

SITE 4, HARTS FARM WAY, HAVANT, HAMPSHIRE
ECOLOGICAL ASSESSMENT

Final Document
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Invertebrate, Bird, Mammal, Reptile, Amphibian and Botanical Surveys
Management Plans • Habitat Appraisal • Marine • NVC • EcIA

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APPENDICES

Appendix 1 Protected Species Legislation

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EXECUTIVE SUMMARY

- An initial extended Phase 1 ecological assessment was undertaken on the 25th October 2011 at Harts Farm Way, Havant. An updating Phase 1 survey was conducted during June 2013. Phase 2 great crested newt and reptile surveys were conducted at the site from May to August 2013.
- Site 4 Harts Farm Way is located within Brockhampton, Havant. It comprises an area of brown-field site off Harts Farm Way, between the A27 trunk road to the north and residential and commercial areas of Havant to the south.
- The proposals for the site entail the redevelopment of Site 4 Hart's Farm Way site to provide a new business park. This will include the removal and relocation of the onsite pond and redirection of the onsite stream.
- The majority of the site comprises scrub and ruderal vegetation of low botanical and ecological value.
- Phase 1 surveys identified potential for the site to provide foraging habitat and shelter for common species of reptile. Boundary trees and on site scrub at the site offered moderate potential to support breeding birds and low potential to support roosting bats. Water vole, otter, dormouse and badger are absent from the site.
- Phase 2 great crested newt surveys, conducted in May 2013, confirmed the absence of this species from the site. Phase 2 reptile surveys did not record any species present on the site and it is therefore considered that they are absent from site.
- The site supports good quality habitat for nesting birds. Should works need to be carried out during the nesting bird season, which extends from March to August inclusive, an ecologist will need to undertake a check of all suitable nesting bird habitat adjacent to the site prior to works taking place.
- It is recommended that the landscaping proposals incorporate native species planting within the realigned water course and part of the overall landscaping proposals.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been contracted by the Dumgate Property Group to undertake an extended Phase 1 ecological assessment at Harts Farm Way, Havant. The site is centred on National Grid Reference (NGR) SU 707 059.

This report presents the findings of the initial Phase 1 ecological assessment carried out by ECOSA on 25th October 2011¹, an updating Phase 1 survey completed during June 2013 and Phase 2 reptile and great crested newt surveys completed at the site between April and August 2013.

1.2 Aims and Scope of Report

This report is based on the Phase 1 field survey results, which are aimed at assessing the current suitability of the site and its immediate surrounds to support notable habitats and protected species, together with on-going Phase 2 protected species surveys, which enable a more detailed assessment of the impact of the proposed works on protected species to be undertaken. This ecological assessment report provides an assessment of the biodiversity value of the site to determine the potential impacts of development works on any protected species supported and inform the planning application.

1.3 Site Setting and Description

Site 4, Harts Farm Way is located in the Brockhampton area of the town of Havant, which is situated in south-east Hampshire. The site is within an industrial estate, which comprises a number of industrial units as well as a sewerage works. The site is bordered to the north by the A27 trunk road, beyond which are residential and commercial areas of Havant, interspersed with greenspace. Approximately 200 metres (m) south of the site is Langstone Harbour, which is part of Chichester and Langstone Harbour Ramsar and Special Protection Area (SPA). An inlet of the harbour is located 120m west of the site.

The site comprises an area of tarmac wasteland, which has become overgrown with scrub and ruderal vegetation. There is a pond located in the north-east corner of the site, which is surrounded by dense scrub and a freshwater stream which flows from north-east to south-west through the middle of the site and is heavily shaded. The stream ultimately flows into Brockhampton Mill Lake, which is part of Chichester and

¹ Site 4, Harts Farm Way, Havant, Hampshire – Phase 1 Ecological Walkover Survey, Vicky Coulthard, ECOSA

Langstone Harbour Ramsar and SPA. Along the northern boundary of the site is a belt of broadleaved woodland and coniferous tree species.

1.4 Site Proposals

The site proposals entail the redevelopment of the site into a business park. The pond will be removed and a new one established in the south-west corner of the site. The stream will be landscaped and realigned to flow east to west through the site.

2.0 PHASE 1 SURVEY METHODS

2.1 Introduction

This section details the methods used during the Phase 1 ecological assessment undertaken at Harts Farm Way, Havant on 25th October 2011 and an updating phase 1 survey at the site, conducted during June 2013.

2.2 Phase 1 Field Assessment

An initial Phase 1 ecological field survey was carried out on the 25th October 2011 followed by an updating survey carried out on 23rd June 2013. The survey involved a walkover of the site to identify the habitat types present and to record evidence of protected species, with particular reference to badger *Meles meles*, bats, breeding birds, dormouse *Muscardinus arvellanarius*, otter *Lutra lutra*, water vole *Arvicola amphibious*, reptiles and great crested newt *Triturus cristatus*. Details of the species-specific survey methods are given below.

2.2.1 Vegetation

An assessment was made of all areas of vegetation within the site using the standardised Phase 1 survey methodology². This involved a walkover survey to identify broad vegetation types, which were then classified against Phase 1 habitat types. A list of characteristic plant species for each vegetation type was also compiled.

2.2.2 Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on site and within 30m of the site, where access was possible.

2.2.3 Bats

An assessment was made of the suitability of trees on the site and immediately on the site boundary, to support roosting bats based on the presence of features such as holes, cracks, splits, loose bark and ivy cladding. An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The survey conformed to current Bat Conservation Trust guidelines³.

² Handbook for Phase 1 habitat survey: A technique for environmental audit – Field manual (2003), *Joint Nature Conservation Committee (JNCC)*

2.2.4 Dormouse

The determination of the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that dormice are present on the study area. This includes the presence of food sources such as common hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum*. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features for determining the potential presence of dormice.

2.2.5 Breeding Birds

The assessment of breeding birds on the site was based on the suitability of habitat present, evidence of nesting such as old or currently active nests and the presence of bird species that may potentially nest within the available habitat.

2.2.6 Reptiles

The reptile survey was based on an assessment of the suitability of habitat present within the site to support a population of common reptiles. Reptiles particularly favour scrub and grassland interfaces and the presence of these is a good indication that reptiles may be present on site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

2.2.7 Great Crested Newt

The assessment of the site to support great crested newts included establishing the presence of suitable aquatic habitats such as ponds within or adjacent to the site and the presence of suitable terrestrial habitat. Ponds that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species.

In addition, online mapping resources were used to identify the presence of ponds or other waterbodies within a 500 metre (m) radius of the site. The 500m is a standardised search radius to assist in the assessment of the potential of a site and its surrounding habitat to support this species, based on current Natural England guidance³.

2.2.8 Terrestrial Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates or any Biodiversity Action Plan (BAP) or scarce species. The assessment was made based on the presence of habitat features which may

³ Great Crested Newt Mitigation Guidelines, Natural England, August 2001.

support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, the presence of varied woodland structure and sunny woodland edges with a diverse flora, presence of ponds and water courses and the presence of free draining soil exposures. During the Phase 1 survey there was no attempt made to identify species present and where a site supports features that may be of importance to invertebrates then further Phase 2 surveys may be required to assess the importance of the site.

2.2.9 Otter and Water Vole

The stream was assessed for its potential to support otter and water vole by reference to bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints. For otter, a similar examination was carried out in search of spraints, footprints, or any evidence of the presence of a holt.

2.3 Initial Protected Species Assessment

Details of the assessment criteria used to determine the ecological value of on-site attributes during the Phase 1 survey is outlined below. During a Phase 1 survey the assessment criteria is based on the potential for the site to support the species considered, this is usually based on the on-site habitat features and their suitability for the species considered. However, in many cases Phase 2 surveys will be required to assess the status of species and hence the importance of a population at the site, therefore the assessment of value should be considered a provisional assessment.

2.3.1 Bats – Tree Assessments

An assessment was made of the trees on site and immediately adjacent to the site which have been graded for their potential to support bats based upon the following criteria⁴:

- **Bats Present** – In some instances, bat presence can be confirmed from trees e.g. where droppings or staining is visible or where roosting bats have been observed entering/emerging from a tree or where roosting bats can be heard. Such trees will require further Phase 2 surveys to assess roost status.

⁴ The criteria are an attempt to qualify the potential for a given building or tree to support roosting bats and are to a degree subjective. Bats may make use of a single feature on an otherwise unsuitable building or tree and therefore an assessment of bat potential cannot solely be based on the quantity of potential roost features present.

- **High Potential** - High potential trees have features such as loose bark, splits and deep/extensive holes suitable for roosting bats. High potential trees are generally large and/or mature specimens. Further Phase 2 surveys will be required to assess the presence/absence of bats.
- **Medium Potential** - Medium potential trees have some interest for roosting bats such as broken snags, some flaking bark, a covering of ivy or shallow holes. Further Phase 2 surveys will be required to assess the presence/absence of bats.
- **Low Potential** - Low potential trees have some, although generally limited potential to support roosting bats. Further Phase 2 surveys may be required to assess the presence/absence of bats.
- **No/Negligible Potential** - Negligible potential trees are those that provide few or no features with bat roosting potential. Generally these trees are immature specimens. Further Phase 2 surveys are unlikely to be required to assess the presence/absence of bats.

2.3.2 *Badger, Dormouse, Otter, Water Vole, Breeding Birds, Reptiles, Great Crested Newt and Terrestrial Invertebrates*

The potential for the sites to support protected species is based on the results of the field survey assessment. The potential for on-site habitat to support badger, dormouse, water vole, otter, reptiles, great crested newt, terrestrial invertebrates and breeding birds is based upon the following criteria:

- **Species Present** - In some instances, the presence of a protected species can be confirmed by the presence of recorded evidence, for example badger hairs or latrines and hazel nut gnawed in the characteristic style by dormice. In these instances further Phase 2 surveys will be required in order to establish the statuses of the respective species.
- **High Potential** - Species confirmed as present during the field survey. The on-site habitat is of high quality for a given species/species group. The site is located within or adjacent to a national or regional stronghold. Good quality surrounding habitat and good connectivity. Further Phase 2 surveys will be required to assess the presence/absence of the species.
- **Medium Potential** - The on-site habitat is of moderate quality, providing most or all of the known key requirements of a given species/species group. Factors

limiting the potential of occurrence may include small habitat area, habitat severance and disturbance. Further Phase 2 surveys will be required to assess the presence/absence of the species.

- **Low Potential** - On-site habitat is of poor to moderate quality for a given species/species group. Although presence cannot be discounted on the basis of national distribution, nature of surrounding habitats, habitat fragmentation, recent on-site disturbance etc. Further Phase 2 surveys may be required to assess the presence/absence of the species.
- **Negligible Potential** - Although presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species/species group. The surrounding habitat is considered unlikely to support wider populations of a species/species group. The site may also be outside or peripheral to known the national range for a species. Further Phase 2 surveys are unlikely to be required to assess the presence/absence of the species.

2.4 Phase 1 Survey Timing and Weather Conditions

The initial extended Phase 1 ecological survey was carried out by Vicky Coulthard of ECOSA on the 25th October 2011. The weather conditions were still with light rain showers and an ambient temperature of around 16° Celsius.

An updating Phase 1 ecological survey was conducted by Simon Colenutt of ECOSA on 23rd June 2013. The weather conditions were still and sunny with and an ambient temperature of around 26° Celsius

2.5 Phase 1 Survey Equipment

During the Phase 1 surveys the surveyors were equipped with 10x40 binoculars, a high powered torch and a digital camera.

2.6 Phase 1 Survey Limitations

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site. Although a ground inspection of the trees was undertaken to assess trees for their suitability to support features suitable for roosting bats, it was not possible to have a clear sight of the trees due to the presence of dense foliage.

3.0 PHASE 2 PROTECTED SPECIES SURVEY METHODS

3.1 Introduction

Following the initial extended Phase 1 habitat surveys, outlined in Paragraph 2.3, Phase 2 great crested newt and reptile surveys were carried out between May and August 2013. Details of the Phase 2 survey methodologies are outlined below.

3.2 Phase 2 Great Crested Newt Survey

The Phase 2 great crested newt survey entailed a Habitat Suitability Index (HSI) assessment and Phase 2 presence/absence surveys to assess the potential for a great crested newt population to be present in the small onsite pond.

3.2.1 *Habitat Suitability Index (HSI) Assessment*

The HSI assessment uses the following key habitat criteria to establish the suitability of a pond for supporting great crested newts:

- SI1 = geographic location
- SI2 = pond area
- SI3 = pond permanence
- SI4 = water quality
- SI5 = pond shading
- SI6 = number of waterfowl
- SI7 = occurrence of fish
- SI8 = pond density
- SI9 = proportion of 'newt friendly' habitat
- SI10 = macrophyte (aquatic plant) content

The results are then calculated in a standard formula to give a score, which equates to 'poor', 'below average', 'average', 'good' or 'excellent' habitat suitability for great crested newts.

3.2.2 *Phase 2 Great Crested Newt Survey*

Phase 2 presence/absence surveys were conducted by way of the recommended 4 surveys using 3 techniques of torching, netting and egg searching to establish presence/likely absence of great crested newt in the pond and assess the status of any great crested newt population present.

Torch Search

The torch searches consisted of an investigation of the pond after dark using a one million candlepower torch to search for adult great crested newts. All newts encountered were counted and sexed, where possible.

Egg Search

The egg search surveys consisted of a methodical inspection of all suitable marginal vegetation for folded leaves that may indicate great crested newt egg laying activity.

Sweep Netting

The sweep netting survey consisted of an investigation of the water body using a long-handled net. All newts encountered were counted and sexed, where possible.

3.3 Great Crested newt Survey Timing, Weather Conditions and Personnel

The water body was subject to the HSI assessment on 8th June 2013 and torch searches, egg searches and sweep netting, carried out during May 2013. The surveys were led by ECOSA surveyor Simon Colenutt (Natural England Great Crested Newt Class Licence CLS001595). The survey details are provided in **Table 1**.

Table 1: Survey Date and Details of the Great Crested Newt Survey

Survey Date	Survey Technique	Temperature and Weather Conditions
8 th May 2013	HSI Assessment	Still and sunny with and an ambient temperature of around 19° Celsius
8 th May 2013	Egg search, torch search and sweep netting	Still and sunny with and an ambient temperature of around 19° Celsius
14 th May 2013	Egg search, torch search and sweep netting	Overcast with and an ambient temperature of around 20° Celsius
22 nd May 2013	Egg search, torch search and sweep netting	Wind S F2-3 cloudy with an ambient temperature of around 22° Celsius
26 th May 2013	Egg search, torch search and sweep netting	Wind SW F3 and sunny with and an ambient temperature of around 22° Celsius

3.4 Survey Equipment

Torch searches were carried out using a one million candlepower torch. The sweep netting survey was carried out using a professional hand net with a 1 millimetre (mm)

mesh, 0.3m long bag, a 250mm outer diameter frame with a total frame and handle height of 1.48m. Egg searches and HSI assessments do not require any specialist equipment.

3.5 Survey Limitations

Temperatures during surveys were unusually low for the time of year. It is not, however, considered likely that this would have a significant impact on newt activity. Apart from this, all surveys were undertaken at an optimal time of year using best practice and recommended techniques, such that it considered that there were no further limitations upon the Phase 2 survey.

3.6 Phase 2 Reptile Survey

Phase 2 reptile surveys consist of the distribution and checking of refugia in areas of suitable on-site habitat.

The refugia warm more rapidly than the surrounding environment and reptiles, being 'cold blooded', use them to thermoregulate. Inspection of refugia is most effectively carried out in marginal weather conditions such as cold but sunny weather or hazy and somewhat overcast conditions, as this will maximise the thermal value of the refugia for basking reptiles. Inspections are generally ineffective in cold, wet conditions or in very hot, sunny weather. The use of such refugia is an effective way of surveying for all species of reptile and current survey guidance⁵ states that seven inspections are sufficient to confirm presence/probable absence.

At Site 4, Harts Farm Way, the Phase 2 reptile survey 85 refugia were distributed at the site. Refugia were concentrated within areas of longer vegetation near to scrub or rubble piles.

3.7 Reptile Survey Timing and Weather Conditions

The refugia were inspected for reptiles on seven occasions during suitable weather conditions, these consisted of days with partial cloud or where there was no cloud inspections were carried out earlier in the morning. Inspections were carried out on 8th, 9th, 12th, 16th, 23rd and 26th July and 2nd August. During each survey visit the species, sex (if possible) and age of all reptiles encountered were to be recorded.

3.8 Phase 2 Reptile Survey Limitations

There were no identified limitations to the reptile survey.

⁵ <http://www.froglife.org/>

4.0 RESULTS

4.1 Introduction

This section details the results of the initial Phase 1 assessment undertaken at Harts Farm Way, Havant on 25th October 2011 and those of the updating Phase 1 ecological assessment carried out on 23rd June 2013. The results of the Phase 2 protected species surveys are also provided. An outline of protected species legislation relevant to the survey findings is presented in **Appendix 1**.

4.2 Phase 1 Ecological Assessment

The vegetation within the site is described here in its current state using records from both the initial Phase 1 assessment in 2011 and the updating Phase 1 survey of 2013. Vegetation is described in general terms using Phase 1 habitat survey terminology and referring to dominant, characteristic and other noteworthy species in each vegetation type within the survey area. The habitat types on site comprise:

- Scrub and Ruderal
- Woodland and Scrub
- Stream Corridor
- Invasive Species

The composition of these habitats is described below:

4.2.1 Scrub and Ruderal Vegetation

The majority of the site is dominated by common and widespread ruderal vegetation and scrub (**Figure 1** and **Figure 2**) consisting of occasionally dense buddleia *Buddleja davidii*, bramble *Rubus fruticosus*, common nettle *Urtica dioica*, creeping thistle *Cirsium arvense*, Virginia creeper *Parthenocissus quinquefolia*, field bindweed *Convolvulus arvensis*, herb Robert *Geranium robertianum*, cow parsley *Anthriscus sylvestris*, white dead nettle *Lamium album*, common evening primrose *Oenothera biennis*, common mallow *Malva sylvestris*, common teasel *Dipsacus fullonum*, common ragwort *Senecio jacobaea* and yarrow *Achillea millefolium*. There is dense bramble scrub in the eastern area of the site. The remainder of the site comprises patches of this vegetation interspersed with hard-standing. This habitat is of **low ecological value**.



Figure 1 and Figure 2: Predominant ruderal and scrub vegetation interspersed with hard standing areas, Site 4, Harts Farm Way, Havant

4.2.2 Mixed Woodland and Scrub

The northern and western site boundaries comprise a belt of woodland and scrub comprising predominantly poplar *Populus* species, pedunculate oak *Quercus robur*, silver birch *Betula pendula*, goat willow *Salix caprea*, ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, Leyland cypress *x Cupressocyparis leylandii* and bramble (**Figure 3**). This habitat is of **moderate ecological value** due to the presence of a number of semi-mature trees.



Figure 3: Northern and western boundary mixed woodland and scrub vegetation Site 4, Harts Farm Way, Havant

4.2.3 Pond at North-east Corner of the Site

There is a pond located in the north-eastern corner of the site, which is approximately 600m² in area (**Figure 4**). The margins of the pond are shaded by great willowherb *Epilobium hirsutum*, willow and bramble and as a result the pond is devoid of aquatic and marginal vegetation. The pond is approximately 0.2m deep. The water is clear and is considered to be of moderate water quality. The bed of the pond is covered by a layer of thick silt with growths of *Enteromorpha* algae. This pond is of **low**

ecological value due to the lack of established aquatic and marginal vegetation around the pond.



Figure 4: Onsite pond, Site 4, Harts Farm Way, Havant

4.2.4 Invasive Plant Species

A stand of Japanese knotweed *Fallopia japonica*, which had recently been chemically treated was identified along the northern boundary of the site during the Phase 1 survey carried out in October 2011 during the 2013 survey there was no evidence of any regrowth.

4.2.5 Stream Corridor

There is a stream corridor (**Figure 5** and **Figure 6**) situated on site which flows from north-east to the south-west, and which is culverted beneath the hard-standing in the south-west area of the site. The stream is heavily shaded by semi-mature weeping willow *Salix babylonica*, poplar and silver birch trees. Due to shading, there is little in the way of aquatic or marginal vegetation within or along the banks of the stream. The limited aquatic vegetation species present include fool's watercress *Apium nodiflorum* and duckweed *Lemna sp.* The banks of the stream contain ivy *Hedera helix*, common nettle, ash and buddleia. The vegetation along the stream corridor consists of common and widespread species is of **low ecological value**.



Figure 5 and Figure 6: Stream corridor, Site 4, Harts Farm Way, Havant

4.2.5 Summary

The site comprises predominantly ruderal and scrub vegetation of **low botanical value**, interspersed with areas of hard standing. The boundary scrub and mixed woodland vegetation, though not species rich, contains some mature trees and is considered to be of **moderate ecological value**. Onsite aquatic habitats, consisting of a small pond and a stream corridor, support limited established vegetation and are considered to be of **low moderate ecological value**. During a previous site habitat assessment, the presence of the invasive plant species Japanese knotweed was identified at the site. Visible patches of the species had previously been chemically treated as a control measure and were not observed during the 2013 Phase 1 survey.

4.3 Badger Survey Results

During the survey no evidence of badger activity, such as trails, setts or latrines were recorded from the site. In addition, there were no wooded banks on site that would provide suitable sett forming habitat for this species. The site is assessed as offering **negligible potential** for badger.

4.4 Bat Survey Results

4.4.1 Bats – Tree Assessment

There is a belt of semi-mature and immature broadleaved and coniferous trees along the northern boundary of site and lining the central water course. No potential bat roosting features, such as cracks and crevices were identified during the initial 2011 Phase 1 survey. During the 2013 updating Phase 1 assessment, no further potential bat roost features were identified. Given that the majority of trees on and bordering the site are immature to semi-mature it is reasonable to assume that there are unlikely to be any significant roosting opportunities present. The semi-mature trees are therefore assessed as offering **low potential** for roosting bats.

4.4.2 Foraging and Commuting Habitat

The vegetation on site provides some suitable foraging and commuting habitat for bats. However, due to the presence of the A27 trunk road adjacent to the northern boundary and Harts Farm Way to the south of the site, it is likely that bat activity on site will be low. Overall, the site offers **low potential** for commuting and foraging bats.

4.5 Dormouse

Suitable habitat on site for dormouse was identified during both the initial and updating Phase 1 surveys at the site. This comprises a thin belt of semi-mature and immature trees along the northern boundary of the site and areas of scrub within the north-east area of the site. However, this habitat is not connected to any areas of woodland off-site due to the site being isolated by the A27 trunk road to the north, an inlet of Langstone Harbour to the west and roads and industrial areas and roads to the south and east. Overall, it is considered that the site offers **negligible potential** for dormouse.

4.6 Breeding Bird Survey Results

During both 2011 and 2013 Phase 1 assessments, boundary trees and shrubs were assessed as providing numerous nesting opportunities for a range of common garden and woodland bird species. Species recorded included goldfinch *Carduelis carduelis*, greenfinch *Carduelis chloris*, dunnoek *Prunella modularis*, blackbird *Turdus merula*, magpie *Pica pica* and long-tailed tit *Aegithalos caudatus*, all are likely to breed in small numbers. The site is assessed as offering **medium potential** for supporting breeding birds.

4.7 Great Crested Newt Survey Results

The site supports a small pond which is significantly shaded by marginal scrub vegetation and overhanging willows. The HSI score is provided in **Table 2**, the assessment provides an evaluation of the pond of 'poor' meaning that great crested newt are unlikely to be present. During the Phase 2 surveys carried out there were no great crested newt recorded, the only amphibian species recorded was a single smooth newt *Lissotriton vulgaris*.

Surrounding terrestrial habitat including boundary woodland offers some suitability for supporting great crested newt. However, consideration of maps of the site surroundings identified no other suitable breeding ponds within 1km of the site, which great crested newts could commute from. In addition, the site is isolated by the A27 trunk road to the north, a saline inlet of Langstone Harbour to the west and roads and industrial areas and roads to the south and east, preventing movement of the species

onto the site. It considered that the site has **negligible potential** to support great crested newts.

Table 2: HSI assessment for pond in north-east of site

Great Crested Newt Survey		1. Pond Details	
Project	Harts Farm Way		
Project number			
Site	Site 4		
Pond number/reference			
OS Grid reference	SU707059		
Location details	North-eastern corner of site		
Access permission	Yes		
Access instructions			
Landowner name	SEEDA		
Address/email			
Telephone			
Habitat Suitability Index			
S11. Map location	A/B/C	A	SI value
S12. Surface area	rectangle/ellipse/irregular		1.00
	length (m)		
	width (m)		
	OR estimate (m ²) if irregular	0	
	area (m ²) =	600	1.00
S13. Dessication rate	never/rarely/sometimes/frequently	sometimes	0.50
S14. Water quality	good/moderate/poor/bad	moderate	0.67
S15. Shade	% of margin shaded 1m from bank	70	0.90
S16. Waterfowl	absent/major/minor	minor	0.67
S17. Fish population	absent/possible/minor/major	absent	1.00
S18. Pond density	number of ponds within 1km	0	0.10
S19. Terrestrial habitat	good/moderate/poor/isolated	isolated	0.01
S110. Macrophyte cover	%	0	0.31
Use provisional HSI value if above 0.75		HSI =	0.37
		provisional HSI =	0.43

4.8 Reptile Survey Results

While the habitat on site would appear suitable for common reptile species, during the Phase 2 surveys there were no records of any reptiles. This is probably as a result of the relative isolation of the site by roads and the relatively recent history of industrial use of the site. It is considered that the site offers **negligible potential** for common species of reptile.

4.9 Terrestrial Invertebrates

The predominant ruderal and scrub vegetation at the site is not especially species rich and lacks structural diversity. There are no key habitat types for invertebrates such as bare sandy ground or deadwood and as a result it is considered that the invertebrate communities present are likely to be species poor and consist largely of common and widespread species. As a result the site is considered to offer **low potential** for scarce species of invertebrates or particularly diverse communities.

4.10 Otter and Water Vole

No evidence of otter or water vole was recorded along the stream corridor. The habitat along the banks of the stream is unsuitable as foraging habitat for water vole

as; due to heavy shading, ivy, nettles, ash and buddleia are the only plant species able to grow. Water vole feed on lush waterside vegetation such as grasses, sedges *Carex sp.* and rushes, which are not present along the stream corridor. There is likely to be suitable otter and water vole habitat along Hermitage Stream, which is located approximately 250m west of the site. However, the stream on site is not connected to Hermitage Stream via any watercourses and is effectively isolated from the surroundings by the A27 trunk road to the north, a saline inlet of Langstone Harbour to the west and roads and industrial areas and roads to the south and east. Therefore, the stream is considered to offer **negligible potential** for supporting water vole and otter.

4.11 Overall Site Assessment

The site consists mainly of ruderal and scrub vegetation which is considered to be of negligible ecological value. However, the boundary woodland vegetation offers higher value for wildlife. The site was found to support no species of ecological value although small numbers of common species of nesting birds occur. The site is therefore assessed as being of **low ecological value** overall.

5.0 EVALUATION, IMPACTS AND RECOMMENDATIONS

5.1 Introduction

This section presents the conclusions of extended Phase 1 ecological assessment together with the results of the Phase 2 protected species surveys that have been undertaken to date.

An outline of protected species legislation relevant to the findings of this report is provided in **Appendix 1**.

5.2 Vegetation

5.2.1 Summary

The site comprises predominantly scrub and ruderal vegetation interspersed with areas of hard standing. Boundary vegetation consists of low diversity scrub and mixed tree belts. The presence of the invasive plant species Japanese knotweed was identified at the site during a previous Phase 1 habitat assessment at the site, but was not recorded during the Phase 1 survey in 2013. Aquatic vegetation surrounding the onsite pond and stream corridor is of low diversity. The overall botanical value of the site is assessed as being low.

5.2.2 Potential Impacts of Proposed Development

The proposals for the site involve removal of the majority of the vegetation on the site with the wooded boundaries to the site being largely retained. It is also proposed that the stream corridor is reprofiled and managed.

5.2.3 Recommendations

As much of the boundary woodland at the site should be retained as is possible. It is recommended that planting of suitable trees species be incorporated into landscaping plans for the site. Any landscape proposals should include native species (of local provenance if possible), species such as alder *Alnus glutinosa*, pedunculate oak, silver birch, honeysuckle *Lonicera periclymenum*, hawthorn *Crataegus monogyna* and hazel *Corylus avellana* should be considered. These are species naturally occurring in the local area and would be suitable for planting on this site. The margins of the reprofiled stream and the pond should be ecologically enhanced by way of planting of native species such as water mint *Mentha aquatica*, yellow iris *Iris pseudocorus*, brooklime *Veronica beccabunga* and greater water-plantain *Alisma plantago-aquatica*.

5.3 Badger

5.3.1 Summary

The site offers **negligible potential** for sett construction, commuting and foraging. No setts or badger activity were identified during the survey.

5.3.2 Potential Impacts of Proposed Development

Due to the absence of this species from the site, no impacts on this species will arise from the proposals.

5.3.3 Recommendations

There are no recommendations necessary in respect of this species.

5.4 Bats

5.4.1 Summary

No suitable bat roosting features were identified at the site during the surveys carried out. It is therefore considered that the site offers low potential to support roosting bats in the semi-mature and immature trees along the northern boundary of the site. Any roosts that are present are likely to be low status and temporarily utilised. While the site is surrounded by a tree belt the location of the site in an urban area and surrounded by roads is likely to be that the number of bats foraging on site is low.

In England, all bat species and their roosts are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, these species are protected under the Conservation of Habitats and Species Regulations 2010. Refer to **Appendix 1** for further details.

5.4.2 Potential Impacts of Proposed Development

It is considered that the risk of there being any bat roost present within the trees bordering the site is low and it is considered unlikely that there will be any impacts to bats as a result of the proposed development since many of the mature trees bordering the site are to be retained. Similarly, the retention of the boundary trees will mean that foraging habitat will be retained although the illumination of this may result in a reduction in the value of this habitat for foraging bats.

5.4.3 Recommendations

It is recommended that as much of the boundary vegetation as possible is retained so as to maintain bat foraging habitat. The provision of native species planting as outlined in Paragraph 5.2.3 will provide additional bat foraging habitat. Where possible, illumination of the site should be positioned away from boundary habitats

and should be fitted with directional hoods so as to avoid illumination of areas of boundary habitat.

5.5 Dormouse

5.5.1 Summary

The site offers limited suitability for dormouse in the woodland along the northern and western boundaries. However, this area of semi-mature and immature trees offers no connectivity to nearby woodland areas or the surrounding landscape. Barriers formed by the A27 trunk road to the north, an inlet of Langstone Harbour to the west and roads and industrial areas and roads to the south and east restrict the movement of dormouse onto the site. It is therefore considered that the site offers negligible potential to support dormouse.

5.5.2 Potential Impacts of Proposed Development

Due to the likely absence of this species from the site no impacts on this species will arise from the proposals.

5.5.3 Recommendations

No further recommendations are considered necessary with respect to this species.

5.6 Breeding Birds

5.6.1 Summary

Trees and shrubs at the site provide suitable habitat for breeding birds. The species recorded during the field survey are common garden species and it is likely that only single pairs of each species are present.

5.6.2 Potential Impacts of Proposed Development

The removal of trees and scrub on site will lead to a reduction in the amount of nesting habitat available on site. Removal of vegetation during the nesting season could result in the direct damage and disturbance to active bird nests.

All breeding birds, their nests, eggs and young are protected by the Wildlife and Countryside Act 1981 (as amended). See **Appendix 1** for further information regarding the legal and conservation status of birds in the UK.

5.6.3 Recommendations

All vegetation removal works should take place outside of the bird breeding season which extends from March to August (inclusive). If it is not possible to avoid this timeframe, an ecologist will need to undertake a check of all suitable nesting bird

habitat within and immediately adjacent to the site prior works taking place. Should any active nests be found within trees being removed or vegetation immediately bordering the site, a suitable exclusion zone will be marked out by the ecologist and the area left until chicks have fledged. The presence of nests within/on the edges of the working area may affect the timing of the construction programme.

Planting of native trees and shrubs on site as outlined in Paragraph 5.2.3 will provide further nesting opportunities for birds that may have been lost in any removal of on-site vegetation.

5.7 Reptiles

5.7.1 Summary

The site provides some suitable habitat for reptile foraging and shelter in the form of improved grassland patches and scrub vegetation and rubble piles suitable for hibernating/breeding activity. However, Phase 2 reptile surveys confirmed the absence of reptiles from the site, this is considered likely to be as a result of the isolation of the site and its recent use as an industrial site.

5.7.2 Potential Impacts of Proposed Development

Due to the likely absence of this species from the site no impacts on this species will arise from the proposals.

5.7.3 Recommendations

No further recommendations are considered necessary with respect to these species.

5.8 Great Crested Newt

5.8.1 Summary

An HSI assessment of the onsite pond returned a poor score, suggesting that the habitat on site is unsuitable for supporting great crested newt. Phase 2 great crested newt surveys at the site returned no records of great crested newts within the onsite pond. The site is therefore considered to offer **negligible potential** to support great crested newt.

5.8.2 Potential Impacts of Proposed Development

Due to the absence of this species from the site, no impacts on this species will arise from the proposals.

5.8.3 Recommendations

There are no recommendations considered necessary in respect of this species.

5.9 Terrestrial Invertebrates

5.9.1 Summary

It is considered that the habitat on site is likely to support a range of common and widespread species and it is considered unlikely that any particularly rare or scarce species would be found to be present.

5.9.2 Potential Impacts of Proposed Development

Due to the absence of suitable onsite habitat features, potential impacts on invertebrate species at the site are considered to be negligible.

5.9.3 Recommendations

There are no recommendations considered necessary in respect of invertebrate species.

5.10 Otter and Water Vole

5.10.1 Summary

During the surveys carried out on site there were no records of these species and the isolated nature of the water course means that neither are likely to occur.

5.10.2 Potential Impacts of Proposed Development

Due to the absence of these species the potential impacts of the proposed development at the site are considered to be negligible.

5.10.3 Recommendations

There are no recommendations considered necessary in respect of these species.

5.11 Updating Survey

If works have not commenced by June 2015 or the proposals for the site change considerably, it is recommended that the Phase 1 ecological assessment is updated. Should, it be considered necessary from the results of this survey, further Phase 2 surveys will also be required to update assessments of protected species populations at the site. This is because many of the species considered during the current survey are highly mobile and the ecology of the site is likely to change over time.

Appendix 1 - Protected Species Legislation

Wild Birds⁶

The Wildlife & Countryside Act 1981 (as amended) is domestic legislation for Great Britain that repeals existing wildlife legislation such as:

- Protection of Birds Acts 1954 to 1967; and
- Conservation of Wild Creatures and Wild Plants Act 1975.

The Act covers the provisions made in these previous acts and provides additional provision for species and countryside protection. The Act is the primary legislation in Great Britain for the protection of flora, fauna and the countryside. The Act includes the UK's domestic implementation of the species protection of the European Directive on the Conservation of Wild Birds (79/409).

Under the Wildlife and Countryside Act 1981 all birds, their nests and eggs are protected by law and it is thus an offence, with certain exceptions to intentionally:

- Kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Have in one's possession or control any wild bird (dead or alive) or any part of a wild bird which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Have in one's possession or control any egg or part of an egg which has been taken in contravention to the Act. This includes items taken or killed before the passing of the Act.
- Have in one's possession or control any live bird of prey of any species in the world (with the exception of vultures and condors) unless it is registered and ringed in accordance with the Secretary of State's regulations.

⁶ www.naturenet.net

- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered (and in some cases ringed) in accordance with the Secretary of State's regulations.
- Disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Status of Wild Birds

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds that are regularly found in the UK. A total of 247 regularly breeding or wintering species were assessed and each placed onto one of three lists - Red, Amber or Green. Forty species are Red-listed, 121 are Amber-listed and 86 are Green-listed. Seven quantitative criteria were used to assess the population status of each species and place it onto the Red, Amber or Green List. These criteria are listed below. The review excluded species that are not native to the UK and those that occur irregularly as vagrants or scarce migrants.

Global Conservation Status - Species assessed as Globally Threatened using IUCN11 criteria were placed on the Red List.

Recent Decline - Species whose breeding or non-breeding population declined, or range contracted, rapidly (by more than 50%) or moderately (by between 25 and 49%) over the last 25 years were placed on the Red and Amber Lists respectively.

Historical Decline - Species whose populations declined severely between 1800 and 1995 were placed on the Red List, except for those that have recovered substantially (more than doubled) in the last 25 years, which were Amber Listed. In earlier assessments, all species showing a serious historical decline were Red Listed, but in this assessment the success of recent conservation action has been recognised by moving recovering species to the Amber List.

European Conservation Status - Species whose population status is unfavourable in Europe (but which are not Globally Threatened) were placed on the Amber List.

Rare Breeders - Species with a mean population size of 1-300 pairs breeding annually over the last five years were placed on the Amber List. If a full census was carried out in a single year, the result of this was used instead of a five-year mean.

Localised Species - Species for which 50% or more of the breeding or non-breeding population occurs at 10 or few sites were placed on the Amber List. This criterion was used because a species whose population is confined to a few sites faces a greater threat from

chance events than one whose population is widespread. The sites considered were either Important Bird Areas (identified by BirdLife International) or Special Protection Areas (designated under the European Union's Directive on the Conservation of Wild Birds).

International Importance - Species with 20% or more of their European population breeding in the UK were placed on the Amber List, as were non-breeding wildfowl with 20% or more of their northwest European population occurring in the UK and non-breeding waders with 20% or more of their East Atlantic Flyway population occurring in the UK. This criterion is different from the others as it is a measure of the UK's responsibility for each species rather than the extent to which species are threatened.

- Red List species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
- Amber List species are those with an unfavourable conservation status in Europe, those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
- Species that fulfil none of the criteria are Green-listed.