

Proposed Works at the Sewage Pumping Station off Tuxford Road in Boughton, Nottinghamshire

Ecological Walk-over Survey

A report to:

Severn Trent Water

By:

EMEC Ecology

The Old Ragged School

Brook Street

Nottingham

NG1 1EA

Tel: 0115 964 4828

Fax: 0115 964 4829

E-mail: mail@emec-ecology.co.uk

Website: www.emec-ecology.co.uk

August 2012

CONTENTS

Chapter	Page No.
Executive Summary	3
1. Introduction	4
2. Site Description	4
3. Methodology	5
3.1 Desk Study	5
3.2 Ecological Survey	5
3.3 Ecological Evaluation Criteria	6
3.4 Mitigation Measures	7
4. Results	8
4.1 Desk Study	8
4.2 Ecological Walk-over Survey	11
5. Evaluation	14
5.1 Designated Nature Conservation Sites	14
5.2 Habitats	14
5.3 Sherwood Forest pSPA	14
5.4 Protected/notable Species	15
5.5 Summary of Main Potential Ecological Issues	16
6. Mitigation & Further Survey Recommendations	17
6.1 Mitigation Recommendations	17
6.2 Further Survey Recommendations	17
References	18
Appendix 1: Figures	19
Figure 1: Site Location Plan	19
Figure 2: Survey Area and Survey Features	20
Appendix 2: Protected Species Legislation	21
Appendix 3: Botanical Species List	23
Appendix 4: Desk Study Data	24

EXECUTIVE SUMMARY

Proposed Works

The proposed works involve replacement of the existing pumps and conversion of the existing dry well into a wet well at the Sewage Pumping Station (SPS) off Tuxford Road in Boughton, Nottinghamshire (centred on grid reference SK 680 681).

Method of Study

EMEC Ecology's brief was to identify potential ecological issues associated with the proposed work and make recommendations for general mitigation, compensation and further surveys, as appropriate. To meet the requirements of the brief, a desk study and an ecological walk-over survey of the site were carried out. The desk study involved consulting various organisations to provide previous species records and information on designated sites of nature conservation importance from the site and vicinity.

Results

No statutory designated nature conservation sites (i.e. SSSI) or non-statutory designated nature conservation sites (i.e. LWS) occur within the survey area and the closest site occurs approximately 190m away. The only noteworthy habitat recorded on the site was the hedgerow and potentially the building (for roosting bats). No protected or notable species were recorded on the site; although the site does provide potential habitat for badgers, bats and nesting birds.

Conclusions

The main potential impacts of the proposed works are considered to be potential disturbance to badgers, bats and nesting birds; although based on the nature and extent of the works, ecological impacts are likely to be minimal.

Mitigation Recommendations

- ❑ Please refer to Sections 6.1 and 6.2 of the report for more detailed recommendations.
- ❑ The hedgerow should remain unaffected by the proposed works, as is planned. If for any reason the hedgerow has to be removed, appropriate compensation will be required.
- ❑ As a precaution, general good working practices with respect to badgers should be adhered to for the duration of the works.
- ❑ Hedgerow removal (although not recommended) and any planned impact/disturbance to the building should be timed to avoid the bird breeding season, which runs from March to September (inclusive).

Further Survey Recommendations

- ❑ If any works are going to impact the building (i.e. all works other than soft internal works), bat activity survey would be required.

1. INTRODUCTION

- 1.1 This report has been prepared by EMEC Ecology for Severn Trent Water. It provides the details of a desk study and an ecological walk-over survey of the Sewage Pumping Station (SPS) off Tuxford Road in Boughton, where improvement works are proposed.
- 1.2 The area of land where the works are proposed is centered on grid reference SK 680 681 to the east of the village of Boughton in central Nottinghamshire. The location of the site is shown on Figure 1 in Appendix 1.
- 1.3 The proposed works involve replacement of the existing pumps and conversion of the existing dry well into a wet well, although no further details are available at this stage.
- 1.4 EMEC Ecology's brief was to identify potential ecological issues associated with the works and make recommendations for general mitigation, compensation and further surveys, as appropriate.
- 1.5 To meet the requirements of the brief, a desk study and an ecological walk-over survey of the site was carried out by a suitably qualified ecologist.

2. SITE DESCRIPTION

- 2.1 The site comprises of a hardstanding track leading up to a fenced off area which contains the SPS building surrounded by hardstanding and shortly mown amenity grassland. A species-poor hedgerow runs along most of the western site boundary.
- 2.2 The site is situated in a rural environment on the outskirts of the village of Boughton. Arable fields surround the survey area in all directions and Tuxford Road is just to the south.

3. METHODOLOGY

3.1 Desk Study

This involved consultation to obtain any existing records of protected and/or notable species and designated nature conservation sites e.g. Sites of Special Scientific Interest (SSSI) and Local Wildlife Sites (LWS) from the site to a distance of approximately 2km (this will be referred to as the 'study area'). The following organisations were contacted:

- Nottinghamshire Biological and Geological Records Centre.
- Nottinghamshire Wildlife Trust (County Mammal Recorder).
- Multi-Agency Geographic Information for the Countryside (*Magic* web site for statutory nature conservation sites).
- National Biodiversity Network (*nbn* web site for protected species distribution).

3.2 Ecological Survey

3.2.1 *Survey Area*

The survey area is shown on Figure 2 in Appendix 1 and comprised a hardstanding track leading up to a fenced off area which contains the SPS building surrounded by hardstanding and shortly mown amenity grassland. A species-poor hedgerow runs along most of the western site boundary.

3.2.2 *Ecological Walk-over Survey Methodology*

An ecological walk-over survey of the site was conducted and notes were made on the Phase-1 habitat types present (JNCC 2010) and their suitability for protected species. Target notes were used to record any habitats or features of particular interest and any sightings, signs or evidence of protected or notable faunal species or any potential habitat for such species, as detailed below:

- The suitability of habitats for badgers (*Meles meles*) was recorded and any evidence of badgers including setts, dung pits, badger paths, hairs, bedding, footprints and scratching trees was noted.
- Trees with features suitable for roosting bats were noted, such as hollows, cracks and cavities within trunks and branches (e.g. old woodpecker holes), crevices behind loose bark and ivy growth.
- The suitability of habitats was assessed for amphibians (including great crested newt *Triturus cristatus*) and reptiles.
- The suitability of habitats was assessed for nesting birds.

Surveying in August is suitable as it is during the plant growing season (i.e. April to September) when many plant species are flowering and are easily identifiable. Also, faunal species are active at this time of year.

3.2.3 *Survey Details*

EMEC Ecology carried out the above surveys on the 15th August 2012.

3.2.4 *Survey Limitations*

Only a brief assessment of the site was made and no systematic surveys to establish the presence/absence of protected species were undertaken. As such, a lack of evidence of a protected species does not necessarily indicate an absence of the species. It should be noted that a single visit to a site at any time of year is likely to miss a proportion of the plant species present.

3.3 Ecological Evaluation Criteria

Ecological evaluation was undertaken using a combination of evaluation criteria for both habitats and species although the general framework follows that provided by the Institute of Ecology and Environmental Management (IEEM 2006). Key categories are as follows:

- International value (internationally designated sites or sites supporting populations of internationally important species);
- National value (nationally designated sites (e.g. SSSI) or sites supporting viable populations of nationally important species);
- Regional value (sites exceeding county-level designations but not meeting SSSI criteria or supporting viable populations of species on the regional Biodiversity Action Plan, BAP);
- County value (county sites (e.g. Local Wildlife Site) and other sites which meet the published ecological selection criteria for county designation, a viable area of habitat identified on the county BAP);
- District value (sites/features that are scarce within the District and appreciably enrich the District's habitat resource);
- Parish value (areas of habitat considered to appreciably enrich the habitat resource within the context of a parish or neighbourhood);
- Sub-parish value (common, low grade habitats).

Additional criteria employed were from the following:

- Schedules and Annexes of UK and European wildlife legislation (e.g. Wildlife and Countryside Act (1981) (as amended) and The Conservation (Natural Habitats, &c.) Regulations 2010 (as amended);
- International conventions on wildlife (e.g. Bern Convention, Bonn convention);
- Habitats and Species of Principal Biological Importance listed on Section 41 of the Natural Environment and Rural Communities Act (2006);
- UK Biodiversity Action Plan (UK BAP 2007);
- County Biodiversity Action Plan (Nottinghamshire BAG 1998);
- Taxa-specific conservation lists (e.g. RSPB Lists of species of conservation concern, RSPB 2009).

3.4 Mitigation Measures

Wherever possible, mitigation measures have been proposed for adverse ecological effects.

4. RESULTS

4.1 Desk Study¹

4.1.1 *Designated Nature Conservation Sites*

a) *Statutory Sites*

Wellow Park is the only SSSI within the study area. The closest point of Wellow Park to the survey area is approximately 750m to the south. Further details are provided in Table 4.1 below.

Table 4.1: Statutory Nature Conservation Sites within the Study Area

Site	Location and Approximate Distance from Survey Area	Reason for Selection
Wellow Park SSSI	SK 683 671 750 metres to the south.	136.24ha containing Nottinghamshire's largest ash-wych elm woodland (semi-natural) which supports diverse invertebrate and bird populations.

b) *Non-statutory Sites*

Seven non-statutory nature conservation sites (i.e. LWS) occur within the study area but there are none within the survey area. Further details are provided in Table 4.2 below.

Table 4.2: Non-statutory Nature Conservation Sites within the Study Area.

Site	Location and Approximate Distance from Survey Area	Reason for Selection
Boughton Scrub (North and South) LWS	SK 686 692 190m to the east (north scrub) and 190m to the south east (south scrub).	44.25ha of diverse habitat including woodland, scattered scrub and grassland.
Ollerton Colliery LWS	SK 670 674 430m to the south west.	A regeneration site with a rich assemblage of habitats and breeding birds.
Wellow Park SSSI and LWS	SK 683 671 750m to the south.	136.24ha containing Nottinghamshire's largest ash-wych elm woodland (semi natural) which supports diverse invertebrate and bird populations.
Boughton Railway Banks LWS	SK 671 669 1km to the south west.	Notable sections of habitat (grassland and scrub) along embankments of a former railway.
Kirton Brickworks LWS	SK 692 683 1.1km to the east.	Site supporting the dingy skipper butterfly (high conservation priority species).
Whinney Lane Grassland LWS	SK 667 690 1.5km to the north west.	An open area with remnants of acidic grassland.
Wellow Dam Scrubby Grassland LWS	SK 668 665 1.9km to the south west.	Species-rich damp grassland and scrub supporting notable species.

¹ A copy of the full desk study data is provided in Appendix 4.

4.1.2 *Protected/notable Floral Species*

There are no previous records of protected or notable floral species for the survey or study area.

4.1.3 *Protected/notable Faunal Species*

There are no previous records of protected or notable faunal species for the survey area. However, there are previous records of protected faunal species, including badger, bats, water voles (*Arvicola amphibius*) and common amphibian species from within the study area (see Table 4.3 below). Protected species legislation details are provided in Appendix 2.

There are notable records of brown hare (*Lepus europaeus*) and dingy skipper (*Erynnis tages*) from within the study area, as detailed in Table 4.4 overleaf.

Table 4.3: Protected Faunal Species within the Study Area

Species	Record and Year	Location and Approximate Distance from Survey Area	Legislation / Conservation Status
<i>Common Amphibians</i>			
Common frog (<i>Rana temporaria</i>)	Three records between 1990 and 2008 (closest from 2008 of 4 adults).	SK 675 680, tadpoles in Ollerton Pond 1, 390m to the west.	Partially protected under UK legislation. County Species of Conservation Concern (SCC).
Common toad (<i>Bufo bufo</i>)	Nine records between 1990 and 2008 (closest from 2008).	SK 675 680, Ollerton Pond 1, 390m to the west.	Partially protected under UK legislation. UK BAP Priority Species and County SCC.
Smooth newt (<i>Lissotriton vulgaris</i>)	Three records from 2008, closest of 6 adults.	SK 675 680, Ollerton Pond 1, 390m to the west.	Partially protected under UK legislation. County SCC.
<i>Mammals</i>			
Badger	Several records between 2005 and 2009.	<i>Due to the sensitive nature of such records the exact grid references will not be given.</i> Approximately 1.9km from the survey area.	Protection of Badgers Act 1992. County SCC.
Water Vole	Three records between 1998 and 2002 (closest from 2002 of indeterminate abundance).	SK 668 665, in Wellow Pond, 1.9km to the south east.	Partially protected under UK Legislation. UK BAP Priority Species and County SCC.
<i>Bats</i>			
Unidentified bat	Two records from 1989 (closest, roost of around 80 bats) 1998.	SK 671 682, Tuxford Road, Boughton, 780m to the West.	Fully protected under UK and European legislation.
Pipistrelle bat (<i>Pipistrellus</i>)	Several records	Closest record (casual, 2001) from Dukeries Community Centre, New Oller,	Fully protected under UK and European

Species	Record and Year	Location and Approximate Distance from Survey Area	Legislation / Conservation Status
<i>pipistrellus</i>)	between 1989 and 2008.	900m to the north west. Closest roost record is 1.5km to the north west.	legislation. The soprano pipistrelle is a UK BAP Priority Species. The common pipistrelle is a County SCC.
Brown Long-eared bat (<i>Plecotus auritus</i>)	Roost record from 1994.	SK 668 692, Boughton Pumping Station, 1.5km to the north west.	Fully protected under UK and European legislation. UK BAP Priority Species and County SCC.
Whiskered Bat (<i>Myotis mystacinus</i>)	Two records from 2001 (closest of orphaned bat, casual).	SK 669 679, Tuxford Road, Boughton, Ollerton, 1km to the west.	Fully protected under UK and European legislation. County SCC.

Table 4.4: Notable Faunal Species within the Study Area

Species	Record and Year	Location and Approximate Distance from Survey Area	Legislation / Conservation Status
<i>Mammals</i>			
Brown hare	One record from 2005 of 13+ adults on farmland seen daily.	SK 68 66, farmland near Wellow, 1.1km to the south.	UK BAP Priority Species and County SCC.
<i>Butterflies</i>			
Dingy skipper	Three records from 1980 – 2008.	Closest record from SK 686 684, 590m to the north east.	UK BAP Priority Species and County SCC.

4.2 Ecological Walk-over Survey

4.2.1 *Habitat Types*

The following Phase-1 habitat types were recorded within the survey area:

- ❑ Amenity grassland
- ❑ Building
- ❑ Fence
- ❑ Hardstanding
- ❑ Species-poor intact hedgerow

Habitat descriptions and photographs are provided below. Nomenclature follows that of Stace (1997). In the text species are referred to using their English names, Appendix 3 provides a list of species including their scientific names.

4.2.2 *Habitat Descriptions*

a) *Amenity grassland*

A small area of shortly mown amenity grassland was present within the fenced off area around the SPS building. The grass sward comprised perennial rye-grass and Yorkshire-fog, with infrequent soft brome and false oat-grass. Frequent herbaceous plant species included white clover, dandelion, yarrow, ribwort plantain and greater plantain. Less frequent species included dove's-foot crane's-bill, hogweed, cow parsley, mugwort, common ragwort, creeping thistle, spear thistle, common nettle and broad-leaved dock. At the edges of this habitat, American willowherb, ground-ivy and field horsetail were also recorded.



b) *Building*

The pumping station building was a small single-storey brick-built structure, measuring approximately 3m by 3m. The brickwork was in good condition and the pointing was intact with only minor surface blemishes on the bricks noted. There was a hipped tiled roof which was in moderate condition; several tiles were missing or had slipped out of position (including the roof tiles and the harris hip tiles) and some of the mortar torching was eroded. Wooden boxed eaves were present around the building which were affixed tightly to the walls, with only minor (less than one centimetre) gaps, and were heavily cobwebbed. A wooden door within a plastic frame is securely fitted at the southern elevation. Small ventilation bricks were present on the east and west walls.



c) *Hardstanding*

This was the dominant habitat within the survey area which was generally in good condition. Several opportunistic species were colonising the track, notably false oat-grass with greater plantain, broad-leaved dock and common poppy.

d) *Species-poor intact hedgerow*

A short section of dense hawthorn-dominated hedgerow was present along the western site boundary which was managed to approximately 2m tall by 1m wide. Hazel was also present to the north of the hedgerow. Extensive growth of common ivy through the hedgerow was noted. Common nettle and creeping thistle were also recorded growing up through the hedgerow. Ground flora was sparse, although there was a small patch of field horsetail towards the north. A gap in the hedgerow (of approximately 3m) was occupied by bramble with common nettle and common poppy.



e) *Adjacent Habitats*

Arable fields surround the survey area in all directions and Tuxford Road is just to the south.

4.2.3 *Faunal Species*

a) *Amphibians*

There was no potential breeding habitat (i.e. standing open water) within the survey area. The grassland provided potential foraging opportunities and the hedgerow provided potential shelter and hibernation habitat.

b) *Badger*

No evidence of badger was found within the survey area. Although the habitats within the survey area did not offer potential for sett digging, the grassland and adjacent arable field provided potential foraging habitat.

c) *Bats*

The roof of the pumping building provides opportunities for crevice-dwelling bats such as pipistrelle bats (*Pipistrellus* spp.). Features potentially suitable for such bats included gaps underneath raised tiles (both as a result of missing tiles, dislodged tiles and eroded mortar torching). Examples are provided in the photographs below.



No evidence of bats was identified on the exterior of the building, although it should be noted that a complete inspection for bats has not been undertaken by a licensed bat-worker and the interior of the building was not included within the present survey.

The short section of hedgerow provides limited foraging opportunities for bats, but this habitat was isolated and not connected to other suitable habitat at either end.

d) *Nesting Birds*

The dense hedgerow and building (i.e. cavities beneath tiles) provided good potential habitat for nesting birds.

e) *Reptiles*

The shortly mown grass provided poor potential habitat for reptile species; although the hedgerow provided some limited potential for sheltering.

f) *Other Species*

A single field vole (*Microtus agrestis*) was observed during the survey. No other species were recorded.

5. EVALUATION

5.1 Designated Nature Conservation Sites

There are no statutory designated nature conservation sites (i.e. SSSI) or non-statutory designated nature conservation sites (i.e. LWS) within the survey area. The closest designated site is approximately 190m away from the survey area (i.e. Boughton Scrub North and South LWS) and will not be affected by the proposed works. Therefore, no mitigation or further survey work is required.

5.2 Habitats

The evaluation of the habitats on the site is based on the guidelines from IEEM (IEEM 2006). The site comprises of habitats ranging from moderate ('Parish') to low ('Sub-parish') value (IEEM 2006). No rare or notable habitats are present on the site and no habitats are considered to be Habitats of Principal Biological Importance on Section 41 of the NERC Act 2006 or Priority Habitats on the national BAP (UK BAP 2007) or local BAP (Nottinghamshire BAG 1998).

The hedgerow is considered to offer moderate ecological value although it contains only two woody species (hawthorn and hazel) and lacks ground flora. It would not qualify as 'important' (using ecological criteria) under the Hedgerow Regulations (1997). However, all hedgerows are of ecological value and provide 'ecological corridors' along which plants and animals can disperse. It provides potential bird nesting habitat, bat foraging and commuting routes and amphibian and reptile cover and sheltering opportunities.

The rest of the habitats on site are considered to be of low ecological value. The amenity grassland is isolated and covers only a small area. It is species-poor and is unlikely to provide habitat for faunal species, with the exception of limited amphibian and badger foraging opportunities. The man-made hardstanding within the site is unlikely to provide opportunities for protected/notable faunal species.

The building is a man-made structure that is common within the surroundings and unlikely to offer potential for protected/notable species. However, it is possible that the building supports roosting bats, although a detailed examination of the building has not been undertaken to date. The presence of roosting bats would raise the ecological value of the building from its current value.

5.3 Sherwood Forest pSPA

Background Information

A substantial breeding population of nightjar (*Caprimulgus europaeus*) and woodlark (*Lullula arborea*) is known to occur in the Sherwood region, and it is considered that these populations may warrant the classification of the area as a Special Protection Area (SPA). At present the classification of the site is only a possibility, and no classification process has started. However, once a formal classification process begins, such sites are termed potential SPAs (pSPA).

Government policy states that pSPA should be treated as if they had already been classified as an SPA. This has the result that any planning application within the vicinity

of the pSPA would be subject to the provisions of the Conservation of Habitat and Species Regulation 2010 (as amended). The regulations impose duties on Local Planning Authorities (LPAs) to follow strict regulatory procedures based on a precautionary approach to protect European Sites such as SPAs from significant adverse effects.

Currently Natural England's view point is that as the site is not a pSPA (it is only a possibility at this stage) the provisions of the 2010 Regulations do not apply. However, Natural England also state that as there currently remains the possibility of an area of Sherwood Forest being recommended for future classification as a SPA, LPAs may wish to adopt a 'risk based approach', and to provide decision making with a degree of future proofing until such a time as there is more certainty on whether the area is to be afforded pSPA or SPA status.

The pSPA would require planners to consider the cumulative direct and indirect impacts of all developments within 5km (the current distance to which planners should consider developments). The current survey area falls within the 5km buffer (just to the east of a RSPB Important Bird Area (IBA) of the possible pSPA) and so the following considered potential direct and indirect impacts accordingly.

Potential Habitat – Direct Impacts

Nightjars preferred habitat includes open coniferous and deciduous woodland and heathland. Woodlarks prefer dry coniferous woodland clearings and heathlands. These habitats do not occur within the survey area and therefore no direct impacts will occur to the species' habitats.

Potential Habitat – Indirect Impacts

The proposals are not for a new development (e.g. a residential development) and as such there will not be a resultant increase in visitor pressure within the locality or increase in traffic through important conservation areas. It is therefore considered that there will be no indirect impacts as the result of the proposed works.

Therefore as the development can be considered not to have an impact (direct or indirect) on the possible pSPA, it does not need to be considered in combination with other proposals (and their potential impacts on the possible pSPA).

5.4 Protected/notable Species²

5.4.1 *Floral Species*

None of the species recorded during the survey are specifically protected by the Wildlife and Countryside Act (WCA) 1981 (as amended) or considered rare nationally or locally (e.g. Preston et al. 2002). Also, none are listed as Priority Species on the national BAP (UK BAP 2007) or local BAP (Nottinghamshire BAG 1998).

5.4.2 *Faunal Species*

a) *Amphibians*

The habitats present on the site and in the vicinity suggest that the site is unlikely to be of local importance for amphibians. Although there was habitat available for foraging (grassland) and sheltering (hedgerow), this habitat was limited in extent and isolated from

² Protected species legislation is provided in Appendix 3.

other suitable habitat. The nearest water feature (as shown by aerial photography) is over 200m from the survey area, to the east at Boughton Dyke and the nearest records of common amphibian species are from a pond approximately 390m away, to the west. These factors suggest that the movement of amphibians into the site is unlikely. In addition, due to the lack of previous records and suitable breeding habitat for great crested newts (a specially protected amphibian), the presence of this species on the site is considered extremely unlikely. Therefore, no further survey work or mitigation is considered necessary.

b) *Badger*

Although no evidence of badger was found within the survey area, the grassland and adjacent arable field provide potential foraging habitat. The closest record of a badger sett is approximately 1.9km away and there are limited opportunities for badger sett digging in the immediate vicinity of the survey area; as such it is considered unlikely that there is a sett close by. Nevertheless, as a precaution, we recommend that best practice working measures with respect to badgers are followed for the duration of the works (see Section 6.1.2).

c) *Bats*

Opportunities for crevice-dwelling bats were identified on the exterior of the SPS building, including gaps beneath the roof tiles and harris hip tiles. If any works are going to impact the building (i.e. all works other than soft internal works), activity surveys (either dawn swarming or evening emergence surveys) using electronic bat detectors would be required to confirm the presence/absence of bats from the building. Based on this further survey work, mitigation measures may be required (see Section 6.2.1).

Foraging opportunities for bats are limited within the survey area; the hedgerow provides suitable foraging habitat but is limited in extent and isolated from other habitat resources. Due to the nature of the proposed works, it is considered unlikely that the proposed works would have adverse effects on bat foraging. Therefore, no further survey work or mitigation is considered necessary.

d) *Nesting Birds*

Potential bird nesting habitat includes the hedgerow and building (i.e. beneath tiles), although it is unlikely that any nesting bird species are specially protected. However, as the site provides suitable habitat, any disturbance to the hedgerow and building would be constrained by the bird breeding season, which runs from March to September inclusive (see Section 6.1.2).

e) *Reptiles*

The shortly mown grass provided poor potential habitat for reptile species whilst the hedgerow provided some limited potential for sheltering. However, due to the nature and extent of the works, and as there are no previous records for reptile species within the study area, their presence on site is considered unlikely. As such, no further survey work or mitigation is recommended.

5.5 Summary of Main Potential Ecological Issues

The main potential impacts of the proposed works are considered to be potential disturbance to badgers, bats and nesting birds.

6. MITIGATION & FURTHER SURVEY RECOMMENDATIONS

6.1 Mitigation Recommendations

6.1.1 *Habitats*

The hedgerow should remain unaffected by the proposed works, as is planned. If for any reason the hedgerow has to be removed (in part or in whole), compensation will be required.

6.1.2 *Faunal Species*

a) *Badgers*

No evidence of badger was found within the survey area and no further survey work or specific mitigation is required. However, as a precaution, general good working practices should be adhered to, including if any trenches dug during works activities are left open over night, they should be left with a sloping end or ramp to allow any badgers or other animal that may fall in to escape. Also, any pipes over 200mm in diameter should be capped off at night to prevent animals entering.

b) *Nesting Birds*

Hedgerow removal (although not recommended) and any planned impact/disturbance to the building should be timed to avoid the bird breeding season, which runs from March to September (inclusive). This is to avoid adverse impacts to any nests present. If it is necessary to carry out the work during the breeding season, then a survey must be carried out by a qualified ecologist prior to works going ahead to ensure that no active nests will be affected. If active nests were found then work would have to be delayed until all chicks had fledged.

6.2 Further Survey Recommendations

6.2.1 *Bats*

If any works are going to impact the building (i.e. all works other than soft internal works), activity surveys (either dawn swarming or evening emergence surveys) using electronic bat detectors would be required to confirm the presence/absence of bats from the building. Based on this further survey work, mitigation measures may be required.

REFERENCES

Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans and Gregory RD (2009): *Birds of Conservation Concern 3: The Populations Status of Birds in the United Kingdom, Channel Islands and the Isle Man*. British Birds 102, pp296-341

Institute of Ecology and Environmental Management 2006 *Guidelines for Ecological Impact Assessment*. IEEM.

JNCC 2010 *Handbook for Phase 1 Habitat Survey: a technique for environmental audit*. JNCC, Peterborough.

Nottinghamshire BAG 1998 *Local Biodiversity Action Plan for Nottinghamshire*. Nottinghamshire County Council.

Preston, C. D., Pearman, D. A. & Dines, T. D. 2002 *New Atlas of the British and Irish Flora*. University Press, Oxford.

Stace, C. 1997 *New Flora of the British Isles*. University Press, Cambridge.

WEBSITES

MAGIC Site Check Report Available: www.magic.gov.uk

National Biodiversity Network (nbn) Available: www.nbn.org.uk

UK BAP 2007 Available: <http://jncc.defra.gov.uk/default.aspx?page=5705>

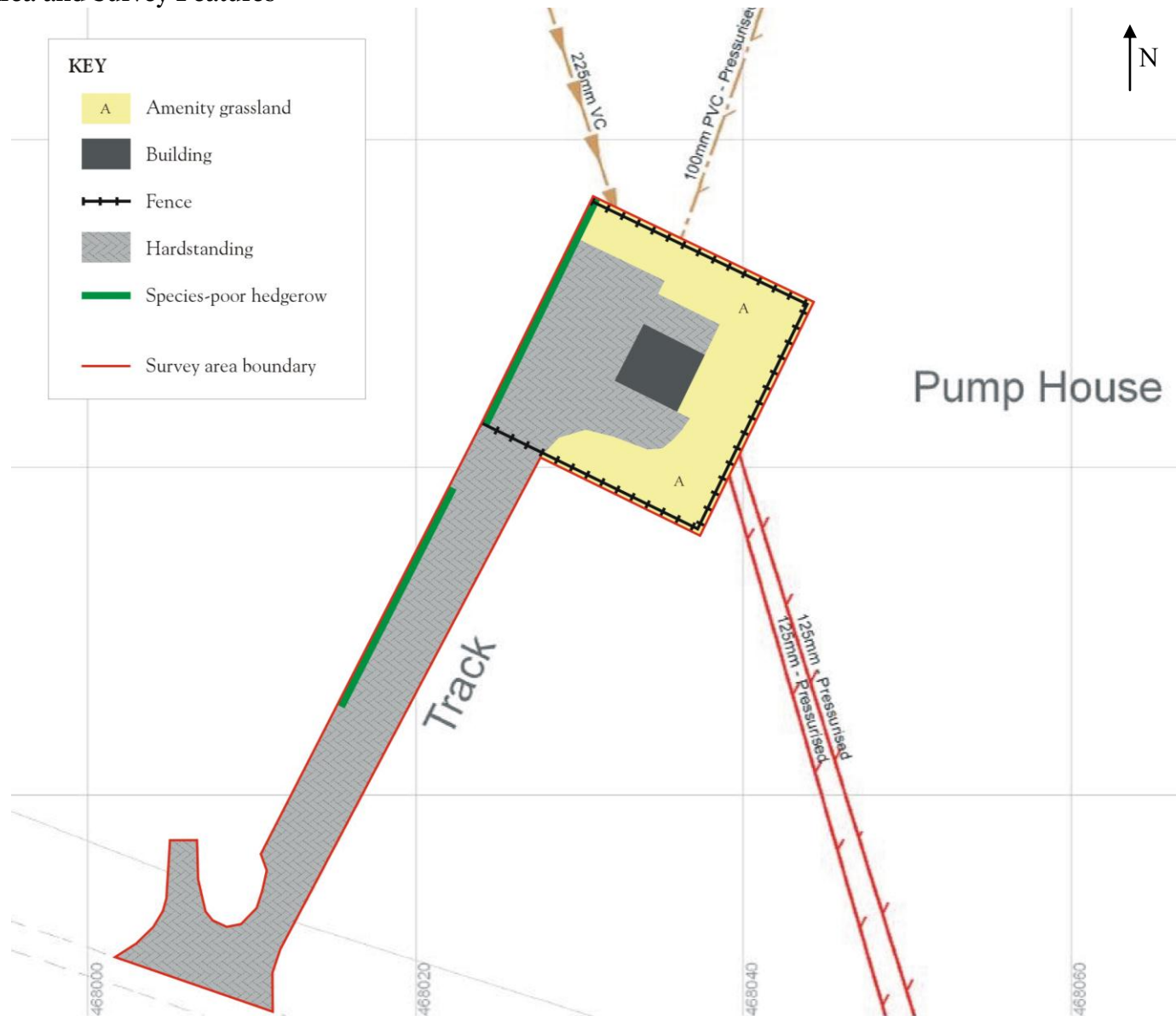
APPENDIX 1: FIGURES

Figure 1: Site Location Plan



© Crown copyright and database rights Ordnance Survey 2012

Figure 2: Survey Area and Survey Features



APPENDIX 2: PROTECTED SPECIES LEGISLATION

Plants

All wild plants are protected against unauthorised removal or uprooting under Section 13 of the Wildlife and Countryside Act (WCA) 1981 (as amended). Plants listed on Schedule 8 of the Act (e.g. triangular club rush and Deptford Pink) are afforded additional protection against picking, uprooting, destruction and sale.

Amphibians (common species)

Common amphibian species (i.e. common frog, common toad, smooth newt and palmate newt) are afforded partial legal protection under UK legislation, i.e. Schedule 5, Section 9 (5) of the WCA 1981 (as amended) and the Countryside and Rights of Way (CROW) Act 2000. This legislation prohibits:

- Sale;
- Transportation; and
- Advertising for sale.

Badger

Badger is a widespread and generally common species. However, they are legally protected under The Protection of Badgers Act 1992, which is based primarily on the need to protect badgers from baiting and deliberate harm or injury. Under this legislation it is illegal to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so;
- Possess any dead badger or any part of, or anything derived from, a dead badger; and
- Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it.

A badger sett is defined in the legislation as “*any structure or place, which displays signs indicating current use by a badger*”.

Bats

All bat species are afforded full protection under UK and European legislation, including the WCA 1981 (as amended), the CROW Act 2000 and the Conservation (Natural habitats &c.) Regulations 2010 (as amended). Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat;
- Damage, destroy or obstruct access to bat roosts; and
- Deliberately disturb bats.

A bat roost is defined in the legislation as “*any structure or place which a bat uses for shelter or protection*”. Roosts are protected whether or not bats are present at the time. If a development activity is likely to result in disturbance or killing of a bat, damage to its habitat or any of the other activities listed above, then a licence will usually be required from Natural England.

Birds

The bird breeding season generally lasts from early March to September for most species. All birds are protected under the WCA 1981 (as amended) and the CROW Act 2000. This legislation makes it illegal, both intentionally and recklessly to:

- Kill, injure or take any wild bird;

- ❑ Take, damage or destroy the nest of any wild bird while it is being built or in use;
- ❑ Take or destroy the eggs of any wild bird; and
- ❑ Possess or control any wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the WCA 1981 (as amended) are afforded additional protection, which makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Great crested newt

Great crested newts and their habitat are afforded full protection under UK and European legislation, including the WCA 1981 (as amended), the CRow Act 2000 and the Conservation (Natural habitats &c.) Regulations 2010 (as amended). This makes it an offence to kill, injure or disturb great crested newts and to destroy any place used for rest or shelter by a newt. The great crested newt is also listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. If a development activity is likely to result in disturbance or killing of a great crested newt, damage to its habitat etc, then a licence will usually be required from Natural England.

Reptiles

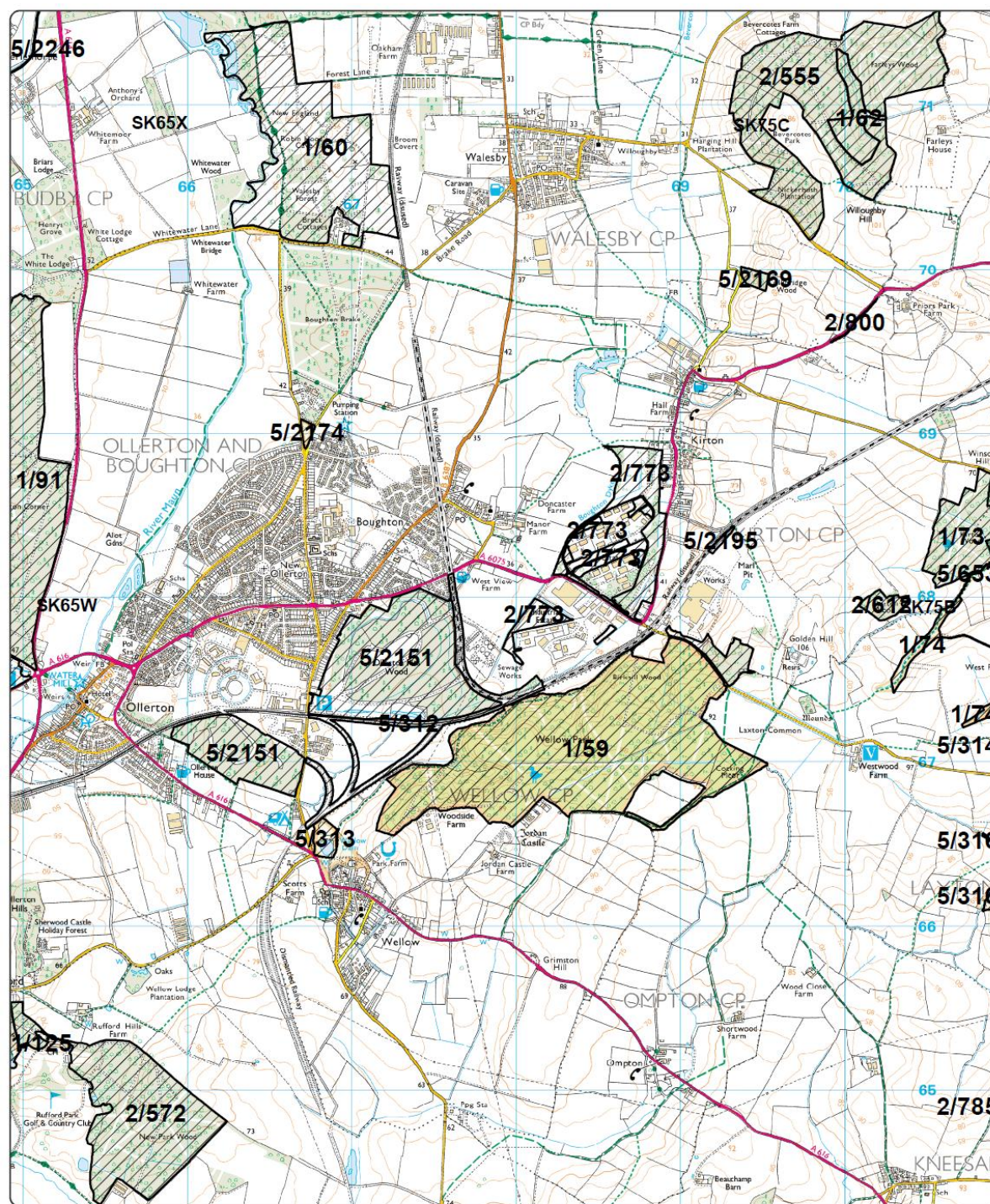
There are six native species of reptiles in the UK, including slow-worm, common lizard, grass snake and adder, smooth snake and sand lizard, which are afforded varying degrees of protection under UK and European legislation.

Slow-worm, viviparous/common lizard, adder and grass snake are protected under Schedule 5, Section 9 (1 and 5) of the WCA 1981 (as amended) and the CRow Act 2000 against deliberate or reckless killing and injuring and sale.

APPENDIX 3: BOTANICAL SPECIES LIST

English Name	Scientific Name
American Willowherb	<i>Epilobium ciliatum</i>
Bramble	<i>Rubus fruticosus</i> agg.
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Common Nettle	<i>Urtica dioica</i>
Common Poppy	<i>Papaver rhoeas</i>
Common Ragwort	<i>Senecio jacobaea</i>
Cow Parsley	<i>Anthriscus sylvestris</i>
Creeping Thistle	<i>Cirsium arvense</i>
Dandelion	<i>Taraxacum officinale</i> agg.
Dove's-foot Crane's-bill	<i>Geranium molle</i>
False Oat-grass	<i>Arrhenatherum elatius</i>
Field Horsetail	<i>Equisetum arvense</i>
Greater Plantain	<i>Plantago major</i>
Ground-ivy	<i>Glechoma hederacea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Hogweed	<i>Heracleum sphondylium</i>
Ivy	<i>Hedera helix</i>
Mugwort	<i>Artemisia vulgaris</i>
Perennial Rye-grass	<i>Lolium perenne</i>
Ribwort Plantain	<i>Plantago lanceolata</i>
Soft-brome	<i>Bromus hordeaceus</i>
Spear Thistle	<i>Cirsium vulgare</i>
White Clover	<i>Trifolium repens</i>
Yarrow	<i>Achillea millefolium</i>
Yorkshire-fog	<i>Holcus lanatus</i>

APPENDIX 4: DESK STUDY DATA



Key



= Local Wildlife Site

© Crown copyright and database right 2012. Ordnance Survey Licence number 100019317.
P. Acton. NBGRG. Date: 06/08/2012

0 200 400 800
Meters

Common Name	SK Grid Reference	Date	Location
Pipistrelle Bat	SK662679	21/09/1988	Public Library, Forest Road, Ollerton
Pipistrelle Bat	SK669679	19/07/1999	Columbine, Tuxford Rd, New Ollerton
Whiskered Bat	SK669679	17/07/2001	19, Tuxford Rd, Boughton, Ollerton
Pipistrelle Bat	SK664688	04/07/2001	162, Petersmith Dr, New Ollerton
Pipistrelle Bat	SK665686	04/07/2001	5 Chestnut Dr, New Ollerton
Pipistrelle Bat	SK665688	01/09/2001	7, Petersmith Dr, New Ollerton
Pipistrelle Bat	SK667682	05/11/2001	Dukeries Community Centre, Whinney Lane, New Ollerton
Pipistrelle Bat	SK663687	17/07/1998	180, Petersmith Drive, Ollerton
Pipistrelle Bat	SK665688	19/08/1989	9 Petersmith's Crescent, New Ollerton
Pipistrelle Bat	SK668685	05/11/2001	Dukeries complex
Unidentified Bat	SK665689	01/07/1998	129 Petersmith Drive, Ollerton
Brown Long-eared Bat	SK668692	25/02/1994	Boughton Pumping Station, Boughton
Pipistrelle Bat	SK679665	12/09/2008	Jordan Castle Farm, Wellow
Pipistrelle Bat	SK675685	20/05/1996	Boughton Pumping Station, Boughton
Unidentified Bat	SK671682	19/07/1989	56 Tuxford Road, Boughton
Pipistrelle Bat	SK679708	09/07/1999	The Brushes Retford Rd, Walesby
Pipistrelle Bat	SK679708	02/08/1999	The Brushes Retford Rd, Walesby
Pipistrelle Bat	SK679708	06/07/2002	The Brushes, Retford Road, Walesby
Whiskered Bat	SK689689	09/06/2001	2 Rectory Gardens, Kirton
Pipistrelle Bat	SK6870	28/06/1994	Woodland Dean, Retford Rd, Walesby
Whiskered/Brandt's Bat	SK685708	06/05/2002	Vicarage, Tuxford Road, Walesby
Dingy Skipper	SK686684	1980-2008	Boughton Industrial Estate
Signal Crayfish	SK687670	1998	River Greet
Common Toad	SK666668	27/04/2008	Ollerton
Common Frog	SK666668	27/04/2008	Ollerton
Common Toad	SK668663	1990	Wellow
Common Toad	SK668663	1990	Wellow
Common Toad	SK672674	08/06/2008	Ollerton
Common Toad	SK672674	27/04/2008	Ollerton
Common Toad	SK675674	27/04/2008	Ollerton
Common Toad	SK670673	27/04/2008	Ollerton
Common Toad	SK674678	27/04/2008	Ollerton
Common Frog	SK675674	27/04/2008	Ollerton
Smooth/Palmate Newt	SK672674	27/04/2008	Ollerton
Smooth/Palmate Newt	SK670673	27/04/2008	Ollerton
Common Frog	SK678684	03/1995	Boughton
Common Toad	SK675680	27/04/2008	Ollerton

Smooth/Palmate			
Newt	SK675680	27/04/2008	Ollerton
Common Frog	SK708682	1989	Kirton
Common Frog	SK7068	30/08/2010	Kirton Wood
Fallopia japonica	SK667665	24/08/2009	Wellow
Brown Hare	SK664698	02/02/2004	Ollerton
Brown Hare	SK6866	2005	Wellow
Brown Hare	SK6867	2005	Wellow
Harvest Mouse	SK705685	2002	Kirton Wood
Brown Hare	SK703687	01/10/1999	Kirton wood
Brown Hare	SK705697	01/01/2004	Kirton
Angle-striped			
Sallow	SK685670	1980-2008	Wellow Wood
Barred Rivulet	SK685670	1980-2008	Wellow Wood
Blomer's Rivulet	SK685670	1980-2008	Wellow Wood
Clouded Magpie	SK685670	1980-2008	Wellow Wood
Lead-coloured			
Drab	SK685670	1988-1988	Wellow Wood
Lilac Beauty	SK685670	1980-2008	Wellow Wood
Scarce Prominent	SK685670	1980-2008	Wellow Wood
Scorched Wing	SK685670	1980-2008	Wellow Wood
Tissue	SK685670	1980-2008	Wellow Wood
Yellow-barred			
Brindle	SK685670	1980-2008	Wellow Wood
Alder	SK707685	1980-2008	Kirton Wood
Golden-rod Pug	SK707685	1980-2008	Kirton Wood
Grass Rivulet	SK707685	1980-2008	Kirton Wood
Large Twin-spot			
Carpet	SK707685	1980-2008	Kirton Wood
Old Lady	SK707685	1980-2008	Kirton Wood
Scarce Footman	SK707685	1980-2008	Kirton Wood
Scorched Carpet	SK707685	1980-2008	Kirton Wood
Scorched Wing	SK707685	1980-2008	Kirton Wood
White-spotted Pug	SK707685	1980-2008	Kirton Wood
Pauper Pug	SK702706	2011	Bevercotes Park
Campanula Pug	SK702706	2011	Bevercotes Park
Scarodytes halensis	SK662702	1999	River Whitewater, W of Walesby
Halipus fluviatilis	SK662702	1999	River Whitewater, W of Walesby
Ilybius fuliginosus	SK662702	1999	River Whitewater, W of Walesby
Hydrometra stagnorum	SK662702	1999	River Whitewater, W of Walesby
Nepa cinerea	SK662702	1999	River Whitewater, W of Walesby
Water Vole	SK668664	04/1998	Wellow Dam
Water Vole	SK668665	20/08/2002	Wellow Pond
Water Vole	SK660685	06/08/1998	River Maun
Water Vole	SK662692	1999	River Maun
Water Vole	SK663700	1999	River Maun
Water Vole	SK664706	1999	River Maun
Water Vole	SK665707	29/09/1998	River Maun
Water Vole	SK663703	14/08/2002	River Meden
Water Vole	SK663703	24/05/2000	River Meden

Species	Year	GridRef	Locality	Abundance	other info
Brown long-eared bat	2003	SK672664	Wellow	indeterminate	18 droppings found in partially converted barn at partition wall, ridge area. Park Farm
Pipistrelle bat	2001	SK669685	Ollerton	1	Found on door of Dukeries Complex. Died later in care
Water vole	2002	SK668665	Wellow Pond	indeterminate	Link: NWT Riparian Mammal monitoring site.

QUALITY ASSURANCE:

TITLE: Proposed Works at the Sewage Pumping Station off Tuxford Road in Boughton, Nottinghamshire: Ecological Walk-over Survey

SUBMITTED TO: Severn Trent Water

ISSUE AND REVISION RECORD:

Contract Number: SL/12/3381/01

Revision Number: 1

Description: Final Report

Date: 29th August 2012



AUTHOR

Name: Sarah Love BSc AIEEM AIEMA

Signed:

For Data Protection

INTERNAL REVIEWER

Name: Steve Ralph MSc MIEEM

Signed:

For Data Protection