



DUCHY *of* CORNWALL

**Design and Access Statement for
Listed Building Consent**



Trendeal Vean Farmhouse
Nr Ladock
Truro
TR2 4NW

December 2021



Quality Audit			
Ref.	Name	Signed / Initialled	Date
Prepared	Alex Manning	AM	03/01/20
Checked	~		

Revision Register			
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Contents		
Section	Title	Page
1.0	Terms of Reference	
2.0	Introduction	.
3.0	Site and Context Analysis	
4.0	The Development Proposal	
5.0	Design Rationale	
6.0	Access and Highway Issues	
7.0	Sustainability and Site Waste Management	
8.0	Summary	



1.0 Terms of Reference

1.1 Applicant details:

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1.3 Site address:

Trendeal Veian Farm
Nr Ladock
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2.0 Introduction

2.1 This design and access statement has been produced by the Duchy of Cornwall in support of the accompanying Listed Building Consent application for the refurbishment of Trendeal Veian Farmhouse.

2.2 This statement should be read in conjunction with the following.

- The completed planning application form and ownership certificates.
- Heritage Impact Statement by Silverlake Design
- Ecological Survey by Wheal Grey Ecology
- Drawings:
 - Site Location Plan – 216_001
 - Site Layout Plan – 216_002
 - Ground Floor GA Plan Existing – 216_003
 - First Floor GA Plan Existing – 216_004
 - Roof Plan Existing – 216_005
 - Elevations Existing – 216_006
 - Building Section Existing – 216_007
 - Site Layout Plan Proposed – 216_008
 - Ground Floor GA Plan Proposed – 216_009
 - First Floor GA Plan Proposed – 216_010
 - Roof Plan Proposed – 216_011
 - Elevations Proposed – 216_012
 - Building Section Proposed – 216_013



3.0 Site and Context Analysis

3.1 Analysis of the Site

Trenderal Vean is a Grade II Listed Farmhouse which forms the residential accommodation for Trenderal Vean Farm, Ladock, Truro. The List Entry Number is 1141125. National Grid Reference SW 89053 52500. Vehicular access is via the single track lane running east of the B3275, on the northern extent of Ladock. The lane dissects the farmhouse and main yard to the north, with larger agricultural buildings to the south.

Trenderal Vean is a working farm, owned by the Duchy of Cornwall and let on a leasehold basis, with the farmhouse being the sole residence. The farm tenancy changes hands in September 2022. The application site relates to the farmhouse, which is currently vacant, and requires refurbishment in advance of the new tenancy start date to provide suitable accommodation for the incoming tenant.

In its current condition the farmhouse provides poor quality residential accommodation which falls significantly short of current energy efficiency and thermal comfort standards. The building is of traditional construction with solid masonry walls, single glazed predominantly sash windows, and has simple concrete or slate on earth floors. For space and water heating, the building currently relies upon an oil fired Aga range cooker providing background heat to the kitchen, log burning stoves and open fires, and some life-expired electric storage heaters.

The main structure and fabric of the building is in satisfactory condition. However, the internal fit out including fixtures and finishes, and poor thermal performance, are not suitable for an open market letting. In its current condition, the building does not provide fit for purpose comfortable and safe accommodation for the proposed term of a new long-term farm tenancy.

We propose to refurbish the property, focusing primarily on internal works, in a sympathetic manner, to facilitate re-letting and re-occupation of the property, and high quality, thermally efficient, and low carbon residential accommodation.

Please refer to the Heritage Statement & Impact Assessment prepared by Silverlake Design which includes details on the property including numerous photographs for context.

3.2 Analysis of the Surrounding Context

The immediate site is arranged with the farmhouse to the western extent of the main yard. The farmhouse has garden wrapping around the front (south), west, and north, with the farmyard to the east. The yard has two main ranges of traditional buildings to the north and south. These are single storey solid masonry buildings which remain in use for agricultural purposes as storage buildings.



There is a Dutch style barn and lean to on the east of the farmyard, used as straw storage. The majority of relatively modern large agricultural buildings are located to the south of the access road, with workshop immediately opposite the yard, and the cattle sheds, silage clamps etc, located approximately 50m to the west of the farmhouse, on the south side of the road. All of the immediately adjacent land, with exception to the road, is owned by the Duchy of Cornwall under the Trenderal Vean Farm lease. Likewise, the majority of other land and buildings in Trenderal, is also owned by the Duchy of Cornwall. Please refer to the location plan for details.

3.3 Planning History

The Duchy of Cornwall have not sought any Pre-Application advice relating to the proposed works and have not submitted any planning applications for the property within the last 5 years.

A separate Planning Application for the proposal to install vertical slate hanging to the west elevation will be submitted separately following this application due to the material change of appearance of this elevation.

4.0 The Development Proposal

The property is currently unoccupied and requires significant refurbishment internally, with repairs and isolated works externally. The building has no thermal insulation to walls or floors, and currently has an EPC rating of F29. As such, it falls below the legal requirement under the Minimum Energy Efficiency Standards. The property has out dated and life expired electrical storage heaters to isolated rooms, and no space heating system. The previous tenants relied upon the oil fired Aga range cooker, heating the kitchen area and hot water cylinder, and a log burning stove. This arrangement isn't acceptable for a new letting as the principle sole family farmhouse accommodation on Trenderal Vean Farm.

The principle aim of the proposed refurbishment is to improve the thermal efficiency and occupier comfort in the property, bringing this to a modern, safe acceptable standard, whilst being sympathetic to the significance of the building. In doing so, our objective is to undertake the works targeting net zero carbon in the long term, using materials with low embodied carbon, reducing energy demand within the property and thus operational carbon, and installing low carbon and non fossil fuel technologies.

The proposal will involve undertaking refurbishment and renovation work to key thermal elements including the ground floor, internal face of external walls, and with a low carbon air source heat pump system designed and calculated based on these specific improvements for the property. We have based our proposals following ongoing discussion with our appointed Heritage Consultant, Caroline Yates of Silverlake Design, to adapt and amend the works proposals to be sympathetic to the building.

The works are detailed in the Heritage Statement, and summarised here:



Thermal Upgrade Works

- Ground Floors. Existing non-insulated concrete slabs removed. Slate flags on earth, lifted and set aside for reuse in original location. Suspended timber floor to lounge removed. New insulated floor installed consisting of a Glasscrete System by Mike Wye (refer to document submitted as part of application). This is a sympathetic insulated floor which is low carbon and designed to work in historic buildings where vapour movement and moisture management is key. N.B. An insulated concrete floor may be required if the preferred material is subject to significant cost and/or supply issues.
- Internal face of external walls – Internal Wall Insulation system (IWI). Existing walls are solid masonry with plastered finishes. Some areas have dry lining, and others have bitumen and cement tanking render to address damp ingress. To improve thermal efficiency whilst maintaining the breathability of the walls, we propose to remove the existing wall finishes back to masonry and install an IWI system comprising a lime levelling coat, recycled woodfibre insulation, and lime plaster finishing coats. Existing details such as aris beads will be retained and replaced. Skirting boards will be replaced with existing or matching. Architraves and surrounds where disturbed (localised) will be reinstated or replaced to match existing. A breathable paint finish will be installed on completion to retain the vapour open nature of the walls.
- Windows are primarily single glazed timber sashes with some double glazed casements to the north and east elevation. We proposed to repair the existing windows, overhaul to leave in good working order, and install secondary glazing to improve thermal efficiency and assist with heat retention.
- Heating and Hot Water systems. The building does not have a central heating system. Life expired thermal storage heaters will be removed. The oil fired aga will be removed. A new central heating system will be installed, which is proposed to have underfloor heating on the ground floor, and radiators to the first floor. The heat source will be provided by an electric air source heat pump, calculated for the building to supply heat and hot water demand. Additional measures of packaged heat recovery units for waste water beneath the bath and in airing cupboards will be considered to further improve efficiency.
- New slate hanging to the west elevation external wall. We propose to use Riverstone natural slate installed on battens to form rainscreen cladding. This will prevent saturation and damp penetration to the wall, currently causing cold issues and damage to internal finishes, including significant leaks over winter months.

Other Refurbishment Works

- Layout alterations. To provide a modern suitable layout for rental accommodation, we propose to remove the dividing wall between kitchen and sitting room (refer to drawings), to create an open plan kitchen diner.
- At first floor, we propose to create an opening between the north west and south west bedrooms to create an en-suite to the master bedroom. Stud timber partitions will form new walls.
- Finishes being retained generally will be repaired and redecorated in matching materials.



Design and Access Statement – Trenderal Veau Farmhouse

- Slate flags to the existing sitting room will be re-laid upon the new insulated floor.
- New kitchen installed as per layout.
- New utility worktop and units installed as per layout.
- Replacement log burning stove installed with new flue liner as the existing liner is cracked and allowing water penetration.
- New solid floor finishes to the ground floor installed, such as quarry or ceramic tiling.

The works are as detailed in the drawings listed in this Design and Access Statement and as listed in the planning (Listed Building) application submission.

5.0 Design Rationale

The proposal intends to improve the thermal efficiency of the building fabric, address long term damp penetration issues, and undertake minor internal remodelling to adapt the layout.

The materials chosen for the works are designed to be sustainable, low carbon, and/or sympathetic and in character with the building. For example, the new Internal Wall Insulation (IWI) is vapour open, allowing the free movement of moisture to ensure that the external walls continue to behave as originally constructed in a traditional building, and avoid introducing interstitial condensation issues. The insulation is part recycled and part made from otherwise waste wood fibres, fully breathable, and will be finished with a lime plaster.

We propose to retain the existing windows. These are a mixture of modern timber casements, and older hornless sash windows. The windows are a key component of the architectural appearance of the building, and whilst thermally inefficient, they are in a repairable condition. As such, to retain historic fabric and improve thermal performance, we intend to install secondary glazing to reduce draughts, and retain the original design of the windows.

There are relatively few historic features remaining within the property. These are detailed in the Heritage Statement. Whilst some of the historic fabric such as plaster onto masonry, will be removed, the impact upon the significance of the building is considered low. Any architectural features to windows or architraves will be retained, and materials used to match existing in terms of design and performance.

The new central heating and hot water system is required to provide suitable rental accommodation as the principal residence for the farm. We can no longer expect farm tenants to reside in homes that have poor thermal performance and no central heating due to ill-health effects and to ensure that we act as a responsible landlord. Our proposal includes low carbon and sustainable technology, avoiding the typical choice of fossil fuel boilers.

The layout amendments are minor in nature, the largest of which involves the removal of a ground floor wall to create an open plan kitchen diner. The location of the existing wall divide will be visible on completion of the works, by retaining wall nibs, a downstand beam, and the line of the existing reinstated floor covering.



The slate hanging to the external west wall to address driving rain penetration is designed using natural slate coverings. The proposal is to use new Riverstone natural slate, which is geologically identical to Cornish slate, and will provide a long-term solution, which is reversible if required. The use of hanging slate is in keeping with local vernacular to address this issue.

Other amendments are deemed minor and are included on the drawings and application details.

6.0 Access and Highways

No alterations are proposed to the existing vehicular route and there will be no increase to highways usage.

7.0 Sustainability and waste management

The materials proposed are either recycled and of low embodied carbon, and/or will result in a significantly lower occupational carbon requirement for the property. The heating system, using electricity and a heat pump, removes the fossil fuel burning appliances, and assists towards a zero carbon building design, in a staged basis, long term. The operational efficiency can be further improved if solar PV panels are introduced on site at a later date, which may be considered on existing or new agricultural buildings.

The system has been designed by a low carbon specialist mechanical engineer to suit the exact requirement of the property. In conjunction with the insulation to ground floors, walls, and secondary glazing, which are required to ensure the system works efficiently and economically, we forecast an operational cost saving of £609.93 per year over an oil boiler. Likewise, the heat pump is forecast to save 6,955.12kgCO₂/kWh per annum over an oil boiler. This aligns to government long term strategy, and the Duchy's zero carbon target. N.B. The above figures are correct and supersede those included in the Heritage Statement, which were draft at the time of completion.

Any timber used in the works will be FSC certified. The Duchy will work closely with the chosen contractor to minimise and recycle waste.

8.0 Summary

The proposed refurbishment of Trenderal Veian Farmhouse will provide safe, energy efficient accommodation for a new farm tenant, and provide good quality residential accommodation for the long term. In doing so, the impact upon the architectural and cultural significance of the building will be minimal. Historic fabric will be retained, and the works have been designed to minimise impact upon key features and details. The layout alterations will provide a much-improved layout suitable for modern farm living on this working farmstead.