Design and Access with Heritage & Sustainability Statement

Project Address:

Yew Trees,

The Butts,

Biddestone,

SN14 7DY

December 2023

Issue 01

Rev Date:



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01 Contact Information

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02 Introduction

This design and access statement has been prepared in support of a 'householder planning and demolition in a conservation area' application for proposed works to 'Yew Trees' in Biddestone. The extension will not be readily visible from the public realm or affect the street-scene. The proposals will allow the dwelling to be extended without detriment to its own appearance or neighbouring properties and will not be harmful to the character of the Conservation Area or AONB.

The proposed development is submitted as following:

Demolition of existing conservatory and replacement with new single storey rear and side extension.

This Statement should be read in conjunction with the submission package that includes architectural drawings demonstrating the approach adopted by the Architect in close liaison with the client. The full list of supporting plans accompanying this application are detailed below:

0010 Garden View CGI
0011 Internal View 01 CGI
0012 Internal View 03 CGI
0100 Location Plan
0110 Block Plans
0150 Existing Ground Floor Plan
0151 Existing First Floor Plan
0152 Existing Roof Plan
0160 Existing Elevations
0200 Proposed Ground Floor Plan
0201 Proposed First Floor Plan
0202 Proposed Roof Plan
0210 Proposed Axo Plans
0300 Proposed Elevations

03 The Applicant

Mr Webber and family have lived at the property for many years undertaking minor but important remedial works only to keep the house is good condition. As part of this application the applicant wishes to extend the property. This will involve some minor alterations, demolitions and extensions to suit the family's needs and create a fantastic, usable, home.

The applicant and family have a great connection to both the existing house, its site and the wider conservation area, so every effort has been made to provide design solutions that respond carefully to the property and when completed will only improve the overall design quality of the site. The aim of the project brief has been to both spatially and from an energy efficiency perspective improve the property in a respectful and considered manner in line with the wider conservation area.

Location Plan NTS





View of the property from the roadside

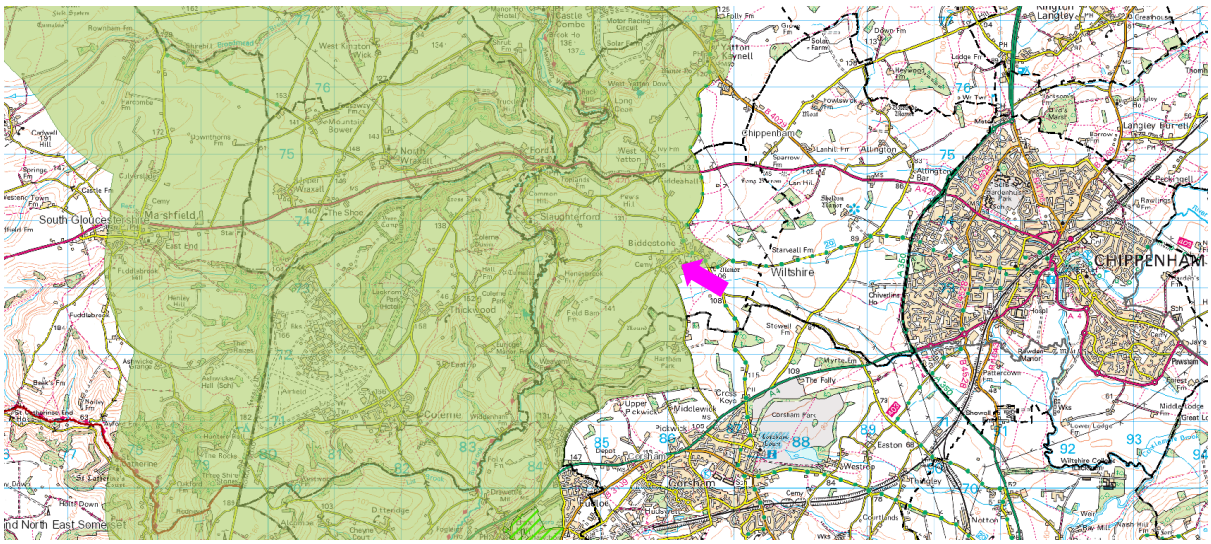
04 The Site, Context and Heritage Statement

Yew Trees is a three bedroom semi-detached house off The Butts road which is to the west of the village of Biddestone. The total site area is approximately 400m2 (0.04 ha) and is in a semi-rural location with other properties and structures adjacent.

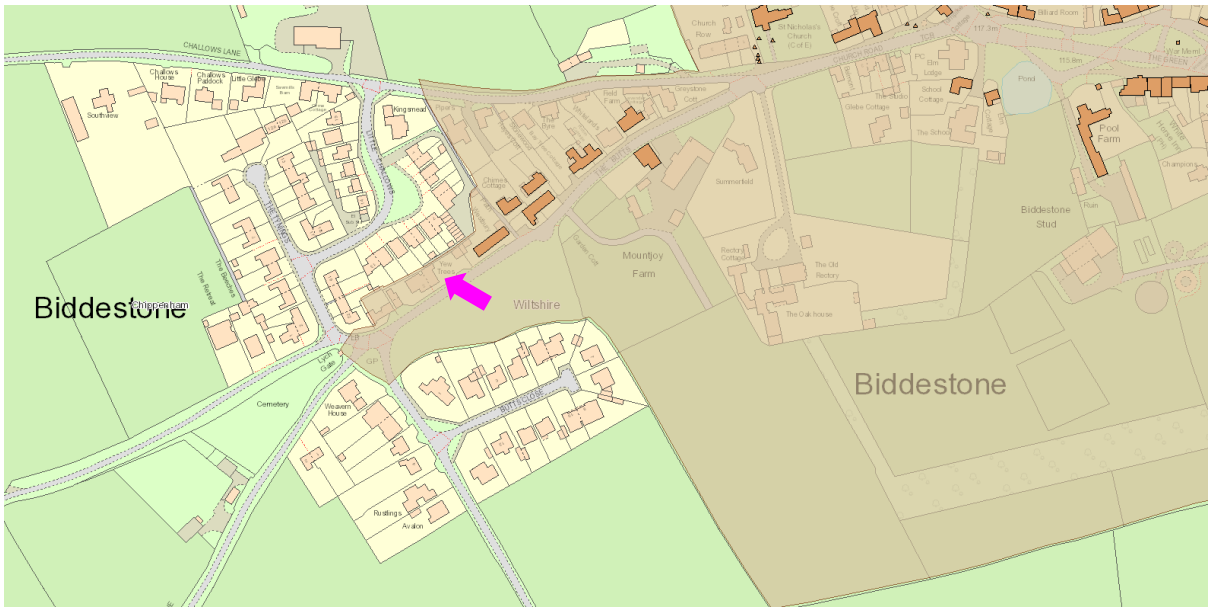
The site is located within the Cotswold AONB and the Biddestone Conservation area (see maps below). The village does contain some listed elements located towards the church, however the works as part of this application will have no impact on these.

The Conservation area generally comprises of either single or two storey dwellings, barns and churches. These are predominantly finished with stone or render to the walls and tiles to the roof. There are however examples of timber cladding and brickwork walls. Generally windows to the historic and listed buildings are timber, in line with the period, however UPVC and aluminium windows are also used.

AONB:



Conservation Area:



Information taken from Wiltshire Council core strategy mapping system.

The Yew Trees site comprises of the main semi-detached house, a driveway with access off The Butts road, a garage adjacent to the main road, front gardens, hedging and a large side garden.

Based upon the stone detailing found on the front elevation the house was likely built in 1877, which would also be in line with historical maps online. The main property has thick stone external walls and the pitched roofs are slate tiles. Stone quoins, cills and lintels are across the main house with more detailed stonework found on the front elevation.

The house has timber fascia, barge boards and soffits with metal rainwater goods. Windows and doors are mainly timber with some UPVC. There are stone walled planting beds around the garden and driveway with stone chipping pathways.

Overall the main semi-detached property is attractive and this has been noted during the design phase to ensure proposals only enhance the site.

The Conservatory at the rear will be taken down to make way for a new extension. The existing timber conservatory has been repaired several times by the applicant, but after a long life, it is now un-repairable. It is rotting, damp, the timbers are structurally degraded and the single glazing is well past its lifespan.

It is of the architects opinion that the proposed works as part of this application will have no detrimental visual impact on the existing property, neighbouring properties, street scene or wider area views.



View from road at eye level showing level change down to road and existing planting ensuring the proposals are not easily visible to the public.

05 The Proposals

05.1 Form

The existing property has a series of gabled and hipped interlocking pitched roofs, with a single storey pitched conservatory at the rear. The proposals will demolish the conservatory which is of no architectural merit and now falling in to disrepair. The conservatory is a disconnected space suffering from cold winters and hot summers.

The property has small internal spaces, typical of a property of this period and nature, and with the rear conservatory now being unusable for most of the year, the applicant is wishing to extend.

The extension will be over the footprint of the conservatory and on the side elevation of the house. This is the same approach as the approved scheme to the adjoining neighbours property. This is the best place to extend the property as proposals can be stepped back from the road as far as possible, while still delivering usable internal spaces.

We have designed the extension to lower the overall height. To improve the overall quality and provide differentiation, the proposed extension will be of a contemporary design. The new addition will separate itself by having a high-quality, modern design aesthetic, through the choice of form, materials and fenestration openings.

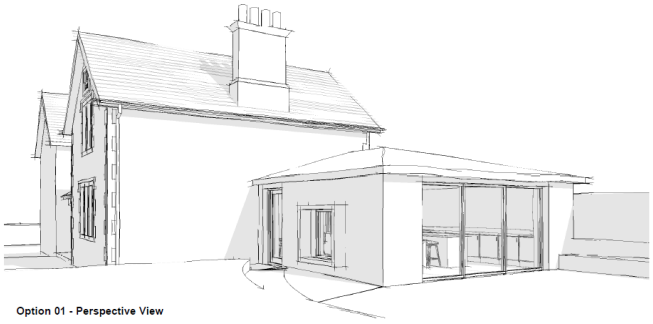


Photograph of side elevation and conservatory.

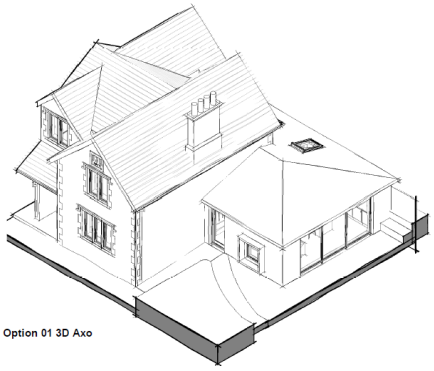
Wall Architecture developed a series of options and sketches at RIBA Stage 2 for discussion with the client.

Option 01

This option explored how a low pitched fully hipped roof design could be incorporated. The pitched roof increases the overall heigh and the different pitch angle did not sit comfortably with the steep pitch of the existing house.



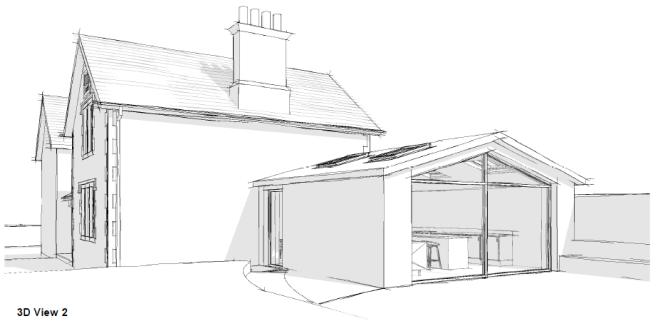
Option 01 - Perspective View



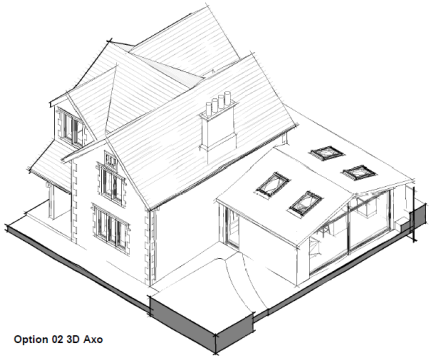
Option 01 3D Axo

Option 02

This option explored a pitched roof with feature gable end. Again, this provided additional height to the scheme and the two different pitches work against each other.



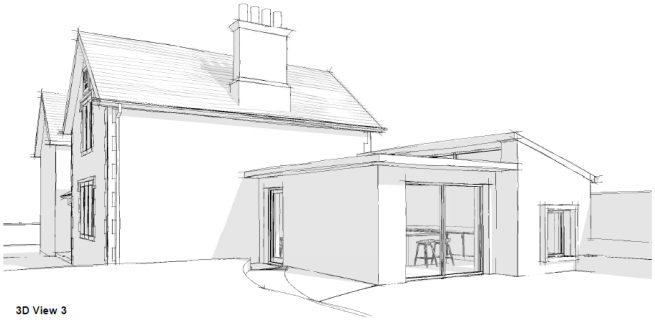
3D View 2



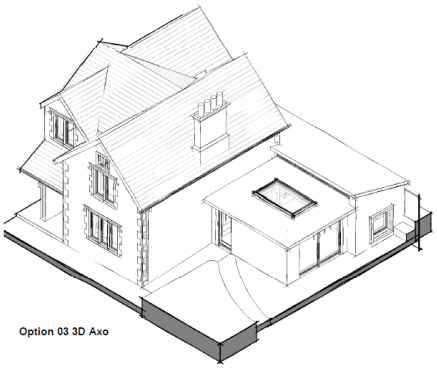
Option 02 3D Axo

Option 03

This option started to explore how pitched and flat roof designs could be incorporated while starting to pull the external envelope to create interest in the façade.



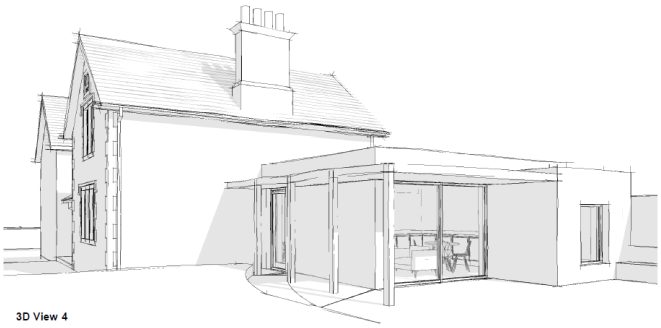
3D View 3



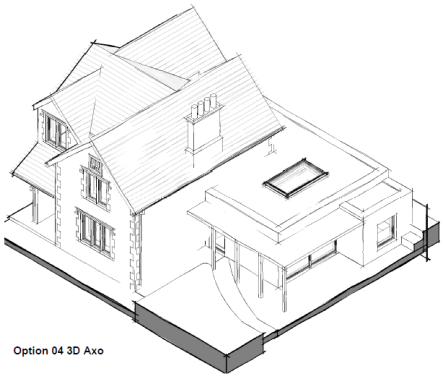
Option 03 3D Axo

Option 04

This is the option that was chosen to be deloped further as there was a clear differentiation between old and new, while maintaiing a lowe overall height to minimise visual impact.



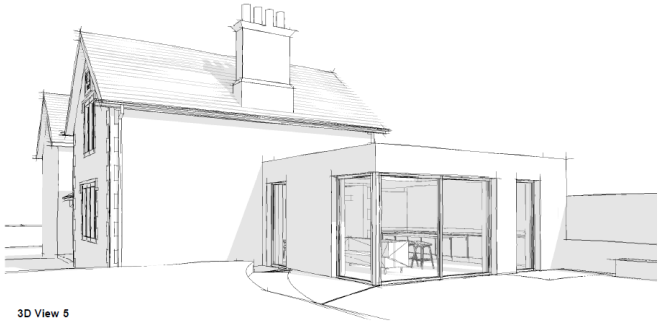
3D View 4



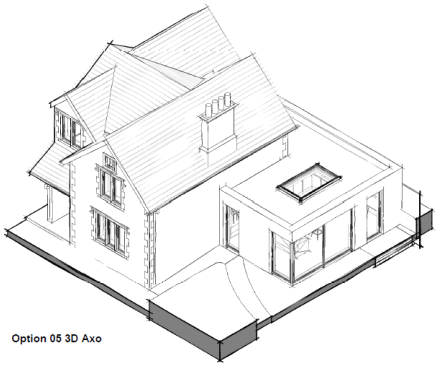
Option 04 3D Axo

Option 05

This is a stripped back version of the option above, with no stepping in the elevation or integrated canopy to provide interest in the elevation.



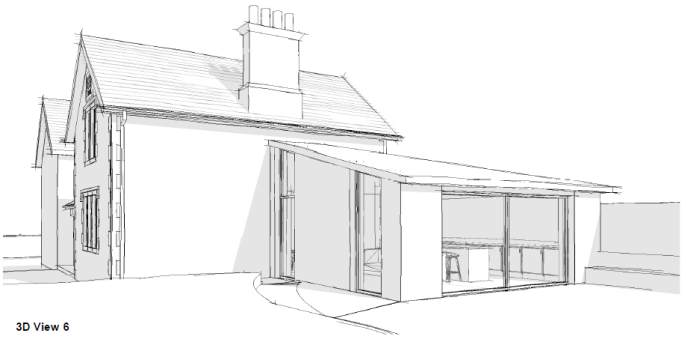
3D View 5



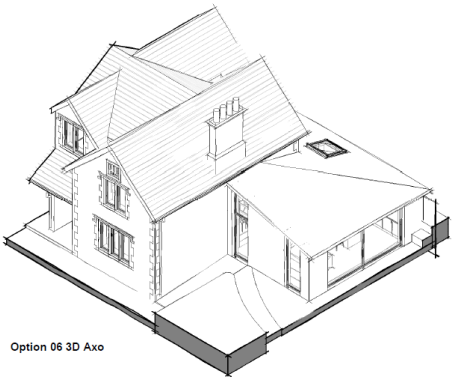
Option 05 3D Axo

Option 06

This option went back to explore how a pitch may be considered in a more contemporary manner to create larger vaulted spaces internally with feature glazing, however visually it does not work as well.



3D View 6



Option 06 3D Axo

05.2 Layout

The proposals involve extending to the north and east over the footprint of the conservatory. The designs look to remove a small section of the side / east external wall, breaking through into the new extension to create an open plan kitchen and dining space. The also has a beautiful sofa sitting area adjacent to garden, which will have a fantastic visual connection through the glazed sliding doors.

One of the challenging aspects of the brief that has been considered in the design is the applicants son who has special needs and for the requirement for him to be at times monitored visually. Open place spaces with clear lines of sight, but small pockets of space where the applicants can sit, relax and eat have been incorporated. A quiet and more intimate seating and table space is created at the rear with a feature picture window facing the garden. Alongside adding interest to the elevation is provides a perfect change in scale.

With working patterns changing for the applicant a home office is also located at ground floor to the rear. The kitchen is modest in size and an island unit faces the main central space. Folding doors have been added to the living room and home office which can be closed for privacy or left open full width for clear lines of sight.

05.3 Appearance, Fenestrations and Materials

The proposals aim to achieve a clean, contemporary and high quality design aesthetic, while complimenting the existing house and wider area.

A buff, rough textured, hand-made brick has been chosen for the external wall finish. This will closely match the local honey coloured stonework, yet differentiate itself in materiality. Timber cladding was explored however long term maintenance and its appearance after many years was a key consideration so masonry has been chosen as part of this application.

Dark framed metal windows will create contrast with the lighter honey coloured external finish. Long dark grey coloured roof lights are on the flat roof over the key spaces internally.

The top of the external walls are finished with a PPC metal capping in a light grey / stone colour. The parapet walls are extended up high enough to hide the solar panels from eye level externally. The panels are mounted on angled metal frames on the flat roof. The roof finish itself will be a grey single ply membrane. A green roof was discussed however with both photovoltaic panels and roof lights being included in the design, not enough space remains to make this a viable option.

A timber canopy with posts extends around the extension providing shelter both at the front elevation door and in front of the large sliding glazed doors. This will be of a high quality engineered design to compliment the extension and existing property.

The design ethos and material choices appear sensible as the extension will not be readily seen from the road at either walking eye level or vehicle driving eye level. The proposed extension is set back 9m from the road and from the road by approximately 1.2m. Planting along the roadside and within the site itself also adds a green screening.



Buff Brick Walls to Extension



Large Glazed Doors to Extension



Natural Materials Internally



Seating in Picture Window



Long Feature Roof Lights



External Canopy

06 Access and Landscaping

There are no changes to the access into the site, car parking arrangements or historical front pathway into the property. There will be some minor changes to the side garden path and a planting bed. Outside of the extension large format stone slabs will create an outdoor patio area under the canopy.

07 Parking and Drainage

There are no changes to the parking numbers as part of this application.

From the initial architectural survey it appears that both the rainwater and foul drainage are combined and fall down towards the main road. Due to the extensions proposed location the drainage runs will need to be exposed during construction and diverted to avoid wall locations with man holes located externally to suit.

08 Arboriculture

A section of hedging planted by the applicant along the rear boundary will need to be removed, approximately 3m in length, to make space for the proposed extension.

To carry out the works as part of this application, it will not be necessary for any construction works to damage existing retained trees including trunks, canopies and roots. Construction works include the use of plant machinery, digging, building and the storage of materials.

No materials or equipment etc will be stored within areas close to trees and their root areas. No fires or mixing of concrete/cement will be permitted within any tree root area. There will be no access for construction workers near retained trees and the storage of materials or excavated debris will be prohibited in any tree root area.

09 Sustainability

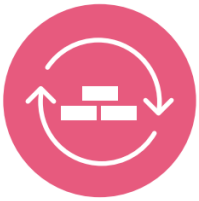
09.1 Introduction

As an architects practice Wall Architecture are committed to designing all projects to the highest sustainable credentials where possible in line with client aspirations and budget constraints. For small scale residential developments the LETI Climate Emergency Design guide is used to help us design buildings to meet UK climate change targets.

LETI's definition of net zero carbon means whole life carbon. Whole life carbon is formed of two key components:



Operational Carbon: refers to the carbon dioxide and other greenhouse gases which are emitted as a result of a building's energy use. This typically includes emissions associated with heating, hot water, cooling, ventilation and lighting systems, as well as energy used for cooking and by specialist equipment.



Embodied Carbon: Best Practice targets for embodied carbon are met, and the building is made from re-used materials and can be disassembled at its end of life in accordance with the circular economy principles.

09.2 Fabric

The building 'fabric' is made up of the materials that make up walls, floors, roofs, windows and doors. The more insulation contained within these elements, the better their thermal performance. However, 'fabric' also includes the building's overall airtightness, as well as the impact of thermal bridges where the insulation layer is not continuous.

The project will undertake a fabric first approach with excellent thermal performing building elements, low u-values targeted;

Walls	0.13 – 0.15 W/m2k
Floors	0.09 – 0.12 W/m2k
Roof	0.10 – 0.12 W/m2k
Windows	1.4 W/m2k gas filled, min A rated units
Doors	1.4 W/m2k gas filled, min A rated units
Air Tightness	Min. Building Regulations

09.3 Operational Carbon

In order to target Operational Carbon the below opportunities have been targeted:



Electric Car Charging



Metering



Air tightness



Battery Storage



PV Panels



Well Insulated Fabric



Low Energy Lighting



Energy Efficient Appliances



Air Source Heat Pump

09.4 Embodied Carbon

This is the carbon dioxide and other greenhouse gases are associated with the following stages:

1) ***Product:*** *extraction and processing of materials, energy and water consumption used by the factory and transport of materials and products.*
2) ***Construction:*** *building the development.*
3) ***In-use:*** *maintenance, repair, refurbishment, replacement and emissions associated with refrigerant leakage.*
4) ***End of life:*** *demolition, disassembly waste processing and disposal of any parts of product or building and any transportation relating to the above.*

Build less: Refurb and re-use
The proposals in this application make use of the existing structures found on the site. The brief has been interrogated with the client and represents their aspirations for the site.

Build light: Consider the building structure
The extension could be a lightweight timber frame construction which offers fantastic thermal performance and lower dead loadings, therefore less concrete foundations.

Build wise: Longevity and local context
The extension will be built in line with the local street vernacular which will sustain the overall street appearance. High quality materials and specifications of products and services will be incorporated to prevent additional maintenance and replacement of materials. Materials wherever possible will be sourced from the Southwest. Standard sheet sizes will be used to avoid wastage.

Build low carbon: Review material specifications
Low carbon sourced materials will be specified wherever possible. Steels will be reduced unless required by the Engineer. Request Environmental Product Declarations (EPDs) from all suppliers.

Build for the future: Assess end of life and adaptability
Items in the property to be mechanically fixed where possible to allow re-use.

Build collaboratively: Involve the whole team
Early engagement of the engineer and services to ensure the most efficient design.

09.5 Peak Demands

A reduction in the peak demand of the dwelling from a heating perspective will be achieved by having a high performance fabric, a good level of airtightness, a compact form factor and thermal mass. Cooling peak reduction is a designed out as much as possible by having appropriate glazing ratios, well insulated walls and efficient building services. The dwelling will reduce its peak domestic hot water demand by having low demand outlets, reducing distribution heat loss and installing an efficient heating system.

09.6 Solar

A photovoltaic array will be located on the flat roofs of the extension. The array is likely to be circa 4-6kwh. The client is currently in discussion with supplier to determine if solar to hot water heat storage can be incorporated.

09.7 Battery System

The photovoltaic solar panels will be paired with a house battery such as Tesla Powerwall. The battery will be located in the garage. The battery stores energy, detects outages and automatically becomes the energy source if the grid goes down. A Powerwall battery can charge when electricity costs are low and discharge when electricity costs are high.

09.8 Electric Vehicle Charging

A external car charging point will be provided by the driveway for easy charging.

09.9 Water Consumption

Sanitaryware is limited on this project however the proposed extension will incorporate water using items in the kitchen that better Building Regulation requirements for Water Consumption. Internal potable water will be conserved by installing flow restrictors to all taps. The following schedule of standard items provides a guide specification: Kitchen/Utility Taps 8 litres flow rate / minute

09.10 Flood Risk Assessment

Based upon the available information available from the Environment Agency, the application site is deemed not to be at risk from flooding being as it is located within Flood Zone 1.

09.11 Data Disclosure

Reducing the actual carbon emissions arising from a building's construction and operation is what matters. This is what will reduce the construction sector's impact on our climate. To measure and report actual carbon emissions and drive reduction, we need to measure and report energy consumption. The following items are targeted for inclusion in this project:

- Smart meter for continuous monitoring
- A power socket near the consumer unit and utility meters to power data logging equipment
- Visual energy display device to raise awareness and make users responsible for their energy consumption
- Renewables sub-metered for generation

09.12 Heating

Two Air Source Heat Pumps have been shown on the plans away from the property and all other properties to provide a sustainable heating strategy for the house moving forward. The exact specification of the units will be confirmed with a heating engineer following planning.





***** End of Document *****