



Planning Statement including the Design and
Access Statement and Heritage Impact
Assessment for a Biomass Boiler and Air-Source
Heat Pump Installation

Standen House & Garden, West Hoathly Lane, East Grinstead,
West Sussex, RH19 4NE



Full Planning Application & Listed Building Consent

Appendices

Appendix A: RIBA Stage 4 Design - House

Appendix B: RIBA Stage 4 Design - Cottages

Appendix C: MCS-020 Noise Assessment

Appendix D: Ethernet Cable Route

Appendix E: Standen's Statement of Significance

Appendix F: Standen's Spirit of Place

1 Introduction

- 1.1** Site: Standen House and No. 5 & 6 Standen Cottages, West Hoathly Road, East Grinstead, West Sussex, RH19 4NE.
- 1.2** This Planning Statement is to be read in conjunction with the forms and plans submitted as part of the applications for full planning permission and listed building consent for the installation of an environmentally sustainable heating system for Standen House and No. 5 & 6 Standen Cottages. This document is to consider the implications of providing such an installation on the site and will demonstrate an understanding of the significance of the estate and its buildings. The property and gardens are owned and managed by the National Trust and are open to the public as a visitor attraction.
- 1.3** The proposed work will involve the removal of the existing oil boiler plant at all three buildings, installation of a pellet biomass boiler for the House and two Air-Source Heat Pump (ASHP) systems at the cottages.
- 1.4** This document will be split into sections that consider relevant planning matters in respect of this proposal and will refer to evidence included as appendices submitted as part of this proposal.
- 1.5** The overarching aim of this project is linked with the National Trust's ambition to become Net Zero by 2030 and to remove oil, and the risks oil storage & movement pose to the local environment.

2 Site History, Description and Context

- 2.1** Standen, located in West Sussex, Southeast England, came into the National Trust's ownership in 1972. It is open as a visitor attraction 363 days a year where visitors can enjoy the house, café, gardens and wider estate and woodland.
- 2.2** Standen House is a Grade I listed building (List Entry 1249027 : 1948) and is a charming example of an Arts and Crafts home. The house was designed by Philip Webb (1831-1915) for the Beale Family who wanted it to be constructed as a comfortable, unpretentious family home and a place to celebrate Helen Beale's passion for gardening. Webb was interested in using local materials and construction methods, and the detailed schedule for the building of the house instructs on techniques. Architectural drawings show how Webb incorporated buildings already on site and drew inspiration from their features. Building started in 1891 and completed in 1894, equipped with central heating and electricity, at the forefront of technology of the period. The structure and layout has remained largely unchanged since its conception apart from small alterations such as converting areas into offices and upgrading facilities to make it suitable as a visitor attraction. Efforts by the National Trust have also focussed on reversing some early detracting interventions including re-instating the historic kitchen.
- 2.3** The cottages pre-date Standen House and are Grade II listed (List Entry 1249028: 1972). This building is timber framed, and the Vernacular Building Survey suggests it started as the kitchen block for an early house and likely dates to mid-15th Century, with numerous alterations and extensions throughout the 16th, 17th and 18th centuries. Robert Webb undertook some alterations to the existing structure in the late 19th century, including splitting the cottages into the

two dwellings seen today. These are known as No. 5 & 6 Standen Cottages and are currently tenanted to on-duty staff.

- 2.4** The site's farm buildings are Grade II listed (List Entry 1249029: 1972) and are currently split between the Barn Café and Hollybush farmhouse, a private dwelling. Like Standen House, this was built in 1893 in the Arts and Crafts style, incorporating an earlier 18th Century barn structure. The Hollybush section of the building was converted into a private dwelling in 1982 by the first custodians of Standen, Arthur and Helen Grogan. This building is excluded from this project.
- 2.5** Standen Garden is part of a Grade II registered historical park and garden (List Entry 1001695: 2007), consisting of woodland, formal gardens and a quarry, covering 24ha. The garden was designed between 1891-1892 by the landscape gardener, BG. Simpson, with elements by Philip Webb. Further work was carried out by the nationally important nurserymen and landscape firms James Backhouse and Sons of York in 1896-97 (the Quarry Garden), and by Cheals of Crawley in 1910 (the Top Terrace). The planting was further developed during her lifetime by the owner, Mrs Margaret Beale, to form an exceptional collection. The great range of plants included rare species and new introductions, for which considerable documentary evidence survives. The property lies on rising ground to the north of the Weir Wood Reservoir within the High Weald National Landscape, with incredible views over the Medway Valley and Ashdown Forest.
- 2.6** This project focusses on the House and Standen Cottages, as demonstrated in Figure 1.



Figure 1: Standen House, Standen Cottages and Surrounding Area

3 The Need

- 3.1 Standen is a property which is included within the National Trusts' Renewable Energy Programme. The purpose of the programme is for the organisation to become Net Zero by 2030, focusing on reducing Scope 1 carbon emissions. This involves converting fossil-fuel heating systems onto low-carbon, cleaner alternatives. Standen House and Cottages are currently heated by oil boilers, with tanks located in plant rooms and service areas.
- 3.2 Alongside the carbon that burning oil can produce, the storage and regular delivery of oil within a historic building and protected surrounding area is concerning should a leak occur. The environmental impacts that a leak could have on the local ecology would be considerable, and so moving away from oil as a heating source is a top priority at Standen. This not only ensures a long-term sustainable approach to managing our environmental impacts but eliminates future risk of the usage and storage of oil at our properties and consequently better protects the many highly sensitive and special places at the Trust looks after.
- 3.3 The Trust's design objectives have therefore been:
- To remove in-hand fossil fuel use at Standen
 - Reduce Scope 1 emissions by installing a low-carbon alternative
 - To provide reliable and effective heating to match the conservation, comfort and hot water demands
 - To conserve the significance and setting of Standen House (Grade I) and Cottages (Grade II), their location within a Registered Park and Garden and National Landscape, their gardens and other heritage assets by installing a new system sensitively and appropriately
 - To safeguard the natural environment by preventing damage to, or mitigating risks, to Standen's unique ecology and landscape

4 Options Appraisal and Proposal

- 4.1 A full heat loss assessment and feasibility study was completed for Standen considering several options. A summary of the options and reasons for discounting/pursuing are below:
- 4.2 **Option 1: Do Nothing/Replace with oil or fossil fuel boilers** – The current house oil tank is located within the house plant room and inaccessible due to the delivery set up making any replacement or future compliance works challenging and un-safe. The oil tanks for the cottages are both within plastic bunds located in the garden. This would be the cheapest option but would not provide any carbon savings and the risk of an oil leak would remain which has the potential to damage building fabric and harm local species. This option is therefore incongruous with the National Trusts' Climate Action strategy and our ambition to be net zero by 2030 and was therefore discounted.
- 4.3 **Option 2: Air-Source Heat Pump (ASHP)** – ASHPs are quick and easy to install and require minimal groundworks. ASHP installations should be complimented

with radiator upgrades to be compatible with the lower flow temperatures (45-60 °C). These systems are efficient (250-460%) which help with running costs and lowering carbon emissions. The units would have to be installed externally, meaning that there would be a visual and acoustic impact to any installation. This was deemed inappropriate for the house as due to the exposed nature of the site there is no suitable location to site commercial-sized units that would not have adverse acoustic/aesthetic impacts, and the required radiator upgrades would not be compatible with the aesthetics or space restrictions in the house. However, this would provide a neat solution for the cottages as small domestic units are very quiet and run on R290 refrigerant which also has the ability to produce hot water. Therefore, this option was brought forward for the cottages only.

- 4.4 Option 3: Ground-Source Heat Pump (GSHP)** – GSHPs provide medium flow temperatures (50-60 °C) but incur a high capital cost and require a suitable area of land to locate a ground-array, either using horizontal pipework or vertical boreholes, with the former requiring significantly more space. Similar to the ASHP option, this is a low-carbon (~38-48 tonnes of savings per year) and lower running cost option due to the high efficiency (300-400%). A benefit is that unlike ASHPs, the equipment is installed inside and all groundworks reinstated making the install invisible once complete. However, radiator upgrades would still be required to match the heat loss of the building at lower flow temperatures, and this would not be appropriate for the house due to space and aesthetic constraints. An electric boiler would be required to top-up the supply and provide hot water, which would be expensive to run and trigger a significant electrical upgrade of the transformer. Therefore, this option was discounted.
- 4.5 Option 4: Biomass** – Biomass chip requires a large area for wood fuel storage and so the only location sufficiently-sized would be the overflow car park. This would involve high pumping costs and high heat losses due to the significant distance and have been deemed inappropriate here. Biomass pellet requires much less space and can be ‘blown-in’, meaning the existing plant room set-up within the house could be re-used, making it quick to install with little disruption to visitors. This is also a cheaper option including operational cost and provides the highest carbon savings (~61 tonnes per year).
- 4.6** It was on this basis that the Trust made the decision for its preferred option, Option 4: Biomass (House), and Option 2: ASHP (Cottages) . This option provides the best balance of construction and maintenance logistics, least impact upon the wider Standen estate, tenants and visitors, and provides an appropriate balance of capital costs, operational costs and carbon savings. This will allow all commercial oil to be removed from the Standen estate.
- 4.7 House:** It is proposed to re-use the existing plant room to accommodate the biomass system, located in the service area adjacent to the house. It was chosen as it is blocked off from public areas, contains pre-existing connections into the heating circuits of the house and contains a suitable electricity connection for the boilers. The existing set up comprises of three rooms, each housing a separate piece of heating equipment (boilers, buffer vessels and oil tank). It is anticipated that the biomass system will be installed in a similar way meaning that structure and use of these rooms will remain intact and existing penetrations and chimneys re-used. See Figure 2 & Appendix A.

Put written Energy.

The floor plan includes several rooms labeled: 107-108A, 107-108B, 107-109, 107-110, 107-111, 107-112, 107-113, 107-114, 107-115, 107-116, 107-117, 107-118, 107-119, 107-120, 107-121, 107-122, 107-123, 107-124, 107-125, 107-126, 107-127, 107-128, 107-129, 107-130, 107-131, 107-132, 107-133, 107-134, 107-135, 107-136, 107-137, 107-138, 107-139, 107-140, 107-141, 107-142, 107-143, 107-144, 107-145, 107-146, 107-147, 107-148, 107-149, 107-150, 107-151, 107-152, 107-153, 107-154, 107-155, 107-156, 107-157, 107-158, 107-159, 107-160, 107-161, 107-162, 107-163, 107-164, 107-165, 107-166, 107-167, 107-168, 107-169, 107-170, 107-171, 107-172, 107-173, 107-174, 107-175, 107-176, 107-177, 107-178, 107-179, 107-180, 107-181, 107-182, 107-183, 107-184, 107-185, 107-186, 107-187, 107-188, 107-189, 107-190, 107-191, 107-192, 107-193, 107-194, 107-195, 107-196, 107-197, 107-198, 107-199, 107-200, 107-201, 107-202, 107-203, 107-204, 107-205, 107-206, 107-207, 107-208, 107-209, 107-210, 107-211, 107-212, 107-213, 107-214, 107-215, 107-216, 107-217, 107-218, 107-219, 107-220, 107-221, 107-222, 107-223, 107-224, 107-225, 107-226, 107-227, 107-228, 107-229, 107-230, 107-231, 107-232, 107-233, 107-234, 107-235, 107-236, 107-237, 107-238, 107-239, 107-240, 107-241, 107-242, 107-243, 107-244, 107-245, 107-246, 107-247, 107-248, 107-249, 107-250, 107-251, 107-252, 107-253, 107-254, 107-255, 107-256, 107-257, 107-258, 107-259, 107-260, 107-261, 107-262, 107-263, 107-264, 107-265, 107-266, 107-267, 107-268, 107-269, 107-270, 107-271, 107-272, 107-273, 107-274, 107-275, 107-276, 107-277, 107-278, 107-279, 107-280, 107-281, 107-282, 107-283, 107-284, 107-285, 107-286, 107-287, 107-288, 107-289, 107-290, 107-291, 107-292, 107-293, 107-294, 107-295, 107-296, 107-297, 107-298, 107-299, 107-300, 107-301, 107-302, 107-303, 107-304, 107-305, 107-306, 107-307, 107-308, 107-309, 107-310, 107-311, 107-312, 107-313, 107-314, 107-315, 107-316, 107-317, 107-318, 107-319, 107-320, 107-321, 107-322, 107-323, 107-324, 107-325, 107-326, 107-327, 107-328, 107-329, 107-330, 107-331, 107-332, 107-333, 107-334, 107-335, 107-336, 107-337, 107-338, 107-339, 107-340, 107-341, 107-342, 107-343, 107-344, 107-345, 107-346, 107-347, 107-348, 107-349, 107-350, 107-351, 107-352, 107-353, 107-354, 107-355, 107-356, 107-357, 107-358, 107-359, 107-360, 107-361, 107-362, 107-363, 107-364, 107-365, 107-366, 107-367, 107-368, 107-369, 107-370, 107-371, 107-372, 107-373, 107-374, 107-375, 107-376, 107-377, 107-378, 107-379, 107-380, 107-381, 107-382, 107-383, 107-384, 107-385, 107-386, 107-387, 107-388, 107-389, 107-390, 107-391, 107-392, 107-393, 107-394, 107-395, 107-396, 107-397, 107-398, 107-399, 107-400, 107-401, 107-402, 107-403, 107-404, 107-405, 107-406, 107-407, 107-408, 107-409, 107-410, 107-411, 107-412, 107-413, 107-414, 107-415, 107-416, 107-417, 107-418, 107-419, 107-420, 107-421, 107-422, 107-423, 107-424, 107-425, 107-426, 107-427, 107-428, 107-429, 107-430, 107-431, 107-432, 107-433, 107-434, 107-435, 107-436, 107-437, 107-438, 107-439, 107-440, 107-441, 107-442, 107-443, 107-444, 107-445, 107-446, 107-447, 107-448, 107-449, 107-450, 107-451, 107-452, 107-453, 107-454, 107-455, 107-456, 107-457, 107-458, 107-459, 107-460, 107-461, 107-462, 107-463, 107-464, 107-465, 107-466, 107-467, 107-468, 107-469, 107-470, 107-471, 107-472, 107-473, 107-474, 107-475, 107-476, 107-477, 107-478, 107-479, 107-480, 107-481, 107-482, 107-483, 107-484, 107-485, 107-486, 107-487, 107-488, 107-489, 107-490, 107-491, 107-492, 107-493, 107-494, 107-495, 107-496, 107-497, 107-498, 107-499, 107-500, 107-501, 107-502, 107-503, 107-504, 107-505, 107-506, 107-507, 107-508, 107-509, 107-510, 107-511, 107-512, 107-513, 107-514, 107-515, 107-516, 107-517, 107-518, 107-519, 107-520, 107-521, 107-522, 107-523, 107-524, 107-525, 107-526, 107-527, 107-528, 107-529, 107-530, 107-531, 107-532, 107-533, 107-534, 107-535, 107-536, 107-537, 107-538, 107-539, 107-540, 107-541, 107-542, 107-543, 107-544, 107-545, 107-546, 107-547, 107-548, 107-549, 107-550, 107-551, 107-552, 107-553, 107-554, 107-555, 107-556, 107-557,

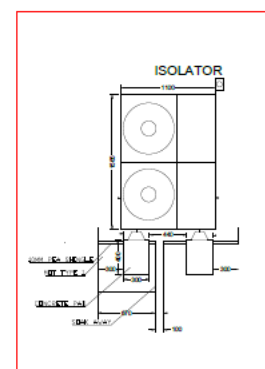


Figure 3: Proposed locations for each cottage's heat pumps

4.9 The National Trust sought input from Mid Sussex Council on this project through a Pre-App, with results received on 18th September 2024. This contained a summary of the policies this proposal needed to address (discussed in Section 5). Whilst the Pre-App detailed both the Primary (boilers) and Secondary (Wet-heating system radiators) works, this application is related to the former only. Overall, the proposal was positively supported by the Planning Officer and Conservation Officer and considered as not contentious, with some elements enhancing the special interest of the House. Further site-specific details were requested, which are discussed in Section 6.

5 Planning Policy

5.1 Section 38 (6) of the Planning and Compulsory Purchase Act 2004, states that regard is to be had to the Development Plan for the purpose of any determination to be made under the Planning Acts, and that determination must be made in accordance with the Plan, unless material considerations indicate otherwise.

5.2 The development plan for the site comprises the Mid Sussex District Plan 2014-2031 and the NPPF, and the East Grinstead Neighbourhood Plan

5.3 National Planning Policy Framework, 2024

5.3.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The NPPF is a material consideration in the determination of planning applications.

- i. The National Trust has carefully considered the policies contained within both the National Planning Policy Framework (NPPF) and the Planning Practice Guidance (PPG) in developing the proposal at Standen House . The Trust considers that this proposal meets many of the Core Planning Principles laid out within the NPPF relating to supporting a transition to a low carbon future in a changing climate and conserving heritage assets in a manner appropriate to their significance.
- ii. The NPPF has put sustainable development at the core of all economic, social and environmental policies and highlights the importance of supporting the delivery of renewable and low carbon energy and associated infrastructure at the centre of achieving this. The NPPF clearly states that:
 - a. At para 161: *'The planning system should support the transition to net zero by 2050 and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change...encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure'*
 - b. At para 168: *'When determining planning applications for all forms of renewable or low carbon energy developments and their associated infrastructure, local planning authorities should...not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future'*
- iii. The Trust has considered it important to provide information on the benefits that would arise from the installation of biomass and ASHP systems at Standen House and how these are part of a wider strategy within the National Trust to reduce the environmental impact that the organisation has, even though this is not required by the NPPF. Given the careful consideration of all the relevant planning considerations during the feasibility and design stages of the project it is considered by the National Trust that the impact of installing this system is acceptable and fully complies with the requirements in the NPPF.
- iv. The NPPF and East Grinstead Neighbour Hood Plan (EG3) also places great emphasis on achieving good design and considers it to be a fundamental requirement to securing sustainable development. The Trust has carefully considered the advice contained within Chapter 12 of the NPPF in developing a renewable energy proposal that is largely concealed within existing service areas, therefore conserving the historic character and setting of the property.
- v. This project has been developed with its primary aim being to support the sustainable management of Standen House. The key aims identified within

Chapter 11 of the NPPF relating to conserving and enhancing the natural environment relate very closely to the aims of this proposal

5.4 Local Planning Policy: Mid Sussex District Plan 2014 – 2031 and East Grinstead Neighbourhood Plan

5.4.1 The Plan was adopted by Mid Sussex District Council in March 2018, and it forms the statutory development plan for the council. The Trust has carefully considered policies contained within the Local Plan in developing proposals for the site.

5.4.2 The Strategic Objectives of Policies DP16 and EG1 High Weald Area of Outstanding Natural Beauty (National Landscape) are to: protect valued landscapes for their visual, historical and biodiversity qualities; and support and enhance the attractiveness of Mid Sussex as a visitor destination. DP16 states that *'small scale proposals which support the economy and social well-being of the AONB that are compatible with the conservation and enhancement of natural beauty will be supported'*. The proposed development is located within existing service areas or in private back gardens, so while there will be some minor impacts during construction, the site shall be restored to its current status, so there will be no long-term impacts on the AONB.

5.4.3 Policy DP19 supports sustainable tourism where it

- *Supports the sustainable growth of the rural economy; and*
- *Maintains or where possible enhances the quality of the rural and landscape character of the District, in accordance with Policy DP12: Protection and Enhancement of the Countryside.*

The development supports the operation and effectiveness of Standen and provides a sustainable energy system in support of the tourist attraction and so promotes sustainable tourism.

5.4.4 Relating to EG4 Designated and Non Designated Heritage Assets and Policy DP34: Listed Buildings and Other Heritage Assets, which includes an objective to *'support and enhance the attractiveness of Mid Sussex as a visitor destination'* and states that *'Development will be required to protect listed buildings and their settings'*, the proposal requires some minor changes to the listed structure as detailed below. However, these are restricted to areas with previous disturbance, restoring historic access routes, and ultimately removable/reversible to facilitate any future heating system developments within the buildings. The development enhances the attractiveness and visitor experience by providing a renewable energy source and improving the sustainability of Standen.

5.4.5 Policy DP36 refers to Historic Parks and Gardens with strategic aims to protect valued landscapes for their visual, historic and biodiversity qualities; and support

and enhance the attractiveness of Mid Sussex as a visitor destination. There will be minimal impact upon the registered park and garden during construction (e.g. construction traffic, heras fencing, scaffolding) as all works are confined to existing service areas within the house or cottages. The overall aesthetic, function and enjoyment of the park and garden will remain unchanged as part of these works.

5.4.6 Policies DP34 & DP36 have thus been fully considered. The Trust has provided full information regarding the significance of Standen, surrounding buildings and landscape and demonstrated a clear understanding of their settings. In addition, information has been provided on the historical significance of the site and measures have been taken to avoid the most important areas and mitigation provided where no alternative to some disturbance is possible. It is considered that there is very minimal harm that will occur to the RPG and the setting of the listed buildings during construction, however this will be temporary and will clearly be balanced out by the public benefits arising from moving to renewable energy and the education opportunities this will bring.

5.4.7 Policy DP37 refers to trees, woodland and hedgerows with the aim to protect valued landscapes for their visual, historical and biodiversity qualities. The development has been designed with this in mind, with all trenching designed out of scope. The Trust therefore considers that the relevant requirements within this policy are met.

5.4.8 Policy DP40: Renewable Energy Schemes Strategic Objectives: *'To promote development that makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change. Evidence Base: Gatwick Sub Region Water Cycle Study; Capacity of Mid Sussex District to Accommodate Development Study; Mid Sussex Landscape Capacity Study; Mid Sussex Sustainable Energy Study; West Sussex Sustainable Energy Study. Proposals for new renewable and low carbon energy projects (other than wind energy development), including community-led schemes, will be permitted provided that any adverse local impacts can be made acceptable, with particular regard to:*

- *Landscape and visual impacts, including cumulative impacts, such as on the setting of the South Downs National Park and High Weald Area of Outstanding Natural Beauty, and the appearance of existing buildings;*
- *Ecology and biodiversity, including protected species, and designated and non-designated wildlife sites;*
- *Residential amenity including visual intrusion, air, dust, noise, odour, traffic generation, recreation and access'.*

5.4.9 The proposed development meets the requirements of Policy DP40 as the infrastructure will be installed within existing service areas and the existing use of each room and space fully restored upon completion. There will be no long-term changes or impacts on the landscape and there are no expected impacts on ecology. The heat pumps are fully MCS (Micro-generation Certification Scheme) compliant when considering noise pollution, as demonstrated below and so the proposal meets the tests of policy DP40 and DP29 – Noise, Air and Light Pollution.

5.4.10 Policy DP12 – Protection and Enhancement of Countryside seeks to protect the intrinsic character and beauty of the countryside. Development will be permitted in the countryside *‘provided it maintains or where possible enhances the quality of the rural landscape character of the district and...is supported by a specific policy reference elsewhere in the Plan, A Development Plan Document, or relevant Neighbourhood Plan.’* The proposal will have no impact upon the character or beauty of the countryside due to its small scale and that Standen will remain an enjoyable and tranquil visitor attraction. The proposal is also supported by the drive towards Net Zero and the need to support sustainable growth of the rural economy.

5.4.11 Policies DP17 - Ashdown Forest Special Area of Conservation and Special Protection Area and EG16 – Ashdown Forest Special Area of Conservation and Special Protection Area are relevant due to the site sitting within the 7km buffer zone of the Ashdown Forest. The proposed works are focussed on replacing an existing heating system at a nearby visitor attraction. It is not intended that there will be any direct impacts to Forest, nor drive a greater number of visitors to the Forest.

5.4.12 Policy EG2 – Areas of Development Constraint relates to within the Countryside Areas of Development Constraint relating to converting rural buildings, small scale new development or extensions. None of these relate to Standen as all works are taking place within existing, fully occupied buildings, with no requirement for any new structures or extensions.

5.3.13 Consequently, the Trust believes that this development has been thoroughly considered, and the policies outlined above complied with.

5. Historic England Guidance

5.18 In the design of the proposed development the Trust has had regard to Historic England guidance, including that relating to its conservation principles and guidance on settings. Regard has also been had to the Historic England position on renewable energy, which states:

“Recognising the threats of climate change to the historic and natural

environments and to our national prosperity, Historic England welcomes the Government's commitment to reduce the emissions which contribute to global warming.

We support measures to reduce fossil fuel consumption, increase energy efficiency and exploit renewable energy sources. In addition, through our own sustainable development strategy, we are committed to reducing the environmental impact of our own activities.

Nevertheless, we also recognise that some renewable energy technologies have the potential to cause serious damage to irreplaceable historic sites, which are themselves an integral part of the wider environmental and sustainability agenda”.

5.19 In summary Historic England supports an approach to renewable energy generation which:

- Acknowledges the need for society to invest in a wide range of renewable energy generation technologies;
- Recognises the potential environmental impacts of different technologies, including their implications for the historic environment;
- Keeps the balance of environmental benefits and disadvantages of each technology under continual review;
- Continually seeks to limit and mitigate adverse impacts.

5.20 Historic England believes in maximising the benefits of renewable energy projects, while minimising their adverse effects on the historic environment. HE's advice Note 18: Adapting Historic Buildings for Energy and Carbon Efficiency provides an extensive guide on how to achieve a greener future by adapting and mitigating to climate change whilst keeping historic buildings in use through sensitive installations, repairs and maintenance. This can be achieved by considering the cumulative effects of projects as well as their specific impacts and by ensuring that the implications of renewable energy developments are adequately reflected in national, regional and local planning policy and at all stages of the environmental impact assessment process.

5.21 Consequently Historic England supports projects like that proposed for Standen provided that the implementation of the project does not give rise to harm to the heritage assets at Standen. Given that it has been demonstrated that the project at Standen would not result in adverse visual impacts, except temporarily during construction, would safeguard the setting of listed buildings and would not harm the spirit of place, the proposals are in compliance with Historic England guidance.

6 Considerations

6.1 Heritage

- 6.1.1 Standen's Spirit of Place (Appendix E) and Statement of Significance (Appendix F) demonstrate the history and importance of Standen and its collections and has assisted in governing the design considerations of this project.
- 6.1.2 The proposed systems will be efficient and sophisticated, able to adapt to the differing comfort and conservation needs of the buildings through thermostats or Relative Humidity/Temperature Monitors. This is important to ensure suitable conditions to protect the building fabric and collections of the Grade I & Grade II buildings, and those living and working on site.
- 6.1.3 The existing plant rooms/boiler cupboards are well suited for re-use and have historically been changed to adapt to newer heating systems (e.g. coal to oil), and now again from oil to biomass/heat pumps. Standen House has always been at the forefront of modern technology; being one of the first homes in the UK to have central heating and mains electricity upon first build, with this sentiment continuing with this proposal. Therefore, the alterations to the building fabric have been kept to a minimum and focussed on retaining the existing set-up with changes linked to compliance and accessibility. Therefore, the impact to the building fabric is deemed minimal, or positively restoring historic features. Exact details to the proposed alterations can be seen in Appendix A & B, but in summary:
 - 6.1.3.1 Reinstatement of historic doorway into the old coal-store – this was previously bricked up in 1963 to create a bund to store oil. A bund is no longer required, and so the door will be reinstated. The original lintel remains in-situ and will be re-used, and the new door will match the panelled-style and colour of the other plant room doors. This will become the access to the pellet store for cleaning and maintenance. See Figure 4.



Figure 4: Re-instated Doorway to fuel store

- 6.1.3.2 The ventilation in the plant room needs to be improved to conform to modern compliance standards. A new louvre will be installed on the entrance door (a 1963 addition) to provide low-level ventilation; See Figure 5.



Figure 5: New location of matching door louvre window

- 6.1.3.3 New connections between the plant equipment will be needed, and so new penetrations (or enlarging existing penetrations) will be required to facilitate the different or larger and better insulated pipework. In the plant room this will be completed in advance of the works by a suitably trained asbestos-removal company.
- 6.1.3.4 The existing wireless thermostat, located in the Billiard Room, will be replaced, requiring no new cable routes.
- 6.1.3.5 In the cottages, the current plant, pipework and radiators were installed, wall-mounted, in the 1990s with parts boxed in. All existing pipe routes, radiator and plant placements will be re-used apart from the boiler in No. 6. This is currently in the kitchen and in an inconvenient place. Instead, the pipework and plant will be relocated into the storage utility space to the rear of the property to give the tenant back space in the kitchen. Where required, existing penetrations will be enlarged to facilitate the increased diameter pipework and thicker insulation and the boxing in re-used or made larger to accommodate. The radiators proposed are to match the existing style (modern panel), but with increased depth (triple panel, as opposed to single or double); this way the existing penetrations through the floorboards can be retained and only two new radiator locations required (in a room currently with no radiators). These are to either remain white or painted to match the existing colour of the walls. Each property will get a new thermostat to facilitate user-control of the

systems, which will also have a remote function.

- 6.1.3.6 The chimney top is currently in poor condition, with crumbling mortar and unsafe tiles. At the same time as installing the new flue liner, the chimney will be repaired in a like-for-like manor, by repairing the lime mortar and re-hanging the tiles which may include replacement of broken ones. These will be suitability sourced and matched on site to be approved by the NT before installing.
- 6.1.4 A 2m length, and 30cm wide section of groundworks will be required to facilitate a connection from the boiler room to the nearest drain for the condensate discharge (water). This has to be deep enough for frost-protection (~50cm) and must be connected to a fowl sewer or storm drain for compliance purposes. This will be located in the courtyard and will connect onto an existing sewage pipe (Fig. 6). The proposal is to number and lift the bricks, bed in the pipe with sand for protection, and replace the bricks in the original fashion. There is no known archaeology in this area, and these have been heavily disturbed previously for drainage/sewer works. Therefore, the impact upon this area is deemed minimal.

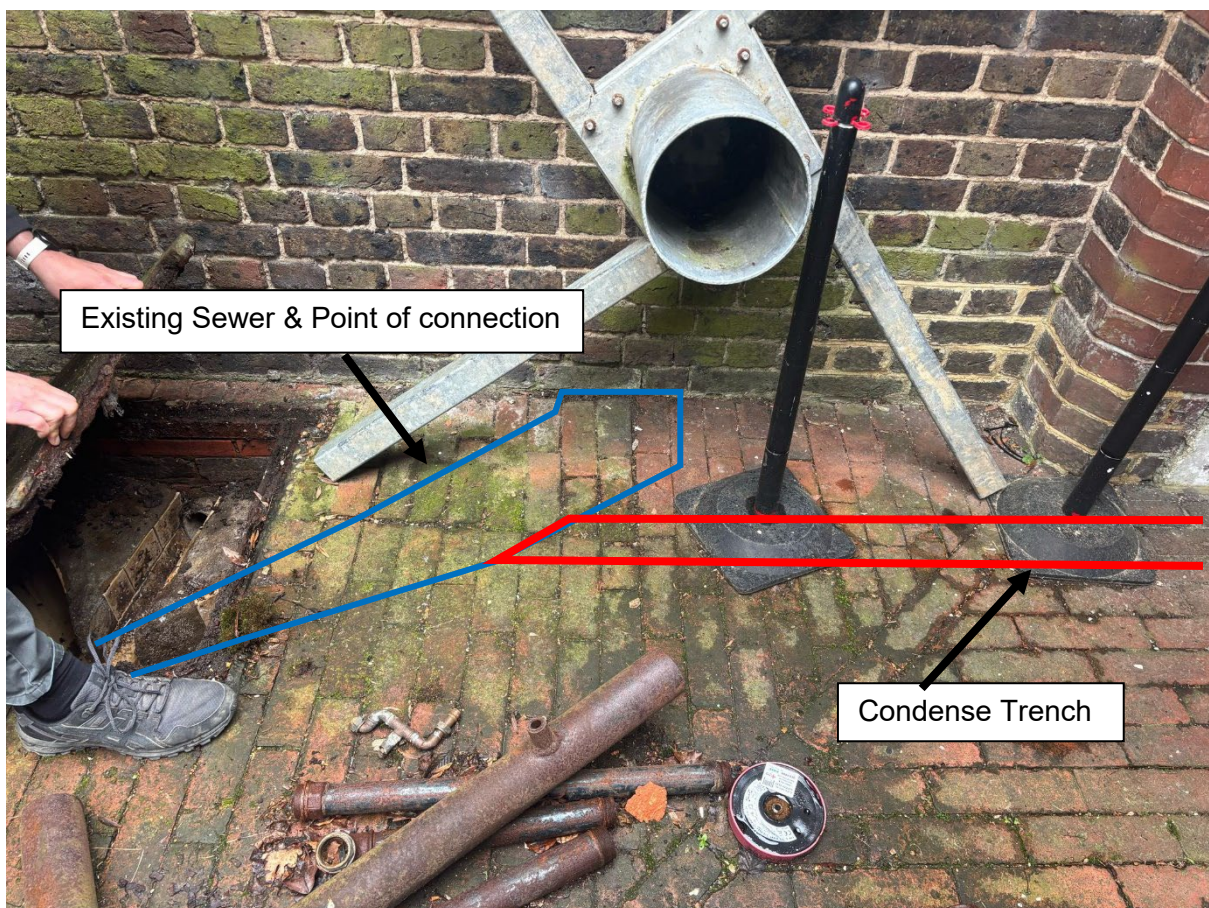


Figure 6: Groundworks Proposal

- 6.1.5 By removing the cottage oil tanks, this releases additional space in the garden of No. 5. Therefore, the proposal is to reinstate full garden access to the tenant by removing the inner fence panels and posts, removing the concrete slab (laid on top of the brick pavers) and making good the ground/pavers. This is also where the new ASHP will be located so as not to disturb the existing garden layout.
- 6.1.6 A new ethernet connection is required in the plant room to remotely monitor and control the biomass system. This will come from the site's server room in the offices and run along existing external cable routes where possible, avoiding any disturbance to established planting. The cable will be black and use black pins into the mortar for attachment. See Appendix D for full details.
- 6.1.7 Standen is situated within a Grade II Registered Park and Garden. This was a significant consideration during the options appraisal process, with the proposed works deemed to not impact the garden, wider estate or the views. The works will require temporary scaffolding in order to complete the chimney repairs and install a new flue liner. Scaffolding erected in the summer of 2024 has provided a helpful guide to the design of any future scaffolding, and so this will be re-used (e.g. feet and attachments in the same place), thereby protecting the unique plant species within the Quarry and the listed building.

6.2 Sustainable Development

- 6.2.1 At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking. Its role in development planning relates to the benefits to be achieved through positive social, environmental and economic impact. To explain this further, the NPPF's PPG includes a section entitled renewables and low carbon energy which notes:
- 6.2.2 "Increasing the amount of energy from renewable and low carbon technologies will help to make sure the UK has a secure energy supply, reduce greenhouse gas emissions to slow down climate change and stimulate investment in new jobs and businesses. Planning has an important role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable."
- 6.2.3 This development is therefore supportive of the above as it allows all fossil fuels to be removed from the site and is proposing to convert to a low-carbon source of fuel.

6.3 Ecology & Biodiversity

- 6.3.1 The National Trust has the conservation and enhancement of its land and properties at the heart of its decision-making process. As an organisation the Trust undertakes regular ecological surveys of our land and properties to monitor species and to understand how the management of the land could be used to enhance biodiversity.
- 6.3.2 The results of regular surveys and an assessment completed by an NT ecologist indicate that there is no presence of protected species in the work areas as they do not make for suitable nesting or roosting spaces, works are being undertaken outside of critical times, or enabling works are being

completed under the existing bat license relating to the roof replacement project at the cottages, thereby removing the need to access the roof space during the ASHP works. There are therefore no risks to species within the works-site due to its unsuitability and the temporary nature of this work, either in the long-term or during installation.

- 6.3.3 This project is exempt from Biodiversity Net Gain (BNG) as it does not impact priority habitat and is subject to the de minimus exemption. There are no interventions with local trees or ecology, nor are there any changes to building footprints or existing local habitats.

6.4 Landscape

- 6.4.1 The site's siting within the High Weald National Landscape has been heavily considered throughout the project to date. The options appraisal demonstrated that installs with big impacts to the site's appearance and peaceful nature were discarded. The proposed options re-use existing plant rooms and service areas to not encroach onto existing views and have been designed in way to reflect the rural and unique setting. The installation includes limited long-term visual changes and is away from the visitor thoroughfare or the views of the house or over the valley. Therefore, it is deemed that this development has no negative impacts upon the landscape and will continue to protect the local environment by eliminating the environmental risk of oil deliveries.
- 6.4.2 The National Trust recognises the importance of significant trees and other foliage that make a contribution to the setting of the listed buildings and the character of the garden and wider estate. As such, any impact to trees, hedging and root protection zones has been designed out of this project.

6.5 Acoustic & Aesthetic Impact of the ASHPs

- 6.5.1 The oil boilers within the cottages are currently located within the buildings and produce a high level of noise nuisance and oil-fumes within the living areas of the buildings. Therefore, the ASHPs are proposed to improve this situation and the designs carefully considered with the tenants in mind.
- 6.5.2 The placement of the ASHPs has been carefully considered regarding the future noise impact on visitors and local residents. As such, the NT has sought advice from Clake Saunders Acoustic Surveyors. Using the MCS Noise Assessment guidelines as advised by Mid Sussex Council, the siting of the ASHPs is deemed within compliant guidelines (Appendix C).
- 6.5.3 However, for consideration of the NT staff living in the cottages, all options have been pursued within the design to further mitigate noise impact:

- 6.5.3.1 Units are to be sited in each cottage's individual back garden. This is to separate the systems so that each tenant does not have the noise nuisance of the neighbour's unit, particularly as the gardens are separated by a building. This also enables direct connection into the internal tank locations to minimise heat losses and the tenant's bills. The nearest neighbour's habitable window is 30m away, which is the maximum noise assessment distance as by this point the majority of the noise will have dissipated. An existing fence will also block the view of the unit from this window or anyone walking nearby.
- 6.5.3.2 The chosen units (Vaillant Arotherm Pro) are the quietest on the market as they use the R290 refrigerant, which also has the ability to produce hot water for the tenants. The current boilers are located inside the cottages and produce a higher noise level than the heat pumps. They also pump oil-fumes into the nearby bedroom windows. This proposal is therefore a huge lifestyle improvement for the tenants.
- 6.5.3.3 The ASHPs will be designed to run at a low temperature for efficiency, thereby limiting the compressor's loudest available range.
- 6.5.3.4 The ASHPs have options such as night-set back or limiting 'on' periods to daytime hours to not impact upon the tranquil overnight nature of the site. The usual daytime functioning of the area is busy with visitors, volunteers, cars and workshop/gardening equipment noises.
- 6.5.3.5 The ASHPs will be left exposed in order to increase airflow, considering the small, enclosed nature of the gardens. They have been carefully placed to not impact the tenant's use of the garden spaces.
- 6.5.4 Therefore, these mitigation measures are deemed appropriate to the setting and functionality of the space, with the tenants also having had the opportunity to feed into the design considerations.

6.6 Accessibility

- 6.6.1 This development is proposing to either increase access or make-good like-for-like after completion, using existing bricks and pavers. Therefore, there will be an overall improvement to the levels of accessibility on the site.
- 6.6.2 During construction, some areas of the site will be blocked off to allow for sufficient Construction Design Management (CDM) Health and Safety boundaries. However, this will not inhibit any fire egress, fire-engine access or accessibility for staff or visitors during this time.

6.7 Other

- 6.7.1 Future traffic movement has been considered as part of this project. The size of vehicle, route and turning circle of the existing oil tanker is to be replicated for the pellet delivery lorry. This will be smaller than standard delivery lorry due to the width of the courtyard entrance preventing a larger vehicle. This will mean more frequent deliveries (fortnightly, rather than monthly). However, this is not expected to have any implications for the functionality of site, or for highway safety.
- 6.7.2 This proposal will not have a detrimental impact on the amenities of nearby residential properties as they are too far away to have any noise impact, nor

will the project generate lights, fumes or be visible from neighbouring windows or gardens.

7 Conclusion

- 7.1** The National Trust considers that this proposal will allow the Trust's sustainable energy strategy to be achieved at Standen using a mixture of technologies that are appropriate for the particular sensitivities and heating needs of the property. The Trust has undertaken a full and thorough assessment of renewable technologies to ensure that the right choice has been made long-term and this can be provided with no unacceptable impacts on the historic significance of Spirit of Place of Standen. The proposal will enable a heating system to be installed swiftly with minimal visual or operational changes to site's function as a visitor attraction. There will be an opportunity to educate visitors in Renewable Energy technologies and how this is sympathetic to the historic improvements in Standen's history. The technology type and design has been carefully considered to ensure minimum disruption to the services, ecology, tenants, and the visitor experience.
- 7.2** The proposals to changes within the House and cottages have been confined to modern or heavily altered areas and remain in existing service areas and plant rooms, therefore having no impact on their significance.
- 7.3** All relevant national and local planning policies and Historic England guidance have been fully considered in the design and development of the project to ensure full compliance. Consequently, the Trust considers that this will enable the creation of an important step forward in the sustainability and futureproofing of Standen House and will add to the sustainable development aims of Mid Sussex District Council. As the proposed development is in compliance with the Development Plan planning permission should be granted.
- 7.4** The National Trust invites members of Mid Sussex Council or consultees for a site visit as part of this application, should that be of interest.