

# **ENERGY & SUSTAINABILITY ASSESSMENT**

**PROPOSED DEVELOPMENT of FORMER PUBLIC CAR PARK into 6 no. TOWNHOUSES**

**PRINCES MEWS, ROYSTON**

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## **1.0 INTRODUCTION**

- 1.1 This Energy & Sustainability Assessment has been prepared to support the full planning application for the erection of six 2.5-storey townhouses with associated parking and private amenity areas on land at Princes Mews, Royston, Hertfordshire SG8 9BL. It identifies the relevant planning-policy requirements and explains how the proposed design responds to energy efficiency, carbon reduction, water management, climate resilience and sustainable construction.
- 1.2 The application site comprises the southern part of a former surface public car park on the west side of Princes Mews, approximately 0.2 mile walking distance from Royston town centre.
- 1.3 It is previously developed land and is predominantly hardstanding, with high retaining walls along the western and southern boundaries. The site lies within and at the edge of the Royston Conservation Area and is surrounded by an established mix of residential development.
- 1.4 The proposal comprises six three-bedroom, 2.5-storey townhouses arranged as two terraces of three and stepping with the site's topography. Each dwelling has a directly accessible private rear garden, supplemented by approximately 65 m<sup>2</sup> of communal private garden. Twelve allocated parking spaces are provided, equating to two spaces per dwelling, together with a wall-mounted electric-vehicle charging point for each home.
- 1.5 The scheme also includes planted areas to the street frontage, ACO rainwater gardens, new tree planting, retained boundary walls and piers, secure storage for refuse & recycling bins for each dwelling and a day of collection reduce point between the parking spaces for Plots 1 and 2.

## **METHODOLOGY**

- 1.6 The application is supported by a number of specialist reports and architectural and engineering drawings. These documents have been reviewed to establish the scale, form and principal sustainability features of the proposed development.
- 1.7 The site lies within the administrative area of North Hertfordshire District Council. Accordingly, this assessment considers the North Hertfordshire Local Plan 2011–2031, adopted in November 2022, with particular regard to Policy SP9: Design and Sustainability and Policy D1: Sustainable Design.

- 1.8 The assessment follows the energy hierarchy of reducing demand, supplying energy efficiently and incorporating low- and zero-carbon technologies where technically and economically appropriate.
- 1.9 Subject to planning permission being achieved, detailed SAP calculations, Part L specification, overheating assessment and Part G water calculations will be completed as the design develops and submitted where required at the relevant building regulation approval stage. This information will be kept updated during the detailed design and construction stages.

## **2.0 PLANNING POLICY**

### **NORTH HERTFORDSHIRE LOCAL PLAN 2011 – 2031 (adopted November 2022)**

- 2.1 The North Hertfordshire Local Plan 2011–2031 sets the development-plan framework for sustainable development in Royston. The following policies have been identified as relevant to this assessment and planning application:
- 2.2 **Policy SP9** establishes strategic design and sustainability principles, including accessible and sustainable movement, integration with surrounding communities, green infrastructure, biodiversity, sustainable drainage and opportunities for low- and zero-carbon energy.
- 2.3 **Policy D1** requires proposals to respond positively to their context and take reasonable opportunities, proportionate to the nature and scale of the scheme, to reduce energy consumption and waste, incorporate sustainable drainage, retain and enhance vegetation, future-proof development and meet applicable residential space and water-efficiency standards.

### **POLICY SP9: DESIGN and SUSTAINABILITY**

- 2.4 This application is defined as a minor application and therefore is considered small in nature. The relevant objectives of Policy SP9 are to secure a well-designed development that supports sustainable travel, integrates positively with its surroundings, contributes to green infrastructure and biodiversity, manages surface water sustainably and considers building-scale low- and zero-carbon opportunities. The scheme's response is set out in Section 3.1.

## **POLICY D1: SUSTAINABLE DESIGN**

- 2.5 Policy D1 supports development that responds positively to local context and takes reasonable opportunities to reduce energy consumption and waste, incorporate Sustainable Drainage Systems, retain vegetation and provide appropriate planting, accommodate future changes in technology and lifestyle, and meet applicable residential standards. The policy response in Section 3.2 addresses these matters to the extent relevant to this application.

## **3.0 POLICY RESPONSE**

### **POLICY SP9: DESIGN and SUSTAINABILITY**

#### **SUSTAINABLE MOVEMENT and CONNECTIVITY**

- 3.1 The proposal reuses previously developed land approximately 0.2 mile walking distance from Royston town centre, allowing future residents convenient access to existing shops, services, infrastructure and public-transport links.
- 3.2 Vehicular and pedestrian access is taken directly from Princes Mews. Twelve allocated parking spaces are provided, comprising two spaces for each three-bedroom dwelling. Level access is available from each dwelling's parking spaces to its front door, with Part M compliant entrance-door clear widths and an entrance-level WC supporting inclusive use.
- 3.3 A wall-mounted electric-vehicle charging point is proposed on the front elevation of each dwelling. Cable-gully channels are incorporated through the footpath and landscaped areas to avoid trip hazards. Parking dimensions and vehicle tracking are addressed in the accompanying transport information. No separate visitor spaces are proposed; limiting additional hardstanding supports the site's landscape and drainage objectives.

#### **GREEN INFRASTRUCTURE, BIODIVERSITY and WATER MANAGEMENT**

- 3.4 The development will replace an underused area of predominantly hardstanding former car park with private landscaped rear gardens, an 65 m<sup>2</sup> (approx.) communal private garden, a new tree between the parking bays for Plots 1 and 2, and planted rain-garden strips along the frontage.

These measures soften the built and parking areas, provide year-round landscape interest and create new habitat opportunities.

- 3.5 The submitted biodiversity metric identifies that the proposed scheme can achieve the required 10% gain in habitat units on-site. The post-consent, detailed planting schedule and long-term management arrangements should remain coordinated with that metric and the drainage design.
- 3.6 The drainage strategy incorporates source-control and attenuation measures consisting of permeable paving with an overflow, ACO rainwater gardens and rainwater water butts.
- 3.7 As indicated on the Mucklow & Harris drainage strategy, the proposal provides for surface water (approximately 34 m<sup>3</sup>) cellular attenuation system. This is achieved by a 8.5 m x 5.0 m x 0.8m system, with a 95% void ratio.
- 3.8 The storage allowance is based on the 1-in-100-year storm event plus a 40% climate-change allowance. Surface water discharge rates are limited by a flow-control chamber to a maximum of 1.0 litre per second. Subject to confirmation and approval by the Lead Local Flood Authority, Environment Agency, local authority and water authority the strategy currently proposes eventual discharge into the existing Anglian Water sewer in Baldock Street.

## **SUSTAINABILITY and ENERGY FRAMEWORK**

- 3.9 The development will follow a fabric-first approach, prioritising a well-insulated and airtight building envelope before reliance on building services or renewable generation.
- 3.10 All of the six dwellings are dual aspect with the front elevations facing broadly south-west and their rear elevations and gardens face north-east. Kitchens at the front will benefit from afternoon and evening light, while the wide glazed doors to the rear living rooms provide daylight and morning sun together with a direct connection to the gardens.
- 3.11 This arrangement supports daylight, natural ventilation and passive environmental performance. This will be supported post planning consent with a detailed Part O Assessment.

- 3.12 An all-electric, low carbon approach is proposed. Final heating, hot-water and ventilation systems will be selected at detailed design stage to achieve regulatory compliance, provide good indoor environmental quality and support the policy of continuing decarbonisation of mains (grid) electricity.
- 3.13 Roof form, orientation and overshadowing will be reviewed to establish the appropriate photovoltaic provision. Given the sites location within the Royston Conservation Area consideration of the visual impact of a photovoltaic array will be carefully considered, as will coordination with rooflights and flues and maintenance access.

## **POLICY D1: SUSTAINABLE DESIGN**

### **REDUCING ENERGY CONSUMPTION and CARBON EMISSIONS**

- 3.14 Energy demand will be reduced through an efficient thermal envelope, appropriate glazing, controlled air leakage and careful detailing at junctions.
- 3.15 Energy efficient fixed lighting and appropriately controlled ventilation will reduce regulated energy use. Heating and hot-water systems will be sized for the calculated loads specific to the development, rather than generic assumptions, with accessible controls provided to enable occupants to manage consumption.

### **OVERHEATING and CLIMATE RESILIENCE**

- 3.16 The dwellings will be dual-aspect which provides opportunities for effective cross-ventilation, while the broadly south-west-facing fronts and north-east-facing rears allow solar exposure to be carefully considered in respect of potential overheating.

### **WATER EFFICIENCY**

- 3.17 Water-efficient fittings will be specified for each of the six dwellings, including dual-flush WCs, controlled-flow taps and showers and energy efficient appliances (where these are provided). The final sanitaryware schedule will be tested using the Part G water-efficiency calculator.

- 3.18 In-line with current Building Regulations, the development will seek to achieve a design consumption of no more than 110 litres per person per day.

## **MATERIALS, CONSTRUCTION and WASTE**

- 3.19 The architectural palette comprises red facing brickwork, red plain clay roof tiles, sash-effect windows and black heritage-profile rainwater goods.
- 3.20 These materials respond to the surrounding townscape and will be specified with regard to durability, maintenance, embodied impact and responsible sourcing. Timber products will be obtained from legally and sustainably managed sources, and preference should be given where practicable to products supported by recognised environmental management or responsible-sourcing certification.
- 3.21 Local and regional suppliers will be used where this provides suitable products and reduces the impact of transport to the site. All specified materials will be robust and suitable for the location to ensure durability.
- 3.22 Construction waste will be managed in accordance with the waste hierarchy: prevention, preparation for reuse, recycling, recovery and disposal as a last resort.
- 3.23 Standard material dimensions, accurate ordering and secure storage will be used to reduce damage and material wastage. A licensed waste contractor will segregate and process waste streams.
- 3.24 Aligned to local policy, each dwelling will be provided with secure rear-garden storage for three bins (one 180-litre bin and two 240-litre bins), with a day of collection area to the site frontage to facilitate kerb-side collection from the Local Authority.

## **4.0 SUMMARY and CONCLUSIONS**

- 4.1 This energy and sustainability assessment has considered the erection of six 2.5-storey townhouses with associated parking and private amenity areas at Land at Princes Mews, Royston, against Policies SP9 and D1 of the North Hertfordshire Local Plan 2011–2031.
- 4.2 The scheme adopts a proportionate sustainability strategy for a small residential infill development. It reuses a former car park (which is predominantly hardstanding) close to Royston town centre. It provides level access, twelve allocated parking spaces and an electric-vehicle charging point for every dwelling; and uses a dual-aspect layout to support daylight and natural ventilation.
- 4.3 Private gardens to each dwelling, an approximately 65 m<sup>2</sup> communal garden, new planting and rain gardens replace extensive hardstanding, with the submitted biodiversity metric identifying that the required 10% gain in habitat units can be achieved.
- 4.4 The sustainable drainage strategy submitted in support of this application combines rainwater gardens, tanked permeable paving, water butts, a cellular attenuation system (providing approximately 34 m<sup>3</sup> of storage) and flow control to a maximum discharge of 1.0 litre per second. This strategy is based on the 1-in-100-year storm event plus a 40% climate-change allowance.
- 4.5 The scheme also provides a framework for a fabric-first, all-electric and renewable-ready energy strategy. Water-efficient fittings, passive overheating mitigation, responsibly sourced materials and construction-waste controls will be developed post planning consent, through the technical design stage.
- 4.6 Subject to the detailed calculations and specifications identified in this report, the proposal provides a sound basis for compliance with the relevant energy and sustainable-design requirements.