Preliminary Ecological Appraisal

Grove Farm, Little Bealings

for

Brown & Co.

2 March 2017

greenlight
environmental consultancy

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Grove Farm, Little Bealings

Preliminary Ecological Appraisal

Document	Preliminary Ecological Appraisal
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Signed disclosure

The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.

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Summary

- This report considers the ecological aspects relating to a proposed site for development at Grove Farm, The Street, Little Bealings, Suffolk, IP13 6LT. A preliminary ecological appraisal has been carried out.
- The ecology report is required in support of a planning application for the demolition of the existing structures on site, and construction of residential dwellings on similar footprints.
- The survey and assessment was completed by independent, qualified and experienced ecologists with Natural England survey licences for the relevant protected species.
- The findings of the assessment are that the habitats on the site are of low to moderate ecological value and that there are no significant ecological constraints that would prevent the proposed works.
- Mitigation and enhancement recommendations for bats and birds are outlined below.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Protected sites	One SSSIs within 2km of the site. 12 CWS present within 2km of the site.	No significant impacts are predicted on protected sites and their qualifying features.	None required.
Protected habitats	River Fynn habitat on northern boundary of site (NERC Act 2006 habitat).	No habitats will be directly impacted by proposed works.	*Mitigation* Protection of boundary trees and root protection areas according to BS 5837:2012. Protection of river Fynn habitats by implementation of Construction Environmental Management Plan. *Enhancements* Native hedgerow and tree planting within and around the site.
Bats	Buildings on site assessed as **negligible** roosting potential. **Medium** bat roosting potential in two trees located on site.	Potential disturbance of bat roosts if present in trees. Potential light disturbance to commuting and foraging bats.	*Mitigation* A low light level regime to be installed around the development, without use of high powered security lighting. If trees with medium bat roosting potential are to be affected by proposed works, further bat surveys should be conducted. *Enhancement* Installation of four integrated bat boxes on new buildings on site and four bat boxes on trees.
Great crested newts	Suitable terrestrial habitat on site.	No impacts predicted. GCN	None required.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
	No suitable aquatic habitats within 250m of site. Three GCN records, closest 1.6km southeast but ecologically separated from the site.	unlikely to be found on site.	
Water voles, otters, white-clawed crayfish	Suitable aquatic habitat on site. Water vole and otter records within 2km, closest record on River Fynn adjacent northern boundary.	No impacts predicted, as development at safe working distance (>6m from river habitat).	*Precautionary mitigation* Installation of temporary protective fencing to maintain 6m construction buffer zone from River Fynn.
Breeding birds	Breeding habitat in scrub, trees and buildings on site. Site habitat not suitable for ground nesting birds.	Minor loss of some nesting habitat. Potential disturbance during nesting period from construction.	*Mitigation* Works to any trees, scrub and buildings on site to be conducted outside bird nesting season or under watching brief of ecologist if during nesting season. *Enhancement* Installation of one integrated swift box and one small bird box per building on site, installed on new buildings and trees respectively. Installation of one kestrel box.
Reptiles	Habitats on site suboptimal. 19 records of reptiles within 2km of the site.	Reptiles unlikely to be found on site and no impacts predicted.	*Precautionary mitigation* Cut and maintain vegetation short (maximum height of 10cm) on and around the site until the start of the work.
Badgers	No badger signs on site and habitat unsuitable. 18 badger records within 2km.	No impacts predicted.	None required.
Other animals	N/A	Potential harm to animals.	*Mitigation* Porous hedgehog friendly fencing should be used within and around the site. Any excavations on the construction site should be covered during the night. Lighting of the construction site at night should be minimised as far as practicable. Construction materials should be stored off the ground on pallets.

1. INTRODUCTION

1.1. Greenlight Environmental Consultancy Ltd. has been commissioned to carry out a preliminary ecological appraisal of a site for development at Grove Farm, The Street, Little Bealings, Suffolk, IP13 6LT. The grid reference of the proposed site is TM 22912 47517.

1.2. This report provides an ecological appraisal of the site within the context of the surrounding area. It outlines the habitat features on the site, the likelihood of protected species being present and any potential effects of the proposed development on protected species.

2. METHODOLOGY

2.1. A desktop review of published data, such as records of protected sites and species, OS maps and satellite images has been carried out. A data search was carried out with the Suffolk Biodiversity Information Service ("SBIS").

2.2. A field survey visit was conducted on 22nd February 2017 to confirm the findings of the desktop review and to record habitats and species located on site. Survey conditions were as follows: temperature at 11°C, moderate wind, cloudy and dry. The survey was carried out by Etienne Swarts and Nathan Duszynski.

2.3. Equipment available for use during the survey were binoculars, ladders, torches and a digital camera.

Bats

2.4. An assessment of the habitats on and surrounding the site for bat interest was made, in accordance with latest bat survey guidelines (Collins, 2016).

2.5. The buildings on site were assessed for their potential to support roosting bats and involved a thorough internal and external search of all suitable cavities, holes and crevices. All suitable areas, including objects, ledges and floors were inspected for the following signs:

- Bat droppings
- Stains around roosting places and entrance points
- Urine marks
- Prey remains
- Areas devoid of cobwebs
- Live or dead bats
- Suitable cracks and crevices for bats to enter

2.6. An evaluation system was applied to the buildings using the following criteria.

- **Negligible roost suitability for bats.** These buildings have no potential roosting features for bats, or very few or minor features in an isolated or unsuitable location such that the presence of a bat roost is considered highly unlikely. Such buildings usually fall into two main types: generally, well maintained without cracks and crevices, no gaps between bargeboard or soffit and wall, or without an attic space; or those which contain some or all of the above features, but are both draughty and thick in cobwebs or contain strong odours such as solvents, diesel etc. It must be borne in mind that a building from this latter group can become suitable for bats following refurbishment. This often happens to houses once the attic space has been cleaned and under-felted prior to timber treatment. When no suitable habitats for bats are found, no further surveys or mitigation licence are required.
- **Low roost suitability for bats**. Buildings in this category fall in to two main types: Generally, well maintained without cracks and crevices, no gaps between bargeboard or soffit and wall or without an attic space. Or those which contain some or all of the above features, but are both draughty and thick in cobwebs or contain strong odours such as solvents, diesel etc. It must be borne in mind that a building from this latter group can become suitable for bats following refurbishment. This often happens to houses once the attic space has been cleaned and under-felted prior to timber treatment. No licence is required for development to a building classified as Low roost suitability for bats.
- **Medium roost suitability for bats**. These buildings contain many sites suitable for roosting bats although no obvious signs are recorded during the survey. In exposed conditions on large buildings the signs of bat usage such as droppings and urine marks can be obliterated by heavy rain. Occasionally a light scattering of droppings will be recorded in an attic or a semi derelict building, which is considered by the surveyor unsuitable for use as a bat roost. The medium roost suitability for bats category can be used based on the surveyor's experience. Whilst no licence is generally required for development to a building classified as Medium roost suitability for bats, and if no evidence of a bat roost is found, it is often best practice to conduct sensitive roof stripping or architectural salvaging to minimise any possible disturbance.
- **High roost suitability for bats**. This group includes buildings with known roosts or signs of bat occupancy such as droppings and staining at a roost entrance. The description of High roost suitability for bats buildings will also contain an indication as to the time of the year when it will be occupied by bats i.e. summer – nursery roost, winter – hibernation. In some cases, sites with High roost suitability for bats will require further survey and licensing.

2.7. Trees on and around the site were assessed for their suitability to support roosting bats. The assessment involved a ground level inspection of the exterior of the trees to search for features offering roosting potential to bats such as split limbs, woodpecker holes, cavities, lifted bark and dense thick-stemmed ivy.

2.8. An evaluation system was applied to the trees using the following criteria.

- **Negligible roost suitability for bats**. Tress unlikely to be used by roosting bats.
- **Low roost suitability for bats**. A tree of sufficient size and age to contain Potential Roosting Features ("PRFs"), but with none seen from the ground or features seen with only very limited roosting potential.
- **Medium roost suitability for bats**. A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
- **High roost suitability for bats**. A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection and surrounding habitat.

Great crested newts

2.9. Habitats on and near the site were assessed for their suitability for great crested newts ("GCN").

2.10. There were no water features to assess for their suitability for occupation by GCN within 250m of the site.

Water voles, otters and white-clawed crayfish

2.11. Water features on and adjacent to the site were assessed for use by water vole *Arvicola amphibius*, otter *Lutra lutra* and white-clawed crayfish *Austropotamobius pallipes*.

2.12. Otters in England typically use areas of fresh water and streams and ditches for moving between habitats. Otter holts are usually located underneath tree roots, in tunnels. Field signs of presence include spraints on prominent features such as bridges, tree bases or boulders, and footprints.

2.13. Water voles inhabit burrows in the banks of ponds, ditches, streams and rivers. Field signs include droppings left in latrine spots, burrow entrances or feeding remains.

2.14. White-clawed crayfish inhabit streams and rivers with a moderate flow rate, and lakes. Clear, well-oxygenated water is preferred. Typical habitat features include crevices in rocks, gaps between stones, submerged plants and tree roots.

Birds

2.15. The site and its surrounding habitats were assessed for their potential to support breeding birds. Bird nesting habitat could include grassland, hedgerows, scrub and trees.

2.16. Bird species noted during the site visit were recorded. Trees were checked for use by barn owls *Tyto alba*.

Reptiles

2.17. The habitats on the site and within the proposed area of works were assessed for suitability for reptiles.

2.18. Reptiles rely on conditions that allow them to maintain their body temperature through basking. They require access to direct sunlight, shelter from the elements, sufficiently large populations of prey species and hibernation sites.

2.19. Reptiles typically favour a habitat mosaic with a diverse vegetation structure, which could include grassland, scrub and woodland.

Badgers

2.20. An inspection of all habitats with the potential to support badger *Meles meles* sett construction and foraging activities on the application site was undertaken. Any incidental observations of badger signs were also recorded. The survey comprised searching for evidence of badger activity in the form of setts, droppings, pathways, snuffle holes, hair and footprints.

Dormice

2.8 Dormice habitats include deciduous woodland, hedgerows and dense scrub. Dormice are found mainly in the south of England, including Kent and Sussex, with sporadic populations elsewhere.

Other protected species

2.21. Particular regard was made to the nature of the proposed development and the potential of impact upon any other protected species from the development work, should it be present in the area.

3. LEGISLATION AND POLICY

Legislation for protected sites and species (see Appendix C for detail)

3.1 The **Ramsar Convention (1971)** on Wetlands of International Importance especially as Waterfowl Habitat seeks to promote the conservation and wise use of wetlands, particularly those which support internationally significant numbers of water birds. This is achieved through the designation of Ramsar Sites.

3.2 The **European Community Council Directive on the Conservation of Wild Birds (79/409/EEC)** sets out general rules for the conservation of all naturally occurring wild birds, their nests, eggs and habitats. It requires member states to designate Special Protection Areas (SPAs) for protection of certain species.

3.3 The main piece of legislation relating to nature conservation in Great Britain is the **Wildlife and Countryside Act 1981 (as amended)**. This Act is supplemented by provision in the **Countryside and Rights of Way (CRoW) Act 2000** and the **Natural Environment and Rural Communities Act 2006** (in England and Wales). This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds and their nests and eggs.

3.4 The **Countryside and Rights of Way Act 2000** strengthens the protection given to SSSIs. It revises the procedures for the notification of SSSIs and for the consenting of operations which may damage the special interest of a SSSI. Local authorities have a duty to take steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of SSSIs. The act also strengthens the existing provisions of the Wildlife and Countryside Act 1981 for the enforcement of wildlife legislation, including a new offence of "recklessly" destroying or damaging the habitats of certain protected species.

3.5 UK wildlife is also protected under the **Conservation (Natural Habitats &c.) Regulations 1994** (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2010, these Regulations, together with subsequent amendments, were consolidated into the **Conservation of Habitats and Species Regulations 2010**.

3.6 The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes but only after the appropriate authority is satisfied that there

are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

3.7 The **Protection of Badgers Act 1992** consolidates previous badger legislation by providing comprehensive protection for badgers and their setts, with a requirement that any authorised sett disturbance or destruction be carried out under licence.

3.8 The **Hedgerows Regulations 1997** aim to protect important hedgerows in the countryside. They make it illegal to remove most countryside hedges without first notifying the local planning authority, and provide protection for 'important hedgerows'.

3.9 **County Wildlife Site** is a non-statutory designation used to identify high quality wildlife habitats in a county context. Local Authorities have a responsibility as part of their planning function to take account of sites of substantial nature conservation value and to consider them alongside other material planning considerations. The location of County Wildlife Sites will be included in Local Plans and Development Documents.

National Planning Policy - National Planning Policy Framework (NPPF)

3.10 Section 9 of the National Planning Policy Framework 2012 (NPPF): Biodiversity and geological conservation states that '*the planning system should contribute to and enhance the natural and local environment by …. minimising impacts on biodiversity and providing net gains in biodiversity where possible*.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

3.11 Paragraph 98 of Circular 06/2005 states that '*the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*'.

Implications of legislation and policies

3.12 Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

3.13 With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

4. SITE CONTEXT

Location

4.1 The general location of the site is shown in Figure 1 below.

4.2 The site is situated on the southern edge of the village of Little Bealings, with the A12 located approximately 1.1km southeast. The closest town is Ipswich, with the suburb of Kesgrave located approximately 1.6km south of the site.

4.3 The site is enclosed by the River Fynn and an arable field to the north, The Street and residential dwellings to the east, a railway to the south and semi-improved grassland to the west. The wider surroundings are comprised of a mixture of residential dwellings, large blocks of woodland and arable fields lined with mature trees and hedgerows.

Photo 1, road frontage and existing eastern access to the site, looking west.

Figure 1
Satellite image of site surroundings, site indicated by red line.
Image © Microsoft, date accessed 22/02/17

5. DESCRIPTION OF THE DEVELOPMENT

5.1 The proposals are for the demolition of the existing structures, and construction of residential dwellings on similar footprints. Please refer to Appendix H for the site location.

5.2 The access route for construction will be gained from the existing entrances to the east of the site.

6. DESKTOP REVIEW

Protected sites

Statutory

6.1 There is one statutory protected Site of Special Scientific Interest ("SSSI") located within 2km. Please refer to Appendix B for the full citation.

6.1.1 Sinks Valley, Kesgrave SSSI, located approximately 0.9km south of the site.

"Sinks Valley is one of the few remaining valleys within the Suffolk Coast and Heaths Natural Area that are almost entirely occupied with semi-natural vegetation. It contains a full sequence of habitats from open water, fringing swamp, spring-fed fen and wet grassland, and wet alder woodland, to dry acid grassland, heathland and oak woodland rising up the valley sides. It is this diversity of habitats, their barely interrupted sequence and their clear relation to the landform that makes Sinks Valley special."

Non-statutory

6.2 There are 12 non-statutory protected County Wildlife Sites ("CWS") located within 2km of the site. Please refer to Appendix B for the full citations.

6.2.1 Pogsons Farm Meadow CWS, located approximately 0.3km west of the site.

"This site consists of herb-rich grazed meadows with areas of gorse and bramble scrub especially on the margins, remnant hedges, wetter areas and some planted trees. Overall, these meadows are a fine example of an increasingly scarce habitat in Suffolk."

6.2.2 Playford Mere CWS, located approximately 0.5km west of the site.

"Playford Mere is situated south of the River Fynn and north of the railway line. The site consists of a number of artificial ponds linked by a series of channels and areas of tall fen vegetation. This site is a mosaic of undisturbed habitats which provide a valuable refuge for wildlife particularly birds, in an otherwise intensively-farmed landscape."

6.2.3 Meadow Cottage Wood CWS, located approximately 0.9km northeast of the site.

"A very dense deciduous woodland with. There is a ditch and bank system, paths which are mown and clearings with tall herb vegetation. Furthermore a significant amount of fallen trees and branches of crack willow add habitat diversity to the wood."

6.2.4 Lux Wood CWS, located approximately 0.9km west of the site.

"This deciduous ancient wood supports a wide range of tree species and is also an important site for birds."

6.2.5 Osier Bed and Martlesham Plantation Meadows CWS, located approximately 1km southeast of the site.

"This site consists of two meadows and former osier bed adjacent to Butlers Brook, a tributary of the River Fynn. The meadows support a diverse plant community are therefore of high conservation value."

6.2.6 Kesgrave Wood/Sinks Valley CWS, located approximately 1km south of the site.

"Kesgrave Wood (covered by a Tree Preservation Order) is an early 19th century plantation which has subsequently been considerably augmented by natural regeneration. Roe, muntjac and fallow deer are present in the wood and noctule bats have been recorded on this site."

6.2.7 Kiln Farm Meadow CWS, located approximately 1.2km northeast of the site.

"This site has an interesting flora, typical of an increasingly rare habitat, the wet meadow. A mown path dominated by grasses contrasts with areas of taller flowers, forming a pleasing mosaic of plant communities."

6.2.8 Bloomfields Farm Meadow CWS, located approximately 1.5km southeast of the site.

"In addition to a wide diversity of wetland plants, the meadow also supports large colonies of heath spotted and southern marsh orchids. Heath spotted orchid is a rare plant in Suffolk and this site is considered to be one of the finest remaining meadows for this species in the county."

6.2.9 Martlesham Plantation Acid Grassland CWS, located approximately 1.6km southeast of the site.

"This small area of acid grassland (biodiversity priority habitat) is an isolated remnant of the once extensive Martlesham Heath. Much of the latter has been lost to the building of the A12 Woodbridge bypass and the Martlesham 'Park and Ride'."

6.2.10 Martlesham Common CWS, located approximately 1.7km southeast of the site.

"Martlesham Common is a remnant of a much larger area of heathland known as the Suffolk Sandlings. It consists of patches of diverse acid grassland flora, interspersed with larger areas of bracken and gorse."

6.2.11 Queech Wood CWS, located approximately 1.8km northeast of the site.

"Queech Wood as listed in English Nature's Woodland Inventory is surrounded by a ditch and bank which is typical of most ancient woods. The wood is mainly used as a cover for game birds."

6.2.12 Playford Alder Carr CWS, located approximately 1.9km west of the site.

"This is a deciduous woodland in the Fynn valley. Some evidence of past coppicing is apparent and recent work (1986) has been undertaken along the ditch boundary to the northeast. There is a diverse age structure with regrowth."

Protected habitats

6.3 There are no priority habitats located on the site, except for the River Fynn, a freshwater habitat of principal importance protected under the NERC Act 2006.

6.4 Several Priority Habitats Inventory habitats are found within 0.1km of the site – Deciduous Woodland to the south beyond the railway line, and Coastal and Floodplain Grazing Marsh and Woodpasture and Parkland BAP Priority Habitat to the east beyond The Street.

6.5 Other Priority Habitat Inventory habitats to occur within 2km include Good Quality Semi-improved Grassland, Lowland Dry Acid Grassland, Lowland Heathland, Lowland Fens and Traditional Orchards.

Protected species

6.6 The biodiversity data search within 2km of the site indicated 1,109 protected species records.

6.7 The protected species recorded within 2km include 17 flowering plants, one fungus, eight lichen and moss species, 14 insect species, 80 bird species, four amphibians (including GCN), European eel *Anguilla Anguilla*, slow-worms *Anguis fragilis*, common lizards *Zootoca vivipara*, grass snakes *Natrix natrix*, adders *Vipera berus*, otters, badgers, hedgehogs *Erinaceus europaeus*, water voles, brown hares *Lepus europaeus* and at least six bat species.

6.8 Records of note within 2km and relevant to the proposed development works are:

- 15 records of barn owls between 1998 and 2015, located within 2km.
- 16 records of swifts *Apus apus* between 2008 and 2014, located within 2km.
- Three records of GCN between 2004 and 2011, with the closest record located approximately 1.6km southeast.
- 19 records of reptiles (seven slow-worms, seven common lizards, two grass snakes and three adders) between 1999 and 2015, with the closest record located approximately 0.7km east.

- 10 records of otters between 1997 and 2008, with the closest located adjacent the site boundary on the River Fynn.
- 18 records of badgers between 1996 and 2015, with the closest located approximately 0.2km west.
- 73 records of hedgehogs between 2005 and 2014, located within 2km.
- Eight records of water voles between 1996 and 2006, with the closest record located adjacent the site boundary on the River Fynn.
- 34 records of bats between 1996 and 2014 including common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, brown long-eared bats *Plecotus auritus*, serotines *Eptesicus serotinus*, noctules *Nyctalus noctula* and barbastelles *Barbastella barbastellus*.

6.9 A 2km search on http://www.magic.gov.uk/ indicated one record of a granted European Protected Species ("EPS") Application relating to:

- Bats (case reference: 2015-11412-EPS-MIT) from 2015, approximately 1km northeast. Species on the licence include: common pipistrelle, soprano pipistrelle and brown long-eared bats.

7. FIELD STUDY

Habitats

7.1 The site is bounded by the River Fynn to the north, The Street and residential dwellings to the east, a railway to the south and semi-improved grassland to the west. Access to the site will be gained from the existing entrance to the east of the site.

Deciduous woodland (phase 1 habitat classification A1)

7.2 The southern third of the site features a deciduous woodland dominated by mature alder *Alnus glutinosa*. The understorey is comprised of sparse elder *Sambucus nigra* and holly *Ilex aquifolium* scrub, with a ground flora of cleavers *Galium aparine* and nettle *Urtica dioica*. A full list of plant species recorded on site is attached in Appendix D.

Scrub with trees (phase 1 habitat classification A2)

7.3 The site features two areas of scrub with trees along the site boundaries, which are dominated by bramble *Rubus fruticosus*, dog-rose *Rosa canina* and hawthorn *Crataegus monogyna*. Tree species include: English oak *Quercus robur*, hazel *Corylus avellana* and wild cherry *Prunus avium*.

Line of trees (phase 1 habitat classification A3)

7.4 Two lines of trees are present along the site boundaries. The northern boundary features a line of mature ash *Fraxinus excelsior*, poplar *Populus sp.* and maple *Acer sp*. The southeast boundary features a line of mature poplar, silver birch *Betula pendula* and sycamore *Acer pseudoplatanus*.

Scattered trees (phase 1 habitat classification A3)

7.5 The site contains numerous scattered trees. Species include: ash, goat willow *Salix caprea*, hazel and sycamore.

Improved grassland (phase 1 habitat classification B4)

7.6 The northern third of the site features an area of improved grassland that is irregularly managed. Species include: broadleaf dock *Rumex obtusifolius* cock's-foot *Dactylis glomerate*, cow parsley *Anthriscus sylvestris*, foxglove *Digitalis purpurea*, nettle perennial ryegrass *Lolium perenne*, white dead nettle *Lamium album* and Yorkshire fog *Holcus lanatus*. The grassland has a high herbaceous content of broadleaf dock and nettle.

Semi-improved grassland (phase 1 habitat classification B4)

7.7 The middle third of the site features an area of semi-improved grassland dominated by creeping buttercup *Ranunculus repens*, dove's-foot cranesbill *Geranium molle* and a range of mosses. Other species include: hedgerow cranesbill *Geranium pyrenaicum*, horsetail *Equisetum arvense*, sheep's fescue *Festuca ovina* and soft rush *Juncus effusus*.

Tall ruderal (phase 1 habitat classification C3.1)

7.8 There are two main areas of tall ruderal vegetation dominated by cleavers, foxglove and nettle. These habitats lack structure with the soil remaining relatively bare.

River (phase 1 habitat classification G2)

7.9 The River Fynn is present along the northern boundary of the site and measures approximately four meters wide. Species include: common starwort *Callitriche stagnalis* and greater willowherb *Epilobium hirsutum*.

Stream (phase 1 habitat classification G2)

7.10 Three streams are present across the site, flowing from the deciduous woodland towards the River Fynn along the western boundary. Species include: bramble, brooklime *Veronica beccabunga*, greater willowherb and lesser burdock *Arctium minus*.

Dry ditch (phase 1 habitat classification J2.6)

7.11 A dry ditch is present along the northeast boundary of the site and is being encroached by bramble and lesser burdock.

Buildings (phase 1 habitat classification J3.6)

7.12 There are several buildings on site that were originally used for livestock. Please refer to the bat section detailed below for further information.

Hardstanding (phase 1 habitat classification J5)

7.13 The site features an area of concrete and compacted gravel hardstanding across the site, with encroaching ruderal vegetation.

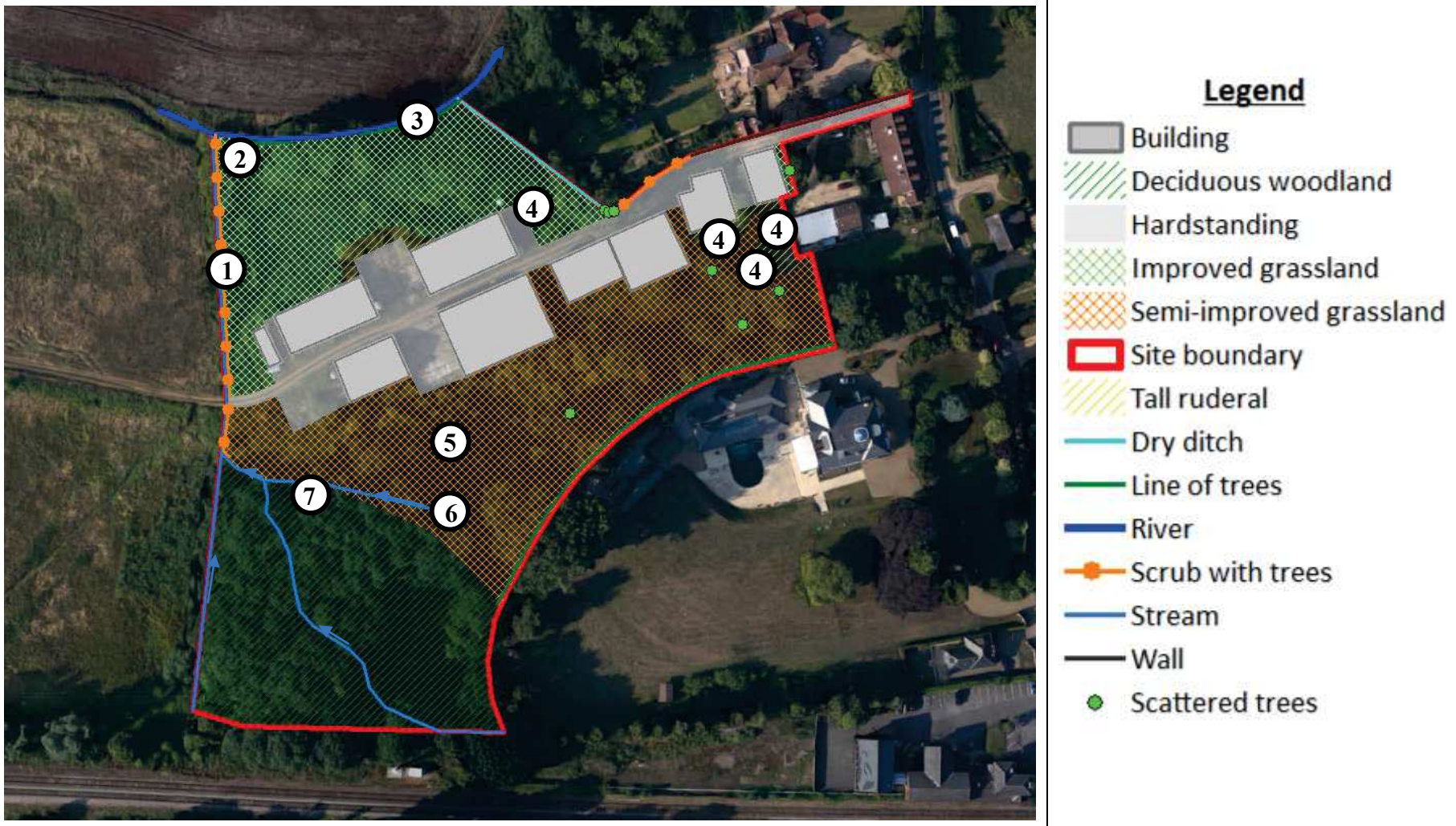

Figure 2
Phase 1 habitats on site.
Image © Microsoft, date accessed 23/02/17

Target note number	Comments
1	Declining mature English oak tree with medium bat roosting potential. The tree is located along a stream, amongst scrub and has several potential roosting features ("PRF") such as lifted bark, cracked limbs and woodpecker holes.
2	Mussel shells found adjacent the stream in the northwest corner of the site. Potentially from the last desilting of the stream.
3	A potential water vole burrow along the northern bank of the River Fynn.
4	Rubble and corrugated metal piles with rank vegetation at the edges. They measure approximately 4m wide, 4m long and 2m high.
5	An area of damp ground within semi-improved grassland. This area is dominated by soft rush and nettle.
6	A spring which feeds into the River Fynn.
7	A mature poplar with medium bat roost potential. The tree is located on the northern edge of the deciduous woodland and has a dropped limb wound creating a south facing cavity within the trunk.

Table 1, phase 1 target notes.

Photo 2, irregularly improved grassland managed and line of trees adjacent to the River Fynn, looking northeast.

Photo 3, the River Fynn and line of trees, looking east.

Photo 4, tall ruderal vegetation adjacent buildings, hardstanding and improved grassland, looking west.

Photo 5, semi-improved grassland and scattered trees in the eastern section of the site, looking southwest.

Photo 6, stream and semi-improved grassland, looking northwest.

Photo 7, target note one – mature English oak tree, looking northwest.

Photo 8, target note two – freshwater mussel remains in the northwest corner of the site.

Photo 9, target note three – potential water vole burrow in the northern bank of the River Fynn.

Photo 10, target note four – rubble piles with tall ruderal vegetation at their edges, looking east.

Photo 11, target note five – area of damp ground amongst semi-improved grassland, looking north.

Photo 12, target note seven – dropped limb wound creating a south facing cavity within the trunk.

Bats

7.14 There are nine buildings located on site, as indicated in Figure 3 and photos 13-22.

Figure 3
Location and numbering of buildings located on site.
Image © Microsoft, date accessed 23/02/17

Physical inspection – building one

7.15 Externally, the building is of brick construction and is in a poor state of repair. The roof is comprised of exposed timber trusses, with encroaching ivy *Hedera helix* and buddleja *Buddleja sp.*

7.16 Internally, the building is open to the external environment and appears to have been used for livestock, containing several pig stalls.

7.17 There were no signs of use by bats in the building interior or on the exterior and it lacks suitable cavities or suitable roosting conditions for bats. It is assessed as of **negligible** bat roosting potential.

Photo 13, external view of building one, looking southwest.

Photo 14, internal view of building one, looking south.

Physical inspection – building two

7.18 Externally, the building features a breezeblock plinth with timber and metal supports, and corrugated tin walls and roof.

7.19 Internally, the building is open and contains a significant amount of daylight from the open northwest aspect and southern windows. The building appears to be used for storage.

7.20 There were no signs of use by bats in the building interior or on the exterior and it lacks suitable cavities or suitable roosting conditions for bats. It is assessed as of **negligible** bat roosting potential.

Photo 15, external view of building two, looking southwest.

Photo 16, internal view of building two, looking south.

Physical inspection – building three

7.21 Externally, the building is of breezeblock construction, with cladding on the gable ends and asbestos wall insulation. The roof is comprised of corrugated asbestos sheeting and fascias.

7.22 Internally, a loft space featuring ventilation shafts spans the length of the building. The building appears to have been used for livestock.

7.23 There were no signs of use by bats in the building interior or on the exterior and it lacks suitable cavities or suitable roosting conditions for bats. It is assessed as of **negligible** bat roosting potential.

Photo 17, external view of building three, looking southwest.

Photo 18, internal view of building three, looking southeast.

Physical inspection – building four

7.24 The building is of Dutch barn design with timber supports, and open on all aspects. The roof is comprised of corrugated asbestos sheeting. The building appears to have been used for storage.

7.25 There were no signs of use by bats in the building interior or on the exterior and it lacks suitable cavities or suitable roosting conditions for bats. It is assessed as of **negligible** bat roosting potential.

Photo 19, view of building four, looking south.

Physical inspection – buildings five to eight

7.26 Externally, the buildings are of breezeblock construction with timber frames. They feature cladding on the gable ends and wooden slats on the sidewalls. The roofs are comprised of corrugated clear plastic and asbestos sheeting, with asbestos fascias and ventilation slits along the ridge beams.

7.27 Internally, the buildings feature open loft spaces with the exception of building five having a false ceiling. They have a significant amount of daylight from the corrugated clear plastic roofing and wooden slat sidewalls. The buildings appear to have been used for livestock.

7.28 There were no signs of use by bats in the building interior or on the exterior and it lacks suitable cavities or suitable roosting conditions for bats. It is assessed as of **negligible** bat roosting potential.

Photo 20, external view of building six, looking northwest.

Photo 21, internal view of building six, looking west.

Physical inspection – building nine

7.29 Externally, the building is of breezeblock construction, with asbestos wall insulation. The roof is comprised of corrugated asbestos sheeting and fascias, with a ventilation shaft.

7.30 Internally, the building's roof is open at the ridge, creating a light and draughty environment. The building appears to have been used for the rearing of young livestock.

7.31 There were no signs of use by bats in the building interior or on the exterior and it lacks suitable cavities or suitable roosting conditions for bats. It is assessed as of **negligible** bat roosting potential.

Photo 22, external view of building nine, looking northwest.

Physical inspection – boundary trees

7.32 The trees around the site boundary were assessed for bat roosting potential. A mature English oak and unidentified poplar were located across the site (see figure two, table one, target notes one and six) and contained several PRFs such as lifted bark, cracked limbs, woodpecker holes and dropped limb wounds creating cavities within the trunk. They are assessed as having **medium** bat roosting potential due to their location, age and suitable features.

Foraging and commuting links

7.33 The landscape immediately adjacent to the site is considered of high value for foraging and commuting bats, with deciduous woodland, hedgerows, treelines and the River Fynn providing foraging and commuting links to the wider landscape.

7.34 The site itself provides moderate foraging habitat for bats within the deciduous woodland and along the River Fynn.

Great crested newts

7.35 There are no ponds within the survey site and no further ponds within 250m, which for the size of the development and nature of terrestrial habitat on the site, is a sufficient distance to consider for assessment (Figure 4). GCN are most likely to occupy good quality terrestrial habitat within 250m of a breeding pond (English Nature, 2001).

7.36 The River Fynn to the north, The Street to the east and the railway to the south act as habitat barriers and ecologically separate the site from ponds further afield.

7.37 The site contains suitable terrestrial habitats for GCN, comprising of semi-improved grassland, deciduous woodland and rubble piles.

7.38 The terrestrial habitats directly surrounding the site are of medium to high value for GCN, including semi-improved grassland and deciduous woodland.

Water voles, otters, white-clawed crayfish

7.39 Suitable water vole and otter habitat is present along the northern boundary, with a potential water vole burrow observed in the bank of the River Fynn (see figure two, table one, target note three).

7.40 The river and stream banks are sufficiently steep and contain emergent vegetation to provide water vole habitat.

7.41 Although the River Fynn provides suitable otter foraging habitat, the site is unsuitable for their holts.

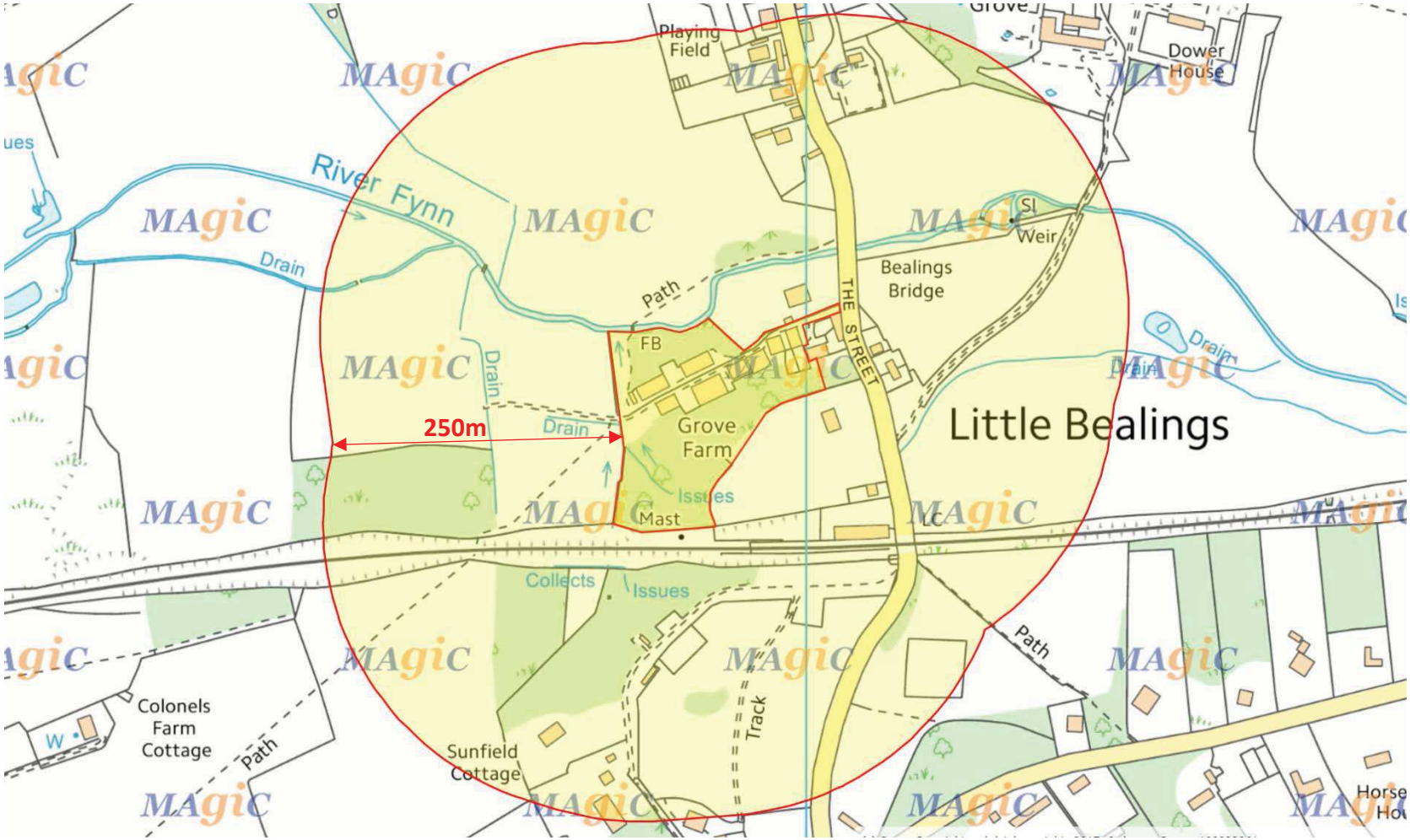

Figure 4
Showing no ponds within 250m of the proposed site.
Image © MAGIC, date accessed 23/02/17

Birds

7.42 Birds in the UK are classified into three categories of conservation importance - red, amber and green. Factors such as global threat level, population decline, breeding population decline and contraction of breeding range are taken into account to determine classification.

7.43 The following bird species were observed during the site visit:

Red listed:

House sparrow	*Passer domesticus*
Song thrush	*Turdus philomelos*

Amber listed:

Black-headed gull	*Chroicocephalus ridibundus*
Dunnock	*Prunella modularis*

Green listed:

Blackbird	*Turdus merula*
Blue tit	*Cyanistes caeruleus*
Chaffinch	*Fringilla coelebs*
Domestic pigeons	*Columba livia domestica*
Goldfinch	*Carduelis carduelis*
Great tit	*Parus major*
Long-tailed tit	*Aegithalos caudatus*
Magpie	*Pica pica*
Pied wagtail	*Motacilla alba*
Woodpigeon	*Columba palumbus*
Wren	*Troglodytes troglodytes*

7.44 No suitable breeding sites for barn owls were identified on the survey site. The nesting habitat on the site boundaries was considered suitable for Amber listed species dunnock *Prunella modularis* and red listed starlings *Sturnus vulgaries.*

7.45 Several kestrel *Falco tinnunculus* pellets were observed within buildings four and seven, although no breeding sites were identified.

7.46 Buildings six, seven and eight contained numerous domestic pigeon nests, with several birds observed during the survey.

7.47 Skylarks use grassland habitats for nesting, but the site is considered too enclosed by tall boundary vegetation and buildings for use by skylarks. Extensive nesting habitat for skylarks is located in the near vicinity of the proposed site. No skylarks were recorded on site during the survey, albeit the survey was conducted outside the breeding season.

Reptiles

7.48 The habitats on the site are considered suboptimal for reptiles, comprising irregularly managed improved and semi-improved grassland, tall ruderal vegetation and deciduous woodland.

7.49 The habitats directly surround the site are considered of medium to high value for reptiles, with semi-improved grassland and deciduous woodland providing suitable commuting, foraging and resting habitats.

Badgers

7.50 No signs of badger presence were found on or near the site, and the habitats on site are unsuitable for this species.

Dormice

7.51 The habitats on site are considered unsuitable for hazel dormice, with a sparse understorey within the deciduous woodland and no hedgerows present on site.

8. DISCUSSION AND CONCLUSIONS

Protected sites

8.1 Within 2km are located one SSSI and 12 non-statutory protected CWS.

8.2 The closest statutory protected site (Sinks Valley, Kesgrave SSSI), is located approximately 0.9km south of the site and designated for its wetland habitats.

8.3 The closest non-statutory protected site (Pogsons Farm Meadow CWS), is located approximately 0.3km west of the site and designated for its herb-rich grazed meadows.

8.4 The proposed development will have no effects on statutory or non-statutory protected sites or their qualifying features, owing to its relatively small scale, distance to protected sites, and limited impacts beyond the area of works.

Habitats

8.5 There are no priority habitats located on the site except for NERC Act 2006 habitat of principal importance – freshwater habitats – and no hedgerows or trees will be directly affected by the proposed works.

8.6 The site contains several water ways including the River Fynn, streams and ditches along the site boundaries. We recommend that construction work is carried out in accordance with British Standards Institution (2013), *BS 42020:2013, Biodiversity – Code of Practice for planning and development*, to protect waterways from runoff and pollution via the implementation of a Construction Environmental Management Plan ("CEMP").

8.7 The site contains trees along the boundaries. We recommend that construction work is carried out in accordance with British Standards Institution (2012), *BS 5837:2012, Trees in relation to design, demolition and construction – recommendations*, to protect retained trees and their root protection areas.

8.8 To enhance the value of the site for wildlife, we suggest a soft landscaping scheme including planting new trees or hedgerows around and within the site, using native species (see appendix G for suggested species).

Bats

8.9 The buildings on site are assessed as of **negligible** bat roosting potential, with no signs of bat use and a lack of suitable cavities or roosting conditions.

8.10 A mature English oak and unidentified poplar are located on the site boundaries and are assessed as of **medium** bat roosting potential, due to their location, age and suitable features. If these trees are to be directly affected by proposed works, further bat surveys should be conducted prior to work commencing in order to assess their use by bats.

8.11 The remaining trees adjacent to the site are assessed as of **negligible** roost suitability for bats, due to their age and/or lack of features.

8.12 The site itself provides moderate foraging habitat for bats within the deciduous woodland and along the River Fynn.

8.13 As a precautionary measure, the following mitigation is recommended to avoid impacts on bats from the proposed works:

- A low light level regime around the development without the use of high powered security lighting, to minimise impacts on bats that may forage and commute in the vicinity, and other nocturnal animals

8.14 As enhancements, we recommend the installation of four integrated bat box on new buildings on site, four bat boxes on trees (see Appendix E for examples) and the planting of native species hedgerows with some trees within and around the site (see Appendix G for native species).

8.15 After these precautionary mitigation measures, we predict no impact on bats as a result of the development plans. We consider that a European Protected Species Licence will not be required, and no further surveys are necessary.

Great crested newts

8.16 Terrestrial habitats were considered suitable for GCN, comprising of semi-improved grassland, deciduous woodland and rubble piles. The surrounding landscape is of medium to high value, although the River Fynn to the north, The Street to the east and the railway to the south act as habitat barriers and ecologically separate the site from ponds in the local vicinity.

8.17 There were no suitable aquatic habitats on site or within 250m.

8.18 The data search indicated three records of GCN, with the closest located approximately 1.6km southeast. These records are ecologically separated from the site by the railway to the south and The Street to the east.

8.19 GCN are most likely to use suitable terrestrial habitat within only 250m of a breeding pond (English Nature, 2001) and we consider it highly unlikely that GCN would be present on site. Therefore, no further surveys or mitigation are considered necessary.

Water voles, otters and white-clawed crayfish

8.20 No suitable habitat for white-clawed crayfish is present on or near the site and no mitigation is required.

8.21 The data search indicated eight and 10 records of water voles and otters respectively, with the closest located on the River Fynn on the northern site boundary.

8.22 Suitable water vole habitat is present on site, with a potential burrow observed along the northern bank of the River Fynn.

8.23 The site boundary for the proposed development is greater than 6m from any rivers, streams and banks considered suitable water vole habitat. The separation distance also provides a safe working distance for water vole mitigation.

8.24 As a precautionary measure, we recommend the installation of a temporary protective fence to maintain a 6m construction buffer zone from the River Fynn.

8.25 Although the River Fynn provides suitable otter foraging and commuting habitat, the site is unsuitable for their holts and no further surveys or mitigation is required.

Birds

8.26 The site provides nesting habitats for scrub nesting birds in the scrub and trees on site. The site habitats are not considered suitable for ground nesting species.

8.27 Some of the buildings are used by nesting birds, including buildings six, seven and eight which are used by domestic pigeons (green listed).

8.28 Any works affecting bird nesting habitat such as demolition of buildings and management of trees and scrub would ideally need to be conducted outside the main nesting season, which lasts from March to August. If work is planned during the bird nesting season, then a precautionary check should be undertaken a week before the start of works, and all active bird nests protected until the young have fledged.

8.29 As enhancements, we recommend the following:

- The installation of one integrated swift box and one small bird box per building on site, to be installed on new buildings and trees respectively (see Appendix E for example).
- The installation of a kestrel box on the edge of the deciduous woodland (see Appendix E for example).
- The planting of native species hedgerows with some trees within and around the site (see Appendix G for native species).

8.30 No suitable habitat for barn owl nesting is located on the site.

Reptiles

8.31 The habitats on site are considered suboptimal for reptiles, comprising irregularly managed improved and semi-improved grassland, tall ruderal vegetation and deciduous woodland.

8.32 The data search indicated 19 records of reptiles (seven slow-worms, seven common lizards, two grass snakes and three adders), with the closest record located approximately 0.7km east. These records are ecologically separated from the site by the railway to the south, The Street to the east and the River Fynn to the north.

8.33 We consider it unlikely that reptiles would be present on site during the proposed works and no further surveys are considered necessary.

8.34 As a precautionary measure, we recommend that the grassland and patches of scrub and tall ruderal vegetation on site be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.

Badgers

8.35 No signs of badger presence were found on or near the site, and the habitats on site are unsuitable for this species.

8.36 No mitigation is considered necessary.

Dormice

8.37 The habitats on site are unsuitable for hazel dormice and there are no records of this species within the 2km data search.

8.38 No further surveys or mitigation is considered necessary.

Other animals

8.39 The surrounding habitat of the site is considered suitable for hedgehogs, which have been recorded within 2km. To maintain potential hedgehog routes within the site and between the site and further habitats, we recommend that any fencing installed is porous and provides access openings for hedgehogs (see Appendix F for examples).

8.40 General mitigation to protect wildlife during the construction period are as follows:

- Any excavations on the construction site should be covered during the night to prevent animals from falling in.
- Lighting of the construction site at night should be minimised as far as practicable, to reduce the risk of possible disruption to nocturnal animals such as bats and badgers.
- Construction materials should be stored off the ground on pallets, to prevent providing shelter for animals and subsequent harm when materials are moved.

Conclusion

8.41 In overall conclusion, no significant ecological constraints were identified that would adversely affect the proposed residential development at the site.

8.42 With the recommended mitigation and suggested enhancements incorporated into the layout, there is an opportunity to enhance the value of the site for local wildlife, resulting in a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

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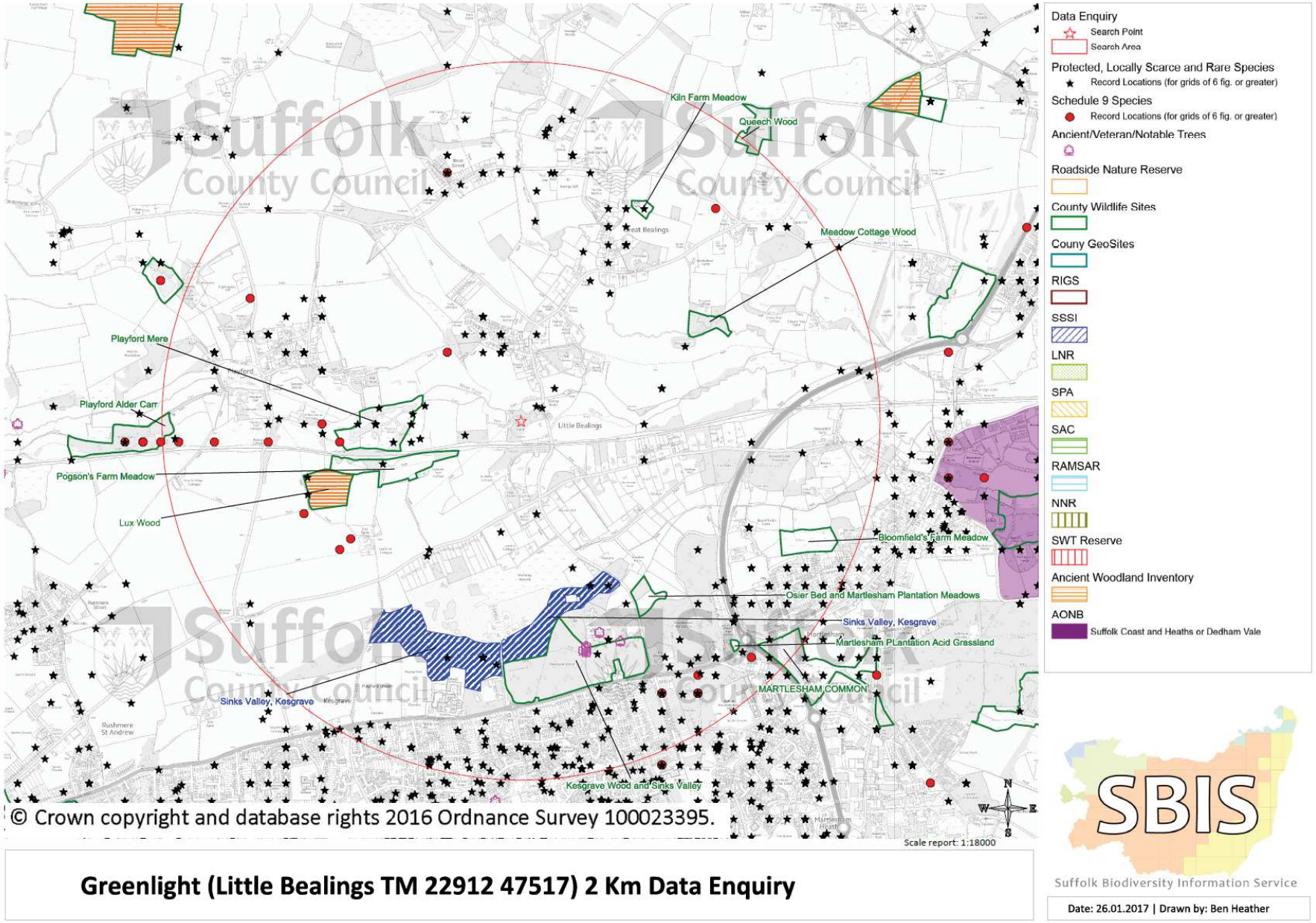
Appendix A

Map of protected sites within 2km



Greenlight (Little Bealings TM 22912 47517) 2 Km Data Enquiry

SBIS

Suffolk Biodiversity Information Service

Date: 26.01.2017 | Drawn by: Ben Heather

Appendix B

Protected sites citations
SSSI citations

COUNTY: SUFFOLK SITE NAME: SINKS VALLEY, KESGRAVE

DISTRICT: SUFFOLK COASTAL

Status: Site of Special Scientific Interest (SSSI)

Notified under: Section 28 of the Wildlife and Countryside Act 1981 as amended

Local Planning Authority: SUFFOLK COUNTY COUNCIL, Suffolk Coastal District Council

National Grid Reference: TM 228463 Area: 24.3 (ha.)

Ordnance Survey Sheet 1:50,000: 169 1:10,000: TM 24 NW

Date Notified (Under 1981 Act): 9 Feb 1996 Date of Last Revision: October 1996

Description and Reasons for Notification:
Sinks Valley is one of the few remaining valleys within the Suffolk Coast and Heaths Natural Area that are almost entirely occupied with semi-natural vegetation. It contains a full sequence of habitats from open water, fringing swamp, spring-fed fen and wet grassland, and wet alder woodland, to dry acid grassland, heathland and oak woodland rising up the valley sides. It is this diversity of habitats, their barely interrupted sequence and their clear relation to the landform that makes Sinks Valley special.

The valley, occupied by Butlers Brook, cuts into a succession of sands and gravels overlying Red Crag and London Clay. Acid grassland and bracken predominate at the western end on the free-draining sandy soils of the valley sides. The grassland is dominated by sheep's fescue *Festuca ovina*, common bent grass *Agrostis capillaris* and sheep's sorrel *Rumex acetosella*. Heathland is restricted to two small areas where heather *Calluna vulgaris* is abundant in the sward. Where rabbits graze heavily there is a short turf rich in lichens *Cladonia* spp., mosses and herbs. In places, the add grassland is similar to grasslands which are only found in Breckland of west Suffolk and Norfolk, with plants such as shepherd's cress *Teesdalia nudicaulis*, common stork's bill *Erodium cicutarium*, early hair-grass *Aira praecox* and bird's-foot *Ornithopus perpusillus*. The nationally scarce plant, mossy stonecrop *Crassula tillaea* can be found along pathways. Bracken *Pteridium aquilinum* forms extensive stands on the dry open ground where there has been little grazing in recent years. Open woodland with oak *Quercus robur*, scots pine *Pinus sylvestris* and birch *Betula pendula* has developed on former acid grassland on the southeastern side of the valley.

Towards the valley bottom, where the ground is spring-fed the grassland changes with Yorkshire Fog *Holcus lanatus*, heath bedstraw *Galium saxatile* and soft rush *Juncus effusus* more dominant. It supports heath rush *Juncus squarrosus*, which is rare in the Suffolk Coast and Heaths. This type of grassland is unusual in lowland Britain, as it is much more typical of upland western and northern Britain.

The ponds in the central part of the site, where Butlers Brook has been dammed, support a wide range of swamp and fen communities. At this point in the valley the sands and gravels have been eroded to expose Red Crag, giving a calcareous influence to the ground-water and sparse mineral soils. The western pond shows a transition from a large area of reedbed *Phragmites australis*, fringing the pond, through a floristically rich tall-herb fen community, to willow car. Large dumps of greater tussock sedge *Carex paniculata* characterise the tall-herb fen along with bittersweet *Solanum dulcamara* and great willowherb *Epilobium hirsutum*. A dense canopy of grey willow *Salix cinerea* and downy birch *Betula pubescens* over a diverse marshy ground layer occurs along the bottom of the valley to the west of the pond. Three species of *Sphagnum* mosses are in the swamp which is significant as this group of mosses are rare and localised in Suffolk. The western pond is also home to a substantial population of toads *Bufo bufo*, frogs *Rana temporaria* and smooth newts *Triturus vulgaris*.

Mature alder *Alnus glutinosa* woodland, the core of which may be ancient, occupies the valley floor to the east. This spring-fed woodland is very marshy, because the Red Crag has gone to leave London Clay at the surface. The flora includes some fine stands of broad buckler fern *Dryopteris dilatata* and substantial areas of opposite-leaved golden saxifrage *Chrysosplenium oppositifolium*, a characteristic species of wet valley alderwoods on the London Clay. Emergent vegetation occurs around the eastern pond and comprises an open stand of common reedmace *Typha latafolia* with frequent pendulous sedge *Carex pendula* and water forget-me-not *Myosotis scorpioides*. The alderwood continues downstream as a distinct valley bottom habitat following the stream to Hall Road at the eastern end of the site. There are few valley alderwoods of this size in the Suffolk Coast and Heaths. Further habitat diversity is provided by the stands of old broadleaved plantation present on the drier ground on either side of the alder woodland.

County Wildlife Sites citations

CWS Number	Suffolk Coastal 115
Site Name	POGSONS FARM MEADOW
Parish	PLAYFORD
District	Suffolk Coastal
NGR	TM221473
Description	This site consists of herb-rich grazed meadows with areas of gorse and bramble scrub especially on the margins, remnant hedges, wetter areas and some planted trees. The trees planted in one corner include sweet chestnut, silver birch, larch and pine and the old hedges are dominated by hawthorn with ash, holly, sycamore and some elm stumps. An old oak and sweet chestnut pollard are pleasing features. A wide variety of grasses grow in the meadows reflecting the unimproved nature of the grasslands. Species include sweet vernal grass, crested dog's-tail, meadow foxtail, timothy and red fescue. The meadow also supports ragged robin, greater bird's-foot trefoil, sorrel, fleabane, sheep's sorrel, pignut, heath bedstraw and lady's bedstraw among many other species. The very wet areas add further variety with several rushes and horsetails, brooklime, and in open water, lesser water parsnip, watercress and duckweed are present. Overall, these meadows are a fine example of an increasingly scarce habitat in Suffolk.
Area	6.32

CWS Number	Suffolk Coastal 116
Site Name	OSIER BED & MARTLESHAM PLANTATION MEADOWS
Parish	LITTLE BEALINGS
District	Suffolk Coastal
NGR	TM236465
Description	This site consists of two meadows and former osier bed adjacent to Butlers Brook, a tributary of the River Fynn. The osier bed contains occasional mature trees of alder, birch, hornbeam, ash and oak amongst the osier willow, which has not been cut for many years. The ground flora includes some noteworthy species such as twayblade, southern marsh orchid and large areas of opposite- leaved golden saxifrage. The two meadows on the southern side of the stream are floristically rich examples of unimproved, wet grassland although the western meadow has not been managed recently. Typical species include marsh marigold, meadowsweet, ragged robin, water mint and meadow vetchling. Both meadows contain abundant southern marsh orchids. The easternmost meadow is grazed and holds water in places throughout the year due to crag springs. These form boggy flushes which are ideal for snipe and other waders. Before the Second World War, flower-rich meadows were common in areas where the crag outcrops in the Sandlings. Many of these grasslands have since disappeared or have been agriculturally improved. These meadows, which still support a diverse plant community are therefore of high conservation value.
Area	1.95

CWS Number	Suffolk Coastal 117
Site Name	MEADOW COTTAGE WOOD
Parish	GREAT BEALINGS
District	Suffolk Coastal
NGR	TM239480
Description	This very dense deciduous woodland with scrub is managed to some extent by the owners who have cleared some fallen trees and sprayed nettles. There is a mix of vegetation types including alder and willow coppice, ash woodland with oak and sweet chestnut; the scrub layer is made up of hazel, sloe, hawthorn and elder. There are some exotic species too like swamp cypress which were planted by previous owners. This site is noted for bearded couch. It is the only record for this plant in east Suffolk. Two other scarce plants namely small teasel and common bistort also occur here. Other plant species include broad-leaved willowherb, angelica, three-veined sandwort, opposite-leaved golden saxifrage and hogweed. There is a ditch and bank system, paths which are mown and clearings with tall herb vegetation. Furthermore a significant amount of fallen trees and branches of crack willow add habitat diversity to the wood. This site was remapped in 2014 to account for a previous mapping error.
Area	2.17

CWS Number	Suffolk Coastal 121
Site Name	BLOOMFIELDS FARM MEADOW
Parish	MARTLESHAM
District	Suffolk Coastal
NGR	TM245468
Description	This meadow situated close to Bloomfield's Farm was first surveyed by the eminent botanist Francis Simpson in 1973, and more recently by Suffolk Wildlife Trust in 1986. Both surveys showed that in addition to a wide diversity of wetland plants, the meadow also supports large colonies of heath spotted and southern marsh orchids. Heath spotted orchid is a rare plant in Suffolk and this site is considered to be one of the finest remaining meadows for this species in the county.
Area	3.84

CWS Number	Suffolk Coastal 122
Site Name	MARTLESHAM COMMON
Parish	MARTLESHAM
District	Suffolk Coastal
NGR	TM245460
Description	Martlesham Common is a remnant of a much larger area of heathland known as the Suffolk Sandlings. It consists of patches of diverse acid grassland flora, interspersed with larger areas of bracken and gorse. Amongst the many wild flowers which grow here are bell heather (an uncommon species of heather), field woodrush, nodding thistle and heath bedstraw. Furthermore, the site is important for its population of silver-studded blue butterflies, a rare heathland species which is listed on Schedule 5 of the Wildlife and Countryside Act 1981. Despite considerable recreational pressure, Martlesham Common remains a highly valued heathland area.
Area	10.08

CWS Number	Suffolk Coastal 142
Site Name	PLAYFORD ALDER CARR
Parish	PLAYFORD
District	Suffolk Coastal
NGR	TM207474
Description	This is a deciduous woodland in the Fynn valley consisting of alder, ash, oak, hornbeam and sycamore with wet areas of sedges and reeds. An area planted with hybrid poplars is also included within the site boundary as it contains standing water fed by springs and also the occasional oak and alder. Spring pond is very much overgrown with little open water but the ground is not water-logged with the springs flowing as streams. Some evidence of past coppicing is apparent and recent work (1986) has been undertaken along the ditch boundary to the north-east. There is a diverse age structure with regrowth of alder and hornbeam of considerable age. The flora includes bluebells on the slope rising to the railway line and some plants normally indicative of ancient woodland for example wood melick, sanicle and moschatel. Wetland species occur in the boggy flushes; marsh marigold, hemp agrimony, yellow flag and common valerian. A well used public footpath from Tuddenham to Playford runs through the wood.
Area	6.57

CWS Number	Suffolk Coastal 143
Site Name	LUX WOOD
Parish	PLAYFORD
District	Suffolk Coastal
NGR	TM218473
Description	This deciduous ancient wood supports a wide range of tree species, including beech, oak, elm, sycamore, wild cherry and hornbeam. Small areas of hazel and small-leaved lime can also be found. Dutch elm disease has affected part of the wood, although suckering elm regrowth is evident in places. The understorey is composed of hazel, elder, hawthorn and bramble. Wood anemone together with bluebell, primrose and sweet violet provide a wonderful show in the Spring. Lux Wood is also an important site for birds. Nightingale and blackcap are amongst the breeding birds and hawfinch is a frequent visitor to the wood.
Area	4.65

CWS Number	Suffolk Coastal 144
Site Name	PLAYFORD MERE
Parish	PLAYFORD
District	Suffolk Coastal
NGR	TM222474
Description	Playford Mere is situated south of the River Fynn and north of the railway line. The site consists of a number of artificial ponds linked by a series of channels and areas of tall fen vegetation interspersed with willow scrub and poplar plantation. This site is a mosaic of undisturbed habitats which provide a valuable refuge for wildlife particularly birds, in an otherwise intensively-farmed landscape. Good numbers of heron, shelduck, coot, moorhen, swan and tufted duck shelter in the tall waterside vegetation which fringes the pond and dykes. Uncommon wetland plants, for example meadow-rue, purple loosestrife and fleabane are abundant amongst the tall fen community.
Area	8.26

CWS Number	Suffolk Coastal 201
Site Name	MARTLESHAM PLANTATION ACID GRASSLAND
Parish	Martlesham
District	Suffolk Coastal
NGR	TM240463
Description	This small area of acid grassland (biodiversity priority habitat) is an isolated remnant of the once extensive Martlesham Heath. Much of the latter has been lost to the building of the A12 Woodbridge bypass and the Martlesham 'Park and Ride'. The CWS's flora is characteristic of acid grassland on base-poor, freely draining soils of the Suffolk Sandlings, with a sward composed of grasses like creeping bent grass, sheep's fescue and herbs such as cat's ear, sheep's sorrel and storksbill.
Area	0.22

CWS Number	Suffolk Coastal 76
Site Name	KILN FARM MEADOW
Parish	GREAT BEALINGS
District	Suffolk Coastal
NGR	TM236487
Description	This site has an interesting flora, typical of an increasingly rare habitat, the wet meadow. Among the many species represented are ragged robin, red and white campion, common spotted orchid, southern marsh orchid, marsh marigold and great horsetail. Primrose and cowslip are also present with a wide variety of grasses and rushes, the latter found in the dampest areas. A mown path dominated by grasses contrasts with areas of taller flowers, forming a pleasing mosaic of plant communities. The meadow is fringed with ash, elder and willow trees, and is cut late in the year.
Area	0.74

CWS Number	Suffolk Coastal 77
Site Name	QUEECH WOOD
Parish	GREAT BEALINGS
District	Suffolk Coastal
NGR	TM243492
Description	Queech Wood as listed in English Nature's Woodland Inventory is surrounded by a ditch and bank which is typical of most ancient woods. The tree canopy is dominated by mature ash with frequent oak and field maple and a dense scrub layer is provided by hazel, blackthorn, rose and elder. Tangles of honeysuckle and ivy in the trees are widespread. Dog's-mercury and nettle dominate the ground flora, although a number of more uncommon woodland plants are also present; wood spurge, violet, sanicle and hairy St John's-wort. The wood is mainly used as a cover for game birds.
Area	3

CWS Number	Suffolk Coastal 98
Site Name	KESGRAVE WOOD / SINKS VALLEY
Parish	KESGRAVE
District	Suffolk Coastal
NGR	TM230461
Description	Kesgrave Wood (covered by a Tree Preservation Order) is an early 19th century plantation which has subsequently been considerably augmented by natural regeneration. The central part appears to have been set out as a park and a number of parkland trees of considerable age can be identified; beech, lime, sweet chestnut and sycamore. The western end of the wood contains the highest proportion of native trees (oak, hornbeam, birch and Scots pine). Throughout the wood, sweet chestnut has been planted and much of it coppiced in the past, although little management has taken place over the last 50 years. As a result of the storm of October 1987, parts of the woodland were severely damaged. A number of very old pollard oaks fringe the road on the southern edge of the wood. The pattern of the ground flora changes according to past use and management; some areas contain red campion, foxglove and dog's-mercury whilst others are dominated by bracken and bramble. There is a scatter of garden escapes in the wood but the species list also includes native plants, for example pignut, common spotted orchid, wood anemone and opposite-leaved golden saxifrage. Roe, muntjac and fallow deer are present in the wood and noctule bats have been recorded on this site. The woodland supports a comprehensive range of birds including treecreeper, nuthatch and all the species of woodpecker. A pair of nightingales held a territory to the south of Kesgrave Hall in 1989. The wood is under threat from the Kesgrave by-pass which would bisect it. Sinks Valley extends westwards from Kesgrave Wood to the lane which links Kesgrave with Playford. The valley supports areas of acid grassland, heathland, alder woodland and scrub, which together with Kesgrave Wood, form an important mosaic of semi- natural habitat along the valley. Scarce Suffolk species recorded in the valley are heath rush, bog moss and marsh valerian. In addition, mossy stonecrop, a nationally scarce species ie recorded in 16-100 10x10km squares in Great Britain, is present. In 1996, a large proportion of this site was confirmed as part of the Sinks Valley, Kesgrave SSSI.
Area	19.32

Appendix C

Legislation

European Protected Species

Bats

All bat species in Britain are protected under the Wildlife and Countryside Act 1981 through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. On 1st April 2010, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2010.

European protected animal species ("EPS) and their breeding sites or resting places are protected under Regulation 39. It is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit an offence only if he deliberately disturbs such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. The existing offences under the Wildlife and Countryside Act (1981) as amended which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale still apply to European protected species.

This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

Water Vole

The water vole received limited legal protection in April 1998 through its inclusion in Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) for some offences. Legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a water vole;
- possess or control a dead or live water vole, or any part of a water vole;
- intentionally or recklessly damage or destroy access to any structure or place which water voles use for shelter or protection or disturb Water Voles while they are using such a place;
- sell, offer for sale or advertise for sale live or dead Water Voles

Water voles, their breeding sites and resting places are protected by law. In most cases, work can be planned to avoid harming water voles. If works cannot avoid disturbing them or damaging their habitats, you may be able to get a licence from Natural England.

Badger

The Wildlife and Countryside Act (1981) and its subsequent amendment in 1985 made it an offence to take, kill, injure or ill-treat a badger. The badger gained further protection under the auspices of The Protection of Badgers Act (1992) which consolidates all former protective legislation in relation to badgers, except their inclusion on Schedule 6 of the Wildlife and Countryside Act 1981.

Under the 1992 Act, the badger sett is protected against obstruction, destruction, and damage; furthermore, the animal's access to and from the sett must not be impeded. It should be noted that the concept/definition of the sett extends beyond the main sett to include annexe, subsidiary and outlying setts. However, although the badger and its sett are protected (including access to the sett), the wider habitat and foraging ground is not.

Otters

Otters are protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and revised by the Countryside and Rights of Way Act 2004, making it an offence to:

- intentionally kill, injure or take an otter;
- possess or control any (live or dead) otter, or any part of or anything derived from an otter;
- intentionally or recklessly damage or destroy or obstruct access to any structure or place used for shelter or protection by an otter;
- intentionally or recklessly disturb an otter while it is occupying a structure or place for that purpose;
- to sell, offer for sale, possess or transport for the purpose of sale any (live or dead) otter or part or derivative of an otter;
- to advertise for buying and selling such things.

Furthermore, otters are included on Schedule 2 of the Conservation (Habitats &c.) Regulations (1994), making it an offence to:

- deliberately to capture or kill a wild animal of a European protected species;
- deliberately to disturb any such animal;
- deliberately to take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

Otters are also listed as a priority species on the UK and Biodiversity Action Plans.

Reptiles

Reptiles such as common lizard, slowworm, grass snake or adder are protected under Section 9 of the Wildlife & Countryside Act (1981) as amended. The legislation makes it illegal to deliberately or recklessly kill or injure any native reptile. This protection therefore requires that reasonable effort be made to avoid harm to reptiles during developments on land occupied by reptiles.

Barn Owls

The Habitats Regulations (1994), as amended, states that a person commits an offence in the case of Barn Owl only if this species is disturbed in the breeding season. This applies equally to all those bird species listed under Schedule 1.

Breeding Birds

It is an offence to kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while that nest is in use or being built (even of "pest" species); take or destroy the eggs of any wild bird.

Dormice

Dormice are protected from being killed, injured, captured or disturbed and their resting and breeding places should not be damage or destroyed.

White-Clawed Crayfish

This crayfish is listed under Annex II of the habitats directive and areas are designated as Special Areas of Conservation to protect this species. Outside of this a licence is required to capture this species. It is listed as a priority species under the Biodiversity Action Plan and is a Species of Principal Importance under section 41 of the NERC Act 2006.

Great Crested Newts

Great crested newts are protected under both English and European law. It is an offence to kill, injure, disturb or take great crested newts or to damage or destroy their places of shelter, whether the animals are present or not.

Natural England Licensing - EPS Mitigation Licensing

Since September 2000, building development that affects bats or their roosts needs a Development Licence under the Habitats Regulations (1994), administered in England by the Department for Environment, Food and Rural Affairs (DEFRA). Since October 2006, licences have been granted by Natural England.

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development.

Appendix D

Plant species recorded on site

English name	***Scientific name***
Alder	*Alnus glutinosa*
Ash	*Fraxinus excelsior*
Bramble	*Rubus fruticosus*
Bristly oxtongue	*Helminthotheca echioides*
Broadleaf dock	*Rumex obtusifolius*
Brooklime	*Veronica beccabunga*
Buddleja	*Buddleja sp.*
Cherry laurel	*Prunus laurocerasus*
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerate*
Comfrey	*Symphytum sp.*
Common starwort	*Callitriche stagnalis*
Cow parsley	*Anthriscus sylvestris*
Creeping buttercup	*Ranunculus repens*
Creeping thistle	*Cirsium arvense*
Daisy	*Bellis perennis*
Dandelion	*Taraxacum officinale agg.*
Dog-rose	*Rosa canina*
Doves'-foot cranesbill	*Geranium molle*
Elder	*Sambucus nigra*
English oak	*Quercus robur*
Foxglove	*Digitalis purpurea*
Garlic mustard	*Alliaria petiolata*
Germander speedwell	*Veronica chamedrys*
Goat willow	*Salix caprea*
Greater willowherb	*Epilobium hirsutum*
Ground ivy	*Glechoma hederacea*
Groundsel	*Senecio vulgaris*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Hedgerow cranesbill	*Geranium pyrenaicum*
Herb Robert	*Geranium robertianum*
Hoary plantain	*Plantago media*
Holly	*Ilex aquifolium*
Horsetail	*Equisetum arvense*
Iris	*Iris sp.*
Ivy	*Hedera helix*
Lesser burdock	*Arctium minus*
Lords-and-ladies	*Arum maculatum*
Mallow	*Malva sylvestris*
Maple	*Acer sp.*
Mouse-ear	*Cerastium sp.*
Nettle	*Urtica dioica*

English name	***Scientific name***
Perennial ryegrass	*Lolium perenne*
Poplar	*Populus sp.*
Ragwort	*Jacobaea vulgaris*
Red campion	*Silene dioica*
Sedge	*Carex sp.*
Selfheal	*Prunella vulgaris*
Sheep's fescue	*Festuca ovina*
Silver birch	*Betula pendula*
Snowdrop	*Galanthus nivalis*
Soft rush	*Juncus effusus*
Spear thistle	*Cirsium vulgare*
Sycamore	*Acer pseudoplatanus*
White dead nettle	*Lamium album*
Wild cherry	*Prunus avium*
Yorkshire fog	*Holcus lanatus*

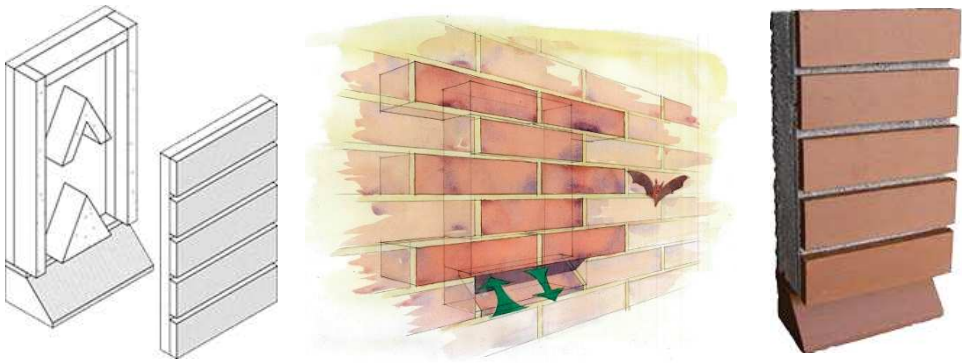
Appendix E

Examples of bat and bird boxes

(images sourced from www.nhbs.com, www.habibat.co.uk and www.manthorpe.co.uk)

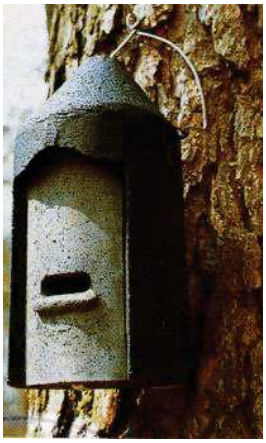
Integrated bat box

Habibat access box



Bat box

2F Schwegler Bat Box (General purpose)



Bat box

1FF Schwegler Bat Box with built-in wooded rear panel

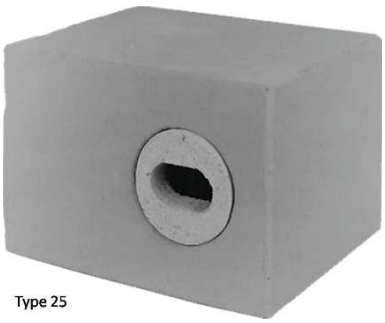
Recommendations for installing bat boxes:

(Sourced from Bat Conservation Trust www.bct.org)

Ideally, several boxes should be put up facing in different directions to provide a range of conditions. Locate boxes:

- Where bats are known to feed close to hedges and tree lines (some bats use a tree line or hedgerow for navigation, putting boxes near these features may help the bats find the box).
- Boxes should be put as high as possible in sheltered sunny places. Ideally at least 4m above the ground (where safe installation is possible).
- Sheltered from strong winds and exposed to the sun for part of the day (usually south or southwest).
- On buildings, boxes should be placed as close to the eaves as possible.

Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chittering noises from inside on warm afternoons and evenings are signs of occupation.

Small bird nesting box 1B Schwegler Nest Box 	**Small bird nesting box** 2H Schwegler Robin Box 
Integrated swift box Schwegler Brick Nest Box Type 25  	**Integrated swift box** Manthorpe Swift Brick 
Kestrel nest box Schwegler Kestrel Nest Box 28 	**Kestrel nest box** 

Recommendations for installing bird boxes:
(Sourced from British Trust for Ornithology www.bto.org and Manthorpe www.manthorpe.co.uk)

The highest priority when siting a nest box must be to provide a safe and comfortable environment in which birds can nest successfully.
Tips for putting up nest box:

- Not too close to another nest box - nest boxes of the same type should not be sited too close together as this may promote aggressive behaviour between neighbours.
- Shelter your box from the weather - the front of the nest box should be angled vertically or slightly downwards to prevent rain from entering the nest box. Make sure it is sheltered from prevailing wind, rain and strong sunlight (box should be faced between north and east).
- Height from the ground should be 3 metres - small-hole boxes are best placed 1-3m above ground on tree trunks, but avoid sites where foliage obscures the entrance hole. If there are no trees in your garden, the next best option is to place your box on the side of a shed or wall.
- Make sure cats cannot get into the box.
- Keep nest box away from bird feeders.
- Use galvanized or stainless steel screws or nails that will not rust. If fixing boxes to trees, galvanised wire can be used to tie the box to the trunk or hang it from a branch. Make sure to regularly inspect these fittings (every two or three years) to ensure the box remains securely attached.

Tips for putting up swift bricks/boxes:

- Should be located high within the gable wall of the property, ideally at least 5m high and above and over the level of the insulation zone.
- Where possible, install in locations that are unlikely to receive large amounts of direct sunlight during the hottest times of the day, ideal places include below the overhand of the verge and barge board.

Tips for putting up kestrel boxes:

- Boxes should be sited at least 5m from the ground (ideally 6-8m), with a clear flight-path for entry and exit.
- Where possible, install boxes facing southeast or away from the prevailing wind.

Appendix F

Examples of hedgehog friendly fencing

(images sourced from www.quercusfencing.com and www.jackson-fencing.co.uk)

Quercus Fencing	**Jacksons-Fencing**
Hedgehog friendly oak woven fencing panels	Hedgehog friendly gravel board for use with slotted posts
	

Recommendations for installing hedgehog friendly fencing:

(Sourced from Hedgehog Street www.hedgehogstreet.org)

A hedgehog friendly fence should have a gap measuring at least 13cm by 13cm in the gravel board. These gaps allow any hedgehog to pass through but are too small for nearly all pets.

At least one hedgehog friendly fence panel should be located on each side of your garden, to provide unimpeded access.

Almost all fencing materials can be made hedgehog friendly, but may require DIY adaptations. Please note that some concrete gravel boards contain metal rods running along the length of the boards to provide strength and rigidity, and cannot be cut. To overcome this, a gap can be left between the gravel board and post to provide the required gap.

Appendix G

Native species suitable for planting and sowing

The plants should be obtained from specialist nurseries and preferably be of local genetic stock.

1. Native Shrub and Tree Species

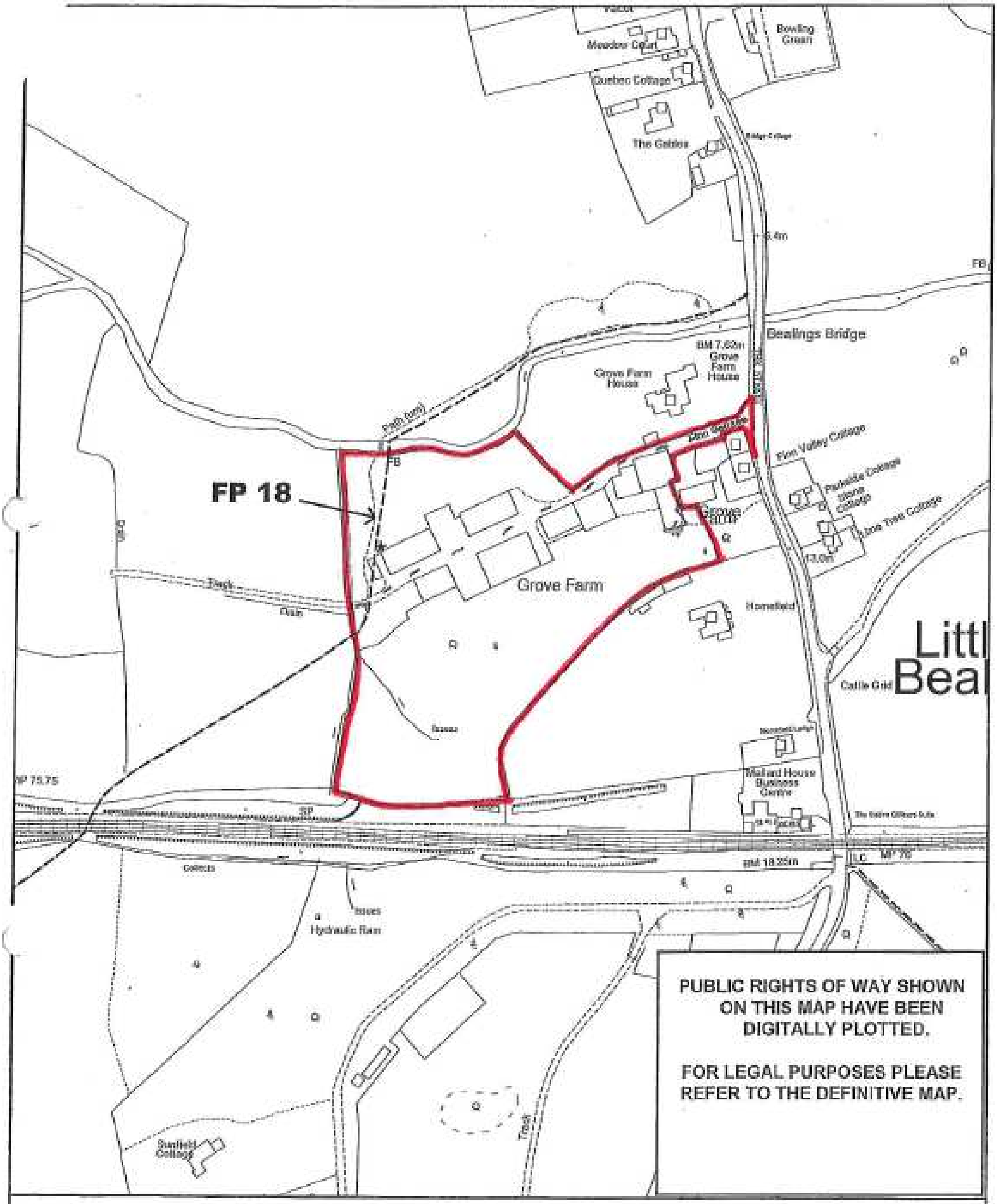
Shrubs	
Blackthorn	*Prunus spinosa*
Buckthorn	*Rhamnus catharticus*
Crab apple	*Malus sylvestris*
Dog rose	*Rosa canina*
Dog wood	*Cornus sanguinea*
Field maple	*Acer campestre*
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Spindle	*Euonymus europaeus*
Wild privet	*Ligustrum vulgare*
Trees	
Ash	*Fraxinus excelsior*
Pedunculate oak	*Quercus robur*
Silver birch	*Betula pendula*
Wild cherry	*Prunus avium*

2. Native Wildflower Species

Grasses	
Common bent	*Agrostis capillaris*
Crested dog's-tail	*Cynosurus cristatus*
Meadow fescue	*Festuca pratensis*
Red fescue	*Festuca rubra*
Rough meadow-grass	*Poa trivialis*
Small timothy	*Phleum bertolonii*
Smooth meadow-grass	*Poa pratensis*
Sweet vernal-grass	*Anthoxanthum odoratum*
Yellow oat-grass	*Trisetum flavescens*
Herbs	
Bird's-foot trefoil	*Lotus corniculatus*
Black knapweed	*Centaurea nigra*
Common cat's-ear	*Hypochoeris radicata*
Common sorrel	*Rumex acetosa*
Common vetch	*Vicia sativa*
Cowslip	*Primula veris*
Field scabious	*Knautia arvense*
Lady's bedstraw	*Galium verum*
Meadow buttercup	*Ranunculus acris*
Meadow vetchling	*Lathyrus pratensis*
Oxeye daisy	*Leucanthemum vulgare*
Red clover	*Trifolium pratense*
Selfheal	*Prunella vulgaris*
Yarrow	*Achillea millefolium*

Appendix H

Site layout



C11/0765 - Grove Farm, The Street, Little Bealings - Public Footpath No. 18