



134 High Street Kimpton SG4 8QP

Energy and Sustainability Statement

July 2026

To be included with the planning application reference number 26/01724/FP

To be read in conjunction with the drawings, Design and Access Statement and the Transport Statement.

Erection of two semi-detached 3-bed dwellings following demolition of existing dwelling and double garage including landscaping, parking, bin and bike storage and installation of two air source heat pumps. Installation of pedestrian access.



July 26 V4

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Introduction

The following Energy and Sustainability statement has been prepared to accompany the Full Plans Planning Application being made to North Hertfordshire District Council, following Pre-Application reference **25/03081/PRE**. This is in line with the requirements of the Sustainability Supplementary Planning Document adopted by the Council in September 2024. This report applies to both houses throughout. In addition, individual BREL Compliance Reports have been submitted for each plot.

Description of Proposed Development

This development is to provide two new 3 bedroom, semi-detached family homes with gardens to the front and rear with on-site parking for 2 cars and 4 bikes to each dwelling.

The original single dwelling on the site is of an age and type of construction that is costly to upgrade and difficult to bring up to current standards. Whilst the option of retaining the original building and incorporating it into the new design were considered, it was concluded that building 2 new semi-detached houses would result in far more efficient dwellings.

1. Optimising Passive Design and Fabric Performance

A semi detached solution was favoured as the shared party wall reduces the length of fully exposed external wall, which loses most heat, to each house, thus reducing heat loss.

The roof shape over the pair of houses is designed to provide a large area for solar PV panels or thermal heating panels. The draft BREL compliance reports prepared by Mike Ovenden of Gecko Low Carbon Consulting include a small amount of Photo Voltaic panels to comply with the Building Regulation Requirements. There is plenty scope for the installed solar panel area to be increased, as shown on the drawn elevations and roof plan.

The BREL reports demonstrate that the houses can operate successfully with natural ventilation, reducing the need for mechanical systems other than intermittent ventilation in the wet spaces.

The primary windows are on the front and rear giving good cross ventilation on opposing sides, with additional ventilation from some side windows.

Larger glazed areas, overlooking and connecting to the rear gardens, are provided to the rear on the north elevations, reducing unwanted excessive solar gain from the south.

The bay windows at the front to the main living spaces provide plentiful daylight and some solar gain in winter without being excessive. New deciduous trees in the front garden will provide shade in the summer whilst in winter the bare trees will allow more light and desired solar gain through to the front of the house. Windows to all habitable areas are at least 10% of the floor area providing a good working light in each space. Internally, the circulation spaces are top lit from the sun-pipes over the stairs and glazed fanlights over the internal doors will help to maximise daylight throughout the houses.

Overheating analysis indicates that the houses can be effectively ventilated without additional mechanical ventilation.

Masonry construction has been used to provide high thermal mass to reduce the cooling load in summer and the heat load in winter and reduce overall CO2 emissions.

The outline of the building is almost square, a very efficient shape – with a shorter external wall length to internal floor area ratio. Small setbacks in the plan front and rear identify the two separate dwellings and maintain privacy, whilst the bay windows add an attractive feature to suit the local vernacular without overly increasing the wall length.

The external envelopes of the houses will be well insulated with care given to both the design and execution of all external component junction detailing to ensure continuity of insulation throughout.

BREL Compliance Reports for each house, prepared by Gecko Low Carbon Consultancy, are submitted with this report. Predicted Energy Assessments (PEAs) indicate that plot 1 has an Energy Efficiency rating of 91 (B) with a CO2 rating of 98 (A) and plot 2 scores 90 (B) with a CO2 rating of 98 (A).

Plot 1 – EUI Energy Use Intensity = 13.293kW/m² SHD Space Heat Demand = 33.8116kWh/year/m²

Plot 2 – EUI Energy Use Intensity = 15.371kW/m² SHD Space Heat Demand = 33.7311kWh/year/m²

2. Achieving Low Carbon Energy

Each house has an Air Source Heat Pump to the rear.

PV panels will be fitted in line with the requirements of the Predicted Energy Assessments. The roof shape has been designed to facilitate a large amount of PV or solar thermal panels to the roof, with 45 degree pitched roof planes to the east, south and west. There is scope to add more panels than are currently required.

Electricity Battery storage solutions contribute to the overall Predicted Energy Assessment (PEA) and can be used with both PV generation and lower night time tariffs.

The PV panels, which are a form of on-site renewable technology, combined with the battery storage, supply a minimum of 75% of each dwelling's predicted energy demand.

The houses will each have 100% low energy lighting

An EV charger point will be provided to each house.

There is no gas supply to either house.

The use of woodburning stoves has been avoided due to the impact on poor air quality.

Mineral wool and recycled glass fibre insulation will be favoured where possible over oil-based alternatives, although small amounts of PIR insulation, particularly as an additional lining, will be used sparingly to maximise efficiency where this presents the optimum solution.

3. Minimising Carbon Footprint

Both operational and embodied carbon will be considered during the detailed design process.

Material specification will incorporate design decisions regarding longevity, durability and adaptability, as well as recycling and re-use at the end of the lifespan of the building.

The design will seek to limit the number of different components to reduce waste.

Where suitable, recycled materials will be considered.

The contractor will seek to minimise operational and construction waste and will aim to recycle much of the remaining waste.

An audit of the existing buildings to be demolished will identify materials that can be recycled or reused.

The external bin storage areas are located by the parking spaces half-way between the road and the front doors, to be easy to use when leaving the house, and to provide designated hardstanding areas for the council waste bins, keeping them neat and tidy. There is also a paved area for the bins to be left on collection day at the back of the pavement to avoid being in the way of pedestrians.

Internally, dedicated, built in, waste storage solutions including segregated recycling bins will be provided in the kitchens and utility rooms.

The PEA results have been achieved without the use of MVHR, natural ventilation is used throughout, and the overheating requirements have been met without the use of air conditioning. These design decisions all reduce the energy demand of the houses.

4. Healthy Placemaking

The development is socially, economically, and environmentally sustainable.

Socially the village will benefit from the additional of one more dwelling; economically the local businesses and services will be supported during and after construction, and the new houses will produce less emissions and lose less heat than the previous house.

The houses face the street in a traditional manner following the line of the houses to the east, with front doors in view of the street and windows overlooking it, making for a safer place to live. Large front and rear gardens provide a combined area of well over 200m² private amenity space to each house; much more than is found in many contemporary developments.

The existing hedges to the sides will be retained and the existing single species laurel hedge to the front will be replaced by mixed hedging plants that are more beneficial to wildlife and the environment.

The houses are close to the village amenities, encouraging walking and cycling over the car. A new pedestrian path, leading past the parking area, has been provided to give safer access to the public footpath to the front.

New deciduous trees in the front gardens will provide passive shading in the summer, reducing unwanted heat gain and will allow the lower winter sun through in the winter.

5. Promoting Biodiversity

The applicant has worked with Elmaw Ecology to prepare the required information to show compliance with the Biodiversity Net Gain requirements.

The Elmaw Ecology survey report and the Preliminary Ecological Appraisal & Preliminary Bat Roosting Assessment, dated April 2026, indicates that the main house within the application site is considered to be of high bat roosting potential and offers moderate winter non-classic hibernation potential. Further dusk roost emergence surveys have been booked, with the final one taking place on the 12th August 26.

Demolition will follow any mitigation measures determined by Elmaw or requested by the council to avoid harming any bats, should their presence be confirmed.

Bat boxes will be fitted as required.

The full Ecology report and the BNG information are submitted with this application.

The built footprint on the site is similar to before allowing the majority of existing trees and hedges to be retained and large garden spaces to be provided to each house, much of which, particularly to the rear of the site can be left as it is during and after construction, therefore providing a continuous home to the garden wildlife.

Protection of relevant species:

Nesting Birds - Demolition will not take place during the months of March to August inclusive without a suitably qualified person being present.

Bats – Further surveys are planned and the results will inform the way forward.

Hedgehogs – during construction all open trenches and/or pits will be either covered at night or a mammal ladder provided and installed each night. Hedgehog ‘pop-holes’ in the fences of the gardens, will be incorporated post-development.

Although the original intention was to retain the laurel hedge to the front, its excessive size, which blocks the visibility splays, combined with its limited benefit to wildlife and the advice from the Biodiversity Net Gain Report, have led to the decision to remove it completely and replant a new hedge with more beneficial, biodiverse plants. Combined with 7 new trees, all as specified on drawing 114, Existing and Proposed Site Plans, this will provide over and above the required 10% improvement for compliance with the Biodiversity Net Gain legislation. Landscaping design and advice has been provided by Elizabeth Towler, Landscape Architect.

6. Sustainable Travel

A separate Transport Statement has been provided.

Whilst the addition of one house to the site will potentially generate double the amount of vehicle movements, it is considered that the overall benefits of making better use of the site outweigh the disadvantages.

A dedicated parking area for 2 cars per house, including space to manoeuvre within the site and enter and leave in forward gear is an improvement on the previous single car width long drive.

The Manual for Streets, published by the Department of Transport, and Car Parking Design published by the Institute of Structural Engineers (June 23 edition) were referred to when setting out the parking and turning spaces. Drawing 113 uses swept path analysis diagrams to demonstrate the use of each parking space. There is an electric vehicle charging point for each house adjacent to the parking area.

Connection to Larger Towns:

There are 7 roads leading into and out of Kimpton allowing car travel to the surrounding villages and beyond to the larger towns of Luton, Hitchin, Stevenage, Welwyn and Harpenden.

Public Transport:

There are 6 bus routes serving 21 bus stops going through the village.

Each of the towns listed above has a railway station with direct links to London and to the North.

Walking:

This site is within walking distance of the village amenities such as the primary school and nursery school, Budgens supermarket, Parish Church of St Peter and St Paul, The Boot public house, the cricket club and the event space at the Dacre Rooms.

Cycling:

Covered, secure cycle storage for 2 bikes will be provided for each house, in a shed to the rear, to encourage cycling within the village and the surrounding countryside and villages. There is also space for a hooped stand to the front of each house for 2 cycles to be left securely.

As the village grows, resident numbers increase and more facilities are provided, it is hoped that more journeys can be made on foot or by bike.

7. Conserving Water

Kimpton is in an area of high water stress.

Fittings and systems in each house will be designed and installed to support water use of 110litres per person per day, evidenced by water use calculations.

Aerated taps and shower heads, low capacity baths, low and dual flush toilets, and thoughtfully specified washing machines and dishwashers will all contribute to keep the daily use low. These methods are favoured over grey water recycling as the need for water treatment is often cumbersome for occupants and not carried out sufficiently, leading to dirty water which can be a health risk as well as staining the porcelain. The layout plan for each house demonstrate that the wet areas, such as bathrooms, ensuites, cloakrooms, kitchens and utility rooms have been clustered together on each floor and in the middle of the dwelling to minimise pipe runs, helping to reduce heat loss from hot water pipes and also to reduce the need to run taps for a long time to get the required temperature.

Rainwater butts will be used, with stands and divertors, on the downpipes from the roofs, to collect water for garden use. Butts will be located to the front and rear of the houses so as not to obstruct the side paths and will divert to soakaways when full.

8. Incorporating Sustainable Drainage

The design intention is to keep all rainwater on site, using simple Sustainable Urban Drainage Systems (SUDS), suitable for the scale of the site.

Hard landscaping around the house and within the front and rear gardens will be laid to fall to surrounding soft areas. There is a gravel strip around the building itself. Downpipes from the roof will discharge first to water butts and then to soakaways in the gardens, if the butts are full. Soakaways will incorporate plastic crate systems to minimise silting up.

The site slopes down towards the road and a shallow dip, or swale, behind the new front hedge will capture runoff. There is also a gravel area behind the hedge which will act as an open French drain and hold water during a storm.

The drive, parking and turning area will be surfaced with permeable block paving, with a linear drain at the junction with the highway.

This will mitigate the risk of flooding running down to the main road at times of high rainfall.

The footprint of the new houses is similar to that of the previous house and garage, so there should not be an increase in rain water run off caused by the development itself. However, flash storms are on the increase and so the improved measures, combined with the permeable paving and the retention of the majority of the existing trees and hedges on site, along with the addition of new trees and a new front hedge will counteract the risk of increasing rainwater run off in the future.

Site specific calculations for each plot will be provided at the detailed design stage of development, prior to construction, so they can be incorporated on site to suit the build programme.

Flood Risk

The flood risk from surface water for this property is very low

The flood risk from rivers and the sea is very low

The location is outside of a groundwater flood alert area.

Flooding from Reservoirs is unlikely in this area.

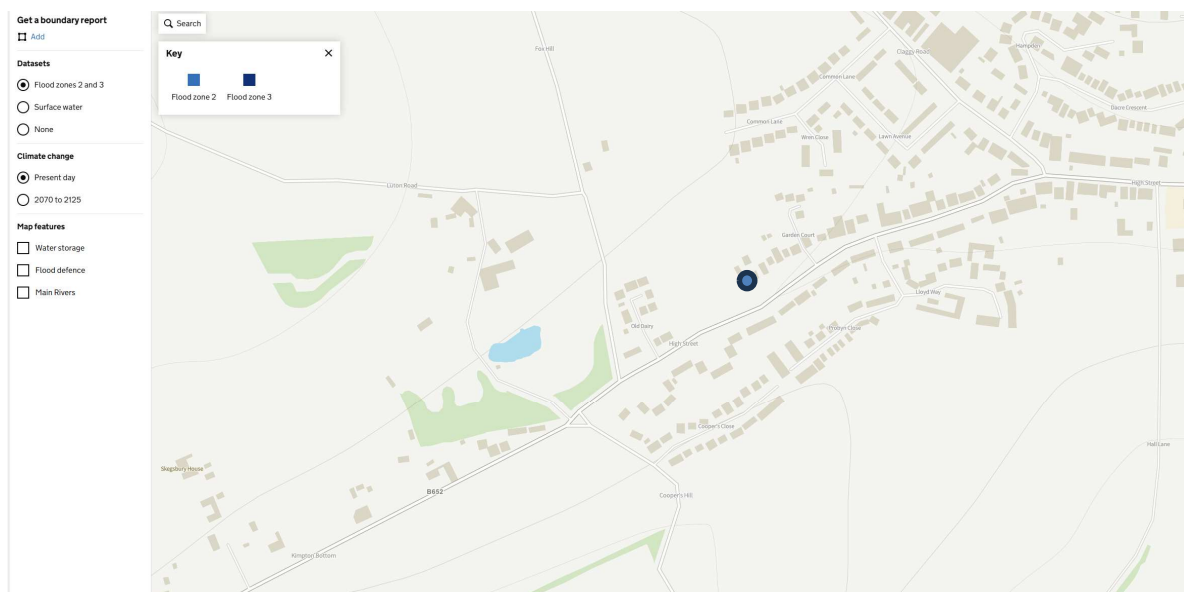


fig 1. This map indicates that there are no flood zone 2 or 3 areas in the vicinity of the site.

The following map indicates that whilst there is an annual likelihood of flooding of 1 in 30 from surface water flash flooding along the line of the High Street, it is unlikely to reach the level of the new houses themselves which are on higher ground, with the same finished floor level as the existing house. This situation is identical to the majority of the houses along the High Street.

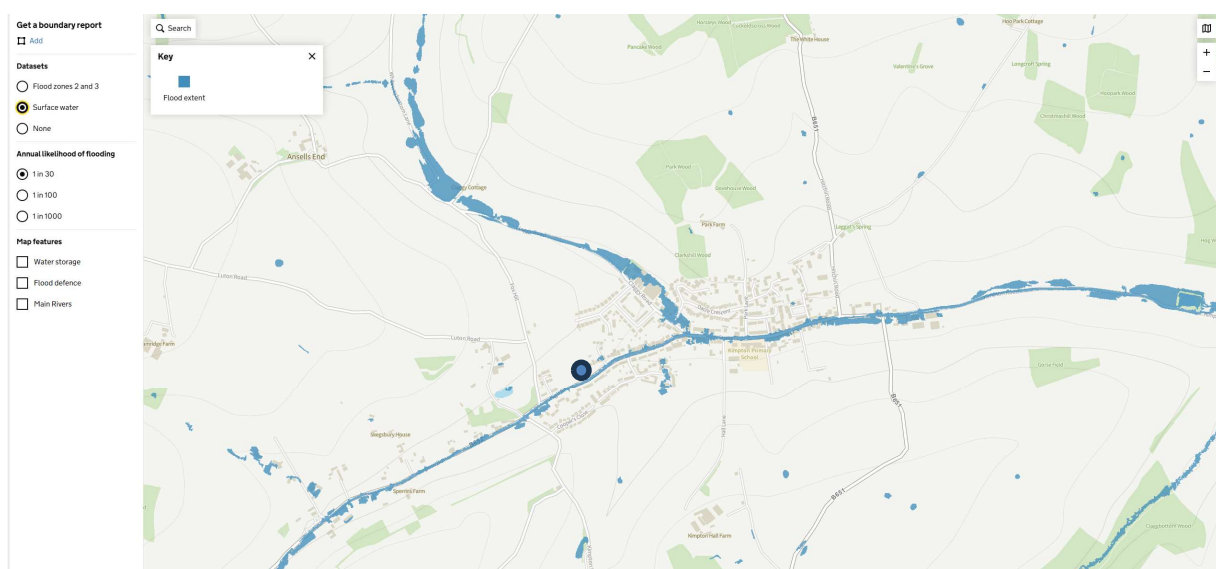


fig 2.
Information taken from
<https://flood-map-for-planning.service.gov.uk>

Conclusion

- The design of the 2 houses optimises passive best practice design principles, whilst the construction materials and detailing will ensure excellent fabric performance.
- The houses have been designed to achieve low carbon energy using Air Source Heat Pumps combined with solar photovoltaic panels, battery storage and solar thermal panels.
- Appropriate measures have been taken to minimise the carbon footprint of the development.
- Each dwelling will provide a healthy family home, improving the social, economic and environmental sustainability of the community.
- Biodiversity has been improved and the BNG requirements met.
- Provision for sustainable travel has been maximised for this location.
- The internal plumbing layouts, specification of fittings and the use of water-butts all help to conserve water.
- This scheme incorporates sustainable urban drainage solutions - SUDS

References

North Hertfordshire Council planning website
 Sustainability Design Supplementary Planning Document (SPD) Sept 24
 Vehicle Parking at New Development SPD 2011
 Manual for Streets published by the Department of Transport,
 Car Parking Design published by the Institute of Structural Engineers (June 23 edition)
 Flood Risk Summary.gov.uk