

SEAWARD PROPERTIES LTD

Langstone Gate, Solent Road,
Havant, Hampshire

Preliminary Ecological Appraisal Report – Protected Species Assessment

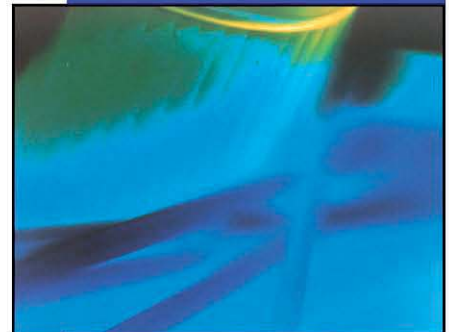
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Landscape Architecture



Environmental Design



Landscape Planning

Lizard Landscape Design

Lizard Landscape Design and Ecology



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SUMMARY

Seaward Properties Ltd has commissioned Lizard Landscape Design and Ecology to undertake a preliminary ecological appraisal and protected species assessment of the land proposed for development at Langstone Gate, Solent Road, Havant, Hampshire (*Grid Reference: SU 716 060*— hereafter referred to as '*the site*'). A preliminary ecological appraisal (*PEA*) was undertaken on 17th March 2016 to appraise the existing ecological resource within the site and the surrounding area.

This survey has identified habitats of hardstanding; dense scrub; amenity grassland; scattered trees and running water. The main interest on the site lies within the small stream which runs north to south through the centre of the area. The stream appears to be of good water quality however macrophyte coverage was low along much of the watercourse, likely attributed to the season in which the survey was undertaken.

Water voles have been recorded approximately 330.0 metres south of the development site. The watercourse is canalised for a length of 100.0 metres as it passes beneath the A27 approximately 95.0metres downstream of the development zone. Upstream of the development zone the stream is culverted beneath the B2149 for a length of approximately 25.0 metres before widening into a small pond. It is believed that man-made obstacles such as those present would not provide a major barrier to water vole dispersal.

The development proposals are considered to have the potential to impact upon '*moderate*' quality water vole habitat. The potential for water voles to be present within this area at some point during the year is augmented by the proximity of recent water vole records to the south. Water voles are known to expand their territory during the summer months; increasing the likelihood of water voles utilising the site during this time.

This *PEA* was carried out at the very beginning of the optimal survey season when field signs are harder to locate and emergent vegetation is not well established. It is also noted that habitat at the periphery of water vole territory is often not occupied in the spring when populations are at their lowest. It is recommended that a full water vole survey be carried out during the optimum water vole survey season (*Mid-April – Sept*) to allow the presence / absence of water voles to be established.

1.0 INTRODUCTION

- 1.1 Seaward Properties Ltd has commissioned Lizard Landscape Design and Ecology to undertake a preliminary ecological appraisal and protected species assessment of the land proposed for development at Langstone Gate, Solent Road, Havant, Hampshire (*Grid Reference: SU 716 060– hereafter referred to as 'the site'*).
- 1.2 A preliminary ecological appraisal (*PEA*) was undertaken on 17th March 2016 to appraise the existing ecological resource within the site and the surrounding area. The *PEA* was comprised of a baseline survey conforming broadly to the *JNCC Phase 1 Habitat Survey protocol* to identify the existing habitats. In addition, a protected species assessment was undertaken to identify the potential for European and nationally protected species within and adjacent to the site.
- 1.3 The field survey data and analysis contained within this report was undertaken and prepared by Catherine O'Reilly (*BSc; Project Ecologist; Lizard Landscape Design and Ecology*). The report has been reviewed by Joe Jackson; (*Principal; Landscape Architect BA (Hons) LA DipLA CMLI; LizardLandscape Design and Ecology*).

Site Information

- 1.4 The development site is located due south of Solent Road on a site currently housing a commercial property and associated parking, located towards the southern edge of Havant, Hampshire. The site is approximately 6.00 metres above sea level and measures approximately 0.20 hectares.
- 1.5 The site is comprised in the majority by existing areas of hardstanding and amenity grassland. The site boundaries are edged by industrial units to the north, south and west, while Park Road South forms the eastern boundary. A small watercourse runs directly adjacent the eastern boundary of the site with another small stream located 45.0 metres to the west. Soil on site is described as loamy soil with naturally high groundwater. There are no areas of *Ancient Woodland* or woodland highlighted on *The National Inventory of Woodland and Trees* within the development area or immediately adjacent to the site area.

Surrounding Landscape

- 1.6 The site is located within an industrial estate surrounded by commercial and residential properties for at least 500.00 metres to the south, east and west. Land to the south opens to a mixture of arable and pastoral farmland approximately 800.00 metres from the development site. The expansive area of Chichester and Langstone Harbour is located approximately 950.00 metres south of the proposed development site. The surrounding area contains numerous ponds and water courses. The nearest water body outside the site area is located 40.0 metres north with 2 no. larger ponds located approximately 390.0 metres north-west of the site.
- 1.7 The nearest patch of woodland can be found 620.00 metres south-east (*4.72 hectares of mixed woodland*) while the nearest area listed as Ancient Woodland is located 2.3 kilometres north-west of the site (*3.2 hectares of ancient re-planted woodland*).

Development Proposals

- 1.8 This survey has been undertaken on the assumption that development proposals would incorporate a large percentage of the available site area with construction of associated areas of hard standing and landscape areas. It is understood that the small stream is not to be directly affected however the close proximity of the development warrants the watercourse being included in the survey area.

2.0 SCOPE OF THE SURVEY

- 2.1 The aim of the preliminary ecological appraisal has been:
- *To identify and display the main habitat types and plant communities;*
 - *To provide a species list for the major habitats;*
 - *To identify habitats with potential for protected species;*
 - *To provide recommendations for surveys of protected species and / or ecological enhancement / compensation.*
- 2.2 This report establishes the potential ecological resource within the site and outlines where any ecological constraints may occur.

3.0 METHODOLOGY

- 3.1 A preliminary ecological appraisal was undertaken on 17th March 2016 and the site subjected to an ecology phase 1 habitat survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit* (JNCC, 2003). This has resulted in a *Site Habitat Plan (Figure No. 01)*; *Species Lists for Habitat Parcels (Table No. 02)*; and *Target Notes (Table No. 03)*.
- 3.2 Habitats within the site were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the ecology phase 1 habitat survey methodology is presented in *Section 4.0*.
- 3.3 Due to the field survey consisting of only one site visit, certain species – particularly some of the flowering plants – may not have been visible or may have been otherwise inconspicuous at the time of survey and hence overlooked. These are accepted constraints associated with the standard ecology phase 1 habitat survey methodology.
- 3.4 Habitats within and immediately adjacent to the site were assessed for their potential for uncommon and protected fauna including mammals, birds, reptiles and amphibians. This involved identifying features which may be used by protected species, potential foraging areas and other signs of use. Stones, dead wood and rubble were turned over and any dug holes studied for recent activity by mammals. Water bodies were recorded wherever possible within 500.00 metres of the proposed development.
- 3.5 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix No. 01 – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

4.0 RESULTS

4.1 Desk Study – Background information

Designated Sites and Habitats

- 4.1.1 The following section outlines the ecological context of the development site, describing any designated nature conservation sites in the vicinity of the development site. The following designated sites and habitats are not necessarily representative of the existing site's ecology, but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups.

Statutory Protected Sites

- 4.1.2 The site is not located within any statutory protected area; there are, however, designated areas within 2.0 kilometres of the development zone. The site is located 950.0 metres north of *Chichester and Langstone Harbours*, designated as a *RAMSAR site*; *Special Protection Area (SPA)*; *Special Area of Conservation (SAC)*; and *Site of Special Scientific Interest (SSSI)*. This reserve contains a large amount of *BAP Priority Habitat* such as intertidal mudflats, vegetated shingle, reedbed and saltmarsh, as well as having 77 no. UK BAP species recorded on site.
- 4.1.3 *Warblington Meadow SSSI* is located approximately 1.6 kilometres south-east of the site area. *Warblington Meadow* is an unimproved grazing marsh which is of special interest for its rich flora, with a total of 158 species of flowering plants having been recorded.
- 4.1.4 *Hayling Billy LNR* is located 1.75km south of the site. This small site was afforded *Local Nature Reserve* status in 2010, with the route of the old Hayling Billy train providing beautiful views of one of the most unspoilt sections of Langstone Harbour.
- 4.1.5 *West Hayling LNR* is located approximately 1.8km south of the development area. This *LNR* is located within the boundary of Chichester and Langstone harbour. This large expanse of mudflats supports large numbers of waders and is a vital stopping point for thousands of migratory birds.

- 4.1.6 The site is within the *IRZ* of *Chichester and Langstone Harbour*, any gain in residential or commercial units should be carefully assessed to ensure they do not cause a negative impact to the *SSSI*. The small scale of the development, the intervening distance and the discrepancy between habitats strongly suggest the development proposals would not impact on these statutory protected areas.

Non-Statutory Protected Areas

- 4.1.7 *Sites of Importance for Nature Conservation (SINC)* are non-statutory designations given to areas of high, local conservation value. Despite being non-statutory, *SINCs* are still recognised by local planning authorities in their policies and plans. *SINCs* located within 2.0km of the site are detailed in *Table no. 01* below;

Table No. 01 – SINC designations within 2.0km of the development site.

Name	Grid Ref	Reason	Distance
<i>Wade Court Park</i>	<i>SU 719 053</i>	6B/6C	<i>750m SE</i>
<i>Southmoor Reserve</i>	<i>SU 712 052</i>	2A/4A/5B/6A	<i>915m S</i>
<i>Warblington Castle Farm West</i>	<i>SU 726 054</i>	6B	<i>1.1km SE</i>
<i>Warblington Castle Farm East D</i>	<i>SU 733 056</i>	6B	<i>1.6km SE</i>
<i>Broadmarsh Playing Field</i>	<i>SU 700 056</i>	6B	<i>1.6km SW</i>
<i>Manor Farm A</i>	<i>SU 700 061</i>	6B	<i>1.6km W</i>
<i>Warblington Castle Farm East E</i>	<i>SU 733 052</i>	6B	<i>1.7km SE</i>
<i>Fields off Havant Road</i>	<i>SU 691 061</i>	6A/6B	<i>2.0km W</i>

- 4.1.8 *SINC* Criteria is as follows: 2A = Unimproved grassland, 4A = Semi-natural coastal and estuarine habitats, 5B = Fens, flushes, seepages, springs, inundation grasslands etc. that support a flora and fauna characteristic of unimproved and waterlogged (*seasonal or permanent*) conditions, 6A = Sites which support one or more notable species, 6B = Sites which regularly support a significant population of a species which has a restricted distribution or has substantially declined in population or range.

- 4.1.9 The site is neither located within nor adjacent to any *Non-Statutory Designated Site*. The intervening distance and discrepancy between habitats suggest that the development proposals would not have an adverse effect upon any of the above sites.

UK Priority Habitats

- 4.1.10 Within 2.0 kilometres of the site, there are UK Priority Habitats of *deciduous woodland; intertidal mudflats; saltmarsh; and coastal and floodplain grazing marsh*. There are no areas designated within *The National Inventory of Woodland and Trees* in the immediate area surrounding the site; The nearest patch of woodland can be found 620.00 metres south-east (*4.72 hectares of mixed woodland*) while the nearest area listed as Ancient Woodland is located 2.3 kilometres north-west of the site (*3.2 hectares of ancient re-planted woodland*). The development proposals are not considered to remove or degrade these surrounding priority habitats in any way.

UK Priority Species

- 4.1.11 There are numerous protected species recorded within 2.0 kilometres of the proposed development site. The most relevant to the development are the recent records of water voles (*Arvicola amphibious*) located approximately 330.00 metres south of the site.
- 4.1.12 Water Voles are protected under *Schedule 5 of the Wildlife and Countryside Act 1981 (As Amended)*. They receive additional protection under the *Countryside Rights of Way Act 2000*. This means that, including protection by the *CRoW Act*, it is an offence to intentionally or recklessly damage, destroy or obstruct access to, any structure or place which water voles use for shelter or protection. It is also an offence to intentionally or recklessly disturb them while occupying a structure or place which it uses for that purpose.

4.2 Field Survey

4.2.1 The following standard ecology phase 1 habitats and features were recorded within the development site and the extended survey area. The general site character has been described along with dominant plant species, plants of high nature conservation value and a brief description of the habitat's physical characteristics. These are shown on the detailed ecology phase 1 survey plan – *Site Habitat Plan* in *Figure No. 01*. Species lists for site habitats are listed in *Table No. 02* and target notes in *Table No. 03*.

4.2.2 Habitats within the development site area include:

- *Improved amenity grassland;*
- *Running water;*
- *Scattered trees;*
- *Introduced shrub;*

Site Description (Refer to Appendix No. 01 – Site Photographs)

4.2.3 The site is utilised as car parking for the adjacent commercial unit, habitats found on site are typical of such areas.

4.2.4 The area is dominated by an area of hardstanding which forms the western section of the site. The car park is edged by introduced shrub planting beds and scattered trees. Trees include silver maple (*Acer saccharum*), alder (*Alnus glutinosa*), field maple (*Acer campestre*) and hawthorn (*Crataegus monogyna*) (*Refer to photograph no. 02 & 03 – Appendix No. 01*).

4.2.5 A small stream runs north to south adjacent the eastern edge of the car parking area. The immediate edges of the water course are formed of scattered trees and bare ground indicating the recent removal of a large area of scrub / trees. Beyond this to the south-east the land is dominated by improved amenity grassland (*Refer to photograph no. 05 & 06 – Appendix No. 01*). The area is dominated by perennial rye-grass (*Lolium perenne*) and fescue (*Festuca spp.*) grasses interspersed with scattered forbs. Those present are typical of the land use and include common daisy (*Bellis perennis*), ribwort plantain (*Plantago major*), creeping buttercup (*Ranunculus repens*) and common dandelion (*Taraxacum officinale*).

Watercourse Assessment

- 4.2.6 The water course enters the area via a culvert after passing under the main road to the east. The northern section has been highly altered with a small weir and vertical gabion sides (*Refer to photograph no. 04 – Appendix No. 01*). After approximately 15.0 metres the stream becomes more naturalised and assumes a slower flow rate.
- 4.2.7 The watercourse is approximately 30.0 centimetres deep with a mixture of fine and coarse gravel substrate. The water had low turbidity at the time of the survey and water quality appeared to be good with a small amount of litter present in places. The main body of the stream holds macrophytes including brooklime (*Veronica beccabunga*) hemlock water-dropwort (*Oenanthe crocata*), starwort (*Callitriche stagnalis*) and sago pond weed (*Stuckenia pectinata*) although emergent vegetation was limited at the time of the survey.
- 4.2.8 Banks of the stream are lined with dense scrub and introduced shrub to the west. Ground flora in this area is primarily formed of ivy (*Hedera helix*). The eastern bank is formed of a mixture of amenity grassland and bare ground. Amenity grassland is dominated by perennial rye-grass with forbs present including hemlock water-dropwort, lords and ladies (*Arum maculatum*), sedge (*Carex sp.*), cleavers (*Galium aparine*) and water avens (*Geum rivale*). The large amount of bare ground in this area and presence of typical shade loving plants is indicative of recent dense scrub removal.
- 4.2.9 Approximately 35.0 metres from the watercourse entering the area the stream becomes heavily shaded from surrounding introduced shrub hedging and the proximity to the building. The width reduces through this section increasing flow rate.
- 4.2.10 Immediately downstream of the development site the watercourse passes beneath a bridge and widens to a small shallow pool. The waterbody was showing signs of sedimentation and contained higher amounts of litter than the preceding section of stream. The banks of this area are predominantly closely maintained amenity grassland dominated by grasses. Emergent vegetation was limited with only pendulous sedge (*Carex pendula*) present at the time of the survey (*Refer to photograph no. 07 – Appendix No. 01*).

- 4.2.11 Approximately 72.0 metres south of the development boundary the watercourse merges with another small tributary before continuing south towards *Langstone Harbour*. The water course is canalised as it passes beneath the A27 resulting in an increased flow rate (*Refer to photograph no. 08 & 09 – Appendix No. 01*). As the stream continues its route it becomes significantly slower and deeper with large swathes of emergent vegetation which are known to support a population of water vole. (*Refer to photograph no. 10 & 11 – Appendix No. 01*).

5.0 EVALUATION

- 5.1 This survey has identified habitats of hardstanding; dense scrub; amenity grassland; scattered trees and running water. Botanical interest on the site at the time of survey was very limited with the vast majority of the site area comprised of hardstanding and amenity grassland. Forbs which were located within the development zone are common and widespread within Hampshire; no forbs of note were recorded.
- 5.2 All trees on site were assessed for their bat roost potential; all trees are considered to offer '*negligible*' bat roost potential. Trees on site were all in good condition with no holes, cracks or splits noted. The urban nature and poor immediate surrounding habitat further detracts from the potential of these trees to house a bat roost.
- 5.3 The main interest on the site lies within the small stream which runs north to south through the centre of the area. The stream appears to be of good water quality however macrophyte coverage was low along much of the watercourse at the time of the survey. Ornamental shrub planting of approximately 1.5m height lines the southern portion of the watercourse while the western bank is lined with dense scrub / tree group planting which casts shadow over much of the area. The eastern bank showed signs of recent vegetation clearance suggesting that this area was also previously heavily shaded; a factor which likely attributed to the limited macrophyte growth in this area.

- 5.4 The area was extensively searched for any evidence of water vole such as burrows, footprints, latrines or feeding remains; no such evidence was found. It must be noted however that the survey was undertaken at the very start of the optimum survey period for water vole (*optimum period for SE England: mid-March - September*).
- 5.5 The watercourse within the development site is considered to currently offer 'limited' habitat suitability for water voles; the banks were largely devoid of emergent vegetation which is essential for providing shelter from predation and foraging while large sections were heavily shaded; a factor which further negates water vole potential. However, as this survey was undertaken at the very beginning of the season it is believed that the habitat may alter over time to provide suitable peripheral habitat.
- 5.6 Water voles have been recorded approximately 330.0 metres south of the development site. During the course of this *PEA* the water course was walked for approximately 200.0 metres downstream of the development zone; no field signs to suggest the presence of field voles were located within this area however anecdotal evidence suggests that they may be present within the pool section for at least part of the year. The watercourse is canalised for a length of 100.0 metres as it passes beneath the A27 approximately 95.0 metres downstream of the development zone. Upstream of the development zone the stream is culverted beneath the B2149 for a length of approximately 25.0 metres before widening into a small pond. Beyond this the watercourse enters further culverts to the east and west. It is believed that man-made obstacles such as those present would not provide a major barrier to water vole dispersal.
- 5.7 The development proposals are considered to have the potential to impact upon 'low / moderate' quality water vole habitat. The potential for water voles to be present within this area at some point during the year is augmented by the proximity of recent water vole records to the south and anecdotal records of water vole using the site area. Water voles are known to expand their territory during the summer months; increasing the likelihood of water voles utilising the site during this time.

- 5.8 This *PEA* was carried out at the very beginning of the optimal survey season when field signs are harder to locate and emergent vegetation is not well established. It is also noted that habitat at the periphery of water vole territory is often not occupied in the spring when populations are at their lowest. It is recommended that a full water vole survey be carried out during the optimum water vole survey season (*Mid-April – Sept*).
- 5.9 The survey shall consist of 1 no. survey visit during the optimum survey season, with the peak months to survey being *May-June*. The survey shall encompass approximately 500.0 metres up and down stream of the proposed development site. The survey shall be undertaken from within the water channel where possible with any field signs such as burrows, feeding remains, latrines and footprints noted on a map. A suitable mitigation method should be formulated prior to development if water voles are found to be present within / adjacent to the site.

6.0 PROTECTED SPECIES – CONCLUSIONS AND RECOMMENDATIONS

Reptiles

- 6.1 No suitable habitat for reptiles was located on site. No further survey work with regard to reptiles is considered necessary for this site.

Amphibians

- 6.2 The watercourse within the site is considered to offer '*poor*' habitat suitability due to its fast flow rate and high level of shading. The potential for *GCN* to be present within the site is considered to be '*negligible*'.

Badgers

- 6.3 The site was extensively searched for badger sett or field signs. Nothing to suggest the presence of badgers on site was noted. No further survey work with regard to badgers is required on site.

Bats

- 6.4 Trees on site were assessed and found to offer '*negligible*' bat roost potential. Linear features such as the watercourse on site are often utilised by bats as foraging and commuting corridors. The urban nature of the environment and short length of stream adjacent the proposed development mean that the adverse effects on bats in the local environment are considered to be '*negligible*'.

Birds

- 6.5 No rare or protected bird species were seen or heard during the site visit. Several common bird species were noted during the survey. Care should be taken during any site clearance work to ensure that works do not disturb any active birds' nests. It is advised that any site clearance work of trees / shrubs should take place outside the bird nesting season (*March-August inclusive*) or after thorough inspection.

Otter

- 6.6 No field signs to indicate the presence of otter such as spraints, anal secretion, feeding remains, holts or grass balls were noted during the survey. The watercourse is considered to be unsuitable to support a population of otter.

White-clawed Crayfish

- 6.7 The gravel substrate and lack of large tree roots / rocks result in a lack of refugia, therefore negating habitat potential for white-clawed crayfish. The highly modified nature of the watercourse both up and down stream further reduce the likelihood of this species being present within the site area. No further surveys with regard to white-clawed crayfish are recommended for this site.

Water Vole

- 6.8 Water voles have been recorded approximately 330.0 metres south of the development site. The potential for water voles to be present within this area at some point during the year is augmented by the proximity of recent water vole records to the south.
- 6.9 It is recommended that a full water vole survey be carried out during the optimum water vole survey season (*Mid-April – Sept*). The survey shall encompass approximately 500.0 metres up and down stream of the proposed development site. The survey shall be undertaken from within the water channel where possible, with any field signs such as burrows, feeding remains, latrines and footprints noted on a map. A suitable mitigation method should be formulated prior to development if water voles are found to be present within / adjacent to the site.

7.0 ECOLOGICAL ENHANCEMENTS

7.1 The design of the proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Recommendations for ecological enhancements that could be considered as part of development proposals could include:

- *The use of native berry and seed-producing shrubs / trees within the planting scheme to provide a foraging resource for birds, such as: hawthorn (*Crataegus monogyna*); whitebeam (*Sorbus aria*); guelder rose (*Viburnum opulus*); rowan (*Sorbus aucuparia*); wayfaring tree (*Viburnum lantana*); alder (*Alnus glutinosa*); beech (*Fagus sylvatica*); and hazel (*Corylus avellana*);*
- *The use of flowering shrubs as listed within the RHS 'Perfect for Pollinators' plant list to provide year-round interest for invertebrates;*
- *The use of night-scented species and pale flowers to increase bat foraging potential across site, such as evening primrose (*Oenothera fruticosa*); cornflower (*Centaurea cyanus*); knapweed (*Centaurea nigra*); yarrow (*Achillea millefolium*); honeysuckle (*Lonicera*); and lavenders (*Lavandula*);*
- *Use of a sympathetic lighting scheme across the site, with lighting angled down and away from surrounding tree lines;*
- *Ornamental hedging which causes excessive shading along the watercourse should be removed. Emergent vegetation should be planted to the banks of the stream downstream of the development zone to increase habitat suitability for water vole. Species should include meadowsweet, yellow flag iris, willowherb, reeds, grasses and sedges.*
- *Banks should be left unmown within 2.0 metres of the watercourse where possible to increase habitat suitability for water vole.*
- *Any culvert used within the development proposals should be an oversized box culvert with an above water height of ~1.0m and ledges either side immediately above the water level; this design of culvert has been proven to be utilised by water vole for lengths of up to 35m.*

8.0 REFERENCES

JNCC (2003) Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit;

Mitchell-Jones and McLeish (2004) Bat Workers Manual; JNCC, 3rd Edition

Streeter, D. (2010) The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London

Strachan R, Moorhouse T & Gelling M (2011) Water Vole Conservation Handbook (3rd ed) WildCRU:Oxford

Dean M, Strachan R, Gow D and Andrews R. (2016) The Water Vole Mitigation Handbook. The Mammal Society, London

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Table No. 02 – Species Lists for Habitat Parcels

Langstone Gate, Havant

Amenity Grassland

Common Name	Scientific Name	DAFOR
Common Daisy	<i>Bellis perennis</i>	F
Common Mallow	<i>Malva sylvestris</i>	O
Common Nettle	<i>Urtica dioica</i>	O
Creeping Buttercup	<i>Ranunculus repens</i>	O
Dandelion	<i>Taraxacum officinale</i>	LF
Fescue	<i>Festuca sp.</i>	LD
Lesser Celandine	<i>Ranunculus ficaria</i>	R
Perennial Ryegrass	<i>Lolium perenne</i>	LD
Ribwort Plantain	<i>Plantago lanceolata</i>	LA
Sow Thistle	<i>Sonchus oleraceus</i>	R

Recently Cleared Area

Common Name	Scientific Name	DAFOR
Bristly Oxtongue	<i>Helminthotheca echioides</i>	O
Broadleaf Willowherb	<i>Epilobium montanum</i>	LF
Cleavers	<i>Galium aparine</i>	LD
Common Mallow	<i>Malva sylvestris</i>	O
Common Nettle	<i>Urtica dioica</i>	O
Creeping Thistle	<i>Cirsium arvense</i>	R
Curly Dock	<i>Rumex crispus</i>	R
Hemlock Water Dropwort	<i>Oenanthe crocata</i>	LA
Lords and Ladies	<i>Arum maculatum</i>	F
Moss	<i>Moss sp.</i>	F
Sedge	<i>Carex sp.</i>	LF
Water Avens	<i>Geum rivale</i>	LA

Scattered Trees

Common Name	Scientific Name	DAFOR
Alder	<i>Alnus glutinosa</i>	O
Buddleia	<i>Buddleia davidii</i>	LF
Field Maple	<i>Acer campestre</i>	LD
Hawthorn	<i>Crataegus monogyna</i>	O
Norway Maple	<i>Acer platanoides</i>	F
Silver Maple	<i>Acer saccharinum</i>	LD
Sycamore	<i>Acer pseudoplatanus</i>	O
Willow sp.	<i>Salix sp.</i>	LF

DAFOR SCALE

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Table No. 03 – Target Notes (TN) for Ecology Phase 1 Habitat Survey and Protected Species Assessment; Langstone Gate, Havant

Target Note	Description	Protected Species	Potential	Photo No.
TN 01	Large silver maple trees to the northern section of the site. The trees contained no discernable bat roost features.	Bats	'Negligible'	02
TN 02	Large common alder tree growing to the bank of the watercourse. The tree contained no discernable bat roost features.	Bats	'Negligible'	01
TN 03	Highly modified northern section of the watercourse.	Water Vole	'Negligible'	04
TN 04	Main body of the watercourse on site. The banks contained little emergent vegetation at the time of survey however this habitat is considered likely to improve throughout the summer.	Water Vole	'Moderate'	06
TN 05	Riffle section of the watercourse which is heavily shaded by ornamental hedging.	Water Vole	'Low'	n/a
TN 06	Small shallow pool. The banks contained little emergent vegetation at the time of survey however this habitat is considered likely to improve throughout the summer.	Water Vole	'Moderate'	07

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 01 - View across the site looking towards the north-west.



Photograph No. 02 - View of the site looking towards the north.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 03 - View of the site looking towards the south.



Photograph No. 04 - View of the northern highly modified section of the watercourse.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 05 - View of amenity grassland and areas of recently cleared scrub forming the eastern bank of the stream.



Photograph No. 06 - Overview of the watercourse. Banks are steep and flow rate is slower in this area providing 'moderate' water vole habitat.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 07 - View of the small shallow pool. Good levels of macrophytes present; emergent vegetation likely to grow up through the year.



Photograph No. 08 - Area beyond the south of the site where 2 no. water courses meet.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 09 - Canalised section of the watercourse approximately 90.0 metres downstream of the site.



Photograph No. 10 - Area approximately 300.0 metres downstream of the site. The area is known water vole habitat.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



**Photograph No. 11 - Area approximately 350.0 metres downstream of the site.
The area is known water vole habitat.**