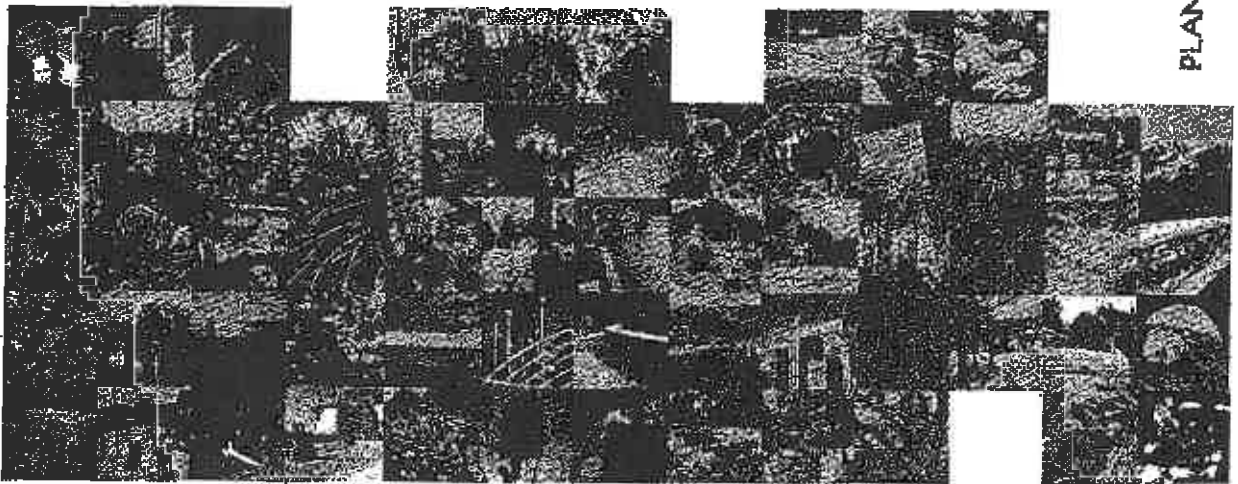


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**Church Raikes, Chipping
Code for Sustainable Homes Design Stage Ecological Assessment**

DRAFT

Produced for

*Croft Goode Architects
4 The Crossroads
Freckleton Street
Kirkham
Lancashire
PR4 2SH*

January 2012

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Section A1: Contact Details

Ecologist's Details

Company name: TEP – The Environment Partnership
Company address: Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH
Contact name: Lynsey Crellin
Contact telephone number: 01925 844066

Developer / Client Details

Company name: Croft Goode Architects
Company address: 4 The Crossroads
Freckleton Street
Kirkham
Lancashire
PR4 2SH
Contact name: Chris Blake
Contact telephone number: 01772 886030

Section A2: Development Details

BRE Reference Number:
To be confirmed by the Client
BRE Client Number:
To be confirmed by the Client

Development Name: Church Raika, Chipping.

Development Address: Church Raika, Chipping, PR3 2QL



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Warrington, Cheshire, WA3 7BH



Section B1: ecologist's qualifications

B1.1 Do you hold a degree for equivalent qualification, e.g. N/SVQ level 5) in ecology or related subject?

Yes

No

If yes, please provide details: BSc (Hons) Biology with Industrial Experience

B1.2 Are you a practising ecologist with a minimum of 3 years relevant experience within the last 5 years? *Relevant experience must clearly demonstrate a practical understanding of factors affecting ecology in relation to construction and the built environment and will include acting in an advisory capacity to provide recommendations for the ecological protection, enhancement and mitigation measures e.g. ecological impact assessments.*

Yes

No

If yes, please provide details: Practising ecologist at TEP since March 2008.

B1.3 Are you bound by a professional code of conduct and subject to peer review?¹ *i.e. a full member of one of the following organisations will be deemed suitable: Chartered Institution of Water and Environmental Management (CIWEM); Institute of Ecology and Environmental Management (IIEEM); Institute of Environmental Management and Assessment (IEMA); Landscape Institute (LI).*

Yes

No

If 'no' has been answered for any question in Section B1 then the requirements of a 'suitably qualified ecologist' under Code for Sustainable Homes has not been met. The ecology report CANNOT be used in the Code for Sustainable Homes assessment unless it is verified by an individual who is 'suitably qualified' (see section B.2 below).

¹ Peer review is defined as the process employed by a professional body to demonstrate that potential or current full members maintain a standard of knowledge and experience required to ensure compliance with a code of conduct and professional ethics



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Section B2: Report Verification

Details on verifying an ecology report for a Code for Sustainable Homes assessment

- B2.1 The verifier of the report must provide written confirmation that they comply with the definition of a 'suitably qualified ecologist' (as detailed above in Section B1).
- B2.2 The verifier of the report must confirm in writing they have read and reviewed the report and found it to:
- represent sound industry practice
 - report and recommend correctly, truthfully and objectively
 - be appropriate given the local site conditions and the scope of works proposed
 - avoid invalid, biased and exaggerated statements.
- B2.3 Written confirmation from the third party verifier on all the points detailed under 1 and 2 above (for section B2) must be included in an appendix to this guidance.
- B2.4 The Code for Sustainable Homes ecological assessment for Church Raikes has been checked and verified by Lindsey Cunliffe who is a suitably qualified ecologist in accordance with the relevant guidance. Please refer to Appendix One for a letter drafted by Lindsey to the BRE plus a copy of her CV confirming her credentials.

As the report has been verified by an individual who does meet these requirements it can be used in the Code for Sustainable Homes ecological assessment.

Section C: Site Survey

- C.1 Have the findings of the ecology report been based on data collected from a site survey(s)²?

Yes

No

If yes, please provide details to justify this (e.g. date (s) and scope of site survey (s))³

² The site visit(s) and survey(s) must be conducted at appropriate times of the year when it is possible to determine the presence, or evidence of the presence, of different plant and animal species

³ The contents of the ecology report must be representative of the site's existing ecology (immediately prior to the commencement of initial site preparation works).

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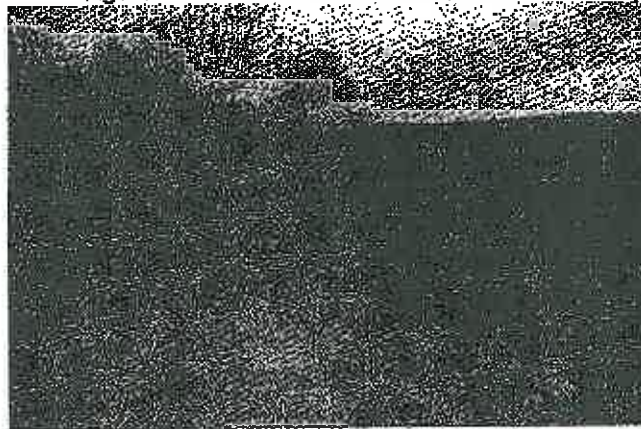


If 'no' has been answered to Question 1 of Section C then the ecology report CANNOT be used to determine compliance with the requirement of the relevant Code for Sustainable Homes credits.

Findings of Site Survey and Investigation

- C.2 The Church Raikie site covers an area of 1,972m² and the central grid reference is SD 62110 43435. The land is currently occupied by rough grassland with a large area of scrub along with smaller areas of introduced shrub, hardstanding and scattered trees. There are also hedgerows that run along the north-eastern and south-western boundaries. A representative photograph of the site is shown below.

Figure 1 – Church Raikie Development Site



- C.3 Details of the site layout were provided by Croft Goods Architects and supplemented by a site survey undertaken by Leo Greenough in November 2012 giving an overview of key habitats and any likely sites for species of conservation concern.
- C.4 The survey was undertaken outside the optimal time period for vegetation surveys however given the limited nature of the habitats on site it is unlikely that the survey has been significantly limited by being outside of the normal survey period. Invasive species that would most likely occur in the habitats present on site generally have identifiable winter features (such as berries, dead stems and structure) that allow them to be identified throughout the year. All vegetation present was identifiable and an accurate species list recorded to inform this assessment.



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- C.5 The site survey involved desk based analysis before undertaking a site visit to establish the site condition and its locale. A walkover survey was felt to be the most appropriate method of survey based on initial desk based analysis.
- C.6 Plans provided by Croft Goode Architects and available to TEP include:
- a. Topographical Survey – Drawing No. S10/213A;
 - b. Landscaping layout – Drawing No. 09-1441-PO9;
 - c. Ecological Assessment - TEP Report Ref. 3192.003; and
 - d. Arboricultural Implications Assessment – TEP Report Ref: 3192.001.

Current Ecological Significance

- C.7 The site covers an area of 1,972m² and is surrounded by residential development. The site is dominated by fertile grassland with areas of scrub and introduced shrub. There are also small areas of hardstanding, an area of tall ruderal herb and hedgerows present.
- C.8 The developable area in question is identified in the topographical survey (Drawing No S10/213A) located within Appendix 2 of this report and is the area on which the assessment has been based.
- C.9 Figures 2 and 3 show the location of the Church Raikie site at the local and wider landscape scale.

Figure 2 – Location of Church Raikie within the local landscape context



 Indicative Site Boundary



Figure 3 – Location of Church Raika in the wider landscape context



Site Habitats

- Hardstanding/Bare Ground*
- C.10 There are two small areas of hardstanding/bare ground on the site. These areas are of limited ecological value.
- Grassland*
- C.11 The majority of the site is occupied by rough grassland. The grassland is species poor and for this reason has been deemed to have limited ecological value.
- C.12 The eastern corner of the site is occupied by dense, tall ruderal vegetation, including species such as rosebay willowherb, creeping thistle and nettles. This is deemed to be of limited ecological value due to the small area it covers.
- Lowland Woodland (Scrub, shrubs and hedgerow)*
- C.13 There is one tree present on site, an ash located within the hedgerow on the south-western boundary.
- C.14 A large area of dense scrub dominated by blackthorn is located in the western corner of the site. This is of ecological value due to the sheltering, foraging and nesting opportunities it provides for local wildlife.
- C.15 The southern corner of the site contains an L-shaped swathe of introduced shrub dominated by garden privet, but also containing bramble and blackthorn. This is of limited ecological value due to the predominance of non-native species.



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- C.16 A short stretch of species poor defunct hedge dominated by hawthorn is located in the northern corner of the site. This is of limited ecological value due to its lack of size and species diversity. The south-western boundary of the site is defined by an intact hedge. An initial assessment suggested that this may satisfy criteria for 'important' status under the *Hedgerow Regulations* (1997) due to the presence of four woody species, a supporting bank, connections with other hedges and less than 10% gaps. Due to the time of year of the initial site visit, a full assessment could not be undertaken and therefore a further survey is required in spring to confirm the value of the hedge.
- C.17 Vegetation (trees, hedgerows and scrub) located outside the site in close proximity to the boundary should be appropriately protected in accordance with BS5837:2005 'trees in relation to construction'. All recommendations made within the tree survey report (Ref: 3192.001) regarding tree protection must be adhered to.
- C.18 No trees on site have the potential to provide roosting habitat for bats, however please note this was a ground-based assessment only and if bats are suspected on site at any time works must cease immediately and a licensed bat consultant must be contacted for advice.
- C.19 The proposed development plans (09-1441-PO9) show that all vegetation on site is to be removed to facilitate the development. During the construction phase of works disturbance to vegetation (trees, scrub, introduced shrub and hedgerows) should be kept to a minimum during the British breeding season (March – August).⁹ If clearance must be undertaken during the British bird breeding season the developer must ensure that a thorough nesting bird survey is undertaken by an ecologist beforehand.

Invasive Species

- C.20 A small patch of Himalayan balsam was noted in the centre of the site. Himalayan balsam is a non-native/invasive plant that can out-compete local flora. Under provisions made within the Wildlife and Countryside Act, 1981, it is an offence to spread Himalayan balsam. Liability may also extend in situations where a landowner has knowingly permitted the spread of Himalayan balsam onto neighbouring land. Failure to manage and dispose of Himalayan balsam in accordance with current guidelines can lead to prosecution.
- C.21 If control of Himalayan balsam is possible within enhancement measures to contribute to the redevelopment of the site, it is recommended that prior to the

⁹ All birds, their nests and eggs are protected by law under the Wildlife and Countryside Act 1981 – this makes it an offence, with certain exceptions, to deliberately take, damage or destroy the nest of any wild bird while it is in use or being built. It is also illegal to take and destroy the egg of any wild bird.



development the balsam is cut back using mechanical methods or pulled out by hand. If strimming is used as a method of control, the plants should be cut as close to ground level as possible between May and June, prior to plants seed.

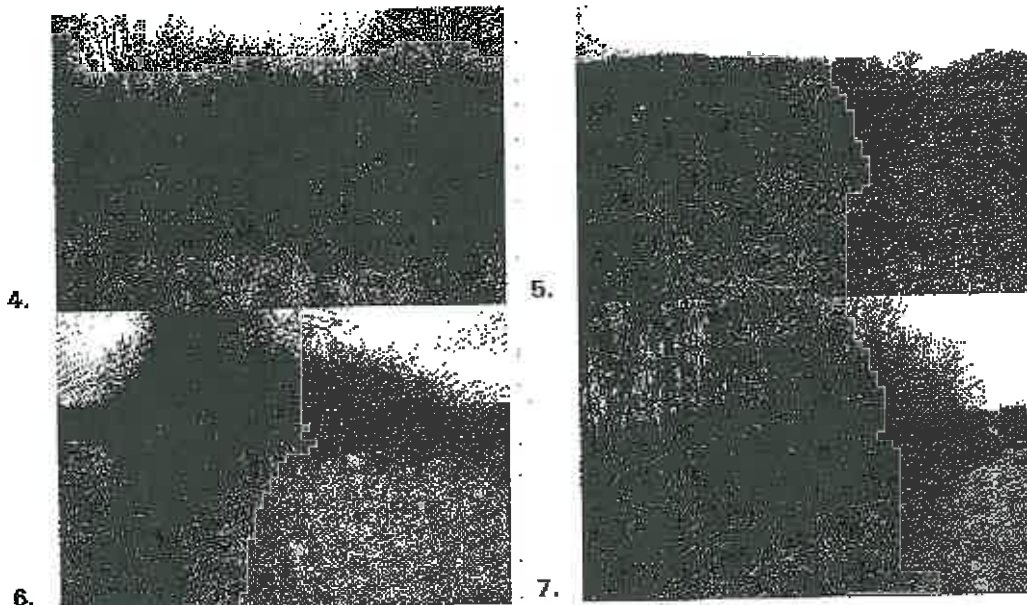
- C.22 It is likely that extensive patches of balsam may take years to eradicate, due to the seed bank that may have established. This might be reduced by removing the topsoil from areas that had dense infestations.

Fauna

- C.23 Although the potential for protected species on site is very low, if any are suspected on site at any time works must cease immediately and an ecologist must be contacted for advice.

- C.24 The presence of lowland woodland within the construction zone would indicate the possibility of birds being present in and around the site. Removal of the trees, scrub and hedgerows should take place outside of the British bird breeding season (March - August) or a nesting bird survey undertaken beforehand.

- C.25 The photographs overleaf show examples of the habitats found on site.



Figures showing: 4) Area of dense scrub;
5) Fertile grassland;
6) Area of introduced shrub; and
7) Potential 'important' hedgerow along road.



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Section D: Details from site survey

D1.0 Evaluation Criteria for Eco1: Ecological Value of the Site

D1.1 Is the construction zone of low or insignificant ecological value⁵?

Yes

No

If yes, please provide a brief statement explaining how it has been deemed to be of low or insignificant value.

Assessment

D1.2 To satisfy Eco1, and obtain the 1 credit available, the developer must ensure wherever possible, development is on land that already has limited value to wildlife, discouraging the development of ecologically valuable sites.

D1.3 As described in section C.9 – C.24, the site consists of grassland, lowland woodland and hardstanding. The hardstanding is of no ecological value and the grassland on site is deemed to be of limited ecological value due to its low species diversity.

D1.4 The ecological assessment of the development area, produced in support of planning (TEP reference: 3192.003), defines the development area as being of low ecological value. In the context of this Code for Sustainable Homes ecological assessment, the habitats across the site are deemed to be of ecological value due to the range of wildlife which they can support.

D1.5 As all vegetation is to be removed from site 0 credits can be awarded under Eco1.

D2.0 Evaluation Criteria for Eco2: Ecological Enhancement

D2.1 Has the developer / client required you to provide advice and recommendations for enhancing site ecology?

Yes

No

If yes, please provide a brief statement outlining all the key⁶ recommendations and all your additional⁷ recommendations

⁵ The development site is defined as any land used for buildings, hard standing, landscaping, or site access; including areas used for temporary site storage, buildings and any other land where construction work is carried out (or land being disturbed in any way), plus a 3 metre boundary in either direction around these areas.

⁶ Key recommendations: the client / developer will be required to adopt / implement all key recommendations.



D2.2 The following recommendations have been based on the proposed site plan which identifies areas of new building, hardstanding and landscaping.

The key site recommendations, all of which must be implemented are:

- a. pesticide use such as weedkillers, insecticides, slug pellets and fungicides are to be kept to a minimum to prevent bioaccumulation within the animal food chain;
- b. implement good horticultural practice within the planting scheme e.g. use peat-free composts and mulches and application of non-residual pesticides;
- c. ensure 40% of the tree planting within the scheme is native and 10% is of wildlife value. Please note cultivars of native species are not considered to be native but will be assessed for their value to local wildlife;
- d. ensure 30% of the shrub and herbaceous planting is native and 20% is of known wildlife value;
- e. ensure the trees, scrub and hedgerows are not disturbed within the British bird breeding season (March-August), unless a nesting bird survey is carried out by a suitably qualified ecologist beforehand;
- f. ensure trees and shrubs adjacent to the site boundary are appropriately protected in accordance with BS5837:2005 'trees in relation to construction' and the tree survey;
- g. ensure the Himalayan balsam is dealt with in accordance with best practise guidelines;
- h. incorporate bird boxes/tables in at least 10% of the plots;
- i. ensure a hedgerow assessment is undertaken prior to removal; and
- j. adhere to recommendations made within the ecological assessment, in particular those relating to replacement hedgerow planting and the inclusion of native and wildlife-friendly species within the planting scheme.

D2.3 At least 2 of the following additional recommendations must be implemented

- a. ensure 50% of the tree planting is native and 20% is of known wildlife value;
- b. ensure 40% of all shrub planting within the scheme is native and 30% is of wildlife value;
- c. ensure all turfed areas are planted with a seed mix containing at least 5 native species;
- d. incorporate bird boxes/tables in at least 20% of the plots;
- e. plant native climbers on at least 10% of the building and fence elevations; and
- f. plant 200 bulbs within the landscaping scheme.

⁷ Additional recommendations: the client / developer will be required to adopt / implement at least 30% of additional recommendations.

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D2.4 Details of suitable plant species and specifications of wildlife boxes are contained within Appendix 3 and 4 of this report. Please note these lists are not exhaustive and are intended as guidance only.

Assessment of Ecological Enhancement

D2.6 If all key and 2 additional recommendations as detailed above are implemented, then 1 credit can be awarded under Eco2.

D3.0 Evaluation Criteria for Eco3: Protection of Ecological Features

D3.1 Are there any existing features / areas of ecological value⁹ on the site and boundary area?

Yes

No

If yes, please provide brief statement outlining the advice / recommendations given for protecting all existing features and areas of ecological value.

Assessment

D3.2 Eco3 aims to protect existing ecological features from substantial damage during the clearing of the site and completion of construction works. The following protection measures have been produced following the completion of a site visit and review of the proposed plans.

D3.3 All vegetation on site will be removed to facilitate the development. Carefully scheduled clearance works should ensure birds are not disturbed during the breeding season.

D3.4 An area of the non-native invasive species Himalayan balsam was found on site. This should be dealt with in accordance with best practice guidelines. See section C.20-C.22 for further information.

D3.5 As the hedgerow along the south-western boundary has the potential to be classed as important under the *Hedgerow Regulations* (1997) a hedgerow assessment must be carried out in spring prior to clearance works.

D3.6 Any trees located outside of the developable area should be appropriately protected from damage during the clearance and construction phase of works, in accordance with BS5837:2005 'trees in relation to construction'. The following recommendations should be implemented:

⁹ If a feature of ecological value is to be removed as part of the development works, e.g. site clearance, then this credit cannot be achieved. If you have deemed the development site to be of low or insignificant ecological value (Eco 1) then there will be no features of ecological value to protect. If there is an area(s) or feature(s) of low or insignificant ecological value you wish to advise be retained and enhanced / improved.

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- a. Trees should be protected in accordance with BS5837:2005 (Trees in relation to construction - recommendations) with Heras fencing fixed into the ground prior to starting construction and before vehicles are taken onto the site;
- b. Fencing should be placed as far as the extent of the overhanging tree canopies (as a minimum) to protect sufficient roots for survival and preserve their integrity until development is finished. No vehicular access, storage of materials or potential contaminants should be situated within the protective area; and
- c. Adhere to all recommendations regarding tree protection made within the tree survey.

Assessment

D3.7 As no vegetation is to be retained on site, 0 credits can be awarded under Eco 3.

D4.0 Evaluation Criteria for Eco4: Change of Ecological Value of Site

D4.1 Are you able to provide the following information for before and after construction habitat types; and an estimate of the number of floral species present per habitat type (based on appropriate censusing techniques and confirmed planting regimes)?

Yes

No

D4.2 A detailed schema has been provided by Croft Gooda Architects and the following information can be provided:

- a. a brief description of the landscape and habitats surrounding the development site;
- b. the total site area before and after development; and
- c. details of the site pre-construction.

a. description of landscape / habitats surrounding the development site

D4.3 It is important to assess the typology of the surrounding landscape as this is unlikely to change throughout the development. The site is located in a rural area with the immediate locality being dominated by agricultural land, residential and commercial development. An illustrative example of the surrounding landscape of the Church Raikie site is shown in section C.8 of this report.

b. the total site area before / after development

D4.4 The total area of the site is 1,972m². This will remain unchanged before and after development.

c. ecological diversity if the site pre / post construction

D4.5 Tables 1 and 2 show the areas of the different habitat type pre and post construction and the associated number of species per habitat type.





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Table 1 – Site details before development

Habitat Type ⁹	Area of Habitat m ²	No. Species per habitat type
Hardstanding	38	0
Fertile Grassland	1133	11.6
Lowland Woodland	801	9* (actual)
Total:	1972	20.6

*Native and wildlife-friendly species observed during site visit include: ash (*Fraxinus excelsior*), elder (*Sambucus nigra*), hawthorn (*Crataegus monogyna*), ivy (*Hedera helix*), hazel (*Corylus avellana*), holly (*Ilex aquifolium*), privet (*Ligustrum ovalifolium*), blackthorn (*Prunus spinosa*) and bramble (*Rubus fruticosus*).

Table 2 – Site details after development

Habitat Type ⁹	Area of Habitat m ²	No. Species per habitat type
Building Footprint	474	0
Hardstanding	1089	0
Typical Garden Planting	378	0
Lowland Woodland	31	0
Total:	1972	0

D4.6 Has your client / developer requested you to carry out the calculation for Eco 4 Change in Ecological Value of Site¹⁰?

Yes

No

If yes, please provide all stages of calculations and state what the total change is detailing:

- a. ecological calculation before development
- b. ecological calculation after development

D4.7 4 credits are available under Eco4 for steps taken to minimise reductions in the ecological value of the site and to encourage improvement / enhancement. Credits are awarded as follows:

⁹ Habitat types will include natural areas, e.g. various grasslands and woodlands; as well as areas of the built environment, e.g. buildings, hard landscaping. The area of each habitat type when added together must always equal the total area of the development site.

¹⁰ The calculation must be carried out in line with the methodology provided in the most current version of the Code for Sustainable Homes Guidance.



Credits Available	Criteria
1	Minor negative change: between -9 and -3
2	Neutral: between -3 and +3
3	Minor enhancement: between +3 and +9
4	Major enhancement: greater than +9

a. ecological calculation before development

- D4.8 A topographical survey has been provided by Croft Goode Architects and supplemented by habitat measurements from TEP. Table 3 below shows the area of the different habitat types pre-construction and the associated number of species per habitat type.
- D4.9 Fertile grassland is given a standard score of 11.6 species as defined in Code for Sustainable Homes guidance, therefore the site scores relatively highly prior to development due to the amount of grassland on site.

Table 3 – Ecological calculations before development

A Habit type	B Area of Habit (m ²)	C Species/m ²	D Site Score (Species x total area)
Hardstanding	38	0	0
Fertile Grassland	1133	11.6	13143
Lowland Woodland	801	9	7209
	1972		20352
Totals Site Score / Total Site Area = (20352 / 1972)			10.32

- D4.10 The ecological diversity of the site prior to development is +10.32.

b. ecological calculations after development

- D4.11 A planting plan has been provided by Croft Goode Architects and shows that under the proposed scheme layout all vegetation currently on site will be removed to facilitate the construction. Where new habitats are being created or where floral species are being planted as part of a landscape design, only those species which are native or have known attraction to local wildlife can be included in the calculations.
- D4.12 Table 4 shows the area of the different habitat types post construction and the associated number of species per habitat type.



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Table 4 – Ecological calculations after development

A Plot type	B Area of Plot (m ²)	C Species No.			D Site Score (species x plot area)
Building Footprint	474	x	0	=	0
Hardstanding	1089	x	0	=	0
Typical Garden Planting	378	x	0	=	0
Lowland Woodland	31	x	0	=	0
(1) Total site area =	1972	(2) Total			0
Totals Site Score / Total Site Area = (2)/(1) =					0.00

The ecological diversity of the site after development is 0.00.

Table 5 showing the change in ecological value prior to and post development

Total no. of species after development	Total no. of species before development	Total change in species
0.00	-	-10.32

Currently the proposed development achieves **0 Credits** under Eco 4 due to there being a negative change of over -9 native or wildlife-friendly species.

- D4.13 Up to 4 credits can be gained under Eco4. The following tables demonstrate how enhancements may be undertaken to the habitat types on site to achieve an enhanced score.

Table 6 – Ecological calculations after development (Enhanced to achieve 1 credit)

A Plot type	B Area of Plot (m ²)	C Species No.			D Site Score (species x plot area)
Building Footprint	474	x	0	=	0
Hardstanding	1089	x	0	=	0
Typical Garden Planting	278	x	0	=	0
Lowland Woodland	131	x	20	=	2620
					2620
Totals Site Score / Total Site Area =					1.33



The enhancements outlined in Table 6 above would result in a change in ecological value of -8.99. Based on this assessment 1 CSH credit could be awarded under Eco4.

D4.14 The enhancements outlined above include:

- 100m² of typical garden planting (turf only) must be converted to lowland woodland (tree, shrub and herbaceous planting).
- Areas of lowland woodland must be planted with at least 20 species which are native or of known wildlife value. See appendix 3 for guidance on recommended species. Please note this list is not exhaustive but provides an indication of species which could be included within the schedule.

D4.15 Table 7 demonstrates how further enhancements could be undertaken to achieve 2 credits under Eco4.

Table 7 – Ecological calculations post development (Enhanced to achieve 2 credits)

A Plot type	B Area of Plot (m ²)	C Species/m ²	D Site Score (Species x Plot Area)
Building Footprint	474	x 0	= 0
Hardstanding	1089	x 0	= 0
Wildlife Garden Planting	409	x 36	= 14724
Total Site Score	1972		14724
Total Site Score / Total Site Area = 7.47			7.47

The enhancements outlined in Table 7 above would result in a change in ecological value of -2.85. Based on this assessment 2 CSH credits could be awarded under Eco4.

D4.16 The enhancements outlined above include:

- All areas of soft landscaping will need to be designated as wildlife garden planting.
- All wildlife garden planting will need to include at least 36 native or wildlife-friendly species (guidance on recommended species can be found in Appendix 3, please note this list is not exhaustive but is intended only to provide an indication of species which could be included).



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D4.17 See below and Appendix 5 for further information on wildlife garden planting. TEP would review any revised landscaping drawings to assess whether habitat types in the new layout comply with recommendations made in section D4.20 and therefore can be considered to be wildlife gardens. Although not all of these criteria will need to be adhered to, the majority must be undertaken in order for areas of soft landscaping to be considered wildlife gardens.

Wildlife Garden Planting

D4.18 The characteristics of a wildlife garden can be widely interpreted as space that provides food and shelter to local fauna and is rich in structural and floristic diversity. The elements of a wildlife garden which provide benefit to local wildlife are; fruit or berry bearing plants, plants used for cover and access to water. Below is a description of how TEP believes the gardens of new residential developments can be considered wildlife gardens.

D4.19 Each garden should include features which provide both shelter and foraging opportunities, a lawn is of some wildlife value if accented by broad structured planting using native species and is planted in a manner that encourages ecological diversity e.g. no use of pesticides or insecticides.

D4.20 In urban areas wildlife gardens have the potential to encourage insects and, therefore, support local bird life. Where trees cannot be introduced into each garden the erection of a pergola or trellis with native climbers will add alternative structural diversity. The following enhancements must be undertaken within each individual garden for it to be considered wildlife friendly (see appendix 4 for an illustration of the enhancements) ;

- At least 70% of planting must be native or of known wildlife value (see appendix 3);
- To encourage structural diversity each garden should include a native tree, native hedge or pergola with trained native climbers;
- Shelter for local fauna should be provided in the form of a bat or bird box (see appendix 3);
- Foraging opportunities must be available in the form of a fruit/berry producing plant or a bird table;
- At least one planting bed should be incorporated within the garden design and this bed should range in width to encourage planting for structural diversity;
- Pesticide use such as weedkillers, insecticides, slug pellets and fungicides are to be kept to a minimum to prevent any cumulative effects within the animal food chain; and
- Good horticultural practice should be implemented within the planting scheme e.g. use peat-free composts and mulches and application of non-residual pesticides.

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D4.21 Church Raiké may have the potential to achieve 3 or 4 credits under Eco4, however this would require modifications to the scheme which are likely to prove unfavourable with both the developer and residents due to increased costs and loss of amenity space. Further information on achieving more credits will be provided on request.

D4.22 Enhancements to the development scheme will be subject to review based on amendments to the landscape scheme and the production of a planting schedule. TEP will review any landscaping proposals and planting schedules and assess whether further credits may be awarded.

Section E: Summary

E.1 Details of the development layout were made available by Croft Goode Architects additionally this information was supplemented by a site and desk based study of the site. Information provided was used to inform category 9 of the BRE's Code for Sustainable Homes Assessment.

E.2 The site occupies an area of land in Chipping near Preston. At the time of the site survey the site was dominated by fertile grassland with scrub, introduced shrub, hedgerows and hardstanding.

- E.3 Legislative issues which are relevant to this site include:
- a. **Breeding birds:** vegetation clearance must be carried out outside of the British bird breeding season (March-August) or a nesting bird check conducted beforehand. See paragraph C.19 for further details.
 - b. **Trees:** Trees and other vegetation adjacent to the site should be appropriately protected during the clearance and construction phase of works in accordance with BS5837:2005 'trees in relation to construction' and the Arboricultural Implications Assessment.
 - c. **Other protected species:** although the presence of protected species on site is unlikely, if any protected species are suspected at any time works must cease immediately and an ecologist must be contacted for advice.
 - d. **Hedgerow:** as the hedgerow along the south-western boundary has features which may mean it is classed as an 'important hedgerow' under the *Hedgerow Regulations* (1997) a hedgerow survey must be undertaken prior to removal.
 - e. **Himalayan balsam:** the Himalayan balsam on site must be dealt with in accordance with best practice measures. See section C.20-C.22 for details.

E.4 As all vegetation is to be cleared to facilitate the development, 6 CSH credits can be awarded under Eco1.





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- E.5 If all key recommendations and two of the additional recommendations are implemented within the development scheme then 1 CSH credit can be awarded under Eco2.
- E.6 As no vegetation is to be retained on site, 0 CSH credits can be awarded under Eco3.
- E.7 Based on an assessment of the current landscape scheme 0 CSH credits can be awarded under Eco4. If enhancements were undertaken in line with those described in Tables 6 and 7, a possible 2 credits may be achieved.
- E.8 From categories Eco1 to Eco4 (inclusive), based on the current information provided a total of 1 CSH credit is available to the developer provided all key recommendations and two additional recommendations (as detailed under Eco2) are implemented at the scheme.

Section F: Report Validation

Signature of validation

I confirm the information provided in this document is truthful and accurate at the time of completion.

Name of ecologist:

Signature of ecologist:

Date:

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Appendix 1:
Report Verification and Ecologist CV

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*Appendix 2:
Developable Area*

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Suggested species lists for planting schemes (native and exotic)

a) Vascular Plants (native herbs, bulbs/tuberous and grasses/sedges)

Native Herbaceous Species suitable for housing areas (grassland, borders, shade)		
Botanical Name	Common Name	Comments
<i>Achillea millefolium</i>	Yarrow	
<i>Achillea ptarmica</i>	Sneezewort	damp
<i>Ajuga reptans</i>	Bugle	shade
<i>Alliaria petiolata</i>	Garlic mustard	shade
<i>Cardamine flexuosa</i>	Wavy bitter-cress	shade
<i>Cardamine pratensis</i>	Cuckoo-flower	damp
<i>Centaurea nigra</i>	Knapweed	
<i>Eupatorium cannabinum</i>	Hemp agrimony	
<i>Filipendula ulmaria</i>	Meadowsweet	damp
<i>Galium mollugo</i>	Hedge bedstraw	
<i>Geranium pratense</i>	Meadow cranesbill	
<i>Geranium robertianum</i>	Herb Robert	shade
<i>Geum urbanum</i>	Herb Bennett	shade
<i>Glechoma hederacea</i>	Ground-ivy	shade
<i>Hypericum maculatum</i>	Imperforate St-john's-wort	
<i>Hypericum perforatum</i>	Perforate St-john's-wort	
<i>Hypericum tetrapetrum</i>	Square-stemmed St-john's-wort	damp
<i>Hypochaeris radicata</i>	Cat's-ear	
<i>Lathyrus pratensis</i>	Meadow vetchling	
<i>Leucanthemum vulgare</i>	Ox-eye daisy	
<i>Linaria vulgaris</i>	Common toadflax	
<i>Lotus corniculatus</i>	Birds-foot trefoil	
<i>Medicago lupulina</i>	Black medick	
<i>Myosotis sylvatica</i>	Wood forget-me-not	
<i>Persicaria bistorta</i>	Bistort	
<i>Plantago lanceolata</i>	Ribwort plantain	
<i>Primula vulgaris</i>	Primrose	shade
<i>Prunella vulgaris</i>	Self-heal	
<i>Pulicaria dysenterica</i>	Fleabane	damp
<i>Ranunculus acris</i>	Meadow buttercup	
<i>Rumex acetosa</i>	Common sorrel	
<i>Silene dioica</i>	Red campion	
<i>Silene vulgaris</i>	Bladder campion	
<i>Sonchus arvensis</i>	Corn sow-thistle	
<i>Stachys sylvatica</i>	Hedge woundwort	
<i>Stellaria holostea</i>	Greater stitchwort	

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Native Herbaceous Species suitable for housing areas (grassland, borders, shade)		
Botanical Name	Common Name	Comments
<i>Succisa pratensis</i>	Devil's-bit scabrous	
<i>Trifolium pratense</i>	Red clover	
<i>Trifolium repens</i>	White clover	
<i>Veronica chamaedrys</i>	Germander speedwell	shade
<i>Vicia cracca</i>	Tufted vetch	
<i>Vicia sepium</i>	Bush vetch	

Bulbs and Tuberous Species		
Botanical Name	Common Name	Comments
<i>Allium ursinum</i>	Wild garlic	shade
<i>Crocus nudiflorus</i>	Autumn crocus	Non-native
<i>Crocus vernus</i>	Spring crocus	Non-native
<i>Crocus x stellaris</i>	Dutch crocus	Non-native
<i>Galanthus nivalis</i>	snowdrop	Non-native
<i>Hyacinthoides non-scriptus</i>	Bluebell	shade
<i>Iris foetidissima</i>	Stinking iris	
<i>Iris pseudacorus</i>	Yellow flag	
<i>Muscari armeniacum</i>	Grape-hyacinth	Non-native
<i>Narcissus cultivars</i>	Garden daffodil	Non-native
<i>Narcissus pseudonarcissus</i>	Wild daffodil	
<i>Ornithogalum angustifolium</i>	Star-of-Bethlehem	Non-native

Native Grass Species and Sedges		
Botanical Name	Common Name	Comments
<i>Agrostis capillaris</i>	Common bent	
<i>Agrostis stolonifera</i>	Creeping bent	damp
<i>Alopecurus pratensis</i>	Meadow foxtail	
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass	
<i>Brachypodium sylvaticum</i>	False-brome	shade
<i>Carex flacca</i>	Glaucous sedge	damp
<i>Carex hirta</i>	Hairy sedge	
<i>Carex nigra</i>	Common sedge	damp
<i>Cynurus cristatus</i>	Crested dog's-tail	
<i>Deschampsia cespitosa</i>	Tufted hairgrass	damp
<i>Deschampsia flexuosa</i>	Wavy hairgrass	shade
<i>Festuca ovina</i>	Sheep's fescue	
<i>Festuca rubra</i>	Red fescue	
<i>Holcus lanatus</i>	Yorkshire fog	

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Native Grass Species and Sedges		
Botanical Name	Common Name	Comments
<i>Holcus mollis</i>	Creeping soft-grass	
<i>Luzula campestris</i>	Field woodrush	
<i>Melica uniflora</i>	Wood melick	shade
<i>Milium effusum</i>	Wood millet	shade
<i>Poa annua</i>	Annual meadowgrass	
<i>Poa pratensis</i>	Smooth meadowgrass	
<i>Poa trivialis</i>	Rough meadowgrass	

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b) Woody Species: North-West, Native Trees, Shrubs and Climbers

<i>Native Woody Species</i>		
Botanical Name	Common Name	Comments
<i>Alnus glutinosa</i>	Alder	
<i>Betula pendula</i>	Silver birch	
<i>Betula pubescens</i>	Downy birch	
<i>Corylus avellana</i>	Hazel	
<i>Crataegus monogyna</i>	Hawthorn	
<i>Cytisus scoparius</i>	Broom	
<i>Frangula alnus</i>	Alder buckthorn	Damp acid area
<i>Fraxinus excelsior</i>	Ash	
<i>Hedera helix</i>	Ivy	
<i>Ilex aquifolium</i>	Holly	
<i>Lonicera periclymenum</i>	Honeysuckle	
<i>Malus sylvestris</i>	Crab apple	
<i>Populus nigra betulifolia</i>	Black poplar	Not N of Ribble
<i>Populus tremula</i>	Aspen	
<i>Prunus avium</i>	Wild cherry	
<i>Prunus spinosa</i>	Blackthorn	
<i>Quercus petraea</i>	sessile oak	
<i>Quercus robur</i>	Oak	
<i>Rosa arvensis</i>	Field rose	
<i>Rosa canina</i> agg.	Dog-rose	
<i>Rosa pimpinellifolia</i>	Burnet rose	
<i>Rubus fruticosus</i>	Bramble	
<i>Rubus idaeus</i>	Raspberry	
<i>Salix caprea</i>	Goat willow	
<i>Salix cinerea</i>	Grey willow	
<i>Salix pentandra</i>	Bay willow	
<i>Salix purpurea</i>	Purple willow	
<i>Salix repens</i>	Creeping willow	
<i>Sambucus nigra</i>	Elder	
<i>Solanum dulcamara</i>	Bittersweet	
<i>Sorbus aucuparia</i>	Mountain ash	
<i>Taxus baccata</i>	Yew	
<i>Tilia cordata</i>	Small-leaved lime	
<i>Ulex europaeus</i>	Gorse	
<i>Ulmus glabra</i>	Wych elm	
<i>Viburnum opulus</i>	Guelder-rose	
Long-established exotics (Archaeophytes)		
<i>Salix alba</i>	White willow	

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<i>Native Woody Species</i>		
Botanical Name	Common Name	Comments
<i>Salix fragilis</i>	Crack willow	
<i>Salix viminalis</i>	Osier	
<i>Tilia x europaea</i>	Lime	

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c) Exotic Wildlife Friendly Species,
From "Gardening with Wildlife in Mind", English Nature, 2005

<i>Exotic Herbaceous Species suitable for attracting wildlife to housing areas</i>		
Botanical Name	Common Name	Comments
<i>Aubretia daboidea</i>	Aubretia	
<i>Monarda didyma</i>	Bergamot	
<i>Rudbeckia hirta</i>	Black-eyed Susan	
<i>Borago officinalis</i>	Botage	
<i>Primula chungensis</i>	Candelabra primula sp.	Damp areas
<i>Cynara cardunculus</i>	Cardoon	
<i>Nepeta x faassenii</i>	Catmint	
<i>Malva sylvestris</i>	Common mallow	
<i>Chrysanthemum segetum</i>	Corn marigold	
<i>Onopordion acanthium</i>	Cotton thistle	
<i>Euphorbia cyparissias</i>	Cypress spurge	
<i>Hesperis matronalis</i>	Dame's violet	
<i>Verbascum nigrum</i>	Dark mullein	
<i>Lamium orvala</i>	Dead-nettle	
<i>Foeniculum vulgare</i>	Fennel	
<i>Tanacetum parthenium</i>	Feverfew	
<i>Geranium renardii</i>	French cranesbill	
<i>Centaurea macrocephala</i>	Giant hardhead	
<i>Cephalaria gigantea</i>	Giant scabious	
<i>Echinops bannaticus</i>	Globe thistle	
<i>Solidago spp</i>	Goldenrod species	
<i>Lunaria biennis</i>	Honesty	
<i>Sedum spectabile</i>	Ice-plant	
<i>Stachys lanata</i>	Lambs lugs	
<i>Melissa officinalis</i>	Lemon balm	
<i>Pulmonaria officinalis</i>	Lungwort	
<i>Aster spp</i>	Michaelmas daisies	Single varieties only
<i>Linaria purpurea</i>	Purple toadflax	
<i>Centranthus ruber</i>	Red valerian	
<i>Geranium macrorrhizum</i>	Rock cranesbill	
<i>Mentha susvediens</i>	Round-leaved mint	
<i>Salvia officinalis</i>	Sage	
<i>Saponaria officinalis</i>	Soapwort	
<i>Scabiosa atropurpurea</i>	Sweet scabious	
<i>Symphytum tuberosum</i>	Tuberous comfrey	
<i>Lamium album</i>	White deadnettle	
<i>Achillea filipendulina</i> Gold Plate	Yarrow	

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Exotic Shrub and Tree Species suitable for attracting wildlife to housing areas

Botanical Name	Common Name	Comments
<i>Berberis x stenophylla</i>	Berberis	
<i>Ceanothus divergens</i>	Californian lilac	
<i>Caryopteris x clandonensis</i>	Caryopteris	
<i>Prunus laurocerasus</i>	Cherry laurel	
<i>Clematis tangutica</i>	Clematis species	Climber
<i>Clematis montana</i>	Clematis species	Climber
<i>Olearia macrodonta</i>	Daisy-bush species	
<i>Escallonia spp</i>	Escallonia species	
<i>Pyracantha angustifolia</i>	Firethorn	
<i>Ribes sanguineum</i>	Flowering currant	
<i>Fuchsia magellanica</i>	Fuchsia	
<i>Hebe</i> Midsummer beauty	Hebe	
<i>Leycesteria formosa</i>	Himalayan honeysuckle	
<i>Amelanchier lamarckii</i>	June-berry	
<i>Lavandula angustifolia</i>	Lavender	
<i>Choisya ternata</i>	Mexican orange-blossom	
<i>Myrtus communis</i>	Myrtle	
<i>Pyrus communis</i>	Pear	
<i>Rosmarinus officinalis</i>	Rosemary	
<i>Pinus sylvestris</i>	Scot's pine	
<i>Cotoneaster frigidus</i>	Tree cotoneaster	

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*Appendix 4:
Information on Bird Boxes*

CONTENTS

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Genesis Centre, Birchwood Science Park
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Information on Bird Boxes & Sparrow Terraces

Suppliers (prices correct as of Oct 2003):

Alana Ecology
The Old Primary School
Church Street
Bishop's Castle
Shropshire
SY9 5AE

320121011P

Tel: +44 (0)1588 630173
Fax: +44 (0)1588 630176
Email: sales@alanaecology.com

Sparrow Terrace, Stone Colour

House sparrows are gregarious and prefer to nest close to each other, so this woodcrete box provides room for three families under one roof. Made from long-lasting, breathable woodcrete. Stone colour. No maintenance required.

Dimensions 245 x 430 x 200 mm.

Weight 13kg. Designed for fixing to walls (not suitable for fences or sheds due to the weight of the box).



A02085 *Sparrow Terrace, Stone Colour* (also available in brown)
£34.00 net **£39.95 inc VAT**

Schwegler 9A House Martin Double Nest

These woodcrete nests are durable and ready for immediate use when birds return each summer. Easily fixed under the eaves on the outside walls of buildings, at least 2 metres from the ground. The backing board may be painted to match the building.



Model 9A is a double unit with two nests mounted side by side on a backing board, as shown. Model 9B is similar to the 9A above but with one single nest
A02018 *Schwegler 9A House Martin Double Nest*
£22.09 net **£26.95 inc VAT**
A02019 *Schwegler 9B Single House Martin Nest*
£12.72 net **£14.95 inc VAT**

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Schwegler 1B Bird Box, natural brown

The most popular box for garden birds, the 1B appeals to a wide range of species, and is the official nest box of National Nest Box Week. The box can be nailed to the trunk of a tree, or hung from a branch. Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance. Woodcrete, 23cm high x 16cm diameter. With standard 32mm diameter entrance hole



Up to 2) £15.28 net **£17.95 inc VAT** (3+) £14.43 net
£16.96 inc VAT

The Bird House

A decorative yet practical nest box designed for fixing to a tree trunk, wall or fence using the bracket on the back. It will attract similar species to the standard 1B box. Robust and durable Schwegler woodcrete construction



A02084 The Bird House, £22.09 net, **£5.96 inc VAT**

Gable Nest Box

A substantial wooden bird box with a gable roof and 28mm entrance hole. Made of 15mm thick softwood; external dimensions 14.5cm x 14.5cm x 26cm high (to top of gable). Suitable for the smaller garden birds.



A03008 Gable Nest Box, £8.47 net, **£9.95 inc VAT**

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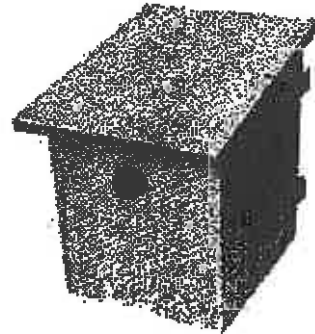
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Wooden Bird Box

A simple wooden bird box with sloping roof, suitable for the smaller garden birds. Made from substantial 2cm thick softwood. 14cm w x 18cm d x 26cm h (backplate 33.5cm h). The standard model has a 32mm diameter entrance hole attractive to a wide range of smaller garden birds.

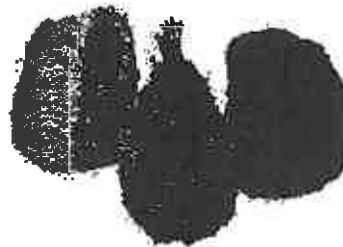
A03004 Wooden Bird Box, £8.47 net, £9.95 inc VAT



Roosting Pockets

These attractive roosting/nest pockets can be used by wild birds in autumn, winter and spring. The birds can save energy during the colder months by roosting in a sheltered place. These pockets also provide a warm nesting place in the spring for smaller birds such as wrens. Made from natural materials. The pockets have a wire at the back to fix onto a branch, or they can be stapled or nailed to a fence or trellis with plant cover. Pack of 3 assorted roost pockets (styles may vary).

A02090 Roosting Pockets, £6.77 net, £7.95 inc VAT



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Appendix 5:
Information on Wildlife Garden Planting

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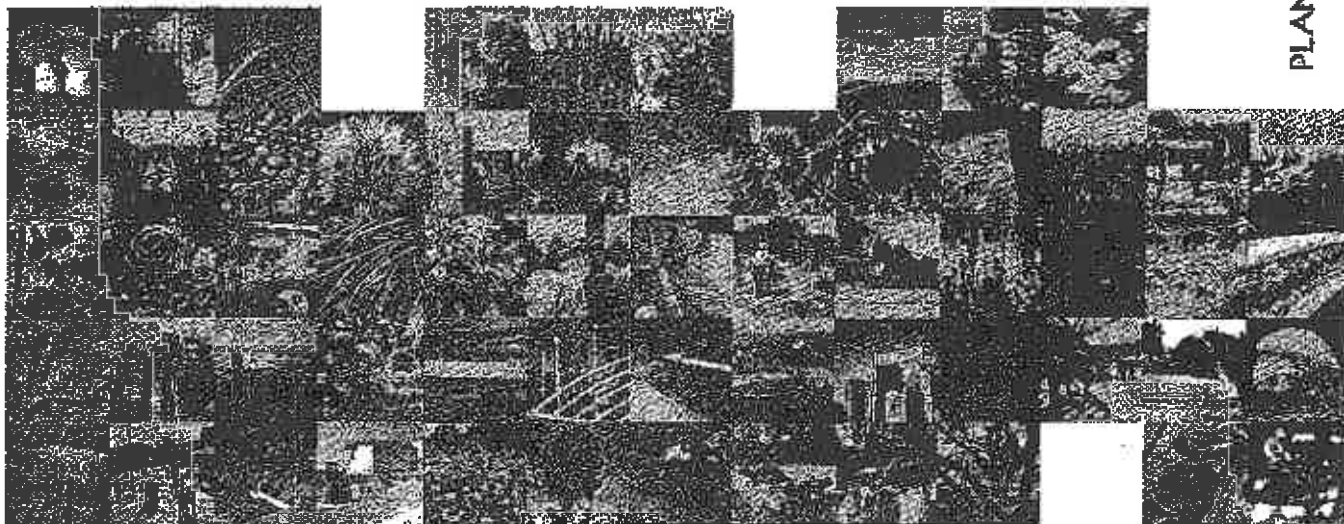
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CHURCH RAIKE, CHIPPING
ECOLOGICAL ASSESSMENT 2011
(Report Ref: 3192.003)

December 2011

For
Croft Goode Architects
4 The Crossroads
Freckleton Street
Kirkham
Lancashire
PR4 2SH

Genesis Centre
Birchwood Science Park
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Written:	Checked:	Approved:
LG	RH	RH

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4.0	RESULTS	3
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APPENDIX

Appendix A

Appendix B

Desktop Records

Phase 1 Habitat Form & Target Notes 3192.002

DRAWINGS

09-1441-F01

G.3192.001

3192.004

Proposed Site Plan (Croft Goode Architects)

Walkover Habitat survey 2011

Photographic Record

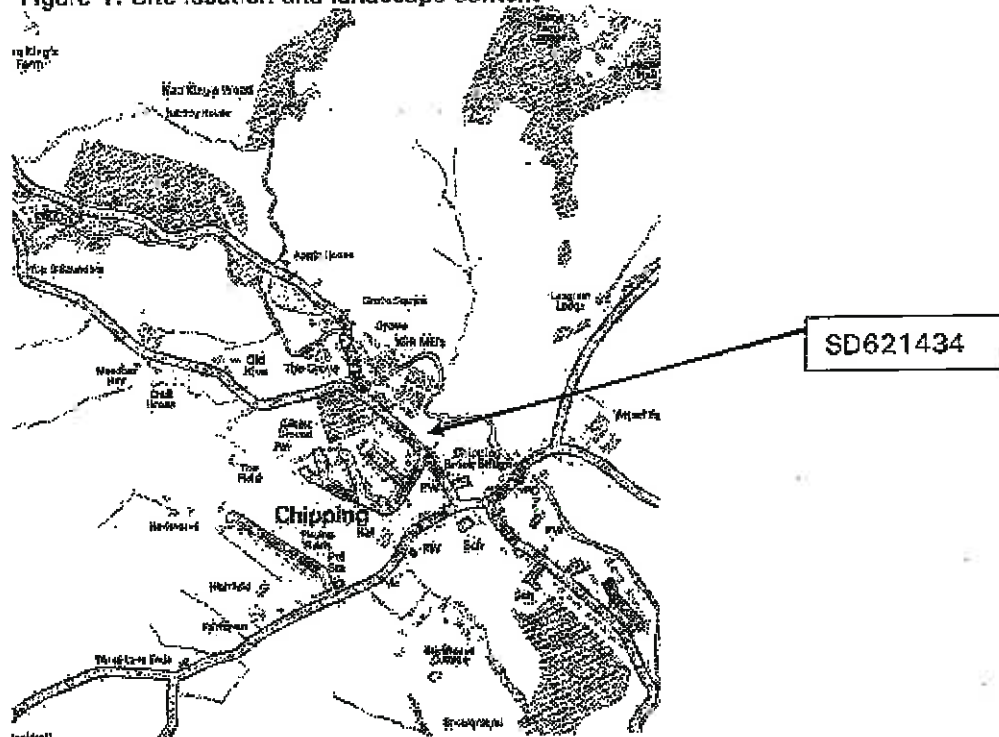
1.0 INTRODUCTION

- 1.1 TEP was commissioned in December 2011 by Croft Goode Architects to carry out an ecological assessment land at Church Raike, Chipping. Proposals for the site include the construction of eight residential buildings with associated gardens, hard surfacing and infrastructure. An access road and parking area joining Church Raike and bisecting the site is also proposed. Site proposals are illustrated in Croft Goode Drawing 09-144-F01
- 1.2 This report has the following objectives:
- to describe the existing vegetation and give an overview of the habitats present on the site;
 - to identify whether there are any features of conservation value, such as species or habitats which are legally protected or of biodiversity importance (including those habitats prioritised in the UK Biodiversity Action Plan (BAP) or the Local BAP);
 - to advise of further surveys or mitigation requirements that might be needed prior to proposed works.

2.0 SITE CONTEXT

- 2.1 The site is located in the village of Chipping, Lancashire; grid ref SD821434. The surrounding landscape comprises areas of residential housing and agricultural land, with light industry to the north-east. The survey area consists of the land shown edged in red on Drawing G3192.001.
- 2.2 The boundaries of the site approximately form a rectangle and orientated north-east to the south-west. The south-west boundary is formed by Church Raike (Road). A fenced boundary to the north-west abuts tree-covered slopes along the north and east of the site. Fences enclose the site on its eastern boundary, beyond which lies a large factory adjacent to a stream. A track and area of rough ground form the south-east boundary and separate the site from the adjacent properties beyond.
- 2.3 The topography of the site generally slopes to the north-east. The hedgerow that runs along the majority of the south-western boundary is on a raised bank which slopes down to road level. The site is currently not used.
- 2.4 The survey area consists of the land shown edged in red on Drawing G3192.001.

Figure 1: Site location and landscape context



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3.0 METHODS

Desktop Study

- 3.1 Information regarding protected sites was gathered from Natural England and Magic Map: Multi-Agency Geographic Information for the Countryside. Information regarding protected species and habitats and species of local and national conservation priority was gathered from Lancashire Environment Record Network, the National Biodiversity Network Gateway and the UK Biodiversity Action Plan (BAP).

Field Survey

- 3.2 A walkover survey was carried out by Lee Greenhough on 29th November 2012. However, it is acknowledged that November is outside the optimum vegetation survey season and therefore some vascular plant species in accordance with JNCC Phase 1 habitat survey methodology (JNCC 2007) may not have been apparent at the time of survey. In all other aspects, the survey was completed in accord
- 3.3 All habitats were assessed for their potential to support protected species, particularly statutorily protected species or BAP priority species.

4.0 RESULTS

Designated Sites

- 4.1 No nationally or internationally designated wildlife sites are located within or adjacent to the survey site. Lancashire County Biological Heritage Sites (BHS) Clarke House Farm Pasture, Lumpy Pasture and Nan's King Pasture are located 0.28km, 0.35km and 0.79km north-west of the survey site respectively Appendix A.
- 4.2 The Ribble Valley District wide Local Plan was adopted in 1998. A Saved Policies Local Plan has now been issued. Information collated from the proposals plan and the saved policies plan is presented in Appendix A. There are no ecology policies that effect the site. The habitat survey is illustrated at Drawing G3192.001.

Habitats and Flora

- 4.3 Further details of the habitats and target notes providing species list are presented at Appendix B.
- 4.4 The survey site is comprised predominantly of species poor improved grassland vegetation dominated by cock's-foot (*Dactylis glomerata*), with creeping thistle (*Cirsium arvense*) nettle (*Urtica dioica*), false oat-grass (*Arrhenatherum elatius*) and low-lying patches of bramble scrub (*Rubus fruticosus agg*) (Appendix B T3, Drawing 3192.004, picture 1, 2).
- 4.5 A species poor hedgerow lies along the west boundary adjacent to the road atop a bank. The hedge includes hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), ash (*Fraxinus excelsior*) and ivy (*Hedera helix*) throughout. A species poor flora verge of nutrient species is associated with the hedge. Species include nettle and Yorkshire fog (*Holcus lanatus*) (Appendix B T2, Drawing 3192.004 picture 3).
- 4.6 A defunct species poor hedge hawthorn hedge lies along part of the north east boundary.
- 4.7 A patch of dense blackthorn (*Prunus spinosa*) scrub abuts the hedgerow and spreads into the field. A dense L-shape strip of scrub dominated by garden privet (*Ligustrum ovalifolium*), which also contains blackthorn and bramble is located in the south of the survey site adjacent to a dilapidated shed. (Appendix B T1, Drawing 3192.004, picture 4, 9).
- 4.8 There are number of trees located around the survey site boundary including ash, hawthorn and oak (*Quercus robur*). Three trees noted within the site were ash (west boundary), sycamore (*Acer pseudoplatanus*) (north-west corner) and hawthorn (north boundary).

- 4.9 Along the boundary of the north-east corner of the survey site there is a strip of tall ruderal herbs. It is unmanaged and has been allowed to become rank. Creeping thistle is the most dominant species present (Appendix B TN4, Drawing 3192.004, picture 8).

Invasive Species

- 4.10 Himalayan balsam (*Impatiens glandulifera*) was recorded in small amounts through the grassland of the site (T3). Himalayan balsam invasive non-native species listed under Schedule 9 of the Wildlife and Countryside Act (1981) (as amended).

Fauna

- 4.11 Desktop survey (Appendix A) shows records for Lancashire BAP species brown hare 400m north of the survey site.
- 4.12 Records for Lancashire BAP (provisional long list) species common frog is shown approximately 520m to the north of the survey site. There are no ponds shown on the OS 1:25,000 map of the area within at least 470m of the site.
- 4.13 The broadleaved trees, hedgerow and scrub within the survey site provide potential habitat for nesting birds.
- 4.14 The shed situated within the survey site, is not considered to provide potential for roosting bats as it is in a poor state. The roof is damaged and exposed to the elements. The trees within the site so no features suitable for supporting roosting bats.
- 4.15 The site is approximately 40m from Chipping Brook which lies to the north-east of the site at the base of a slope. No evidence of water vole or otter was recorded.
- 4.16 No evidence of any other protected species was identified within the site during the site survey.

5.0 CONCLUSIONS & IMPLICATIONS

- 5.1 Habitats within the site are common to the local area and of limited botanical value. There are no overriding ecological factors present that would preclude future development at this site.
- 5.2 No internationally or nationally designated wildlife sites will be affected by the proposed works.
- 5.3 Lancashire County Biological Heritage Sites, Clarke House Farm Pasture, Lumpy Pasture and Nan's King Pasture are privately owned. The proposed development will not have an effect on the sites. There is no connectivity to these sites from the survey site.
- 5.4 All the native hedgerows within the site qualify as UKBAP habitat and could be of material consideration for the planning application.



- 5.5 The hedgerow adjacent to the road may satisfy criteria for 'Important' status under the *Hedgerow Regulations* (1997). No assessment could be undertaken as part of this survey due to seasonality. However the hedge is associated, has a supporting bank, has four woody species, standard trees, and less than 10% gaps and connected with other hedgerows.
- 5.6 Any loss of native hedgerow should be addressed through increased provision of species-rich native hedgerow within the site. New hedgerows should create green links between existing hedgerows. The defunct hedgerow to the north could be gap planted and extended.
- 5.7 Brown hare has been recorded 400m north of the site and is associated with arable and field margin habitat of the type found within the agricultural land to the north of the site. The less favourable habitat found within the site, the small size and fenced boundaries of the survey site, together with its immediate proximity to the residential area of Chipping indicate that the survey site is unlikely to provide suitable habitat for brown hare.
- 5.8 Removal of the scrub species and tall herb within the survey site, which provide potential habitat for nesting and foraging birds, will be needed facilitate the development.
- 5.9 Nesting birds are protected under the *Wildlife and Countryside Act 1981 (as amended)*. There is no provision under the licensing system for disturbance/destruction of nests to facilitate development. Any removal of vegetation should be undertaken outside of the nesting bird season (March - August inclusive). If this is not possible a pre-clearance check should be made by an ecologist on the day of removal.
- 5.10 A landscaping scheme which maximises native species and wildlife friendly species, particularly seed, nectar and berry producing species, will offer foraging opportunities for birds
- 5.11 It is recommended that the proposed works include a landscaping scheme which maximises a native and wildlife friendly species will assist in offsetting the loss of existing habitats through the creation of higher value and more diverse habitats in the finished site.
- 5.12 Enhancement features such as trellising planted with native climbers such as honeysuckle or ivy, and the provision of bird boxes or bat boxes may also provide valuable habitat opportunities in the final landscape (Appendix C).
- 5.13 Himalayan balsam, an invasive species (listed on Schedule 9 of the *Wildlife and Countryside Act 1981 (as amended)*) is present within the part of the proposed development area, within the grassland to the north of the site. If left unmanaged it would out-compete native flora and become the dominant ground-flora. If the site is to be developed, earthworks are likely to spread the plant, which could result in an offence under the WCA.
- 5.14 If control of Himalayan balsam is possible within enhancement measures to contribute to the redevelopment of the site, it is recommended that prior to the

development the balsam is cut back using mechanical methods or pulled out by hand. If strimming is used as a method of control, the plants should be cut as close to ground level as possible between May and June, prior to plants seed.

- 5.15 It is likely that extensive patches of balsam may take years to eradicate, due to the seed bank that may have established. This might be reduced by removing the topsoil from areas that had dense infestations.

6.0 REFERENCES & FURTHER READING

JOINT NATURE CONSERVATION COMMITTEE (2003) *Phase 1 Habitat Survey*. JNCC, Peterborough

OFFICE OF THE DEPUTY PRIME MINISTER (2005) *Planning Policy Statement 9: Geological and Biological Conservation* HMSO, Norwich

STACE, C. A. (2010) *Flora of the British Isles, 3rd ed.* Cambridge University Press



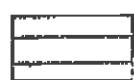



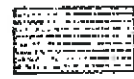



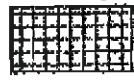



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**APPENDIX A
DESKTOP RECORDS**

SHEET 6

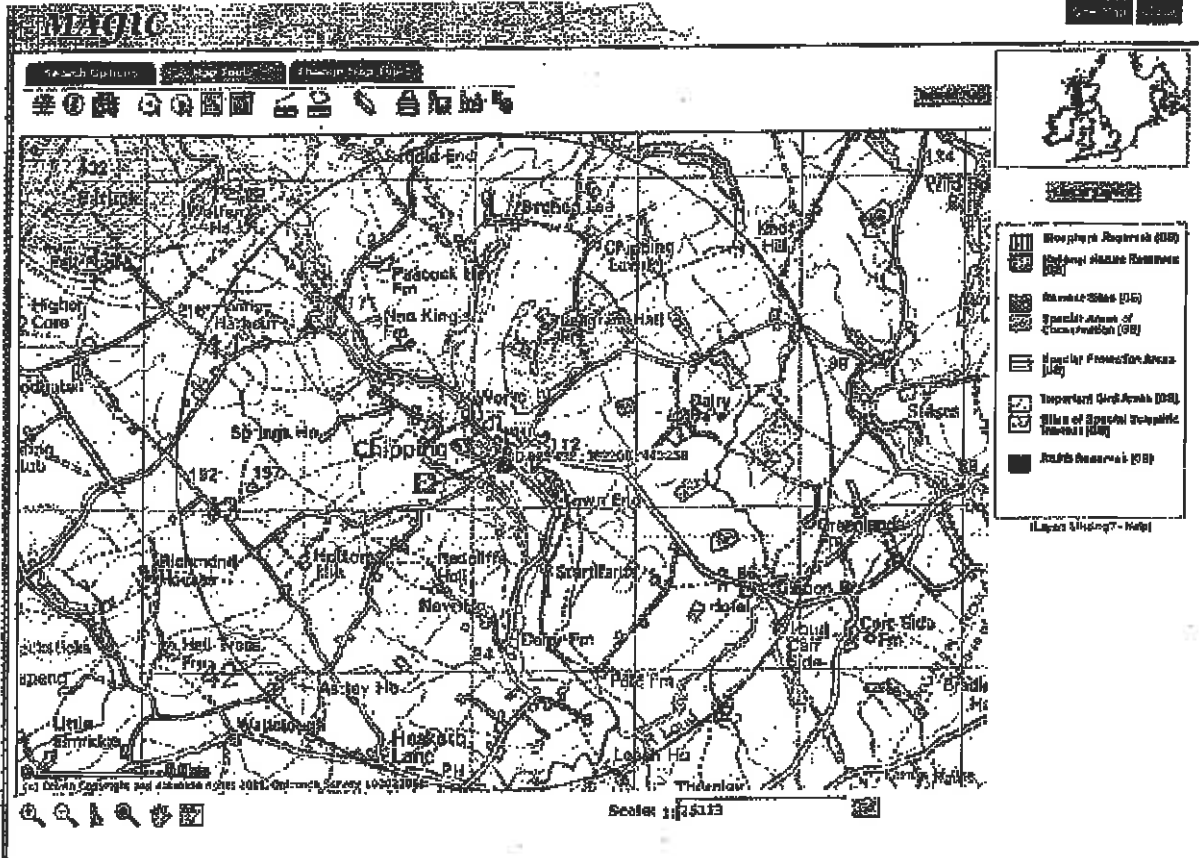
Ribble Valley
Districtwide Local Plan
Adopted June 1998

-  Village boundary. Policy G4
-  Land outside main settlement / village boundaries. Policy G5
-  Essential open space. Policy G6
-  Flood risk area. Policy G7
-  Area of outstanding natural beauty. Policy ENV1
-  Open countryside. Policy ENV3
-  Sites of special scientific interest. Policy ENV8
-  County biological heritage sites. Policy ENV9
-  Scheduled ancient monument. Policy ENV14
-  Conservation area. Policy ENV16
-  Housing land allocation. Policy H1
-  Public open space in recreational use. Policy RT10
-  Land safeguarded for possible station development. Policy T10
-  Lancashire cycleway (N) north (S) south. Policy T12

Other Local Plan policies, not indicated above, apply across the whole area or to specific types of development.



320121011P





Site Check Report
Report generated on December 13 2011.

You clicked on the point:
Grid Ref: SD 622 432
Full Grid Ref: 362200 , 443258

The following features have been found within 2,000 metres of your search point:

Counties, Metropolitan Districts and Unitary Authorities (GB)

Name	Geographic Level
LANCASHIRE COUNTY	

NUTS1 - Government Office Regions (GB)

Name	Reference	Hotlink
NORTH WEST	UKD	http://www.crs.gov.uk/crs/guide-method/geography/regions/guide/regions/north-west/index.html

National Cycle Network (GB)

There are no features within your search area.

Biosphere Reserves (GB)

There are no features within your search area.

National Nature Reserves (GB)

There are no features within your search area.

Ramsar Sites (GB)

There are no features within your search area.

Special Areas of Conservation (GB)

There are no features within your search area.

Special Protection Areas (GB)

There are no features within your search area.

Important Bird Areas (GB)

Site reference	Name	Description
560127	FOREST OF BOWLAND	THE FOREST OF BOWLAND FORMS A WESTERN OUTLIER TO THE PENNINES, WITH GENTLE SLOPES AND LEVEL GROUND ON RIDGES. FAST-FLOWING STREAMS DRAIN AN EXTENSIVE AREA OF UPLAND MOORLAND AND BLANKET MIRE, AND PTERIDIUM AQUILINUM MAY DOMINATE ON LOWER GROUND.

Sites of Special Scientific Interest (GB)

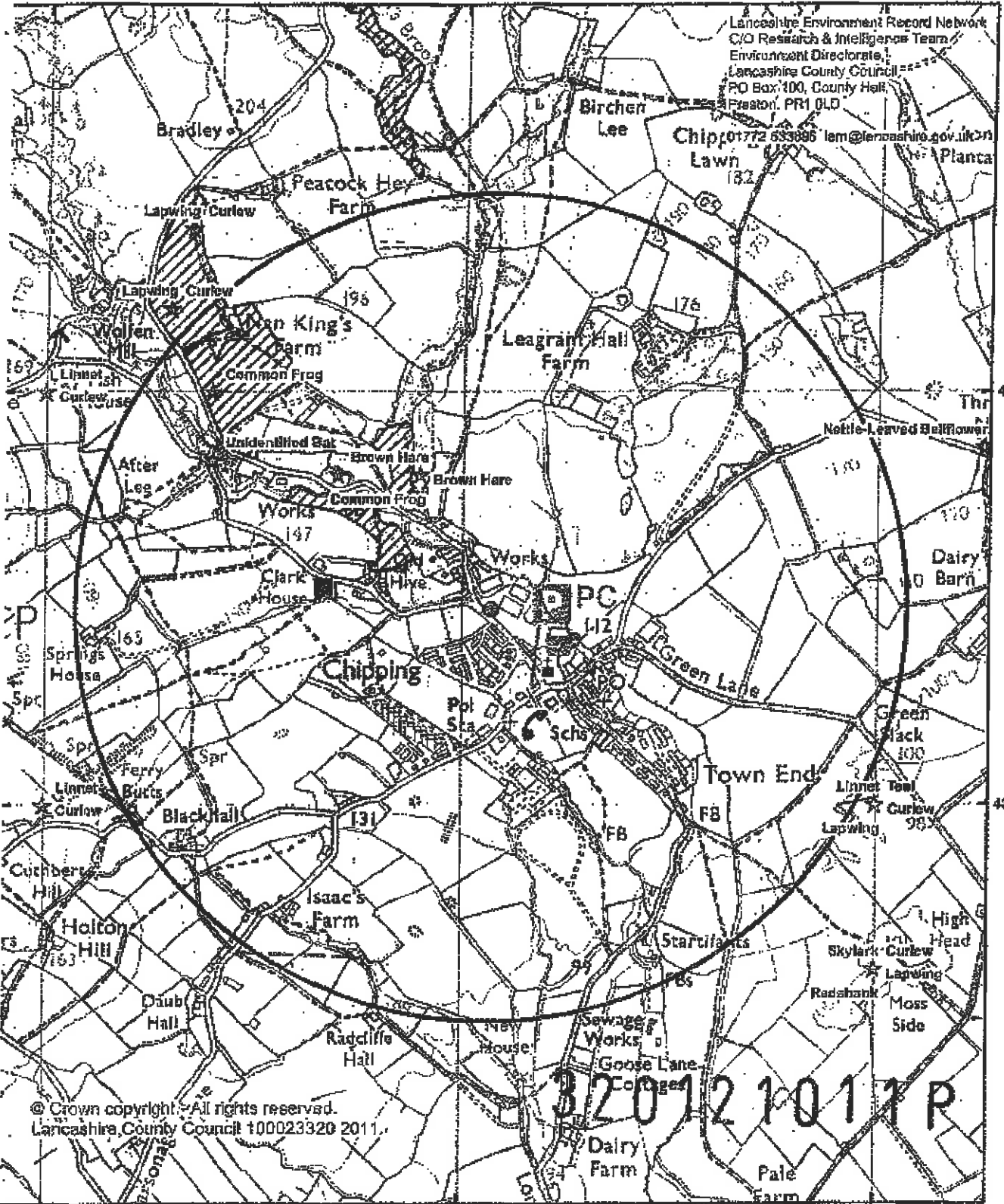
There are no features within your search area.

RSPB Reserves (GB)

There are no features within your search area.

To save the report, select "Save" or "Save As" from the File menu. You should save the file with a .html extension and give it a name of your choice.
You can then open your report using your web browser software.





[Print Report](#) | [Close Window](#)




Lancashire Environment Record Network
 C/O Research & Intelligence Team
 Environment Directorate,
 Lancashire County Council
 PO Box 100, County Hall
 Preston, PR1 0LD

Chipping 01772 633886 lem@lancashire.gov.uk

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-  Chipping
-  Chipping 1km Buffer
-  Lancashire BAP Provisional Loag List
-  Biological Heritage Sites

 1:12,000 Date: 06/12/2011

LERN



Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
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Site Name: Lumpy Pasture

Site Ref: 64SW08

Approved: 01 January 2003

Area (ha): 1.14

Date written/fast updated: 01 March 2003

Grid Ref: SD618438

Owner/Occupier: Private

Districts:

Ribble Valley

Parishes:

Chipping

Description:

The site comprises a field of semi-natural neutral grassland managed as pasture. It lies on steep uneven ground along the west side Dobson's Brook on the north western edge of Chipping village.

The grassland is species-rich and supports a rich assemblage of plants. The sward is dominated by sweet vernal-grass and crested dog's-tail with frequent red fescue and Yorkshire fog. Frequent herbs include pignut, common bird's-foot trefoil, ribwort plantain, common sorrel, red clover, white clover and field wood-rush. Occasional species include yarrow, bugle, angelica, cuckooflower, common knapweed, common mouse-ear, marsh thistle, meadowsweet, wild strawberry, heath bedstraw, cat's-ear, meadow vetchling, ragged-robin, yellow pimpernel, mouse-ear hawkweed, tormentil, primrose, selfheal, lesser celandine, lesser stitchwort, marsh valerian, germander speedwell, heath speedwell, compact rush and hard rush.

Alder, hawthorn and blackthorn occur along the brook together with bluebell, wood-sorrel, ramsons, onchanter's nightshade, yellow pimpernel and opposite-leaved golden-saxifrage. Scattered trees and scrub - mainly alder, ash, sycamore, hawthorn and gorse - are present in parts of the pasture.

Guideline(s) for Site Selection:

Grassland (Gr3)

Other Information/Comments:

Lowland hay meadow, which includes species-rich neutral grassland, is a priority habitat in the UK Biodiversity Action Plan.

9170511138

Lancashire County Heritage Sites

Biological Heritage Site

Lumpy Pasture



Site Boundary

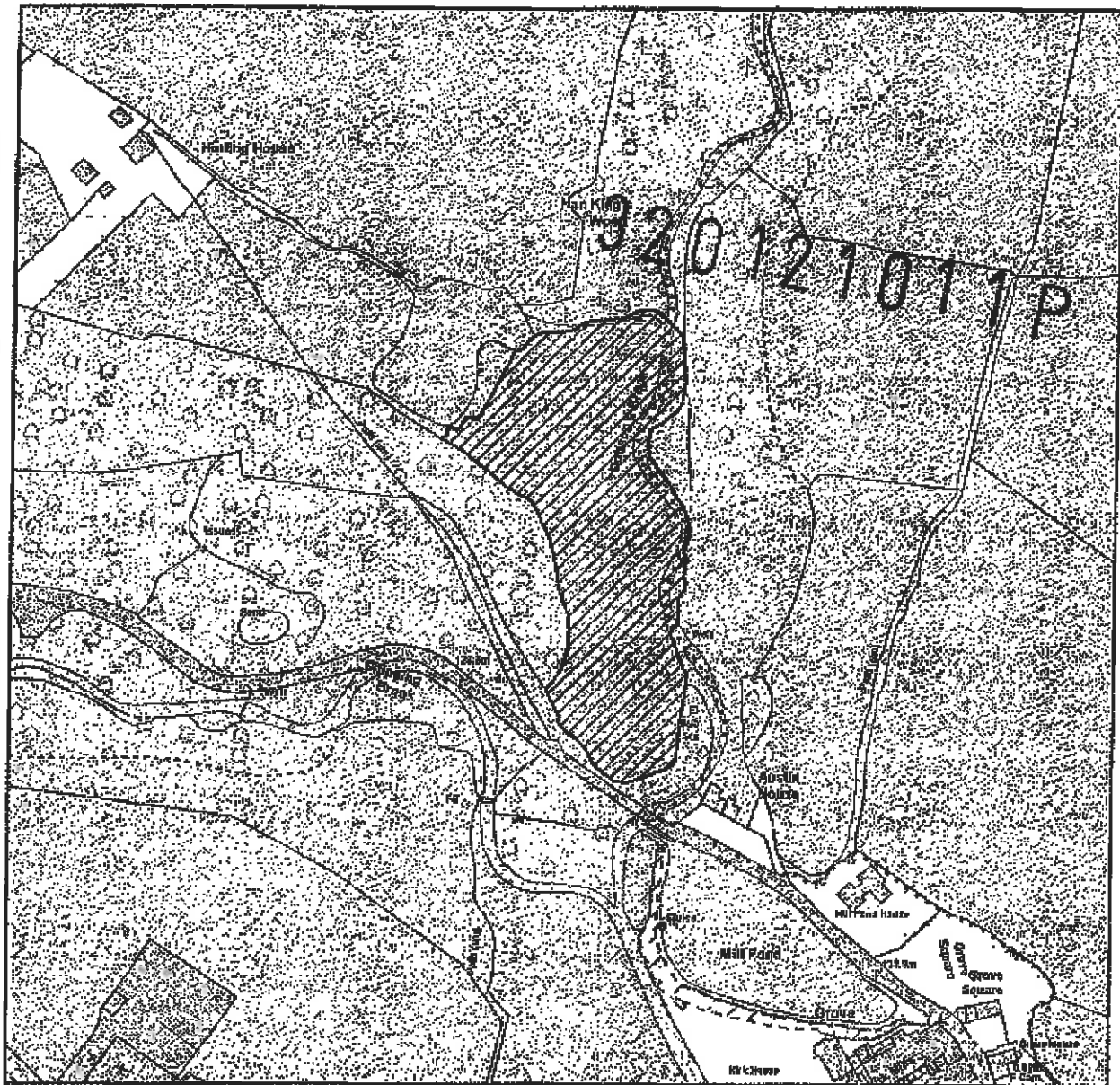
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Ref No. 64SW08

Biological Heritage Sites Partnership

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 Manchester and North Merseyside
 Natural England



Grid ref. SD618437

Scale 1:2,470

Site approved

Map 1 of 1

Boundary revised

Date of Map 08/12/11



Lancashire
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Lancashire County Heritage Sites

Biological Heritage Site

Biological Heritage Sites
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Site Name: Nan King's Grasslands

Site Ref: 64SW01

Approved: 01 September 1993

Area (ha): 8.65

Date written/last updated: 01 March 2003

Grid Ref: SD614440

Owner/Occupier: Private

Districts:
Ribble Valley

Parishes:
Chipping

Description:

The site comprises two fields of species-rich, semi-natural neutral grassland situated approximately 1 km north west of the village of Chipping, along the east side of Malt Kiln Brow.

The northern field, known as Top Field, supports a diverse assemblage of plants, especially at the far northern end. The sward is dominated by grasses including crested dog's-tail, sweet vernal-grass, Yorkshire fog, meadow fescue, and Timothy. Herbs include common knapweed, meadow vetchling, common bird's-foot-trefoil, field woodrush, cuckooflower, common mouse-ear, ribwort plantain, creeping and meadow buttercup, common sorrel, red and white clover and thyme-leaved speedwell. The field supports some wet rutchy areas with frequent sedges including common sedge, carnation sedge, hairy sedge and brown sedge and a variety of herbs such as ragged-robin, greater bird's-foot-trefoil, marsh bedstraw, marsh marigold, snowsawort, lesser spearwort and meadowsweet. Additional species found at the northern end of the field include ragged-robin, angelica, cat's-ear, selfheal and quaking grass. Adder's tongue has been recorded here in the past just north of the pond which is now overgrown with willow and common reedmace.

The southern field, known as Front Meadow, is dominated by sweet vernal-grass, crested dog's-tail and Yorkshire fog with abundant creeping and meadow buttercup, red and white clover and common sorrel together with occasional bugle, marsh marigold, ragged-robin, cat's-ear, meadow vetchling, common bird's-foot-trefoil, ribwort plantain and selfheal. The most species-rich areas are found at the southern end of the meadow.

The site also includes a small bank of semi-natural pasture grassland bordering the road at SD 614438. Species present here include common knapweed, pignut, meadow vetchling, common bird's-foot-trefoil, cuckooflower, ribwort plantain, common sorrel and field woodrush. The bank is part of a field, the rest of which now comprises more improved grassland.

Curlew and lapwing breed regularly in the fields.

Guideline(s) for Site Selection:

Grassland (Gr3)

Other Information/Comments:

Lowland hay meadow is a priority habitat in the UK Biodiversity Action Plan.
The name of the site was changed in 01/03 from Nan King's Farm Meadows to Nan King's Grasslands.
The boundary of the site was modified in 01/03.

Lancashire County Heritage Sites

Biological Heritage Site

Nan King's Grasslands



Site Boundary

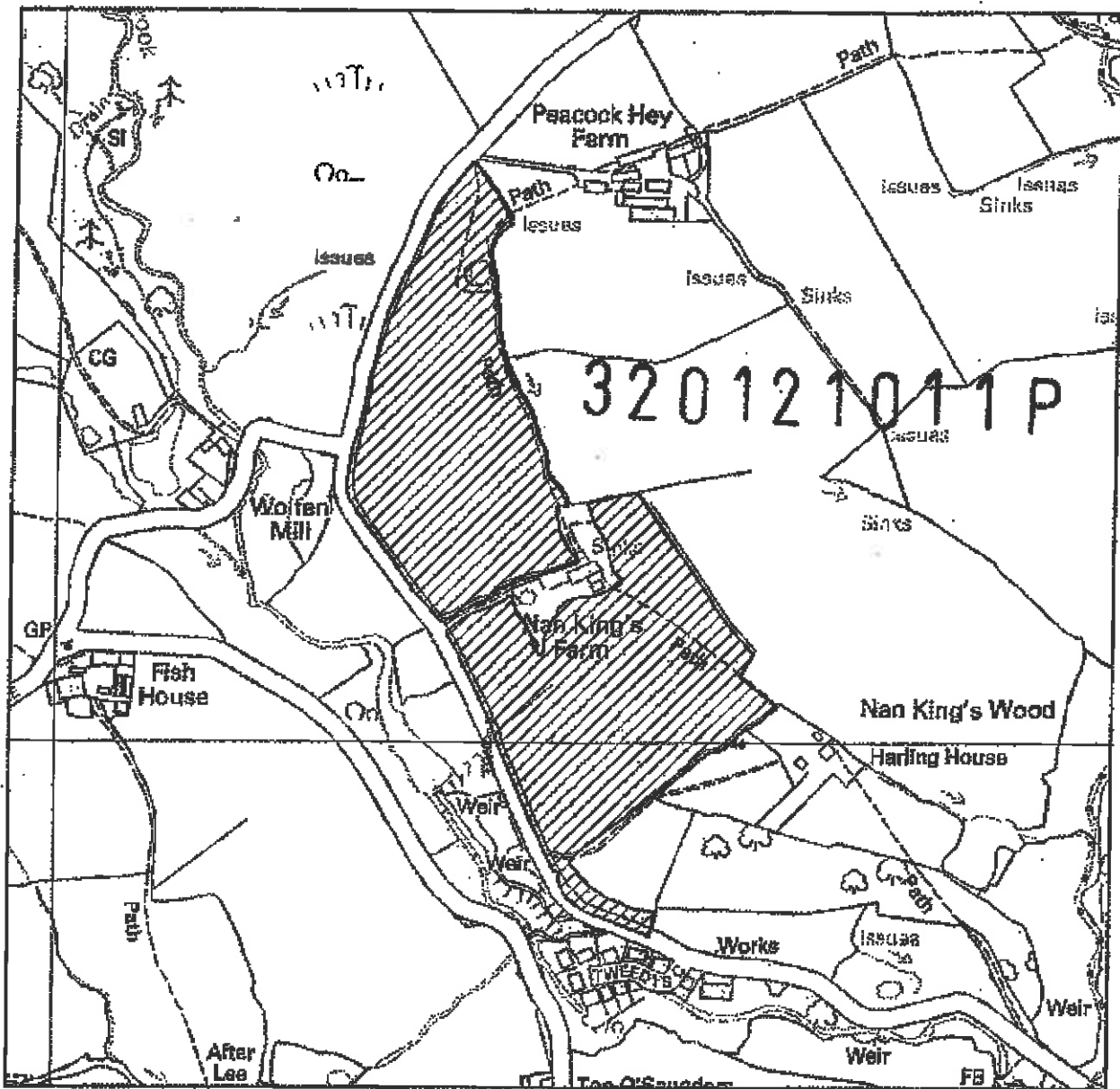
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Grid ref. SD614438

Scale 1:4,970

Site approved

Map 1 of 1

Boundary revised

Date of Map 06/12/11



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Lancashire County Heritage Sites

Biological Heritage Site

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Site Name: Clark House Farm Pasture

Site Ref: 64SW10

Approved: 01 January 2006

Area (ha): 1.91

Date written/last updated: 01 February 2006

Grid Ref: SD617437

Owner/Occupier: Private

Districts: Ribbles Valley
Parishes: Chipping

Description:

The site comprises semi-natural neutral grassland lying on steeply sloping ground adjoining Chipping Brook, approximately 0.5km north west of the village of Chipping. It is managed as pasture.

The grassland supports a rich assemblage of plants. Frequent species include Crested Dog's-tail, Sweet Vernal-grass, Yorkshire-fog, Common Bistort, Bugle, Lesser Stitchwort, Greater Bird's-foot-trefoil, Selfheal, Germander Speedwell, Red Clover and Soft-rush. Occasional species include Great Burnet, Common Knapweed, Pignut, Lady's-mantle, Cat's-ear, Meadow Vetchling, Devil's-bit Scabious, Brooklime, Meadowsweet, Bluebell, Common Sorrel, Heath Bedstraw, Tormentil, Cuckoo-flower, Wild Angelica, Yarrow, Common Vetch, Ribwort Plantain, Field Wood-rush, Hard Rush, Sharp-flowered Rush, Hairy Sedge, Marsh Foxtail, Meadow Foxtail, Tufted Hair-grass, Creeping Bent, Cock's-foot and Ryegrass.

Scattered copses, trees and shrubs occur in places on steep banks and alongside the brook. Species present include Alder, Ash, Rowan, Sycamore, Hazel, Hawthorn, Holly, Elder, Dog-rose and Blackthorn with occasional Bramble, Honeysuckle, Ivy, Wood-sorrel, Yellow Pimpernel, Primrose, Opposite-leaved Golden-saxifrage, Wood Avens, Violet, Herb-Robert and Hart's-tongue.

Guideline(s) for Site Selection:

Grassland (Gr3)

Other Information/Comments:

Lowland hay meadow, which includes species-rich pasture, is a priority habitat in the UK Biodiversity Action Plan.

Lancashire County Heritage Sites

Biological Heritage Site

Clark House Farm Pasture



Site Boundary

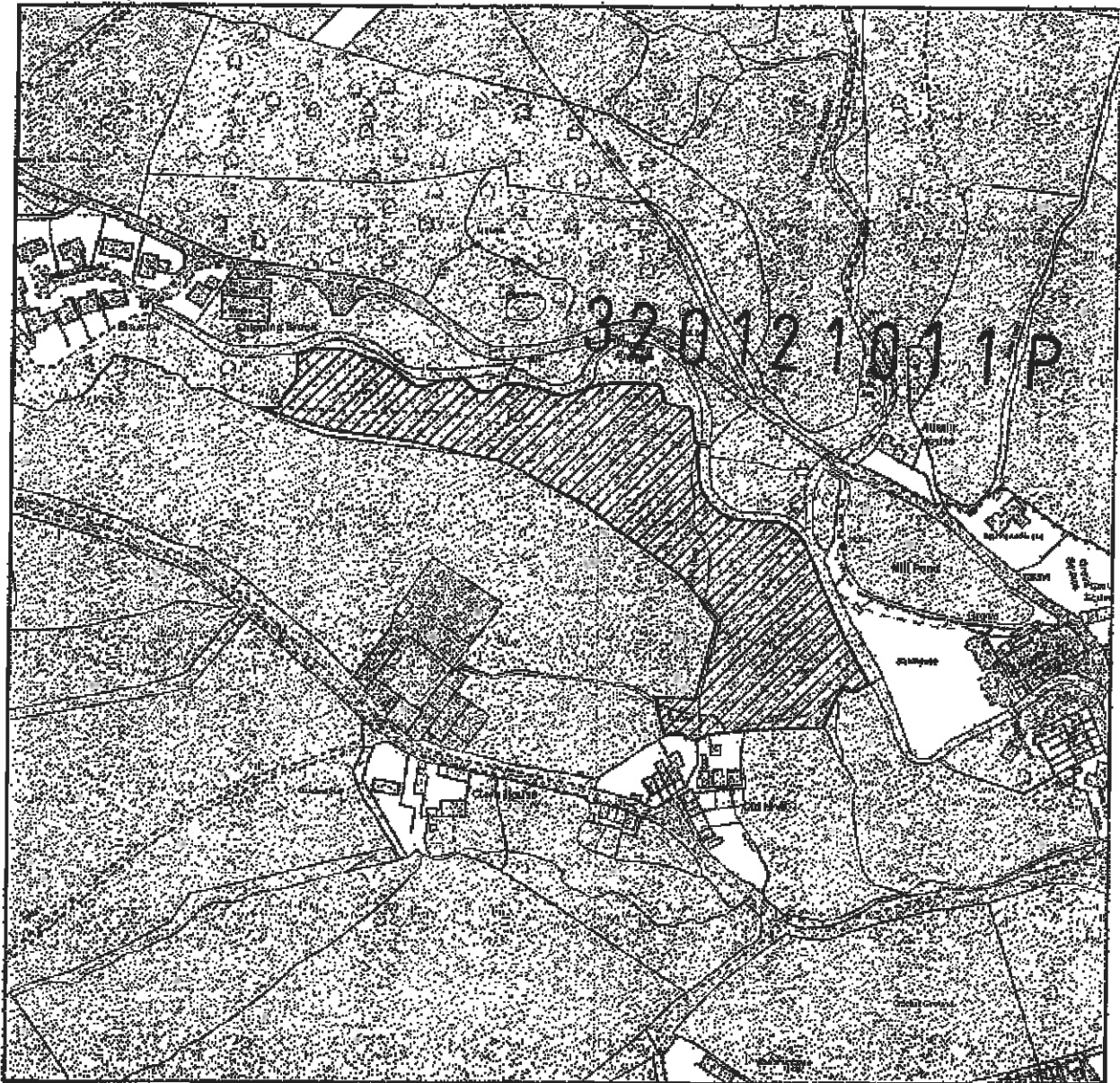
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Grid ref. SD617437

Scale 1:3,070

Site approved

Map 1 of 1

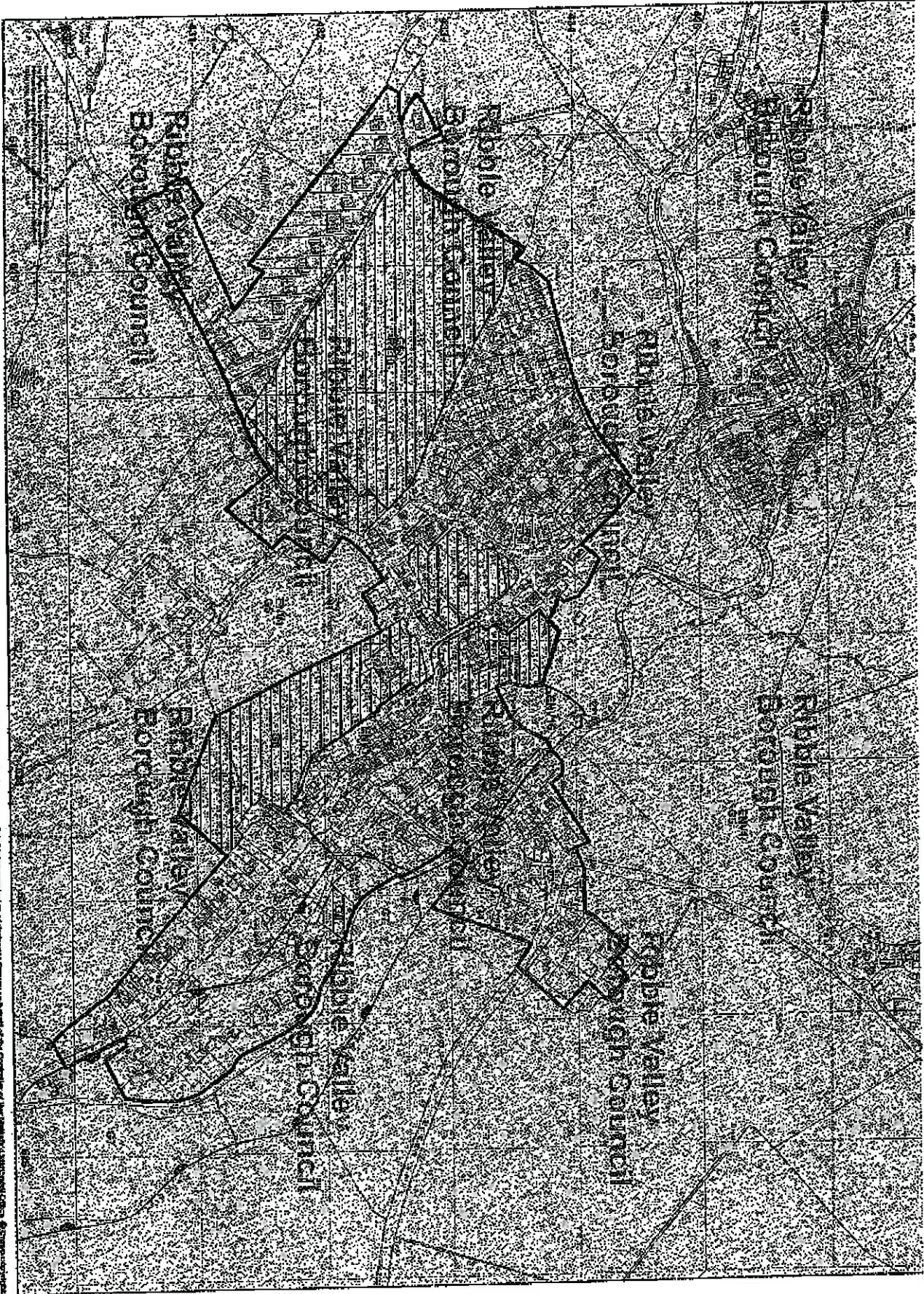
Boundary revised

Date of Map 06/12/11



Lancashire
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Inset 8. Chipping 1:2,500

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**APPENDIX B
TARGET NOTES**



1.0 GENERAL DETAILS

Site Name	Church Raikes, Chipping		
Job Number	3192	Doc. Ref.	3192.002
Site Location	Land off located Church Raikes, Chipping		
Date(s)	29/12/2011		
Surveyor(s)	Lee Greenhough		
Weather	Dry and cold		
Seasonal Constraints	The survey was undertaken outside the optimum survey period		
Methods	JNCC Phase 1 Habitat Survey		
Drawing Ref:	G3192.001		

2.0 PRE-EXISTING DATA FOR SITE

Source	Ecological data	Location relevant to site
Magic map	Designated Sites	None within 2km
LERN	Protected Sites	Within 0.5km: Brown hare (1998) Common frog (2000) Within 1km
Ribble Valley Districtwide Local Plan Adopted	Ribble Valley Districtwide Local Plan Adopted	N/A

3.0 HABITAT SURVEY RESULTS

3.1 Habitat descriptions

Habitat Type	Description & location within site	Protection/Status	Target/Notes
Dense scrub	A large section of blackthorn (<i>Prunus spinosa</i>) scrub runs along the western boundary. In the southern corner (T5) is a dense strip of privet (<i>Ligustrum ovalifolium</i>) with occasional blackthorn and bramble (<i>Rubus fruticosus agg.</i>)		T1
Species poor hedgerow	The site is bounded on west located by the road, by a species poor hedgerow atop a low bank which is intact and unmanaged. The hedge shows signs of previously being managed and now as been allowed to increase in height. The sides are managed for road clearance. The hedge provides a screen to the site and the buildings beyond for the houses opposite. The hedgerow provides foraging and	UK BAP	T2

Habitat Type	Description & location within site	Protection/Status	Target Note(s)
	nesting opportunities for birds. The hedge includes hazel (<i>Corylus avellana</i>), hawthorn (<i>Crataegus monogyna</i>), ash (<i>Fraxinus excelsior</i>) and ivy (<i>Hedera helix</i>) throughout. A species poor flora verge of nutrient species is associated with the hedge. Species include nettle (<i>Urtica dioica</i>) and Yorkshire fog (<i>Holcus lanatus</i>).		
Broad-leaved trees	A number of trees are located around the site boundary ash, hawthorn and oak (<i>Quercus robur</i>). Three trees were noted within the site ash, sycamore (<i>Acer pseudoplatanus</i>) and hawthorn.		
Species poor semi-improved grassland	Small parcel of species poor improved grassland, which has previously been grazed by sheep. The grass is now unmanaged and been allow growing rank. The habitat is being encroached by the blackthorn scrub and tall ruderal herbs. Species recorded include Yorkshire fog (<i>Holcus lanatus</i>), cocksfoot (<i>Dactylis glomerata</i>) and creeping thistle (<i>Cirsium arvense</i>). Himalayan balsam (<i>Impatiens glandulifera</i>) was recorded here.		T3
Tall ruderal herb	Tall ruderal herbs and tussock grasses along the south west boundary. It is unmanaged and has been allowed to become rank.) Creeping thistle is the most dominant species present. The tall ruderals border a area of bare ground with refuge piles.		T4

3.2 Target Notes

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T1 Dense scrub which abuts the hedgerow in the west of the site.

Blackthorn	(<i>Chamerion angustifolium</i>)	(D)
Bramble	(<i>Rubus fruticosus</i> agg.)	(F)
Broad-leaved Dock	(<i>Rumex obtusifolius</i>)	(F)
Nettle	(<i>Urtica dioica</i>)	(F)
Creeping Thistle	(<i>Cirsium arvense</i>)	(O)
Yorkshire Fog	(<i>Holcus lanatus</i>)	(O)
False Oat-grass	(<i>Arrhenatherum elatius</i>)	(R)

T2 Species poor hedgerow in the west along road (Church Raike)

Blackthorn	(<i>Chamerion angustifolium</i>)	(A)
Hazel	(<i>Corylus avellana</i>)	(F)
Hawthorn	(<i>Crataegus monogyna</i>)	(F)
Nettle	(<i>Urtica dioica</i>)	(O)
Bramble	(<i>Rubus fruticosus</i> agg.)	(O)
Ash	(<i>Fraxinus excelsior</i>)	(O)
False Oat-grass	(<i>Arrhenatherum elatius</i>)	(O)

Phase 1 Habitat Survey Record: 2011

Ivy	<i>(Hedera helix)</i>	(O)
Sycamore	<i>(Acer pseudoplatanus)</i>	(R)
Yorkshire Fog	<i>(Holcus lanatus)</i>	(R)

T3 Species poor semi grassland across the site

Yorkshire fog	<i>(Holcus lanatus)</i>	(D)
Cock's-foot	<i>(Dactylis glomerata)</i>	(A)
Creeping thistle	<i>(Cirsium arvense)</i>	(F)
False Oat-grass	<i>(Arrhenatherum elatius)</i>	(O)
Hogweed	<i>(Heracleum sphondylium)</i>	(O)
Ragwort	<i>(Senecio jacobaea)</i>	(O)
Nettle	<i>(Urtica dioica)</i>	(O)
Himalayan balsam	<i>(Impatiens glandulifera)</i>	(R)

T4 Tall ruderal herbs in the south east corner

Creeping thistle	<i>(Cirsium arvense)</i>	(A)
False Oat-grass	<i>(Arrhenatherum elatius)</i>	(O)
Nettle	<i>(Urtica dioica)</i>	(O)
Ragwort	<i>(Senecio jacobaea)</i>	(R)

T5 Dense privet L shaped hedge or scrub located in south-west corner

Garden privet	<i>(Ligustrum ovalifolium)</i>	(D)
Blackthorn	<i>(Chamaerion angustifolium)</i>	(O)
Bramble	<i>(Rubus fruticosus agg.)</i>	(F)

4.0 ADDITIONAL NOTES

The mature trees were inspected from ground level for features that may support bats (cavities or cracks). No suitable features were recorded.

Himalayan balsam was noted on site. This species is listed on Schedule 9 of the Wildlife and Countryside 1981 as amended.

5.0 SUMMARY

There were no limitations when the survey was undertaken.

Hedgerows within the site are species poor and are UKBAP habitat. The hedgerow shows features that may satisfy criteria for 'important' status under Hedgerow Regulations (1997). A detailed assessment could not be undertaken due to seasonality, however the presence four woody species, a supporting bank, connections with other hedges, less than 10% gaps may warrant a level of protection.

The habitats which are present are botanically impoverished and of generally low ecological value. Himalayan balsam was noted in the grassland.

Nesting birds are protected under the Wildlife & Countryside Act 1981 (as amended). There is no provision under the licensing system for disturbance or destruction of nests to facilitate development. Tree, hedge or scrub removal should take place outside of the

breeding bird season (avoiding March – August inclusive). If this is not possible, any section of hedge to be removed, including a buffer of 10m either side, should be netted by an ecologist before March. Netting is not suitable for trees and scrub. These features would be subject to nest searches can be carried out by an ecologist to confirm the presence/absence of breeding birds. However nest inspections are suitable only for localised small areas of vegetation and may not be effective across the site. If breeding birds are found work will not be allowed to commence until the birds finish breeding.

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**APPENDIX C
BAT BRICKS, ACCESS AND BOX DETAILS**

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Church Raiké, Chipping

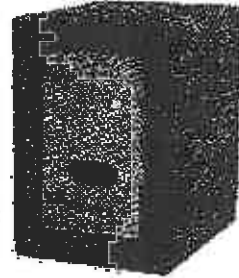
BAT BOXES TO INSTALL INTO / ON TO BUILDINGS & BUILT STRUCTURES

These bat boxes are designed to be built into buildings, or underneath bridges, arches or tunnels, where conditions are relatively humid. They are particularly useful for incorporating into new buildings or bridges to attract bats or to provide new roost sites where existing buildings with bats are being renovated.

Schwegler N27

This box should be cemented into a wall. It contains a single internal wooden panel which simulates a crevice. The removable front panel allows for easy cleaning. *No painting is required, but if it is necessary, a natural breathable paint should be used*

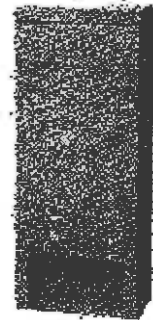
Woodcrete (75% wood sawdust, concrete and clay mixture)
Width 18cm, Height 29cm, Depth 23.5cm



Schwegler 1FR Bat Tube

This long box can be installed within brick masonry, beneath plasterwork or wood panelling, or incorporated into concrete structures such as factory buildings or bridges. Inside it contains a woodcrete surface, a roughened wood board, and a metal mesh, providing a choice of roosting areas depending on the weather conditions and the bats' habits. This box is maintenance-free as the entrance slit is at the bottom, allowing for self-cleaning. *No painting required, but if painting is necessary a natural breathable paint should be used*

Woodcrete (75% wood sawdust, concrete and clay mixture)
Width 20cm, Height 47.5cm, Depth 12.5cm
Entrance width 15cm, Entrance depth 2cm

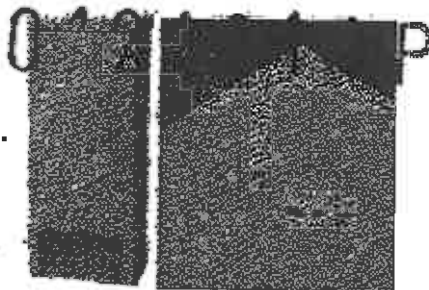


Schwegler 2FR Bat Tube

The same design as the 1FR but with holes in the sides. This allows multiple tubes to be placed next to each other to form a much larger bat roost.

These boxes are maintenance-free as the entrance slit is at the bottom. *No painting required, but if painting is necessary a natural breathable paint should be used.*

Woodcrete (75% wood sawdust, concrete and clay mixture)
Width: 20cm, Height: 47cm, Depth: 12.5cm. Weight: 13kg
Entrance Width: 15cm, Entrance Depth: 2cm



Norfolk Bat Brick

A handmade brick which can be used to replace an existing brick or incorporated into new structures. Ideal for sheltered sites such as under bridges, in tunnels, or even in mines and caves. The slits are the perfect size for Daubentons', Natterers, Long-eared, and Brandts' bats. The bat brick should not be painted.

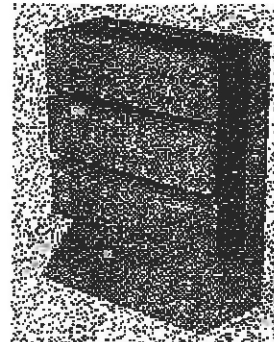
These bat bricks are only available directly from the Norfolk Bat Group. Contact John Goldsmith 01508 550 784 for orders. Delivery time may be several weeks



Ibstock - Enclosed Bat Box B

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work

215mm x 215mm or 215mm x 290mm
F2 S2 Fully frost resistant

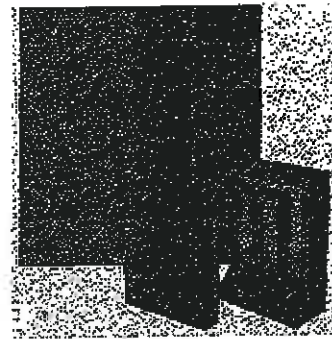


Church Raikes, Chipping

Ibstock - Bat Box with Engraved Motif C

- Attractive motive
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work

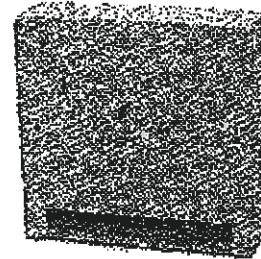
215mm x 215mm or 215mm x 290mm
F2 S2 Fully frost resistant



Schwegler Bat Access Panel

This is a maintenance free access panel, designed to allow bats entry through exterior walls. The rear of the panel is left open so bats can pass through into existing bat roosts. The bat panel is particularly useful when renovation or conversion work is taking place in buildings containing bat roosts, where continued access to established bat roosts is desirable. No painting is required, but if painting is necessary a natural breathable paint should be used.

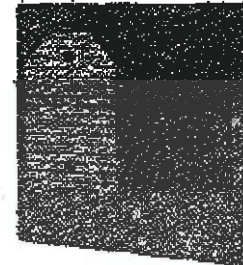
Material: Woodcrete (75% wood sawdust, concrete and clay mixture)
Width: 30cm, Height: 30cm, Depth: 8cm, Weight: 7.8kg



Back Plate for 1FE Bat Panel

If access to an existing nesting site is not required, the 1FE can be fitted with an optional Back Plate, which includes an attached wooden panel to create a cavity wall inside the box. The roughened surfaces of the Plate, and the inside of the 1FE itself, are very attractive to bats. Installation of the complete box is easy. For example, it can be screwed to a wall or fixed within insulation.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture)
Weight: 2.2kg



Schwegler 1FQ Bat Box

An attractive box designed specifically to be fitted on the external wall of a house, barn or other building. Equally appealing to bats as a roost or a nursery, it features a special porous coating to help maintain the ideal temperature inside as well as a roughened front panel to enable the bats to land securely. Access into the box is via a step-like recess.

Inside the box, rough pieces of wood are incorporated into the back of the box which are good insulators and are used by the bats as perches. The internal layout offers three different areas with varying degrees of brightness and temperature.

This durable box is easy to attach to most walls, requires no maintenance or cleaning and will last for decades. Please note that this box is designed to be fitted to a wall. Due to the weight it is unsuitable for fences or sheds.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Height 565mm; Width 350mm, Depth 85mm, Weight 13kg



Schwegler 1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract pipistrelle and noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Width 27cm
Height 43cm



Church Raike, Chipping

BAT BOXES FOR SITE ON TREES

Schwegler 2F Bat Box

A popular general purpose box attractive to the smaller British bats. A simple design with a narrow entrance slit on the front.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Diameter 16cm
Height 33cm



Schwegler 2F-DFF Bat Box

A general purpose box attractive to the smaller British bats, with a roughened wooden panel inside the box, which simulates a crevice. This box is favoured by Daubenton's bat and Nathusius' pipistrelle.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Diameter 16cm
Height 33cm



Schwegler 2FN Bat Box

A larger box with both a wide access slit at the base and an access hole on the underside. Suitable for the larger British bat species. Particularly successful in attracting noctule and Bechstein's bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Diameter 16cm
Height 36cm



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Schwegler 1FD Bat Box

A large general purpose bat box, with two roughened wood panels inside the box which simulate crevices.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Diameter 16cm, Height 36cm



Schwegler 1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract pipistrelle and noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Width 27cm
Height 43cm



Church Raife, Chipping

Schwagler 1FW Hibernation Box

This monster box is designed to provide a protected environment, particularly through the cold winter months when bats hibernate. It has three internal wooden panels imitating crevices. *Supplied with special fixing brackets. It is important to fit this heavy box very securely if mounting above the ground, and to site it well away from public areas.*

Woodcrete (75% wood sawdust, concrete and clay mixture)
Diameter 38cm, Height 50cm, Weight 30kg



Schwagler 1FS Bat Box

Schwagler woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are extremely long lasting and rot- and predator-proof.

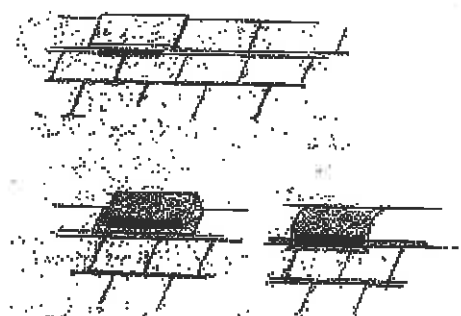
The 1FS is a larger capacity general purpose bat box with more insulation than most boxes for a more stable temperature in the winter.
Wooden block hanger and 'tree-friendly' aluminium nails included.
Woodcrete (75% wood sawdust, concrete and clay mixture)
Diameter: 28cm Height: 44cm Weight: 10kg



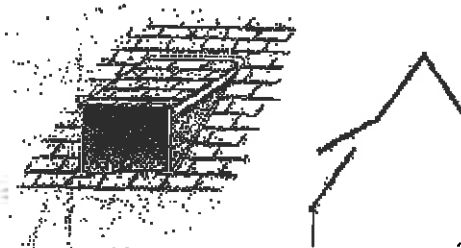
BAT ACCESS

Excerpt from JNCC (1999) *Bat workers manual*. Eds Mitchell-Jones, A. J. & McLeish, A. P. Joint Nature Conservation Committee

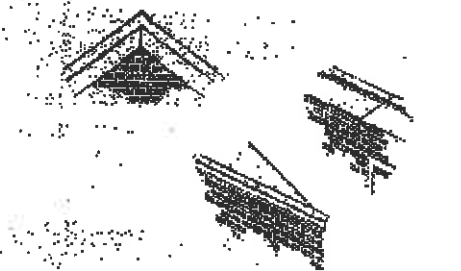
Access holes should be kept small or birds may move in. For most bat species a slit 15mm x 20-25mm long is adequate and the ideal position appears to be between soffit and wall. The bats can then land on the vertical wall and run up through the gap; most birds cannot manage this. Building regulations specify that roost must have adequate ventilation around the soffit, so access for bats can easily be incorporated into this. Other suitable access points for bats are at gable ends, around lead flashing or through gaps between slates or tiles.



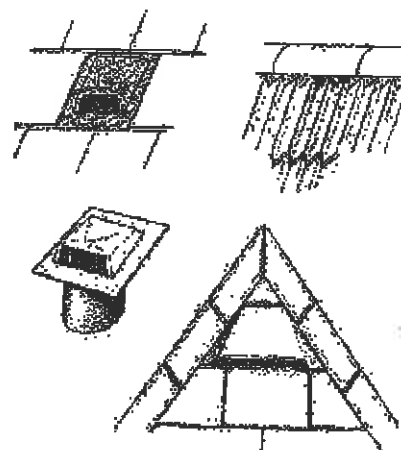
Ridge ventilators can be adapted as bat access points. It may be necessary to remove internal mesh or plastic windings.



Dormer windows, particularly suitable for horses, are bats.

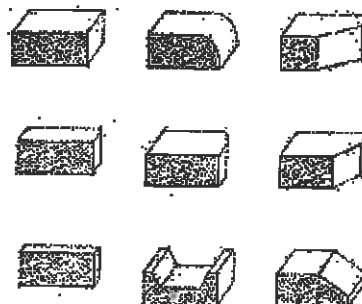


Access slits in soffits.



Lead saddle or place of a slate to allow bats access to ridge or roof void. Lead flashing around chimneys or other features can also be modified to form bat access points.

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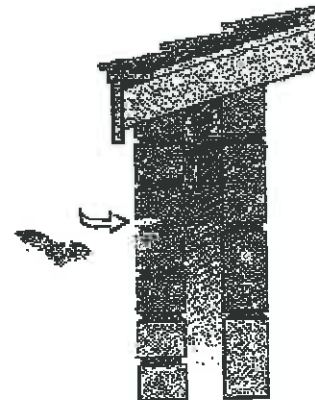


Walling bricks for creating bat access points. A standard brick is shown by left. Purpose-made bat bricks can also be used.

Figure 10.4 Bat access holes. Horseshoe bats prefer to fly into their roosts, but only small holes or slots are needed for other species and this also helps to deter colonisation by birds.

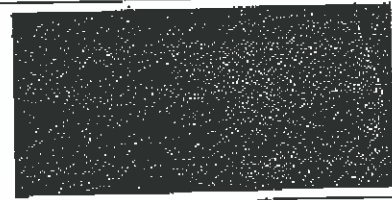
BAT ACCESS BRICKS

A Bat Brick should ideally be placed as high as possible, at the gable apex or close to the soffit



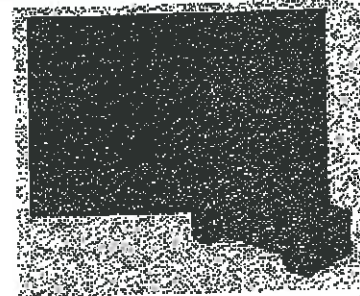
EXAMPLE PRODUCTS

Marshall's Clay Products
Marshall's Bat Access Brick
(also available in stone)



Ibstock Brick Ltd
Free Access Bat Box A
Discrete single bat brick. Easy to install. Allows bats to create a natural home habitat within the cavity of the building

Dimensions 215mm x 65mm
F2 S2 Fully frost resistant



Schwegler Bat Access Panel
This is a maintenance free access panel, designed to allow bats entry through exterior walls. The rear of the panel is left open so bats can pass through into existing bat roosts. The bat panel is particularly useful when renovation or conversion work is taking place in buildings containing bat roosts, where continued access to established bat roosts is desirable.

No painting is required, but if painting is necessary a natural breathable paint should be used.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture)

Width: 30cm

Height: 30cm

Depth: 8cm

Weight: 7.8kg

