

**Whitcher Wildlife Ltd.
Ecological Consultants.**



WILLOWGARTH, GRIMETHORPE.

OS REF: SE 411-101.

EXTENDED PHASE I HABITAT SURVEY.

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TABLE OF CONTENTS.

	Page Number
1. INTRODUCTION.	3
2. SURVEY METHODOLOGY.	4
3. SURVEY RESULTS.	7
4. EVALUATION OF FINDINGS.	22
5. RECOMMENDATIONS.	26
Appendix I. BADGER INFORMATION.	28
Appendix II. WATER VOLE INFORMATION.	30
Appendix III. OTTER INFORMATION.	32
Appendix IV. CRAYFISH INFORMATION.	34
Appendix V. BAT INFORMATION.	36
Appendix VI. GREAT CRESTED NEWT INFORMATION.	37
Appendix VII. NESTING BIRD INFORMATION.	39
Appendix VIII. REPTILES. GRASS SNAKE AND ADDER INFORMATION.	40
Appendix IX. REPTILES. LIZARD INFORMATION.	41
Appendix X. HAZEL DORMOUSE INFORMATION.	43
Appendix XI. RED SQUIRREL INFORMATION.	45
Appendix XII. SCHEDULE 9 INVASIVE PLANT SPECIES INFORMATION.	47
Appendix XIII. ANNOTATED MAP OF THE SURVEY AREA.	50
Appendix XIV. TARGET NOTES.	51
Appendix XV. SPECIES LISTS.	52
Appendix XVI. DATA SEARCH RESULTS.	54

1. INTRODUCTION.

1.1. Plans are being drawn up for the development of the old Willowgarth School site in Grimethorpe.

1.2. An extended Phase 1 Habitat survey of the site was commissioned to identify any issues that may affect the proposed development.

1.3. Whitcher Wildlife Ltd carried out the survey on the 21st December 2015. This report outlines the findings of the survey and makes appropriate recommendations.

1.4. Appendices I to XII of this report provide additional information on specific species and are designed to assist the reader in understanding the contents of this report.

2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the JNCC Handbook for Phase 1 Habitat surveys.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society:-

- * Badger setts.
- * Badger latrines or dung pits.
- * Badger snuffle holes and evidence of foraging.
- * Badger paths.
- * Badger prints in areas of soft mud.
- * Badger hairs caught on fencing.

2.4. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Rob Strachan, Tom Moorhouse and Merryll Gelling (2011). *Water Vole Handbook: Third Edition*:-

- * Water vole burrows.
- * Water vole faeces and latrines.
- * Water vole feeding stations.
- * Water vole runs.
- * Water vole prints in areas of soft mud.
- * Water vole lawns.
- * Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter and Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines*:-

- * Otter prints in soft mud.
- * Otter spraints.
- * Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for mature trees and derelict buildings and where found these were checked for potential bat roosting sites in line with L Hundt (2012). *Bat Conservation Trust Good Practice Guidelines* by looking for the following signs:-

- * Holes, cracks or crevices.
- * Bat Droppings.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible, in line with P Bright, P Morris and T Mitchell-Jones *The Dormouse Conservation Handbook 2nd Ed.*

2.12. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.13. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.14. This survey was carried out by Steven Whitcher MCIEEM. Since 2002 Steven has gained extensive experience in a professional capacity as an ecological consultant carrying out ecology, protected species and Phase 1 Habitat surveys. Stevens knowledge has been supplemented through the attendance of a variety of courses run by the Chartered Institute of Ecology and Environmental Management (CIEEM), the Bat Conservation Trust (BCT) and the Field Studies Council (FSC) in the relative protected species, plant species and in carrying out Phase 1 Habitat Surveys. Steven holds Natural England Survey Licences in respect of bats, great crested newts, crayfish and barn owls, CCW Survey Licences in respect of bats and great crested newts and an SNH Survey Licence in respect of bats. Steven is also a Registered Consultant with Natural England and is confined spaces trained and qualified in tree climbing and aerial rescue.

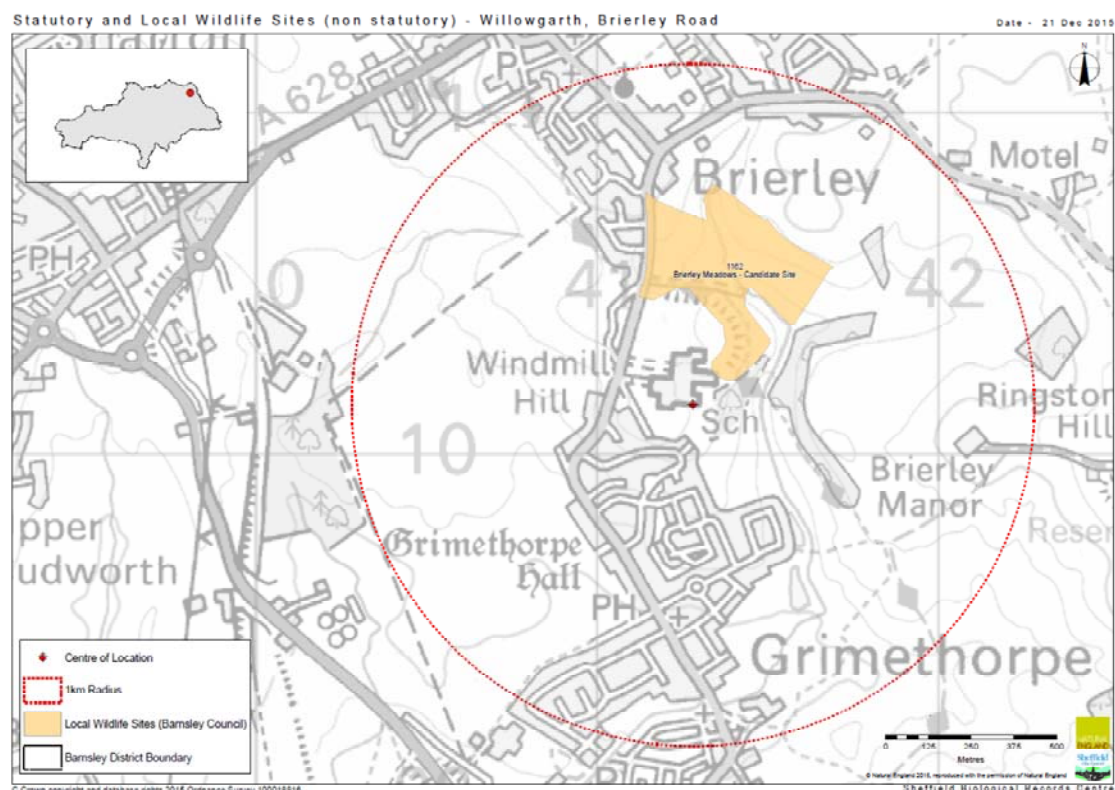
3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A desktop data search for existing records of protected species or designated sites in the area of the site was submitted to Barnsley Biological Records Centre (BBRC).

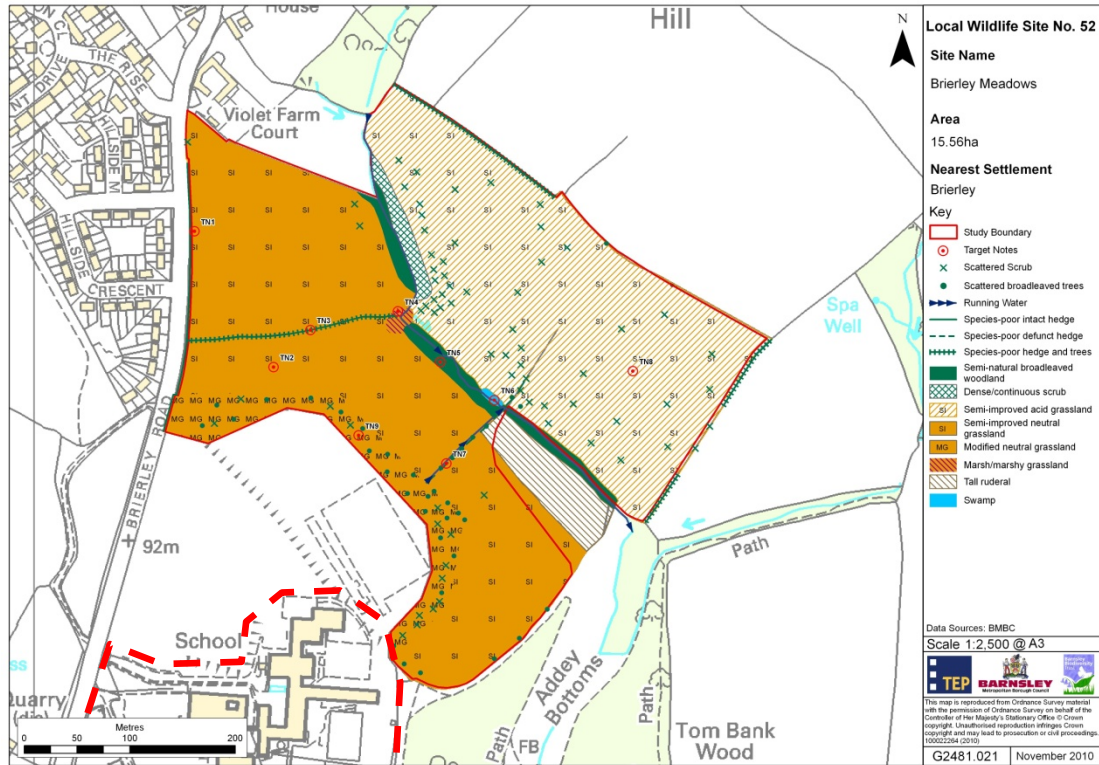
3.1.2. BBRC hold records of common frogs on the Willowgarth school site, records of water voles and common toads around a series of ponds located approximately 350m to the southeast of the site and records of Common Pipistrelle bats on Milefield Court, Grimethorpe, which lies approximately 1km to the southwest of the site. They also hold extensive records of birds in the area of the site.

3.1.3. There are records of Brierley Meadows, a Local Wildlife Site, located immediately adjacent to the eastern boundary of the site and a short distance to the north, as shown on the plans below.



3.1.4. The site is designated for the grassland habitats present within the area.

3.1.5. The location of the site is shown in more detail on the plan below, included in a Local Wildlife Site assessment carried out by TEP during 2011. The development site boundary is marked by the dotted red line on the plan.



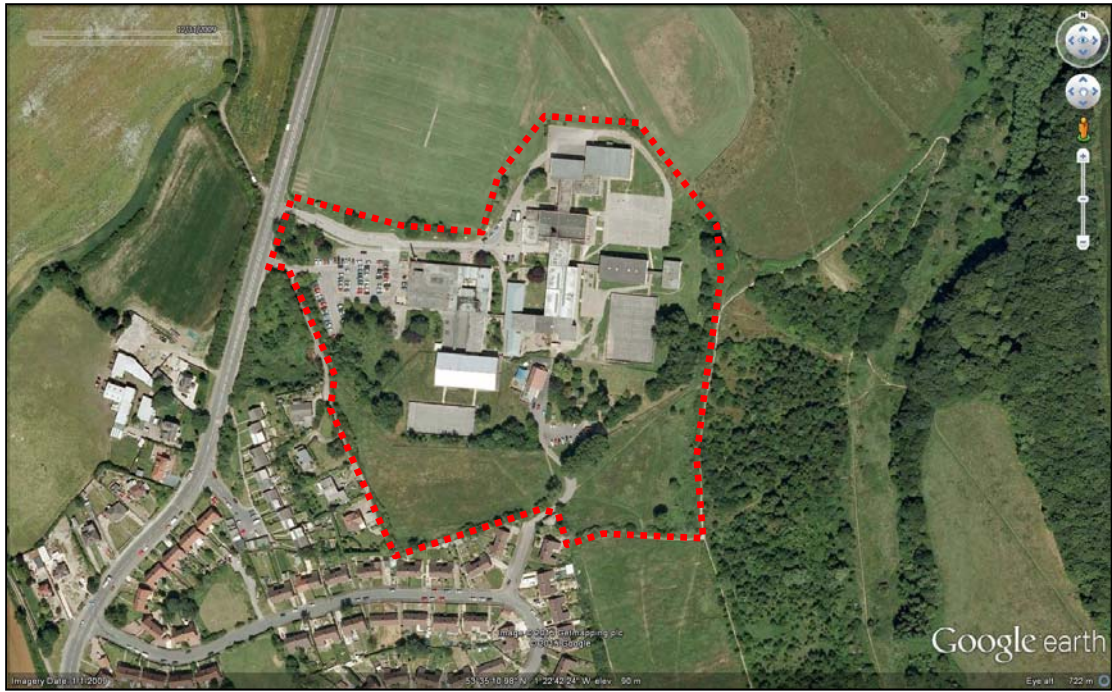
3.1.6. The 2011 survey identified the northern half of the site as having ecological value and recommended that this area was adopted as a Local Wildlife Site with recommendations for further surveys of the grassland habitats to the south of the site, closer to the current survey area.

3.1.7. A full copy of the data search results received from BBRC are included in Appendix XVI of this report.

3.1.8. A desktop data search for existing records of badgers in the area of the site was also submitted to the South Yorkshire Badger Group (SYBG). SYBG hold no records of badger within or close to the site.

3.2. The Surveyed Area.

3.2.1. The surveyed area was the site of the old Willowgarth School in Grimethorpe, as shown below.



3.2.2. The site lies on the northern edge of Grimethorpe in an area comprising small villages and open farmland.



3.3. Description of Habitats.

3.3.1. Appendix XIII of this report contains annotated maps marked up with the varying habitats that are cross referenced to target notes in Appendix XIV of this report. The habitats on and adjacent to the site are:-

- Semi improved neutral grassland
- Bare ground
- Scattered scrub
- Dense/continuous scrub
- Scattered broad leaf trees
- Intact species poor hedge
- Buildings
- Fences
- Other habitats

3.3.2. Semi improved neutral grassland: The site comprises an old school site that was demolished a number of years ago. The main areas of the site have become re-established as grassland on the site of the old school buildings with other areas of grassland to the north outside the surveyed area, assumed to be the old playing fields.



3.3.2.1. The main areas of the site comprise long rough grassland that does not appear to be cut or grazed at any time. The grassland comprises perennial rye grass (*Lolium*

perenne), common bent (*Agrostis capillaries*), Yorkshire fog (*Holcus lanatus*), cocks foot (*Dactylis glomerata*), false oat grass (*Arrhenatherum elatius*), dandelion (*Taraxacum officinale*), thistle (*Cirsium sp*), creeping buttercup (*Ranunculus repens*), plantain (*Plantago sp*), common ragwort (*Senecio jacobaea*), dock (*Rumex sp*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*), scentless mayweed (*Tripleurospermum indorum*), oxeye daisy (*Leucanthemum vulgare*), cow parsley (*Anthriscus sylvestris*), hogweed (*Heracleum sphondylium*) and comfrey (*Symphytum officinale*).

3.3.2.2. To the north of the surveyed there are further areas of grassland that appear to comprise the same grass and herb species although the grassland is short implying occasional mowing. These areas of grassland lie outside the surveyed area and were therefore not accurately assessed for the species present during this survey.



3.3.3. Bare ground: There are several large areas of bare ground within the surveyed area including tracks across the site from west to east, large piles of soil and mulched vegetation. The bare ground areas display large amounts of recent use with vehicle tracks in all areas.



3.3.4. Scattered scrub: Some areas of the grassland display low lying and sparse scrub species including buddleia (*Buddleja davidii*), broom (*Cytisus scoparius*), teasel (*Dipsacus fullonum*), hazel (*Corylus avellana*), dog rose (*Rosa canina*), ash (*Fraxinus excelsior*), willow (*Salix sp*), hedge bindweed (*Calystegia sepium*), maple (*Acer sp*), nettle (*Urtica dioica*) and bramble (*Rubus fruticosus*).



3.3.5. Dense/continuous scrub: A small area of dense scrub is located immediately outside the site boundary fence along the southern side of the site. The scrub is located on a small bank adjacent to an old access road. The scrub comprises nettle (*Urtica dioica*) and hawthorn (*Crataegus monogyna*).



3.3.6. Scattered broad leaf trees: There are several scattered trees around the site.

3.3.6.1. Within the site there are several small areas of sapling trees including beech (*Fagus sylvatica*), oak (*Quercus sp*), hawthorn (*Crataegus monogyna*), ash (*Fraxinus excelsior*) and hazel (*Corylus avellana*).



3.3.6.2. The majority of the more mature trees have already been removed from the site although a semi mature sycamore (*Acer pseudoplatanus*) is still present on the eastern boundary and a semi mature poplar (*Populus sp*) is present on the southern boundary adjacent to an old site access road.



3.3.6.3. In addition there are several semi mature trees located along the outside of the site boundary fence. The trees include sycamore (*Acer pseudoplatanus*), ash (*Fraxinus excelsior*), Norway maple (*Acer platanoides*), goat willow (*Salix caprea*), poplar (*Populus sp*) and silver birch (*Betula pendula*).



3.3.7. Intact species poor hedge: A species poor hedgerow runs along the outside of the boundary fence from the western site entrance running north away from the surveyed area. The hedgerow comprises hawthorn (*Crataegus monogyna*) with the understory comprising ivy (*Hedera helix*) and nettle (*Urtica dioica*).



3.3.8. Buildings: The only building that remains on the site is a decorative brick plinth in the northwest corner of the site adjacent to the site access road.



3.3.9. Fences: The site boundary is demarcated by palisade fencing along the western, southern and eastern boundaries.



3.3.10. Other habitats: There are several tarmac roads on and adjacent to the site. The roads on the site are not used with the adjacent roads being public highways and residential access.



3.4. Description of Fauna.

3.4.1. No badger setts or other badger field signs were identified within the surveyed area.

3.4.2. Occasional animal paths were identified crossing the site although there were no signs to imply the paths were made by badgers. Animal prints identified in areas of mud on the site identified the activity as being due to foxes and domestic pets using the site.

3.4.3. No watercourses that would provide a suitable habitat for water voles, otters or crayfish were identified within the surveyed area.

3.4.4. One building was identified within the surveyed area. The building is a small brick plinth located in the northwest corner of the site adjacent to the access road.



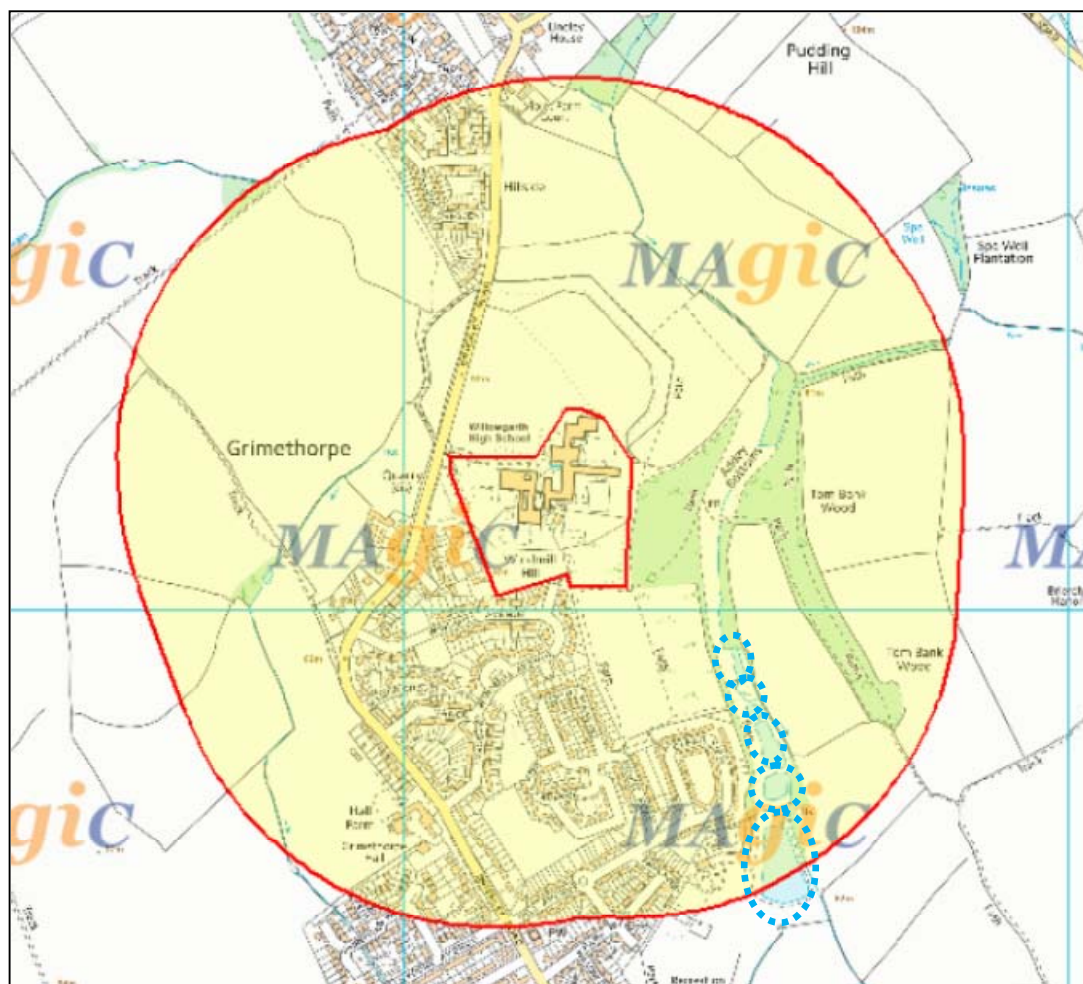
3.4.5. The building comprises a low brick and concrete plinth supporting a commemorative colliery headgear pulley. The brickwork around the building was found to be in a very good condition with no cracks or voids that would provide roosting opportunities for bats.

3.4.6. No mature trees that would provide suitable roosting opportunities for bats were identified within or immediately adjacent to the surveyed area.

3.4.7. The land within the site may provide a suitable foraging habitat for bats although the habitat has been assessed as providing a low value foraging habitat due to the lack of high value features such as hedgerows or tree lines.

3.4.8. An accurate assessment of the bat foraging activity within the surveyed area could not be carried out during this daytime survey of the site.

3.4.9. Five ponds were identified within 500m of the site on a map of the area. The ponds are located to the southeast with the closest pond being 250m from the site extending to 500m from the site. The ponds are linked by a small watercourse that flows through the area.



3.4.10. The ponds display a variety of habitats with the most southern of the ponds comprising a large fishing pond and the remaining ponds to the north becoming smaller.

3.4.11. The photograph below shows the southern pond with fishing platforms lining the banks.



3.4.12. The photograph below shows the central pond, which is significantly smaller and displays dense margins of rush and reed.



3.4.13. Occasional areas of standing water were identified within the surveyed area. However, the areas of water appeared to be due to recent rain and not permanent ponds.



3.4.14. Maps of the area show a pond within the surveyed area although the maps are from before the school buildings were demolished.



3.4.15. The pond within the site was not identified during this survey and did not tie in with the location of any of the areas of standing water on the site.

3.4.16. The land immediately surrounding the ponds comprises open grassland to the west, which provides a low value terrestrial habitat, with a wooded bank to the east providing a higher value terrestrial habitat.

3.4.17. The land between the ponds and the site comprises a margin of woodland and grassland, which will provide some suitable terrestrial habitat.

3.4.18. The site provides a suitable terrestrial habitat for great crested newts and other amphibians due to the areas of rough grassland and abundant piles of vegetation, rubble and earth around the site.

3.4.19. The vegetation on the site provides a suitable nesting habitat for various species of bird during the nesting season, this includes the grassland for ground nesting birds and the felled trees, which remain intact and therefore suitable for nesting.

3.4.20. No active nests were identified during this survey because the survey was carried out outside the nesting season. However several old nests were identified in the vegetation along the boundaries of the site and on the adjacent land.

3.4.21. The site provides a suitable habitat for reptiles due to the presence of areas of suitable habitat, including the grassland for foraging, the bare ground for basking and the piles of rubble and roots and the occasional areas of scrub for refugia. No reptiles were identified during this survey of the site.

3.4.22. No habitat suitable for hazel dormice or red squirrels was identified within the surveyed area.

3.4.23. No invasive non native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified within the surveyed area during this survey.

4. EVALUATION OF FINDINGS.

4.1. No designated sites were identified within the surveyed and therefore there will be no direct impact on designated sites during any development of the site.

4.2. Brierley Meadows Local Wildlife Site is located immediately to the east of the site and extends around to the north. The site is designated due to areas of grassland with a 2011 Local Wildlife Site assessment survey, carried out by TEP, identifying the higher value areas of the grassland being to the north of the LWS. The development of the site will not directly impact on Brierley Meadows LWS or the areas of high value grassland within the site.

4.3. The surveyed area is predominantly grassland that has re-established on the site of the old Willowgarth School. The grassland has been assessed as being semi improved neutral grassland during this survey due to the species present at the time of this survey, which was carried out during December, a sub optimal time for grassland surveys.

4.4. It is assessed as unlikely that the ecological value of the grassland within the surveyed area will be much higher at an optimal time of year because the grassland has re-established on the footprint of the old school buildings and is therefore unlikely to contain species of a high ecological value.

4.5. The grassland immediately to the north of the surveyed area, assumed to be the old school playing fields, was not thoroughly assessed during this survey because it lies outside the development site and displayed signs of occasional mowing or grazing. This grassland appeared to display the same species as present on the school site although the grassland in this area is less disturbed and therefore may have a higher ecological value during the optimal survey season. However, the grassland will not be directly impacted upon by the development of the site.

4.6. The remaining habitats on the site are habitats common on sites of this nature. Some of the habitats on the site have some ecological value, those being the scattered scrub present in some areas of the grassland, the small areas of dense scrub and the occasional semi mature and sapling trees.

4.7. The remaining habitats on the site, those being roads, fences and bare ground, have a low ecological value.

4.8. No badger setts or other badger field signs were identified within the surveyed area and the animal paths identified on the site appeared to be due to the presence of foxes and domestic animals on the site. Therefore there will be no impact on badgers during development works on the site.

4.9. No watercourses that would provide a suitable habitat for water voles, otters or crayfish were identified within the surveyed area. There are existing records of water voles within the ponds to the southeast although these records lie approximately 350m from the site. Therefore there will be no impact on water voles, otters or crayfish during any development work on the site.

4.10. One building was identified within the surveyed area, a commemorative plinth and headgear pulley, with the remaining school buildings having been demolished some time ago. The building provides no suitable roosting opportunities for bats.

4.11. The majority of the trees have been removed from the site at some time with the only remaining large trees being a sycamore on the eastern boundary and a poplar on the southern boundary. Neither of these trees displayed roosting opportunities for bats and no mature trees were identified in close proximity to the site boundary. Therefore there will be no direct impact on roosting bats during any development works on the site.

4.12. The habitats within the site have been assessed as providing a low value foraging habitat for bats due to the lack of high value foraging features such as hedgerows or tree lines. A thorough assessment of the bat foraging activity within the surveyed area could not be carried out during this daytime survey of the site.

4.13. The development of the site is unlikely to have a high impact on foraging bats because the work will not require the removal of suitable foraging features and will not fragment suitable habitats. However development works will cause an increase in noise and light around the site and may therefore have some impact on bats foraging on and around the site.

4.14. Five ponds were identified within 500m of the site on a map of the area. The ponds are located between 250m and 500m to the southeast of the site with the ponds varying from a large fishing pond to smaller ponds with wide margins of vegetation.

4.15. In addition a further pond is shown on maps within the Willowgarth School site, the pond was not identified during this survey. There are also existing records of common frogs within the Willowgarth School site and common toads within the ponds to the southeast.

4.16. The records of common frogs and common toads in the area show that the ponds support amphibians and may support a population of great crested newts. However, there are no existing records of great crested newts within the area.

4.17. There are no barriers to amphibian movements between the ponds and the site and the vegetation and piles of rubble on the site provide suitable areas of refugia for amphibians if they are present on the site. Therefore the development of the site has the potential to impact on great crested newts if they are present in the area and will also potentially impact on common toads (which are a UK BAP priority species) and common frogs.

4.18. The vegetation on the site, including the felled trees, provides a suitable nesting habitat for various species of bird including ground nesting birds during the nesting season, which extends from March to September each year. No active nests were identified during this survey because the survey was carried out outside the nesting season.

4.19. Any vegetation or site clearance work carried out during the nesting season will potentially have a high impact on any birds present on the site at that time.

4.20. The site provides a suitable habitat for reptiles due to areas of suitable reptile habitat within the site, most notably the dense vegetation and rubble piles, which provide suitable refugia. No reptiles were identified during this survey of the site.

4.21. The development of the site will remove the areas of suitable reptile habitat and will therefore potentially have a high impact on any reptiles that may be present on the site.

4.22. No habitat suitable for hazel dormice or red squirrels was identified within the surveyed area. Therefore there will be no impact on these species during any development work on the site.

4.23. No invasive non native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were identified during this survey of the site. Therefore there is no risk of plant species being spread during development works on the site.

5. RECOMMENDATIONS.

5.1. It is recommended that the development of the site is restricted to the areas of low value re-established grassland and does not impact on the potentially more value grassland to the north or the grassland within Brierley Meadows LWS to the east and north.

5.2. If there is a requirement to impact on the high value areas of grassland it is recommended that the work is preceded by a further thorough assessment of the grassland at the optimum time of year, during the summer. Further recommendations on the value of the grassland should be made following the survey.

5.3. It is recommended that bat activity surveys of the site are carried out in accordance with the Bat Conservation Trust Good Practice Guidelines for a low value site to establish the bat foraging activity on and around the site. This requires a bat transect survey during each season, Spring, Summer and Autumn. Automated surveys should also be carried out over three consecutive nights during each season.

5.4. Further recommendations relating to foraging bats and enhancements for foraging bats should be made following the surveys.

5.5. Due to the presence of the ponds within 500m of the site and the existing records of two amphibian species within the immediately surrounding area it is recommended that any development of the site is preceded by a full great crested newt presence or absence survey of the ponds to the southeast.

5.6. A presence or absence survey for great crested newts must comprise four surveys of all ponds within 500m of the site carried out between mid March and mid June with at least two of those surveys being carried out between mid April and mid May. If great crested newts are identified a further two surveys of those ponds must be carried out to establish a population size. During the surveys a population size assessment for common toads should also be made.

5.7. Further recommendations relating to the development of the site, the requirement for a Natural England licence and protection measures for common toads should be made following the surveys.

5.8. Ideally it is recommended that any vegetation clearance or site clearance work is carried out outside the nesting season, which extends from March to September each year.

5.9. Any vegetation clearance or site clearance work carried out during the nesting season must be immediately preceded by a thorough nesting bird survey carried out by a suitably experienced surveyor. Any nests identified must remain undisturbed until the young have fledged from the nest.

5.10. It is recommended that a reptile presence or absence survey is carried out to establish whether reptiles are present on the site. The survey should comprise artificial refugia being laid out on the site, in the form of ondulin mats, with the mats being checked on seven occasions on suitable days between March and October.

5.11. Further recommendations relating to reptiles should be made following the surveys.

Prepared by:	
Steven Whitcher, MCIEEM.	Date: 22 nd December 2015.

Checked by:	
Derek Whitcher. BSc, MCIEEM, MCMI.	Date: 30 th December 2015.

Appendix I.

BADGER INFORMATION.

The following background information on the territorial behaviour, ecology and legal protection of badgers is provided to enable the reader to more clearly understand the contents of this report.

1. Territoriality.

Badgers live in social groups called clans and are territorial. Each clan territory can vary considerably in size, from 0.2 sq. km to 1.5 sq. km. The average number of badgers in a clan has been calculated to be six but this number can vary between two and twenty badgers. In areas with a significant badger population there will be contiguous clans and a well-defined boundary between clan territories will exist with the badgers scent marking their boundary with areas of dung pits, called latrines. In areas with relatively low badger populations there will be less competition for territory and the amount of territorial markings will be low or even non-existent.

Territorial boundaries can be defined using a technique called bait marking. Over a two-week period badgers are fed at their main setts with food containing coloured plastic pellets, a different colour at each main sett. The colour of pellet found in dung pits and territorial latrines shows what areas each clan of badgers is occupying.

2. Ecology.

Badgers are omnivorous but their preferred food source is worms and insects. Worms are most abundant in well-grazed pastureland while mixed woodland is a good source of insects and grubs. Badgers have a soft and supple nose with which they snuffle into the ground to find insects. When they do this they leave distinct round holes known as snuffle holes or grubblings. Badgers easily find worms on the surface of well-grazed pastureland and often leave no visible indications of this foraging.

The badger's most important sense is that of smell. They will use particular paths around their territory repeatedly, following a scent trail from previous use. As a result badger paths become well worn. These paths are important to the badgers and obstruction to these paths will interfere with the badger's movement around their territory.

Badgers mate at any time of year but delayed implantation controls the time of birth. Most cubs are born between January and March but they can be born at any time between December and June. An average of two to three badger cubs are born to each sow and will initially be totally dependent on their mother. Cubs do not appear above ground until during April or May when they are 8 – 10 weeks old and are not fully weaned until June of each year.

3. Badger Setts.

A badger sett is any structure or place, which displays signs of current or seasonal use by a badger. Within a badger clan territory there can be several badger setts, which are categorised in the following ways.

Main Sett. There will normally be one main sett in a territory. This will generally be the largest sett in the territory, typically with five or more entrances, will be permanently occupied throughout the year and used as the breeding sett.

Outlying Sett. These are the smallest setts with generally only one or two entrances. They are intermittently occupied and there can be any number in a territory.

Annex Sett. A sett of intermediate size, located close to the main sett and connected by well-defined paths. These are occupied for prolonged periods and may be used as a second breeding sett if there are two breeding sows in the clan.

Subsidiary Sett. A sett of intermediate size, similar to an annex sett but located at some distance from the main sett and not connected to the main sett by defined paths.

4. Legislation

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under the Act it is illegal to:-

- Willfully kill, injure or take a badger or attempt to do so.
- Cruelly ill-treat a badger.
- Interfere with a sett by doing any of the following:-
 - (i) damaging a badger sett or any part of it
 - (ii) destroying a badger sett
 - (iii) obstructing access to a badger sett
 - (iv) causing a dog to enter a sett
 - (v) disturbing a badger while it is occupying a sett.

Penalties for offences under the Act are up to six months in prison and a fine of £5,000 for each offence.

Disturbance to a badger in a sett can be caused by working close to a sett.

Before any work goes ahead which will cause damage to setts or disturbance to badgers, a licence will be needed from Natural England in accordance with their guidelines. To obtain a licence an application must be made giving at least one months notice. This application must include full justification for the work, the manner in which any work is to be carried out, full supporting information and a named person capable of carrying out specialised badger work, to supervise that licence. Natural England will normally only issue such licences for work to be carried out between the months of July and October inclusive, to avoid the breeding season, although exceptions may be possible if a sound justification can be made.

Appendix II. WATER VOLE INFORMATION.

It is necessary to understand a little about water voles, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

The water vole is the largest of the British voles. It lives in a series of holes or burrows at the waters edge and can be found along the banks of ditches, streams, rivers, lakes and canals. Although water voles live in colonies, the breeding females are territorial, each defining their contiguous territory with latrines during the breeding season. This lasts from March to October.

The water vole is herbivorous, feeding primarily on the lush aerial stems and leaves of waterside plants growing alongside the watercourse. Its activity is normally confined to the area within two metres of the watercourse. Bankside vegetation in this area is not only essential for food but also for cover from predators.

The water vole population has been on the decline in recent years. This is partly due to loss of suitable riverside habitats but also due to the increasing population of predators, particularly the escaped American mink. Population decline has been dramatic and has accelerated over the last seven years. Surveys carried out by the Vincent Wildlife Trust show a loss of 67% of occupied sites and of 88% of the remaining population in the last seven years.

The water vole has received limited legal protection since April 1998 when it was included in Schedule 5 of the Wildlife and Countryside Act 1981. Section 9(4) of the Act protects the water vole's place of shelter or protection but does not protect the water vole itself.

From the 6th April 2008 water voles received an increased level of protection, becoming fully covered by the provisions of section 9 of the Wildlife and Countryside Act 1981 (as amended).

Full legal protection under the Act makes it an offence to:

- Intentionally kill, injure or take water voles.
- Possess or control live or dead water voles or derivatives.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection.
- Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.
- Sell water voles or offer or expose for sale or transport for sale.
- Publish or cause to be published any advertisement which conveys the buying or selling of water voles.

Appendix III. OTTER INFORMATION.

It is necessary to understand a little about otters, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

Otters are nocturnal and are active all year round. They are large with an adult male reaching 1.2m from nose to tail and weighing about 10kg.

Otters live by undisturbed waters where there is plenty of cover, mostly by freshwater lakes, rivers and quiet small streams as well as some coasts.

Fish are the otter's main source of food, especially eels and they therefore rely on good fish populations. They also eat amphibians and the occasional bird and small mammal.

An otter may use over 40km of river and needs many resting places throughout this range. A female otter will give birth to 1 to 3 cubs in a natal holt which is often away from the main river and must be completely undisturbed.

Generally the only evidence seen of the otter is its faeces or 'spraint', which are deposited along a watercourse in prominent positions.

Once found throughout Britain, most of our otter populations crashed in the 1960's due to poisoning from agricultural pesticides which drained into our river systems. Although this threat has passed and otter numbers are slowly beginning to recover, they are still subject to a number of serious pressures.

- Habitat loss through intensive river management for drainage and flood defence and due to agriculture and urban development.
- Inadequate food supplies, mainly fish.
- Disturbance of breeding sites by people and especially dogs.
- Low water quality and low river flows.
- Roads which cross or run alongside, rivers.

The UK Biodiversity Plan (BAP) contains an otter Species Action Plan (SAP) aimed at maintaining its existing range and population status, as well as increasing the number of populations through re-colonisation.

The otter is listed on Appendix 1 of CITES, Appendix II of the Bern Convention and Annexes II and IV of the Habitats Directive. It is protected under Schedule 5 of the WCA 1981 and The Conservation of Habitats and Species Regulations 2010 (as amended), known as the 'Habitats Regulations'. The European sub-species is also listed as globally threatened on the IUCN/WCMC RDL.

- 39.—**(1) It is an offence-
- (a) deliberately to capture or kill an otter;
 - (b) deliberately to disturb an otter;
 - (c) to damage or destroy a breeding site or resting place of an otter.

Appendix IV. CRAYFISH INFORMATION.

It is necessary to understand a little about crayfish, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

Crayfish are the largest and most mobile freshwater invertebrate. The white-clawed crayfish (*Austropotamobius pallipes*) is the only native crayfish and this is protected under European and UK legislation.

White clawed crayfish are generally found in areas with relatively hard, mineral rich waters on calcareous and rapidly weathering rocks. They can be found in a wide variety of environments including canals, streams, rivers, lakes reservoirs and water-filled quarries.

White clawed crayfish are typically found in water between 0.75 and 1.25m deep but can occur in very shallow streams with as little water as 50mm and in deeper, slow flowing rivers. They are typically found under rocks and submerged logs or among tree roots and in river-banks. White clawed crayfish are omnivorous but primarily carnivorous eating macro invertebrates and carrion when available. They will also eat worms, insect larvae, snails, small fish, macrophytes, algae and calcified plants.

Crayfish can live for up to ten years and generally reach sexual maturity after three to four years. Breeding takes place between September and November when the water temperature drops consistently to below ten degrees centigrade. Females over winter with a clutch of eggs held beneath their tail. These may number from 20 to 120 and hatch on the female. The juveniles are released from the mother from June in the south to August in the north.

The main threat to the indigenous white-clawed crayfish is the spread of introduced non indigenous species, particularly the larger, faster growing and aggressive North American signal crayfish (*pacifastacus leniusculus*). They are also vulnerable to disease, particularly porcelain disease and crayfish plague, and the latter carried by the signal crayfish.

Crayfish are also extremely vulnerable to pollution incidents, particularly those involving biocides, silage and sheep dip.

As a result, white-clawed crayfish are endangered across most of its range and has been given protection under both European and UK legislation.

The white-clawed crayfish is covered by the Conservation of Habitats and Species Regulations 2010 (as amended), and as species listed in Annexes 2 and 5 of the Habitats Directive, which means that Member States should take measures to ensure that the taking of white-clawed crayfish in the wild is compatible with their being maintained at a favourable status.

In 1998, the white-clawed crayfish was added to Schedule 5 of the Wildlife and Countryside Act giving it partial protection in relation to Section 9(1) as far as it relates to taking and in respect of Schedule 9(5). It is therefore an offence to

intentionally take any white-clawed crayfish from the wild and an offence to sell wild crayfish.

Licences are available from English Nature to allow the taking of white-clawed crayfish for certain specified purposes, including scientific or educational purposes and for conservation purposes. An English Nature survey licence is required where any survey is aimed at finding white-clawed crayfish and involves handling them for counting or identification purposes.

An English Nature Conservation Licence is required for the purpose of conserving white-clawed crayfish or introducing them to particular areas.

Non indigenous crayfish species are also covered under the Wildlife and Countryside Act 1981. Section 14 makes it an offence for any person to (a) release or allow to escape, any wild animal which is of a kind not ordinarily resident in or a regular visitor to Great Britain in a wild state or; (b) is included in Schedule 9 of the Wildlife and Countryside Act.

Three species of non-indigenous crayfish are listed on Schedule 9. These are the signal crayfish (*Pacifastacus leniusculus*), the narrow clawed crayfish (*Astacus leptodactylus*) and the noble crayfish (*Astacus astacus*). Any of these three species found during a survey cannot be returned to the wild.

Appendix V. BAT INFORMATION.

It is necessary to understand a little about bats, their basic nature, ecology and legal protection in order to evaluate the findings of this report.

18 species of bat currently reside in Britain, 17 of which are known to breed here. They are extremely difficult to identify in the hand and even more so in flight.

All appear to be diminishing in numbers, probably due to shortage of food, caused by pesticides, as insects are their sole diet, and habitat change.

As their diet consists solely of insects, bats hibernate during the winter when their food source is at its most scarce. They will spend the winter in hollow trees, caves, mines and the roofs of buildings.

Certain species, particularly the pipistrelle (the commonest and most widespread British bat) can quickly adapt to manmade structures and will readily use these to roost and to rear their young.

Bats are protected under the Wildlife and Countryside Act 1981, Regulation 41 of The Conservation of Habitats and Species Regulations 2010, and the Countryside & Rights of Way Act 2000.

It is an offence to intentionally or recklessly kill, injure or capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection.

A breeding or resting site of any bat is known as a bat roost. A bat roost is therefore any structure a bat uses for shelter or protection. Because bats tend to use the same roosts each year, legal opinion is that the roost site is protected whether or not the bats are present at that time.

Bat roosts can be identified by looking for:-

- Suitable holes, cracks and crevices.
- Bat droppings.
- Prey remains.
- By carrying out night observations using a bat detector.

Where development proposals are likely to affect a bat roost site, a licence is required from Natural England.

The person applying for that licence has to be suitably qualified and experienced in bat matters. That person is then responsible for ensuring that the measures contained in the licence are carried out.

Appendix VI.

BACKGROUND GREAT CRESTED NEWT INFORMATION.

The great crested newt population has suffered a major decline in Britain over the last century. Numerous ponds have been lost, unmanaged ponds have become silted up and over-shaded, development has destroyed ponds and associated terrestrial habitat and caused fragmentation of populations. The loss of grassland, scrub and woodland has resulted in fewer opportunities for foraging, dispersal and hibernation.

The UK Biodiversity Plan (BAP) contains a great crested newt Species Action Plan (SAP) aimed at maintaining its existing range and population status, as well as increasing the number of populations through re-colonisation.

The great crested newt is listed on Schedule 5 of the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000. The great crested newt is therefore subject to the provisions of Schedule 9, which make it an offence to:

- Intentionally kill, injure or take a great crested newt.
- Possess or control any live or dead specimen or anything derived from a great crested newt.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt.
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place, which it uses for that purpose.

The great crested newt is also listed on Regulation 41 of the Conservation of Habitats and Species Regulations 2010. Regulation 41 makes it an offence to:

- Deliberately capture or kill a great crested newt
- Deliberately disturb a great crested newt.
- Deliberately take or destroy the eggs of a great crested newt.
- Damage or destroy a breeding site or resting place of a great crested newt.

The legislation applies to all life stages of great crested newts.

The maximum fine on conviction of offences under Section 9 and Regulation 41 currently stands at £5,000. The CroW Act 2000 amendment also allows for a custodial sentence of up to six months instead of, or in addition to, a fine. In addition, items, which may constitute evidence of the commission of an offence, may be seized and detained.

In order to understand the potential effects of development it is essential to understand a little of the great crested newt ecology.

Great crested newts breed in ponds and other water bodies. They can begin to migrate to their breeding ponds as early as the first frost-free days in late January with the

majority reaching their breeding ponds by mid March. Timing will be influenced by a number of factors, mainly evening temperatures above 5°C and recent rain.

The peak egg-laying period is from mid-March to mid-May. The newts will lay their eggs individually, mainly on the leaves of submerged plants. The larva hatch after three weeks and then take another 2-3 months to complete larval development. Adult newts generally leave their breeding ponds from late May onwards.

Once the larvae have completed metamorphosis (the transition from aquatic larvae to land-adapted juveniles, called efts), they emerge from the pond. This emergence begins in late August and generally continues until late October. It takes 2-4 years to reach sexual maturity, during which time the newts will be land based.

Adults and immature newts spend the winter in places that afford protection from frost and flooding. This will generally be underground amongst tree roots, in mammal burrows, or under suitable refuges above ground like deadwood or rubble piles. Hibernation may last from October to February.

Whilst on land, outside the hibernation period, great crested newts will forage at night, taking a wide range of invertebrate prey.

From the above, it can be seen that great crested newts spend the majority of their time on land and only visit the ponds for breeding purposes. As a result, surveys need to be timed very carefully. Terrestrial surveys are very inaccurate and the only time that surveys can be truly thorough is in the narrow window of opportunity between March and September.

Great crested newts will travel large distances between ponds and terrestrial refuges. It is recommended that anywhere within 500m of a pond should be treated as potential great crested newt habitat and should be surveyed and evaluated.

An experienced surveyor must carry out the surveys and must be in possession of an appropriate Natural England great crested newt survey licence.

It is essential that great crested newt surveys are planned well in advance of any development and ideally before Planning Consent is sought. Surveys can only be carried out at the appropriate time of year and repeat surveys are essential. The guidelines suggest that between four and six surveys need to be carried out, three of these between mid-March and mid-June.

If great crested newts are to be effected by any development, a thorough assessment of the population is essential followed by the design of a comprehensive mitigation package. Only when this has been done can a licence application be submitted to Natural England for approval. It takes 30 working days for a licence application to be determined and the period of time that mitigation measures take can be measured in months. It is therefore essential to plan well in advance of development commencing.

Appendix VII. NESTING BIRD INFORMATION.

It is necessary to understand a little about the legal protection offered to nesting birds in order to evaluate the findings of this report.

Part 1.-(1) Of the Wildlife and Countryside Act 1981 states that:-

If any person intentionally:-

- (a) kills, injures or takes any wild bird;
- (b) takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- (c) takes or destroys an egg of any wild bird,

he shall be guilty of an offence.

Part 1.-(5) of the Act states that:-

If any person intentionally:-

- (a) disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or
- (b) disturbs dependant young of such a bird,

he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September.

It is also worth remembering that some birds nest in trees, scrub and buildings but others are ground nesting.

The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Appendix VIII.

REPTILES - GRASS SNAKE AND ADDER INFORMATION.

The grass snake (*Natrix natrix*) and the adder (*Vipera berus*) are the two most common snakes to be found in the UK. Adders are found all over Britain while the grass snake becomes rarer towards the north and are rarely found in Scotland.

The grass snake is usually around 120cm long, live in a variety of rough habitats and lay their eggs in warm rotting vegetation. The background colour is dark green and the body is marked with vertical black bars and spots that run along its sides. There is generally a dark collar marking.

The adder is the only native species that is venomous but this is rarely harmful to humans. Adult adders are generally up to 66cm long. Background colouration is a light shade of grey or brown with a black zigzag marking along the length of the back. As with all reptiles, colouration varies and becomes duller as sloughing (skin shedding) approaches.

Both snakes hibernate, spending the winter in burrows or under logs protected from the cold and predators. Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, adders will try to move to damper, cooler sites.

Both snakes are protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

Appendix IX. REPTILES - LIZARD INFORMATION.

The common or viviparous lizard (*Lacerta vivipara*) is one of three species of lizard that occur in the UK. They have a dry scaly skin and are variable in colour ranging from brown or yellow-brown to almost green with varying patterns of spots or stripes. The typical length of an adult is 150mm, including the tail.

Common lizards hibernate over the winter, emerging from February onwards depending upon the weather. They begin to mate in April and May and the young are born in late July or August. The lizard gives birth to live young, hence the term viviparous, meaning live bearing.

The lizards draw their body warmth from the sun and consequently spend long periods basking in the sun. They are commonly seen on road and railway embankments and on walls where they sit for long periods soaking up the heat of the sun before going to find food.

They occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs.

Common lizards hunt insects, spiders, snails and earthworms. They stun their prey by shaking it and then swallow it whole.

At night, and when startled, they will shelter beneath logs or stones or under other refuges that may be available.

Common lizards are protected under schedule 5 of the Wildlife and Countryside Act 1981 (they received greater protection following reviews of the schedules published in 1988 and 1991) and Schedule 2 of The Conservation of Habitats and Species Regulations 2010 (as amended) making it a European Protected Species.

Common lizards should not be confused with the somewhat larger sand lizard (*Lacerta agilis*). These are typically 190mm long and stockier than the common lizard. Their markings are distinctly different being considerably more colourful. Sand lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the sand lizard in the UK is therefore very limited. Sand lizards are a European protected species.

The third species of lizard is the slow worm (*Anguis fragilis*), which is frequently mis-identified as a snake. The firm body of the slow worm is distinctly cylindrical in shape and the tiny smooth scales result in a very smooth, shiny appearance. Colouration is typically a uniform grey to brown although there is a wide variation from straw coloured to almost black and some animals have very fine stripes or a zig-zag along the centre of the back. The typical length of an adult is 400mm.

Slow worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Slow worms hibernate over the winter, emerging from March onwards depending upon the weather. They begin to mate in April and May and six to twelve young are born in August or September.

Their favourite food is slugs but they will also eat insects and spiders.

Slow worms are hard to find. They will bask in the sun but they quickly and quietly move into cover when disturbed and do not generally attract attention as they retreat from a basking spot.

Slow worms are also protected under schedule 5 of the Wildlife and Countryside Act 1981. They received greater protection following reviews of the schedules published in 1988 and 1991. This means they are protected against intentional or recklessly killing and injuring and against sale or transporting for sale.

Appendix X. HAZEL DORMOUSE INFORMATION.

Once widespread throughout the country, dormice declined in both population and distribution during the 20th Century; largely due to the loss of habitat. They now have a patchy distribution, primarily in southern England and Wales with some areas of reintroduction in the north of England and Scotland.

The hazel dormouse is listed on Schedules 5 and 6 of the Wildlife and Countryside Act 1981, recently modified by the Countryside and Rights of Way Act 2000. The dormouse is therefore subject to the provisions of Schedule 9, which make it an offence to:

- Intentionally kill, injure or take a dormouse.
- Possess or control any live or dead specimen or anything derived from a dormouse.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a dormouse.
- Intentionally or recklessly disturb a dormouse while it is occupying a structure or place, which it uses for that purpose.

The hazel dormouse is also listed on Annex II of The Conservation (Natural Habitats &c) Regulations 1994. Regulation 39 makes it an offence to:

- Sell or offer for sale a dormouse.
- Possess or transport for the purpose of sale, any live or dead specimen or anything derived from a dormouse.
- Advertise for buying or selling of any such things.

The legislation applies to all life stages of dormice.

The maximum fine on conviction of offences under Section 9 and Regulation 39 currently stands at £5,000. The CroW Act 2000 amendment also allows for a custodial sentence of up to six months instead of, or in addition to, a fine. In addition, items, which may constitute evidence of the commission of an offence, may be seized and detained.

Hazel dormice are also listed as a priority species on the UK Biodiversity Action Plan (BAP).

Dormice typically occur in diverse deciduous woodland, hedgerows and scrub. They are small mammals with a body size of around 6-9cm (plus tail 5-8cm), an orange/brown colour with white underbellies, black eyes, round ears and furry tails.

The dormouse is a nocturnal animal that is rarely caught and hence easy to overlook. They are highly arboreal, spending most of their time high off the ground, feeding along the branches of trees and shrubs and rarely travelling further than 70m from their nest.

Nests may be created in bushes and shrubs; however, more robust resting places such as hollow tree branches, squirrel dreys, old birds' nests are preferred; with nests also found in bat boxes and bird nest boxes.

For around a third of the year, dormice hibernate on or under the ground from October until March/April. They are therefore, highly sensitive to any disturbance to the ground throughout the winter and spring.

It is virtually impossible to prove that dormice are absent and the only certain way to determine their presence is by surveying. This can be done by using traps and baiting points; although, the best way to establish presence is to look for feeding remains (such as gnawed hazel nuts). The erection of nest boxes or nest tubes will also reveal the presence of dormice; however, they are unlikely to be used immediately.

Appendix XI. RED SQUIRREL INFORMATION.

The red squirrel (*Sciurus vulgaris*) is the only native species of squirrel to England. Believed to once have a population of around 3.5 million in the UK; current population estimates there are around 15,000 red squirrels left in England.

The red squirrel is listed on Schedules 5 and 6 of the Wildlife and Countryside Act 1981, recently modified by the Countryside and Rights of Way Act 2000. The red squirrel is therefore subject to the provisions of Schedule 9, which make it an offence to:

- Intentionally kill, injure or take a red squirrel.
- Possess or control any live or dead specimen or anything derived from a red squirrel.
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a red squirrel.
- Intentionally or recklessly disturb a red squirrel while it is occupying a structure or place, which it uses for that purpose.
- Sell, or offer for sale, a red squirrel or any part of a red squirrel.

The grey squirrel is a non-native invasive species which was introduced from North America in 1876. It is covered by Schedule 9 of the Wildlife and Countryside Act 1981 and is recognised as a global threat, being listed on the IUCN international list of 100 worst invasive species.

It is illegal to release or allow a grey squirrel to escape into the wild. Any grey squirrel that is trapped must be humanely dispatched. It is illegal to keep grey squirrels in captivity.

The threat of grey squirrels to red squirrels comes from their ability to live in much denser populations and their capability to decimate food sources before they become viable for red squirrels. Grey squirrels are also carriers of the squirrelpox virus, taking only one individual to introduce the virus to a population of red squirrels. The virus can spread quickly through a population, creating decline up to 25 times quicker than competition alone.

Squirrels are arboreal mammals that like to live in mixed or broadleaf woodlands, but can live in all types of woodland. Due to competition with grey squirrels, red squirrels are increasingly restricted to coniferous woodlands.

Squirrels are active all year round and do not hibernate. They live in dreys, a ball like nest made up of interwoven twigs lined with soft materials such as leaves and moss. Dreys are usually found tight against the tree trunk high up in the tree.

There are 17 large plantation conifer forests within northern England, found in Northumberland, Cumbria, North Yorkshire and Merseyside; which have been designated to help red squirrel conservation. Each reserve is surrounded by a 5km buffer zone to protect from grey squirrels.

Appendix XII. SCHEDULE 9 INVASIVE PLANT SPECIES.

1. Schedule 9 of the Wildlife and Countryside Act 1981 contains a list of invasive species of plant. Species listed under Schedule 9 are prohibited from release into the wild. Schedule 9, Section 14(2) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9.

2. The following is a list of all the species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981.

Common Name	Latin Name
Alexanders, Perfoliate	<i>Smyrniium perfoliatum</i>
Algae, Red	<i>Grateloupia luxurians</i>
Archangel, Variegated Yellow	<i>Lamiastrum galeobdolon subsp. Argentatum</i>
Azalea, Yellow	<i>Rhododendron luteum</i>
Balsam, Himalayan	<i>Impatiens glandulifera</i>
Cotoneaster	<i>Cotoneaster horizontalis</i>
Cotoneaster, Entire Leaved	<i>Cotoneaster integrifolius</i>
Cotoneaster, Himalayan	<i>Cotoneaster simonsii</i>
Cotoneaster, Hollyberry	<i>Cotoneaster bullatus</i>
Cotoneaster, Small Leaved	<i>Cotoneaster microphyllus</i>
Creeper, False Virginia	<i>Parthenocissus inserta</i>
Creeper, Virginia	<i>Parthenocissus quinquefolia</i>
Dewplant, Purple	<i>Disphyma crassifolium</i>
Fanwort (Carolina Water-Shield)	<i>Cabomba caroliniana</i>
Fern, Water	<i>Azolla filiculoides</i>
Fig, Hottentot	<i>Carpobrotus edulis</i>
Garlic, Three-cornered	<i>Allium triquetrum</i>
Hogweed, Giant	<i>Heracleum mantegazzianum</i>
Hyacinth, Water	<i>Eichhornia crassipes</i>
Kelp, Giant	<i>Macrocystis pyrifera</i>
Kelp, Giant	<i>Macrocystis angustifolia</i>
Kelp, Giant	<i>Macrocystis intergrifolia</i>
Kelp, Giant	<i>Macrocystis laevis</i>
Kelp, Japanese	<i>Laminarial japonica</i>

Knotweed, Giant	<i>Fallopia sachalinensis</i>
Knotweed, Hybrid	<i>Fallopia japonica x Fallopia sachalinensis</i>
Knotweed, Japanese	<i>Fallopia japonica</i>
Leek, Few-flowered	<i>Allium paradoxum</i>
Lettuce, Water	<i>Pistia stratiotes</i>
Montbretia	<i>Crocosmia x crocosmiiflora</i>
Parrot's Feather	<i>Myriophyllum aquaticum</i>
Pennywort, Floating	<i>Hydrocotyle ranunculoides</i>
Potato, Duck	<i>Sagittaria latifolia</i>
Primrose, Floating Water	<i>Ludwigia peploides</i>
Primrose, Water	<i>Ludwigia grandiflora</i>
Primrose, Water	<i>Ludwigia uruguayensis</i>
Rhododendron	<i>Rhododendron ponticum</i>
Rhododendron	<i>Rhododendron ponticum x Rhododendron maximum</i>
Rhubarb, Giant	<i>Gunnera tinctoria</i>
Rose, Japanese	<i>Rosa rugosa</i>
Salvinia, Giant	<i>Salvinia molesta</i>
Seafingers, Green	<i>Codium fragile</i>
Seaweed, Californian Red	<i>Pilea californica</i>
Seaweed, Hooked Asparagus	<i>Asparagopsis armata</i>
Seaweed, Japanese	<i>Sargassum muticum</i>
Seaweeds, Laver (except native species)	<i>Porphyra spp except</i>
	<i>p. amethystea</i>
	<i>p. leucosticte</i>
	<i>p. linearis</i>
	<i>p. miniata</i>
	<i>p. purpurea</i>
	<i>p. umbilicalis</i>
Stonecrop, Australian Swamp (New Zealand Pygmyweed)	<i>Crassula helmsii</i>
Wakame	<i>Undaria pinnatifida</i>
Waterweed, Curly	<i>Lagarosiphon major</i>
Waterweeds	<i>All species of the genus Elodea</i>

3. The Government has acknowledged the problems that can be caused by non-native invasive species. In 2008 the Government launched “The Invasive Non-Native Species Framework Strategy for Great Britain”. The strategy provides a framework for a more co-ordinated approach to invasive species management. It seeks to create a stronger sense of shared responsibility across government, key organisations, land managers and the public.

4. The Non Native Species Secretariat has been established to oversee the implementation of the strategy. Details of the secretariat including risk assessments and action plans for some species are available at www.nonnativespecies.org.

5. In general there are four basic methods of controlling weeds; mechanical, chemical, natural and environmental.

5.1. Mechanical control includes cultivation, hoeing, pulling, cutting, raking dredging or other methods to uproot or cut weeds.

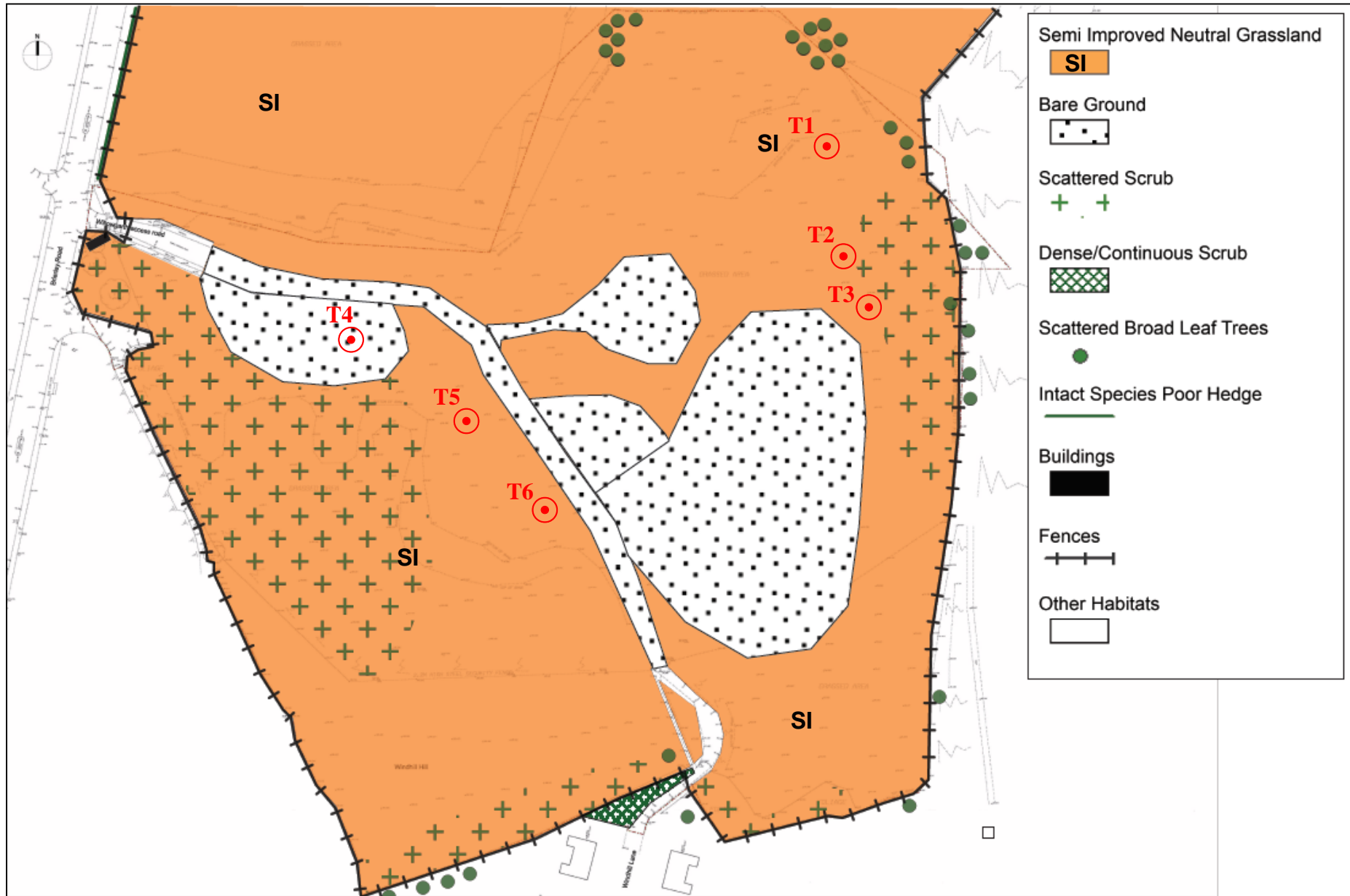
5.2. Where this method is used all plant material must be considered “controlled waste” and must be disposed properly.

5.3. Chemical control uses approved herbicides.

5.4. Natural control uses pests and diseases of the target weed to weaken it and prevent it from becoming a nuisance.

5.5. Environmental control works by altering the environment to make it less suitable for weed growth, for example by increasing or decreasing water velocity.

Appendix XIII. ANNOTATED MAP OF THE SURVEY AREA.



Appendix XIV. TARGET NOTES.

T1: An area of standing water was present during this survey. The water did not appear to be a permanent pond but did appear to hold water regularly following periods of heavy rainfall.

T2: Several large felled trees are located along the eastern side of the site. The trees appear to have been removed from the eastern boundary at some time.

T3: A pile of soil and stumps is present in this area. The stumps may be from the trees removed from the eastern boundary of the site.

T4: Piles of rubble are present on the area of bare ground close to the site entrance.

T5: Sections of concrete pipe are being stored in this area of the site.

T6: Piles of wood and other building materials are present in this area of the site.

Appendix XV. SPECIES LISTS.

Semi Improved Neutral Grassland.

Species.	DAFOR Assessment.
Perennial rye grass (<i>Lolium perenne</i>)	D
Common bent (<i>Agrostis capillaries</i>)	A
Yorkshire fog (<i>Holcus lanatus</i>)	A
Cocks foot (<i>Dactylis glomerata</i>)	A
False oat grass (<i>Arrhenatherum elatius</i>)	F
Dandelion (<i>Taraxacum officinale</i>)	F
Thistle (<i>Cirsium sp</i>)	F
Creeping buttercup (<i>Ranunculus repens</i>)	F
Plantain (<i>Plantago sp</i>)	F
Common ragwort (<i>Senecio jacobaea</i>)	O
Dock (<i>Rumex sp</i>)	O
Red clover (<i>Trifolium pratense</i>)	F
White clover (<i>Trifolium repens</i>)	F
Scentless mayweed (<i>Tripleurospermum indorum</i>)	O
Oxeye daisy (<i>Leucanthemum vulgare</i>)	O
Cow parsley (<i>Anthriscus sylvestris</i>)	O
Hogweed (<i>Heracleum sphondylium</i>)	R
Comfry (<i>Symphytum officinale</i>).	R

Scattered Scrub.

Species.	DAFOR Assessment.
Buddleia (<i>Buddleja davidii</i>)	R
Broom (<i>Cytisus scoparius</i>)	R
Teasel (<i>Dipsacus fullonum</i>)	F
Hazel (<i>Corylus avellana</i>)	O
Dog rose (<i>Rosa canina</i>)	O
Ash (<i>Fraxinus excelsior</i>)	O
Willow (<i>Salix sp</i>)	F
Hedge bindweed (<i>Calystegia sepium</i>)	O
Maple (<i>Acer sp</i>)	F
Nettle (<i>Urtica dioica</i>)	F
Bramble (<i>Rubus fruticosus</i>).	A

Dense/Continuous Scrub.

Species.	DAFOR Assessment.
Nettle (<i>Urtica dioica</i>)	F
Hawthorn (<i>Crataegus monogyna</i>)	F

Scattered Broad Leaf Trees.

Species.	DAFOR Assessment.
Beech (<i>Fagus sylvatica</i>)	O
Oak (<i>Quercus</i> sp)	O
Hawthorn (<i>Crataegus monogyna</i>)	O
Ash (<i>Fraxinus excelsior</i>)	O
Hazel (<i>Corylus avellana</i>)	O
Sycamore (<i>Acer pseudoplatanus</i>)	O
Poplar (<i>Populus</i> sp)	O
Norway maple (<i>Acer platanoides</i>)	O
Goat willow (<i>Salix caprea</i>)	O
Poplar (<i>Populus</i> sp)	O
Silver birch (<i>Betula pendula</i>).	O

Species Poor Intact Hedgerow.

Species.	DAFOR Assessment.
Hawthorn (<i>Crataegus monogyna</i>)	D
Ivy (<i>Hedera helix</i>)	F
Nettle (<i>Urtica dioica</i>).	F

Appendix XVI. DATA SEARCH RESULTS.

Grid Ref	Location	Location Name	Date	TextDate	Group	Scientific Name	Common Name
SE415098	Grimethorpe Barnsley	The Dell	29/04/19 87 00:00	29/04/19 87	amphibia n	Bufo bufo	Common Toad
SE415099	Grimethorpe Barnsley	The Dell	29/04/19 87 00:00	29/04/19 87	bird	Emberiza citrinella	Yellowhammer
SE4009	Grimethorpe Colliery, sludge lagoon	Lodge Farm	01/03/19 98 00:00	01/03/19 98	bird	Passer montanus	Tree Sparrow
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Passer domesticus	House Sparrow
SE4110	'BARNESLEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Passer domesticus	House Sparrow
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Emberiza citrinella	Yellowhammer
SE4110	'BARNESLEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Emberiza citrinella	Yellowhammer
SE415097	Grimethorpe Barnsley	The Dell	29/04/19 87 00:00	29/04/19 87	bird	Tringa nebularia	Greenshank
SE412102	Willowgate School Pond		24/03/20 11 00:00	24/03/20 11	amphibia n	Rana temporaria	Common Frog
SE415098	Grimethorpe Barnsley	The Dell	29/04/19 87 00:00	29/04/19 87	amphibia n	Rana temporaria	Common Frog
SE4109	'BARNESLEY MBC'	Cromer St Grimethorpe	25/06/19 99 00:00	25/06/19 99	terrestrial mammal	Pipistrellus pipistrellus	Pipistrelle
SE415099	Grimethorpe Barnsley	The Dell	29/04/19 87 00:00	29/04/19 87	bird	Turdus merula	Blackbird
SE415099	Grimethorpe Barnsley	The Dell	29/04/19 87 00:00	29/04/19 87	bird	Phylloscopus trochilus	Willow Warbler
SE413093	'BARNESLEY MBC'	Cudworth Dyke	17/11/20 11 00:00	17/11/20 11	bird	Prunella modularis	Dunnock
SE415099	Grimethorpe Barnsley	The Dell	29/04/19 87 00:00	29/04/19 87	bird	Prunella modularis	Dunnock
SE413093	'BARNESLEY MBC'	Cudworth Dyke	17/11/20 11 00:00	17/11/20 11	bird	Carduelis carduelis	Goldfinch
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Turdus merula	Blackbird
SE4110	'BARNESLEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Turdus merula	Blackbird
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Pyrrhula pyrrhula	Bullfinch
SE4110	'BARNESLEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Pyrrhula pyrrhula	Bullfinch
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Prunella modularis	Dunnock
SE4110	'BARNESLEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Prunella modularis	Dunnock
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Carduelis carduelis	Goldfinch
SE4110	'BARNESLEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Carduelis carduelis	Goldfinch
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Carduelis cannabina	Linnet
SE4110	'BARNESLEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Carduelis cannabina	Linnet
SE4010	'BARNESLEY MBC'	SE41A-1	01/05/20	01/05/20	bird	Turdus	Mistle

			10 00:00	10		viscivorus	Thrush
SE4110	'BARNSELEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Turdus viscivorus	Mistle Thrush
SE4010	'BARNSELEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Alauda arvensis	Skylark
SE4110	'BARNSELEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Alauda arvensis	Skylark
SE4010	'BARNSELEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Turdus philomelos	Song Thrush
SE4110	'BARNSELEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Turdus philomelos	Song Thrush
SE4010	'BARNSELEY MBC'	SE41A-1	01/05/20 10 00:00	01/05/20 10	bird	Sturnus vulgaris	Starling
SE4110	'BARNSELEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Sturnus vulgaris	Starling
SE4110	'BARNSELEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Hirundo rustica	Swallow
SE4110	'BARNSELEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Parus montanus	Willow Tit
SE4110	'BARNSELEY MBC'	SE41A-3	01/05/20 10 00:00	01/05/20 10	bird	Phylloscopus trochilus	Willow Warbler
SE4090 92	Grimethorpe Barnsley	Milefield Court	29/06/20 04 00:00	29/06/20 04	terrestrial mammal	Pipistrellus pipistrellus 45kHz	45 Khz Pipistrell e
SE4090 92	'BARNSELEY MBC'	Milefield Court Grimetho rpe	29/06/20 04 00:00	29/06/20 04	terrestrial mammal	Pipistrellus pipistrellus 45kHz	45 Khz Pipistrell e
SE4160 97	Grimethorpe Dell	The Dell Grimetho rpe	17/11/20 11 00:00	17/11/20 11	terrestrial mammal	Arvicola terrestris	Water Vole
SE4157 209763	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4147 710032	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4154 610320	'BARNSELEY MBC'	Barnsley	06/05/20 12 00:00	06/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4154 310315	'BARNSELEY MBC'	Barnsley	06/05/20 12 00:00	06/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4154 410305	'BARNSELEY MBC'	Barnsley	06/05/20 12 00:00	06/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4153 609855	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4153 909853	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4151 609910	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4151 709904	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4147 910018	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4154 610293	'BARNSELEY MBC'	Barnsley	06/05/20 12 00:00	06/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4153 509849	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4157 209764	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4157 009791	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4155 809807	'BARNSELEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole

SE4153 409856	'BARNESLEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4153 509855	'BARNESLEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4154 510293	'BARNESLEY MBC'	Barnsley	06/05/20 12 00:00	06/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4154 310286	'BARNESLEY MBC'	Barnsley	06/05/20 12 00:00	06/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4130 209253	'BARNESLEY MBC'	Barnsley	19/06/20 12 00:00	19/06/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4128 709240	'BARNESLEY MBC'	Barnsley	19/06/20 12 00:00	19/06/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4157 009792	'BARNESLEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole
SE4155 909809	'BARNESLEY MBC'	Barnsley	05/05/20 12 00:00	05/05/20 12	terrestrial mammal	Arvicola terrestris	Water Vole

Statutory and Local Wildlife Sites (non statutory) - Willowgarth, Brierley Road

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