
Sustainability Statement

October 2024



DAVID WILSON HOMES

WHERE QUALITY LIVES





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1. Introduction

This Sustainability Statement has been prepared to demonstrate how sustainability has been considered in development proposals at Land at Duck's Nest, Arborfield for "A hybrid application comprising:

- a) A full application for the change of use of land from agricultural land to provide an area of Suitable Alternative Natural Greenspace (SANG), including the details of associated landscaping, planting, drainage measures, parking, walking routes and other works associated with the creation of the SANG.
- b) An outline application with all matters reserved other than access into the site for a residential development of up to 135 dwellings, open space, internal accesses and parking, drainage measures, landscaping and all other associated works."

The applicant, David Wilson Homes (Southern) is part of Barratt Developments PLC, and therefore the applicant is referred to as Barratt David Wilson (BDW) throughout.

Site and Surroundings

The Site comprises open agricultural and arable land, which is located to the immediate north of Arborfield Garrison.

The site is bounded by Observer Way to the south west, a recently constructed relief road around the village of Arborfield Cross (which lies to the north east of the site). Also to the north lies Arborfield Court, a Grade II listed country house and surrounding grounds.

To the east the site is bounded by Eversley Road which connects Arborfield Garrison and Arborfield Cross. Ducks Nest farm house (Grade II listed) and a small industrial area also lies to the east, accessed from Eversley Road. A further four existing dwellings are also accessed from Eversley Road, with their rear gardens facing the site boundary.

Proposed Development

Figure 1 shows the illustrative framework masterplan for the proposed development site for up to 135 new homes, 10.5 ha of SANG, public open space, landscaping, drainage infrastructure and other associated engineering works.

Figure 1. Illustrative framework masterplan



Report Structure

The following chapters set out:

- National and local sustainability objectives and policy;
- BDW's commitment to sustainability, including carbon reductions
- Measures incorporated into the outline design of the development and to be considered during the detailed design of new homes, to demonstrate assessed against the policy requirements

Additional details are provided within the Design and Access Statement (DAS) and Planning Statement (PS) that accompany the application.

2. National and local sustainability objectives and policy

This chapter provides an overview of the relevant sustainability planning policy and guidance from a national and local perspective.

National Policy

This section sets out a summary of current national guidance and policy in relation to sustainable development.

National Planning policy Framework

Most recently updated in 2023 the National Planning Policy Framework (NPPF) provides a framework for the development of locally prepared plans and the governments planning policies for England and how these are expected to be applied.

Paragraph 7 of the NPPF states: *‘the purpose of the planning system is to contribute to the achievement of sustainable development’*.

Paragraph 8 of the NPPF states clearly that in order to deliver sustainable development, the planning system must perform three distinct objectives, aligned to the three pillars of sustainability, which must not be taken in isolation and should be pursued jointly:

- An economic objective to contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure.
- A social objective supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high-quality built environment, with accessible local services that reflect the community’s needs and support its health, social and cultural well-being; and
- An environmental objective contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

These objectives are key to the development of plans and the NPPF sets out several key themes for consideration, which guide the preparation of local plans and policies, ensuring the delivery of sustainable development.

Planning Practice Guidance

Planning Practice Guidance (PPG) provides further advice on various planning issues associated with development, including those linked to sustainability and renewable energy and underpins the policies within the NPPF.

PPG is a material consideration in planning decisions and should generally be followed unless there are clear reasons not to.

It also sets out how local authorities should include policies that protect the local environment and strategies to mitigate and adapt to climate change and supports developments that are functional and adaptable for the future.

PPG updates have confirmed that Local Authorities have the option to set technical requirements exceeding the minimum requirements of the Building Regulations in respect of access, water and internal space standards where sufficient evidence is produced to justify the target. Energy requirements over and above Building Regulations should not be higher than the equivalent of Level 4 of the Code for Sustainable Homes.

National Design Guide

The National Design Guide published in October 2019 and last updated in January 2021 is based on the national planning policy practice guidance and objectives for good design as set out in the NPPF. The Guide introduces ten characteristics of well-designed places, which work together to create developments 'Character and Community', while positively addressing environmental issues affecting climate. This is expanded on further within the DAS.

Building Regulations

In 2019, the UK government set a target to achieve net zero greenhouse gas emissions by 2050. Our homes and the places we live and work will be crucial in meeting that target and creating a zero carbon society.

Since then, government has set out its 'ten point plan' for a Green Industrial Revolution while the Ministry for Housing, Communities and Local Government has committed to delivering the Future Homes Standard for new properties. This standard, with low carbon heating and high levels of energy efficiency, will drive a step change in how we build and live in our homes.

In December 2021, several changes to the Building Regulations were published and came into effect in June 2022 (with transitional arrangements to June 2023). The buildings regulations affected are:

- Part F - Ventilation
- Part L - Conservation of fuel and power

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- Part O - Overheating
 - Part S - Infrastructure for the charging of electric vehicles

The changes to Part L achieve 31% carbon reduction over the 2013 regulations for all new homes, to be achieved through a combination of thermal performance, air tightness, low carbon heating, on-site low/zero carbon energy technology with higher levels of energy efficiency (e.g. double-glazing).

The Future Homes Standard (FHS) will then come into place in 2025 and will go beyond this to achieve a 75-80% carbon reduction over current regulations, with no new gas boilers. The aim is to future proof the design of new homes to reduce carbon emissions and help meet the zero carbon target.

Local Planning Policy

Wokingham Borough Council (WBC) – Adopted Core Strategy

WBC's current Core Strategy was adopted on 29 January 2010. The plan carries full weight in the determination of planning applications, where it is consistent with national planning policy, providing an overall framework for growth in the period up to 2026.

Chapter 4 of the Core Strategy sets out the overall strategy for '*delivering a sustainable borough*':

- Development within the borough should enhance the overall sustainability of the area through minimising impact on the environment, including access to facilities as detailed under CP9.
- Proposals for new development, including the construction of new buildings inter alia will be acceptable where the design of buildings and site layouts use energy, water, minerals, materials and other natural resources appropriately, efficiently and effectively and take account of the effects of climate change. Delivering on sustainable energy can bring significant social, environmental and economic benefits to Wokingham Borough.
- The Council will expect developers to use the Buildings Regulations, the Code for Sustainable Homes and other national guidance (at the time of application) to demonstrate that in order to achieve reductions in carbon emissions, a percentage of energy used in developments be provided by on site renewable energy installations.
- Development for the generation of energy from renewable resources will be permitted unless there are unacceptable locational or other impacts that could not be outweighed by wider environmental, social and economic or other benefits. Overall, the Council wants to achieve

zero-carbon development as soon as possible. The Government target for new homes is to do so by 2016.¹

Chapter 4 sets out planning policies. Extracts of the relevant planning policies drawing out the elements associated with sustainability are set out below.

CP1 – Sustainable development

This policy states that *‘Planning permission will be granted for development proposals that:*

- 1) Maintain or enhance the high quality of the environment;*
- 2) Minimise the emission of pollutants into the wider environment;*
- 3) Limit any adverse effects on water quality (including ground water);*
- 4) Ensure the provision of adequate drainage;*
- 5) Minimise the consumption and use of resources and provide for recycling;*
- 6) Incorporate facilities for recycling of water and waste to help reduce per capita water consumption;*
- 7) Avoid areas of best and most versatile agricultural land;*
- 8) Avoid areas where pollution (including noise) may impact upon the amenity of future occupiers;*
- 9) Avoid increasing (and where possible reduce) risks of or from all forms of flooding (including from groundwater);*
- 10) Provide attractive, functional, accessible, safe, secure and adaptable schemes;*
- 11) Demonstrate how they support opportunities for reducing the need to travel, particularly by private car in line with CP6; and*
- 12) Contribute towards the goal of reaching zero-carbon developments as soon as possible by:*
 - a) Including appropriate on-site renewable energy features; and*
 - b) Minimising energy and water consumption by measures including the use of appropriate layout and orientation, building form, design and construction, and design to take account of microclimate so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form’.*

CP2 - Inclusive communities

To ensure that new development contributes to the provision of sustainable and inclusive communities (including the provision of community facilities) to meet long term needs, planning permission will be granted for proposals that address the requirements of:

¹ Note that this target has been superseded and the latest government target is that all new homes will be zero carbon ready from 2025 and zero carbon from 2050.

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- a) An ageing population, particularly in terms of housing, health and wellbeing;
 - b) Children, young people and families, including the co-ordination of services to meet their needs;
 - c) People with special needs, including those with a physical, sensory or learning disability or problems accessing services; and
 - d) The specific identified needs of minority groups in the borough, including Gypsies, Travellers and Travelling Showpeople and black and minority ethnic groups. Proposals for gypsies, travellers and travelling showpeople (including allocations in other Development Plan Documents) will demonstrate that:
 - i. The site is located either within or close to the development limits of a settlement in policy CP9 in order to maximise the possibilities for social inclusion and sustainable patterns of living; and
 - ii. The proposed site is not disproportionate to the scale of the existing settlement whether singly or cumulatively with any existing sites in the area.

CP3 - General Principles for development

Planning permission will be granted for proposals that:

- a) Are of an appropriate scale of activity, mass, layout, built form, height, materials and character to the area together with a high quality of design without detriment to the amenities of adjoining land users including open spaces or occupiers and their quality of life;
- b) Provide a functional, accessible, safe, secure and adaptable scheme;
- c) Have no detrimental impact upon important ecological, heritage, landscape (including river valleys) or geological features or water courses.
- d) Maintain or enhance the ability of the site to support fauna and flora including protected species;
- e) Use the full potential of the site and contribute to the support for suitable complementary facilities and uses;
- f) Contribute to a sense of place in the buildings and spaces themselves and in the way they integrate with their surroundings (especially existing dwellings) including the use of appropriate landscaping;
- g) Provide for a framework of open space in secure community use achieving at least 4.65 ha/1,000 population provision together with recreational/sporting facilities in addition to private amenity space;
- h) Contribute towards the provision of an appropriate sustainable network of community facilities;
- i) Do not lead to a net loss of dwellings and other residential accommodation or land; and
- j) Do not lead to a loss of community or recreational facilities/land or infrastructure unless suitable alternative provision is available.

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- k) Development proposals will be required to demonstrate how they have responded to the above criteria through the submission of Design and Access Statements, clear and informative plans, elevations and streetscenes and where required Masterplans, Development Briefs, Concept Statements and Design Codes.

CP4 - Infrastructure Requirements

Planning permission will not be granted unless appropriate arrangements for the improvement or provision of infrastructure, services, community and other facilities required for the development taking account of the cumulative impact of schemes are agreed.

Arrangements for provision or improvement to the required standard will be secured by planning obligations or condition if appropriate.

CP5 - Housing mix, density and affordability

Planning permission will be granted for residential development providing a mix and balance of densities, dwelling types, tenures and sizes. Affordable housing must reflect the sizes and types that meet the proven needs of people who are not able to compete in the general housing market.

All residential proposals of at least 5 dwellings (net) or covering a net site area of at least 0.16 ha will provide up to 50% of the net additional units proposed as affordable dwellings, where viable. The Council will negotiate the tenure, size and type of affordable units on a site by site basis having regard to housing needs, site specifics and other factors.

Subject to viability, the minimum percentage of affordable housing sought on site for the Site's land type, location and area is 40%.

CP6 - Managing Travel Demand

Planning permission will be granted for schemes that:

- a) Provide for sustainable forms of transport to allow choice;
- b) Are located where there are or will be at the time of development choices in the mode of transport available and which minimise the distance people need to travel;
- c) Improve the existing infrastructure network, including road, rail and public transport, enhance facilities for pedestrians and cyclists, including provision for those with reduced mobility, and other users;
- d) Provide appropriate vehicular parking, having regard to car ownership;
- e) Mitigate any adverse effects upon the local and strategic transport network that arise from the development proposed;
- f) Enhance road safety; and
- g) Do not cause highway problems or lead to traffic related environmental problems.

CP7 - Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted. The degree of protection given will be appropriate to the status of the site in terms of its international or national importance.

Development:

- A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or
- B) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or
- C) That compromises the implementation of the national, regional, county and local biodiversity action plans

will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:

- i) Mitigation measures can be put in place to prevent damaging impacts; or
- ii) Appropriate compensation measures to offset the scale and kind of losses are provided.

CP8 - Thames Basin Heaths Special Protection Area

Development which alone or in combination is likely to have a significant effects on the Thames Basin Heaths Special Protection Area will be required to demonstrate that adequate measures to avoid and mitigate any potential adverse effects are delivered.

Dwellinghouses and other residential development will need to provide avoidance and mitigation measures where:

- a. The proposal involves the provision of one or more net additional residential unit and is within 5km (linear) of the SPA.
- b. The proposal provides 50 or more residential units within 7km (linear). In this case, the proposal will be individually assessed for whether a significant effect upon the SPA is likely either on its own or in combination with other plans or projects around the site.

Wokingham Borough Council (WBC) – Adopted Sustainable Design & Construction SPD

This SPD was adopted by WBC in May 2010, and states:

The Sustainable Design and Construction SPD promotes the use of sustainable techniques (including renewable energy technologies) and materials in the construction of buildings and structures. The SPD

provides guidance to help improve the sustainability performance of buildings and spaces through their design and subsequent use.

Key issues are:

Sustainability Issue 1: Adhering to national codes on construction standards

- Residential development: Meet mandatory Code for Sustainable Homes level requirement at time of construction

Sustainability Issue 2: Minimising Energy Consumption

- All built development to seek to achieve highest practical standards of sustainable design and construction. Sustainable design aspects must be balanced with other Council design guidance.

Sustainability Issue 3: On-site Decentralised/ renewable/ low carbon Energy Generation

- Major developments to secure at least 10% of their energy from decentralised, renewable or low carbon sources.

Sustainability Issue 4: Water Resource Management

- Include water efficiency measures to reduce overall water consumption. Aspiration for residential development to achieve internal potable water consumption of 105 litres or less per person per day.

Sustainability Issue 5: Flood Risk Management

- Development be designed to be resilient to flooding as appropriate. Consider change in flood risk over lifetime of development because of climate change. Consider all sources of flood risk.
- Comply with Environment Agency Flood Risk standing advice, Council's SFRA, PPS25 and Flood and Water Management Bill.
- Produce Flood Risk Assessment and Surface water Drainage Strategy where required.
- Run-off from site must not increase as a result of development, and where possible it should be reduced.
- SUDs are expected to be used where appropriate.
- Green/ brown roofs should be considered on all buildings where appropriate.
- Developments with an existing or proposed garden or other green area should look to include provision for rainwater harvesting for irrigation purposes.

Sustainability Issue 6: Biodiversity

- Opportunities to be taken to retain and enhance existing habitats in addition to areas of new landscaping.
- Produce ecological assessment where a significant impact on biodiversity is likely or probable.

Accord with Policy CP7 and CP8 of Core Strategy

Sustainability Issue 7: Waste, recycling and composting

- Provide, or have access to appropriate facilities for the storage and collection of waste. All new gardens or green areas to include provision for onsite composting of green waste.

Sustainability Issue 8: Cyclist Facilities and parking

- Appropriate provision or have access to secure and covered cycle storage.

Sustainability Issue 9: Air, Noise and Light Pollution and Land Affected By Contamination

- Proposals must address issues of air, noise and light pollution to minimise their impact.
- Provide evidence of the measures that will enable developers to meet their obligations in respect of land affected by contamination.
- Where significant impacts from pollution to or from the proposed development is likely or probable, an assessment of existing levels pollution will be required.
- Comply with Appendix 3 (Air Quality Considerations for New Development)

Sustainability Issue 10: Responsibly sourced and Recycled Materials

- Use of responsibly sourced and recycled materials.
- Use locally sourced materials, preferably within 35 miles. Onus on the developer to justify why locally sourced materials cannot be used.
- Achieve a minimum target of 25-30% of roads, pavements, public spaces and car parks to be from locally reclaimed or recycled materials in line with good practice
- Ensure that any timber comes from certified sources, with a minimum target of 75% expected to be achieved in line with good practice

Sustainability Issue 11: Site Waste Management Plans

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- Developments/ construction projects with estimated costs of greater than £300,000 excluding VAT to put in place Site waste Management Plan

Sustainability Issue 12: Construction Pollution

- Major developments to implement Site Construction Environmental Management Plan and operate under Considerate Constructors Scheme.

Wokingham Borough Council's (WBC) Borough Design Guide SPD

The Design Guide SPD was adopted in June 2012, and refers to the detail provided in the Core Strategy and Sustainable Design & Construction SPD. Key principles are:

- General Principles – Environmental Sustainability
 - o G8: Development proposals should minimize their environmental impact and, where mitigation is necessary, this should be designed into proposals as a positive feature, wherever possible.
 - o G9: The layout and design of development proposals should contribute towards climate change mitigation, in particular by minimising energy and water consumption.
- Residential – sustainable design
 - o R21: The layout of new residential development must contribute towards environmental sustainability and in particular towards mitigating climate change.

Arborfield and Barkham Neighbourhood Plan (NHP)

The NHP was adopted in April 2020. A sustainability focus group was set up to develop the sustainability principles of the NHP. The sustainability appendix states:

“In evaluating locations that are most suitable for housing development, we will give preference to those that are:

- a. Closer to major transport routes*
- b. Do not lead to unacceptable levels of traffic congestion*
- c. On brownfield sites, or already developed land*
- d. On roads or streets that allow safe road access or where safe road access can be achieved through improvements*
- e. Within easy access to shops, or at least a convenience store, and to community facilities and accessible green space.”*

Key policies related to sustainability include:

Policy ISR3: Protection & Enhancement of the natural environment and green spaces

- No loss of biodiversity and normally to provide a net gain.
- Extend the network of landscape and wildlife corridors
- Measures that will help mitigate the impacts of, climate change
- Locally valued natural assets recognised, respected, preserved.

Policy AD4: Address local flood risk management

- The principles of flood risk management, including SuDS are fully addressed at the outline planning stage
- Use nature to provide measures to slow the rate of water runoff
- Adequate sewerage, drainage capacity to protect wider catchment area
- Encourage tree planting to reduce run-off rates

Policy GA2: Implement local network of green routes for non-motorised users

- Development proposals should not inhibit expansion of PROW network.
- Priorities include all weather routes, safer crossings of main roads, improved connectivity and opportunities for sustainable transport

Wokingham Borough Council's (WBC) Draft Local Plan Consultation

WBC undertook a Regulation 18 consultation on a Draft Local Plan Update from February to April 2020. A Revised Growth strategy consultation was carried out between November 2021 and January 2022. Sustainability forms one of three key visions for the borough, but given that the Local Plan review is at an early stage it cannot be afforded weight in decision making at the time of writing.

Wokingham Borough Council declared a climate emergency on 18th July 2019, and made a commitment to do as much as possible to achieve a carbon neutral Wokingham Borough by 2030. A corporate action plan is being prepared to set out recommendations to help achieve this and we anticipate that the emerging Local Plan will include land use policies to address this issue.

Planning Policy Summary

Both local and national policy aims to ensure the delivery of sustainable and well-designed homes and other buildings, which mitigate and adapt to the impacts of climate change.

Development at Land at Ducks Nest, Arborfield will meet the prevailing Building Regulations in force at the time of construction, which is expected to be Future Homes Standards 2025 (achieving 75-80% carbon reduction).

The following sections of this report set out the sustainability measures both already incorporated into the design at Land at Ducks Nest, Arborfield or that could be secured through the detailed design process of the development to ensure the delivery of a sustainable development and address the requirements of local policy.

3. Sustainability at Barratt David Wilson

As the UK's largest housebuilder, BDW leads the industry in build quality and sustainability. We work closely with government and have strong relationships with our suppliers to ensure we develop and deliver robust and viable solutions to sustainability at scale.

We are committed to creating a positive environmental, social and economic legacy for future generations and we have a history of delivering high quality and sustainable homes and communities.

In 2021, we are proud to have won Sustainable Housebuilder of the Year 2021 at the Housebuilder Awards. This recognises our ambition to be a leading sustainable housebuilder. To us, that means creating great homes and great places that are designed and built for better living now and in the future.

BDW has also received the Gold award for the top national housebuilders for eight years in a row by Next Generation, the only sustainability benchmark specific to homebuilding.

BDW's Building Sustainably Framework brings together our sustainability ambitions, targets, activities and metrics to ensure that important issues and solutions are deeply rooted in every business decision and day-to-day action we take.

The framework is based on three themes:

Nature: Biodiversity and Nature, Natural Resources, Carbon Reduction, Resilience

Preserving and enhancing the natural world by using resources responsibly, building resilient, low-carbon homes, and by creating places where people and nature can thrive.

Places: Placemaking, Green Finance

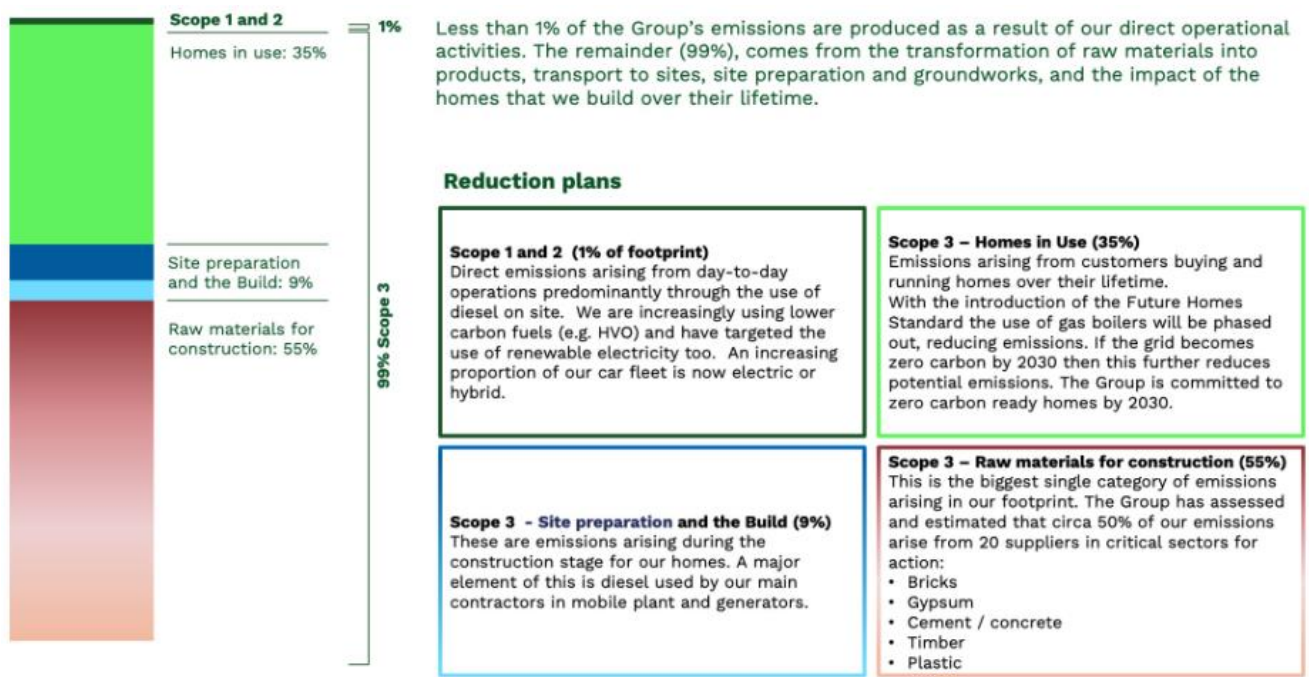
BDW design and build great places that meet the highest standards, and that promote sustainable, healthy and happy living for their customers.

People: Human rights, Keeping People Safe, Our people

BDW believe everyone has the right to be respected and treated fairly at work. They do the right thing, nurturing diverse talent and prioritising the health and safety and wellbeing of their people and partners.

Net Zero Transition Plan

In 2024 BDW set four new targets which are currently being validated by the SBTi. These incorporate the ambition to be net-zero across their full value chain by 2040.



The diagram shows the origin of our emissions and a summary of the plan to reduce emissions from each category.

Scope 3 – site preparation and build

- 97% of our construction waste is diverted from landfill, through smart material selection and sizing, reuse and recycling, working closely with suppliers and waste contractors.
- Ground works are carefully assessed to identify existing constraints, proposed excavations, build sequence and proposed levels. A materials strategy can then determine how and where

arising can be used on site, to minimise the movement of earthwork vehicles to and from site. This is regularly reviewed as the design and programme evolves.

- Sustainable Urban Drainage systems – a hierarchy of sustainable solutions have been used, and a system of permeable paving and a swale has been used, connecting to attenuation basins.

Scope 3 – Raw materials

55% of our carbon footprint comes from the transformation of raw materials into products, such as timber, plasterboard, bricks, concrete and cement, plastics, metals and others. In the main BDW is reliant on the sustainability of its supply chain to achieve reductions in this area and is engaging with suppliers to encourage them to take bolder action on reducing emissions more rapidly, and to choose materials with lower embodied carbon. BDW chairs the Supply Chain Sustainability School's Homes Group as an important part of innovating with our supply chain to upskill in sustainable practices. BDW is also a founding member of the UK Green Building Council which is an important forum for research and industry collaboration on sustainability issues for the built environment sector.

Scope 3 – Homes in use

Key drivers to improving emissions in this category are:

Fabric First approach

- The places we build have a lasting impact over many decades. We aim to design homes and places in a way that supports our customers to reduce their annual heating and electricity running costs, lead lower-carbon lives, and help lower the UK's green-house gas emissions that contribute to global warming. This 'fabric first' approach is about designing homes that are not only energy efficient and low-carbon, but are comfortable and economical to run. Smart techniques in a home's fabric include air tightness, high levels of insulation and high performance windows and doors. We also hold customer demonstrations showing how to work heating and electricity effectively and efficiently.
- As a result our homes are 65% more energy efficient than the same sized older home with modern day improvements.

BDW are already reducing their carbon footprint and have developed a roadmap towards building zero carbon homes, at scale, from 2030. This roadmap is underpinned by an industry-leading research and development programme, as well as strong relationships with our supply chain, to ensure our homes are technically sound, cost-efficient and meet the needs and expectations of our customers.

We are taking a fabric-first approach. This approach has a number of distinct benefits including:

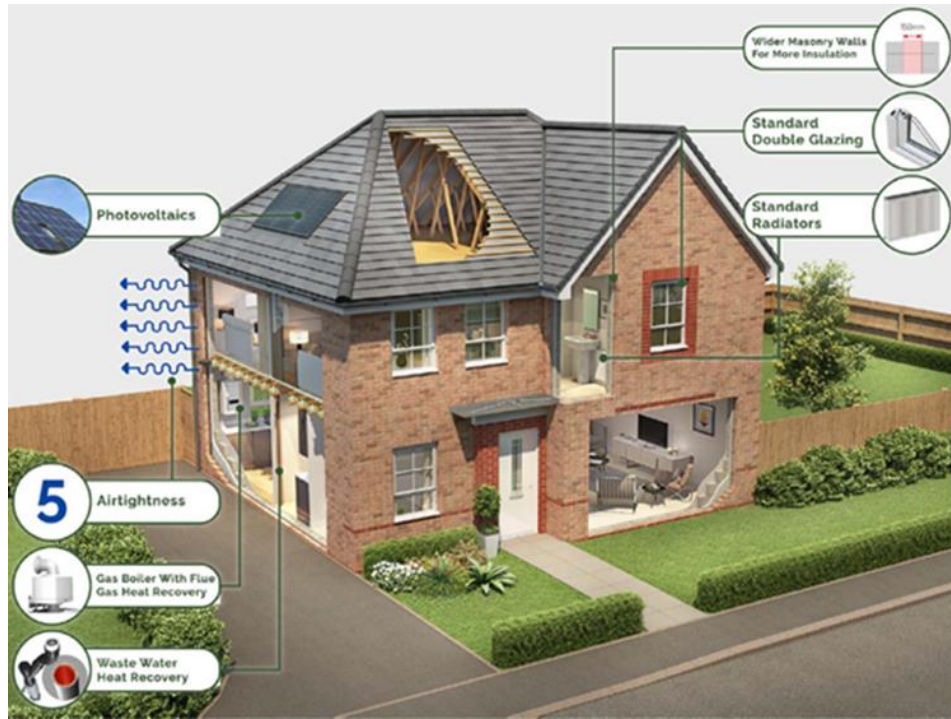
- Carbon savings delivered are 'locked-in' for the lifetime of the building (60 years or more) rather than the much shorter lifespan (around 25 years) of a renewable energy technology;
- Virtually no maintenance and/or replacement costs to maintain carbon reductions through improved fabric; and
- No reliance on an occupier's behaviour to deliver carbon reductions. Achieving carbon savings from renewable energy technologies require education, awareness and often, behavioural changes from occupants.

New homes will also need renewable technology and efficient services, such as photovoltaic panels and low carbon heating systems to meet the Future Homes Standard. While these changes could have an impact on new homes, such as overheating, our experienced Group Design and Technical team are already working to deliver effective solutions for our customers as detailed in the images below.

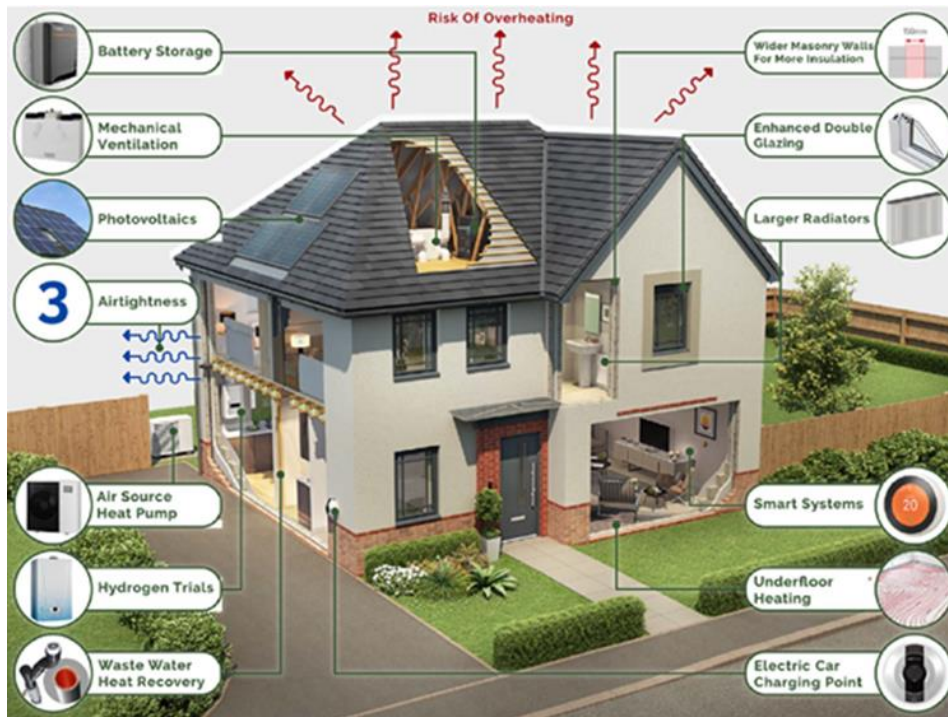
Homes built between 2013 and 2022/2023



Homes built from 2022/2023 to 2025- 31% carbon reduction



Homes built from 2025 – Future Homes Standard at least 75% carbon reduction



Building regulations

Our homes are built to the prevailing Building Regulations and the government is proposing a number of changes to Building Regulations over the next few years that will result in significant carbon reductions. This phased approach to changes in building regulations ensures that the supply chain can effectively prepare, deliver and maintain new products and technologies at a successful rate and volume to meet the demand of new housing stock across the country. As the country's largest developer, it is crucial to balance delivering vital homes to meet local and national housing need, whilst also embedding new technologies at the right time.

Water efficiency

Since 2022 we have built all our homes to 105 litres of water per person per day.

Working from home

- The last two years have seen a large shift in the way our customers use their home, particularly in respect of working within the home. We have reviewed the homes we deliver to increase opportunities for home offices within the home. We also deliver high-speed broadband to all of our developments to support working from home.

Low Carbon transport

- We also recognise the market for electric vehicles, and the growing demand for charging points on new homes. All dwellings with on-plot parking will be provided with charging for electric vehicles in accordance with Part S of Building Regulations introduced in December 2021.
- All dwellings will be provided with sheltered and secure cycle parking.

4. BDW future targets and delivery

The 'Z' House

The Z House is a flagship zero-carbon concept home, which Barratt recently built on the University of Salford's main campus. It is the first home in the UK that goes substantially beyond the Future Homes Standard and has been developed in partnership with over 40 leading organisations from across the housebuilding, sustainability and technology sectors.

The technology within the Z house includes:

- Infra-red Heating
- Air powered showers
- Heated skirting Boards
- Air Source Heat Pump
- Electric Vehicle charging
- Photo Voltaic & Battery technology
- Smart Home Management
- Bio-diverse and wildlife friendly garden, achieving a gold rating from the RSPB

The performance of the house and the technology within it will be monitored and tested to better understand how new technology can be accommodated within homes and how homeowners interact with them on a day to day basis.

The findings of this study will contribute to the selection of wider roll-out of new technologies throughout our homes, supporting us go beyond zero carbon in years to come.

5. Sustainability at Land at Ducks Nest

This section summarises the sustainability strategy for the proposed development at Land at Ducks Nest, demonstrating how the development responds to both national and local planning policy.

Further design measures will be secured through future Reserved Matters applications, so this section only seeks to provide a high-level overview of key measures appropriate to an outline application.

In this context, the sustainable design measures incorporated into the illustrative framework masterplan are set out under the subheadings below, based on the three pillars of sustainability as set out in paragraph 8 of the NPPF.

5.1 Economic Benefits

5.1.1 Building a Strong and Competitive Economy

New residential construction has considerable direct and indirect positive impacts on the local and national economy, and the proposed development will contribute to positive economic growth through the construction and occupation of sustainable new homes.

A study written by the Chartered Institute of Building (CIOB) on the socio-economic impact of construction noted the industry has a ‘profound economic impact’ as it affects every member of society. In 2018, the industry contributed £117 billion to the UK economy, accounting for 6% of UK GDP, and employed 2.3 million people.

Furthermore, a study by the Confederation of British Industries (CBI) concludes that for every £1 of construction expenditure £2.84 is injected into the economy. The construction of new homes will therefore provide opportunities for local employment as well as increased revenue locally for materials, services, and goods.

Further positive economic impacts of the proposed development result from the occupation of new homes and the related increase in the local population.

The increase in population resulting from development at Land at Ducks Nest will help support local facilities, groups and retail stores in turn helping to promote the vitality of the local economy. The Local Economic Impacts Calculator (2022) prepared by the Centre for Economics and Business Research on behalf of the National Housing Federation shows housing associations’ contributions to the productivity of local areas, and suggests that the 54 affordable homes proposed will directly impact the area of Wokingham by addition over £3.6 million GVA to the economy, and support 47 jobs a year.

5.2 Social Benefits

5.2.1 Delivering a wide choice of homes

The Proposed Development will provide a large variety of house types and tenures to suit a wide range of households looking to get on the housing ladder, buy a family home or downsize. This approach encourages social cohesion by providing the opportunity for residents to stay in the local area and maintain all-important friend and family networks. 40% (policy compliant) of the new homes will be affordable with a mix of tenures in line with Policy CP2 and CP5 of WBC's adopted Core Strategy, the adopted Affordable Housing SPD (2014), and the requirement for First Homes set out in the PPG.

5.2.2 Sustainable Location

The vision for Land at Ducks Nest is to be a '20-minute neighbourhood' whereby the development is designed so residents can meet their day-to-day needs within a 20 minute walk of their home through access to safe walking and cycling routes or by public transport. This idea has grown in interest around the world since the COVID-19 pandemic put a spotlight on the importance of liveability of neighbourhoods given people are spending more time locally, working at home.

The benefits of this approach are multiple: people become more active, improving their mental and physical health; traffic is reduced, and air quality improved; local shops and businesses thrive; and people see more of their neighbours, strengthening community bonds.

A facilities audit has therefore been prepared by Mosaic Design and concludes the following services are within 20 minutes of the Site:

- Shops
- Cafes/Restaurants/pubs
- Surgery
- Village hall
- Places of worship
- Primary School
- Recreation ground
- Parks/play areas
- Garden centre
- Bus routes

5.2.3 Sustainable Transport

A Transport Assessment and Travel Plan have been prepared by SLR, summarising existing conditions in the vicinity of the site, the accessibility of the site relative to local facilities and services, and sustainable transport measures incorporated into the development.

This section of the report provides a summary of the sustainable access and transport measures available and incorporated into the development, and how the proposals respond to requirements of WBC's Core Strategy Policies CP1: Sustainable Development, and CP6: Managing Travel Demand.

Walking/Cycling Services – The local footways, footpaths and cycle routes connect the site to a range of shops and services both in Arborfield and Arborfield Green. Table 5.1 below provides an overview of the walking and cycling times to a range of local facilities.

Education	Distance	Walk Time	Cycle Time
Farley Hill Primary School (within the SDL)	650 metres	8 minutes	3 minutes
Hazebrouck Day Nursery & Pre-School	950 metres	11 minutes	4 minutes
The Coombes CofE Primary School	1100 metres	13 minutes	4 minutes
Bohunt Wokingham Secondary School	1450 metres	17 minutes	6 minutes
Healthcare	Distance	Walk Time	Cycle Time
Arborfield Surgery	800 metres	10 minutes	3 minutes
Swallowfield Medical Practice (Shinfield)	4150 metres	49 minutes	16 minutes
Shinfield Pharmacy	4150 metres	49 minutes	16 minutes
Retail	Distance	Walk Time	Cycle Time
Coop Arborfield	160 metres	2 minutes	1 minutes
Londis	800 metres	10 minutes	3 minutes
Arborfield Garrison District Centre	1300 metres	15 minutes	5 minutes
Leisure	Distance	Walk Time	Cycle Time
Arborfield Village Hall	800 metres	10 minutes	3 minutes
Arborfield Green Community Centre	950 metres	11 minutes	4 minutes
Arborfield Green Cricket Ground	950 metres	11 minutes	4 minutes
Arborfield Park Recreation Ground	1100 metres	13 minutes	4 minutes
Arborfield Green Leisure Centre	1600 metres	19 minutes	6 minutes
Employment	Distance	Walk Time	Cycle Time
Arborfield Garrison District Centre	1300 metres	15 minutes	5 minutes
Hogwood Industrial Estate	2100 metres	25 minutes	8 minutes
Thames Valley Science Park	4500 metres	54 minutes	18 minutes

Table 5.1

To facilitate sustainable travel the site has been designed to enable pedestrian and cyclist access through the provision of the following:

- A new fifth arm from the on the Eversley Road / Langley Common Road / Baird Road roundabout. This will serve the majority of the proposed residential dwellings.
- A secondary vehicular access will be provided in the form of a priority junction with Observer Way at the western boundary of the site. This is expected to serve in the region of 50 residential dwellings as well as the SANG car park and will comprise upgrading an existing agricultural access that was delivered as part of the Observer Way works.
- An emergency access, also for use by pedestrians and cyclists, will be provided at the eastern boundary of the site connecting to Eversley Road to the south of its junction with Harts Close.
- Pedestrian connections to the existing PROWs to the north of the site, to the wider walking and cycling network.

Bus stops are located generally to the east and south east on Eversley Road, and Langley Common Road, and connect residents via the local area to destinations at Reading, Wokingham and Shinfield. Reading train station is accessible within 20 minutes by bus, which provides connections to central London, Bristol, Cardiff, Manchester, Newbury and Plymouth.

Facilitating low-carbon transport

Electrical Vehicle Charging

We recognise the market for electric vehicles and the growing demand for charging points of new homes. All dwellings with on plot parking will be provided with charging for electrical vehicles in accordance with Part S of the Building Regulations.

Cycle Parking

All homes will be provided with sheltered and secure cycle parking in accordance with standards set out in policy CC07: Parking of WBC's Managing Development Delivery document.

5.2.4 Requiring Good Design

The design of the development at Land at Ducks Nest aims to respond to the site-specific constraints and opportunities and includes sustainable elements, to create a well-designed development. The DAS sets out the approach to design in full, with a summary provided below:

- Retaining existing landscape features for aesthetic ecological value including scattered trees, tree belts and hedgerows.
- Multi-functional landscapes will include play, pitches, pathways, green corridors, tree planting and sustainable urban drainage including basins and swales.
- Edges of the development are positively outward facing to design out crime by overlooking our public open space.
- Provision of 12.8 ha of Suitable Alternative Natural Greenspace (SANG) and 2.66 km of SANG path in response to Policy CP8 of WBC's Core Strategy
- High quality pedestrian and cycle links are provided to allow for safe and convenient routes to schools, employment, food stores, parks and recreational sites and cultural facilities within Arborfield and Arborfield Green.

The land use, orientation, density and storey heights have been considered and an illustrative framework masterplan has been provided to demonstrate one way the development could be brought forward. This will be developed further at the reserved matters stage.

All homes will be 'tenure blind' to ensure they are not distinguishable by external appearance and distributed evenly in clusters throughout the development, hereby creating mixed and balanced social cohesive communities.

5.2.5 Promoting Healthy Communities

Creating a high quality development that promotes health and wellbeing for residents and local people is a key aim of the scheme. In this context, the design has been developed incorporating a number of features to enhance the health and wellbeing of the residents including:

- Creation of natural outdoor, engaging spaces;
- Children's play areas and opportunities for social interaction; and
- Both formal and informal opportunities for play and participation. The encouragement of activity, leisure and social interaction to enhance both physical and mental wellbeing of the future population.
- Connections to the public right of way network to encourage access to the wider area.

In addition, the design of new homes has considered measures to improve internal living environments to promote health and wellbeing including:

- Prioritisation of natural ventilation, contributing to good internal air quality;
- Homes which are adaptable for the future; and
- Utilisation of materials and services that have low emission rates and pollutants.

More information on how the development has incorporated healthy living opportunities is contained within the DAS.

5.3 Environmental Benefits

The Proposed Development will incorporate measures to support and enhance the environment through consideration of the existing site ecology, including measures to mitigate the impact of the site and enhance site biodiversity, as well as incorporate measures to reduce pollution from the site.

5.3.1 Ecology

An Ecology Report, prepared by Thomson Ecology, supports this planning application.

The main findings of the desk study were that the site is near two statutory designated sites, Longmore Bog Site of Special Scientific Interest (SSSI), 1.6km away, and the Thames Basin Heaths Special Protection Area (TBH SPA), 2.8km from the site. Due to the latter, development here will require a SANG. The SANG is planned to be developed within the site boundary and is required to relieve increased recreational pressure on the Thames Basin Heaths SPA. In addition to these nationally designated sites, the site is within 2km of 17 local wildlife sites, with three located directly adjacent to the west of the site.

During the field survey the dominant habitat on site was found to be modified grassland. Other habitats present included hedgerows, other neutral grassland, mixed scrub, bramble scrub, hazel scrub, line of trees and a small parcel of broadleaved woodland. One of the hedgerows and the broadleaved woodland are considered to be habitat of principal importance for conservation in England. Where losses are required to habitats which are of relatively greater interest, such as the boundary hedgerows and plantation woodland belts within the Site, these will be offset through the

provision of extensive areas of new species-rich habitats and planting within areas of open space and provide an opportunity to deliver enhancements compared to the existing situation.

5.3.2 Biodiversity Net Gain

Initial calculations undertaken in respect of the application site conclude that there would be a net gain in biodiversity habitat units and hedgerow units - this is a measurable net gain in biodiversity within the site boundary.

It is on this basis that it is considered that the Proposed Development is in accordance with Section 11 of the NPPF, Policy CP7 of WBC's adopted Core Strategy, and Policy ISR3 of Arborfield and Barkham's NHP.

5.3.3 Pollution

The proposed development will aim to minimise any negative impacts on the natural environment considering the impacts of water use, materials, and air quality. This will consider the development during both the construction and occupation phases. A Site Waste Management Plan and Construction Environmental Management Plan will be submitted pursuant to a reserved matters application, when detail on construction methods will be known. This will be in line with SI11 and SI12 of WBC's Sustainable Design & Construction SPD.

5.3.4 Water

Throughout construction water quality will be maintained by the following measures:

- Reduce erosion and run-off by minimising land disturbance and leaving vegetation cover where possible;
- Cover skips and trucks loaded with construction materials and continually damp down with low levels of water;
- Use non-toxic paints, solvents and other hazardous materials wherever possible; and
- Segregate, tightly cover and monitor toxic substances to prevent spills and possible site contamination.

The construction works will be carried out in such a manner as to avoid adverse effects on the ponds, streams and downstream habitats.

To improve water quality during the occupation of homes the surface water drainage strategy will give consideration to measures to minimise pollution run-off.

5.3.5 Sustainable Materials

Insulation materials containing substances known to contribute to stratospheric ozone depletion or with the potential to contribute to global warming will not be used. Natural insulation materials such as mineral wool, rock wool or cork board will be considered as they are amongst the lowest Global Warming Potential (GWP) rating.

The specification of materials will be provided alongside future reserved matters applications. Consideration will be paid to local sources in line with SI10 of WBC's Sustainable Design & Construction SPD.

5.3.6 Air Quality

An Air Quality Impact Assessment accompanies this application and concludes that use of good practice control measures would provide suitable mitigation for a development of this size and reduce potential impacts to an acceptable level during construction.

Based on the above, it is confirmed that air quality impacts as result of the proposed development will be assessed and mitigated. As such, potential effects are not anticipated to be significant.

5.3.7 Reducing carbon footprint

Tackling climate change will impact on the design, construction, location, cost and operation of all new buildings in the next few decades. Building Regulations are adapting to ensure that all new development is designed and delivered in a way that meets these targets and reduces carbon emissions as an industry, with the new significant change due in 2025.

The design and specification of the houses, materials and technologies will be provided in full detail at the Reserved Matters stage. The details will therefore be heavily influenced by the point in time in which an RM application is considered, and the appropriate regulations and supply chain at that time.

The anticipated timescales for securing planning permission and constructing homes at Ducks Nest Farm is shown below.

- Submission of application – October 2024
- Outline planning consent – October 2025
- Approval of Reserved Matters – Jul 2026
- Commencement of housebuilding – February 2027
- First completion – February 2028
- Full occupation of scheme – 2030

Given the anticipated planning and delivery timescales for this development, the homes on this site will be built to the Future Homes Standard (75-80% carbon reduction) incorporating the carbon reduction measures shown on the diagram on page 21.

5.3.8 Climate Change Adaptation

To ensure the proposed development is resilient to the effects of climate change it will incorporate a number of key design measures in response to the climate predictions set out in the UKCP18 projections. The UKCP18 projections demonstrate that over time the UK will experience increased summer and winter temperatures with significantly increased maximum temperatures, reduced summer rainfall, increased winter rainfall and an increase in extreme weather events.

The UK Climate Change Risk Assessment updated in 2017 identifies key risks associated with the effects of climate change and in relation to the built environment and the proposed development these include reduce summer water availability, increased winter rainfall and increased summer temperatures.

This section identifies key measures which will be incorporated into the design of new buildings and the proposed development to adapt to climate change.

Water Efficiency

Potable water is an increasingly important natural resource and with the majority of the UK classed as being in an area of moderate or severe water stress the conservation of water is becoming a more significant sustainability metric.

The new development will aim to reduce water consumption through a range of water efficiency measures to achieve internal potable water consumption of 105 litres or less per person per day, through measures such as:

- Dual flush WCs;
- Water meters;
- Low flow fittings; and
- Where appropriate, water efficient equipment.

This is in line with Policy SI4: Water Resource Management of WBC's Sustainable Design & Construction SPD.

Flood risk and drainage

SLR has undertaken a Flood Risk Assessment of the Site which is submitted as part of the application. The FRA advises that the Site entirely lies within Flood Zone 1.

The EA surface water mapping indicates that the Site is generally at 'very low' of flooding from surface water. However, three flow paths are present which introduce overland flow from hillside locations into the site, which are generated from the north, west and south. The flow path from the west introduces a small area of high risk (defined as an area with greater than 1 in 30 chance of flooding each year). However, the north and south flow paths are less significant and introduce a medium risk (defined as an area with between 1 in 100 and 1 in 30 chance of flooding each year) and low flood risk (defined as an area with between 1 in 1000 and 1 in 100 chance of flooding each year), respectively. Built development has been steered outside of the larger west flow path, and additional mitigation such as increased storage in open space could be achieved if deemed necessary.

This FRA demonstrates the Proposed Development could be drained in a sustainable manner, commensurate with Policy CP1 of WBC's adopted Core Strategy and Policy AD4 of Arborfield and Barkham's NHP.

Overheating

With increasing summer temperatures there is an increasing risk of overheating in buildings which could adversely affect building occupants and users.

In recognition of this, Part F of the Building Regulations was updated in 2022 to take better account of potential summertime overheating risks as a result of future climate change.

Buildings likely to be at risk of overheating will be assessed, considering the future climate scenarios to reduce the risk of overheating.

Through the provision of mitigation measures, buildings will be able to adapt to and be resilient to future climatic changes.

6. Conclusion

This sustainability statement has been prepared to demonstrate how the proposed development at Land at Ducks Nest responds to national and local sustainable policy requirements.

The development has been designed to respond positively to national and local plan policy incorporating measures to deliver social and economic benefits, while also protecting and enhancing the environment where possible. This includes the consideration of measures to mitigate and adapt to the effects of climate change.

The Sustainability Statement which accompanies the application sets out key sustainable design measures incorporated at this stage and to be considered during the detailed design of homes.

BDW – BDW is committed to developing sustainable communities, by building to the highest standards, using sustainable and energy efficient materials, ensuring an ecologically conscious and safe developments.

Social and Economic Benefits – The development aims to provide a range of social and economic benefits to both new and existing residents, through:

- Provision of 135 new homes providing opportunities for local people.
- Provision of 10.5 ha of Suitable Alternative Natural Greenspace (SANG) and 2.31 km of SANG footpaths
- A development in a sustainable location with a range of services and amenities, including health services and recreational opportunities within easy walking distance of the sites.
- Homes designed to create healthy living environments which are flexible for the future.

Environmental Benefits – Through a range of design measures the development aims to protect and enhance the local environment, including:

- Buildings which will be designed to make use of sustainable materials to reduce environmental impacts of construction.
- Development designed to prioritise sustainable and active modes of travel including walking and cycling.
- Provision of measures to protect on-site ecology and enhancement measures to increase site biodiversity which also helps reduce the impact of climate change on site habitats.
- Provision of measures through construction and operation of the site to reduce pollution, minimise waste and encourage recycling.

Mitigating and Adapting to Climate Change – The development will incorporate a range of measures to reduce carbon emissions, mitigating the effects of climate change, and adaptation measures to ensure the long term resilience of the development to the effects of climate change. Measures include:

- Buildings designed to reduce carbon emissions in accordance with programmed changes to the Building Regulations through the use of energy hierarchy, using a fabric first approach to design to reduce energy demand, helping mitigate the effects of climate change.
- Provision of a surface water drainage and infiltration system.

BDW is committed to the delivery of sustainable homes which include measures which provide economic and social benefits, protect and enhance the environment, as well as mitigating and adapting to the long term effects of climate change.