

**SUSTAINABLE
CONSTRUCTION, ENERGY
AND WATER STATEMENT,
AND SUSTAINABILITY
CHECKLIST**

DEMOLITION OF EXISTING
BUNGALOW AND ERECTION OF TWO
DETACHED DWELLINGS WITH
GARAGES

AT

CHRISTYS
ALBURY END
WARE
SG11 2HS

DECEMBER 2023



1.0 INTRODUCTION

1.1 This Statement sets out how the proposed development responds to sustainability, having regard to the Council's Sustainability SPD adopted in March 2021, the adopted District Plan, and the Local Validation List. The required Sustainability Checklist is also included.

2.0 ENERGY AND CARBON REDUCTION

2.1 The proposed dwellings will meet high levels of energy performance through wall and roof insulation, and high u-value double glazing. Adequate glazing is proposed to provide natural light and ventilation, with high levels of air tightness to reduce unnecessary heat loss.

2.2 Updated Part L Building Regulations require a 31% reduction in new building emission rates, as set out in the table below. The proposed development will therefore comply with, if not exceed these rates.

Table 4.1 Limiting U-values for new fabric elements and air permeability in new dwellings

Element type	Maximum U-value ⁽¹⁾ W/(m ² ·K)
All roof types ⁽²⁾	0.16
Wall ⁽²⁾	0.26
Floor	0.18
Party wall	0.20
Swimming pool basin ⁽³⁾	0.25
Window ⁽⁴⁾⁽⁵⁾	1.6
Rooflight ⁽⁶⁾⁽⁷⁾	2.2
Doors (including glazed doors)	1.6
Air permeability	8.0m ³ /(h·m ²) @ 50Pa 1.57m ³ /(h·m ²) @ 4Pa

2.3 Solar PV panels are proposed on the roof of both dwellings, along with the provision of air source heat pumps and EV charging.

2.4 All fixed services and fittings will be energy efficient, including low energy lighting. Every attempt will be made to source materials of construction from sustainable sources.



3.0 CLIMATE CHANGE ADAPTATION

- 3.1 The proposed design ensures adequate natural light and ventilation for all habitable rooms to avoid reliance on artificial lighting or mechanical ventilation.
- 3.2 In terms of Green Infrastructure, there will be substantial new planting around the site, including trees and hedging to mitigate climate change whilst also significantly improving biodiversity.

4.0 WATER EFFICIENCY

- 4.1 It is proposed to install water efficient infrastructure within both dwellings to reduce water consumption. This will be limited to 110 litres per head per day to comply with Policy WAT4.

5.0 POLLUTION

- 5.1 The site lies in a relatively rural location and therefore private vehicles will still be used regularly. However, provision is made for EV charging to encourage use of electric vehicles, along with cycle infrastructure to encourage sustainable transport.
- 5.2 The proposal will not result in any increase in traffic generation when compared to the extant Class AD fallback position. No harmful impact would therefore arise in terms of air pollution.
- 5.3 Air Quality during the construction phase will adhere to good site management in terms of exhaust emissions and minimising dust.
- 5.4 No external lighting is proposed.



6.0 BIODIVERSITY

6.1 The site does not currently comprise protected sites or species, and extensive planting is proposed to enhance biodiversity. This includes tree and hedge planting, along with spring flowering bulbs. Native and wildlife friendly species will be prioritised, with the overall effect being a net gain in biodiversity. Bird and bat boxes can also be provided on site and secured by condition.

7.0 SUSTAINABLE TRANSPORT

7.1 The site is located in a relatively rural location, and therefore opportunities to maximise the use of public transport are limited. EV charging is therefore proposed, along with cycle storage in garages to encourage cycling.

8.0 WASTE MANAGEMENT

8.1 Waste during the construction phase can be minimised and controlled through a Construction Waste Management Plan, secured by condition if deemed necessary.

8.2 Once completed and occupied, waste and recycling will be stored within designated bin stores to be brought to the road on collection day.

9.0 CONCLUSION

9.1 The scheme has been designed to significantly enhance the biodiversity and landscaped setting of the site. The new dwellings will be constructed to meet, if not exceed, Building Regulation standards with high levels of insulation, glazing, and energy efficiency.



- 9.2 The scheme will not result in any increase in vehicle movements or associated emissions compared to Class AD fallback. Measures will be taken to minimise waste and pollution during construction, and to source sustainable construction materials wherever possible.
- 9.3 Provision is made for EV charging, along with cycling infrastructure to minimise reliance on private vehicles powered by traditional fossil fuels.
- 9.4 Finally, the proposal will make provision for extensive wildlife friendly planting, and bird and bat boxes, to create biodiversity and landscape improvements.



SUSTAINABILITY CHECKLIST

Reference	Checklist Criteria	Summary of approach to address the criteria
Energy and Carbon Reduction		
En.1	<p>Does the Sustainable construction, Energy and Water Statement detail how the proposed development's carbon emissions have been minimised and to what extent?</p> <p>Have full and reserved matters planning applications also included a carbon reduction template within the statement?</p> <p><i>(See SPD section 3.3 and appendix B)</i></p>	<p>Yes</p> <p>Carbon reduction to meet with, if not exceed, Building Regulations Part L Document, including a 31% increase in efficiency.</p>
En.2	<p>How have the site layout and building orientation and form been designed to minimise energy use? For example passive solar gain, natural shade, natural ventilation, thermal mass.</p> <p><i>(See SPD section 3.2.3)</i></p>	<p>Building orientation has been dictated by site constraints and respect to the existing form of the village. New dwellings are designed to maximise solar gain and natural light/ventilation. High levels of air tightness also proposed to minimise heat loss.</p>
En.3	<p>How has the energy hierarchy been applied to prioritise reducing the need for energy and implementing the 'fabric first approach'?</p> <p><i>(See SPD section 3.2.3)</i></p>	<p>High levels of insulation and glazing proposed to maximise energy efficiency.</p>



<p>En.4</p>	<p>How will you ensure that where renewable/ low carbon technologies have been included to reduce carbon, that these will be successfully integrated into the design of the development?</p> <p><i>(See SPD sections 3.2.4 and 3.2.5)</i></p>	<p>Solar panels are proposed to sit discretely on the roofs of both dwellings.</p>
<p>En.5</p>	<p>How has the energy embodied in construction materials been reduced? (e.g. reuse and recycling/sustainable materials/locally sourced)</p> <p><i>(See SPD section 3.2.6)</i></p>	<p>Existing materials to be re-used where possible, but otherwise recycled. New materials to be sourced sustainably where possible.</p>
<p>Climate Change Adaptation</p>		
<p>CA.1</p>	<p>How has the site layout and buildings been designed to mitigate overheating, giving priority to measures in line with the cooling hierarchy?</p> <p><i>(See SPD section 4.2.2)</i></p>	<p>Site layout constrained by access, and respect to surrounding built form. Extensive glazing in east and west elevations, with a canopy to the rear of Plot 1 to protect glare and overheating.</p>
<p>CA.2</p>	<p>How has overheating assessment been assessed and what measures are proposed to address it?</p> <p><i>(See SPD section 4.2.2)</i></p>	<p>Adequate openings proposed to allow natural air circulation and ventilation.</p>
<p>CA.3</p>	<p>What Green Infrastructure is proposed?</p> <p><i>(See SPD section 4.2.3)</i></p>	<p>Extensive proposed wildlife friendly planting around the site.</p>



CA.4	<p>How have existing landscape features such as trees/woodlands and hedgerows been protected and incorporated within a Green Infrastructure network?</p> <p><i>(See SPD section 4.2.3)</i></p>	<p>Existing trees retained as far as possible. Extensive new planting proposed.</p>
CA.5	<p>Where feasible and appropriate, have green roofs or walls been included. Please explain your answer?</p> <p><i>(See SPD section 4.2.3)</i></p>	<p>Not feasible in this case as traditional pitched roof design is proposed to respect the character of the area.</p>
CA.6	<p>Have measures been included to address surface water runoff?</p> <p><i>(See SPD section 4.2.4)</i></p>	<p>Driveways will be designed to run-off into planted areas. The site has a low flood risk.</p>
CA.7	<p>If the application is major development, have details of SUDs been submitted?</p> <p><i>(See SPD section 4.2.4)</i></p>	<p>N/A</p>
Water Efficiency		
Wa.1	<p>For new residential proposals, have you demonstrated compliance with the target for mains water consumption to be 110 litres or less per head per day in the Sustainable Construction, Energy and Water Statement?</p> <p><i>(See SPD section 5.2.2)</i></p>	<p>Yes, water saving devices to be installed.</p>
Wa.2	<p>For non-residential development, have measures been taken to reduce water</p>	<p>Yes, water saving devices to be installed.</p>



	<p>consumption in the proposed development?</p> <p><i>(See SPD section 5.2.3)</i></p>	
Wa.3	<p>Have water recycling systems been considered and incorporated? Please explain your approach.</p> <p><i>(See SPD section 5.2.4)</i></p>	No.
Pollution: Air Quality		
AQ.1	<p>How has the proposal addressed the minimum air quality standards?</p> <p>These apply to all new development as set out in section 6.1.2.2 of the SPD.</p>	Provision of EV charging and cycling infrastructure to reduce reliance on fossil fuel powered private vehicles.
AQ.2	<p>How does the proposal show consideration of air quality in the design of new development?</p> <p>Design should address the following principles:</p> <ul style="list-style-type: none"> • Building and development layout and design • Emissions from transport • Sustainable energy <p><i>(See SPD section 6.1.2.4)</i></p>	Opportunities for sustainable transport are limited, but have been maximised. Overall vehicle movements and associated emissions will not increase, when compared to Class AD fallback position.



AQ.3	<p>How has emissions mitigation been incorporated into the proposal?</p> <p><i>(See SPD section 6.1.2.5)</i></p>	Opportunities for sustainable transport have been maximised.
AQ.4	<p>How will emissions be minimised through the construction and demolition phase of the development?</p> <p>Measures should follow the national guidance set out in section 6.1.2.7 of this SPD.</p>	Construction will adhere to good site management in terms of exhaust emissions and minimising dust.
AQ.5	<p>Has an Emissions Assessment been carried out as part of the Air Quality Neutral Requirement?</p> <p>The assessment should utilise the Damage Cost Approach.</p>	No, but any gas fired plant will adhere to required standards. EV Charging also proposed, along with extensive planting.
AQ.6	<p>Has an Air Quality Impact Assessment been submitted?</p> <p>This must be submitted if the proposal meets any of the criteria listed in section 6.1.3 of this SPD.</p>	N/A
AQ.7	<p>Has an Air Quality Neutral Assessment been submitted?</p> <p>This must be submitted if the proposal meets the criteria listed in section 6.1.3 of this SPD.</p>	N/A



Pollution: Light Pollution		
LP.1	<p>Does the proposal materially alter light levels outside the development and/or have the potential to adversely affect the neighbouring uses or amenity of residents and road users or impact on local ecology?</p> <p><i>(See SPD section 6.2.2)</i></p>	None proposed.
LP.2	<p>Is the proposed light design the minimum required for security and operational purposes?</p> <p><i>(See SPD section 6.2.2)</i></p>	N/A
LP.3	<p>Does the proposal minimise potential glare and spillage?</p> <p>Please detail the design measures adopted to ensure this.</p> <p><i>(See SPD section 6.2.2)</i></p>	N/A
Biodiversity		
Bio.1	<p>Have you submitted the East Herts biodiversity checklist?</p> <p><i>(See SPD section 7.3)</i></p>	Yes
Bio.2	<p>In accordance with the biodiversity checklist, does the proposal affect a protected species or habitat?</p> <p><i>(See SPD sections 7.2.4 and 7.3)</i></p>	No



Bio.3	If a protected species or habitat has been identified, has an ecological survey, with sufficient information been undertaken? (See SPD sections 7.2.4 and 7.3)	N/A
Bio.4	If major development, has an ecological survey, with sufficient information been undertaken to assess the likely ecological impact of the development? (See SPD sections 7.2 and 7.3)	N/A
Bio.5	Has the mitigation hierarchy been undertaken, to demonstrate an adverse impact on biodiversity has been avoided? If this is not possible, has the impact been mitigated and then subsequently compensated? (See SPD section 7.2.2)	N/A
Bio.6	Has a biodiversity net gain been achieved? Please explain (See SPD section 7.2.5)	Yes, extensive new wildlife friendly planting around the site, and option to provide bat and bird boxes.
Bio.7	Has a suitable biodiversity management and monitoring strategy for the site been proposed?	N/A



Sustainable Transport		
T.1	Have you demonstrated that the development includes measures that reduce the overall need to travel, and particularly by private car? <i>(See SPD section 8.2.2)</i>	Site is in a relatively rural location, therefore EV charging and cycle infrastructure is proposed.
T.2	Have you demonstrated how, as first principles of design, the scheme's proposals prioritise walking and cycling within the development and link with existing networks beyond the development to deliver healthy and walkable neighbourhoods? <i>(See SPD section 8.2.3)</i>	Not within walking distance, but regard must be had to other material considerations in this case.
T.3	Where cycling facilities and any bus stops and/or transport hubs are to be provided, have you demonstrated that they accessible and attractive for all users and offer appropriate shelter? <i>(See SPD section 8.2.3)</i>	N/A
T.4	Have you included measures (traditional and/or innovative) to encourage uptake of more sustainable modes of transport and engender modal shift from the outset of development? <i>(See SPD sections 8.2.2 and 8.2.3)</i>	N/A



T.5	<p>Have you developed and submitted to HCC an appropriate Travel Plan, Transport Assessment and/or Statement (as appropriate)?</p> <p><i>(See SPD section 8.2.4)</i></p>	N/A
T.6	<p>Where car parking is to be provided, have you provided justification for the number of spaces proposed and made provision for electric vehicle charging in accordance with the Vehicle Parking Provision at New Developments SPD?</p> <p><i>(See SPD section 8.2.5)</i></p>	Yes
Waste Management		
W.1	<p>Have measures been proposed to reduce, re-use and recycle construction and demolition waste?</p> <p><i>(See SPD sections 9.2.2 and 9.2.3)</i></p>	A Construction Waste Management Plan can be required by condition if necessary.
W.2	<p>As relevant, how has the internal and external design of the development factored in effective sustainable waste management measures? Has sufficient detail been submitted with the application?</p> <p><i>(See SPD section 9.2.4)</i></p>	Waste and recycling to be separated on site and collected.
W.3	<p>Have all the relevant criteria identified in Table 13 of the SPD been addressed?</p> <p><i>(See SPD section 9.2.4)</i></p>	Yes