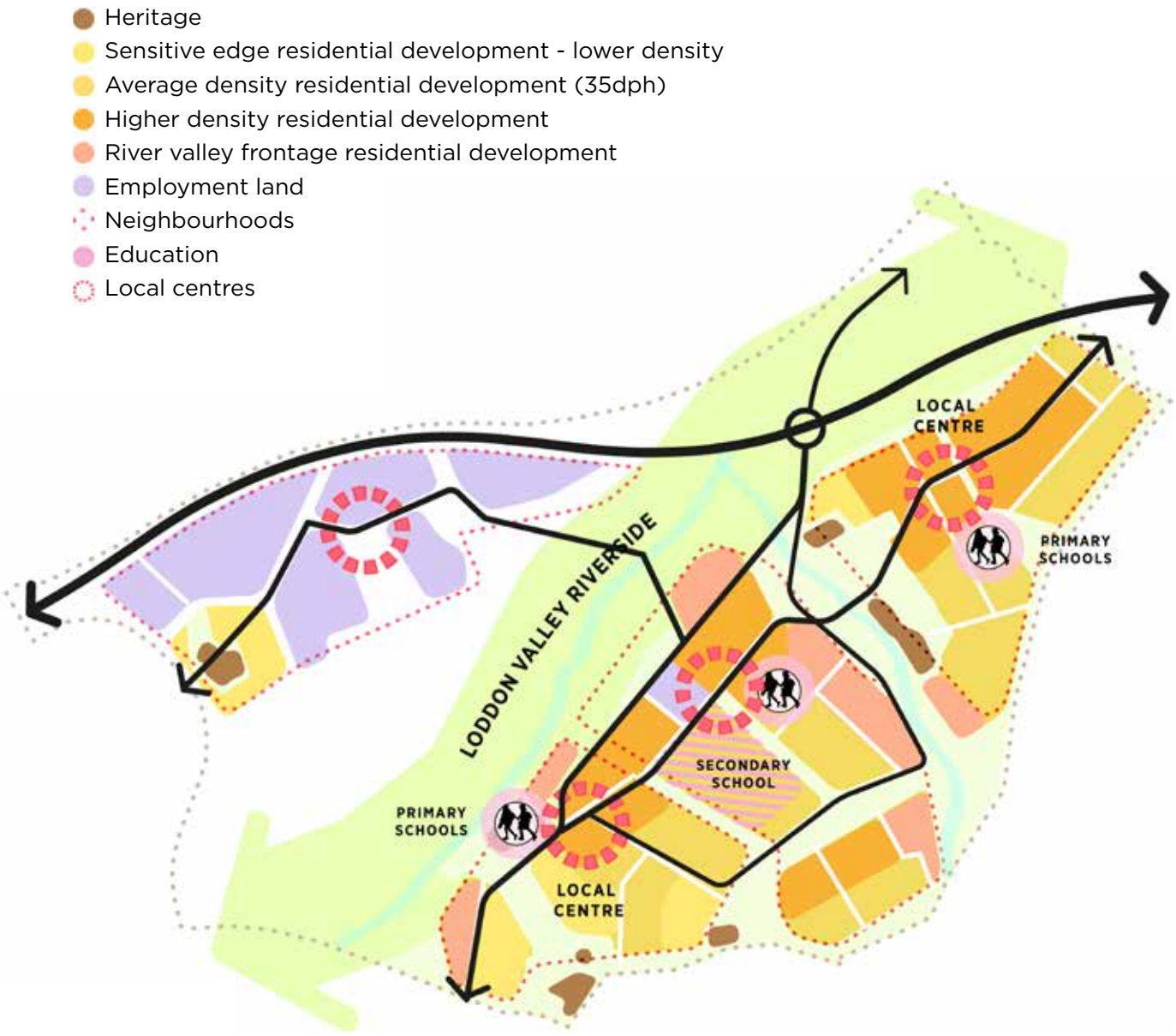


Figure 20: Neighbourhood framework plan

Movement framework

- The masterplan for Hall Farm should promote sustainable and active travel above the private car through targeted investment and careful design. These should be the first choice for travel within the site, including to employment uses East of Shinfield, by being more convenient than driving. This should be achieved through the following measures:
    - Connect the movement network to enable quick and easy movement by sustainable modes in all directions. Active travel routes should connect to Greenways beyond the site for onward travel. A new bridge over the M4 should support the extension of Reading MRT.
    - Offer priority to buses, pedestrians and cyclists on main streets through neighbourhood centres. Discourage cars from entering for all but essential reasons. Push routes for development access to the outer edges to ensure neighbourhood centres are principally about people.
    - Design community transport hubs at neighbourhood centres to include bus stops, cycle hire stations and micro-mobility locations to help facilitate interchange and promote sustainable travel.
    - Invest in WBC's My Journey to improve the number of journeys by sustainable and active travel modes. Engage travel plan coordinators to work with the community to instil good travel patterns from the start. Work closely with bus operators to achieve the most effective bus strategy and utilise smart phone technology to improve passenger convenience.
    - Favour disabled and electric vehicle parking where provided. Locate secure cycle parking closer to main destinations.
    - Develop a residential parking strategy related to densities and proximity to community travel hubs. Homes close to the centre and for smaller households require far fewer spaces than large family homes at the edge of neighbourhoods. Ensure all allocated parking spaces have electric vehicle charging points.
    - Reserve a corridor for a potential future strategic route connecting Arborfield Road with a new junction on the M4.

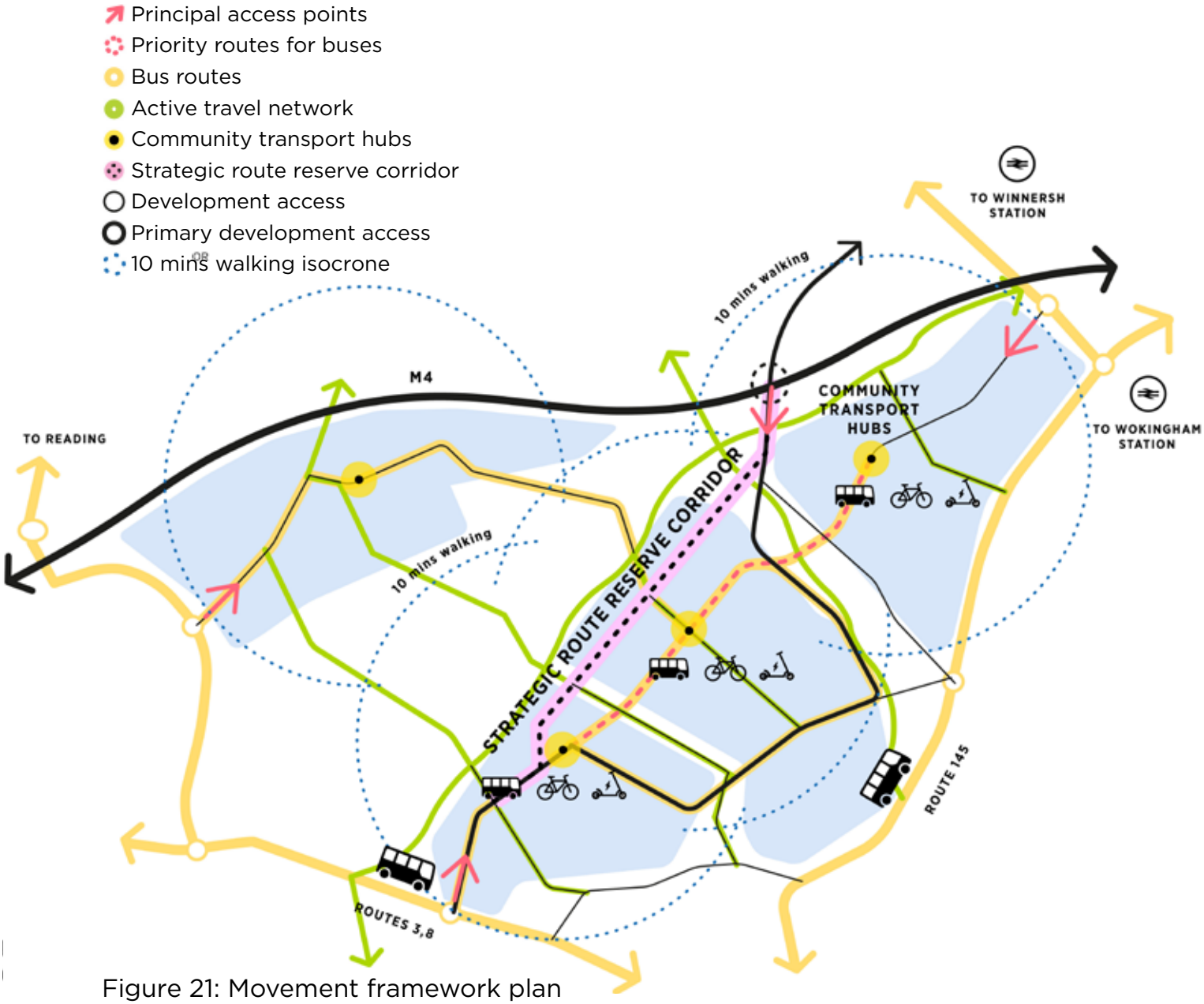


Figure 21: Movement framework plan

4.4 Infrastructure and Delivery

Infrastructure

The following summary of assumed infrastructure requirements to support delivery at Hall Farm / Loddon Valley has been identified:

Assumptions have been made regarding items to be paid from CIL receipts rather than Section 106 for the purpose of this viability testing. This is without prejudice to decisions taken by WBC and does not pre-determine the Infrastructure Delivery Plan.

	Infrastructure Items	Indicative funding source
On-site		
Transport and Access	Bridge over M4 (phase 1 of new junction)	Development cost
	Potential new M4 junction	TBC
	Dual carriageway road between northern internal development roundabout and Lower Earley Way	Development cost
	Eastern villages access road	Development cost
	Public Transport links	S106
	Road and pedestrian bridge over River Loddon	Development cost
	Hall Farm - Four Valleys Link Road - Single / dual carriageway	Development cost
	Internal Secondary Road	Development cost
	Internal link to A327 Junction	Development cost
	Loddon Valley pedestrian links	Development cost
	Loddon Valley central pedestrian bridge	Development cost
	Loddon Valley southern pedestrian bridge	Development cost
	Personal Travel Planning	S106
	Greenways/Cycle routes	Development cost
	Internal junctions x 4	Development cost
	Additional southbound lane on South Avenue	Development cost
	Access on A327 via expanded Arborfield Relief Road roundabout	Development cost
	Access via expanded Science Park roundabout	Development cost
	New roundabout accesses on Mole Road and Mill Lane	Development cost
Utilities	On-Site Cable Undergrounding	Development cost
	Utility connections	Development cost
	EV Charging points	Development cost

Green Infrastructure (On-site)	SANG (approx. 54ha)	S106
	Public open space including, play, amenity	Development cost
	Allotments	CIL
	SuDS	Development cost
	Tree planting/landscape	Development cost
Community, education & sport	3 no. Community buildings	CIL
	Sports Building (4 team changing plus 2 court hall)	CIL
	Formal sports provision (10 hectares on site)	Development cost
	2 no. 3FE primary schools; 1 no. 2FE school (including early years)	CIL
	12 FE secondary school	CIL
	GP surgery / Health use facility	CIL
	Zero Carbon Homes	Development cost
Off-site		
Transport and Access	Additional westbound lane on B3270 from Whitley Wood Lane to M4 Junction 11.	S106/S278
	Additional westbound lane on SERR between access roundabout and University Bridge	S106/S278
	Pedestrian / Cycle upgrades on A327 (Approx. 1000m)	S106/S278
	Additional northbound lane on Lower Earley Way between Meldreth Way and Rushey Way	S106/S278
	Upgrade Lower Earley Way / Rushey Way / Mill Lane roundabout	S106/S278
	Upgrade A327 / SERR Roundabout	S106/S278
	Closure of Mill Lane as vehicular through route	S106/S278
	New roundabout on WRR for connection to Mill Lane	S106/S278
	Upgrade Lower Earley Way to dual carriageway between Rushey Way and Winnersh Relief Road (Approx. 400m). Includes additional bridge structures	S106/S278
	Upgrade A327 to dual carriageway between Arborfield Relief Road and Science Park RBT (Approx 2100m). Includes additional bridge structures	S106/S278
	Upgrade of Mill Lane and new road connecting to WRR	S106/S278
	Rapid Transport System (for costing purposes assumed to connect Hall Farm to Winnersh Triangle Station and Thames Valley Park)	S106/S278
	Local public transport	CIL.
Utilities	Electricity capacity reinforcement	Development cost
	Off-Site Cable Undergrounding	Development cost
	Upgrade Arborfield Sewage Treatment Works and Sewerage Network	Other
Other	Contribution to off-site Special Educational Needs	CIL.

5.0 SOUTH WOKINGHAM

5.1 Site Context and Analysis

Site introduction

Potential development land at South Wokingham is partly within the south of the allocated South Wokingham Strategic Development Location (SDL). It provides an opportunity for further planned urban expansion close to the existing built area.

The site is generally triangular in shape. It is defined by Easthampstead Road to the south and west, and Old Wokingham Road to the east. The northern boundary is made up from privately owned land to the south of Waterloo Road and land which forms part of the South Wokingham SDL.

Outline planning permission was recently granted for the adjoining section of the SDL; this provides some certainty about the future location of access points, principal routes, local centres and schools and strategic open space. This information can inform the masterplan for the additional land under consideration.

The site is largely unconstrained. It comprises open farmland with a limited number of remnant hedgerows. Tree Preservation Orders (TPOs) are in place along the northern boundary and in small pockets at the western and eastern edges. There is no ancient woodland or wildlife sites within the site boundary, although both sit just outside the western edge. Small areas of existing built development comprising farm units and industrial buildings front Easthampstead Road. The site is bisected by the Emm Brook where very limited flooding occurs. Land slopes very gently towards the brook.

Road access is currently limited to country lanes and is unfavourable. However, an additional area of land in separate ownership extending from the north-west corner of the site along Easthampstead Road is also included. This provides a physical connection to the consented SDL, and together with other planned upgrades, it is possible that safe and suitable access to the site could be achieved. Masterplanning for this additional area would need to have regard to a small number of Grade II and Grande II* listed buildings.

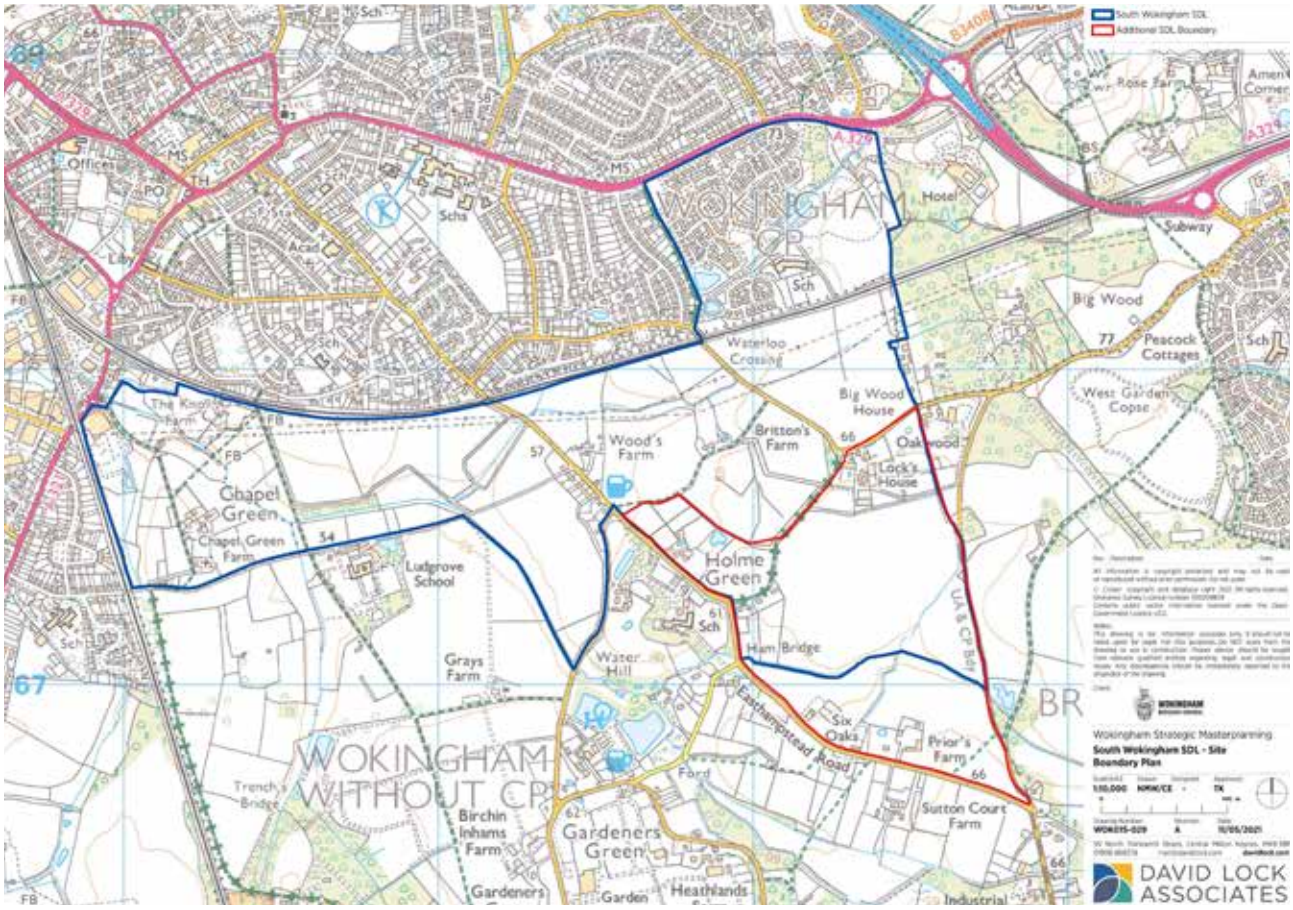


Figure 22: South Wokingham Study Area

Relevant Planning Applications and Permissions

Key planning proposals relate largely to the original South Wokingham SDL. This includes the recent planning approval in May 2021 of St Anne's Suitable Alternative Greenspace (SANG), together with key elements of road infrastructure including the central section of the Southern Distributor Road, as well as its western gateway. The key planning submission, a hybrid application for a mixed-use development of up to 1,434 dwellings, a two-form entry primary school, local centre including community building and a full application for the proposed Suitable Alternative Natural Greenspace (SANG) was considered by WBC planning committee on 18th May 2021 and received conditional approval subject to a legal agreement. Additional planning applications for residential dwellings to the east and west of the SDL (215 dwellings and 171 dwellings respectively)were determined at the same committee on the 18th May 2021. Overall, the original South Wokingham SDL has potential to provide in the region of 2,500 dwellings.

Within the study area itself, a cross-borough-boundary outline planning application was submitted to Bracknell Forest Council and WBC for Land West of Old Wokingham Road and South of Waterloo Road. This is largely within the northern section of the study area. The proposal has not been determined to date but consists of up to 95 dwellings, public open space, and pedestrian cycle access from byway BW WOKI 30.

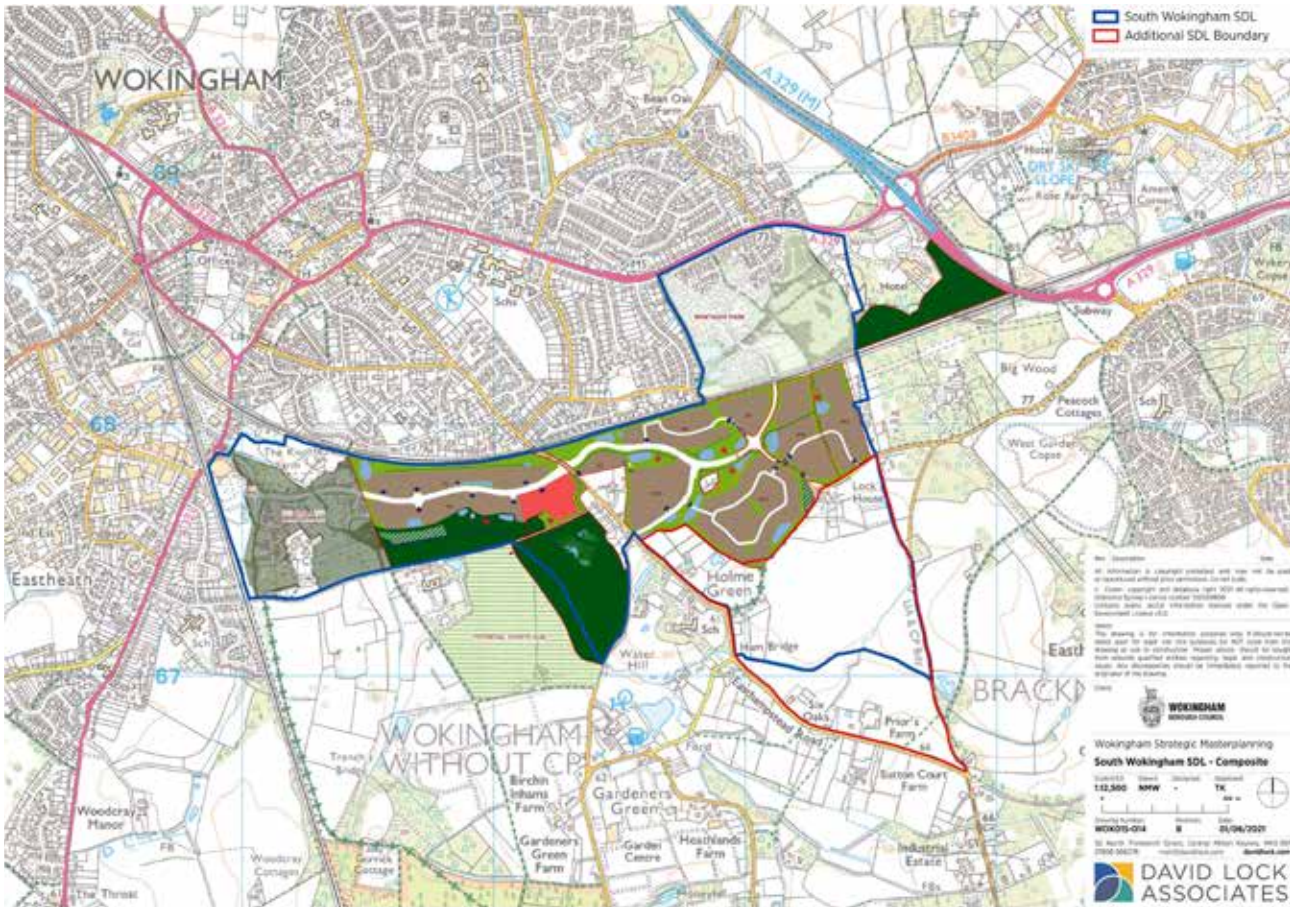


Figure 23: South Wokingham Composite Plan

Planning Policy Context

As set out in the earlier Hall Farm planning context, the existing development plan for Wokingham comprises the **Core Strategy (2010)** and the **Managing Development Delivery Local Plan (2014)** which are currently in the process of being updated as part of a Local Plan Update. The key policies that are of relevance to the South Wokingham Extension Area are as follows:

Core Strategy (2010):
CP1 – Sustainable development: sets out the overarching principles for development including to ensure that development enhances the overarching sustainability through minimising impact on the environment and contributing towards target of zero-carbon.

CP4 - Infrastructure Requirements: requires appropriate arrangements for the provision of infrastructure, services, community and other facilities required to support development.

CP8 - Thames Basin Heaths Special Protection Area: requires relevant development to demonstrate that adequate measures to avoid and mitigate any potential adverse effects on the Thames Basin Heaths Special Protection Area are assessed and delivered.

CP9 - Scale and location of development proposals: The scale of development proposals in Wokingham borough must reflect the existing or proposed levels of facilities in that location.

CP11 - Proposals outside Development Limits (including countryside): an overarching policy that aims to protect the separate identity of settlements and maintain the quality of the environment. Proposals outside of development limits are not normally permitted.

CP21 – South Wokingham Strategic Development Location: policy approach that designates the South Wokingham SDL to deliver by 2026 a sustainable, well designed mixed use development will be delivered by 2026 including: 1) Phased delivery of approximately 2,500 dwellings including affordable and appropriate retail facilities; and supporting social and physical infrastructure.

Managing Development Delivery Local Plan (2014): Policy TB25: Archaeology - requires development to provide an assessment of the impact on archaeological remains, within identified areas of high archaeological potential. This assessment will result in protecting existing remains in situ or for their excavation, recording and archiving.

Policy CC09: Development and Flood Risk - requires all sources of flood risk, including historic flooding, are to be taken into account during the planning application process to avoid inappropriate development in areas at risk of flooding. Development proposals in Flood Zones 2 or 3 must take into account the vulnerability of proposed development. It states that development must be guided to areas of lowest flood risk by applying the sequential approach with the objective of ensuring the betterment of existing conditions is achieved.

Policy TB23: Biodiversity and Development – requires the incorporation of new biodiversity features together with the enhancement of existing features within development proposals. This includes the need to ensure ecological 'permeability' within new development through wildlife corridors integrated into the wider green infrastructure network.

Draft Local Plan Update (2020): Policy SS7 South Wokingham Strategic Development Location - updates Core Strategy Policy CP21, allocating the South Wokingham SDL for approximately 2012 dwellings together with retail facilities for a sustainable, well designed mixed-use development, with associated housing, employment and social and physical infrastructure

Policy C8 Green and Blue Infrastructure and Public Rights of Way additionally requires development proposals to contribute towards the establishment of a riverside footpath and cycleway to accommodate dual use for all users along the Emm Brook

Policy DH6 Archaeology - similar to the exiting policy approach, this draft policy requires assessment of locations within Areas of High Archaeological Potential and requires archaeological remains to be preserved in-situ, or recorded and placed on deposit.

Policy NE8 Development and Flood Risk – ensures that all sources of flood risk are assessed, with proposals in Flood Zones 2 or 3 required to take into account the vulnerability of proposed development. A sequential approach is taken, although in exceptional circumstances new development in areas of flood risk will be supported if wider benefits that outweigh flood risk.

Environmental and Technical Constraints

Transport and Access

The site is currently accessed by minor roads which are unsuited to serving a strategic scale development. Easthampstead Road to the west is a narrow lane with a strong rural character and limited scope for upgrading. Old Wokingham Road to the east does provide potential for widening northwards to the junction with Waterloo Road and Peacock Lane, where an improved junction would deliver wider highway benefits.

The most notable opportunity for improved transport and connectivity is the proximity of the Wokingham Southern Distributor Road (SDR), which offers immediate access to public transport and walking and cycling routes for onward travel to Wokingham centre, Wokingham station. There are also linkages to the A329 and the planned RTS along the A329(M) via London Road and the Coppid Beech Park & Ride. Opportunities to create a direct link to the SDR should be sought in order to extend sustainable travel opportunities.

Flood Risk

The EA's Flood Zone mapping indicates that the majority of the site lies in Flood Zone 1 'Low Probability' defined by the National Planning Policy Framework (NPPF) Planning Practice Guidance (PPG) as land with less than 1 in 1000 annual probability of river flooding. However, a small section adjacent to the Emm Brook which runs through the site lies within Flood Zone 2 and 3.

The EA's Risk of Surface Water Flood Map provided in Figures 25/26 indicate the majority of the site is at low risk of surface water flooding with the exception of the small area which runs adjacent to the Emm Brook which is at high risk.

The site is not shown to be at risk of reservoir flooding and is located outside of the 'maximum extent of flooding' should a reservoir breach occur. The site is not located within a source protection zone.

Figure 24: EA Flood Zones

Figure 25: Surface Water Flood Risk Map

Ecology

The site itself comprises mainly of agricultural use. No Habitat of Principal Importance for nature conservation appears to be present within the site.

The site is, however, located within an area that is identified as an Impact Risk Zone (IRZ) for nearby Nationally (Site of Special Scientific Interest (SSSI)) and Internationally (Special Protection Areas (SPA)), Special Areas of Conservation ((SAR), Ramsar) designated areas. The closest designated areas are Heath Lake which lies approximately 2km south of the site and Longmoor Bog approximately 5km west of the site.

Impact Risk Zones (IRZs) are a GIS tool used by Natural England to identify zones in the vicinity of Nationally and Internationally designated areas where certain development activities may adversely affect designated areas. The site is located within the IRZ and therefore residential development resulting in a net gain in residential units could have the potential to adversely affect designated areas. Mitigation measures may be required to reduce / avoid impact.

Landscape Character

There is a need to maintain separation between key settlements to reflects the recommendations in the borough-wide Landscape Character Assessment (LCA) which has identified landscape features that contribute towards the physical and visual separation from Wokingham to Binfield/Bracknell and Winnersh.

Agricultural fields within southern part of the study area

Heritage

There are two groupings of Listed Buildings. To the north, accessed from Waterloo Road is Grade II* Lock's House with Grade II Lock's Barn adjacent. The west part of the site contains a further grouping of Listed Buildings (Grade II) including farmhouse, granary and barn at Pearce's Farm.

The north-eastern part of the site has additionally been identified as an area of potential archaeological importance. Any redevelopment within this area will be required to undertake an assessment for archaeological remains.

Air Quality

WBC has designated three AQMAs for exceedances of the annual Nitrogen Dioxide (NO2) Air Quality Objectives (AQOs). The closest is the Wokingham Town Centre AQMA, which is located 2.5km north-west of the centre of the site.

The latest Air Quality Annual Status Report (ASR)[1] states that the majority of monitoring locations met the AQOs in recent years, with the exception of some locations within the AQMAs, where the Air Quality Objective (AQO) was slightly exceeded at some roadside locations.

An appropriately detailed air quality assessment would be required to accompany any planning application for the site in order to demonstrate that the site layout is acceptable and development traffic is not having an undue impact on local air quality. However, with mitigation measures available, and continual improvements in vehicle NOx emissions in the future, this is not likely to be a significant constraint on the development of the site.

Noise and Vibration

The primary sources of noise and vibration will be Old Wokingham Road to the east and Easthampstead Road to the west and adjacent car repair workshop to the south. The layout with regards to private external amenity areas would need to be considered in areas close to these highways and appropriate buffer zones provided. An acoustic assessment would be required to support a planning application.

[1] Wokingham Borough Council 2019 Air Quality Annual Status Report (June 2020)

Minerals and Waste

All development, including conversions, alterations and extensions shall incorporate suitable waste management facilities, including on-site recycling to follow Policy CC04: Sustainable Design and Construction found within the Managing Development Delivery Local Plan (2014).

The Wokingham Borough Council 'Requirements for Validation of Planning Applications' states that 'new development should be supported by site waste management plans. These do not require formal approval by planning authorities but are intended to encourage the identification of the volume and type of material to be demolished and/or excavated, opportunities for the reuse and recovery of materials and to demonstrate how off-site disposal of waste will be minimised and managed.'

There should not be any significant generation of demolition material or anthropogenic waste material (such as refuse, scrap metal and tarmac/asphalt etc) due to the agricultural use of the land.

Sustainable Resources

The development should be designed to achieve high levels of resource efficiency and meet the current WBC Sustainable Design Guidance Supplementary Planning Document (2010) requirements. This includes providing a minimum of 10% energy requirements from renewable energy or low carbon technologies.

In 2021, government published the outcome of the Future Homes consultation, outlining that all new homes built from 2025 will produce 75-80% less carbon dioxide emissions than homes delivered to current Building Regulations standards. From 2025, all new homes will be 'zero carbon ready', requiring no further energy efficiency retrofit work to enable the homes to become zero-carbon as the electricity grid decarbonises.

For the interim period to 2025, updated Building regulations will ensure new homes built from 2022 produce 31% less carbon emissions compared to current standards. In 2023 government will hold further consultation about the technical aspects of the Future Homes Standard, before updating the regulations again to come into force in 2025.

In light of this a review an update of the SPD may enable and support these developments to contribute to reducing impacts on climate change and to deliver sustainable development.

[2] Ministry of Housing, Communities and Local Government (October 2019) The Future Homes Standard: changes to Part L and Part F of the Building Regulations for new dwellings (online) available at: https://www.gov.uk/government/consultations/the-future-homes-standard-changes-to-part-l-and-part-f-of-the-building-regulations-for-new-dwellings

Water resource consumption and resilience is an important issue in Wokingham, with potable water providers working closely with the Environment Agency to manage drought restrictions. A Water Cycle 'Phase 1 Scoping Study (2019) was produced and overall assessment is that no strategic scale water or wastewater constraints on growth have been identified within Wokingham. A phase 2 Water Cycle Study is recommended to be undertaken, and it is recommended that planning policy is used to require 110l/person/day water consumption target permitted by National Planning Policy Guidance in water-stressed areas.

Existing Community Services & Facilities

Whilst the site is in close proximity to existing services and facilities within Wokingham and Bracknell town centres, more immediate local facilities will be located within the South Wokingham SDL to the north. As currently proposed, this will include a large neighbourhood centre with retail and community facilities as well as a new primary school.

Technical stakeholder workshops indicated that new development within the South Wokingham SDL Extension will need to consider proposed provision within the SDL as well as potential new provision within Bracknell Forest to the east.

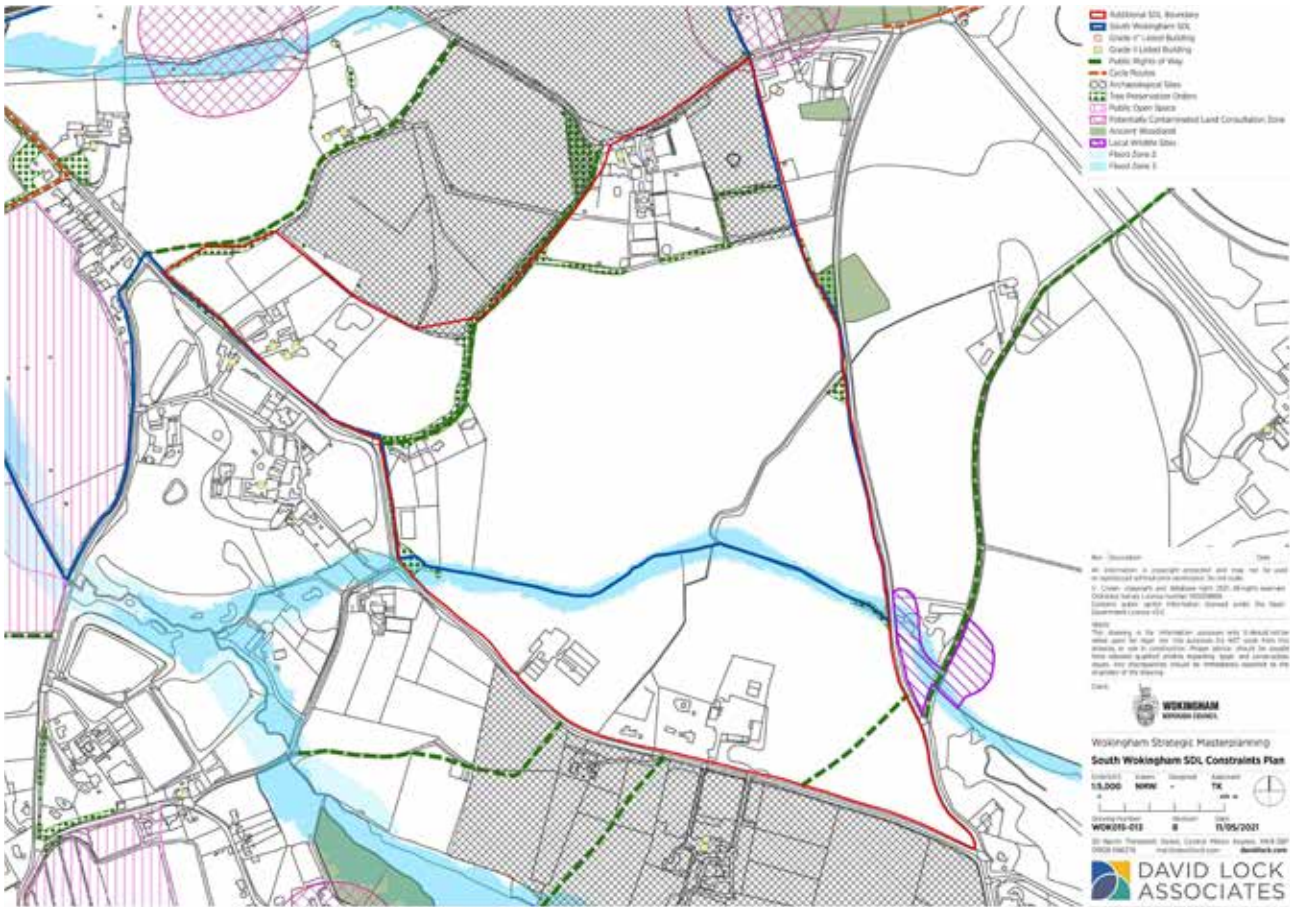


Figure 26: South Wokingham Site Constraints

Summary of Masterplanning Considerations

The following points summarise key considerations for strategic scale development, with particular regard to achieving integrated land use and transport planning, promoting sustainable development and the delivery of infrastructure to support the growth of community. These factors should inform future masterplanning. The masterplan also needs to exploit the opportunities inherent within the site so that any planned development is responsive to its context and setting. This can form the basis for a well-planned development with placemaking as a key focus.

- The site offers no physical constraints to development, although a sensitive response to the rural surroundings is advisable given the site projects out into and is flanked by open countryside. This indicates the importance of scale, density and landscape design, with emphasis on a rural or village character rather than an urban or suburban character.
- There are well established landscape features including mature trees and the Emm Brook which enhance the attractive rural character of the site. These can inform the character and type of development which might occur here.
- Access to open countryside for recreation is available.

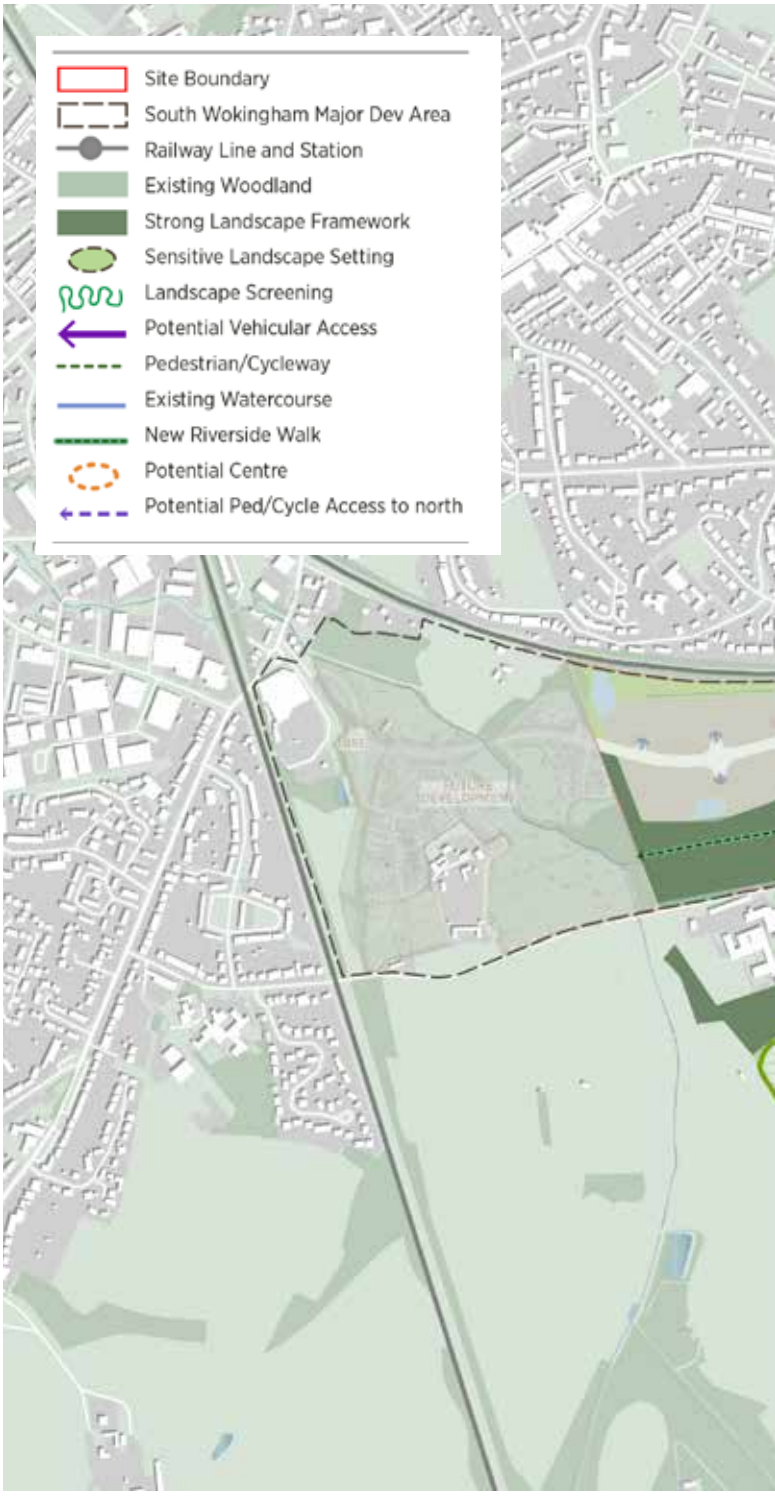
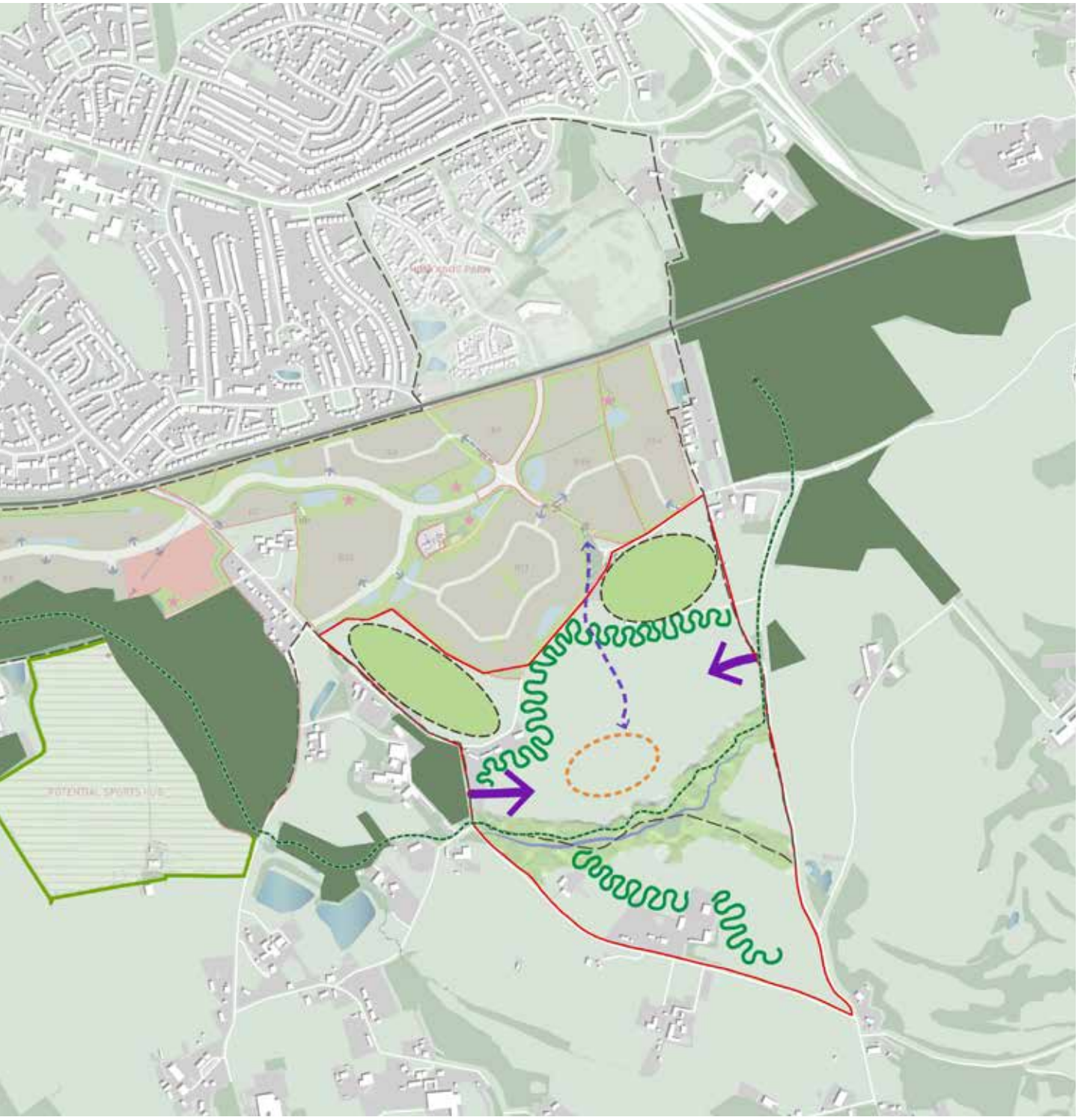


Figure 27: Site Opportunities

- Proximity to the South Wokingham SDL will ensure a wide range of services and community infrastructure is available at a future date. This includes new schools, local shops and sports facilities.



- A shared boundary with the SDL indicates that a direct connection can be made to overcome other limitations to access. This is important for encouraging public transport use both locally and to the wider area and employment destinations via the RTS.
- The site is comparatively close to the centre of Wokingham and Wokingham station; therefore development in this location (including within the SDL) offers opportunities to improve active travel modes, and particularly cycling, into the town centre.

Alternative approaches to masterplanning the site

A number of alternative scenarios have been examined in order to better understand the design and delivery issues and to identify a suitable option for the site. This includes:

- means of accessing the site, and of securing the best connections north to the SDL;
- the opportunity to secure comprehensively planned development, with the right infrastructure in the right place at the right time;
- the relationship between any new development and the open countryside, and identifying an appropriate and natural edge, particularly to the south; and
- the scale of the development, given its more peripheral location at the edge of the expanded settlement.

The following options explore these issues.

Scenario A

Scenario A illustrates land in single control and seeks to optimise the area of built development within this land. It would deliver approximately 900 dwellings at an average density of 30 dwellings per hectare. No strategic open space or SANG is provided as a consequence, so there is increased reliance on provision to be located elsewhere. However, access between the site and the SDL is constrained, and is reliant on Easthampstead Road in particular, which is regarded as sub-optimal in terms of active and sustainable travel.

Figure 28: Scenario A

Scenario B

Scenario B seeks to address the limited access opportunities of Scenario A, by including additional land to secure a more direct link to the SDL. This is facilitated by the introduction of additional housing within this area, thus increasing pressure on formal and informal open space elsewhere. This scenario would deliver approximately 1,000 dwellings at an average density of 30 dwellings per hectare.

Figure 29: Scenario B

Scenario C

Scenario C utilises both land ownerships to secure the direct link to the SDL. However, it adopts a moderated position in respect of housing numbers so that strategic open space and/or SANG can be provided on site at a policy compliant size. The Emm Brook forms a natural limit to development to form a new southern boundary. There is reduced reliance on Easthampstead Road as a consequence, which is beneficial in highway terms.

Scenario C would deliver approximately 835 dwellings at an average density of 30 dwellings per hectare and is considered to strike the best-balanced outcome for three principal reasons:

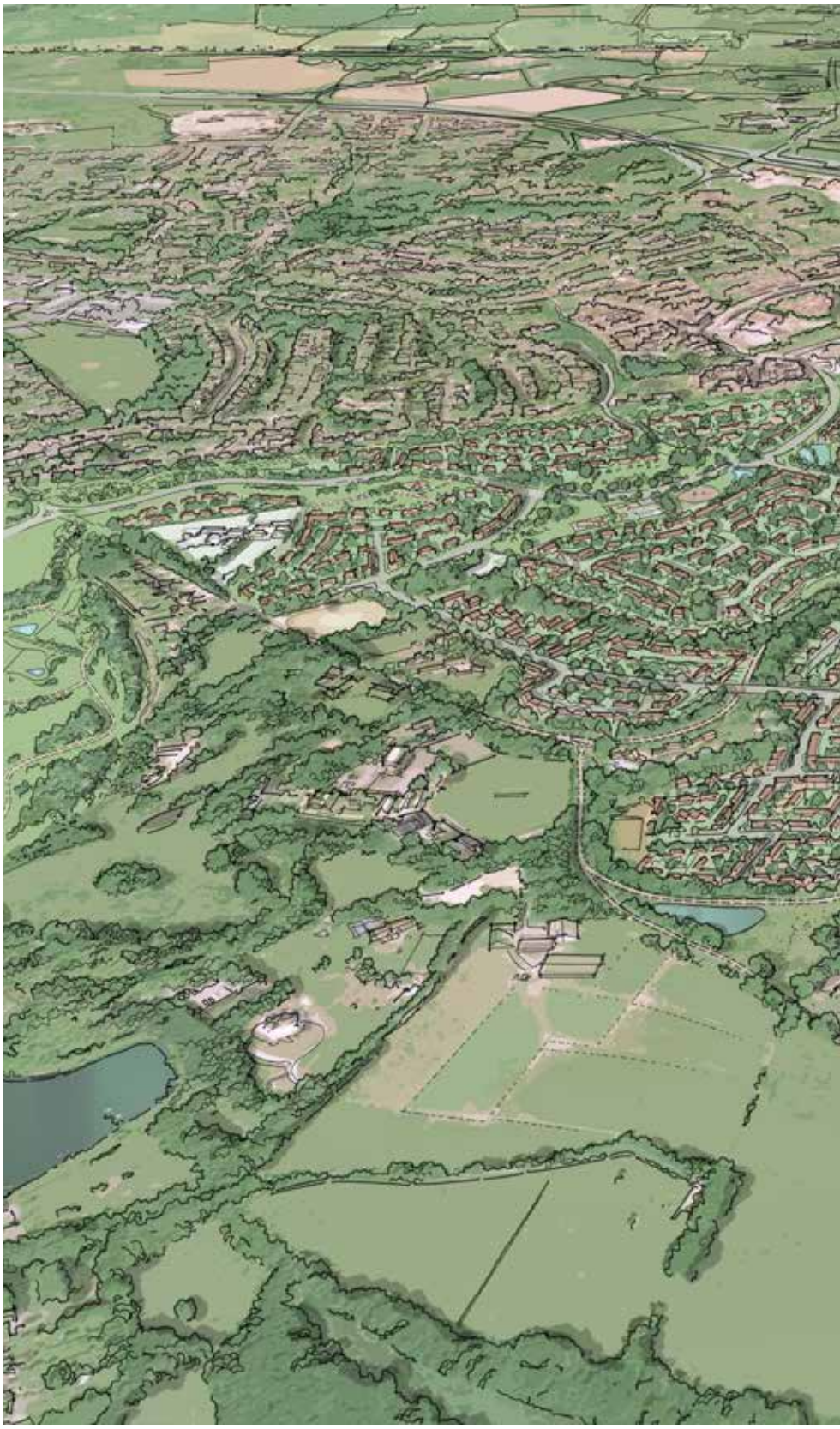
- Good through movement is achieved including access to bus services and cycle routes at South Wokingham, with no reliance on Easthampstead Road.
- Existing landscape features are used to define the limit of development.
- The site could deliver strategic scale growth while meeting its own SANG and open space requirements.

Figure 30: Scenario C

5.2 Framework Masterplan

Vision

Additional land at South Wokingham will enhance the opportunity provided by the SDL for a strategic expansion to the town, capable of offering choice and variety within the wider town. Designed as a village or adjoining neighbourhood, the development should respond both to its urban and rural interfaces and act as a transition between the two. From the south it will form a new gateway into the town, with lower intensity development within a generous green setting. At its heart, a village centre will offer small community facilities to create a focal point, including small workspaces to support home and remote working. Living within a rural setting, or parkland, will become a key characteristic of the new village, enriching residents lives with opportunities for active recreation, food production and proximity to nature. Good active travel connections will link the village to the wider SDL so that local services are within easy reach.



Framework Masterplan

The Masterplan for the South Wokingham SDL Extension includes:

- The provision of 835 dwellings, together with a small local centre and central square at the heart of the development. The density of dwellings lessens away from the local centre, and additionally reduces to the south to enable a softer, blended edge to green spaces
- A network of paths and cycleways that follow Emm Brook and connect into wider active travel network, as well as a green infrastructure spine running north-south through the centre of the proposed development, providing connection into the South Wokingham SDL itself;
- Provision of new public open space, including play locations and allotments, together with an area of SANG to support delivery of dwellings on site.
- New access road that connects directly into the strategic road network within the South Wokingham SDL to the north, thereby negating the need to rely on Easthampstead Road to the west.
- To the east, the provision of a new roundabout junction with Old Wokingham Road, with potential capacity improvements to the road to the north.

Design & Development Principles

The principles listed in this section provide further detail on the opportunities that are embedded within the Framework Masterplan to inform the policy framework including the Local Plan update and any subsequent SPD.

- Development at South Wokingham should be brought forward under the guidance of a site wide masterplan which clearly identifies the common elements of green infrastructure, connecting access and movement networks, the locations for schools and other community facilities and a set of design standards to ensure sustainable development.

Figure 31: Framework Masterplan


LC

Green & Blue Framework

- The masterplan should be landscape led in response to the rural context. Key features such as the Emm Brook and existing planting should provide the starting point for the masterplan. The plan should achieve the following:
    - Support health and wellbeing through proximity to nature and a direct active travel routes between homes and the new SDL.
    - Build in resilience to climate change through Sustainable Drainage Systems (SuDS) to provide for wetter winters and prolonged periods of intense rainfall. Attenuate water to control discharge rates and to create new habitats.
    - Enhance the scheme though strategic and woodland planting scheme to promote carbon sequestration. Deliver advance planting to help establish character and habitat. Line all streets with trees to help cool and clean the built environment as temperatures rise.
    - Provide a network of recreational footpaths which link to the countryside beyond.
    - Create a range of play areas for all ages, from small play spaces near to homes to adventure play destinations, and opportunities for informal sports such as boules.
    - Enhance biodiversity through a variety of different habitats capable of supporting the site's existing ecology and new species. Ensure the green network includes wild areas with minimal maintenance regimes to attract insects, small mammals and reptiles.
    - Design in opportunities for local food production from allotments to community orchards and community gardens, and support communities to participate in growing their own food.

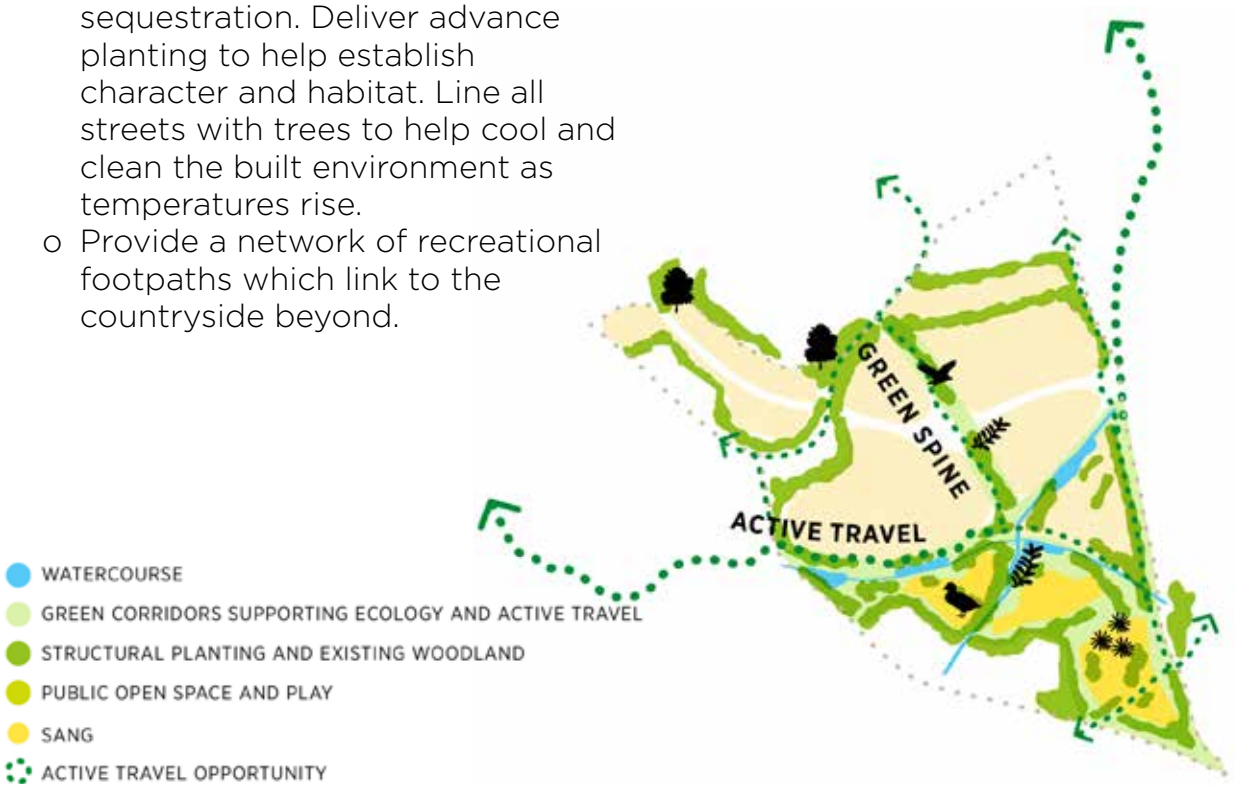


Figure 32: Green & blue framework plan

Village Character

- The masterplan should be inspired by local village morphology, character and scale to create a safe and friendly place characterised by lessons drawn from Berkshire villages. Pleasant tree lined streets, incidental spaces, a village green and a variety of homes should be evident. The village should be planned as follows:
    - Develop a more intensive core, giving way to a looser form of development towards the Emm Brook, and through the north-western area which connects to the SDL.
    - Ensure this relatively intense core acts as a recognisable village centre, where workspace, village green and potentially a local pub, café or restaurant are located to bring the community together.
    - Ensure all community and commercial buildings are BREEAM excellent.
    - Ensure the village green can cater for community events and informal meeting. Include seating, a boule area or tennis court, sensitive lighting and planting for shade.
    - Deliver a range of homes for all ages and household types and sizes. Locate homes for the elderly and small households near the village centre. Ensure all homes have gardens, balconies or terraces to enhance wellbeing and planting.
    - Ensure homes are designed to accommodate home working, with good digital infrastructure. They should be warm in winter and cool in summer, energy efficient and have low levels of embodied carbon. Passivhaus standards should be the goal.

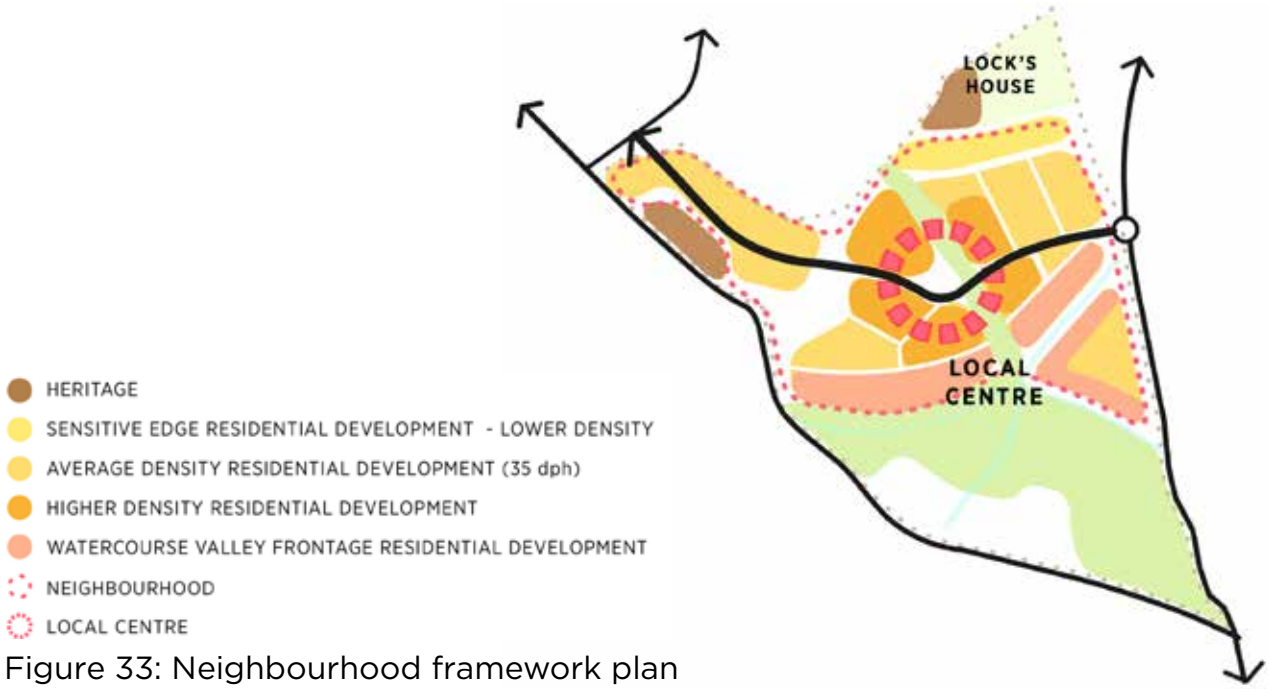


Figure 33: Neighbourhood framework plan

Movement Framework

- The masterplan for the site should promote sustainable and active travel above the private car wherever possible through targeted investment and careful design. The following access and movement principles should be applied:
    - Ensure walking and cycling within the site is more convenient than driving. A network of car-free routes should allow residents and visitors to move through the site safely.
    - Design streets to encourage low driving speeds, with a maximum of 20 mph. Discourage car use by making vehicle routes less direct than walking and cycling routes.
    - Include a community transport hubs at the village centre to include the opportunity for cycle hire and micro-mobility hire as part of a future-proofing approach.
    - Favour disabled and electric vehicle parking where provided. Locate secure cycle parking closer to village centre facilities.
    - Ensure all allocated parking spaces have electric vehicle charging points.

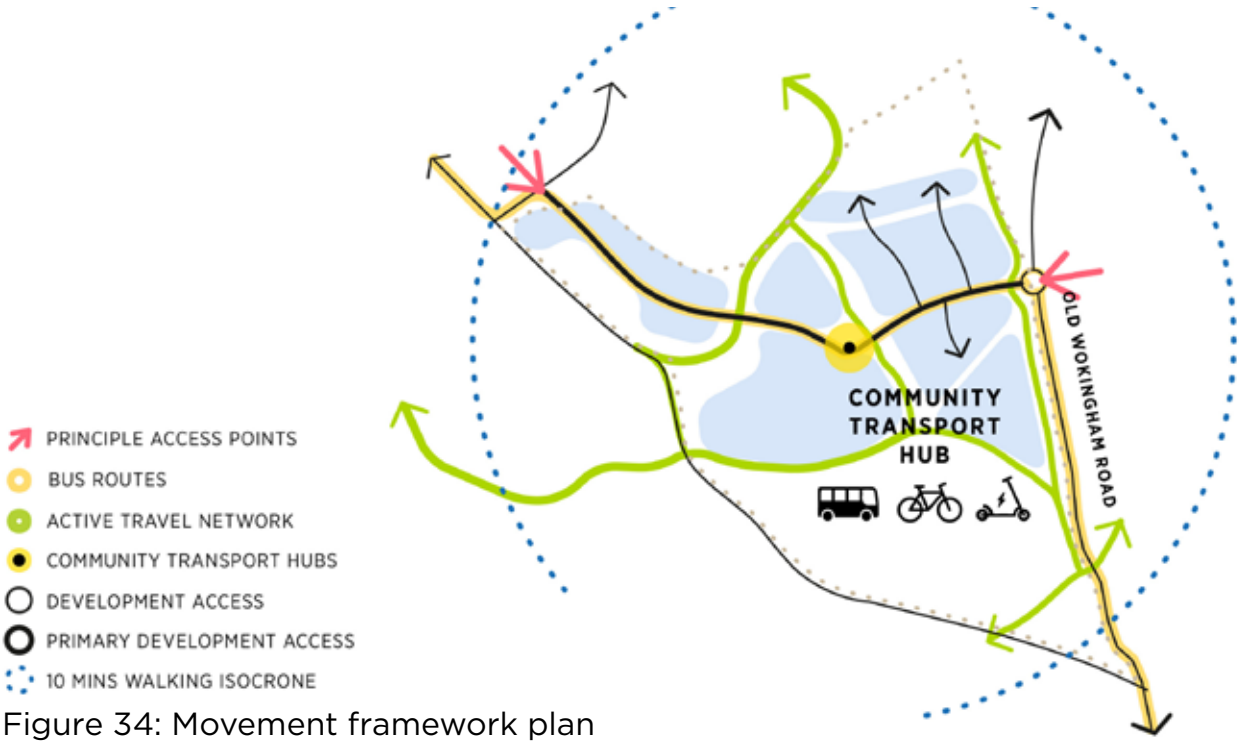


Figure 34: Movement framework plan

Infrastructure

The following summary of infrastructure requirements to support delivery at the South Wokingham SDL Extension has been identified:

Certain assumptions have been made regarding items to be paid from CIL receipts rather than Section 106 for the purpose of this viability testing. This is without prejudice to decisions taken by WBC and does not pre-determine the Infrastructure Delivery Plan.

	Infrastructure items	Indicative funding source
On site		
Transport & Access	Personal Travel Planning	S106
	Internal cycleway	Development cost
	Internal distributor roads	Development cost
	New roundabout junction on Old Wokingham Road	Development cost
	New road junction with SDL distributor road to the north	Development cost
Utilities	Utility connections	Development cost
	Electricity capacity reinforcement	Development cost
	Zero Carbon	Development Cost
	EV Charging points	Development cost
Green Infrastructure	SANG (16 hectares provision)	S106
	Public open space (amenity space, park, play space)	Development cost
	SuDS	Development cost
	Tree planting/landscape	Development cost
	Community building	CIL
Off site		
Transport & Access	Provision of east/west pedestrian/cycle route to Gray's Farm and into Easthampstead Park	S106/278
	Improvements to junction on South Wokingham Distributor Road	S106/278
	Improvement of Old Wokingham Road	S106/278
	Improvements to Vigar Way	S106/278
	Improvements to Peacock Lane Roundabout	S106/278
	Public Transport Service	S106
Education, Health & Sport	Contribution towards offsite sports facilities at Gray's Farm	S106
	Contribution off-site primary education	CIL
	Contribution off-site secondary education	CIL
	Contribution off-site Special Educational Needs	CIL
	Contribution to off-site health use/land	CIL

6.0 HIGH LEVEL VIABILITY ASSESSMENT

For both the opportunity at Hall Farm / Loddon Valley, and that at South Wokingham, high level viability appraisals have been carried out to assess whether, based on the information currently available and current market conditions, the sites demonstrate a reasonable prospect of delivery.

It should be noted that the market is currently in a significant state of uncertainty, in particular regarding matters such as the impact of labour, transport and port access limitations and fuel prices on the costs of construction, and the impact on market demand, certainty and mortgage availability which may be affected by the end of the Governments' Furlough scheme. There is also an expectation that there will be significant changes to Building Regulations going forward, arising from the need for developments to achieve reductions in carbon emissions, and ultimately move towards net zero. These have been reflected in so far as they can be estimated at this time, but again represent an area of uncertainty. Such impacts have not yet influenced the evidence available to support sustainable levels of value or cost adopted for the viability analysis.

It is also anticipated that a new tax regime is likely to be applied to residential development, including a Residential Property Developer Tax and a Tall Buildings Levy. Details of these are yet to be announced, so they cannot at this stage be reflected in the assessment.

This section of the report summarises out the outcomes of the viability assessment. Full details are provided in the report at Appendix 3.

All viability assessments were undertaken using Argus Industry Standard appraisal software.

Assumptions have been made on infrastructure costings and fundung sources (provided by Stantec) which are indicative at this stage and for the purpose of viability tests only.

Development appraisal assumptions for Hall Farm /Loddon Valley

Assumed mix of unit types, sizes, values:

Hall Farm / Loddon Valley Residential Mix - Whole								
split	unit no.	1 bed f	2 bed f	2 bed h	3 bed h	4 bed h	5 bed h	Total
Private 65%	2,925	5%	5%	25%	40%	20%	5%	
		146	146	731	1170	585	146	2925
Affordable remainder	1,181	30%	15%	15%	30%	10%		
		354	177	177	354	118		1181
1st homes 8.75%	394	197	197					394
		30%	15%	15%	30%	10%		
Social rented 70% of 35%	1,103	331	165	165	331	110		1103
Intermediate 30% less FH	79	24	12	12	24	8		79
Size M2 (IPMS2)		50	70	79	102	140	176	
Total M2 private		7312.5	10237.5	57768.75	119340	81900	25740	302298.75
Total M2 SR		16537.5	11576.25	13064.625	33736.5	15435	0	90349.875
Total M2 I		1181.25	826.875	933.1875	2409.75	1102.5	0	6453.5625
Total M2 FH		9,850	13,790	-	-	-	-	23640
Value per M2		£4,600	£4,600	£4,595	£4,600	£4,600	£4,546	£4,594
Value per unit		£230,000	£322,000	£363,005	£469,200	£644,000	£800,096	
Value per M2 SR	50% OMV	£2,300	£2,300	£2,298	£2,300	£2,300	£2,273	£2,297
Value per m2 I	65% OMV	£2,990	£2,990	£2,987	£2,990	£2,990	£2,955	£2,986
Value per M2 FH	70% OMV	£3,220	£3,220	£3,217	£3,220	£3,220	£3,182	£3,216
Value per unit FH		£161,000	£225,400	£254,104	£328,440	£450,800	£560,067	
Total	**4,500**	**698**	**520**	**908**	**1524**	**703**	**146**	**4500**

The Hall Farm / Loddon Valley opportunity has the capacity for circa 4,500 dwellings

It has been assumed that 25% of the affordable units will be First Homes (8.75% of the whole, with the remaining 1.25% to meet the overall 10% requirement being met from the intermediate provision). As there is a value limit on First Homes, these have to be comprised of 1 and 2 bed flats, and 2 bed houses, as the value of the other units at 30% discount exceeds the £250,000 threshold, as shown above in red.

In accordance with Government Guidance[1] once a minimum of 25% of First Homes has been accounted for, social rent should be delivered in the same percentage as set out in the local plan. The remainder of the affordable housing tenures should be delivered in line with the proportions set out in the local plan policy. The remaining affordable has been apportioned broadly in accordance with the LHNA and the SHMA mix, which with the inclusion of First Homes now skews the development more in favour of smaller flats than would previously have been ideal.

[1] First Homes - GOV.UK (www.gov.uk)

Ground rents for all flats for occupational sale assumed at £250 per annum, valued at 5% YP in perpetuity.

A summary of the key appraisal assumptions is set out below:

1 Indicative sales value expectations:

Values circa average £4,600 per M^2 based on assessment of local market

Private units					
1 bed flat	2 bed flat	2 bed terraced	3 bed semi	4 bed detached	5 Bed detached
50 M^2	70 M^2	79 M^2	102 M^2	140 M^2	176 M^2
£230,000	£322,000	£363,005	£469,200	£644,000	£800,096

2 Land acquisition Costs

Benchmark Land Value assumed to be £321,243 per Ha (£130,000 per acre). This is based on existing use value as Agricultural Land reflecting uplift assumed to be required as an incentive for the landowner to sell – i.e. EUV Plus, and considers earlier viability work produced by GL Hearn to support the Local Plan, updated. NB EUV for agricultural use circa £26,000 per ha[2] BLV therefore represents a multiplier of circa 12.36. In many locations a multiplier of circa 10 is used for BLV for agricultural land, reflecting the considerable incentive a landowner may need to forgo the long term earning potential of farmable land. The multiplier here reflects the strength of demand in the Thames Valley region, and particularly around Wokingham, and the likely impact this might have on the expectations of landowners. It also however reflects the scale of the site, the relatively high percentage of land for non-residential use (open space, schools etc.) within the overall land take, and the additional emerging policy requirements to support the climate change agenda. These all serve to depress the Benchmark Land Value, as does the additional burden of the specific infrastructure requirements in this location. The overall value that a landowner might reasonably anticipate in this location is therefore lower than might be applied to a smaller less constrained site, where nearby development potential is already clearly established.

- Stamp duty in accordance with rates appropriate to land
- 1.5% agents fee
- 0.75% legal fee

[2] Source VOA Land Values for Policy Purposes 2019 (latest edition) Thames Valley region.

3 Planning and site survey costs

- Planning assumed at circa £300,000 per 1000 units,
- Site survey £30,000 for 1000 units,

4 Construction costs – based on BCIS figures, average/median cost per M2 for various unit types

- Build costs £1,650 per M^2 (+ 4% for carbon reduction = £1,716)
- Contingency 7.5% - reflecting current uncertainties
- Developer's contingency 5%
- NHBC costs £1,000 per unit
- EV Charging points £500 per unit, one per unit

5 CIL – Indexed to January 2021

- £469.29 per M^2 for private units

6 Professional fees (In addition to planning and survey costs)

- 10% - generous allowance

7 Marketing

- 2.5% of cost for private units

8 Sales and Legal fees

- Sales Agents fees 1.25% of values, Legal fees 0.25% of value per unit

9 Finance

- 5% on debt, 0% on credit

10 Developer's return

- An outturn rate of 18% overall profit on GDV

11 Phasing and delivery assumptions

	Phase 1	Phase 2	Phase 3	Sub Phases
	9 years	11 years	9 years	Overall 24 years
Year	1,350	1,900	1,250	
Lead in	30			Sub phase 1
2	60			
3	110			
4	225			Sub Phase 2
5	225			
6	250			
7	225			Sub phase 3
8	225	30		Sub Phase 4
9		120		
10		150		
11		225		Sub Phase 5
12		225		
13		225		
14		225		Sub Phase 6
15		225		
15		225		
17		145	30	Sub Phase 7
18		105	120	Sub Phase 8
19			150	
20			225	Sub phase 9
21			225	
22			225	Sub Phase 10
23			175	
24			100	
Totals	1,350	1,900	1,250	4,500

This Build-out is indicative and based on a conservative estimate for a strategic site.

Infrastructure costs

A full schedule of indicative infrastructure costs has been provided by Stantec. This includes on and off site highways works, open space, public transport provision, drainage, utilities and all other requirements to be met by the development. At this stage in the process the costs are determined by a high level assessment supported by feasibility designs which include an element of risk. The risk allowance is intended to enable variations identified as the detailed work progresses to be absorbed within the high level budget envelope. This is in addition to the wider contingencies included within the appraisals

It should be noted that the infrastructure costs do not include the provision of a new M4 Junction as this is considered not to be justified by the residential allocation alone, but may be a requirement of a much wider development incorporating commercial uses as currently being promoted at 4 Valleys.

In summary, the total infrastructure and s.106 costs allowed for in the development appraisal amount to circa £159,200,000. This includes £25m for a bridge over the M4, £20 m for a road bridge over the Loddon, and a £10m pedestrian bridge as well as utility costs, open space etc. This figure excludes base build costs for the residential development and contingencies.

The infrastructure costs included in the appraisal do not include elements identified for viability purposes to be delivered through by CIL, including the following: Community buildings, sports buildings, schools and education provision and some local public transport. The total cost of these items amounts to circa £55,500,000.

Exclusions:

- Any commercial development within residential area– this is assumed to at least be land cost neutral
- Impact of any Residential Property Developer Tax
- Impact of any Tall Buildings Levy

Viability Outcomes

The appraisal indicates that overall, the opportunity appears to be viable, as it generates an 18% Developers profit, and a Residual Land Value that exceeds the indicative Benchmark Land Value.

The total land take that has been adopted for the viability testing is based on the amount of land that would need to be acquired to comply with all policy requirements and to provide the development as a whole. This is based on the following:

- An assumed average density of 30 dwellings per hectare on ha of developable land;
- 20 hectares for schools;
- Min 51 ha to meet open space requirements (Policy Compliant) including space for sports and community provision;
- 21 ha for strategic road infrastructure corridors.

This amounts in total to some 242 ha. In addition circa 5ha is required to accommodate local centres and local employment provision – It is assumed that the commercial uses on this land will at least wash their face financially, and will generate their own land value sufficient to meet the Benchmark Land Value. This land is therefore excluded from that used to assess the viability of the indicative residential development.

It should be noted that the wider site area identified in the high level masterplan indicates a total area of circa 282 ha (excl. SANG), however this includes some space that is not intended to be acquired for development, such as some areas of woodland, land associated with ancient monuments etc. The test is therefore against the anticipated extent of the land that will actually be needed to enable the development to proceed.

The viability summary is as follows:

Hall Farm Viability Summary	
Total land take (ha)	242
Residual Land Value	£78,637,290
RLV/ha	£324,947.48
BLV/ha	£321,243

In terms of CIL, Certain assumptions have been made regarding items to be paid from CIL receipts rather than Section 106 for the purpose of this viability testing. This is without prejudice to decisions taken by WBC and does not pre-determine the Infrastructure Delivery Plan. The CIL assumptions and financial picture is as follows:

CIL Costs		CIL Income
Local public transport	£900,000	
3 no. community buildings	£2,100,000	
Sports changing facility	£665,000	
2 no. 3FE primary schools, 1 no. 2 FE primary school	£35,109,000	
12FE secondary school	£12,870,000	
GP surgery / health use facility	£1,680,000	
Contribution to off-site Special Education Needs	£1,773,000	
Allotments	£360,000	
Total	**£55,457,000**	**£143,101,214**
CIL Surplus		**£87,644,214**

This indicates a substantial CIL surplus, which demonstrates a degree of resilience in deliverability.

Sensitivity Analysis

All development appraisals are sensitive to changes in ley assumptions. To test the overall resilience of the location and prospects for delivery we have looked at the implications of a 5% reduction and a 5% increase in costs and values.

The worst case sensitivity scenario is a 5% reduction in values, alongside a 5% increase in costs. This scenario indicates a negative Residual Land Value of circa £20,000,000. A reduction of circa 125%. However, if the CIL surplus were to be available to support the development by reducing infrastructure costs, there would not only be a saving in infrastructure costs to the development, but also a saving in finance and carrying costs. It is therefore anticipated that the development has the potential to be made deliverable.

It should also be noted that in such circumstances, the expectations of landowners would also fall, and it would be justifiable for a lower Benchmark Land Value to be applied.

Overall, this indicates that the Hall Farm/Hatch Farm location has a realistic prospect of delivery.

Development appraisal assumptions for South Wokingham

Assumed mix of unit types, sizes, values:

South Wokingham Residential Mix - Whole								
split	unit no.	1 bed f	2 bed f	2 bed h	3 bed h	4 bed h	5 bed h	Total
Private 65%	543	5%	5%	25%	40%	20%	5%	
		27	27	136	217	109	27	543
Affordable remainder	219	30%	15%	15%	30%	10%		
		66	33	33	66	22		219
1st homes 8.75%	73	37	36					73
		30%	15%	15%	30%	10%		
Social rented 70% of 35%	205	61	31	31	61	20		205
Intermediate 30% less FH	15	4	2	2	4	1		15
Size M2 (IPMS2)		50	70	79	102	140	176	
Total M2 private		1356.875	1899.625	10719.313	22144.2	15197	4776.2	56093.213
Total M2 SR		3068.625	2148.0375	2424.2138	6259.995	2864.05	0	16764.921
Total M2 I		219.1875	153.43125	173.15813	447.1425	204.575	0	1197.4944
Total M2 FH		1,850	2,520	-	-	-	-	4370
Value per M2		£4,600	£4,600	£4,595	£4,600	£4,600	£4,546	£4,594
Value per unit		£230,000	£322,000	£363,005	£469,200	644,000	£800,096	
Value per M2 SR	50% OMV	£2,300	£2,300	£2,298	£2,300	£2,300	£2,273	£2,297
Value per m2 I	65% OMV	£2,990	£2,990	£2,987	£2,990	£2,990	£2,955	£2,986
Value per M2 FH	70% OMV	£3,220	£3,220	£3,217	£3,220	£3,220	£3,182	£3,216
Value per unit FH		£161,000	£225,400	£254,104	£328,440	£450,800	£560,067	
Total	**835**	**130**	**96**	**169**	**283**	**130**	**27**	**835**

The South Wokingham opportunity has the capacity for circa 835 dwellings

As for Hall Farm/Hatch Farm it has been assumed that 25% of the affordable units will be First Homes (8.75% of the whole, with the remaining 1.25% to meet the overall 10% requirement being met from the intermediate provision). Again, these have to be comprised of 1 and 2 bed flats, and 2 bed houses, as the value of the other units at 30% discount exceeds the £250,000 threshold, as shown above in red.

In accordance with Government Guidance once a minimum of 25% of First Homes has been accounted for, social rent should be delivered in the same percentage as set out in the local plan. The remainder of the affordable housing tenures should be delivered in line with the proportions set out in the local plan policy. The remaining affordable has been apportioned broadly in accordance with the LHNA and the SHMA mix, which with the inclusion of First Homes now skews the development more in favour of smaller flats than would previously have been ideal.

Ground rents for all flats for occupational sale assumed at £250 per annum, valued at 5% YP in perpetuity.

A summary of the key appraisal assumptions is set out below, these largely match those adopted for Hall Farm/Hatch Farm as the sites are within the same overall market:

1 Indicative sales value expectations:

Values circa average £4,600 per M^2 based on assessment of local market

Private units					
1 bed flat	2 bed flat	2 bed terraced	3 bed semi	4 bed detached	5 Bed detached
50 M^2	70 M^2	79 M^2	102 M^2	140 M^2	176 M^2
£230,000	£322,000	£363,005	£469,200	£644,000	£800,096

2 Land acquisition Costs

For this location a higher Benchmark Land Value of £370,665 per Ha (£150,000 per acre) has been assumed. This reflects the development potential in the immediately surrounding area already identified by the adjacent Strategic Development Location (SDL). Again this is based on existing use value as Agricultural Land but reflecting a higher uplift as an incentive for the landowner to sell – i.e. EUV Plus, based on the relative lack of constraint in this location, the smaller scale of the site and the likelihood that the land will include a mix of agricultural, and land associated with people's homes and businesses. It considers the earlier viability work produced by GL Hearn to support the Local Plan and represents a multiplier of circa 14.4 on purely agricultural values of circa £26,000 per ha. This is a relatively high multiplier and reflects both the strength of demand in the Thames Valley region, and particularly around the south of Wokingham, and the likely raised expectation of landowners arising from the SDL. It should however be noted that if costs rise (particularly as a result of further as yet unanticipated

changes to policy requirements), or values fall, it is expected that this would be reflected to some extent by a reduction in Benchmark Land Value.

- Stamp duty in accordance with rates appropriate to land
- 1.5% agents fee
- 0.75% legal fee

3 Planning and site survey costs

- Planning assumed at circa £135,000 per phase,
- Site survey £20,000 per phase,

4 Construction costs – based on BCIS figures, average/median cost per M2 for various unit types

- Build costs £1,650 per M^2 (+ 4% for carbon reduction = £1,716).
- Contingency 7.5% - reflecting current uncertainties.
- Developer's contingency 5%.
- NHBC costs £1,000 per unit.
- EV Charging points £500 per unit, one per unit.

5 CIL – Indexed to January 2021

- £469.29 per M^2 for private units.

6 Professional fees (In addition to planning and survey costs)

- 10% - generous allowance.

7 Marketing

- 2.5% of cost for private units.

8 Sales and Legal fees

- Sales Agents fees Legal fees 0.25% of value per unit.

9 Finance

- 5% on debt, 0% on credit.

10 Developer's return

- An outturn rate of 18% overall profit on GDV.

11 Phasing and delivery assumptions

South Wokingham Phasing and delivery				
	Total	Phase 1	Phase 2	Phase 3
Year				
1	40			
2	85			
3	125	250		
4	175			
5	175		300	
6	175			
7	60			285
Totals	835	250	300	285
			Check	835

Infrastructure costs

A full schedule of indicative infrastructure costs has been provided by Stantec, this includes on and off site highways works, open space, public transport provision, drainage, utilities and all other requirements to be met by the development.

In summary, the total infrastructure and s.106 costs allowed for in the development appraisal amount to just over £15,535,000. Which includes all highways works, as well as utility costs, open space etc. This figure excludes base build costs for the residential development and contingencies.

The infrastructure does not include elements identified for viability purposes to be delivered through by CIL, including the following: community provision, education provision, and health. The total cost of these items amounts to just over £10,250,000.

Exclusions:

- Any commercial development within residential area– this is assumed to at least be land cost neutral.
- Impact of any Residential Property Developer Tax.
- Impact of any Tall Buildings Levy.

Viability Outcomes

The appraisal indicates that overall, the opportunity appears to be viable, as it generates an 18% Developers profit, and a Residual Land Value that exceeds the indicative Benchmark Land Value:

South Wokingham Viability Summary	
Total land take (ha)	55.3
Residual Land Value	£20,655,936
RLV/ha	£373,525.06
BLV/ha	£370,665

In terms of CIL, Certain assumptions have been made regarding items to be paid from CIL receipts rather than Section 106 for the purpose of this viability testing. This is without prejudice to decisions taken by WBC and does not pre-determine the Infrastructure Delivery Plan. The CIL assumptions and financial picture is as follows:

CIL costs		CIL income
Allotments	£66,800	
Community Building	£700,000	
Off site Primary Education	£6,514,670	
Off site Secondary Education	£2,388,100	
Off site SEN Education	£328,990	
Off site health provision	£274,834	
Total	**£10,273,394**	**£26,323,884**
CIL Surplus		**£16,050,490**

This indicates a substantial CIL surplus, which demonstrates a degree of resilience in deliverability.

Sensitivity Analysis

All development appraisals are sensitive to changes in key assumptions. To test the overall resilience, we have looked at the implications of a 5% reduction and a 5% increase in costs and values.

The worst case sensitivity scenario is a 5% reduction in values, alongside a 5% increase in costs. This scenario indicates a Residual Land Value of only circa £5,664,730. A reduction of circa 73%. However, if the CIL surplus were to be available to support the development by reducing infrastructure costs, the development could be made deliverable.

It should also be noted that in such circumstances, the expectations of landowners would also fall, and it would be justifiable for a lower Benchmark Land Value to be applied.

Overall, this indicates that the South Wokingham location has a realistic prospect of delivery.

Overall conclusions for Hall Farm/ Hatch Farm and South Wokingham:

1. **The required level of developer's profit** – The profit level adopted reflects the levels being assumed for testing local plan viability, and is assumed as a cost in the development appraisal. The overall profit reflects that a lower profit would be required for the disposal of the Affordable units for Social Rent and Intermediate uses, but that a full developer's profit is likely to be required for First homes. In both cases the appraisals support a realistic level of Developer's Profit

2. **The required level of CIL** –The total amount of CIL collected for both opportunity locations easily covers the Council's obligations and provides resilience for other costs that may need to come out of CIL should this be required to ensure ongoing deliverability

3. **The required level and mix of affordable housing** – the appraisal tests the policy compliant mix off affordable housing, allowing for the impact of the requirement to incorporate First Homes

4. **A land value which exceeds existing use value and benchmark land value and is therefore viable based on the assumptions set out above.** Both opportunities generate a Residual Land Value that meets or exceeds the assumed Benchmark Land Value, indicating viability.

7.0 CONCLUSION

7.1 Study approach

WBC is currently preparing the Local Plan Update covering the period up to 2037, and as part of this, is assessing the potential development opportunities at strategic scale sites.

WBC has procured the supporting services of David Lock Associates and Stantec to assess the suitability, capacity, and infrastructure needs of two strategic sites at:

- **Land at Hall Farm / Loddon Valley;**
- **An extension to the South Wokingham Strategic Development Location (SDL)**

To support the consideration of these two sites, supporting viability assessment, strategic flood risk assessment, transport modelling and renewable energy mapping has additionally been undertaken.

The assessment of the two strategic sites has included the following stages:

- **Baseline assessment** – a series of initial meetings, sharing of information, and capacity testing was undertaken.
- **Constraint and contextual analysis** - key constraints were mapped and analysed including flood risk zones, areas of archaeological potential, listed buildings, nature designations, landscape designations, tree preservation orders, ancient woodland, air quality management areas, public open spaces, public rights of way and cycle paths. An analysis of the residential and commercial markets for each location was undertaken to gain an insight into the local property market dynamics, local demand and supply.
- **Technical workshops** - Three virtual technical stakeholder workshops were held, to cover both strategic sites, comprising the key themes of: (i.) green and blue infrastructure; (ii.) transport and movement; and (iii.) community wellbeing. A written summary of key points raised is appended to this report.
- **Community representatives' workshops** – A session for each site was held for WBC ward councillors and elected members, and representatives of relevant parish councils, to discuss the opportunities presented by the two locations. This included use of an interactive masterplanning tool to enable attendees to examine and discuss site capacity and potential.
- **Design options and masterplanning** - The masterplans were further developed for each site, particularly taking into account the wider implications of development for landscape, settlement pattern, built form and connectivity. The masterplans were placed within the context of, and guided by, the vison underpinned by strong design principles aimed at promoting sustainable and balanced communities.
- **Scenario testing** - Following the finalisation of the framework masterplans and the required supporting infrastructure, the recommended scenario was subject to a viability assessment in order to establish the extent to which viability issues support or constrain development opportunities.

7.2 Hall Farm / Loddon Valley

Site assessment

The study area extends between the new Shinfield Bypass (Eastern Relief Road) to the west and Mill Lane, Sindlesham to the east. The northern boundary is defined by the B3270 Lower Earley Way to the north of the M4 motorway, whilst Arborfield Road, Church Lane and Mole Road/B3030 form a southern boundary.

The study area is bisected north-west / south-east by the River Loddon valley, a low-lying river valley, defined as a proposed Valued Landscape. The principal focus of this study is land to the south-east of the River Loddon, an area measuring approximately 282 ha mainly in agricultural use. The majority of the study area is owned by the University of Reading, including the University's Centre for Dairy Research. There are also smaller clusters of homes and farm buildings where Copse Barnhill Lane, Carters Hill, Julkes Land and Parkcorner Lane converge towards the east and at Hall Farm towards the west. Each of these clusters includes a small number of listed buildings. Land at Hatch Farm in the east is currently being promoted for residential use. Whilst the majority of the site lies in Flood Zone 1 (areas with a low probability of river flooding) there are also corridors of Flood Zone 2 (medium probability) and Flood Zone 3 (high probability) along the River Loddon and Barkham Brook.

The north-west of the study area contains the University of Reading' Thames Valley Science Park which is being developed in distinct phases for a range of science, technology, TV and film studio uses. A research and storage facility for the British Museum Archaeological Research Collection is also currently being constructed. The University of Reading are currently developing further proposals for this part of the site, as part of a wider development concept for film and media, innovation and technology, and heritage and arts. In the longer term, additional medical uses are also proposed, including a potential major teaching hospital, as well as a limited amount of housing.

Summary of findings

Hall Farm / Loddon Valley offers strong potential for a new Garden Community of approximately 4,500 dwellings. This will support the provision of potentially 60-65 hectares of employment uses to the north-west of the study area, to the east of Shinfield. The site attributes will be harnessed to ensure a sustainable settlement set within a high-quality environment that is characterised by its abundant green spaces and access to a wider green network. the framework masterplan includes the following features:

- Potential provision of approximately 4,500 dwellings on land to the south-east of the River Loddon, as part of a mixed-use community.

- Residential uses focused at three distinct neighbourhoods, each containing co-located local centre / community facility and a primary school. The central neighbourhood additionally includes a 12 FE Secondary School.
- A comprehensive network of green spaces, including over 65 hectares of SANG within the Loddon Valley, and policy compliant quantum of informal and formal open space.
- Development areas that avoid sensitive locations, including areas of flood risk, existing woodland, locally identified areas of historic importance, and existing settlements.
- Green corridors that permeate across the site to not only link areas of ecological value but to also enable active travel routes and greenways that link residential areas with leisure and employment destinations. This includes north-south connectivity and the potential to extend the River Loddon long distance footpath.
- Sensitive edges at Arborfield and Sindlesham to avoid potential coalescence as part of the wider approach to landscape design and strategic planting.
- Provision of local transport hubs, including dedicated bus links and infrastructure across the site, to enable provision of priority bus services that link residential and employment areas, as well as linkages into Arborfield, Winnersh, Wokingham, and central Reading.
- A transport network that enables flexibility with a future-proofed bridge over the M4 that could be converted to a new motorway junction should the need arise. Also, a reserved strategic route corridor that can provide extra capacity should a hospital (and the new M4 motorway junction) come to fruition.
- Wider potential to extend RTS across the wider network, along the East-West corridor between Thames Valley Park, Winnersh Triangle and Mereoak. This includes a connection along Mill Lane to the Winnersh Relief Road, and a direct link via the M4 bridge to Winnersh roundabout.

The viability assessment of the masterplan illustrates that the provision of 4,500 dwellings and supporting uses is considered to be viable, albeit there are some significant development and infrastructure costs to be taken into account. Crucial to this will be the careful phasing and flexibility of infrastructure provision alongside development. Key expenditure will be in relation to transport infrastructure, including the timely provision of bridge over the M4 motorway together with potential upgrade to motorway junction within a later phase (if it was considered to be required). Additional infrastructure spend is likely to be required in relation to providing new roundabout access points on A327, Mole Road, and Mill Lane, as well as ensuring effective connections across the Loddon Valley to ensure cohesive internal linkages with the Thames Valley Science Park and other uses within the western part of the wider site.

7.3 South Wokingham SDL Extension

Site assessment

Located within and adjacent to the allocated South Wokingham Strategic Development Location (SDL), the site provides an opportunity for further planned urban expansion. The site is triangular in shape, defined by Easthampstead Road to the south and west, and Old Wokingham Road (and borough boundary) to the east. The northern boundary is made up from privately owned land to the south of Waterloo Road and land which forms part of the South Wokingham SDL.

Within the SDL there is a hybrid application for a mixed-use development of up to 1,434 dwellings, a two-form entry primary school, local centre including community building and a full application for the proposed Suitable Alternative Natural Greenspace (SANG). Overall, the original SDL is anticipated to provide in the region of 2,500 dwellings.

The site itself is largely unconstrained. It comprises open farmland with a limited number of remnant hedgerows. Tree Preservation Orders (TPOs) are in place along the northern boundary and in small pockets at the western and eastern edges. The site is bisected by the Emm Brook where very limited flooding occurs. Land slopes very gently towards the brook. Small areas of existing built development comprising farm units and industrial buildings front Easthampstead Road. There are two groupings of Listed Buildings at Pearce's Farm to the west, and Lock's House to the north. Within the north of the study area, there is a proposed development for up to 95 dwellings, public open space, and pedestrian cycle access.

The site is currently accessed by minor roads which are unsuited to serving a strategic scale development. Easthampstead Road to the west is a narrow lane with a strong rural character and limited scope for upgrading. Old Wokingham Road to the east does provide potential for widening northwards to the junction with Waterloo Road and Peacock Lane, where an improved junction would deliver wider highway benefits.

Summary of findings

The Masterplan for the South Wokingham SDL Extension includes:

- The provision of 835 dwellings, together with a small local centre and central square at the heart of the development. The density of dwellings lessens away from the local centre, and additionally reduces to the south to enable a softer, blended edge to green spaces
- A network of paths and cycleways that follow Emm Brook and connect into wider active travel network, as well as a green infrastructure spine running north-south through the centre of the proposed development, providing connection into the South Wokingham SDL itself;
- Provision of new public open space, including play locations and allotments, together with an area of SANG to support delivery of dwellings on site.
- New access road that connects directly into the strategic road network within the South Wokingham SDL to the north, thereby negating the need to rely on Easthampstead Road to the west.
- To the east, the provision of a new roundabout junction with Old Wokingham Road, with potential capacity improvements to the road to the north.

The viability assessment of the South Wokingham SDL demonstrates that the delivery of approximately 835 dwellings is considered to be viable. In addition to the provision of internal distributor roads and cycleways, the key infrastructure costs relate to new road junctions on Old Wokingham Road, and the provision of a new road junction with the SDL distributor road to the north. From a sustainability perspective, the viability assessment has additionally taken into account costs relating to EV Charging points, electricity capacity reinforcement, and ensuring the development meets zero carbon requirements.

APPENDICES

APPENDIX 1: COMMUNITY REPRESENTATIVES' WORKSHOPS

APPENDIX 2: STAKEHOLDER WORKSHOPS

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APPENDIX 2: STAKEHOLDER WORKSHOPS

APPENDIX 3: VIABILITY ASSESSMENT

DAVID LOCK ASSOCIATES