

5 The Proposal in detail

Gravesend Borough Council

Section 5: The Proposal in detail

5.1 Architecture, landscape & context
5.2 Sustainability
5.3 The Landscape

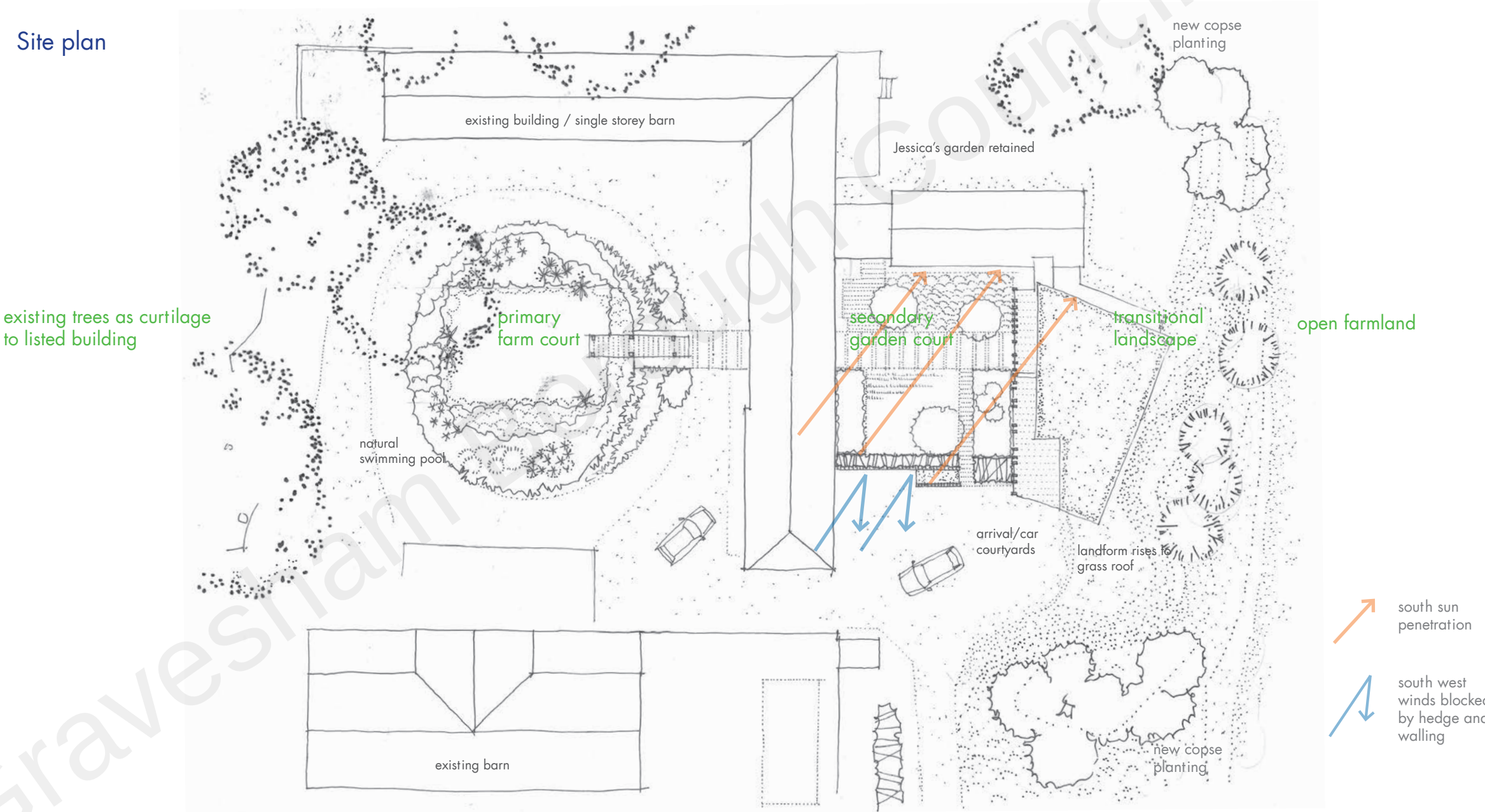
5.1 Architecture

The design aims to replicate the traditional courtyard form of farm - it forms a second subsidiary courtyard of modest scale and height so that there is a clear hierarchy of buildings and settings (Cobhambury House, Barn, outbuildings and the new building).

The proposal is fragmented into three parts to fit with the form of existing buildings; a glazed link between the modern barn and the existing building, to separate new from old; the modern barn itself, a simple pitched roof building whose end elevation is designed to be

seen from the east between trees; and the new house which designed to be recessive from the east (part of the transitional landscape) and forming the third side of the south-facing secondary garden court.

Site plan



Micro-climate

The proposal aims to produce a south-facing secondary courtyard so that the new building receives maximum sunlight, appropriately used, but the third side of the courtyard excludes the strong south westerly winds which can be a problem in this exposed location.

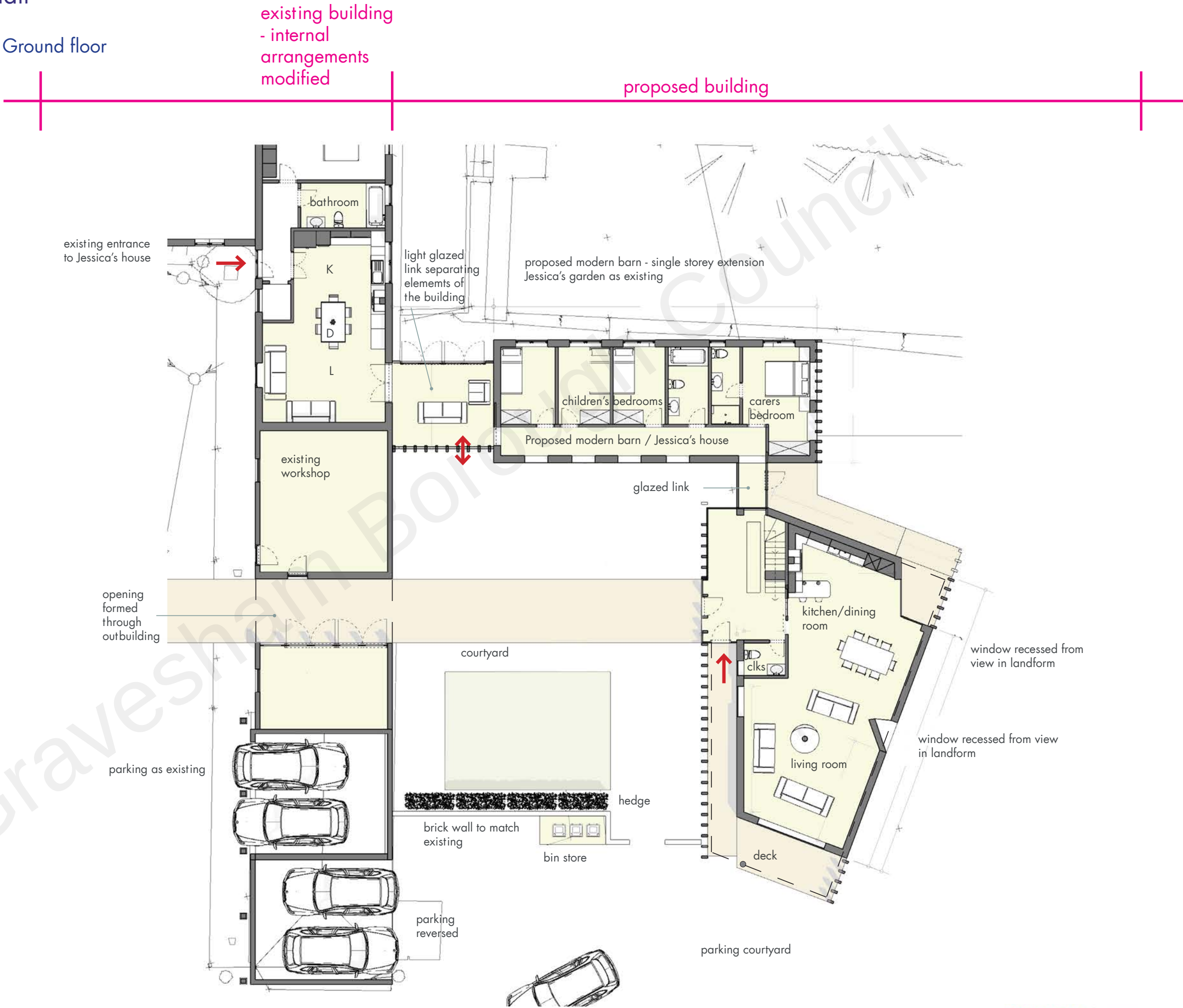
The existing single storey barn is to have inappropriate windows and details removed; the new attached building will use the traditional form and its gable end will be visible from the AONB. Conversely the main house will be recessive in the view from the AONB because of levels, landform and landscape, which is carried up onto its roof. It becomes part of the landscape. There are 2 faces to the new building - an 'inside' and an 'outside'.

At a smaller scale, the proposal can assist with biodiversity and landscape integration. The pond becomes a natural swimming pool with biodiversity-based edges. The new courtyard is private, simple in its treatment and designed to exclude the strong south-west wind. The eastern edge becomes part of the wider landscape.

Section 5: The Proposal in detail

5.1 Architecture, landscape & context
5.2 Sustainability
5.3 The Landscape

Ground floor

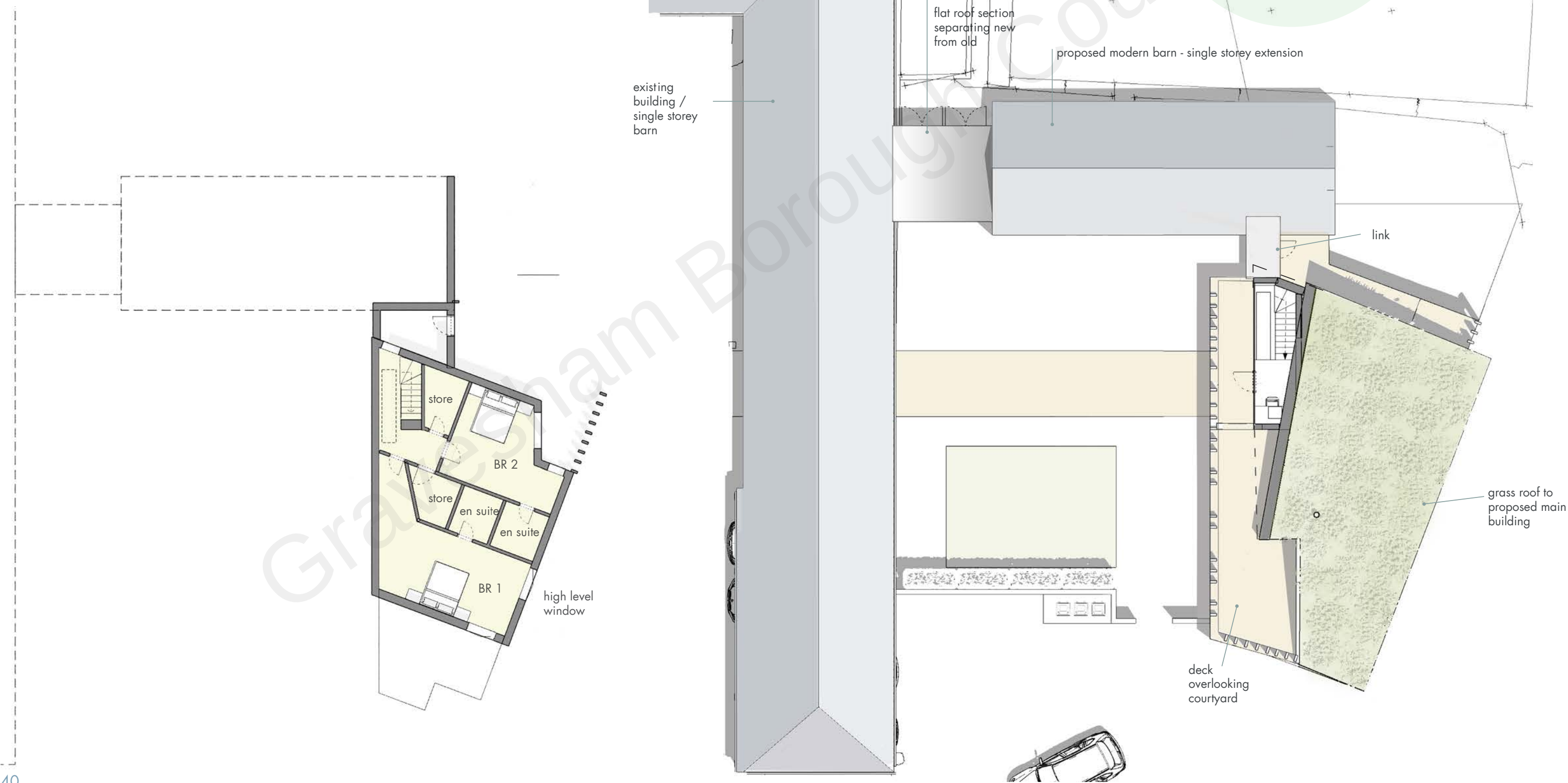


Section 5: The Proposal in detail

5.1 Architecture, landscape & context
5.2 Sustainability
5.3 The Landscape

Lower ground floor

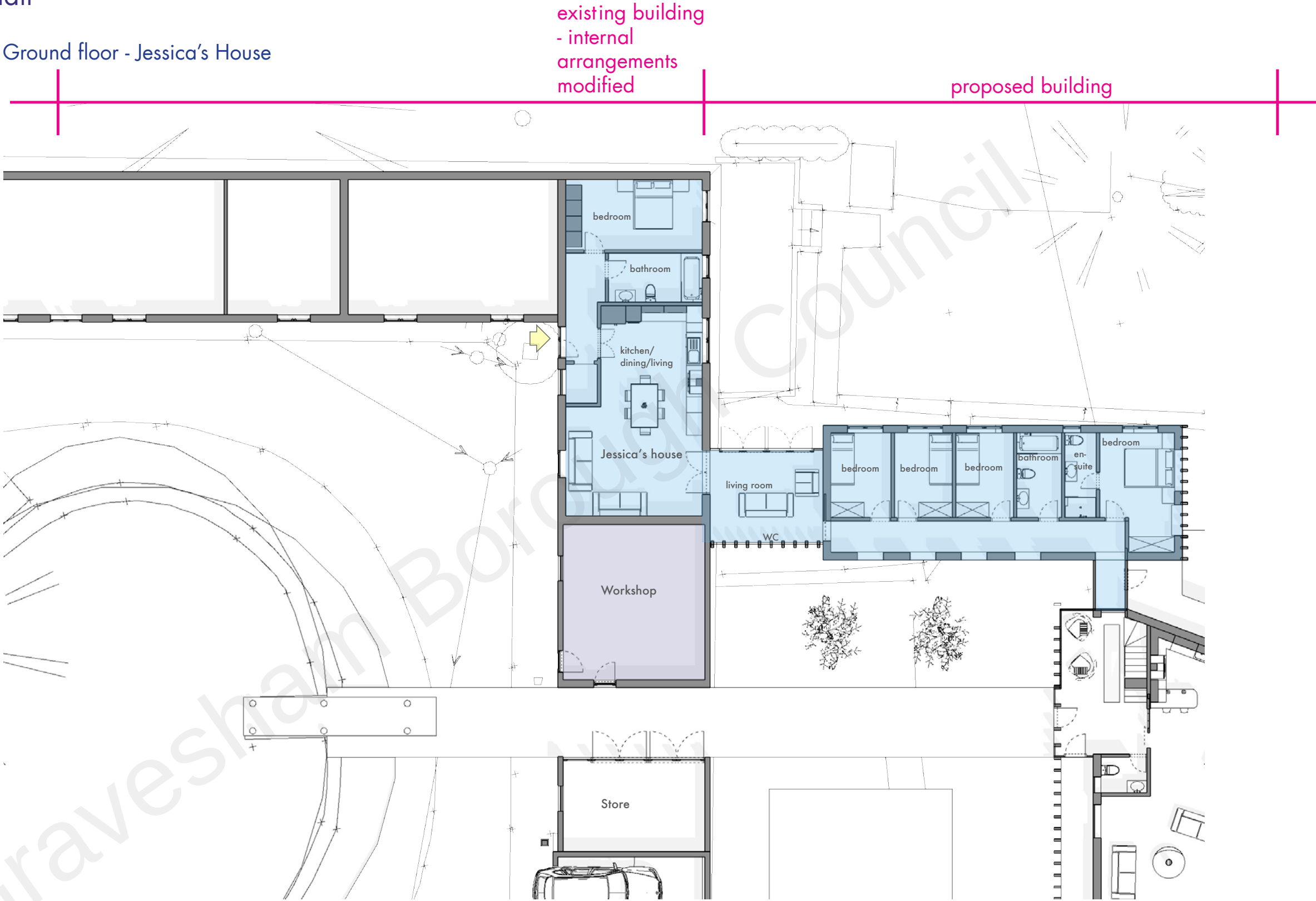
First floor



Section 5: The Proposal in detail

- 5.1 Architecture, landscape & context
- 5.2 Sustainability
- 5.3 The Landscape

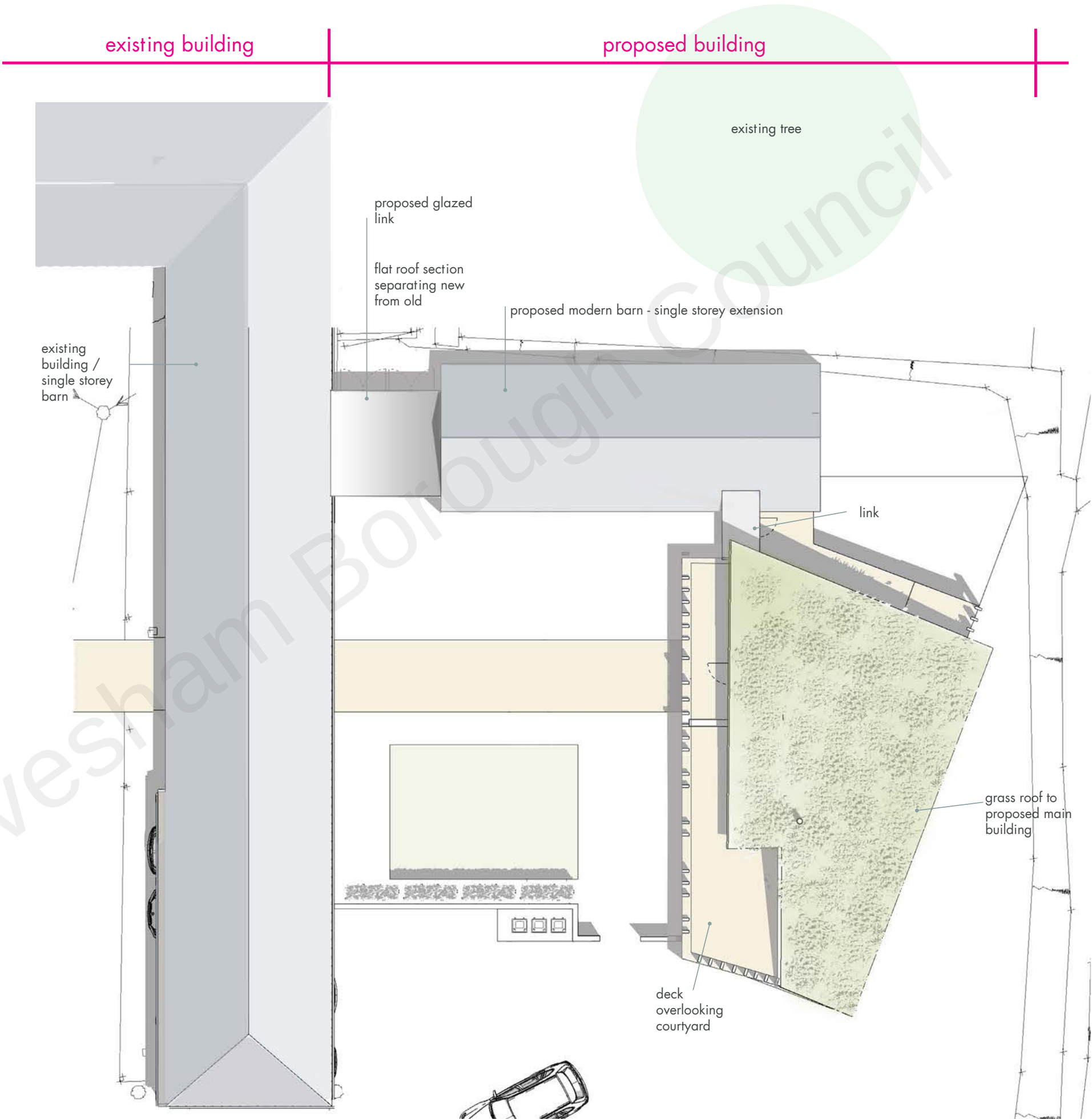
Ground floor - Jessica's House



Section 5: The Proposal in detail

5.1 Architecture, landscape & context
5.2 Sustainability
5.3 The Landscape

Roof plan



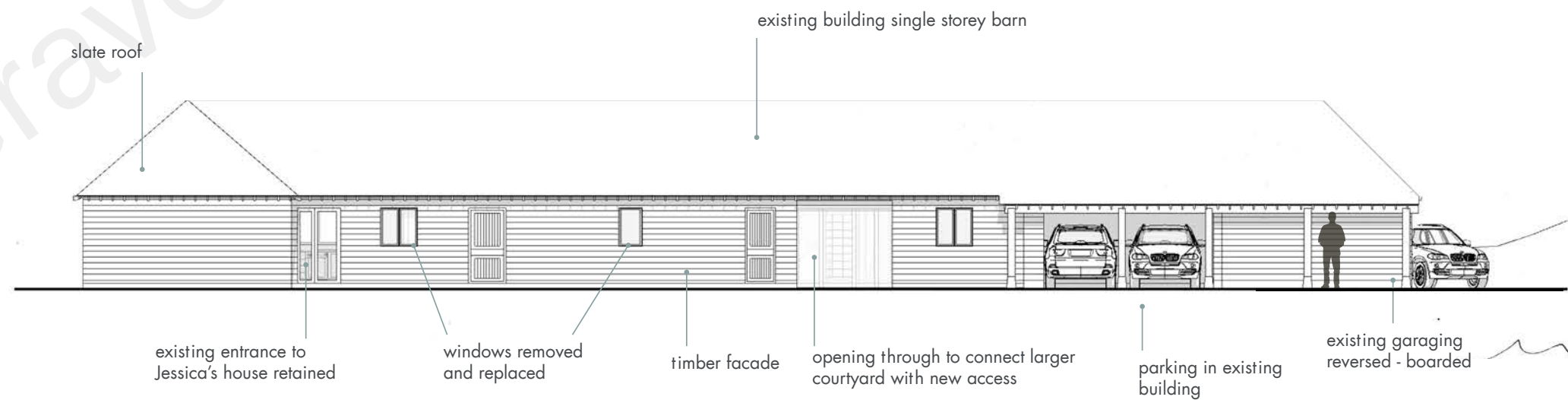
Section 5: The Proposal in detail

- 5.1 Architecture, landscape & context
- 5.2 Sustainability
- 5.3 The Landscape

West elevation



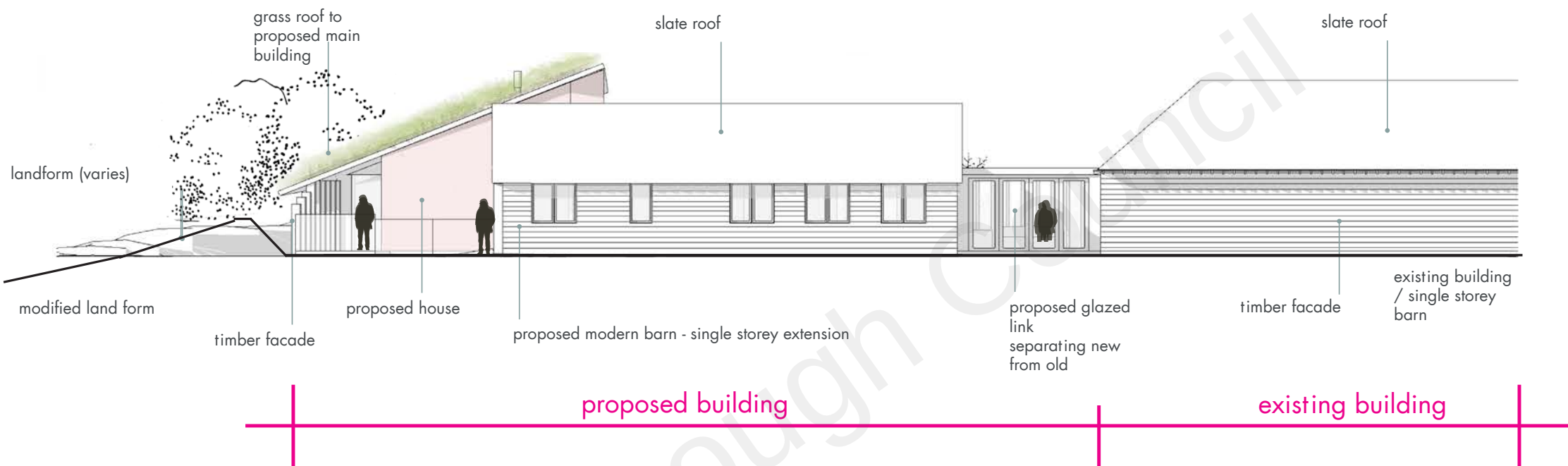
West elevation (existing barn)



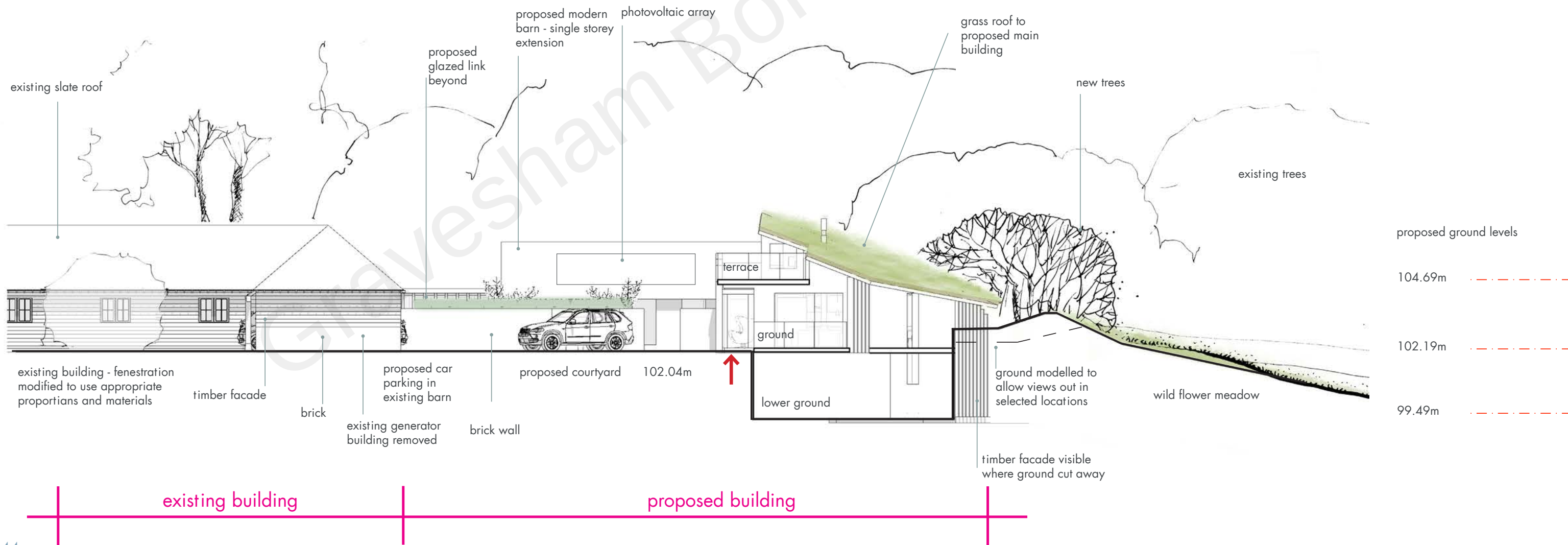
Section 5: The Proposal in detail

5.1 Architecture, landscape & context
5.2 Sustainability
5.3 The Landscape

North elevation



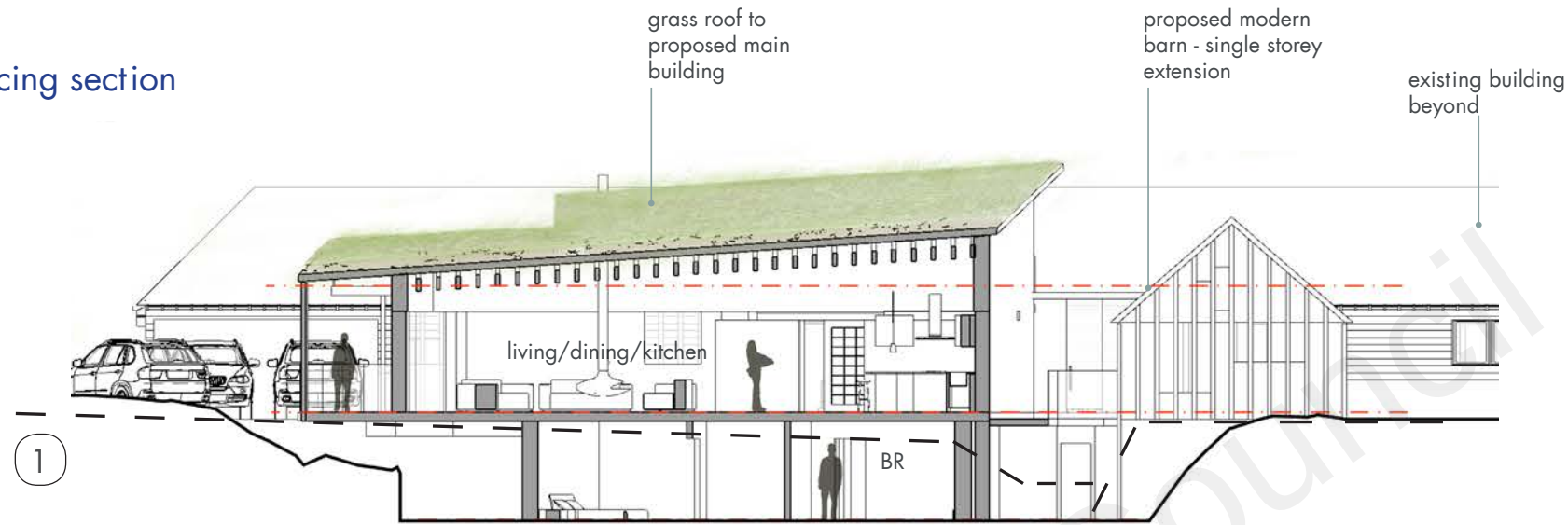
South elevation and section



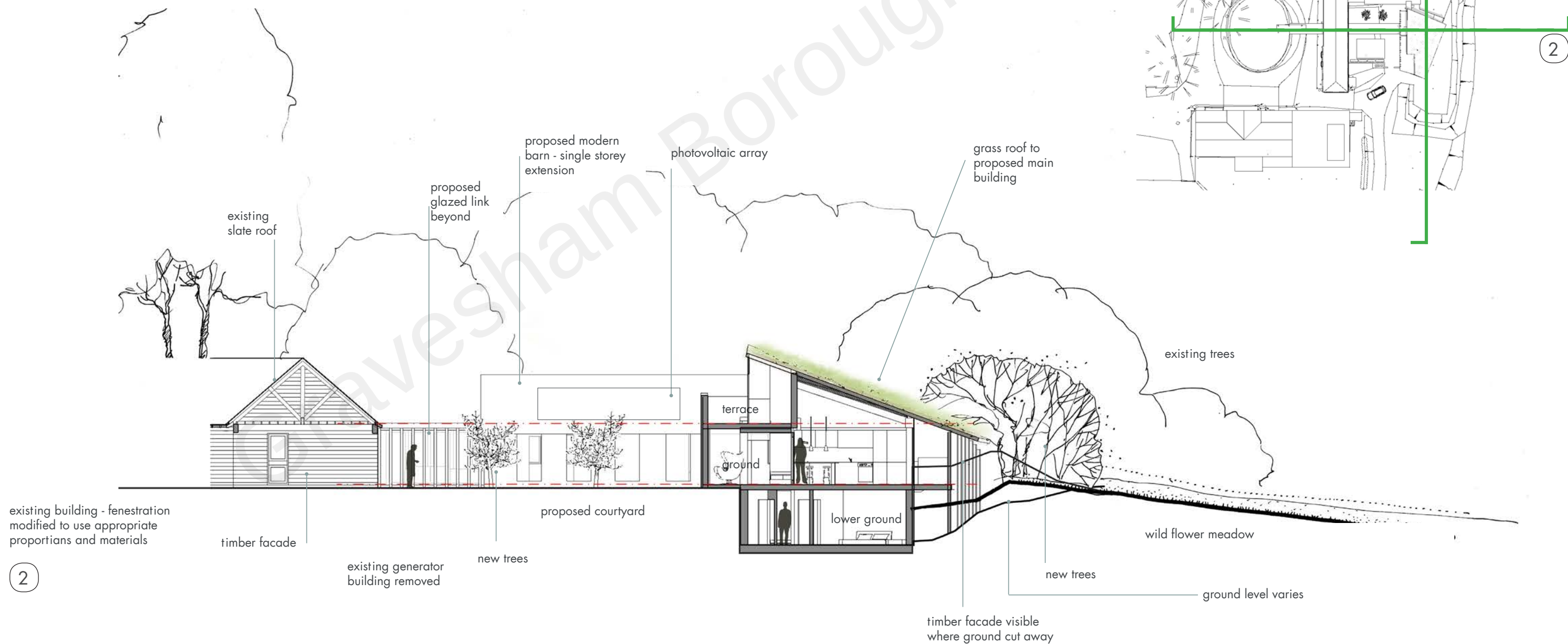
Section 5: The Proposal in detail

- 5.1 Architecture, landscape & context
- 5.2 Sustainability
- 5.3 The Landscape

West facing section



North facing section



Section 5: The Proposal in detail

- 5.1 Architecture, landscape & context
- 5.2 Sustainability
- 5.3 The Landscape

East elevation



proposed ground levels

104.69m	---
102.19m	---
99.49m	---

Section 5: The Proposal in detail

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5.2 Sustainability
5.3 The Landscape

Response to AONB setting

From the eastern side of the AONB, from the open agricultural land, the eastern side of the main building will be 'lost' within the landform, the new vegetated boundary treatment, and the grass roof will be seen against the background of the trees separating Cobhambury House from the site; in effect the new house is part of a series of landscape screens. The east-facing gable elevation of the 'modern barn' will be visible through a deliberate gap in vegetation and this reflects the scale of the existing buildings, though the elevation will be entirely in timber, modelled to give a pattern of light and shade under a steeply pitched roof. Light spill from the elevation will be minimised by the use of narrow strip glazing and the deep timber 'mullions' which form the elevation. Light spill onto the remainder of the AONB from the main building will be minimised because windows are oblique, screened by deep vertical timber mullions or they are incised into the building at an angle so that glass is never seen facing the open land.



Long section/elevation through proposed building looking north showing the two courtyards and the relationship of building height to landform

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5.1 Architecture, landscape & context

5.2 Sustainability

5.3 The Landscape

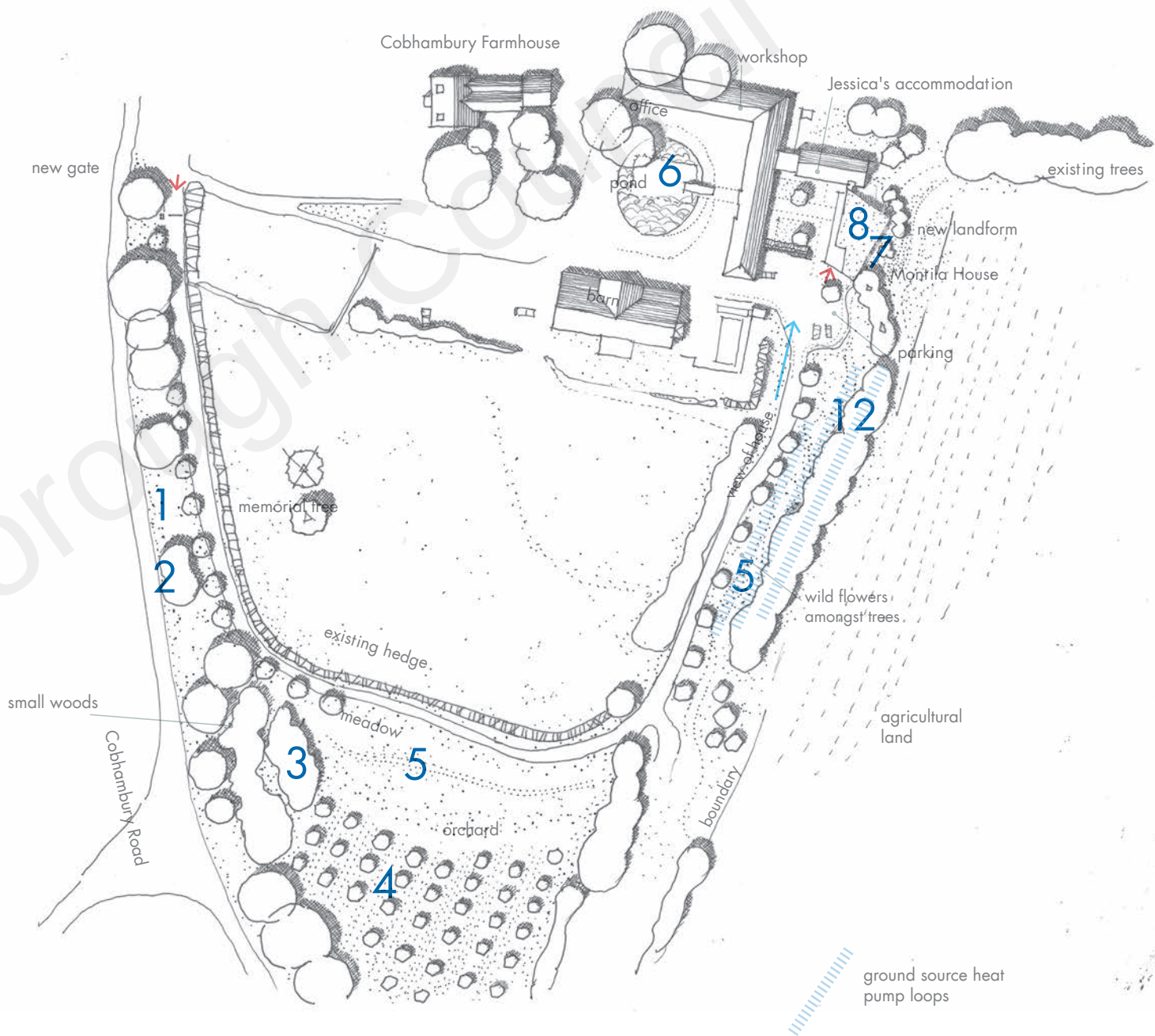
5.2 Sustainability

At a time of climate emergency and species collapse it is doubly important that any development embeds these values in its design. This building design is landscaped and is integrated with its landscape context. Nevertheless, sustainability should be clearly indicated as set out here. The three strands of this are landscape and biodiversity, building and related technologies, and social sustainability.

We propose a significant biodiversity net gain as a result of this design approach to the whole site, not just the building.

The form of the building is designed to be suitable for ground source heat pump, higher than building regulations standards of insulation, and being set partly in the ground the mass of the ground works and foundations will contribute to the building's solid state credentials. In effect, with the ground source heat pump and very high standard of insulation, the mass of the lower ground will act as a thermal fly-wheel.

The south-facing slope of the 'modern barn' provides ample scope for photovoltaics, either in panel form or in roof slate form, to provide energy for the new development and to power the ground source heat pump (GSHP). The GSHP pipes will be laid in the boundary landform which is to be modified as part of the landscape treatment. Heat generated by the temperature differential between ground and air will be channelled to the lower level plant area where the manifold will be located. The inverter for the photovoltaic systems will be located in the roof space over the carer's bedroom so that all services and systems are conveniently close to each other.



Section 5: The Proposal in detail

Our approach to sustainability is in three categories; landscape and biodiversity, building design and related technologies; and social sustainability (see Planning Statement).

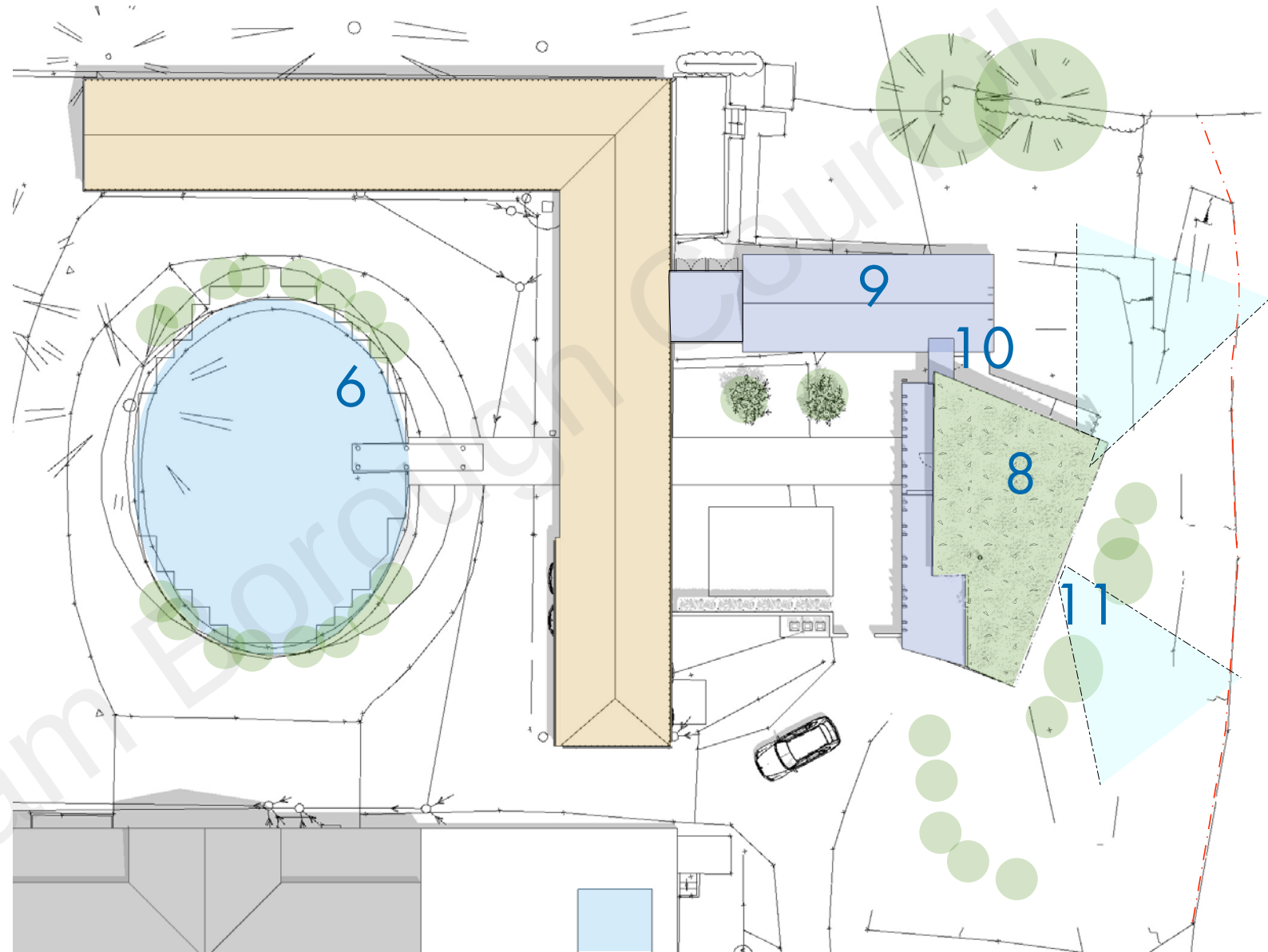
landscape and biodiversity:

1. introduction of new meadow
2. new native tree planting
3. small woodlands/copse
4. traditional orchard
5. wildflower meadow
6. reintroduction of natural pond
7. field edge native planting

building and related technologies:

8. green roof
9. photovoltaic array
10. location of ground source heat pump, manifold with pv inverters above, in the roof
11. solid state earth sheltered building
12. ground source heat pump loops

social sustainability (see Planning Statement)



Section 5: The Proposal in detail

5.1 Architecture, landscape & context

5.2 Sustainability

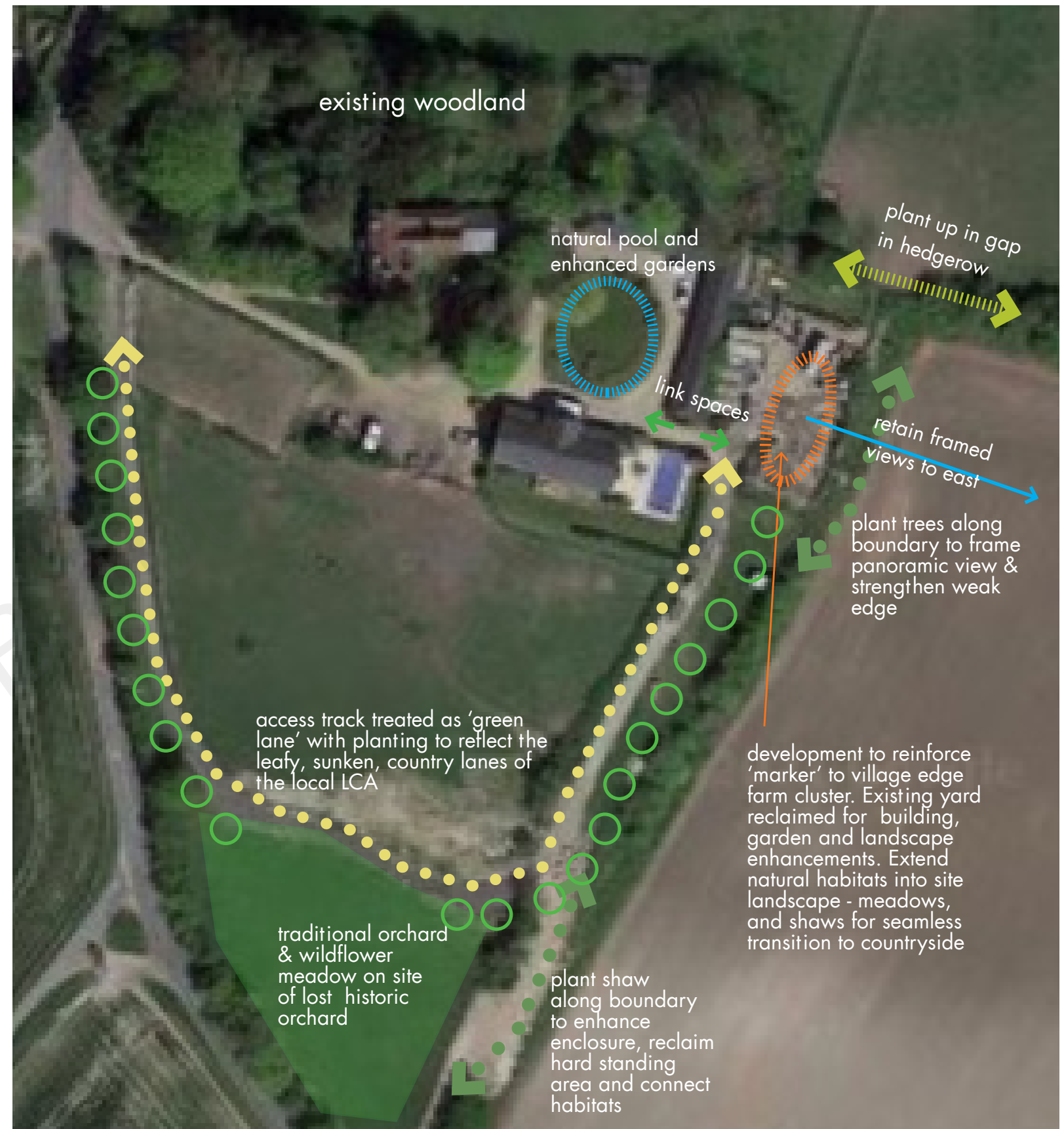
5.3 The Landscape

5.3 The Landscape

The landscape strategy will integrate the development into the site with the traditional barn connected to and respecting the existing barn buildings.

Siting and form of the proposed building extension allows a soft edge to the site with the rural characteristics of the AONB and the LCA extended into the site, including:

- access route treated as a sunken leafy lane lined with standard wild cherries (*Prunus avium*); cherry trees were once abundant in Kent.
- site edge defined by enhanced native shaw/hedgerow whilst still allowing framed views to east;
- tree enclosure enhanced to south where gaps in vegetation exist, enhancing enclosure, providing wind protection etc;
- eastern edge maintained for biodiversity with wide margins to treebelts and wildflower meadows;
- traditional orchard (with heritage varieties) and wildflower meadow (neutral species rich) reinstated in south of site reflecting historic orchard location and relationship to farmstead (which, in its entirety, provides the eastern 'bookend' to the village);
- planting reinforces connectivity between the woodland to the north and hedgerows and shaws to the east within the arable land; the eastern boundary planting will also enhance and connect to shaws and hedgerows to the south enhancing the interconnectivity of habitats. Species to include Oak, Hornbeam, Beech, Hazel and Yew.



proposed landscape strategy and enhancements

Section 5: The Proposal in detail

5.1 Architecture, landscape & context

5.2 Sustainability

5.3 The Landscape

Hedgerows & shaws

According to published landscape character assessments, the arable landscape has seen a decline in characteristic hedgerows and shelterbelts associated with loss of orchards, increase in horse paddocks and agricultural intensification. The Cobham: West Kent Downs LCA (Kent LCA, 2004) is no exception. Where the hedgerows and shaws around the site have been eroded these will be reinforced though new native planting, appropriate to local character. This will, not only repair the landscape but also enhance habitat connectivity, provide shelter and integrate the farmstead further into its setting.



Wide unmanaged margins to hedgerows and shaws provide enhanced habitat corridors for wildlife.

Meadows

Biodiversity Opportunity Areas (BOA) provide a useful indicator of where the greatest gains can be made from habitat enhancement, restoration and recreation, as these areas still offer the best opportunities for establishing large habitat areas and/or networks of wildlife habitats. The BOA statements provide guidance on the conservation priorities which should be adopted in each area. The site lies in an area identified by Kent Nature Partnership as a Biodiversity Opportunity Area (BOA): Medway Gap and North Kent Downs BOA.

Relevant targets set for the BOA include pursuing opportunities to create species-rich neutral grasslands of UK BAP priority habitat Lowland Meadow quality.



The enhanced planting on the eastern edge will still allow framed views to the wider landscape to the east.

Actions also advocate for the creation of traditionally managed orchards and connecting habitats.

The site includes paddock areas and field margins where the grassland can be enhanced, principally through management. It is proposed therefore to alter grassland management regimes across the site in order to encourage species diversity within the meadows. There are also small areas where new, species-diverse grasslands can be established. Low intensity grassland management will help to blur the edges between the farm cluster and its rural setting. In addition the sloping, countryside-facing green roof will be planted to reflect the meadow character. Overall this will enhance habitat value and connectivity and bring the rural landscape seamlessly into the site.



The grasslands will be managed to enhance species diversity, visual interest and habitat value.

Section 5: The Proposal in detail

5.1 Architecture, landscape & context
5.2 Sustainability
5.3 The Landscape

The rural lane

The access track will be planted up with native trees (*Prunus avium*) intermittently along its length to supplement existing planting and hedgerows so that it will more closely reflect the leafy country lanes which are a characteristic feature of the local landscape. Together with the use of timber gates and fencing, this will reinforce local distinctiveness, in line with recommendations within the AONB Management Plan.



The existing access track is already lined by tree planting. This will be supplemented to enhance the leafy character



Leafy lanes are characteristic in this part of the Kent countryside. The access track will be treated with new planting to more closely emulate this character

Orchards

Traditionally managed orchards are becoming increasingly rare throughout the UK. According to the Orchard Network - People’s Trust for Endangered Species (PTES) around 85% of orchards in Kent have been lost in the past 50 years.

Traditional orchards are priority habitats due to the wide range of wildlife that they can support including invertebrates, birds and small mammals, and are a target habitat in the Medway Gap and North Kent Downs BOA.

Orchards were, in the past, a key feature around villages in the West Kent Downs, contributing to local distinctiveness and biodiversity. The loss of most of the orchards in this area, or their replacement by commercial orchards, has changed and impoverished the local landscape character and its habitats. Replanting of traditional orchards is an initiative supported by many organisations including Kent Wildlife Trust and the PTES.

The proposed orchard, which will be planted on the site of a historic orchard in the south of the site, will include a variety of fruit trees such as apple, pear, cherry, plum, damson, crab apple and greengage. Varieties will be selected which will be suitable for this part of Kent using heritage varieties where possible.

The orchards will be managed in a low intensity way with wildflower meadows beneath, to encourage flowering species, with informal mown paths to facilitate access. Bulbs will be incorporated and allowed to naturalise, such as Daffodils, Crocus and Snowdrop.

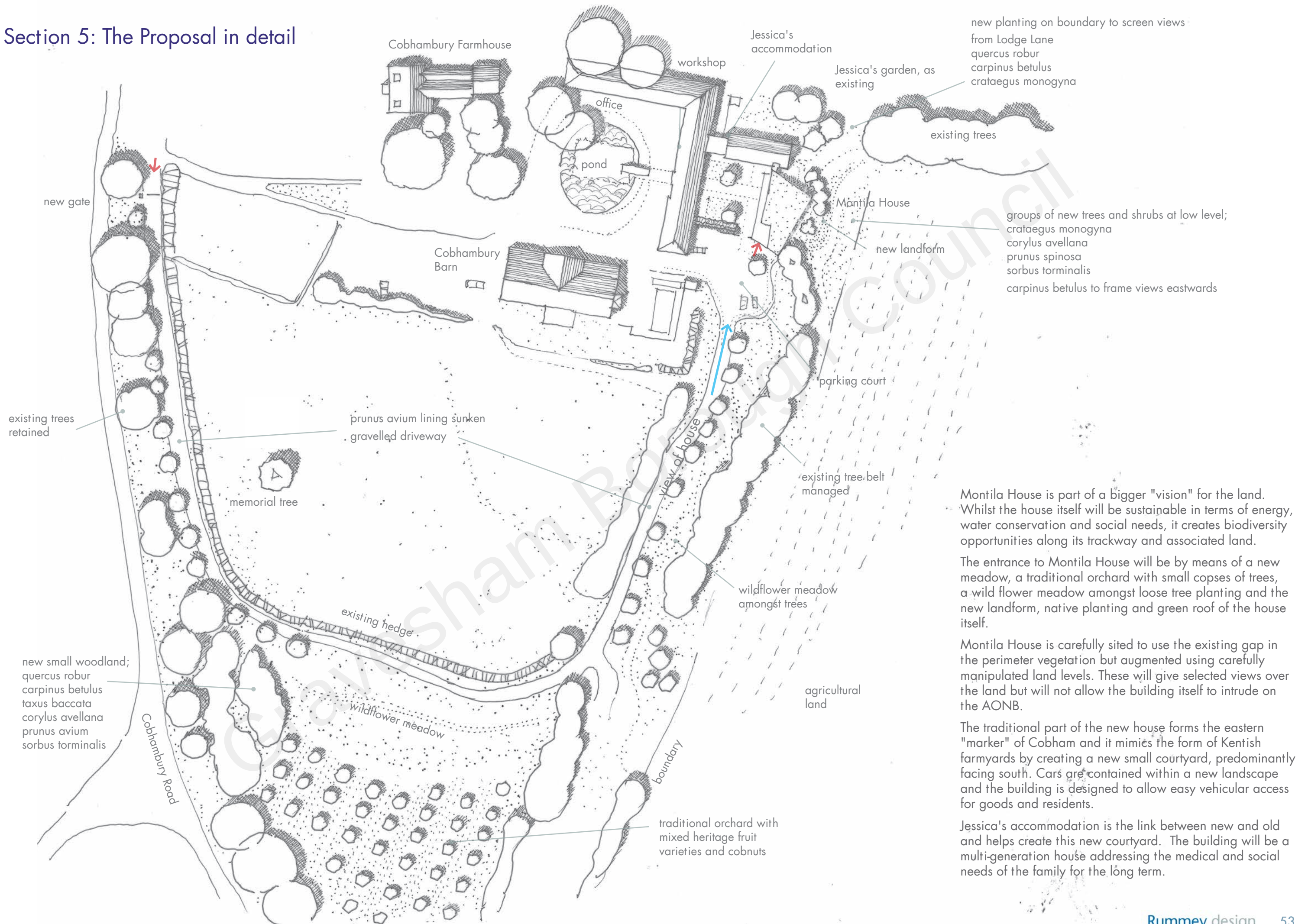


Traditional orchards were characteristic of this area, historically often associated with farmsteads, and are rich habitat for a variety of wildlife. They are also a priority habitat in Kent



Mown grass paths beneath fruit trees will provide access for fruit gathering and maintenance

Section 5: The Proposal in detail



6 Visualisations

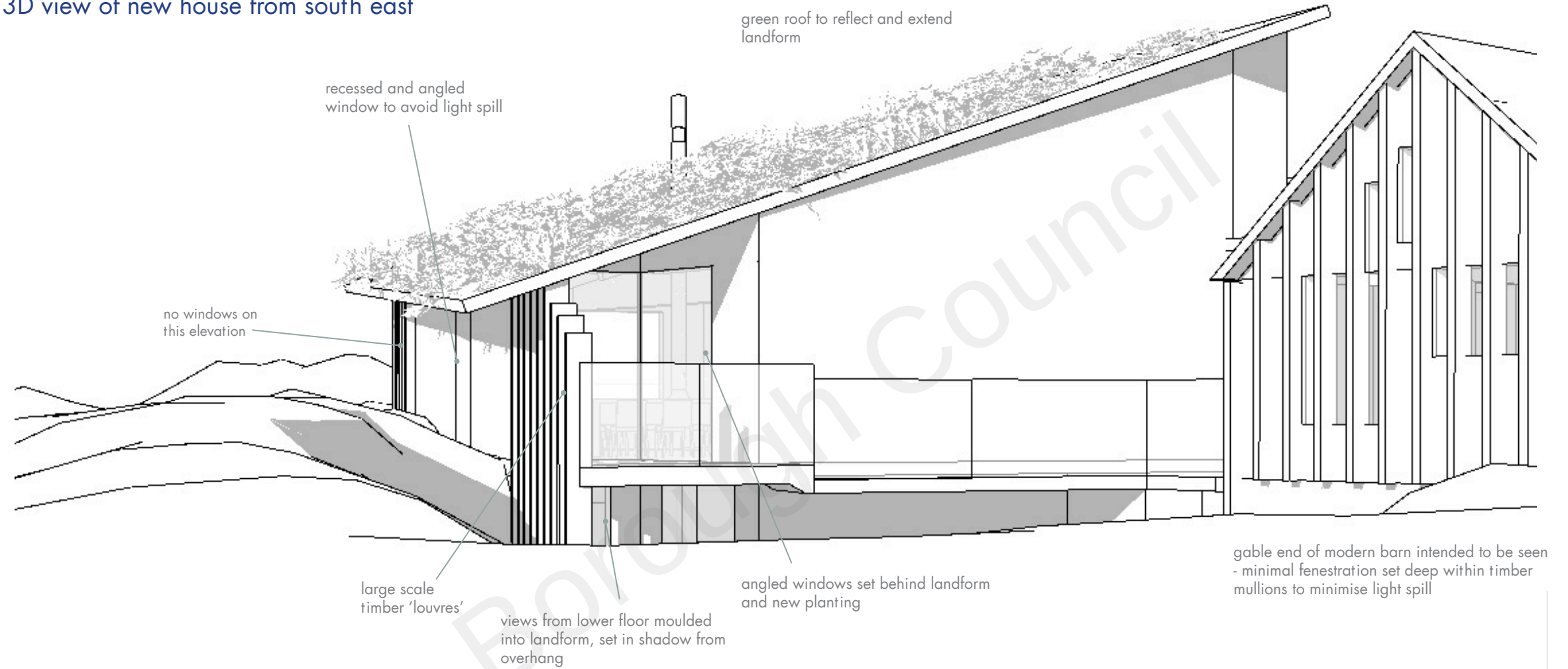
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Section 6: Visualisations

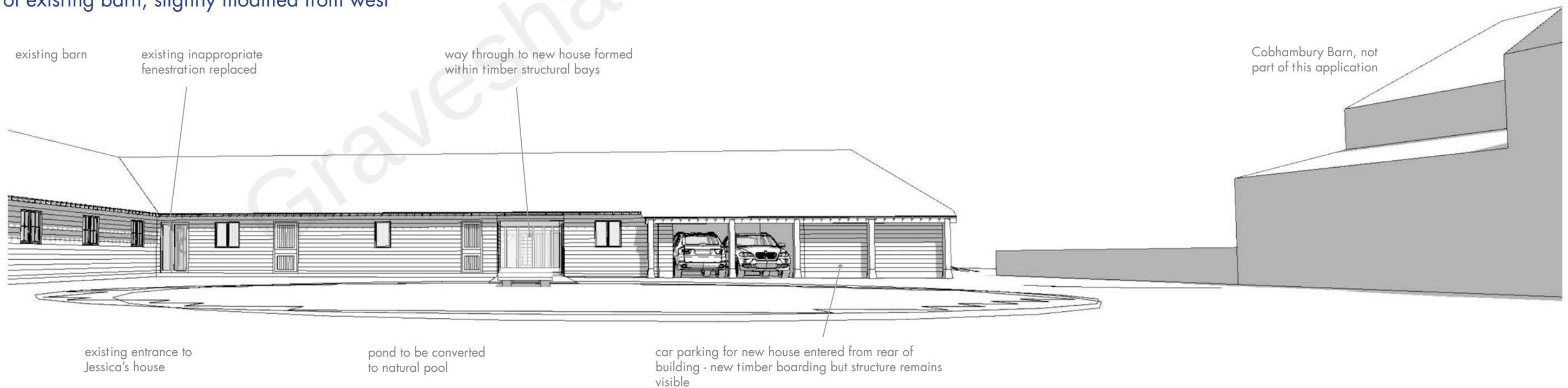
6.1 Visualisations

The new building is moulded into the landform and is part of the re-vegetation of the site, though no existing trees or vegetation are shown in this drawing.

3D view of new house from south east



View of existing barn, slightly modified from west



6.1 Visualisations



As existing

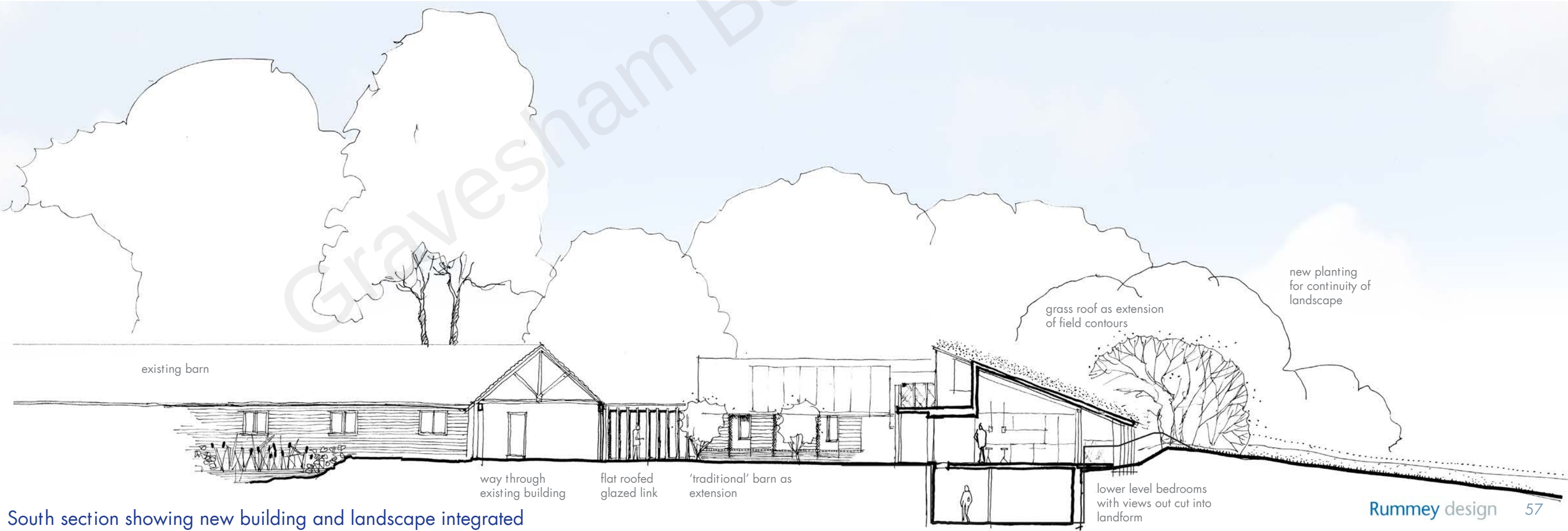
Existing composite view of the site from the southeast, on agricultural land. The existing vegetation can be seen on the skyline together with gaps through which existing storage containers are visible. The vegetation on the left is on rising land and this earthform is proposed to be continued across the site (where the blue containers are).

Section 6: Visualisations

6.1 Visualisations



Proposed - long view from east field, but without proposed linking vegetation, for clarity



South section showing new building and landscape integrated



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