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Introduction

Scope

GreenTrace Architect have been appointed by Conor and Sindy Hackett (the applicant) to submit a full-plans application to South Gloucestershire Planning Authority for a new dwelling at 37 Rock Lane, Stoke Gifford, Bristol, BS34 8PF.

This statement sets out the planning and design considerations, demonstrating how a clear rationale and design process have been applied to achieve a high-quality design proposal that is consistent with the policies in the Local Plan, sensitive to the landscape character, amenity of neighbours, and has a targeted commitment to reducing operational and embodied carbon emissions.

The statement is set out in the following chapters:

1. The Site
2. The Planning Context
3. The Proposal
4. Conclusions

Overview

The property is owned by the applicant. They purchased the property recently with a view to build a new eco-home for their family in the area of unkempt land that forms part of the oversized curtilage of the existing detached bungalow. The site is located inside the development boundary within the existing urban area of the north fringe of Bristol where development of this nature is directed under Policy C5 of the South Gloucestershire Local Plan.

This application seeks full planning for a new, 4-bed dwelling. The home shall be a high-performance, low impact dwelling requiring very little energy to heat and operate. The proposal has been designed to achieve the AECB CarbonLite Standard for operational energy efficiency.

A thorough site analysis has influenced the design of the proposed dwelling to ensure a sensitive response to the context and the amenity of neighbours. The proposed dwelling is positioned to reinforce established building lines and compliment the street scene. Great effort has gone into ensuring that the design compliments the character and distinctiveness of the area.

Ample garden space is available for both proposed and existing properties, as well as parking and vehicle turning areas.

The design is compliant with all policies of the South Gloucestershire Local Plan, as well as the National Planning Policy Framework (NPPF), as described in the next chapters of this statement.



3D View impression of the proposed dwelling from the east side of Rock Lane.

The Site

Location

The site is located on the bend of Rock Lane in Stoke Gifford. The Local Planning Authority is South Gloucestershire County Council and the civil parish is Stoke Gifford. The site is located inside the development boundary within the existing urban area of the north fringe of Bristol.

Topography & Immediate Context

The site is currently occupied by a detached bungalow that somewhat breaks away from the residential context of street facing houses, as well as the dominant and building typology of two storey, dual pitched semi-detached dwellings.

Whilst within a predominately inter-war housing development, the area exhibits a mixed character. There are a few historic properties nearby and development from each age of the expansion of Stoke Gifford. Rock Lane has retained a certain charm, with unkerbed verges, narrow carriageways, stone boundary walls, and mature planting.

While some of the frontage along Rock Lane has retained its rural character, the wider locality has become much more suburban in nature since significant new development has been undertaken in the vicinity including the Parkway North development.

The site itself is bounded by an overgrown hedgerow of majority Leylandii species, that restricts the openness of the corner of Rock Lane and is at odds to the typical boundary treatment found in the area which is characterised by low stone walls and open front gardens.

Access

The site already benefits from dual access. The north access shall form the access for the proposed dwelling. This access was granted planning permission in 1982 (Ref: NB095), along with the existing boat and caravan shelter in the northern part of the garden.



Photo showing the existing vehicular access from Rock Lane and the boat/caravan store in the background, all granted planning permission in 1982.



Aerial image of the site outline in red

Planning Context

South Gloucestershire Local Plan

South Gloucestershire Local Development Plan is the current policy framework under which the proposal is to be assessed. The Plan consists of the Core Strategy (adopted on 11th December 2013) and the Policies, Sites and Places (adopted 8 November 2017). The following policies are relevant to this application:

South Gloucestershire Local Plan Core Strategy Adopted December 2013

- CS1 High Quality Design
- CS4A Presumption in Favour of Sustainable Development
- CS5 Location of Development
- CS8 Improving Accessibility
- CS9 Managing the Environment and Heritage
- CS15 Distribution of Housing
- CS16 Housing Density
- CS17 Housing Diversity
- CS25 Communities of the North Fringe of Bristol

South Gloucestershire Local Plan Policies Sites and Places Plan Adopted November 2017

- PSP1 Local Distinctiveness
- PSP2 Landscape
- PSP5 Undesignated Open Spaces
- Policy PSP6 On site Renewable and Low Carbon Energy
- PSP8 Residential Amenity
- PSP11 Transport Impact Management
- PSP16 Parking Standards
- PSP19 Wider Biodiversity
- PSP20 Flood Risk, Surface Water, and Watercourse Management

Supplementary Planning Documents:

- Biodiversity and planning Guidance for new developments (March 2023)
- The South Gloucestershire Design Checklist (August 2007)
- Residential parking standards December (2013)
- Sustainable drainage systems (SuDS) Guidance for new developments (June 2021)
- Technical Advice Note: Assessing Residential Amenity (June 2016)
- Local Plan Phase 3: Towards Preferred Strategy - Small Sites Windfall Topic Paper (December 2023)

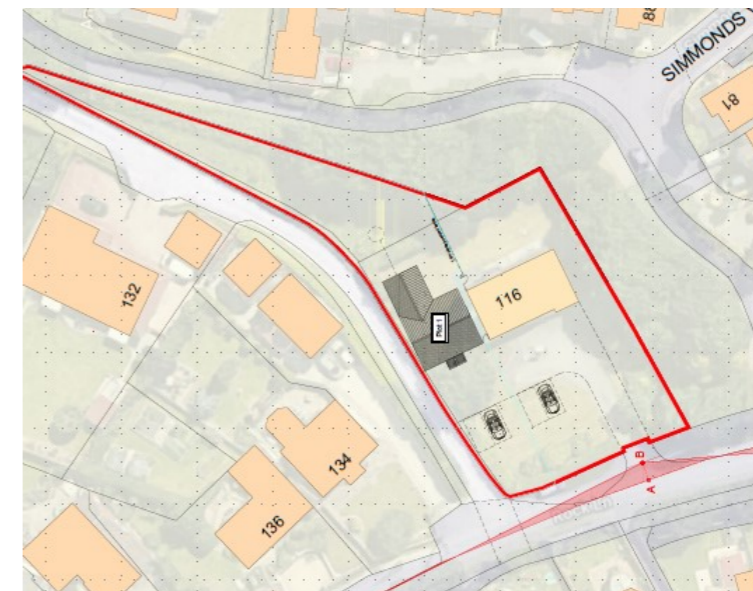
Planning History

For the property:

- *Erection of a boat and caravan shelter with the formation of a new vehicular access.* (Ref: NB095). Granted in 1982 with conditions.

Nearby:

- *Erection of one new detached dwelling with associated works outline with access, layout, scale and appearance to be determined, all other matters reserved. [Amendment to previously approved scheme]* (Ref: P19/11484/O) Granted in 2020 with conditions.



Site plan of the proposed dwelling granted in outline in 2020 (Ref: P19/11484/O)

Proposal

Principle of development

The site is located within the development boundary. It is not within an AONB, Conservation area, Greenbelt, or other special designation. There are no listed building or such heritage assets, nor T.P.Os.

The site is located within the existing urban area of the north fringe of Bristol where, under policy CS5, is a location where development of this nature is directed. Located in the urban area and close to public transport routes, the siting of development is sustainable.

Policy CS16 and CS17 also permitted development of this nature subject to an assessment of density and the impact on the character of the area as described later in this chapter.

Use

This application is for a new dwelling house (C3 use class).

Scale

The proposal is for a two-storey, four-bed home. The gross internal area is 199m² (measured using the RICS Code of Measuring Practice methodology for Gross Internal Area). The floor area adequately meets the Nationally Described Space Standards for a 4-bed house.

The ridge and eaves height of the proposal is lower than that of the houses opposite on Rock Lane, although higher than no.10 Rock Lane by circa 1.2m. Given that the proposal occupies a corner plot (generally considered to require taller buildings as 'bookends') it is considered that the correct balance is achieved with regard to the building height.

Access & Parking

The existing access could see an intensification of use as a result of the proposed dwelling.

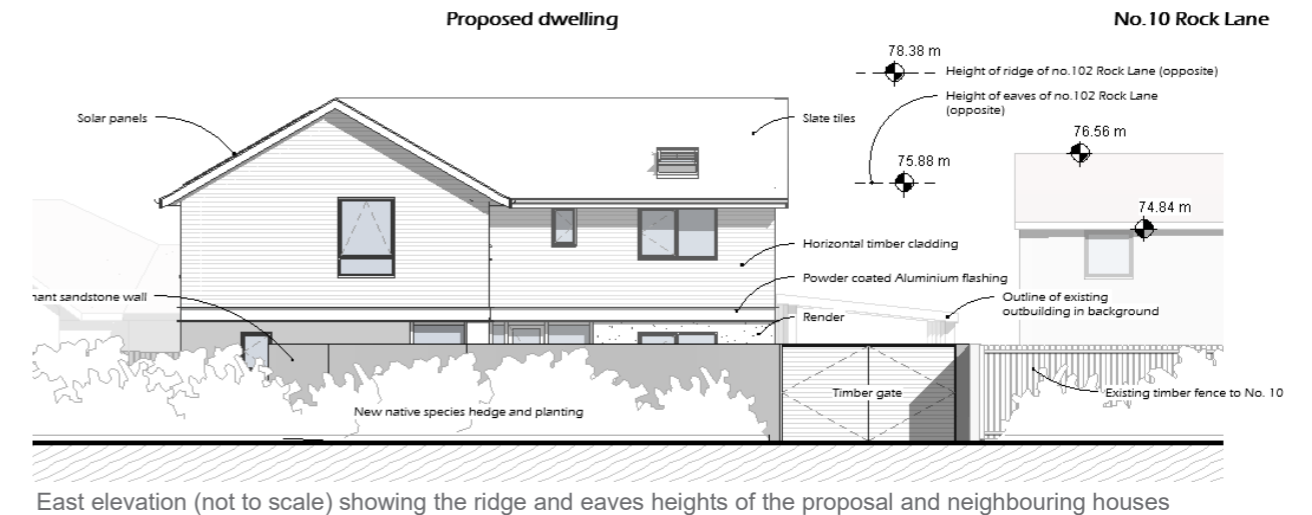
The visibility splays of this existing access are illustrated on the proposed site plan (P_101). There is a 20mph speed restriction on Rock Lane which requires a Y-distance of 25m and X-distance of 2.4m. The splays are achievable within the land owned by the applicant or under the control of South Gloucestershire Council (i.e. the verges). The verges would be trimmed by the Council to less than 0.6m above ground level to ensure visibility over.

Ample vehicle turning space is available on site to enable vehicles to exit in a forward gear.

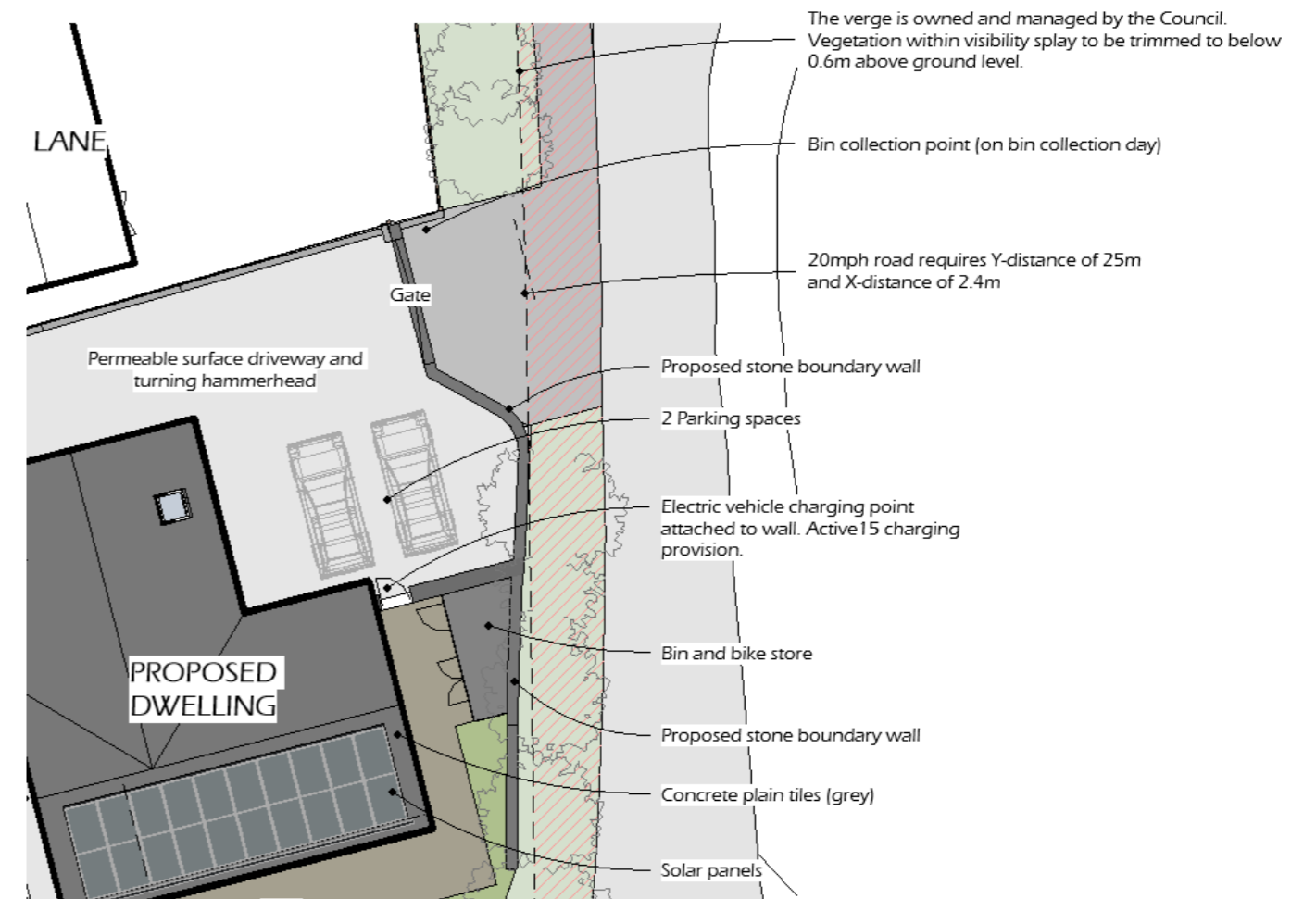
Space for 2 parking spaces is provided meeting the Council's guidelines of a maximum of 2 spaces for a 4-bed house.

The emerging local plan will require that all individual dwellings with one or more dedicated parking spaces or garage must include provision for 7kW (32 amp) charging infrastructure suitable for charging an electric or other ultra-low emission vehicle.

As per guidance set out in the South Gloucestershire Electric Vehicle (EV) Charging Strategy, the proposal includes one Active15 charging provision attached to the wall of the property adjacent to the parking area.



East elevation (not to scale) showing the ridge and eaves heights of the proposal and neighbouring houses



Site plan showing the visibility splay (hatched in red diagonal lines) and parking arrangements

Proposal

Layout & Orientation

The layout of the proposal considers all site features and is informed by a clear rationale. The layout of the proposal aims to:

- Provide space for on-site parking and vehicle turning at the front of the property adjacent to the road.
- Reinforce the building line and settlement pattern by placing the main body of the house in-line with no.10 Rock Lane.
- Provide visual amenity and enhance the character of the area by providing a new stone boundary wall and the planting of a native species hedgerow along the eastern boundary. This improves the current appearance, and acts to visually open up the corner of Rock Lane.
- Ensure daylight is not affected to any windows on the existing bungalow by positioning the house far enough away to ensure adequate sky angles are achieved (see chapter on Residential Amenity on page 8).
- Ensure no overlooking of the existing bungalow or no.10 Rock Lane is possible by carefully considering the placement of windows (see section on Amenity below).
- Maximise useful solar gains into the house by orienting the glazing south with overhangs/louvres for shading in the summer months.
- Increase the amount of sunlight reaching the garden space by pushing the house towards the north end of the plot.
- Maximise the potential to produce renewable energy in the form of solar panels by providing a pitched roof at an optimum angle and orientation to harvest solar energy.
- Orient the dual pitch roof so that the low eaves are facing the street to reflect the vernacular.



Birdseye view impression of the proposed dwelling from the north east

Appearance

The proposal is an innovative, high quality design response that is informed by a clear rationale centred on enhancing the character of this area as well as an ambition for passive, energy-efficient design:

Enhancing the character of the area:

Despite being the suburban north fringe of Bristol, Rock Lane has a semi-rural character. There is modern development all around but the road itself is more akin to a country lane, albeit with a clear pattern of houses fronting the road with medium-sized front gardens and driveway. The proposal would retain and enhance the suburban/semi-rural character. The proposal reinforces the building line whilst retaining a degree of 'soft edging' in the form of boundary hedges and stone walling.

The proposed materials of stone, slate and timber cladding are of high quality and compliment the semi-rural character. The proposed coursed pennant sandstone boundary wall takes cues from the stone wall boundary treatment that is mirrored on the western corner of Rock Lane as it bends around no.36 and 38. Moreover, the stone walls of the proposed dwelling itself reflects the notable older buildings in the immediate vicinity such no.96 Rock Lane. The roof tiles are to be slate. This reason for this is to blend the dark-coloured solar panels with the roof finish for a more seamless appearance. Overall, this palette of materials and contemporary approach to vernacular detailing establishes an attractive and respectful street frontage.

Energy efficient design:

The proposal exhibits a distinct eco-home aesthetic, manifested in the efficient form factor, solar orientation, fenestration and shading geometry. Facing glazing south with sufficient overhangs for shading enables the proposed dwelling to benefit from solar gains in the winter (when the sun is lower in the sky) whilst preventing unwanted solar gains in the summer (when the sun is higher in the sky). The large area of glazing located on the south elevation is therefore set further back into the internal floor space, thereby enabling the wall and louvres above at first floor level to act as horizontal shading.



The stone wall and boundary wall of no.96 Rock Lane

The proposed coursed pennant sandstone boundary wall takes cues from the stone wall boundary treatment that is mirrored on the western corner of Rock Lane as it bends around no.36 and 38.



Proposal

Residential Amenity

There are no amenity concerns posed by the proposal with other properties, and the proposal thus accords with Policy PSP8. The design responses to ensure adequate daylight, privacy & outside amenity space are set out below.

Daylight

Particular attention has been paid to ensure that adequate daylight to the existing windows of the existing bungalow is maintained. The BRE Report 'Site layout planning for daylight and sunlight: a guide to good practice (BR209)' advises on planning developments for good access to daylight and sunlight. The BRE guide explains the '25-degree rule' where, if a new building breaches a perpendicular line at an angle of 25 degrees above the horizontal taken from a point 2 metres above ground level on an existing house, it is likely that windows in the existing house will be overshadowed. The section drawings opposite shows the geometric relationship between the proposed dwelling and the existing bungalow. The roof is pitched at 25 degrees and does not breach the 25-degree line confirming that daylight levels would be acceptable.

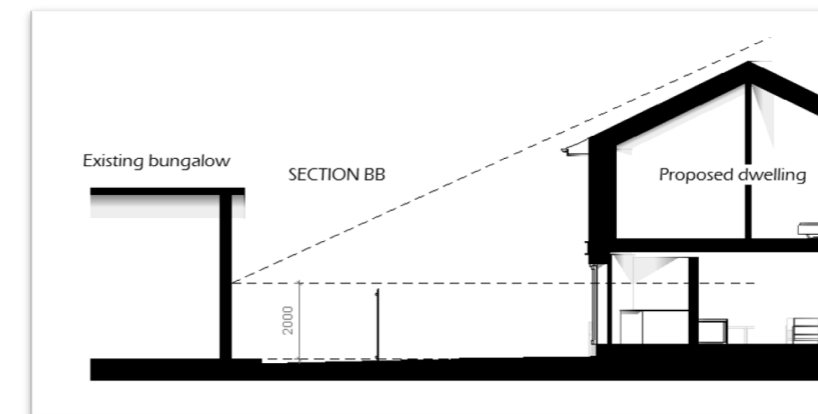
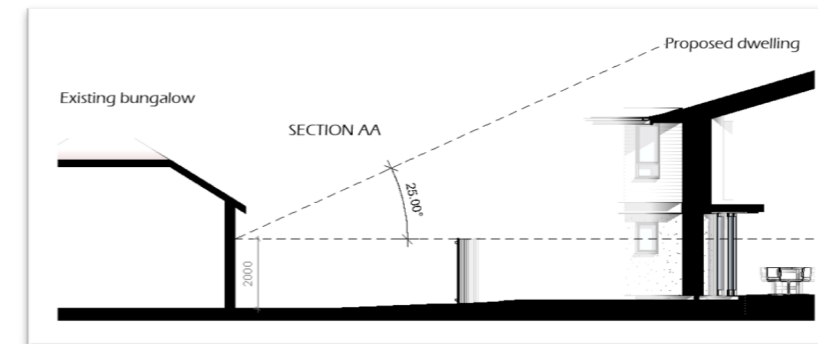
Privacy

The orientation, layout, and fenestration of the proposal have been designed to avoid overlooking to and from existing properties and the proposal. With regards to the houses to the north (namely no.10 Rock Lane), placing the proposed dwelling along the building line ensures that windows face front-to-back in accordance with the established settlement pattern. No side-facing windows are proposed on this north elevation at ground or first floor.

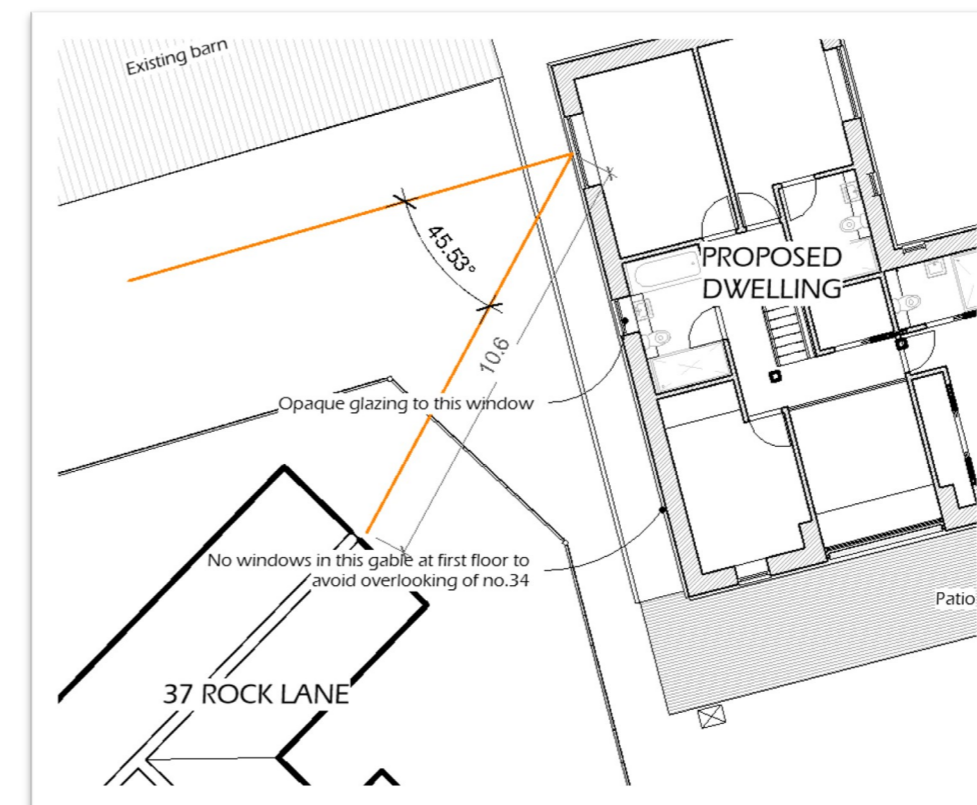
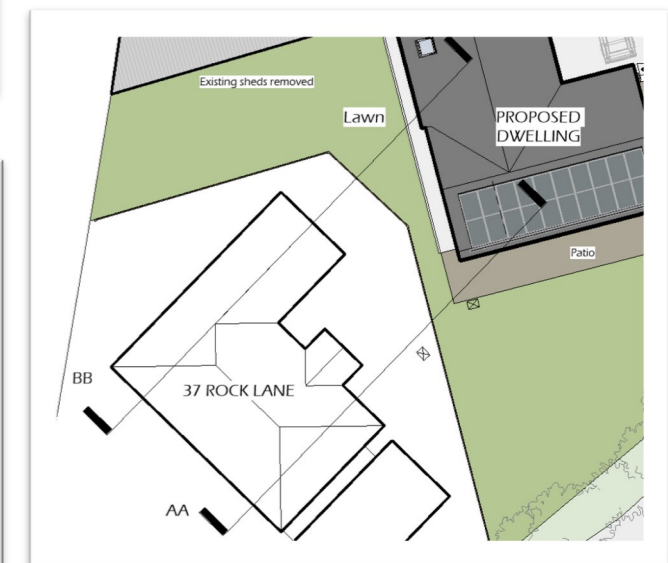
At ground floor, the proposed boundary fence ensures no overlooking into the garden of the existing bungalow.

At first floor, the window-to window distances of the east elevation to houses across the road is circa 24m and therefore acceptable (with reference to the guidance set out in Technical Advice Note: Assessing Residential Amenity, 2026).

On the west elevation at first floor, the positioning of windows ensures that there is no direct overlooking of the ground floor windows of the existing bungalow, nor indeed the small section of rear, north-east facing garden. The drawings opposite demonstrates that the window-to-window angle is over 45 degrees which cannot be considered 'directly facing'. The Technical Advice Note: Assessing Residential Amenity, (2026) states that "The more oblique the relationship between dwellings (typically 30° or more), the less likely it is that there would be inter-visibility between rooms. In these instances, the separation distance may be reduced without a detrimental impact on privacy levels." The window in the west first floor bathroom of the proposal will be opaque as noted on the drawings, and does therefore not enable overlooking.



Section AA (top) and BB (bottom) with corresponding site plan (bottom right) showing section locations. Both sections demonstrate that the BRE 25-Degree rule is maintained for adequate daylight to the existing bungalow.



Plan showing the relationship between the proposed new west-facing windows at upper floor and lower east-facing windows of the existing bungalow. The oblique angle (greater than 30 degrees) ensures no privacy concerns.

Proposal

Residential Amenity (continued)

Outside amenity space

There is ample space on the site for outside amenity for both the proposed and existing properties. The total site area (including the existing property) is 1320m². The area partitioned for the proposed property is 700m². The total outside amenity space (excluding buildings) for each property is as follows:

- Existing bungalow outside amenity space: 465m²
- Proposed dwelling outside amenity space: 517m²

Policy PSP43 states that a residential unit containing 4 bedrooms will be expected to have private amenity space of 70m². The amenity space provided for properties is therefore acceptable.

Landscaping and Trees

Policy PSP3 of the Policies, Sites and Places Plan seeks to minimise the loss of existing vegetation on a site that is of importance in terms of ecological, recreational, historical or landscape value.

The development proposal is deemed to be fully compliant with Policy PSP3 because no trees will be felled as a result of the proposal. Indeed the existing apple tree on the site forms part of the overheating strategy for the dwelling and has informed the layout and design of the scheme. The intention is to keep the apple tree to benefit from the shading it could provide in summer months, whilst allowing solar gains in the colder winter months (when there are no leaves on the tree).

Note that another apple tree on the north east part of the site was felled in a recent storm as shown in the image opposite.

The overgrown hedgerow bounding the southern and eastern boundaries to the site is believed to be Leylandii. In addition to general pruning, this hedgerow will be partially cut back on the eastern boundary so as to open up the site and establish an attractive street-presence for the proposed dwelling.



Photo showing the apple tree that was recently felled in a storm



Photo showing the Leylandii hedgerow that forms the eastern and southern boundary.

Proposal

Sustainability

Biodiversity

It is not considered that the proposal would have a significant adverse impact on biodiversity. The site is not covered by any ecological designation.

Energy Efficiency

The applicants seek a low impact dwelling – both in terms of the impact on the local environment, as well as the wider picture of climate change. The proposal is for a modest home that will aim to reach the ‘AECB (Association for Environmentally Conscious Buildings) CarbonLite Standard’ for energy efficiency. The scheme therefore confidently rises to the expectations of Policy PSP6 with regards to minimising end-user requirements for energy.

GreenTrace Architect specialise in low impact, high performance homes, and we are confident that this house could meet the AECB target comfortably. The efficient form factor (ratio of useful floor space to external surface area) plays a key role in achieving this, as does the proposed amount of insulation, placement of glazing (the majority being south facing with overhangs), and heating and ventilation strategy. The energy efficiency measures include:

- Low-U values - for wall (0.11w/m2K), roof (0.11w/m2K), and floor (0.11w/m2k)
- Thermal bridge free detailing
- Super airtightness - a (n50) of <1.5h-1
- Less than 10% summer overheating. The overhangs and louvres play a key role in this regard.
- Mechanical Ventilation with Heat Recovery (MVHR) - this will ensure a healthy supply of fresh air whilst capturing the heat from expelled, stale air.
- High performance windows with low U-values and good airtightness

Renewable Energy Generation

Generation of solar energy via solar panels is an essential aspect of the energy strategy for the proposal. The proposal has been designed to enable circa 20 solar panels to be installed on a south-facing pitched roof which could generate circa 7-8 kW of solar power. This is a significant amount of energy that could enable the home to be close to self-sufficient with the aid of battery storage (and the low energy demand) to store the energy for use when the sun is not shining.

An Air Source Heat Pump will be provided for both space heating and domestic hot water. This technology can reduce electricity demand by up to 3 times compared to direct electric systems.

Embodied Energy/Carbon

The proposed scheme has been designed to incorporate materials which are locally sourced and low in embodied energy/carbon. The construction of the walls and roof will be in timber. Timber cladding and locally sourced stone are also low in embodied energy, with timber being a carbon sequestering material.

Flooding & Surface Water Drainage

The Environment Agencies flood risk map indicates that the site is not at risk of flooding from surface water or from rivers and seas.

The proposal shall be compliant with Policy PSP20 with regards to Sustainable Urban Drainage. The Indicative Drainage Strategy (Drawing 3035_P_115) shows the intention to install a soakaway south of proposed dwelling within 5m of any building and 2.5m from any boundary in accordance with Building Regulations requirements. This strategy for infiltration represents the initial intention in accordance with the Surface Water Discharge Hierarchy. The viability of this strategy will rely on a percolation test that would be forthcoming after any grant of planning permission; either via a suitably worded condition, or to satisfy Building Regulations.

Should the soil prove poorly draining to the extent that infiltration is not possible, the lower tiers of the Surface Water Discharge Hierarchy will be explored. As there is no watercourse nearby, the option to connect to the nearby public sewer will likely be the next available option along with any attenuation required by Wessex Water.

Sewerage

The site is connected to mains drainage and a new connection would be possible by extending the private sewer into the proposed site as illustrated on the Indicative Drainage Strategy drawing. Drainage for surface foul water will undergo further design in correspondence with Wessex Water before seeking Building Regulations approval.

Water efficiency

The proposal will introduce various water conservation methods to ensure efficient water usage with an intention to better the maximum standard of 110 litres/person/day.

Refuse Collection

Storage for refuse and recycling is provided within a ventilated and covered area to the east of the proposed dwelling and behind the stone boundary wall. The internal dimensions of this area are circa 2.2m by 1m. The collection of bins will be as per the existing arrangement for houses along Rock Lane. On collection day, the bins will be brought to a collection point located outside of the proposed gates on the drive, and off the road.

Bicycle Storage

Storage for 3 bicycles is provided within a covered area to the east of the proposed dwelling and behind the stone boundary wall.

Conclusions

A sensitive & sustainable response

The proposal would introduce a new, high-performing, low impact dwelling representing a more efficient use of existing land within a defined settlement boundary. The density of development would increase from 7.6dph to 15.15dph (dwellings per hectare).

The recent Small Sites Windfall Topic Paper (December 2023) demonstrates a compelling case for the inclusion of a windfall allowance in South Gloucestershire’s housing land supply, of which this proposal would come under. The benefit of additional housing provision in the area, and the contribution to achieving targets for windfall development it would provide should therefore be given great weight.

The proposal represents an opportunity to improve the appearance of the site.

The proposal takes into account local distinctiveness, incorporating traditional materials whilst also displaying a proud eco-home aesthetic.

The ridge height is lower than that of the opposite side of Rock Lane.

The site has no ecological, environmental or flood risk constraints.

The amenity of both the neighbouring and proposed dwellings is maintained.

The proposal therefore accords with the policy criteria for good, sensitive, sustainable, and neighbourly design. It is therefore respectfully requested that full planning permission be granted to ensure this sustainable development can contribute positively to the area.



3D View impression of the proposed dwelling from the east side of Rock Lane.