

Our Ref: 4990,EC,AR,DS/002Ltr/RF,KL/11-06-21/V2
Your Ref: 4990,EC,AR,DS

M Scott Properties Limited
Suite 5
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Severalls Lane
Colchester
Essex
CO4 9PD

Date: 11 June 2021

For the attention of Graham McCormick

Dear Graham,

Letter Addendum to Preliminary Ecological Appraisal Referenced 1696,EC,AR,DS,SK/PEA/RF,KML/28-06-16/V3 – Updated Habitat Survey, Mitigation and Enhancement Opportunities.

1. Introduction

This Letter Report has been prepared by Geosphere Environmental Limited for M Scott Properties Limited and relates to the proposed residential development of the site at Landermere Road, Thorpe Le Soken, CO16 0LW.

Former ecological surveys were undertaken by GEL in 2016 for a wider survey area (7.52 hectares), part of which has since been developed by Bellways. This letter provides details of an updated ecological walkover and ecological impact assessment for a smaller portion of the survey area (2 ha) (herein referred to as 'the site') as shown in figure 1 below.



Figure 1 – The 2016 wider survey area is outlined in blue, while the new proposed indicative development boundary is outlined in red (The Site).

GEOSPHERE ENVIRONMENTAL LTD

Brightwell Barrs, Ipswich Road, Brightwell, Suffolk, IP10 0BJ

The site is located at National Grid reference TL TM1864 2245 and a formal land ownership plan is included as drawing The Land App – Option Plan, Land at Thorpe Le Soken in Appendix 2.

1.1 Aims

The purpose of this addendum letter report is to confirm whether the conditions onsite have changed since the original reports and provide an updated ecological impact assessment.

2. Background Information

2.1 2016 Preliminary Ecological Appraisal

A Preliminary Ecological Appraisal (PEA) was undertaken by Geosphere Environmental Ltd. on 15 March 2016 (ref. **R.1**) and covered a wider survey area than the current application site.

Essex Field Club was contacted (March 2016) to provide details of legally protected species and protected sites within 2km of the survey area. Essex Wildlife Trust was contacted to provide details of Local Wildlife sites within 2km (March 2016).

The survey area predominantly comprises of Arable and Semi-Improved Grassland fields separated by species-poor hedgerows. Scattered and dense scrub, and scattered trees are present along the field margins. A pond was located within the survey area, and a dry ditch follows one of the hedgerows.

Habitats for protected species including birds, Badgers, bats, reptiles, Great Crested Newts and Hedgehogs were noted.

No suitable habitat was noted for Otters, Water voles or Dormouse.

Immediately south of the survey area is a large area of scrub identified by Essex Wildlife trust as a potential Local Wildlife Site. This area provides potential habitat for reptiles, Great Crested Newts, birds, badgers, and bats. The pond was considered potential breeding habitat for Great Crested Newts.

The hedgerows and field margins provide potential habitat for reptiles and Great Crested Newt. The grass fields potentially provide additional temporary habitat if the grass is not maintained consistently to a short sward height.

The hedgerows, trees and scrub onsite provide foraging and commuting habitat for bats. Some of the mature trees, particularly around the pond could also provide potential roosting habitat for bats.

The hedgerows, trees and scrub onsite provide potential foraging and breeding habitat for common passerine birds. Raptor species may also be found to be using the survey area particularly in the southern field, due to the additional scrub to the south.

It was recommended to undertake further surveys to determine presence/ absence of: Great Crested Newts, Reptiles, Bats, and breeding birds.

2.2 2016 Great Crested Newt Survey

Great Crested Newts Surveys were carried out by Geosphere Environmental between 18 April and 5 May 2016 (ref. **R.3**) comprising four evening and morning survey events using torching, bottle traps and netting where applicable.

No Great Crested Newts were confirmed present during the surveys.

2.3 2016 Reptile Survey

A Reptile survey was undertaken by Geosphere Environmental (ref. **R.4**) between 28 April 2016 and 21 June 2016. Common Lizard were found on five of the ten survey visits, with the highest peak count of adults being four in one day. Based upon the peak adult count, it is estimated that the survey area supports a low population of Common Lizard on site.

The construction site adjacent to the proposed development site translocated the reptiles within the Bellways site boundary (ref. **R.5**). Records of the populations observed have not been made publicly accessible.

2.4 2016 Bat Survey

A bat foraging survey was undertaken by Geosphere Environmental (ref. **R.6**) between 17 May and 27 June 2016. Three activity surveys were undertaken with Common and Soprano Pipistrelles (*Pipistrellus pipistrellus*, and *Pipistrellus pygmaeus*) the predominant species noted, along with a single recording of a Serotine (*Eptesicus serotinus*). The foraging and commuting are restricted to the hedgerows and mature trees.

Trees with bat roosting potential were noted around survey area, particularly within the hedgerow around the southern half of the survey area.

2.5 2016 Breeding Bird Survey

A breeding bird survey was undertaken by Geosphere Environmental (ref. **R.7**) on 26 April 2016 and 7 June 2016.

A total of 20 species were recorded during the breeding bird survey visits. Of the total, 11 were considered to hold breeding territories within the survey area. The majority of the species using the survey area is not listed as birds of conservation concern, (BoCC), with the exception of: Song Thrush (*Turdus Philomelos*) and Starling (*Sturnus vulgaris*), (both red status and UK BAP). Neither Song Thrush nor Starling are considered to be using the survey area to breed.

3. GEL Updated Walkover 2020

An ecological walkover was undertaken on 02 July 2020 by Ricard Fenna ACIEEM, BSc Hons. The weather conditions at the time of the survey were clear and sunny, with an approximate temperature of 19°C. Selected photographs have been included in Appendix 3, enclosed with this letter.

3.1 Habitats Onsite

The habitats onsite had not significantly changed since the original PEA visit. The site comprised of two fields. The field to the south comprised of semi improved grassland with patches of

ruderals comprising Broadleaved Dock (*Rumex obtusifolius*) and scattered scrub dominated by Bramble (*Rubus fruticosus agg.*) and Goat Willow (*Salix caprea*) with a hedgerow and mature trees surrounding the field. The grassland ruderals and scrub had been cut to approximately 5cm at the time of the survey. The northern arable field was cultivated at the time of the survey. These habitats are shown on the Phase 1 Habitat Plan, Drawing ref. 4990,EC,AR,DS/002/Rev1 attached in Appendix 2.

The trees were re-assessed for bat roost potential a summary of the findings is listed below. The tree locations are shown on the Bat roost potential in the trees plan, Drawing ref. 4990,EC,AR,DS/003/Rev1, in Appendix 2.

- **T1 High potential** – restricted access to tree due to ongoing construction and barriers. High potential bat roost based upon a previous survey.
- **T2 High potential** – large, hollow main stem.
- **T3 High potential** – Hollows developed in old pruning wounds around old pollard head, at around 4m above ground.
- **T4 Low potential** – No bat roost features observed. Deadwood within crown could contain hollows.
- **T5 High potential** – tree is a large old pollard with a hollow stem, with the hollows extending upwards into main limbs.
- **T6 Low potential** – No bat roost features observed. Deadwood within crown could contain hollows.
- **T7 Moderate potential** – Cracked Limb in crown providing crevices, and deadwood in crown with potential hollows.
- **T8 Low potential** – Branches with pruning wounds which could provide hollows. Potential hollows around old pollard head.

3.2 Habitats Offsite

A construction site is now situated to the west of the site. The other habitats offsite had not changed since the original survey. To the south is Abbey Street "Potential Wildlife Site", to the north and east is further agricultural fields.

4. Updated Ecological Impact Assessment

The ecological evaluation and impact assessment detailed below is based upon CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom, (ref. **R.2**).

CIEEM Guidelines state that the value or potential value of an ecological resource or feature should be determined within a defined geographical context from an international to site scale as follows:

- On an International scale, e.g. Ramsar, SAC or SPA site;
- On a UK scale, for example a SSSI or a National Nature Reserve, (NNR);
- On a National scale, e.g. a reserve of importance to England/Northern Ireland/Scotland/Wales;

- On a Regional scale, e.g. a local site with important regional habitats or UKBAP species;
- On a County scale, e.g. a local site with a habitat that is characteristic of the County or rare on a County scale, or with LBAP species;
- On a District scale, e.g. a site with wildlife corridors likely to improve the biodiversity of the area;
- Local or Parish, e.g. areas of green space in a predominantly urban environment;
- On a Site scale, e.g. habitats with value within the zone of influence only.

The potential for protected species to use the habitats onsite contributes significantly towards the potential value of the habitats onsite.

4.1 Great Crested Newt

No Great Crested Newts were found to be using the site in 2016 (ref. **R.3**). The site is now separated from the pond by the construction site to the west. There will be no impact to great Crested Newts from development of the site.

4.2 Reptiles

Low Populations of Common Lizard were found to be present in 2016 (ref. **R.4**).

The habitats onsite have not changed since the 2016 survey, as such it is considered that a low population of reptiles is likely to still be present on the site. This population is considered important on a site scale.

4.3 Bats

The hedgerows and trees surrounding the site, and the connectivity of these habitats to the wider landscape has not changed, since the bat surveys undertaken in 2016.

Bats use the hedgerows and trees onsite to forage, with potential bat roosts within the trees to the south as shown on Drawing ref. 4990,EC,AR,DS/003/Rev1.

The foraging habitat onsite is considered important of a site scale for common species of bat. The roosting habitats is considered to be important on a site to district scale.

4.4 Breeding Birds

The hedgerows and trees surrounding the site, and the connectivity of these habitats to the wider landscape has not changed, since the breeding bird surveys undertaken in 2016. The mature trees, scrub and hedgerows bordering the fields provide nesting opportunities for common passerine birds, and offer value on a local scale.

4.5 Other Species

Mammal Paths were noted around the field boundary during the 2020 walkover, although no badger setts were noted onsite. The site is likely used by mammals such as badger (*Meles meles*), Fox (*Vulpes vulpes*), Hedgehog (*Erinaceus europaeus*) and muntjac deer (*Muntiacus reevesi*) for foraging. This is important on a site scale.

4.6 Protected Sites

The proposed development site is situated within the zone on influence of the international protected sites along the Essex estuary.

5. Recommendations for Mitigation

5.1 Reptiles

The habitats onsite are limited to the filed margins, hedgerows and scrub. It is recommended to maintain the grassland onsite to a short sward height to maintain the low suitability for reptiles. The arable field should be continued to be cultivated yearly until construction works commence.

Where removal of suitable habitat is required (at present this comprises the field margins, hedgerows, and scrub), then it is recommended that sensitive methods of vegetation removal are be employed to avoid direct harm to individuals, involving a hand search followed by a destructive search. If the grassland or arable land are not maintained as low suitability for reptiles, these areas would also need to be destructively searched.

Vegetation clearance should be undertaken in a methodical manner to move reptiles into a suitable area of retained and enhanced habitat. The destructive search should be completed during the reptile active season which is from April to September.

If the development area is unlikely to be well maintained from the start of construction to completion, exclusion fencing can be used to ensure reptiles cannot access the construction area, and protected reptiles from direct injury during construction. Once the development is complete, any fencing should be removed so that reptiles can re-use any boundary habitat retained within the proposed development.

5.2 Bats

It is recommended to avoid impact to foraging bats by retaining as much of the trees and hedgerows around site as possible.

The Leylandii tree line central to the site is likely to need to be removed to facilitate development. additional planting should be included within the proposed development to compensate for the loss of these trees.

It is recommended to avoid impact to roosting bats by retaining the trees with potential roost features within the proposed development. These retained trees should also be protected from lighting overspill, throughout construction and the lifetime of the development.

Excess lighting can act as a barrier to bats, potentially restricting their access to foraging areas. Any public lighting to be included within the proposed development should ideally comprise of low-pressure sodium lights or, alternatively, high-pressure sodium lights with UV filters and louvers.

Any public lighting should be designed with luminaires as low above ground level as possible, aimed to illuminate only the immediate area required, by using as sharp a downward angle as possible. A shield or hood can be used to control or restrict the area to be lit. Avoid illuminating at a wider angle as this will be more disturbing to foraging and commuting bats. Ref. **R.8** provides detailed information regarding lighting in relation to bats.

If it is not possible to avoid impact to these bat roosts, further surveys will be required. In the first instance it is recommended to undertake a climbing assessment of the trees to determine full the extent of potential bat roost features within the trees. Beyond the initial climbing survey, any potential roost features that cannot be ruled out, will require further surveys.

Up to three further survey visits would be required for any trees with bat roost features, dependant on whether the features offer low, moderate or high potential. If there are any features that are not accessible via climbing survey, activity surveys will be required.

5.3 Breeding Birds

The loss of any trees, scrub or hedgerows to be removed as part of the development, can be mitigated against by repairing the remaining hedgerows present onsite, replanting new hedgerows along the boundary, and planting shrubs within garden areas. Trees to be replanted should be native species on a "like for like" basis; trees should replace trees, and shrub species should replace shrub or hedgerow species.

A wildlife buffer strip and/or design of public open space along the southern boundary would reduce the impact on Abbey Street "Potential Wildlife Site" from the development.

5.4 Other Species

As badgers often dig new setts, it is recommended to undertake a check for badgers prior to the commencement of construction.

Excavations should be covered overnight to ensure animals don't become injured or trapped.

5.5 Protected Sites

It is anticipated that a financial contribution to the Essex Recreational disturbance Avoidance and Mitigation Strategy (RAMS) will be required.

6. Enhancement Opportunities

The following should be included within the final design of the development:

- Log piles for reptiles should be included within the finalised landscape plan.
- 10 No. bird boxes or integrated bird bricks should be included within the final scheme. These should target Local Biological Action Species Song Thrush, and UK Bap Species such as Starling, swift and House Sparrow. Examples are included in Appendix 4.
- Building design to include apex roofs would be welcomed to allow for species such as House Martin, to nest naturally at the site.
- 10 No. integrated bat bricks should be included within the final scheme. Examples are included in Appendix 5. If bat bricks are not possible, bat boxes should be paced on mature trees adjacent to site.
- Any plants considered within the final development should ideally be native and considered beneficial to wildlife. Fruit/berry producing trees could be considered in order to provide a local food source for birds. Nectar producing plants should be incorporated within the proposed residential gardens. A plant list is attached as Appendix 6, to assist when selecting plant species within the final development.
- 15cm diameter holes at the base of fences should be included to allow hedgehog to pass between gardens.

7. Conclusions

It is recommended that this report be submitted to the Local Authority as part of the planning submission for the site.

Since the original protected species surveys were undertaken in 2016, little has changed with regards to habitats present, site management and suitability for protected species to be present. The site provides only very limited habitat for reptiles, common species of nesting birds, and foraging bats. Mature trees around the site margin provide potential habitat for roosting bats.

Providing the recommendations within this report are followed, then no additional protected species surveys are required.

Yours sincerely



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Authorised By:



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Geosphere Environmental Ltd

References:

- R.1. Geosphere Environmental (2016) Preliminary Ecological Appraisal referenced 1696,EC,AR,DS,SK/PEA/RF,KML/28-06-16/3
- R.2. CIEEM, (2018). Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland
- R.3. Geosphere Environmental (2016) Great Crested Newts Survey referenced 1745,EC/GCN/LS, KML/ 29-06-16/ V2
- R.4. Geosphere Environmental (2016) Reptile Survey referenced 1745,EC/REP/TC,KML/06-07-16/ V2
- R.5. SES (2017) Ecological Mitigation and Management Strategy, Land East of Landermere Road, Thorpe Le Soken, Essex. dated 07 August 2017.
- R.6. Geosphere Environmental (2016) Bat Foraging Survey referenced 1745,EC/BAT ACTIVITY/LS,KML/06-07-16/V2
- R.7. Geosphere Environmental (2016) Breeding Bird Survey referenced 1745,EC/BIRD/KL,TC/06-07-16/V3
- R.8. Institution of Lighting Professionals (2018) Bats and artificial lighting in the UK, Bats and the Built Environment series – Guidance Note 08/18

Appendices:

Appendix 1 – Report Limitations & Conditions

Appendix 2 – Drawings

Appendix 3 – Selected Photographs

Appendix 4 – Example Bird Bricks

Appendix 5 – Example Bat Bricks & Boxes

Appendix 6 – Example Plants with Wildlife Benefit

APPENDICES



Appendix 1 – Report Limitations and Conditions

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the site.

This report has been prepared for the sole use of the Client for the purposes described and no extended duty of care to any third party is implied or offered. Third parties using any information contained within this report do so at their own risk.

This report is prepared and written for the use stated herein; it should not be used for any other purposes without reference to Geosphere Environmental Limited. The report has been prepared in relation to the proposed end-use should another end-use be intended a further re-assessment may be required. It is likely that over time practises will improve and the relevant guidance and legislation be amended or superseded, which may necessitate a re-assessment of the site.

The report is limited to those aspects of land contamination specifically reported on and is necessarily qualified accordingly, no liability shall be accepted for other aspects which may be the result of gradual or sudden pollution incidents, past or present unrecorded land uses both on and offsite and the potential for associated contaminant migration. The opinions expressed cannot be absolute, due to the limitations of time and resources imposed by the agreed brief.

The accuracy of any map extracts cannot be guaranteed. It is possible that different conditions existed onsite, between and subsequent to the various map surveys appended.

Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes discussed or on the possible presence of features based upon visual, verbal or published evidence, this is for guidance only and no liability can be accepted for its accuracy.

The conceptual model is based upon the information available at the time of conducting this assessment and is an interpretative assessment of the conditions at the site. It should be noted that the redevelopment and/or further investigation of the site may reveal additional information and therefore alter the conceptual model and the conclusion of this report.



Appendix 2 – Drawings

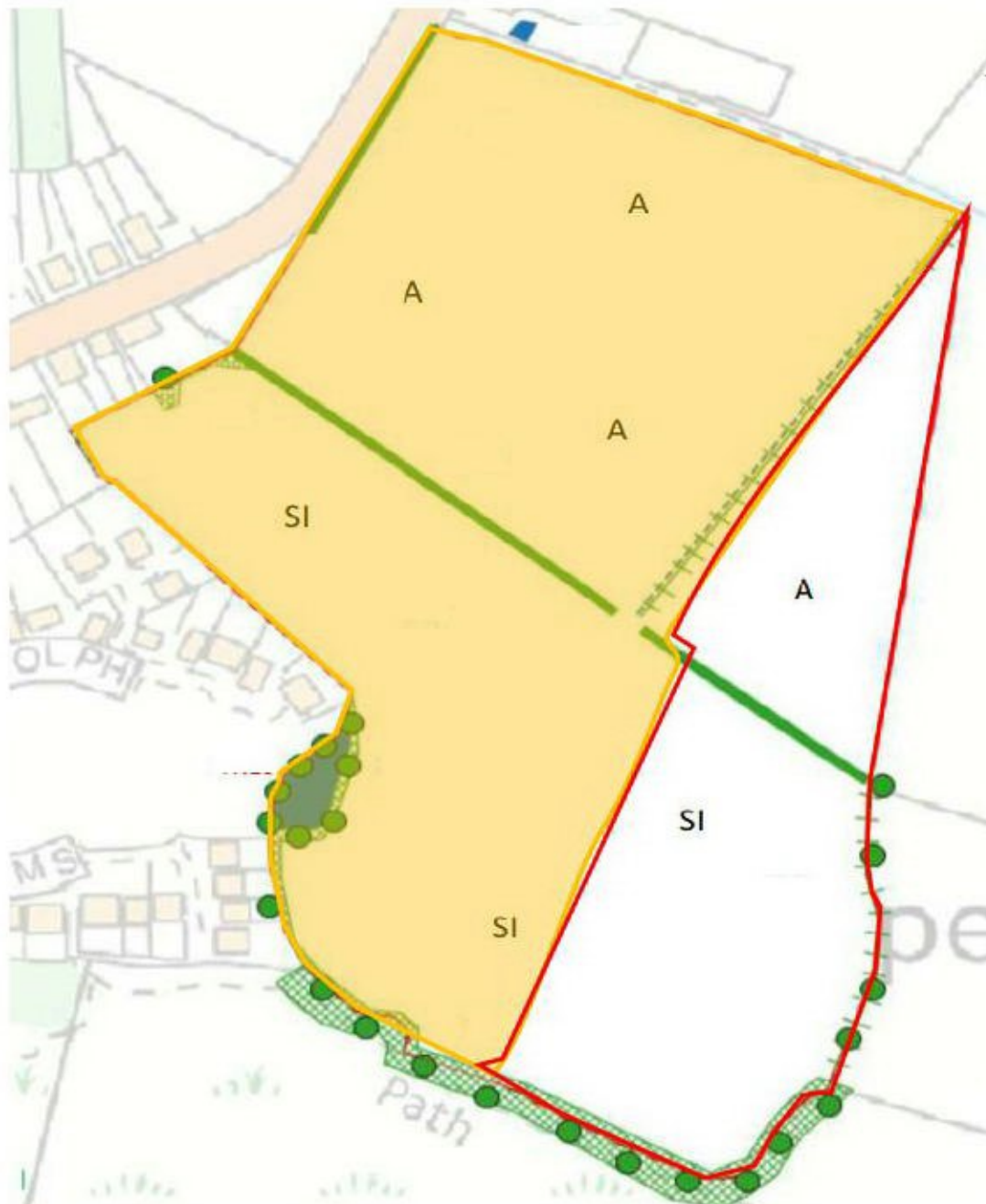
The Land App – Option Plan, Land at Thorpe Le Soken

Phase 1 Habitat Plan – Drawing ref. 4990,EC,AR,DS/002/Rev1

Bat Roost Potential in Trees – Drawing ref. 4990,EC,AR,DS/003/Rev1

Option Plan - Land at Thorpe-le-Soken





LEGEND

- A Arable
- Dense Scrub
- Dry Ditch
- Species-poor Hedge and Trees
- Intact Species-poor Hedge
- Standing Water
- Scattered Scrub
- Scattered Trees
- SI Poor Semi-Improved Grassland
- Bellways Construction Site
- Updated Survey Area (Indicative)

PROJECT

Landemere Road, Thorpe Le Soken, CO16 0LW

TITLE

Phase 1 Habitat Plan

DRAWING NUMBER

4990,EC,AR,DS/002/Rev1

SCALE

NTS

DATE

10/06/2021

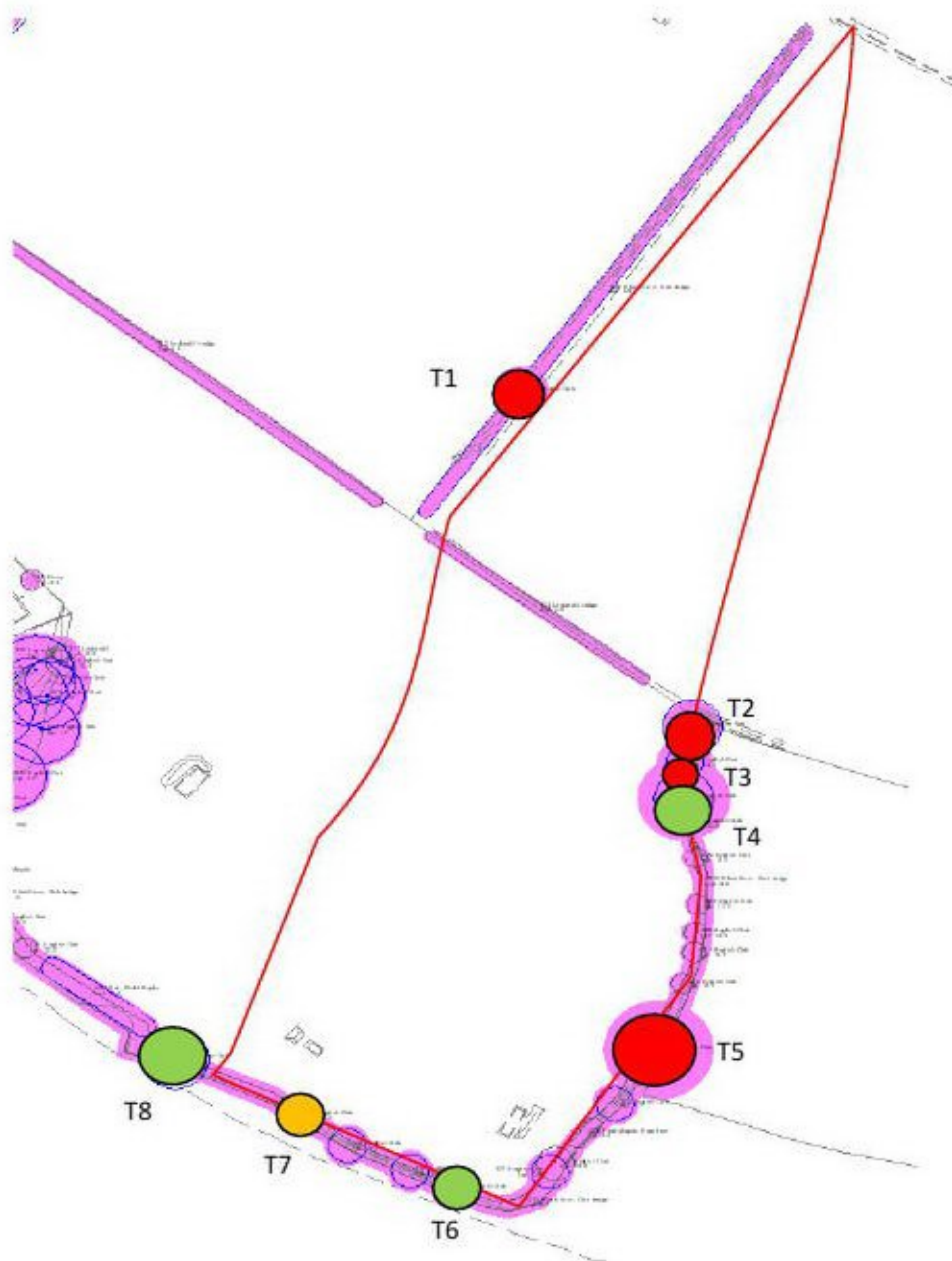
DRAWN BY

RF

CHECKED BY

KML





GEOSPHERE ENVIRONMENTAL

LEGEND

- Indicative Site boundary
- Trees with low bat roost potential
- Trees with moderate bat roost potential
- Trees with high bat roost potential

PROJECT

Landmere Road, Thorpe Le Soken, CO16 0LW

TITLE

Bat Roost potential in trees

DRAWING NUMBER

4990,EC,AR,DS/003/Rev1

SCALE

NTS

DRAWN BY

RF

DATE

10/06/2021

CHECKED BY

KML





Appendix 3 – Selected Photos

Photograph 1



Photograph 2



DESCRIPTION

Photograph 1

View across the site from the centre to the south

Photograph 2

Mammal Paths along margin of the field

Photograph 3

Large hollow limbs of T5

Photograph 4

Cracked Limb within T7

Photograph 3



Photograph 4



PROJECT

Landmere Road, Thorpe Le Soken,
CO16 0LW

PROJECT NUMBER

4990,EC,AR,DS

TITLE

**Selected Photographs Relating To
Extended Phase 1 Habitat Survey**

DATE

17/07/2020

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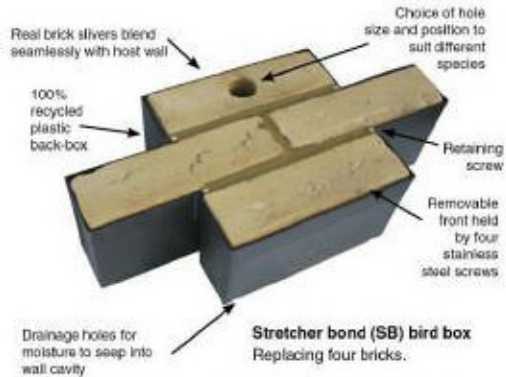
1 of 1



Appendix 4 – Example Bird Bricks and Boxes

EXAMPLE BIRD BRICKS & BOXES

Integrated Bird Brick House: The Standard Box



This standard nesting box is suitable for House Sparrows and members of the Tit family. The single entrance hole allows the entire internal area to be available for nesting and roosting. The aperture size will vary according to the target species. For example, a 48 mm entrance hole can be produced to accommodate Starlings. The ideal internal depth is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm).

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

Integrated Bird Brick House: Sparrow terrace box



This has the same external dimensions as the standard box but has two entrance holes and two separate compartments – ideal for the sociable nature of house sparrows. The terrace box is also suitable for Redstarts, Black Redstarts and Wagtails.

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

Integrated Bird Brick House: Swift box



This box has a crescent shaped hole to one side of the box, allowing swifts access but restricting use by starlings. Inside, a rough floor makes it easier for the birds to move around. The centre of the floor has a raised nest cup to assist the birds' nest building. The ideal internal depth of a swift box is 140 mm, however if cavity width is limited, boxes can be manufactured with a reduced depth (minimum 100 mm).

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/nesting-boxes/>

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Example Bird Bricks and Boxes

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External Bird House: 9A Schwegler House Martin Nest



These boxes should be installed under eaves on the external walls of buildings. Install on the sheltered side (north facing) of the building at a minimum height of 2m above the ground.

These nests can be used for years without cleaning. However, if possible it is recommended to inspect them frequently and to clean them when necessary. These Woodcrete nest boxes are famous for their durability - lasting for at least 20-25 years.

SOURCE

<https://www.nhbs.com/9a-schwegler-house-martin-nest>

External Bird House: 1SP Schwegler Sparrow Terrace



The Sparrow Terrace has been designed to help redress the balance of falling house sparrow numbers. The current UK population of 6 million pairs is half what it was in 1980 and this is thought to be due to habitat destruction and lack of suitable nesting spaces. Sparrows are social birds and like to nest in company. This terrace provides ideal nesting opportunities for three families and will last many decades. It may also occasionally attract tits, redstarts and spotted flycatchers.

The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of houses in built-up areas, and on industrial and agricultural buildings such as barns, sheds and factories. Due to its weight (15kg), it is not suitable for fences or garden sheds. Ideally place the terrace two metres or more above the ground. Cleaning is advisable but not necessary.

SOURCE

<https://www.nhbs.com/1sp-schwegler-sparrow-terrace>

External Bird House: WoodStone Swift Nest Box



The FSC certified WoodStone Swift Nest Box is constructed entirely out of WoodStone meaning it is long lasting and won't rot away like a traditional wooden nest box.

Swift numbers are declining, in part because of the loss of nesting sites. Installing a swift box is a great way to help these birds and to ensure their continued presence in our surroundings. There is an opening at the back of the box for easy cleaning with the nest entrance on the underside of the box.

This type of entrance is preferred by swifts but discourages house sparrows and starlings from occupying the box. This box should be installed at least five metres above the ground, ensuring that there is unobstructed access for birds entering and leaving. If possible, boxes should be sited under the shelter of eaves or overhanging roofs.

SOURCE

<https://www.nhbs.com/woodstone-swift-nest-box>

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Example Bird Bricks and Boxes

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External Bird House: 1B Schwegler Bird Nest Box (General)



These Woodcrete nest boxes last for at least 20-25 years. Woodcrete is a breathable blend of wood, concrete and clay which will not rot, leak, crack or warp, whilst preventing condensation and maintaining more constant temperatures inside than wooden boxes.

Schwegler bird boxes are backed by conservation organisations, government agencies and forestry experts and experiments have shown that the highest density of bird populations (i.e. breeding pairs per hectare) is achieved with Schwegler nest boxes.

They are carefully designed to provide a stable environment and to mimic natural nest and roost sites with internal brood chamber dimensions that are similar to natural woodpecker cavities. Schwegler have a patented method of installation on trees that prevents the tree trunk from growing over the hanger from which the box is suspended.

SOURCE

<https://www.nhbs.com/1b-schwegler-nest-box>

External Bird House: Blackbird Nest Box



A large, open-fronted wooden box suitable for Blackbirds. Made from FSC timber, this box is ideal for any garden. This open nest box will also be used by Robins and Wrens (if well hidden), Spotted Flycatchers, Pied and Grey Wagtails, Song Thrushes and Blackbirds.

Different species prefer different nest boxes and our range has been designed by our team of ornithologists to optimum dimensions for the species concerned.

SOURCE

<https://www.wildcare.co.uk/blackbird-open-nest-box-11249.html>

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Example Bird Bricks and Boxes

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Appendix 5 – Example Bat Bricks and Boxes

EXAMPLE BAT BRICKS AND BOXES

Integrated Bat Box: Ibstock Enclosed Bat Box 'B'



Large 215 x 290mm



Large Bespoke
215 x 290 mm



Small Red
215 x 215 mm

The Ibstock Enclosed Bat Box 'B' is designed for integration into the wall of new buildings or conservation projects and is intended to provide summer roosting space for pipistrelles specifically. It provides a discrete home for bats, with several roosting chambers to provide zones of differing temperatures within the box. The bats are contained within the box itself and the entrance at the bottom allows droppings to fall out, meaning that the box is maintenance free.

Integrated Bat Box: Standard bat Box



Bat boxes can be supplied in brick fronted, half bond and quarter bond brickwork or alternatively with a stainless-steel mesh fitted to the front. The mesh is designed for optimum adhesion in render and stonework applications. A basic version can be fitted directly behind weatherboarding or into studwork.

These bat boxes are best positioned in sunlit clusters, at a height of 3-6 metres and ideally facing a variety of aspects as bats will move around a building as the seasons change.

This product makes an ideal bat house for most of the UK's bat species, including Pipistrelles, who will use it for roosting, hibernating and (in maternity roosts) bringing up their young. The entrance hole and internal design can be tailored to suit different species of bat e.g. Bechstein's and Serotine.

The box is self-cleaning. The bat boxes are supplied with a non-removable front as standard.

SOURCE

<http://www.nhbs.com/title/16055>
1

SOURCE

<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/bat-box/>

TITLE

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External Bat Box: Schwegler 1FQ bat box



The structure of the 1FQ has been designed with bat behaviour in mind. For example, the outside of the front panel has been roughened to enable the animals to land and hang onto it securely. Access is via a step-like recess which enables even young and inexperienced bats, to safely access the box. The inside of the box has rough pieces of wood incorporated which provide good insulation and are also used by the bats as perches. The internal layout provides three different areas from which bats can hang and which offer different levels of light and temperature. There are also non-slip areas, gaps ranging from 1.5 to 3.5cm in width and various places for individuals to hide.

Installation of the 1FQ is achieved using the four screws and plugs provided. The back panel is initially screwed onto the wall (using four screws) and then the front panel is attached to this. It can easily be attached to most types of external brick, timber or concrete and can also be placed inside a roof space. (If fixing to timber then the gaps between the wall and the box should be sealed with silicone to prevent moisture being trapped here). The box should be positioned a minimum of three metres above the ground and where there is a clear flight path for bats entering and leaving. If desired, the front panel can be painted to match your building using an air-permeable paint.

SOURCE

<http://www.nhbs.com/title/160551>

External Bat Box: 1FF Schwegler Bat Box with Built-in Wooden Rear Panel



The Schwegler 1FF bat box is spacious enough for bats to use as a summer roost or nursery site and is open at the bottom, allowing droppings to fall out so it does not need cleaning. The 1FF is, therefore, especially suitable for hanging in inaccessible places such as high in trees, or on steep slopes and house walls.

The 1FF is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects.

The inner dimensions of the 1FF have a reducing width making it ideal for bat species which inhabit crevices such as pipistrelle and noctule bats. For conservation projects and studies, the entire front of the box can be easily swung open for inspection purposes.

The 1FF bat box can be sited in trees or on buildings and is best positioned at a height of between 4 to 6 metres.

SOURCE

<https://www.nhbs.com/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel>

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External Bat Box: 2F Schwegler Bat Box with Double Front Panel



This box has a front panel and a second inner wooden panel fitted to it to create a cavity wall. This provides ideal quarters for bats that inhabit crevices, such as Nathusius' Pipistrelle (*Pipistrellus nathusii*), Daubenton's Bat (*Myotis daubetonii*) and the Common Pipistrelle (*Pipistrellus pipistrellus*).

It has been designed as a summer roosting space for bats and has a simple entrance hole at the front. The Schwegler 2F double front panel is removable and can be converted in to a bird nest box using a replacement 1B front panel if there is no evidence of bat activity after a couple of years. The 2F Double Front Panel is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years, making it suitable for long-term mitigation projects. Woodcrete is breathable and maintains a stable temperature inside the box and the 2F is painted black to absorb warmth. It also provides a good rough surface for bats to cling on to and climb.

The 2F Double Front Panel bat box can be sited in trees or on buildings and is best positioned at a height of between 3 to 6 metres.

SOURCE

<https://www.nhbs.com/vincent-pro-bat-box>

External Bat Box: Vincent Pro Bat Box



This attractive bat box has been designed by leading bat researcher, Collin Morris, based on a tried and tested design from the Vincent Wildlife Trust.

The box features three vertical chambers of different sizes, providing ideal roosting space for a variety of species. Beneath the crevice entrances is a ladder which provides a rough surface for bats to land.

Proven with seven UK species: Barbastelle, Leisler's, common pipistrelle, soprano pipistrelle, brown long-eared, Natterer's and whiskered bat.

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Please note that once bats have inhabited a roost (integrated or external box) they may only be disturbed by licensed bat workers.



Appendix 6 – Example Plants with Wildlife Benefit

GENERAL PLANTS CONSIDERED BENEFICIAL TO WILDLIFE

The lists of plants below are taken from current Natural England guidance (ref. 1), a web-based data based managed on behalf of the RHS and the Wildlife Trusts (ref. 2) and professional judgement. When buying native plants, ensure they are from a reputable source, as many wildflowers are illegally taken from the wild.

Medium/Small Trees

Common Name	Latin Name	Common Name	Latin Name
Field Maple	<i>Acer campestre</i>	Apples	<i>Malus spp.</i>
Alder	<i>Alnus glutinosa</i>	Pears	<i>Pyrus spp.</i>
Silver Birch	<i>Betula pendula</i>	Rowan	<i>Sorbus aucuparia</i>
Holly	<i>Ilex aquifolium</i>		

Other Shrubs for Nectar, Pollen or Fruits

Common Name	Latin Name	Common Name	Latin Name
Serviceberry	<i>Amelanchier canadensis</i>	Himalayan Honeysuckle	<i>Leycesteria formosa</i>
June Berry	<i>Amelanchier lamarckii</i>	Mahonia	<i>Mohonia spp.</i>
Californian lilac	<i>Ceanothus spp.</i>	Mock Orange	<i>Philadelphus spp.</i>
Japanese quince	<i>Chaenomeles japonica</i>	Firethorn	<i>Pyracantha spp.</i>
Creeping Cotoneaster	<i>Cotoneaster frigidus</i>	Lilac	<i>Syringa vulgaris</i>
Daphne	<i>Daphne mezereum</i>	Laurustinus	<i>Viburnum tinus</i>
Hebes	<i>Hebe spp.</i>	Bodant Viburnum	<i>Viburnum x bodnantense</i>
Lavenders	<i>Lavandula spp.</i>		

Drought-Tolerant Herbaceous Plants

Common Name	Latin Name	Common Name	Latin Name
Onion	<i>Allium christophii</i>	Giant dead-nettle	<i>Lamium orvala</i>
False dittany	<i>Ballota acetabulosa</i>	Lavender	<i>Lavandula augustifolia</i>
Calamint	<i>Calamintha nepeta</i>	Myrtle	<i>Myrtus communis</i>
Giant scabious	<i>Cephalaria gigantea</i>	Honey garlic	<i>Nectaroscordum siculum</i>
Honeywort	<i>Cerinth major and C. purpurascens</i>	Golden drops	<i>Onosma spp.</i>
Sun-roses	<i>Cistus spp.</i>	Marjoram	<i>Origanum vulgare</i>
Large-flowered Tickseed	<i>Coreopsis grandiflora</i>	Jerusalem sage	<i>Phlomis russeliana</i>
Crocus	<i>Crocus tommasinianus</i>	Rosemary	<i>Rosmarinus officinalis</i>
Cardoon	<i>Cynara cardunculus</i>	Winter savoury	<i>Satureja montana</i>
Teasel	<i>Dipsacus fullonum</i>	Chile black scabious	<i>Scabious atropurpurea</i>
Coneflower	<i>Echinacea purpurea</i>	Stonecrops	<i>Sedum acre, S. anglicum, S. forsterianum and S. album</i>
Giant Echium	<i>Echium pininana</i>	Lamb's lung/ears	<i>Stachys olympica and S. lanata</i>
Sea-hollies	<i>Eryngium spp.</i>	Thyme	<i>Thymus vulgaris</i>
Escallonia	<i>Escallonia spp.</i>	Crimson clover	<i>Trifolium incarnatum</i>
Hebe	<i>Hebe sp.</i>	Tulip	<i>Tulipa sp.</i>
Rock-roses	<i>Helianthemum spp.</i>		

REFERENCE

1. Natural England (2007). Plants for Wildlife-friendly Gardens: NE29.
2. RHS and the Wildlife Trusts (2015). Gardening with Wildlife in Mind. <http://www.joyofplants.com/wildlife/>.

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Native Wildflowers for Borders

Common Name	Latin Name	Common Name	Latin Name
Yarrow	<i>Achillea millefolium</i>	Toadflax	<i>Linaria vulgaris</i>
Agrimony	<i>Agrimonia eupatoria</i>	Yellow loosestrife	<i>Lysimachia vulgaris</i>
Corncockle	<i>Agrostemma githago</i>	Common mallow	<i>Malva sylvestris</i>
Chives	<i>Allium schoenoprasum</i>	Marjoram	<i>Origanum vulgare</i>
Harebell	<i>Campanula rotundifolia</i>	Common poppy	<i>Papaver rhoeas</i>
Cornflower	<i>Centaurea cyanus</i>	Cowslip	<i>Primula veris</i>
Greater knapweed	<i>Centaurea scabiosa</i>	Primrose	<i>Primula vulgaris</i>
Chicory	<i>Chichorium intybus</i>	White campion	<i>Silene alba</i>
Foxglove	<i>Digitalis purpurea</i>	Red campion	<i>Silene dioica</i>
Teasel	<i>Dipsacus fullonum</i>	Goldenrod	<i>Solidago virgaurea</i>
Sea hollies	<i>Eryngium</i> spp.	Devil's-bit scabious	<i>Succisa pratensis</i>
Lady's bedstraw	<i>Galium verum</i>	Tansy	<i>Tanacetum vulgare</i>
Meadow crane's-bill	<i>Geranium pratense</i>	Dandelion	<i>Taraxacum officinale</i>
Herb-robert	<i>Geranium robertianum</i>	Wild thyme	<i>Thymus drucei</i>
Dame's-violet	<i>Hesperis matronalis</i>	Great mullein	<i>Verbascum thapsus</i>
Field Scabious	<i>Knautia arvensis</i>	Germander speedwell	<i>Veronica chamaedrys</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>	Spiked speedwell	<i>Veronica spicata</i>

Cultivated Plants for Borders

Common Name	Latin Name	Common Name	Latin Name
Alliums	<i>Allium</i> spp.	California poppy	<i>Eschscholzia californica</i>
Hollyhock	<i>Althaea rosea</i>	Snowdrop	<i>Galanthus nivalis</i>
Yellow alyssum	<i>Alyssum saxatile</i>	Sunflowers	<i>Helianthus</i> spp.
Grecian windflower	<i>Anemone blanda</i>	Christmas rose	<i>Helleborus niger</i>
Angelica	<i>Angelica archangelica</i>	Lenten rose	<i>Helleborus orientalis</i>
Snapdragon	<i>Antirrhinum majus</i>	Candytuft	<i>Iberis sempervirens</i>
Alpine rock-cress	<i>Arabis alpina</i>	Poached-egg plant	<i>Limnanthes douglasii</i>
Michaelmas daisies	<i>Aster</i> spp.	Hybrids sweet alyssum	<i>Lobularia maritime</i>
Lilacbush	<i>Aubrieta deltoidea</i>	Honesty	<i>Lunaria rediviva</i> or <i>annua</i>
Borage	<i>Borago officinalis</i>	Sweet bergamot	<i>Monarda didyma</i>
Pot marigold	<i>Calendula officinalis</i>	Grape hyacinth	<i>Muscari botryoides</i>
Red valerian	<i>Centranthus ruber</i>	Forget-me-not	<i>Myosotis</i> spp.
Wallflower	<i>Cheiranthus cheiri</i>	Tobacco plant	<i>Nicotiana sylvestris</i>
Corn marigold	<i>Chrysanthemum segetum</i>	Evening primrose	<i>Oenothera biennis</i>
Cosmos	<i>Cosmos bipinnatus</i>	Phlox	<i>Phlox paniculata</i>
Spring crocus	<i>Crocus chrysanthus</i>	Black-eyed Susan	<i>Rudbeckia fulgida</i>
Sweet William	<i>Dianthus barbatus</i>	Scabious	<i>Scabiosa</i> spp.
Purple coneflower	<i>Echinacea purpurea</i>	Ice plant	<i>Sedum spectabile</i>
Globe thistle	<i>Echinops ritro</i>	French marigold	<i>Tagetes</i> spp.
Winter aconite	<i>Eranthis hyemalis</i>	Mulleins	<i>Verbascum</i> spp.
Fleabane	<i>Erigeron</i> spp.		

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Plants for Shady Areas

Common Name	Latin Name	Common Name	Latin Name
Bugle	<i>Ajuga reptans</i>	Bluebell	<i>Hyacinthoides non-scripta</i>
Lords and Ladies/ Cuckoopint	<i>Arum maculatum</i>	Yellow archangel	<i>Lamium galeobdolon</i>
Lilly of the Valley	<i>Convallaria majalis</i>	Daffodils	<i>Narcissus pseudonarcissus</i>
Foxglove	<i>Digitalis purpurea</i>	Primrose	<i>Primula vulgaris</i>
Wood avens	<i>Geum urbanum</i>	Sweet Violet	<i>Viola odorata</i>



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