

Existing Use

The site is a wooded area, designated as Ancient Woodland by Natural England, with a public footpath running east to west through the southern section. The site is bordered to the north and east by a residential housing estate located on Dalloway Road and Birch Close. Priory Lane forms the western boundary. The southern boundary is agricultural land.

The overall site area is approximately 6,100 square metres (approx. 1.5 acres)

Proposed use

The application is to provide 4no. detached dwellings of sensitive sustainable design, set within a wooded landscape, with minimal loss of trees, habitat and minimal impact on neighbours.

There are two house design types; house type A has a footprint area of 145 sq metres, with House type B with a footprint area of 125 square metres.

The total footprint of all four houses is 560 square metres, equivalent to 9.1% of the total site area.

	Number of bedrooms	Number of bed spaces (persons)	National Space Standard Minimum gross internal floor area	House Type A internal gross area	House Type B internal gross area
	3b	6 person	102 sq m	Ground floor area= 125 sq m First floor area= 104 sq m	Ground floor area= 108 sq m First floor area= 104 sq m
Built in storage			2.5 sq m	5.5 sq m	5.5 sq m
Total			102 sq m	229 sq m	212 sq m

"Table 1 - Minimum gross internal floor areas and storage" – extracted from Technical housing standards – nationally described space standard dated March 2015 by the Department for Communities and Local Government.

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Plot to Garden ratios

Plot	Plot Size	Garden size inc drive	Plot to garden ratio
1	1006 sq m	861 sq m	85%
2	749 sq m	604 sq m	81%
3	695 sq m	550 sq m	79%
4	903 sq m	778 sq m	86%

Site layout

The positioning of each house has been carefully considered to minimise the removal of trees from the site and to suit the site topography.

The houses are approximately orientated in an (east west) direction, similar to the adjacent houses in Birch Close. This orientation also maximises solar gain and day-lighting into each dwelling. The houses are located at varying distances ranging from a minimum of 7- 9 metres away from the northern boundary line of Birch Close.

A number of the existing trees are retained along this boundary. A chestnut pale timber fence line is proposed with hedging and shrubbery.

The eastern site boundary is flanked with dense vegetation and trees, thereby restricting views into the site. A number of trees are located outside of the site boundary and are therefore to be retained.

Low level vegetation and an embankment create a change in levels around the top north-east portion of the site. A retaining wall, of crib type construction, has been introduced within plot 4 to overcome this level difference. It is proposed to remove 3no. trees (refer to classifications U and C) from the eastern boundary, due to the trees condition and position relative to the existing embankment, to be reconfigured. (refer to Middlemarch Environmental Pre-Development Arboricultural Survey).

Additional landscaping is to be provided, with a planted crib retaining wall- refer to images below.

The crib wall will be constructed from timber, as a sustainable construction material and will offer a softer aesthetic solution, than a concrete retaining wall. Planting bags will be introduced to enable plants to grow on the front face.

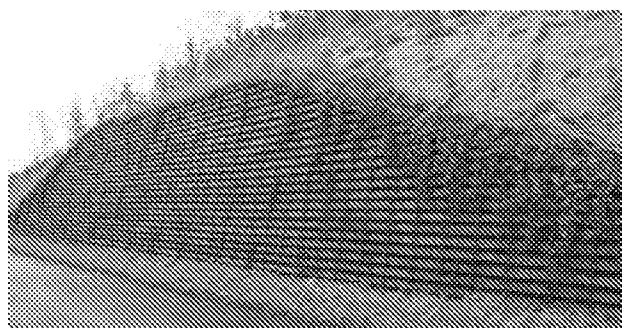


Image of crib retaining wall system



Image of planted crib retaining wall system

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There is an existing public footpath entering on the site from Dalloway Road, which runs across the site in an east/ west direction. This existing path entrance on Dalloway Road is to be retained. There is also an existing fenced sub-station located in close proximity of entrance. This is also to be retained.

The southern site boundary is flanked with a bank of trees and a stream, forming a boundary with adjacent farmland. The majority of trees are to be retained on this boundary, with the exception of 3no. trees classified as Category U within the Pre-Development Arboricultural Survey.

The area of land is located south of the proposed access road and is to be set aside for public amenity space. This is sizeable at approximately 1900 square metres, just over 30% of the total site area. This application seeks to improve the existing footpath.

The path runs approximately parallel to the southern boundary and is an unmade trodden track. The proposal provides a new demarked hoggin path, laid over a suitable geo-textile membrane and sub base. The path is to be laid with a cross fall to allow for drainage and be finished with a timber edge board. The path will weave its way across the site and provide better access for the community including wheel chair users.

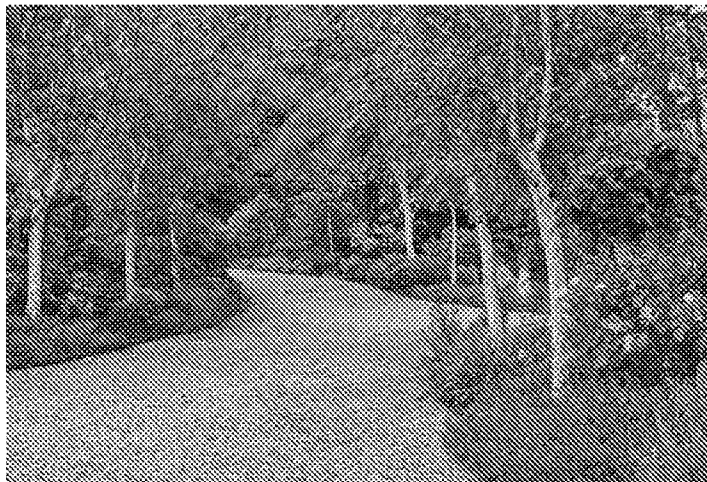


Image of hoggin path



Image of wheel chair users travelling through woodland

The low level, self seeded poor quality existing vegetation located around the path is to be pruned back or removed to provide easier access across the site. New low level, manageable planting is to be added to enhance the southern boundary.

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Design approach

The design has been developed to acknowledge its local context, materials and typical building forms. The material palette is limited and reflects traditional and local materials. The details of the building have been carefully considered to be minimal and crisp giving a harmonious and consistent approach, reflecting the simple forms of the building. It is proposed that new dwellings need not mimic buildings from an earlier architectural period or style and creative reinterpretations of traditional forms add to the attractiveness of the district and contribute to overall character.

It is proposed that the inherent concept of the proposed dwelling reflects and is appropriate to the local area in which it is situated. The proposed materials, whilst used in a contemporary way, are traditional in nature and it is proposed that the specific colour and texture be provided as part of any conditional approval. The existing boundary treatments are generally retained and where modifications are made, it is proposed to enhance the site. The proposal has been developed so the windows do not overlook and result in a loss of privacy for the neighbouring properties.

The design approach has been based on minimising the loss of trees and habitat on the site and creating a small scale residential development to complement the adjacent housing.

A pre-development arboricultural survey has been undertaken to identify the quantity, quality, species type and condition of the trees in accordance with *British Standard 5837:2012 "Trees in relation to design, demolition and construction- recommendations"* on the site. Please refer to Middlemarch Environmental Pre- Development Arboricultural Survey Dated April 2107 Report dated April 2017 appended to this application.

Where possible, trees classified in categories C- *trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm* and category U: *trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years*, have been removed to form space to locate the dwelling. Other works such as crown lifting and pruning will need to be undertaken to existing trees, with the necessary licenses applied for.

The number of dwellings, footprint size and heights of dwellings have also been taken into account as part of the design approach. The application is based on four dwellings only, to emulate the existing four houses located in Birch Close. Two different house types have been developed, with each house positioned accordingly to suit existing tree locations, site levels and to provide good spacing in between each property.

External amenity space for each dwelling is provided to front and rear (north and south) of each property. Given the wooded nature of the site, each plot perimeter is to be defined with a low chestnut cleft fence to the east and west boundaries. The boundaries can be enhanced by planting. A front garden and parking area for two cars is located to the front of each house, allowing at least one car park space for the homeowner and one space for a visitor.

The front of each plot is defined by low level planting and a change of surface only, maintaining the open wooded nature of the site. A chestnut pale timber fence is to be provided to the northern site boundary.

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Environmental sustainability

This scheme focuses on sustainability, in all its aspects, with a sensitive approach to materials to reduce the servicing and energy requirements, carbon emissions and in accordance with the Government policies.

The proposed development has considered sustainability from the initial concept stage to ensure it is an integral part of the scheme.

The house will be constructed to achieve thermal performances higher than those stated in Part L1A of the Building Regulations, with the principle of a fabric first approach will be taken, with substantially improved u-values proposed for the external elements (walls, roof, floor, windows and doors) to improve the fabric energy efficiency (FEE) of the dwelling.

The design encompasses the following strategies;

- to reduce the need for energy through design features that provide passive heating, natural lighting and cooling
- to reduce the need for energy through energy efficient features such as improved insulation and glazing
- to meet residual energy requirements through the use of low or zero carbon energy generating technologies
- Improved air permeability, high efficiency services (boiler, hot water stores, log burning stove etc)
- Utilising 100% of dedicated low energy light fittings will also help to reduce to CO2 emissions from the dwelling.

The dwelling has been designed to utilise solar gain, natural ventilation and good day lighting. These passive technologies will reduce the need for artificial ventilation, heating and lighting reducing the energy usage.

As part of the detailed design process a SAP Calculation, undertaken by a qualified and licensed assessor, will be produced which will illustrate that, once the passive technologies have been fully utilised, renewable technologies will be integrated into the property as appropriate. These could include the incorporation of Mechanical Heat & Ventilation Recovery, Waste Water Heat Recovery and Solar Thermal.

Other elements to be incorporated into the strategy for the dwelling are the use of materials which are renewable and from low impact sources, enhancing the ecology of the site, reducing the impact of the construction.

Dwelling Design

There are two house types A and B, each with the accommodation based over two storeys. House type A offers slightly larger accommodation with a footprint area of 145 sq metres and a total gross floor area of 266 square metres. House type A is located on Plots 1, 2 and 3.

House type B is slightly smaller house and has a footprint area of 125 sq metres and a total gross floor area of 247 square metres.

The ground floor accommodation comprises of a side entrance with canopy over, leading into a hallway with cloakroom and storage. A glazed timber screen leads into an open plan living, dining and kitchen area, with a separate utility leading from the kitchen. The living space is located on the front (southern) elevation, where glazed doors and larger windows maximise views, solar gain and daylight levels. A wood burner has been positioned as a focal point within the living space. A separate study/ tv lounge is located off the living space. Smaller

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windows and glazed doors are located on the north elevation to prevent overlooking of the adjacent houses and to improve thermal performance.

The first floor accommodation comprises of three double sized bedrooms each with an en-suite. The bedrooms located on the south elevation have a shared glazed balcony.

The plan has been designed with splayed external walls, i.e. not parallel, with protruding elements such as the balcony and en-suite C overhanging on the first floor to create an organic, non- rectilinear form to visually reduce the scale of each house.

Windows are designed to be different shapes and as slots/ boxes puncturing the timber clad elevations. The building exterior is predominantly timber cladding, expressed in different sizes and direction, to create interest and visually reduce the scale of the elevation. Protruding window surrounds, the chimney and gable ends are treated with bronze coloured metal cladding such as Tecu Bronze.

The mono-pitch roof design is based on the roofscape of the adjacent houses in Birch Close. The roof line is split, with a lower roof area creating a double height space over the living room in House Type A. The roof is to be clad with Tecu Bronze standing seam metal cladding, with rainwater collection for grey water reuse.

The houses are to be designed with screw pile type foundations and a suspended floor raft, to reduce the bearing on and reduce the impact of the tree root systems.

The use screw pile foundations due to the cost efficiencies and - increasingly - the reduced environmental impact. 'Screwing' the foundations in the ground means that there is less soil displacement, so excess soil does not need to be transported from the site, saving on transportation costs and reducing the carbon footprint of the project. The main benefits of screw pile foundations include: shorter project times, ease of installation, ease of access, reduction of the carbon footprint, ease of removal when the foundations are no longer required, reduced risk to the workforce, and reduced costs.



Image of screw pile foundations in progress

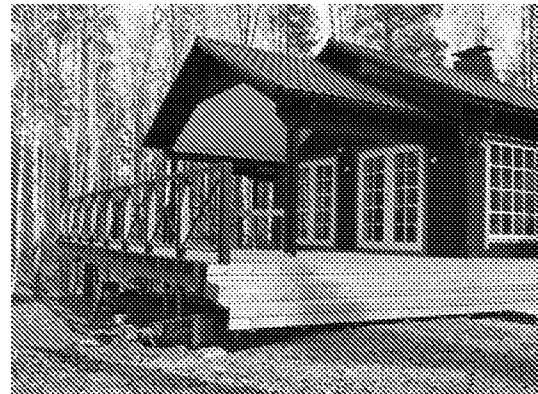


Image of screw piled house in woodland

Furthermore, lightweight SIP (structural insulated panels) panel construction are to be utilised, with each panel being constructed off site to minimise ease of installation, reduce site waste generation and waste in production, improved construction programme and they achieve high U-value and excellent air tightness. The size of the panels and off loading/ handling of panels would need to be carefully co-ordinated by the contractor to suit the wooded site.

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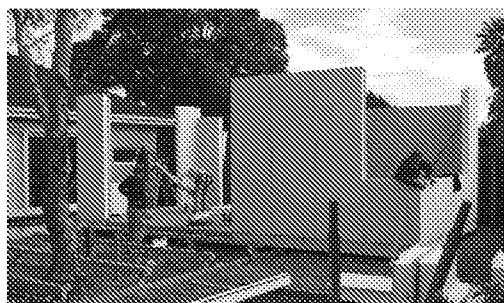


Image of SIP panel system



Image of SIP panel house under construction

Refuse and recycling bins are to be kept next to each dwelling. Compost bins and waste disposal units are to be provided to each dwelling, to reduce the amount and impact of food waste on the environment.

The houses are to be connected to the existing drainage system located in Dalloway Road. Rainwater harvesting is to be provided, whereby rainwater is collected, filtered and stored rainwater from the roof. This harvested rainwater can be used for toilets, washing machines and in the garden, providing significant reductions to utility bills and being more sustainable, as less water enters into the water system for treatment.

A below ground tank located under the house is proposed, reducing the space required and visual appearance. When stored below ground, the collected rainwater has no access to light, stays cool and is frost protected. Both factors make bacterial growth impossible, thus keeping the quality of the water very high.

External Lighting

No external lighting is to be provided as part of the scheme, so as not to impact on wildlife. Bird boxes and bat boxes are to be added to the dwelling and into the wooded area to encourage wildlife.

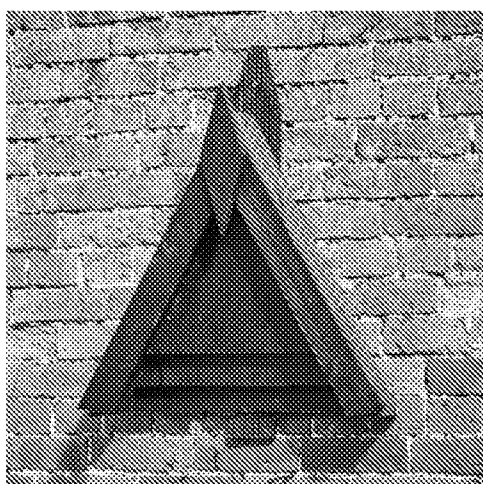


Image of typical bat box



Bat box locations on a dwelling

Access

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The site is accessed by car from the A27 either via Ford Road, onto Priory Lane or from Tortington Lane.

Pedestrian access already exists from Dalloway Road and Priory Lane. This access will be retained and improved as part of this scheme. A new pedestrian crossover point will be created on Priory Lane.

An access road, leading from Priory Lane, approximately 4 metres wide, with crossing places and turning areas has been provided. This is to be shared with pedestrians and cycle users.

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