Code for Sustainable Homes Assessment
Category 9 - Ecology

Prescriptions report

101 Brighton Road,
Worthing

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Report Summary:

This report outlines the credits achieved under Category 9 Ecology for the Code for Sustainable Homes scheme at a site at 101 Brighton Road in Worthing. This development is for the construction of a new dwelling, with an existing building being refurbished with a small extension. The property is set within a fairly central part of Worthing near to the coast and is bordered by residential plots and the A259.

This report has been prepared by Azure Ecology, with all reasonable skill, care and diligence within the terms of the Contract with the client.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Introduction

Azure Ecology was commissioned by Daniel Coughlan to conduct an ecological assessment and provide advice that could achieve credits under the 'Code for Sustainable Homes' scheme. This report is intended to prescribe the credits that can be achieved under the code and particularly the method of implementation of these credits under Eco 2 – 'To enhance the ecological value of the site'.

The assessment carried out by Azure Ecology has determined that with ecological enhancement measures, a total of **5 credits** may be achieved. The assessor is regarded as a 'suitably qualified ecologist' under the requirements of the Code for Sustainable Homes criteria having at least three years experience working as an ecologist within the last five years.

Background

Daniel Coughlan is looking to gain accreditation under the Code for Sustainable Homes scheme (CSH) for the construction of a new dwelling within the grounds of the No 101 property on Brighton Road in Worthing. Azure Ecology was asked to conduct an assessment under the guidance of Category 9 of this scheme, in order to help achieve accreditation. The Code for Sustainable Homes – The Environmental rating for homes assesses the environmental impact of new build development. This report will only assess site ecology under Category 9 of the code.

The aim under this part of the assessment criteria is to examine the loss of ecological value and to mitigate/compensate this loss through the enhancement and creation of new habitats and features.

Methodology

The standard assessment methodology for the Code for Sustainable Homes consists of:

- An ecological site visit (which was conducted on the 14th March 2013)
- An appraisal of landscaping plans and associated documents
- This assessment report, which breaks down the amount of credits that may be achieved and provides recommendations for how to achieve them.

Site Description and Pre-development Ecological Value

The 101 Brighton Road plot is a site under new ownership where some previous site works have been abanoned. The site is within a largely residential area very close to the coast on the A259 Brighton Road. Brighton Road forms the southern boundary to the site, with residential plots on all sides (the plots to the west are still under construction). On the opposite side of the Brighton Road the plot is bordered by 'Aquarena', a sporting facility, whist a park is situated nearby to the west.

The 101 Brighton Road plot is made up of a semi-detached dwelling that is to be slightly extended and renovated and a small new detached property adjacent to it on the western side. There is little soft landscaping present anywhere on the site, comprising only of ornamental trees and shrubbery, including evergreen oak (*Quercus ilex*) and Privet (*Lingustrum spp*), with some establishing weeds and flowers, including Spanish bluebell (*Hyacinthoudes hispanica*), daffodils (*Narcissus spp*) and ragwort (*Senecio jacobaea*). To the rear of the detached building an area of predominantly hard-standing is broken up by some established weeds, including bramble (*Rubus fruiticosa*), cleavers (*Galium aparine*), white clover (*Trifolium repens*) and *Buddleia davidii*.

The remaining hard-standing area includes a tarmac car-park and paved and concrete areas. A high wall forms the boundary at the rear of the site, whilst a low wall borders the site to the south along the edge of a pedestrian pavement.



Picture 1 – an aerial image of the No 101 Brighton Road plot, with a rough boundary outlined.



Picture 2 – the bondary of the site with Brighton Road, screened by a low wall and ornamental trees and shrubs.



Picture 3 – the existing semi-detached property with abandoned extension footings.



Picture 4 – The large tarmac car parking area at the front of the site.



Picture 5 – The abandoned footings for the new detached property.

Assessment Criteria and Analysis

All of the credits available are evaluated below, with a conclusion of how to gain each credit.

Eco 1 - 'To encourage development on land that already has a limited value to wildlife and discourage the development of ecologically valuable sites'.

The construction zone is made up of hard-standing and only includes a small number of established weeds in some broken ground. As a low-value habitat a credit is easily achieved under Eco 1.

Eco 2 – 'To enhance the ecological value of a site'

The following ecological enhancements have been prescribed for the development. The inclusion of these proposals will suitably enhance ecological features to achieve a credit under 'Eco 2'. The 'Key Recommendations' are detailed below.

Key Recommendations

1. Native Hedgerow establishment

Native hedges can be valuable for a variety of birds and insects even in an urban setting. The hedging will provide a nesting location as well as a food source for some birds and flowering trees in the hedge provide food for pollinating insects.

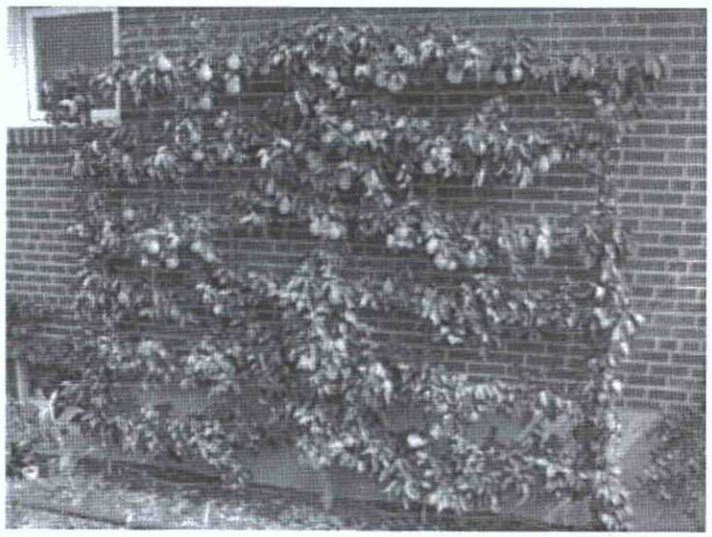
Native hedges should only include trees from UK stock and no non-native tree species should be included within the hedge mixture. The hedge density should include 5 hedge trees per linear metre, with a minimum of 10 linear metres planted to qualify.
The composition of the hedge should include at least 50% hawthorn (*Crategous monogyna*) or blackthorn (*Prunus spinosa*), with the remaining 50% made up of dogwood (*Cornus sanguinea*), spindle (*Euonymus europaea*), wayfaring tree (*Viburnum lantana*), guelder rose (*Viburnum opulus*), hazel (*Corylus avellana*), field maple or beech (*Fagus sylvatica*).

Hedge trees should be 60-90 cm saplings planted as bare root stock between November and mid March.

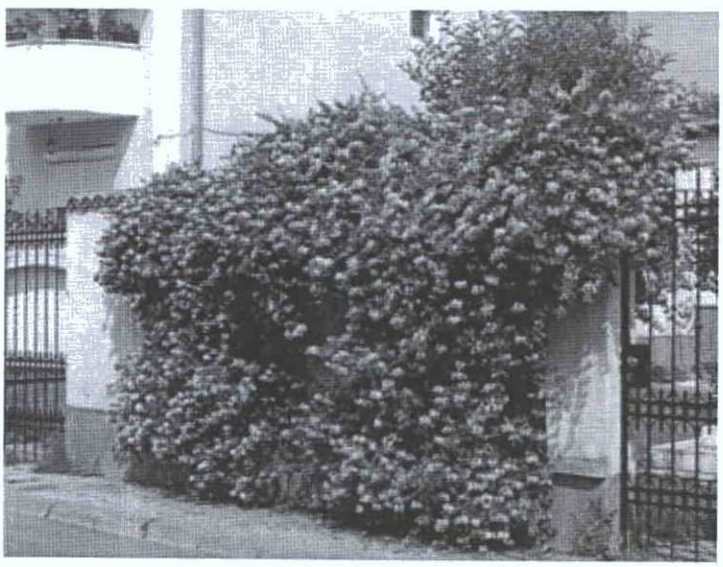
2. Climbing plants

The wall at the rear of the site or the buildings themselves could support climbing plants that create attractive green features that provide food sources for insects and

birds. Climbing plants make otherwise bare unvegetated walls offer cover and value for wildlife. Native climbing plants including Honeysuckle (*Lonicera spp*) and old mans beard (*Clematis vitalba*) or espalier fruit trees would all be suitable grown up to a height of at least 1.5 metres.



Picture 6 – an example of an espalier pear tree against a building wall



Picture 7 – An example of honeysuckle grown against a wall

To qualify at least 3 espallier fruit trees or 5 climbing plants must be established and supported by growing frames against boundary walls and/or buildings.

3. Wildflower meadow creation

Wildflower meadow habitats are aesthetically pleasing as demonstrated in the landscaping of the London Olympics Park, but importantly offer valuable habitat for a wide range of pollinating insects, particularly declining bees and butterflies.

The recommended mixture for 101 Brighton Road would be a general purpose mixture with a variety of wildflowers, which could border the surrounding woodland. Emorsgate seeds mix EM3 'special general purpose mixture' is advised because of the wide variety of grasses and wildflowers in the mixture.

The mixture for EM3 is as follows:

% *Latin name* - Common name
2.5 *Achillea millefolium* - Yarrow
7.5 *Centaurea nigra* - Common Knapweed
5 *Centaurea scabiosa* - Greater Knapweed
2.5 *Daucus carota* - Wild Carrot
2.5 *Galium mollugo* - Hedge Bedstraw
5 *Galium verum* - Lady's Bedstraw
5 *Knautia arvensis* - Field Scabious
2 *Leontodon hispidus* - Rough Hawkbit
4 *Leucanthemum vulgare* - Oxeye Daisy
7.5 *Lotus corniculatus* - Birdsfoot Trefoil
1 *Lychnis flos-cuculi* - Ragged Robin
4 *Plantago media* - Hoary Plantain
2.5 *Primula veris* - Cowslip
5 *Prunella vulgaris* - Selfheal
10 *Ranunculus acris* - Meadow Buttercup
5 *Rhinanthus minor* - Yellow Rattle
5 *Rumex acetosa* - Common Sorrel
7.5 *Sanguisorba minor* - Salad Burnet
5 *Silene dioica* - Red Campion
4 *Silene vulgaris* - Bladder Campion
5 *Stachys officinalis* - Betony
2.5 *Vicia cracca* - Tufted Vetch
8 *Agrostis capillaries* - Common Bent
40 *Cynosaurus cristatus* - Crested Dogs-trail
28 *Festuca Rubra* - Slender-creeping Red-fescue
4 *Phleum bertolonii* - Smaller Cat's-tail

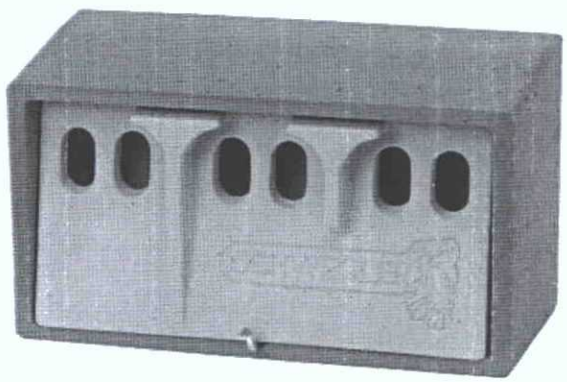
Another mixture of wildflowers could be used if desired, as long as only native species are planted of British origin (and locally sourced where possible) and the same number of native species is planted (i.e. 26 species). The seeding of these wildflowers should ideally take place either early in the spring (when hard frost is less likely to affect seeding), or in the late summer/early autumn, when the risk of the ground drying out is much lower (late August to October) upon a prepared bed. The wildflowers can be cut back between September and February each year to remove dead annual plants. It is essential that this feature is not fertilised as this will lead to encroachment by less desirable weeds and grasses. The sowing rate should be determined by an experienced wildlife gardener and incorporated with an accompanying grass seed mix

where appropriate.
A total area of 30 square metres of wildflower seeding is recommended to create a significant sized and highly valuable wildflower habitat. This can be established bordering a lawn feature, but must be kept under a separate management regime.

Additional Recommendations

To achieve accreditation, at least 30% of further recommendations for the site that are provided below should be incorporated.

1. In order to help declining numbers of native urban birds, two sparrow terraces should be installed on the buildings. Sparrow numbers have halved since 1980 and providing suitable nesting could help support these birds during breeding. These birds often nest socially and a Sparrow Terrace provides nesting opportunities for three families. The longer lasting and hard-wearing Schwegler 1SP Sparrow terrace should be installed on the outside of the building more than 3 metres from the ground in a position away from any windows and where the sparrows will be least subject to disturbance. If necessary the terrace could be attached to another structure, as long as a minimum height of 3 metres from the ground was achieved.



Picture 1 – An example of the Schwegler 1SP Sparrow Terrace.

2. A small pond could be created on the site to create a new habitat for aquatic invertebrates as well as a drinking and bathing area for some birds. Even small ponds in relatively urban environments can support aquatic invertebrates such as water-boatmen, diving beetles and pond skaters, which fly from pond to pond. The pond should be established as a natural feature by backfilling the pond liner with sub-soil after protecting it with a fleece layer. It is recommended that an experienced wildlife gardener completes the installation process to ensure its success.

3. A cluster of native shrubs will offer habitat for nesting birds as well as improved food sources. A mixture of sea buckthorn (Hippophae rhammoides), wayfaring tree (*Viburnum lantana*), guelder rose (*Viburnum*

opulus) and dogwood (*Cornus sanguinea*) would be suitable. At least 5 shrubs would need to be planted to qualify, ideally as bare root stock between November and March.

Eco 3 – 'Protection of Ecological Features'

No features of notable ecological value were noted outside the construction zone but inside the site boundary and there are no recommendations for protection of ecological features.

Eco 4 – 'Change in Ecological Value of Site'

The biodiversity change calculation is made by identifying the total number of native plant species within discrete habitats at the site and then multiplying them by the area they cover (non-native species are not included as part of the calculation unless they are deemed to be of significant ecological value). Adding up these totals and dividing them by the total site area provides the biodiversity value in species per hectare. The same calculations are made for the proposed development, factoring in recommendations made within Eco 2 and site landscaping proposals. The biodiversity change value is given by subtracting the existing site value from the proposed site value.

The change in biodiversity at 101 Brighton Road is in the +/- 3 species per hectare range, with a calculated value of 1.24 species per hectare pre construction and a value of 1.83 species per hectare post-construction making a small gain of 0.83. This gain is due to the conversion of car parking to lawn space and the enhancements recommended under Eco 2. A change in biodiversity of +/- 3 species per hectare achieves two credits under Eco 4.

Conclusion

Credits are achieved under Eco 1 because of the low ecological value of the construction zone, and a credit is achieved under Eco 3 as there are no features of significant ecological value outside the construction zone but inside the site boundary. Habitat enhancement measures have been prescribed under Eco 2 within the garden landscaping, including native species wildflower meadow creation, native hedge planting and establishing climbing plants up walls. Along with the credit achieved under Eco 2, two credits can be achieved under Eco 4 for achieving a +/- 3 species per hectare change at the site. This species gain has been calculated assuming that the client incorporates **all** of the recommendations made under Eco2.

A total of 5 credits can therefore be achieved assuming all recommendations within this report are implemented in full.