



Georgia Knight BSc (Hons)
Graduate Consultant
Email: georgiaknight@arbtech.co.uk
Arbtech Consulting Ltd
arbtech.co.uk

Preliminary Ecological Appraisal

Survey site:

Kyngs Golf and Country Club, Market Bosworth, CV13 0AR

Client:

George Denny

Survey date:

3rd December 2024

Project:

This report is prepared to inform a planning application with the Hinckley and Bosworth Borough Council. The proposal is described as:
HYBRID planning application seeking Full Planning Permission for the Erection of a Golf Wellness Spa & Leisure Centre with associated works and an Outline Planning Permission (all matters reserved excepted for access) for the Erection of up to 126 Golf Holiday Homes

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

PEA survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2024.](#)

Site Location and Context

The site comprises of Kyngs Golf and Country Club, with two development areas within the site. The proposed works consists of the addition of golfing holiday lodges at the north of the site and a 25000 square ft spa facility to the south of the site. Each site will be assessed individually and referred to as the 'northern site' and 'southern site'. The sites are situated within a golf course (under the same ownership) located to the northwest of the town of Market Bosworth, with a road and residential dwellings to the south and a brook to the north. There are scattered trees and ponds within the wider site boundary, with scattered dwellings in the wider landscape. Aerial imagery shows the local landscape to have scattered areas of woodland, with several small copses and deciduous woodland in close proximity to the site, including on the eastern and northern boundary of the wider ownership. Water bodies can be found nearby, with a brook running adjacent to the northern boundary and Ashby de la Zouch Canal ~150m to the west, separated from the sites by a railway line adjacent to the western boundary.

Northern development site

The northern development site is centred on National Grid Reference SK 39478 04129 and has an area of approximately 4.5ha. The site comprises modified grassland, scattered trees, bramble scrub, ponds and dry ditches that form bunkers across the golf course. The site is bordered by a brook lined with trees and bramble scrub to the north, deciduous woodland at the eastern end of the northern border and scrub to the west. The habitats to the south and east are similar to that within the development boundary and golf course.

Southern development site

The southern development site is centred on National Grid Reference SK 39665 03455 and has an area of approximately 1.06ha. The site comprises modified grassland, scattered trees, one pond and a dry ditch with ruderal vegetation. The site is bordered by further modified grassland with scattered trees of a similar nature to habitats within the development site that form the golf course. There is an access track directly to the west.

Surveys have been undertaken previously within the wider ownership boundary of the site to support multiple planning applications.

Survey Details

The site survey was undertaken by Georgia Knight BSc (Hons), Graduate Ecologist (Accredited Agent on Bat Licence: 2019-41480-CLS-CLS)

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
03/12/2024	13	77	50	4	None

Survey limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

The PEA survey was completed outside of the optimal survey period (April to October) for botanical species identification. However, due to the low value habitats affected on site (regularly mown modified grassland) that is maintained as a golf course, this is not considered to be a major limitation.

The proposed development plans available for the northern and southern sites does not provide detailed locations of the plans at the time of writing this report, and therefore a detailed impact assessment could not be made. This report should be updated once the plans are available so distances to known habitats in and adjacent to the site can be assessed (eg. Distance to ponds and the brook to the north).

Ecological Survey Factor	Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.
Conclusion, Impact or Recommendations	
Habitats and plants (see habitat map in appendix 1, location plan in appendix 2, proposal plan in appendix 3 and photos in appendix 4).	
Botanical species are described with reference to the DAFOR scale (D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare).	
Summary of Survey	Northern site - On-site habitat descriptions g4 – Modified grassland 32 scattered trees, 50 ditch, 108 frequently mown, 529 golf course The site is dominated by modified grassland that forms a green as part of the golf course. It is mown regularly and maintained at a short sward, although the sward at the time of the survey was ~7cm due to ground being too wet to mow. Species comprise dominant perennial rye, Yorkshire fog, abundant creeping buttercup, annual meadowgrass, frequent cock's-foot, dandelion, white clover, occasional red fescue, common mouse ear, feathermoss sp., rare dock, cow parsley, hogweed, spear thistle, ragwort. There are four bunkers present at the western end and along the southern border of the site. This previously contained sand but now contain multiple willow saplings with ruderal species such as willowherb sp., Yorkshire fog, tansy, common vetch, and common nettle present. One of the bunkers on the southern boundary contained a badger latrine and snuffle holes. Modified grassland condition assessment There are 4 vascular plants per m². Sward height does not vary and was 7cm across the habitat parcel. There is scattered scrub present that counts for <20%. Physical damage from vehicles and storage of materials is evident on less than 5% of the total grassland with cover of bare ground under 5%. There is no bracken present and no invasive non-native plant species. There is a public footpath running through the northern corner of the site adjacent to the wet ditch that runs from north to northeast, as well as three bunkers containing ruderal species and saplings. The wet ditch (D1) at the eastern end of the site appears to connect to the brook off site to the north. It is partly culverted to provide access across the site, and there was no water flow at the time of the survey. The western end of the ditch is lined with approximately 26 small birch trees (Group 1) that connect to the tree line and woodland to the north of the site. Ditch condition assessment The ditch appeared to have good water quality, with clear water indicating no sign of pollution. A range of emergent, submerged and floating-leaved plants present, with <10% cover of algae or duckweed. There is a fringe of aquatic marginal vegetation present along the length with no physical damage evident. Water levels are not maintained, with the ditch partially dry at the time of the survey after heavy rain. Over 10% of the ditch is heavily shaded and there are no non-native plant and animal species present. Group 1 tree condition assessment

	Over 70% of the species within the block are native. There are gaps in the canopy that account for <10% of the total area, with no gaps over 5m wide. Under 50% of the trees are mature. There is little evidence of adverse impact on tree health and there are no ecological niches for invertebrates present. More than 20% of the canopy over sails vegetation beneath. There are 22 trees scattered across the area of modified grassland, that are formed of 2 groups and 7 individual trees. Group 2 is located at the western end of the site and includes 9 small trees and one medium. These comprise 1 apple, 2 ash, 4 oak and 3 birch. The understorey includes bramble, cleavers, dandelion, Yorkshire fog. <i>Group 2 tree condition assessment</i> Over 70% of the species within the block are native. There are gaps in the canopy that account for over 10% of the total area, with gaps over 5m wide. Under 50% of the trees are mature. There is little evidence of adverse impact on tree health and there are no ecological niches for invertebrates present. More than 20% of the canopy over sails vegetation beneath. Group 3 is located towards the eastern side of the site, to the west of the wet ditch. It comprises 5 small goat willow. <i>Group 3 tree condition assessment</i> Over 70% of the species within the block are native. There are gaps in the canopy that account for <10% of the total area, with no gap over 5m wide. Under 50% of the trees are mature. There is little evidence of adverse impact on tree health and there are no ecological niches for invertebrates present. More than 20% of the canopy over sails vegetation beneath. At the centre of the site there are four small individual trees comprising 1 goat willow and 3 willow sp. To the east of group 3 there is one small alder tree and one medium goat willow. At the northeastern section of the site, to the east of the wet ditch there is a small oak raised on a grass bank. <i>Individual tree condition assessment</i> Over 70% of the trees are native, with no continuous canopy and gaps over 5m between them. Under 50% of the trees are mature, with no evidence of adverse impact on tree health. There is no standing deadwood present, with no cavities or loose bark that provide an ecological niche for invertebrates. The trees over sail vegetation beneath. h3d – Bramble scrub There is a small patch of bramble scrub at the northern boundary of the site that has extended from the scrub and woodland habitat that runs alongside the brook to the north. 11g – Other standing water (ponds) There are two ponds within the boundary of the northern site. The first (P1) is located at the west of the site and second (P2) is located slightly further east of this. P1 has four saplings present with emergent and submergent species present including common reed, creeping buttercup, rush sp. P2 is dominated by common reed throughout, with several saplings around its border.
--	---

	<i>Pond 1 condition assessment</i> The pond has turbid water with some clear water patches, suggesting possible pollution. There is semi-natural habitat surrounding <10m around the pond, with mown modified grassland within 10m. No duckweed or algae was present although this may not be obvious due to the season the survey was undertaken. The pond is not artificially connected to any other waterbodies. Water levels can fluctuate throughout the year, with no obvious artificial dams, pumps or pipework. There is an absence of non-native plants and animals and the pond is not stocked with fish. Emergent, submerged or floating plants cover <50% of the pond area and the pond surface is shaded <50% by adjacent trees. <i>Pond 2 condition assessment</i> The water in the pond was mostly clear, with small amounts of turbid water present. Mown modified grassland surrounds the pond for >10m. No duckweed or algae was present and the pond is not artificially connected to any other waterbodies. Water levels can fluctuate throughout the year, with no obvious artificial dams, pumps or pipework. There is an absence of non-native plants and animals and the pond is not stocked with fish. Emergent, submerged or floating plants cover over 50% of the pond area and the pond surface is shaded less than 50% by adjacent trees. Southern site - On-site habitat descriptions <u>g4 – Modified grassland [32 scattered trees, 50 ditch, 108 frequently mown, 216 large hollows or cavities, 529 golf course]</u> The site is dominated by modified grassland that forms a green as part of the golf course. It is mown regularly and maintained at a short sward, although the sward at the time of the survey was ~7cm. Species include dominant perennial rye grass, frequent dandelion, creeping buttercup and Yorkshire fog, occasional tufted hair grass, cock's-foot, cutleaf geranium, ribwort plantain, annual meadowgrass and rare sow thistle. There are mole hills present throughout. <i>Modified grassland condition assessment</i> There are 3 vascular plants per m². Sward height does not vary and was 7cm across the habitat parcel. There is no scattered scrub present. Physical damage from vehicles and storage of materials is evident on less than 5% of the total grassland with cover of bare ground under 5%. There is no bracken present and no invasive non-native plant species. There are 17 trees within the site boundary comprising one small silver birch (T1) at the south, one very large oak (T2) at the north of the site and one small ash to the northeast. The silver birch (T1) is proposed to be removed as part of the development. The very large oak has split in two, with the heart of the tree exposed creating cavities in the standing deadwood. <i>Individual trees condition assessment</i> Over 70% of the trees are native, with no continuous canopy and gaps over 5m between them. Under 50% of the trees are mature, with no evidence of adverse impact on tree health. There is standing deadwood present within the oak, with cavities and loose bark that provide an ecological niche for invertebrates. The trees over sail vegetation beneath.
--	---

	The grassland is banked at the western end of the site, with the remaining 14 trees in a group along this bank (Group 4). These are all small and comprise seven rowan, three birch, three ash and one oak. Group 4 condition assessment Over 70% of the species within the block are native. There are gaps in the canopy that account for more than 10% of the total area, with gaps over 5m wide. Under 50% of the trees are mature. There is little evidence of adverse impact on tree health and there are no ecological niches for invertebrates present. More than 20% of the canopy over sails vegetation beneath. Across the site, from north to east there is a ditch (D2) present that in unmanaged with tall ruderals present. Species present include abundant feathermoss sp., common nettle, spear thistle, frequent perennial rye grass, annual meadowgrass, creeping buttercup, creeping jenny, willowherb sp., occasional bramble, selfheal, white clover, cleavers, timothy, Yorkshire fog, dock, common ragwort and tansy. This ditch was dry at the time of the survey after recent heavy rain and storms and it is understood that this ditch remains dry throughout the year. Ditch condition assessment The ditch was dry so no water quality could be determined. There is no range of emergent, submerged and floating-leaved plants present, with <10% cover of algae or duckweed. There is no fringe of aquatic marginal vegetation present along the length, and there is no physical damage evident. Water levels are not maintained, with the ditch assumed dry throughout the year. Less than 10% of the ditch is heavily shaded and there are no non-native plant and animal species present. <u>rlg – Other standing water (42 pond)</u> At the east of the site there is a pond (P3) with vegetation and tree saplings present. The water levels were low at the time of the survey, with the vegetation damp but no obvious pools present. Pond condition assessment The water quality of the pond could not be observed due to the low water levels at the time of the survey. Mown modified grassland surrounds the pond for >10m. No duckweed or algae was present and the pond is not artificially connected to any other waterbodies. Water levels can fluctuate throughout the year, with no obvious artificial dams, pumps or pipework. There is an absence of non-native plants and animals and the pond is not stocked with fish. The pond surface is shaded <50% by adjacent trees. Local notable habitats Patches of lowland mixed deciduous woodland (LMDW) are present in close proximity to the site. The closest is adjacent to the northern boundary of the northern site, with a second patch of LMDW ~0.4km to the east and 0.9km north of the southern site. The scattered trees on-site do not have functional connectivity to these patches of woodland, given their distance and small nature to the areas of woodland LMDW is classed as a priority habitat under Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. Further priority habitats are present within 2km of the sites, including lowland fens (~800m to the east) woodpasture and parkland (~830m to the east) and ancient replanted woodland (~1.6km to the south). The sites contains multiple ponds and trees which are of good quality and could be of value to
--	---

	local wildlife populations (as detailed in subsequent sections of this table). Other habitats within the sites are common and widespread and have low ecological value.
Foreseen Impacts	Northern site - On-site habitats The habitats on-site are widespread and not notable, however the proposed development will result in the loss and impact to areas of modified grassland. This is likely to have minimal impact on biodiversity considering the small area of commonplace habitat being lost. It is understood that all trees in this area will be retained. Southern site - On-site habitats The proposed development will result in the loss of ~3300m² (0.330ha) of modified grassland and ~130m of dry ditch with ruderal vegetation which could result in a net loss in biodiversity at the site. Furthermore, 1 tree (T1) will be felled to facilitate the development. The tree being felled is young and lacks decay features which may provide ecological niches (see <i>Bats</i> section below) lowering its ecological value. As there are extensive trees within the locality, their loss is unlikely to significantly impact biodiversity. Notable habitats No direct impacts to any notable habitats will occur as a result of the proposed development. However, due to the proximity of the site to LMDW (adjacent to the northern site), and the close proximity of the brook at the northern boundary of the northern site as well as multiple ponds within the development sites and the wider ownership, indirect effects (e.g. pollution, dust, litter, surface run off, etc.) could occur during construction.
Recommendations	Northern and southern site On-site habitats Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). Notable habitats Best practice measures to minimise the possibility of pollution affecting the nearby LMDW, brook and ponds must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this. Biodiversity net gain The Environment Act (2021) requires all developments (excluding exemptions) to deliver a 10% net gain in biodiversity. This is mandatory for larger developments and comes into force for smaller developments on 2nd April 2024. Therefore, the planning application must be accompanied by a landscaping/habitat creation and enhancement strategy, biodiversity net gain calculations and a habitat management and monitoring plan to ensure the proposed development delivers a 10% net gain.
Locality and Designated Sites	
Summary of Survey Findings	On-site designations The sites are not subject to any designation.

	Statutory designated sites (within 2km) There is one statutory site within 2km, as detailed below: - Ashby Canal Site of Special Scientific Interest (SSSI) located ~500m to the west. The Ashby Canal supports communities of aquatic and emergent plants that are representative of eutrophic standing water bodies in the English lowlands. The diversity of aquatic plants and invertebrates makes this one of the most important water bodies of its type in the East Midlands. The sites lie within the impact risk zone for multiple SSSIs within the vicinity of the sites. Statutory designated sites (within 10km) There is one national network sites (SAC, SPA, Ramsar) located within 10km, as detailed below: - River Mease Special Area of Conservation (SAC) is located ~8km northwest. It is designated as it's a good example of a riverine population of spined loach and bullhead populations. Non-statutory designated sites The presence of non-statutory designated sites within 2km of the site cannot be established without biological records data.
Foreseen Impacts	On-site designations No impacts foreseen. Statutory and designated sites No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known). The site lies within the impact risk zone for multiple SSSIs nearby. The proposed development type is listed as a possible high risk for this designation.
Recommendations	On-site designations None required. Statutory designated sites The Local Planning Authority (LPA) may be required to consult with Natural England regarding potential impacts to nearby SSSIs.
Invasive / Non-native species	
Summary of Survey Findings	No problematic invasive and non-native species were recorded on site.
Foreseen Impacts	N/A
Recommendations	No further surveys but remain vigilant.

Preliminary Ecological Appraisal

Invertebrates			
Summary of Survey Findings	Habitat suitability The habitats present on-site, including modified grassland, scattered trees, ponds, ditches and ruderal vegetation likely provide common invertebrates with opportunities to forage and shelter.		
Foreseen Impacts	Modified grassland, one tree and a dry ditch will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.		
Recommendations	No further surveys.		
Bats	Suggested biodiversity enhancements The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates.		
Summary of Survey Findings	EPSL data A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the sites has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. There are four EPSLs within a 2km radius of the sites as detailed below:		
	EPSL reference	Bat species affected	Distance from site
	EPSM2009-1495	Common pipistrelle	~170m south
	2020-44716-EPS-MIT-1	Common pipistrelle	~700m southeast
	2017-31325-EPS-MIT	Brown long-eared bat	~1.6km southwest
	2015-14530-EPS-MIT	Brown long-eared bat and common pipistrelle	~1.7km west
Impacts allowed by licence Destruction of a resting place Destruction of a resting place Destruction of a resting place Damage of a resting place and damage of a breeding site			
There are no Special Areas of Conservation designated for bats within 10km of the sites. Foraging and commuting habitat Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of modified grassland, scattered trees, ponds and ditches. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. The deciduous woodland and brook at the north of the site and railway line and canal to the west provide vegetated linear features in the landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites.			
Roosting habitat			

	Trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. There are multiple scattered trees within the sites. It is understood that one tree (T1) will be felled as part of the southern development and all other trees across both the northern and southern sites will be retained. No evidence of roosting bats was identified on or within T1.	
T1 description	Photographs	
Summary	T1 is a silver birch located at the southern end of the southern development site. The tree has a DBH of 250mm and a height of ~11m. No features suitable for roosting bats were identified on this tree. As such the tree is concluded as being NONE (i.e. no roosting features present). This tree will be removed as part of the proposed works.	
Foreseen Impacts	Foraging and commuting habitat The proposed development will result in the loss of modified grassland, a dry ditch with ruderal vegetation and one tree (T1) but given the low value and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats. However, the proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	
Recommendations	Foraging and commuting habitat No further surveys are required. Artificial lighting A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website. Suggested biodiversity enhancements The installation of three bat boxes at the site will provide additional roosting habitat for bats.	

	The bat boxes will be incorporated into the fabric of the new building or on mature trees within the site ownership. They will be suitable for pipistrelles (which have been identified locally through EPSL data). Suitable bat boxes include Habitat Bat Box, Ibstock Enclosed Bat Box or similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Birds	
Summary of Survey Findings	Trees and vegetation No bird nests were identified within the trees, scrub and ruderal herb on-site, however they all offer nesting opportunities and nest-building resources for birds. Barn owls The site does not appear to provide any suitable nesting sites for barn owls. Overwintering birds Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.
Foreseen Impacts	Trees and vegetation The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests within the trees on site. Barn owls None foreseen. Overwintering birds None foreseen.
Recommendations	Trees and vegetation Any tree removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the tree should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged. Barn owls None required.

	Overwintering birds None required. Suggested biodiversity enhancements The installation of a minimum of two bird boxes on mature trees around the site boundaries or on the new building will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings), Schwegler 1SP Sparrow Terrace (buildings), Schwegler 1B Nest Boxes (trees), Schwegler 2H Robin Boxes (trees), Woodstone Nest Box (buildings or trees) or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Reptiles	
Summary of Survey Findings	EPSL data A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Habitat suitability The dominant habitat onsite (modified grassland) is considered unsuitable for reptiles due to the species content (common and widespread species with minimal diversity) and associated management regime, where at the time of the survey the grassland was recorded as being a relatively short sward. Given the management regime employed on the modified grassland, as well as the species composition, it is considered unlikely that this faunal group would be present within this habitat. However, the tree lines and bramble scrub adjacent to the northern site provide sheltering and hibernation opportunities for reptiles, as well as the ruderal vegetation present in bunkers and the dry ditch in the southern site, although this is surrounded by the managed modified grassland. In any case, the tree lines, bramble scrub and bunkers with ruderal vegetation are to be retained as part of the development proposals, although the dry ditch with ruderal species in the southern site will be removed to facilitate development. The northern site has good connectivity to further suitable reptile habitat in the wider landscape via woodland and riparian vegetation associated with the brook to the north. The presence of reptiles on site cannot be discounted, albeit likely limited to low numbers within peripheral scrub and woodland. Wider landscape The adjacent sections of the brook and deciduous woodland to the north of the northern site are of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These adjacent habitats provide optimal foraging, commuting, and refuge opportunities for reptiles and are well connected to further suitable habitat in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted. The modified grassland surrounding the southern site is suboptimal for reptiles due to the lack of refuge from predators, however it is suitable for reptiles to commute across. Small patches of scrub across the

	wider golf course site could provide suitable refuge for these species, and therefore the presence of reptiles utilising the wider landscape cannot be discounted.
Foreseen Impacts	Regularly mown modified grassland, a dry ditch and a tree (T1) will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.
Recommendations	A precautionary working method will be implemented for widespread reptiles during construction, including the following measures: • Vegetation will be maintained at a short sward (5cm) to discourage reptiles. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a reptile is identified, works must cease and advise must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials) and planting of areas of native shrubs, to provide sheltering opportunities.
Amphibians	
Summary of Survey Findings	EPSL and survey data A review of the MAGIC database returned no granted EPSL records for great crested newts within 2km of the site. Further, no positive class survey licence return or DLL historic survey data (2017 – 2019) were present within 2km of the site. A previous medium Great Crested Newt (GCN) population was identified in 2018 and 2019 within a pond located 200m south of the site as part of a previous planning application within the wider ownership boundary (Mitigation Strategy, Wildlife Consultants Limited 2019). Aquatic habitat suitability (including ponds within 500m) GCN exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). There are two ponds within the northern site and one pond within the southern site. It is understood that these will all be retained as part of the proposed development. These ponds were not subject to a Habitat Suitability Index (HSI) Assessment as it is assumed that GCN are present and a District Level License will be needed for the site. In addition to the ponds located within the sites, a review of the Magic.gov.uk database and aerial imagery indicates that there are a further ~14 ponds within 500m of the northern site and ~14 ponds within 500m of the southern site. These ponds were not subject to a HSI given

	the high number of ponds and that many lie on third party land. The closest pond is located ~15m south of the northern site and ~20m southeast of the southern site. A pond map showing approximate pond locations is provided in Appendix 1.																								
	Terrestrial habitat suitability The ponds on site provide suitable GCN habitat and he surrounding areas of modified grassland provide suboptimal foraging and commuting opportunities for amphibians, with the bramble scrub, ditches and trees providing optimal sheltering and hibernation opportunities. It is noted that the development area is likely to result in the loss or significant disturbance of ~4.5ha of grassland and ruderal vegetation, ~3.5ha within the northern site and the southern site will impact ~1.0ha. If great crested newts are present within the ponds onsite and within 100m, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a Red risk score, which states: Offence Highly Likely (see below).																								
Foreseen Impacts	<table><tr><th>Component</th><th>Likely effect (select one for each component, select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)</th><th>Notional offence probability score</th></tr><tr><td>Great crested newt breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Land within 100m of any breeding pond(s)</td><td>>1 ha lost or damaged</td><td>0.9</td></tr><tr><td>Land 100-250m from any breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Land >250m from any breeding pond(s)</td><td>1 - 5 ha lost or damaged</td><td>0.04</td></tr><tr><td>Individual great crested newts</td><td>No effect</td><td>0</td></tr><tr><td colspan="2">Maximum:</td><td>0.9</td></tr><tr><td colspan="3">Rapid risk assessment result: RED: OFFENCE HIGHLY LIKELY</td></tr></table>	Component	Likely effect (select one for each component, select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score	Great crested newt breeding pond(s)	No effect	0	Land within 100m of any breeding pond(s)	>1 ha lost or damaged	0.9	Land 100-250m from any breeding pond(s)	No effect	0	Land >250m from any breeding pond(s)	1 - 5 ha lost or damaged	0.04	Individual great crested newts	No effect	0	Maximum:		0.9	Rapid risk assessment result: RED: OFFENCE HIGHLY LIKELY		
Component	Likely effect (select one for each component, select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score																							
Great crested newt breeding pond(s)	No effect	0																							
Land within 100m of any breeding pond(s)	>1 ha lost or damaged	0.9																							
Land 100-250m from any breeding pond(s)	No effect	0																							
Land >250m from any breeding pond(s)	1 - 5 ha lost or damaged	0.04																							
Individual great crested newts	No effect	0																							
Maximum:		0.9																							
Rapid risk assessment result: RED: OFFENCE HIGHLY LIKELY																									
Recommendations	Due to a known population of GCN located to the south of the site and the increased risk of GCN being present within the site, a district level license will need to be applied for to undertake the works. A precautionary working method will be implemented for common amphibians during construction, including the following measures: - Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. - Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. - If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.																								

	In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements The site could be enhanced for amphibians post-development through creation of amphibian hibernacula using rubble and logs from site clearance as well as the creation of wildflower grassland. Information on how to construct a hibernaculum can be found here: https://www.wiltshirewildlife.org/hibernaculum
Badger	
Summary of Survey	Habitat suitability
Findings	No badger setts were noted on site or within a 30m radius of the site, however the woodland and scrub areas adjacent to the northern site could not be accessed and could provide suitable sett making habitat, therefore it is possible that badgers could occupy these areas. Both the northern and southern site are considered unsuitable for badgers given the lack of suitable sett excavation areas/ground. There is suitable badger foraging habitat across the site, however this is limited on site given the lack of fruiting trees/scrub. Foraged corn cobs were found across the northern site with a latrine present within one of the bunkers at the western end, suggesting badgers are in the vicinity of the site. No further evidence was found within the northern site and no evidence of badgers was found within the southern site.
Foreseen Impacts	No works will be undertaken within 30m of a known badger sett. Modified grassland, a tree (T1) and a ditch will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger populations owing to their low value and the presence of more extensive habitat locally for foraging. However, any setts present off site within 30m could result in the damage/disturbance/destruction of the setts and could kill or injure any badgers present.
Recommendations	Owing to the nature of the proposed development and the size of the site, a separate badger scoping survey should be undertaken to determine if there are any setts within the wider site ownership and in the adjacent areas to the site, where accessible, with particular focus on the woodland and scrub areas as well as along the brook.
	If any setts are identified within 30m of the works during this survey, further badger surveys will be required to characterise the sett types present and the usage of the site by badgers.
Riparian animals	
Summary of Survey Findings	EPSL data A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. Habitat suitability There are no water courses on or connected to the southern site, with a dry ditch present across the site that has no connectivity to water courses in the wider landscape. There are also no riparian habitats present on site or within an influencing distance.

	The northern site is bordered by a brook that was in flood at the time of the survey after heavy rain. This brook extends beyond the site into the wider landscape both to the east and west and connects to the River Sence to the west. Otters No evidence of otters was found on site or on the area of brook that could be viewed where accessible, although access was limited for health and safety reasons. The brook provides suitable habitat for otters and is connected to a river in the wider landscape, therefore otters could be present and commute to the site. Water voles The banks and edges of the brook were searched for evidence of water voles, including latrines, feeding remains (vegetation at a 45° angle) and burrows, although access to this was limited for health and safety reasons and access reasons as the brook runs in the adjacent land. No evidence of water vole was observed during the survey. The brook is partly overshadowed by trees with woodland to the eastern end and agricultural fields to the north. Water voles prefer watercourses bordered by grassland habitats where they may forage and shelter from predators. Therefore, the site and surrounding habitats are considered suboptimal for water voles.
Foreseen Impacts	Otters The proposed development will not result in the loss of any riparian habitats and it is understood that no works will be undertaken within 8m of the watercourse (as per Environment Agency regulations). However, due to the presence of the watercourse within close proximity of the site, indirect effects such as pollution could occur during construction. Furthermore, construction activities could result in the death or injury of otters, if present. If the proposed development encroaches within 8m of the brook, this could result in the damage, disturbance and destruction of otter holts or breeding habitat and could kill or injure any otters present. Water voles No works will be undertaken within 5m of the top of the banks of the watercourse. Therefore, no impacts are anticipated on water vole as a result of the proposed development. If the proposed development will include the loss of riparian habitats and works within 5m of the brook, the loss of habitats could result in a reduction in water vole habitat and could result in the fragmentation of the local landscape. Furthermore, construction activities could result in the damage, disturbance and destruction of water vole burrows and could kill or injure any water voles present.
Recommendations	If the works do not encroach within 8m of the brook: Owing to the nature of the proposed development and the low potential for impacts to otter, further otter surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of otters and water vole at the site. • A pre-commencement inspection of the site will be undertaken for otters. • Heras fencing will be erected around the working area to prevent encroachment within 8m of the watercourse.

	- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to the watercourse and any retained habitats which otters and water vole could use. - Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that otters and water vole could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that an otter holt or den is identified or water voles or evidence of water voles is identified, works must cease and advise must be sought from a suitably qualified ecologist. If the works are within 8m of the brook: Otters An otter survey will be required to determine presence or likely absence of otter on the site. This will comprise a walkover of the section of the watercourse within the site as well as up to 200m either side. There are no seasonal constraints to this type of survey (Chanin, 2003). The surveys are likely to be required before planning permission can be granted. Water voles A water vole survey will be required to determine presence or likely absence of water vole on the site. This will comprise a walkover of the section of the watercourse within the site as well as up to 200m either side. Two visits will be required, one between April and June and one between July and September, in accordance with current survey guidelines (Strachan et al, 2011). The surveys are likely to be required before planning permission can be granted. Suggested biodiversity enhancements Planting species rich grassland close to the watercourse to increase foraging opportunities for water voles and planting native trees and shrubs close to the watercourse to increase opportunities for shelter for otters.
Hazel dormouse	
Summary of Survey Findings	EPSL data A review of the MAGIC database returned no granted EPSL records for hazel dormouse within 2km of the site.
	Habitat suitability The site lies outside of the known current range for hazel dormouse and there are no suitable habitats within the development area. As such it is considered likely that hazel dormouse are absent from site.
Foreseen Impacts	No impacts are anticipated on hazel dormouse as a result of the proposed development.
Recommendations	None foreseen.
Other e.g. hedgehog	

<i>Summary of Survey Findings</i>	Habitat Suitability The modified grassland and ditches onsite provide limited foraging and commuting opportunities for hedgehogs, with woodland habitat and residential dwellings with vegetated gardens nearby.
<i>Foreseen Impacts</i>	Modified grassland, a dry ditch and one tree will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
<i>Recommendations</i>	A precautionary working method will be implemented during construction, including the following measures: - Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. Suggested biodiversity enhancements The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: - Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. - Creation of brash piles or installation of hedgehog houses in shady areas.

Appendix 1a: Survey map – northern site



Appendix 1b: Survey map – southern site



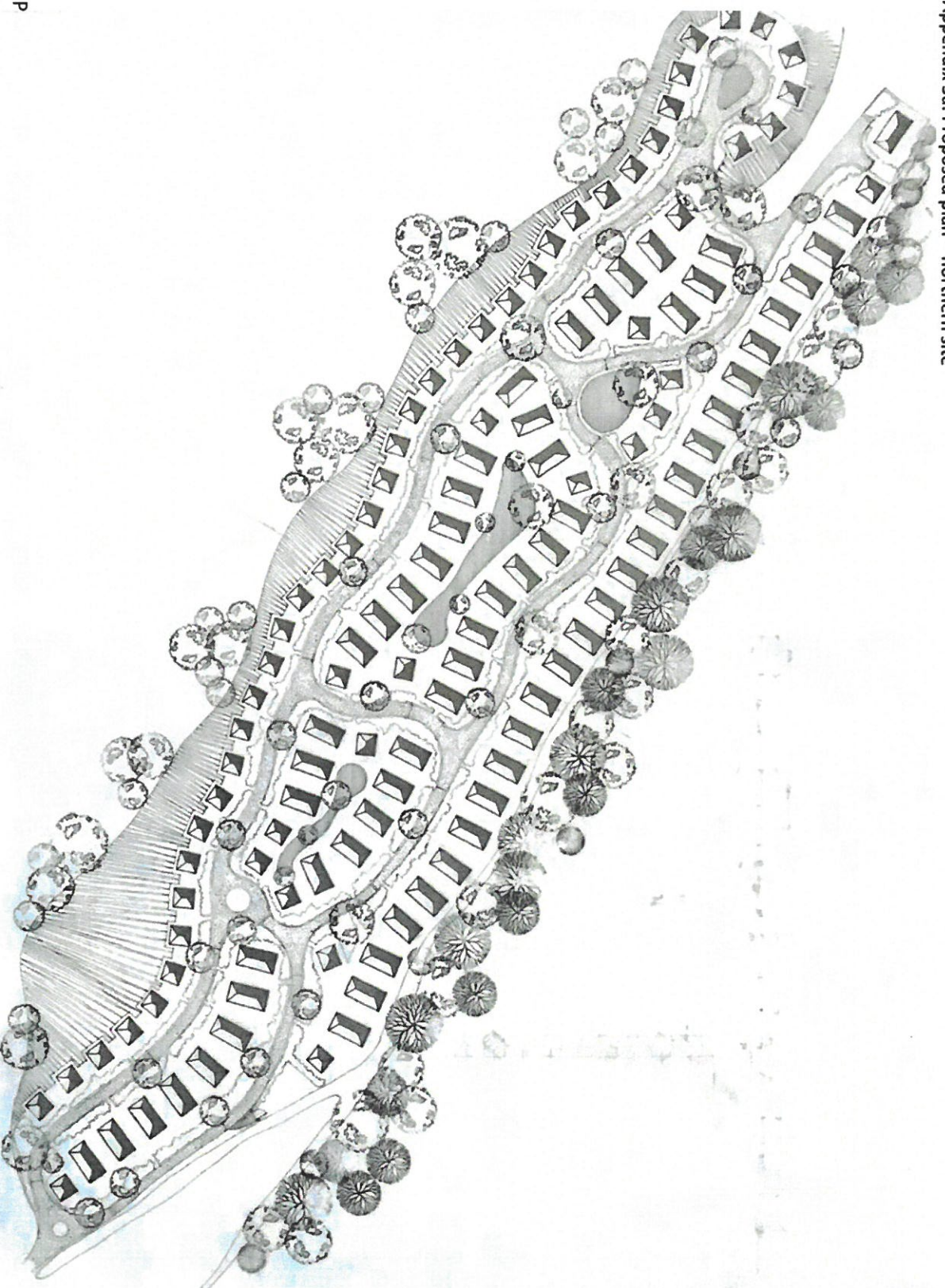
Appendix 1c: Pond map



Appendix 2: Location map



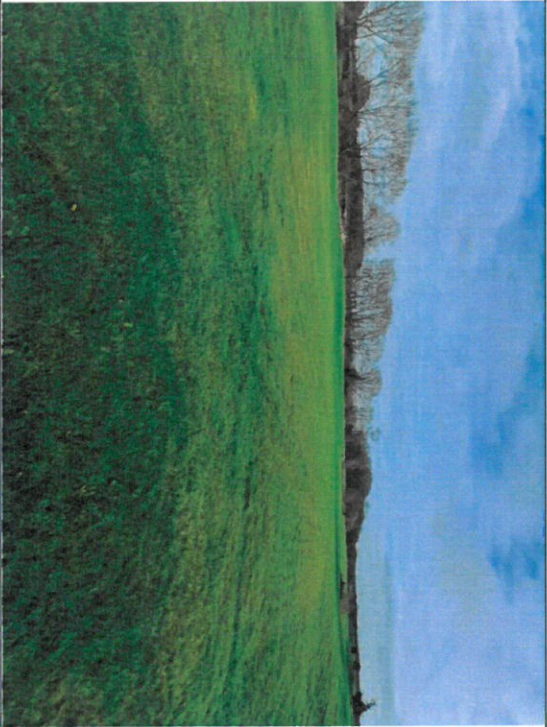
Appendix 3a: Proposed plan – northern site



[illegible]

Appendix 4a: Habitat Photos – northern site

Modified grassland	
Photograph	Description
	Figure 1: Looking east at the site with modified grassland, trees and bunkers
	Figure 2: An example of the bunkers with ruderals and saplings on site

	Figure 3: The grassland at the centre of the site
	Figure 4: Area of grassland to the east of D1, looking east

Bramble scrub	
Photograph	Description
	Figure 5: Bramble scrub at the northern boundary of the site
Trees	
Photograph	Description
	Figure 6: Group of trees (G2) on bank at the west of the site

	Figure 7: Scattered trees at the centre of the site
	Figure 8: Group G3 trees

	Figure 9: An example of the foraged corn found across the site
	Figure 10: The latrine found in the bunker on the southern boundary of the site

Ditch	
Photograph	Description
	Figure 11: Ditch D1 with ruderal vegetation, looking northwest
	Figure 12: The access path over the ditch (D1)

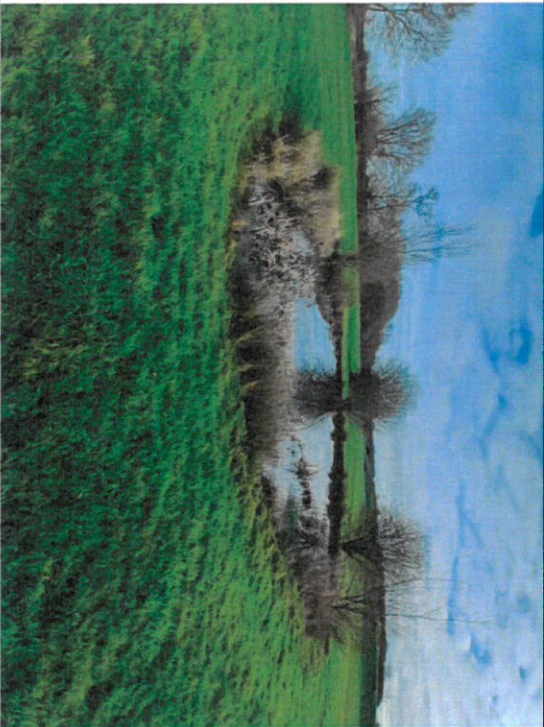
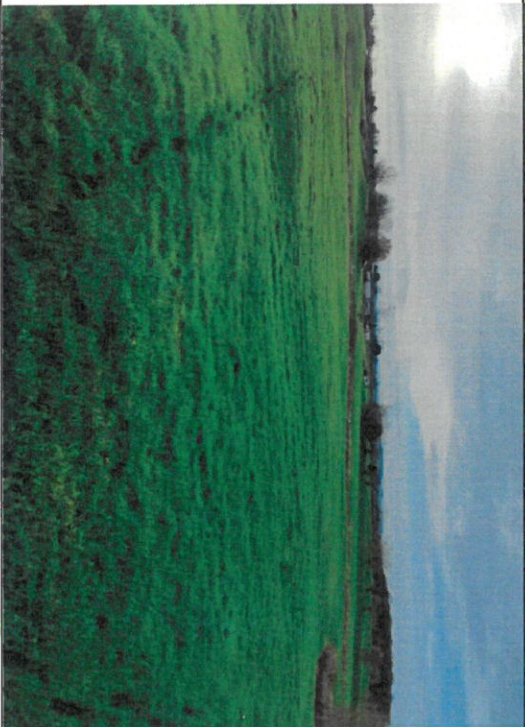
		Figure 13: Group G1 of trees lining the western end of D1
Ponds		
Photograph		Description
		Figure 14: Pond P1

		Figure 15: Pond P2	
Adjacent brook			
Photograph		Description	
		Figure 16: eastern end of the brook at the north of the site	

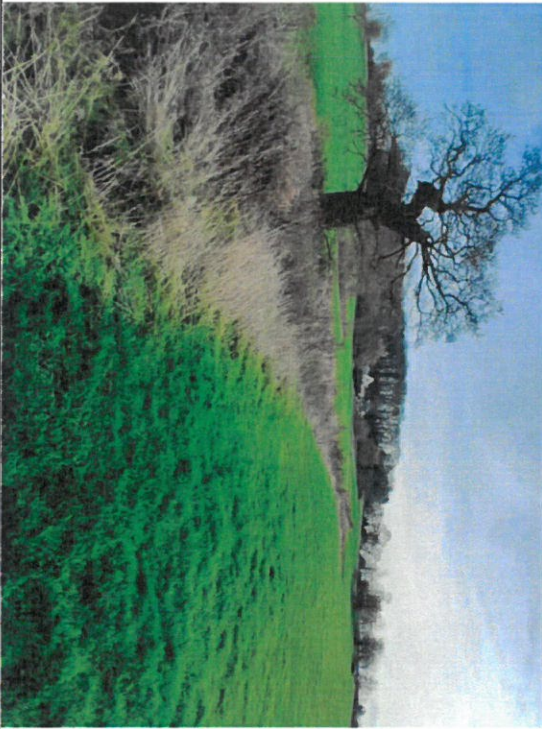
 A photograph showing a narrow, shallow brook flowing through a dense thicket of dry, brownish vegetation and some green plants. The water is murky and reflects the surrounding foliage.	Figure 17: eastern end of the brook at the north of the site
 A photograph showing a different section of the brook. The water is very dark and still, surrounded by dense green bushes and trees. The banks are steep and covered in vegetation.	Figure 18: western end of the brook at the north of the site

Appendix 4b: Habitat Photos – southern site

Modified grassland	
Photograph	Description
	Figure 19: Modified grassland looking east
	Figure 20: Looking west at the grassland on site

Scattered trees	
Photograph	Description
	Figure 21: An oak (T2) at the north of the site, to be retained
	Figure 22: Damage to the oak, T2

	Figure 23: The small ash tree at the northeast of the site
	Figure 24: Group 4 at the west of the site on the bank

Ditch		
Photograph	Description	
	Figure 25: The dry ditch (D2) running across the site, looking northwest	
	Figure 26: The dry ditch (D2) running across the site, looking southeast	

Pond	
Photograph	Description
	Figure 27: The pond (P3) on site

George Denny

Kyngs Golf and Country Club, CV13 0NP

Limitations and Copyright

Legal

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Version control			
Status	Issue	Name	Date
Draft	0.1	Georgia Knight BSc (Hons), Graduate Consultant	11/12/2024
Proof	0.2	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	13/12/2024
Final	1.0	Georgia Knight BSc (Hons), Graduate Consultant	15/12/2024