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## Energy Statement

**Proposed 2 No dwellings in lieu of extant Class Q permission,  
Greenacre  
Week St Mary  
Holsworthy  
EX22 8LB**



**Mr & Mrs Hannaford**



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## 1.0 Introduction

1. This statement has been compiled to accompany the full detailed planning application submitted to the local planning authority in respect of the above site and works associated.
2. Energy statements have become a mandatory requirement for applications for all new residential dwellings (not those formed by material change of use) and must accord with the aspirations of policy SEC1.
3. The document sets out below the technical requirements for the plots indicated on drawing number Ha/23/03 relating to the new build properties, plots 1 and 2.
4. It is important to note plots 1 and 2 are the same house type,

## 2.0 Background

1. Cornwall Council adopted and declared a 'climate emergency' in 2019
2. This is in response to growing global climate issues and the apparent need to address green house gases.
3. In June of 2022 new government building regulation documents, or updates to pre existing approved documents were introduced. Primarily Part L (conservation of fuel and power) has been revised together with the introduction of new technical documents.
4. Essentially the revised and new documents seeks to further address the carbon emissions from new dwelling houses, together with greater emphasis on the ventilation, heating, cooling and habits of dwelling occupiers.
5. SAP (standard assessment procedure) has long been a part and fundamental requirement of the building regulations. SAP is used to demonstrate the effective thermal fabric, dwelling emissions rates and space heating / hotwater requirements for all new dwellings.
6. A similar approach is now required at planning stage as detailed above to accord with the



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Climate emergency development plan document and SEC1.

### 3.0 Dwelling analysis and technical detail

1. Plots 1 and 2 share the same house type. Each have a floor area of 214m<sup>2</sup> and are detached 3 bedroom dwellings.
2. The dwellings will be constructed from ICF, consisting of a highly insulated concrete formwork.
3. The revised approved document Part L of the building regulations sets out fabric u values for various elements of the building, these include – floors, walls, roofs, windows, roof windows and doors.
4. The fabric u values for each of the above are as follows :
  - Floors 0.13 W/m<sup>2</sup>k
  - Walls 0.18 W/m<sup>2</sup>k
  - Roof 0.15 W/m<sup>2</sup>k
  - Windows 1.4 W/m<sup>2</sup>k
5. Approved document Part L of the building regulations also states that all new dwellings must show compliance in terms of conservation of fuel and power through the means of a SAP calculation.
6. A SAP calculation is technical document and calculation which can only be prepared by accredited energy assessors. We hold suitable accreditation with Elmhurst energy and utilize their software for the production of SAP calculations.
7. Essentially the SAP calculation is a tool to model the dwelling as designed which in turn presents data in the form of carbon emissions values, which show compliance with the required DER (dwelling emission rate) and the TER (target emission rate) As data is inputted into the tool, the software generates the 'target' which the design must show compliance with. Fabric standards must also be met with compliance being shown with DUFEE and TUFEE requirements.
8. Each of the new build dwellings, in addition to the fabric U values stated above will incorporate the following:
  - Low carbon green energy heating sources for means of providing space heating and hot water demands. In this case each of the dwellings will be installed with an air source heat



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pump, feeding an underfloor heating system throughout.

- Solar PV in the form of photovoltaic panels assimilated to the east and west roof slopes to provide electricity
  - Waste water heat recovery fitted to showers / baths
  - Mechanical ventilation system for the control of background ventilation requirements. Mechanical extract system to be performance tested to BS EN 13141 -7.
  - Water efficiency measures (Part G of the building regulations) limiting the amount of water used per person per day.
9. Each of the dwellings will be subject to an onsite air pressure test, which ensures the development as tested meets the design requirement of the SAP calculation. Typically the dwellings will be designed with an air pressure rating of 5 m3/hm2
  10. An as built SAP calculation will be prepared to reflect the site works and also to produce the mandatory EPC rating / certificate for the dwellings.
  11. Each of the dwellings will incorporate the now mandatory provision for the charging of electric cars, to show compliance with approved document S of the building regulations.
  12. Each of the dwellings incorporates design measures to address summer overheating. This is now a mandatory requirement under Part O of the building regulations. The dwellings will feature mechanical ventilation systems for the control of internal air changes which accords with Part F of the building regulations. Further, active solar shading measures are included in the design to limit unwanted solar gain to high risk areas i.e western and southern facades.
  13. The dwellings will need to show further compliance with AD Part O in the form of thermal dynamic modelling which addresses the solar gain, ventilation requirements and means to effectively cool the building.
  14. The need to cool has been addressed in the design through promoting adequate cross ventilation as well as designing in solar shading.



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#### **4.0 Conclusion**

1. Each of the new build dwellings have been designed to meet the requirements as set out in the Climate emergency development plan and policy SEC1
2. The dwellings feature a number of low carbon technologies to reduce carbon emissions
3. This document sets out the parameters which each dwelling will be designed to in terms of the building regulations and also what measures need to be taken to ensure a broad compliance
4. The dwellings will not be heated by means of fossil fuel and will not therefore rely on unsustainable measures for future occupiers.
5. This document sets out the thermal fabric requirements for each of the construction elements which must be complied with at building regulation stage.



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## Appendix A – Summery worksheet of completed energy summary tool

### 4 - Climate Emergency DPD SEC 1 Policy Check Summary - SAP

**DPD Policy SEC1 Criteria**

|               |              |                  |
|---------------|--------------|------------------|
| Space Heating | Total Energy | Renewable Energy |
| ≤ 30          | ≤ 40         | ≥ Total Energy   |

Total Area (NIA m2):

Renewable Energy Deficit (kWh per year):

**Total Number of Homes**

|                        |        |
|------------------------|--------|
| Homes Meeting Target   | 2      |
| % Homes Meeting Target | 100.0% |

**Average (kWh/m2 year):**

|                         |        |        |        |
|-------------------------|--------|--------|--------|
| Site Totals (kWh/year): | 1083.1 | 4855.6 | 8684.0 |
|-------------------------|--------|--------|--------|

|                         |                     |                         |
|-------------------------|---------------------|-------------------------|
| 1) Space Heating Demand | 2) Total Energy Use | 3) Renewable Generation |
| 2                       | 2                   | 2                       |
| 2                       | 2                   | 2                       |
| 100.0%                  | 100.0%              | 100.0%                  |
| 2.5                     | 11.3                | 20.3                    |
| 1083.1                  | 4855.6              | 8684.0                  |

**Instructions:** This page provides a summary of the key SAP inputs and estimated performance against Climate Emergency DPD Policy SEC1 part 2b. This page is to be included with the Energy Statement submitted for planning permission.

| Development location   |                           |                     |                                |                                     |  |                               |                                       |                                 |                             | Red = CE DPD Policy SEC1 threshold not met  |   |   |
|------------------------|---------------------------|---------------------|--------------------------------|-------------------------------------|--|-------------------------------|---------------------------------------|---------------------------------|-----------------------------|---|---|---|
| Greenacre Waek St Mary |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |
| Key information        |                           |                     |                                | Dwelling Elemental Checks           |  |                               |                                       |                                 |                             | 1) Space Heating Demand                     | 2) Total Energy Use                     | 3) Renewable Generation                     |
| Unit Identifier        | Number of identical units | Total area (NIA m2) | Part L Improvement (DER / TER) | Air permeability (m3/m2.hr at 50Pa) | Average External Wall U-value (W/m2.K) | Average Roof U-value (W/m2.K) | Average Ground Floor U-value (W/m2.K) | Average Window U-value (W/m2.k) | Ventilation System Type     | Predicted Space Heating Demand (kWh/m2year) | Predicted Total Energy Use (kWh/m2year) | Predicted Renewable Generation (kWh/m2year) |
| Plot 1 and 2           | 2                         | 428                 | 65%                            | 5                                   | 0.17                                   | 0.13                          | 0.11                                  | 1.2                             | Balanced with heat recovery | 2.5   | 11.3                                    | 20.3  |
|                        |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |
|                        |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |
|                        |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |
|                        |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |
|                        |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |
|                        |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |
|                        |                           |                     |                                |                                     |  |                               |                                       |                                 |                             |   |   |   |