Elms Caravan Park – Phase 4

Addlethorpe, Skegness

Preliminary Ecological Appraisal Report (PEAR)

Client:

Mr D Cragg

Report Reference:

RSE_1632_R8_V1_PEAR

Issue Date:

March 2022

RammSanderson

ECOLOGY
FLOOD RISK
ARBORICULTURE
HABITATS

PROJECT	
Client:	Mr D Cragg
Project:	Elms Caravan Park Phase 4
Reference	RSE_4055_01_V1_PEAR
Report Title	Preliminary Ecological Appraisal

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DISCLOSURE:

1 EXECUTIVE SUMMARY

1.1 Background

i RammSanderson Ecology Ltd was instructed by Darren Cragg to carry out a Preliminary Ecological Appraisal of Elms Caravan Park Phase 4, to inform a planning proposal for an extension of the main caravan site.

ii The site was mainly formed of poor semi-improved grassland, with patches of marginal vegetation, tall ruderal and ditches present. Further surveys are recommended for water vole within the northern ditch.

Table 1: Summary of Ecological Features

Ecological Feature	Comment	Further Surveys Recommended	Avoidance	Mitigation	Compensation/Enhancement	Residual Impact
Designated Sites	The site lies within the IRZ for Chapel Point to Wolla Bank SSSI for aviation proposals, air pollution caused by agricultural developments and combustion process. The proposals do not fall under these categories and so no impacts are anticipated from the development.	Protected species surveys below required to assess impacts	N/A	N/A	N/A	N/A
Habitats	Majority of site works limited to poor semi -improved grassland areas of low botanical and ecological value. Hedgerows are a Habitat of Principal Importance (HPI) but are to be retained. Site is bordered by watercourses that may be impacted.	No	N/A	Follow Environment Agency Pollution prevention guidance 2013 and ensure adequate provisions are on site in the form of spill kits and wash down areas.	Enhancement of site as per section 7.	Negligible

Ecological Feature	Comment	Further Surveys Recommended	Avoidance	Mitigation	Compensation/Enhancement	Residual Impact
Great Crested Newt	Eight ponds within 250m of the site. These were all either beyond a dispersal barrier or known to be stocked with fish. There were small areas of habitat suitable for GCN present on site in the form of tall ruderal and hedgerows, however vegetation clearance will be limited and GCN are deemed likely absent from site.	No	N/A	TBC	N/A	Negligible
Bats	No buildings present on site. No trees on site offer bat roosting potential. Site offers foraging and commuting opportunities in the form of water courses and hedgerows however these are to be enhanced.	No	No	Implementation of sensitive lighting strategy	New ponds and woodland with additional bat boxes across site.	Positive
Birds	Potential for works to disturb nesting birds.	No	Conduct works over winter outside breeding bird season	Nesting bird check by ecologist immediately prior to works if occurring March – September.	N/A	Negligible
Reptiles	Habitats on site suitable for refuge and foraging, hedgerows and watercourse facilitate commuting across the site. Majority of suitable habitats however to be retained throughout development.	None	Retain waterbodies and hedgerows where possible.	Precautionary Method of Works in relation to vegetation clearance	New hibernacula, woodland planting and pond creation	Negligible

Ecological Feature	Comment	Further Surveys Recommended	Avoidance	Mitigation	Compensation/Enhancement	Residual Impact
Water Vole, Otter, White-clawed crayfish (WCC), Scarce Iron Blue Mayfly	Impacts upon water vole possible as Ditch 3 is being impacted and evidence of water vole has been found on site, as well as local records.	Yes – two water vole surveys required with one between April – June and the other July-September.	N/A	TBC	N/A	Possible – impacts to suitable habitat for water vole.
[redacted]						
Terrestrial Invertebrates	The wider area has scope for a broad range of invertebrates. However, localised nature of the works largely confined to poor semi-improved grassland areas reduced the likelihood of impacts	None	N/A	N/A	Woodland and wildflower area creation.	Positive
Eels/Fish	There are local records of European eel, however there are no direct impacts to the flowing watercourses proposed.	None	N/A	Follow Environment Agency Pollution prevention guidance 2013 and ensure adequate provisions are on site in the form of spill kits and wash down areas.	N/A	Negligible
Principal Species	Species such as hedgehog and hare are potentially present locally but no	No	N/A	Precautionary methods of works with regard to terrestrial mammals	New habitat planting throughout site	N/A

Ecological Feature	Comment	Further Surveys Recommended	Avoidance	Mitigation	Compensation/Enhancement	Residual Impact
	significant habitat impacts are proposed.			detailed within a CEMP/PMW document		
Invasive species	None present	No	N/A	N/A	N/A	N/A
Biodiversity Net Gain	Net gain of 3.41 habitat units (14.95%) and 1.01 hedgerow units (39.89%). There is likely to be a minor net loss of 0.02 river units.	No	Hedgerows and majority of grassland to be retained.	N/A	Enhancement of site detailed within Biodiversity Management Plan (RammSanderson, 2022a)	Potential for significant gain in biodiversity

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2 INTRODUCTION AND BACKGROUND

2.1 Purpose and Scope of this Report

i RammSanderson Ecology Ltd was commissioned by Mr D Cragg to assess the potential for protected species and habitats to be present on the site of a proposed extension to Elms Caravan Park, Addlethorpe, Skegness. The survey area included the southern field within the ownership of the client, and the proposals will include an additional area of static caravan pitches and landscaping.

ii Within this report, additional surveys for water vole on site have been recommended, due to the proposals for development upon Ditch 3.

iii To complete a preliminary ecological assessment of the proposals, a desk-based assessment, Extended Phase 1 Habitat Survey, and a preliminary protected species assessment were carried out. Taken together, in common with the Chartered Institute of Ecology & Environmental Management's (CIEEM) 2017 publication this is termed as a Preliminary Ecological Appraisal (PEA). This report aims to provide general advice on ecological constraints associated with any development of the site and includes recommendations for further survey; Therefore, this assessment is considered 'preliminary' until all required protected species, habitat or invasive species surveys can be completed and the results are then updated into a final 'Ecological Impact Assessment', which can be used to lawfully determine a planning application in line with current planning policy[1]. This PEAR is to be used is to be submitted with a planning application for development of the site, under the understanding that further surveys have been recommended for water vole. Upon completion of the additional surveys, the results of these will contribute to the application at a later date. A standalone PEAR can be used for the following (all other circumstance will require an EcIA for planning permission):

- Scoping for an Environmental Impact Assessment (EIA);
- an assessment as to whether a particular site should be included as an allocated site in a development plan;
- nature conservation development plans;
- sustainability appraisals (e.g. BREEAM); or
- an assessment of likely compliance with statutory obligations for developments which do not require planning consent or under Permitted Development Rights.

iv The study area was defined within the plans provided by the client (0278 (10) 017_P00 (002)). as well as considering desk study data and applicable legislation (Appendix 2) as shown in the enclosed Site Location Plan (Figure 1) and Phase 1 Habitat plan (Appendix 3) plus a buffer zone extended to include the Zone of Influence (see section below) of the proposals (hereafter referred to as the "Site").

v This preliminary appraisal is based on a review of the development proposals provided by the Client, desk study data (third party information) and a survey of the Site. The aims of this report are to:

- Classify the habitat types at the site based on standard Phase 1 Habitat survey methodology;
- Evaluate any potential for protected or priority species/habitats to be present;
- Identify any ecological constraints that may affect the scheme design;
- Provide recommendations for any further surveys that might be required (for example to confirm presence / likely absence of protected species), which would need to be obtained for a subsequent EcIA in order for a planning decision to be concurrent with current planning policy; and

[1] Office of the Deputy Prime Minister Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within The Planning System

- Identify opportunities for ecological enhancement to provide net biodiversity gain in line with the National Planning Policy Framework (NPPF, 2021).

vi This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RammSanderson Ecology Ltd.

vii The surveys and desk-based assessments undertaken as part of this review and subsequent report including the Ecological Constraints and Opportunities Plan are prepared in accordance with the British Standard for Biodiversity Code of Practice for Planning and Development (BS42020:2013).

2.2 Biodiversity Impact Assessment

2.2.1 Outline Procedure

i Biodiversity Impact Assessment of proposals was carried out in accordance with guidelines published by DEFRA and via the DEFRA Metric Calculation Tool 3.0. The existing value of individual habitats on site is initially calculated by accurately mapping the proposed development site from information collected during a Biodiversity Scoping Assessment/Phase 1 Habitat Survey and by dividing the land into individual habitat parcels. This part of the study is informed by JNCC Phase 1 habitat and UK habitats classification systems. The distinctiveness, condition, connectivity, and strategic significance of these parcels is then assessed and together with the area of each habitat, a value is assigned. A summary of how habitat distinctiveness, condition assessment, connectivity and strategic significance is determined is detailed within DEFRA best practice literature

1.1.2 Calculation

ii Once the habitat types have been input into the Biodiversity Impact Assessment calculator, along with their area, distinctiveness, condition, connectivity, and strategic significance an overall score in biodiversity units is calculated.

1.1.3 Compensation

iii Once the biodiversity value of existing on-site habitats has been quantified, the value of indicatively proposed habitats to achieve a net gain as part of development must be calculated. This is calculated using the methodology applied above, considering the area/length of indicatively proposed habitats, their distinctiveness, condition, connectivity, and strategic significance once this is established. A further two parameters are also taken into consideration at this stage. These are the time it will take to reach this target condition and the difficulty of creating/restoring each habitat type proposed. By using these parameters, the calculation takes into account that the time it takes for a habitat to establish may result in a loss of biodiversity for a period of time and also the risk of failure associated with any habitat creation/restoration

i

2.3 Zone of Influence

i The Zone of Influence (ZoI) is used to describe the geographic extent of potential impacts of a proposed development. The Zone is determined by the development proposals in relation to individual species ecological requirements indicated in best practice guidelines.

ii In relation to great crested newts (GCN), the ZoI is considered to be up to 500m from the site boundaries, as this is the distance that Natural England would require to be considered in relation to GCN licensing.

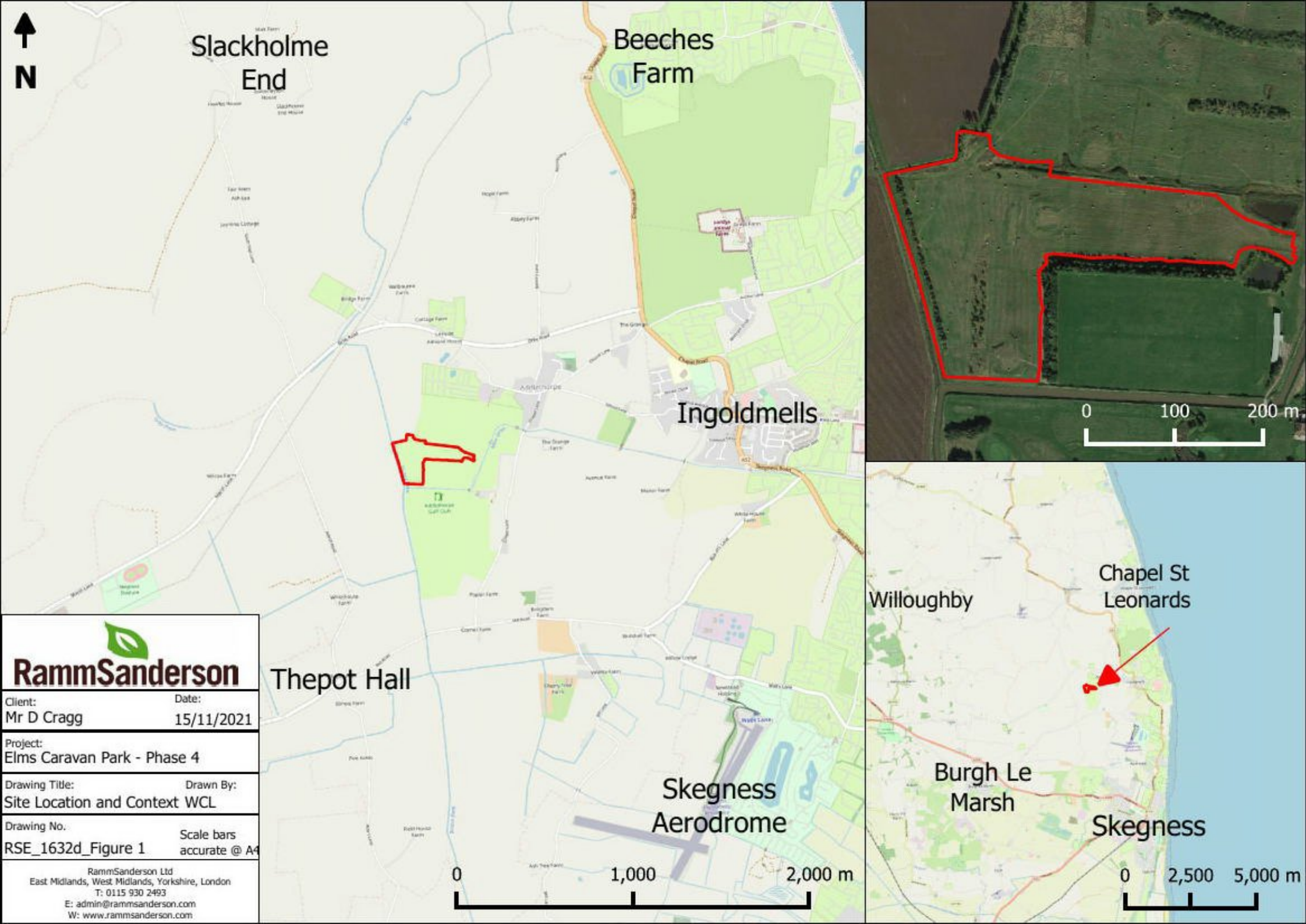
iii For badgers, the zone of influence is typically 30-50m from the Site boundary as this is the distance within which a sett can be damaged or disturbed by heavy machinery.

iv As bats are highly mobile species, the ZoI for these can be 5km from a site wherein high-quality habitat will be impacted by proposals.

v For designated sites, the Zone of Influence can be >10km from the site and this is termed the Impact Risk Zone (IRZ). Where sites occur within an IRZ the requirement for a Habitat's Regulations Assessment or Environmental Impact Assessment may be triggered.

2.4 Site Context and Location

i The site is located at Orby Road, Addlethorpe, Skegness, Lincolnshire, PE24 4TR; central grid reference TF54229 68594. The site lies to the west of Ingoldmells and to the northwest of Skegness; the surrounding area is predominantly agricultural and residential. The site is adjacent to the existing caravan park, with the survey area being a former golf course comprising a large area of mown poor semi-improved grassland, with small areas of scattered trees, marginal vegetation and tall ruderal. The site is bounded by ditches, drains and hedgerows.



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Client: Mr D Cragg	Date: 15/11/2021
Project: Elms Caravan Park - Phase 4	
Drawing Title: Site Location and Context	Drawn By: WCL
Drawing No. RSE_1632d_Figure 1	Scale bars accurate @ A4

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3 METHODOLOGY

3.1 Preliminary Appraisal

i The preliminary ecological appraisal is based on the standard best practice methodology provided by the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). The assessment identifies sites, habitats, species and other ecological features that are of value based on factors such as legal protection, statutory or local site designations such as Sites of Special Scientific Interest (SSSI) or Local Wildlife Sites (LWS) or inclusion on Red Data Book Lists or Local Biodiversity Action Plans. Based upon this, recommendations for further, more detailed surveys are made as appropriate to confirm presence / likely absence of a protected species.

ii In identifying constraints, the review considers the Client's Site proposals and any subsequent recommendations made are proportionate / appropriate to the site and have considered the Mitigation Hierarchy as identified below:

- **Avoid:** Provide advice on how the development may proceed by avoiding impacts to any species or sites by either consideration of site design or identification of an alternative option.
- **Mitigate:** Where avoidance cannot be implemented mitigation proposals are put forward to minimise impacts to species or sites as a result of the proposals. Mitigation put forward is proportionate to the site.
- **Compensate:** Where avoidance cannot be achieved any mitigation strategy will consider the requirements for site compensatory measures.
- **Enhance:** The assessment refers to planning policy guidance (e.g. NPPF) to relate the ecological value of the site and identify appropriate and proportionate ecological enhancement in line with both national and local policy.

3.2 Desk Based Assessment

i Data regarding statutory and non-statutory designated sites, plus any records of protected or Priority species and habitats was requested from the local ecological records centre and online resources, details of which are provided in Table 2 below.

Table 2: Consulted resources

Consultee/Resource	Data Sought	Search Radius from Boundary
Lincolnshire Ecological Records Centre	Non-Statutory Site Designations	2km
	Protected/Principal Species Records	2km
www.magic.gov.uk[2] [3]	Statutory Site Designations (Impact Risk Zones)	20km
	Habitats of Principal Importance (NERC Act, 2006)	1km
	European Protected Species Licences	5km

[2] Multi Agency Geographic Information for the Countryside Interactive GIS Map.

[3] MAGIC resource was reviewed on the 09/11/2021

NB: Desk study data is third party controlled data, purchased or consulted for the purposes of this report only. RammSanderson Ecology Ltd cannot vouch for its accuracy and cannot be held liable for any error(s) in these data.

3.3 Phase 1 Habitat Survey

i An extended Phase 1 Habitat Survey of the site was completed to identify habitats present. All habitats within the site boundary were described and mapped following standard Phase 1 Habitat Survey methodology (JNCC, 2010), which categorises habitat type through the identification of individual plant species.

ii Nomenclature follows Stace (Stace, 2010) for vascular plant species and the DAFOR scale for relative abundance was used in the field to determine dominant plants within habitats and communities (D = dominant, A = abundant, F = frequent, O = occasional and R = rare).

3.4 Protected / Priority Species Scoping Assessment

i The habitats on site were assessed for their suitability for supporting any legally protected or Priority species that would be affected by the proposed development. This includes invasive non-native plant species such as Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*).

3.5 Limitations

i It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

ii Access was not available to all of the land identified within the work scope document (private residential). However, the need to assess all of the land was not a limitation owing to the restricted extent of the proposed treatment plant area and water outfall, it is considered the areas affected by the works have been surveyed.

3.6 Accurate lifespan of ecological data

i The majority of ecological data remain valid for only short periods due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for approximately 18 months from the date of survey, notwithstanding any considerable changes to the site conditions, the presence of mobile species such as bats, otters and badgers or where species/county specific guidance dictates otherwise (CIEEM, 2019).

4 RESULTS

4.1 Surveyors and Survey Conditions

i The survey was carried out by Gabrielle Cruttenden MSc BSc (Hons). Gabrielle is a member of CIEEM and has been a professional ecologist for three years and is appropriately experienced and qualified to undertake this survey. She holds a class 1 licence for great crested newts (2021-53823-CLS-CLS). The survey was completed during suitable conditions as detailed in the table below.

Table 3: Summary of conditions during survey

Abiotic Factor	Survey 1
Survey type	PEA
Date completed	06/10/2021
Temperature (°C)	12
Wind speed (Beaufort Scale)	6
Cloud cover (Oktas Scale)	7
Precipitation	0

4.2 Desk Study

i A total of three statutory designated sites were recorded within the search area, the details of which are summarised in Table 4 below.

Table 4: Statutory Designated Sites

Site Name	Designation	Location	Brief Description
Chapel Point - Wolla Bank	SSSI[4]	4.9km NE	Chapel Point-Wolla Bank is a nationally important geological site for its inter-tidal sediments, which record the evidence of early Holocene sea level change.
Sea Bank Clay Pits	SSSI	5.2km NE	Isolated flooded clay workings of variable size, depth, and topography which support uncommon aquatic plant communities. Rich aquatic invertebrate diversity is also supported with several nationally scarce species and some new to the County.
Gibraltar Point	SSSI	6.8km SE	This is a nationally important site due to its sand dunes and other coastal habitats, and associated fauna, notably invertebrates and passage and breeding birds. Gibraltar Point is also of great importance for its coastal geomorphology.

[4] SSSI - Sites of Special Scientific Interest

iv The Site lies within 5km of one SSSI. The proposals are not of a type that is included within the Impact Risk Zones for these European and National designated sites. These categories include:

- Infrastructure: Airports, helipads and other aviation proposals.
- Air Pollution: Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.
- Combustion: General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

v No non-statutorily designated sites were identified within the search radius.

vi There are 26 Habitats of Principal Importance under Section 41 of the NERC Act, 2006 located within a 1km radius of the site. These are shown in a table below, with the distance and direction of the closest habitats in regard to the site referenced.

Table 5: Habitats of Principal Importance within 1km of the Site

Habitat	Quantity	Closest Habitat - Distance to Site	Closest Habitat - Direction to Site
Traditional orchard	1	355m	East
Coastal and floodplain grazing marsh	25	390m	Northeast
Woodland- Young Trees	1	0.6km	Southwest

vii Records of previous European Protected Species Licences (EPSL) were discovered within a 5km search area around the site.

viii No records of bat licenses were identified. No great crested newt (GCN) licences have been issued within 5km of the site. Similarly, no pond surveys had been conducted from 2017 – 2019. Nine great crested newt class survey returns were found, all of which returning positive results for GCN. The most recent was in 2017 and the closest is 3.8km southwest.

ii Protected species records were received from The Greater Lincolnshire Nature Partnership. A summary of the records considered most relevant to the site and/or proposed development are provided in Table 7. Full species records are available to view upon request.

Table 6: Summary of Protected and Notable Species Records

Common Name	Scientific Name	Records	Conservation Status
Mammal			
Water vole	*Arvicola amphibius*	252 records; closest record 5m SW	WCA[5], NERC[6]

[5] WCA - WCA – Wildlife & Countryside Act (1981)
[6] NERC – Species of Principle Importance under Section 41 of the Natural Environment Rural Communities Act (2006) Species of Principal Conservation Importance; UKBAP & LBAP

Common Name	Scientific Name	Records	Conservation Status
Brown hare	*Lepus europaeus*	4 records; closest record 225m S	NERC
Bat sp.	*Chirpotera sp.*	16 records; closest record 265m SSE	EPS[7], WCA, NERC
Brown long-eared bat	*Plecotus auritus*	2 records; closest record 0.6km ENE	EPS, WCA, NERC
Myotis sp.	*Myotis sp.*	2 records; closest record 0.6km ENE	EPS, WCA, NERC
Common pipistrelle	*Pipistrellus pipistrellus*	4 records; closest record 0.6km ENE	EPS, WCA
Pipistrelle sp.	*Pipistrellus sp.*	7 records; closest record 0.6km ENE	EPS, WCA, NERC
European hedgehog	*Erinaceus europaeus*	2 records; closest record 0.7km SE	NERC
Noctule	*Nyctalus noctula*	1 record; 1.7km WNW	EPS, WCA, NERC
Eurasian badger	*Meles meles*	30 records within 2km of the site	PBA[8]
Birds			
House sparrow	*Passer domesticus*	3 records; closest record 0.9km SSE	BoCCRed, NERC
Starling	*Sturnus vulgaris*	4 records; closest record 1.0km ESE	BoCCRed[9], NERC
Eurasian collared dove	*Streptopelia decaocto*	2 records; closest record 1.1km ESE	WCA
Swift	*Apus apus*	1 record; 1.3km SSE	BoCCAmber
Song thrush	*Turdus philomelos*	1 record; 1.5km E	BoCCRed, NERC
Montagu's harrier	*Circus pygargus*	1 record; 1.5km ESE	BoCCAmber, WCA (1)
Pheasant	*Phasianus colchicus*	1 record; 1.8km NE	WCA (1) [10]
Red kite	*Milvus milvus*	1 record; 1.8km NE	WCA1
Skylark	*Alauda arvensis*	1 record; 1.8km NE	BoCCRed, NERC
Snipe	*Gallinago gallinago*	1 record; 1.8km NE	BoCCAmber
Reed bunting	*Emberiza schoeniclus*	2 records; closest record 1.8km NE	BoCCAmber, NERC
Reptile			
Grass snake	*Natrix natrix*	6 records; closest record 425m SSW	Partial protection under WCA, NERC

[7] EPS – European Protected Species
[8] PBA – Protection of Badgers Act 1992
[9] BoCC - Birds of Conservation Concern - split in to three categories of conservation importance - Red, Amber and Green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green
[10] WCA (1) - Schedule 1 Wildlife and Countryside Act 1981 (as amended)

Common Name	Scientific Name	Records	Conservation Status
Fish			
European eel	*Anguilla anguilla*	43 records; closest record 40m S	Eel Regs[11], NERC
Invertebrates			
Varied coronet	*Hadena compta*	2 records; closest record 345m ESE	NERC
Feathered gothic	*Tholera decimalis*	2 records; closest record 345m ESE	NERC
Oak hook-tip	*Watsonalla binaria*	2 records; closest record 345m ESE	NERC
Cypress tip moth	*Argyresthia cupressella*	2 records; closest record 345m ESE	NERC
Streak	*Chesias legatella*	3 records; closest record 345m ESE	NERC
Dusky-lemon sallow	*Xanthia gilvago*	3 records; closest record 345m ESE	NERC
Small emerald	*Hemistola chrysoprasaria*	4 records; closest record 345m ESE	NERC
Dark Spinach	*Pelurga comitata*	4 records; closest record 345m ESE	NERC
Triple-barred argent	*Argyresthia trifasciata*	8 records; closest record 345m ESE	NERC
Tree-lichen beauty	*Cryphia algae*	13 records; closest record 345m ESE	NERC
The crescent	*Helotropha leucostigma*	16 records; closest record 345m ESE	NERC
The lackey	*Malacosoma* *Neustria*	16 records; closest record 345m ESE	NERC
Spruce carpet	*Thera britannica*	16 records; closest record 345m ESE	NERC
Rosy minor	*Mesoligia literosa*	19 records; closest record 345m ESE	NERC
Latticed heath	*Chiasmia clathrata*	33 records; closest record 345m ESE	NERC
Brown-spot Pinion	*Agrochola litura*	35 records; closest record 345m ESE	NERC
Garden Tiger	*Arctia caja*	38 records; closest record 345m ESE	NERC
Centre-barred sallow	*Atethmia centrago*	40 records; closest record 345m ESE	NERC
Large Nutmeg	*Apamea anceps*	42 records; closest record 345m ESE	NERC
Ghost moth	*Hepialus humuli*	45 records; closest record 345m ESE	NERC

[11] Eel (England and Wales) Regulations 2009

Common Name	Scientific Name	Records	Conservation Status
Dark-barred twin-spot carpet	*Xanthorhoe ferrugata*	48 records; closest record 345m ESE	NERC
Dot moth	*Melanchra persicariae*	49 records; closest record 345m ESE	NERC
Shaded broad-bar	*Scotopteryx chenopodiata*	73 records; closest record 345m ESE	NERC
Blair's Shoulder-knot	*Lithophane leautieri*	77 records; closest record 345m ESE	NERC
Green-brindled crescent	*Allophyes oxyacanthae*	78 records; closest record 345m ESE	NERC
Sallow	*Xanthia icteritia*	80 records; closest record 345m ESE	NERC
Shoulder-striped wainscot	*Mythimna comma*	83 records; closest record 345m ESE	NERC
Rosy rustic	*Hydraecia micacea*	88 records; closest record 345m ESE	NERC
Grey dagger	*Acronicta psi*	116 records; closest record 345m ESE	NERC
Blood vein	*Timandra comae*	122 records; closest record 345m ESE	NERC
Dusky brocade	*Apamea remissa*	130 records; closest record 345m ESE	NERC
Mouse moth	*Amphipyra tragopoginis*	130 records; closest record 345m ESE	NERC
White ermine	*Spilosoma lubricipeda*	130 records; closest record 345m ESE	NERC
Beaded chestnut	*Agrochola lychnidis*	154 records; closest record 345m ESE	NERC
Large wainscot	*Rhizedra lutosa*	163 records; closest record 345m ESE	NERC
Cinnabar	*Tyria jacobaeae*	171 records; closest record 345m ESE	NERC
Mottled rustic	*Caradrina Morpheus*	191 records; closest record 345m ESE	NERC
Rustic	*Hoplodrina blanda*	237 records; closest record 345m ESE	NERC
Powdered Quaker	*Orthosia gracilis*	249 records; closest record 345m ESE	NERC
Buff ermine	*Spilosoma luteum*	283 records; closest record 345m ESE	NERC
Light brown apple moth	*Epiphyas postvittana*	293 records; closest record 345m ESE	NERC
Small square-spot	*Diarsia rubi*	298 records; closest record 345m ESE	NERC
Invasive Species			
Horse-chestnut leaf-miner	*Cameraria ohridella*	93 records; closest record 345m ESE	INNS

Common Name	Scientific Name	Records	Conservation Status
Harlequin ladybird	*Harmonia axyridis*	8 records; closest record 400m E	INNS[12]
Nuttall's waterweed	*Elodea nuttallii*	1 record; 455m SSW	INNS
Norway spruce	*Picea abies*	1 record; 0.6km ENE	INNS
Rat's-tail fescue	*Vulpia myuros*	1 record; 0.6km ENE	INNS
Early goldenrod	*Solidago gigantea*	1 record; 0.6km ENE	INNS
Norway maple	*Acer platanoides*	2 records; closest record 0.6km ENE	INNS
Japanese knotweed	*Reynoutria japonic*	2 records; closest record 0.6km ENE	WCA (9)[13]
Butterfly-bush	*Buddleja davidii*	2 records; closest record 0.6km ENE	INNS
Japanese rose	*Rosa rugosa*	1 record; 1.2km SW	WCA (9)
Variegated yellow archangel	*Lamiastrum galeobdolon subsp. argentatum*	1 record; 1.2km SW	WCA (9)
Canada goose	*Branta canadensis*	1 record; 1.5km ESE	WCA (9)
Himalayan honeysuckle	*Leycesteria formosa*	1 record; 1.5km ESE	INNS

[12] INNS – Invasive non-native species
[13] WCA (9) - Schedule 9 Wildlife and Countryside Act 1981 (as amended)

4.3 Phase 1 Habitat Survey

i The survey area was dominated by poor semi-improved grassland with patches of marginal vegetation, tall ruderal and scattered trees, and was bounded by hedgerows and ditches. Full habitat descriptions and photos are provided below. For a Phase 1 Habitat Survey Plan refer to Figure 2.

ii Habitat types detailed below are listed in order of the JNCC (2010) Handbook. The species list provided in this report reflect only those taxa observed during the survey.

Table 7: Results of Site Survey

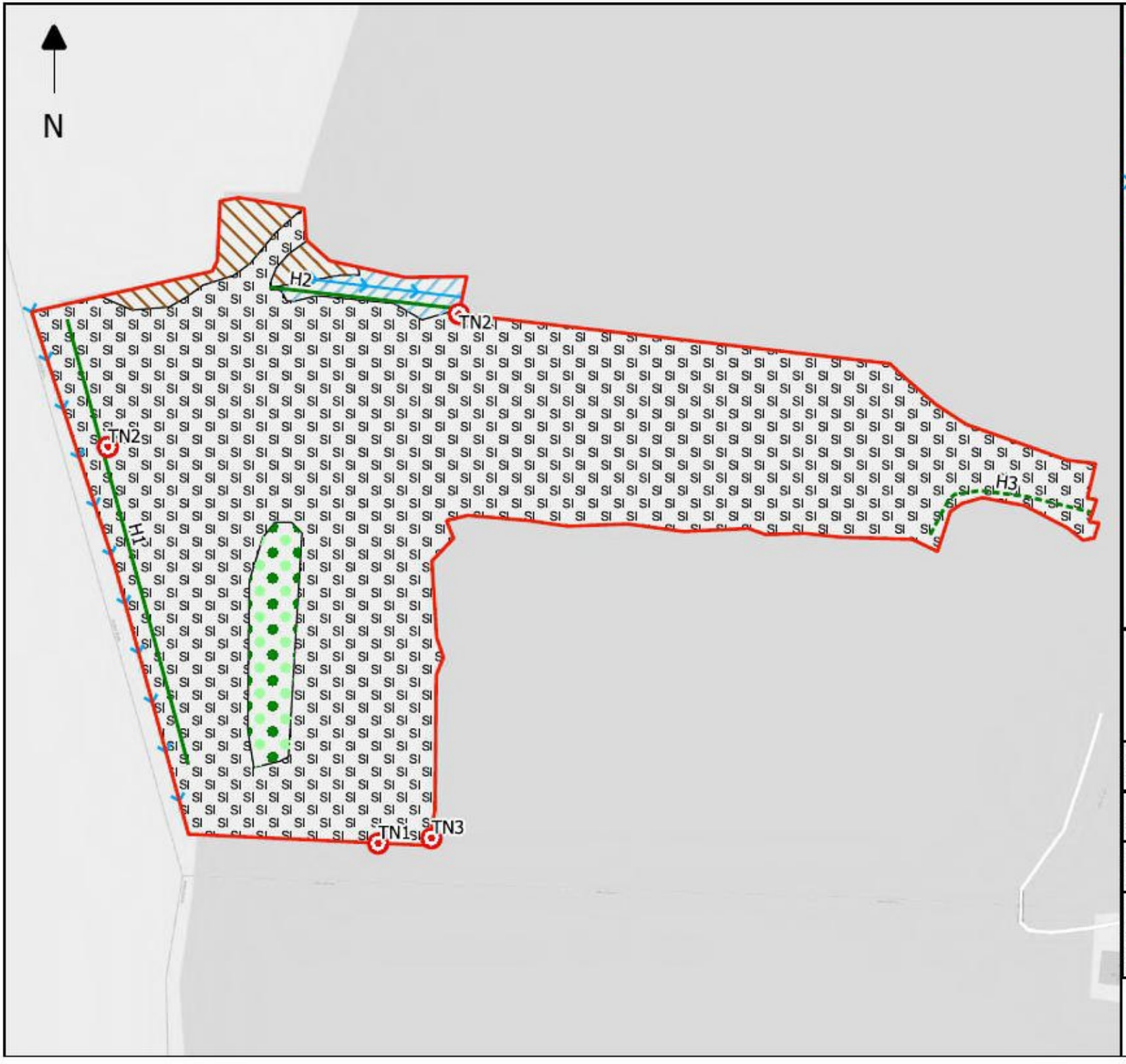
Habitat	Description	Area (m^2)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
A3.3 Mixed Scattered Trees	There was an area of mixed scattered trees within the south of the site. This comprised oak saplings (*Quercus sp.*), pine saplings (*Pinus sp.*), lime (*Tilia sp.*), immature oak and sweet chestnut saplings (*Castanea sativa*).	2,013	3.5	Moderate ecological value limited due to being young trees. To be removed.	

Habitat	Description	Area (m^2)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
B.6 Poor semi-improved grassland	The site was dominated by poor semi-improved grassland. This had a varied sward height due to mowing, with some highly managed areas less than 7cm and some areas between 20cm-30cm. The habitat was dominated by Yorkshire fog (*Holcus lanatus*), with abundant perennial rye grass *(Lolium perenne*), fescue (*Festuca sp*), and white clover (*Trifolium repens*). There was also frequent ragwort *(Jacobaea vulgaris*), cock's foot (*Dactylis glomerata*), pricky sow thistle (*Sonchus asper*), occasional spear thistle (*Cirsium vulgare*), common nettle (*Urtica dioica*), tufted hair grass (*Deschampsia caespitosa*), false oat grass (*Arrhenium elatius*), creeping buttercup (*Ranunculus repens*), and ribwort plantain (*Plantago lanceolata*). There was rarely occurring bristly oxtongue (*Helminthotheca echioides*) and hogweed (*Heracleum sphondylium*) and locally abundant creeping thistle (*Cirsium arvense*) along the northern ditch.	52,289	92	Provides majority of ecological value on site. Partially removed for caravan plots.	

Habitat	Description	Area (m^2)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
C3.1 Tall Ruderal	A small strip of tall ruderal habitat was present near the wet ditch in the north of the site. This was dominated by rosebay willowherb (*Chamanaerion angustifolium*) with occasional common reed (*Phragmites australis*) and hogweed and rarely occurring ragwort and hedge bind weed (*Castylegia sepium*).	1,534	2.7	Low ecological value. Mostly lost.	
F2.1 Marginal and Inundation Vegetation	A thin strip of marginal vegetation rang along the wet ditch on the northern boundary. This was dominated by reeds with frequent rosebay willowherb, occasional common nettle and rarely occurring bramble (*Rubus fruticosis*).	970	1.7	Ecologically valuable for riparian species. Partially lost.	

Habitat	Description	Area (m^2)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
G2.1 Running Water	The site was bordered by running water forming ditches and drains. The northern boundary comprised a more stagnant ditch (D3), while the southern and western boundaries comprised the Main Drain which was larger and flowing. There was another ditch on the north-western boundary (D2) which was culverted beneath the site.	N/A	N/A	Noted for their ecological value. Small section of D3 lost.	
J2.1.2 Intact species-poor hedgerow	H1 was located along the western boundary and measured 2m wide by 3m high. It was intact and was dominated by hawthorn (*Crataegus monogyna*), with occasional willow (*Salix sp.*) and rarely occurring polar (*Populus sp.*) and rose (*Rosa sp.*). H2 was along the northern boundary and measured 2x2m, dominated by blackthorn (*Prunus spinosa*).	H1: 201m H2: 83m	N/A	Retained and enhanced.	

Habitat	Description	Area (m^2)	Proportion of site (%)	Ecological Importance & Outcome of Proposal	Photograph
J.2.2.2 Defunct species poor hedgerow	H3 was an immature recently planted hedgerow along the south-eastern boundary of the site. This was dominated by hawthorn.	H3: 82m	N/A	Retained. Unaffected.	



Key

- Boundary
- A1.3.2 - Mixed woodland - plantation
- B6 - Poor semi-improved grassland
- C3.1 - Other tall herb and fern - ruderal
- G2.1 - Running water
- J2.1.2 - Intact hedge - species-poor
- J2.2.2 - Defunct hedge - species-poor
- Target Note:
  TN1: Potential water vole burrows on opposite bank
  TN2: Refugia
  TN3: Mammal run

RammSanderson

Client:
Mr D Cragg

Project:
Elms Caravan Park - Phase 4

Drawing Title:
Phase 1 Habitat Plan

Drawing No.		Rev:
RSE_1632_Figure 2		V1
Drawn By:	Scale:	Date:
EA	1:2,239.620491	25/03/2022

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4.4 Preliminary Protected / Priority Habitats Assessment

4.4.1 Statutorily and Non-Statutorily Designated Sites

i The Site lies within Impact Risk Zones (IRZ) for Chapel Point to Wolla Bank Site of Special Scientific Interest (SSSI). The impact risk zone is regarding infrastructure, air pollution and combustion. The proposals do not fall into these categories and as such no negative impacts are anticipated. Furthermore, the SSSI is designated for geological reasons rather than ecological reasons. There were no non-statutory designated sites identified within the search area.

4.4.2 Habitats

ii The majority of habitats on site were generally of limited botanical interest and poor species diversity. The scattered trees and hedgerows offered some value as ecological corridors for the dispersal of fauna and flora into the wider countryside and were noted for their ability to support fauna. Whilst none of the hedgerows are considered 'ecologically important' under the Hedgerow Regulations (1997), all hedgerows formed of >80% native woody species are a Habitat of Principal Importance under the NERC Act (2006).

iii No protected or Priority plant species were observed, and all plant species encountered were common, widespread and characteristic of the common habitat types they represent.

4.4.3 Invasive Floral Species

iv No invasive floral species were identified during the survey.

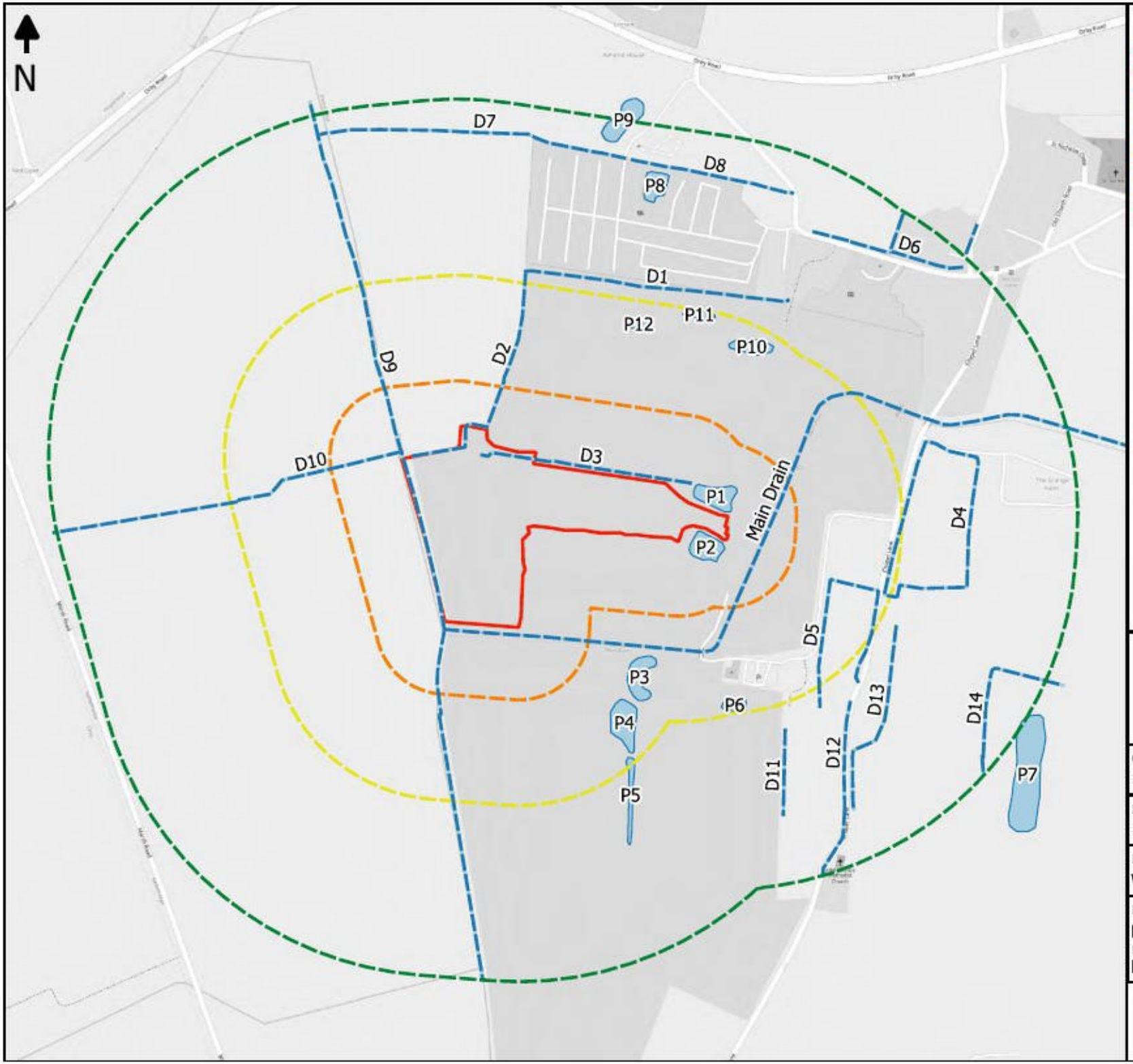
4.5 Preliminary Protected / Priority Species Assessment

i The potential for protected species to be present on site and impacted by the proposals is discussed under the headings below.

4.5.2 Great Crested Newt (GCN)

ii No ponds were located on site, however there were eight ponds within 250m of the site boundary (Figure 7). P3 and P4 were separated from the site by a large flowing drain which is considered a barrier to dispersal. P1 and P2 are known to be stocked by fish and as such would not offer suitability for GCN as these would be predated. Previous eDNA surveys (RammSanderson, 2020) also identified likely absence of GCN within these ponds. P10-12 were located within the caravan park and were also purposely built to be stocked with fish. Furthermore, these ponds were located more than 100m from the site boundary and across short mown grass, limiting the ability for GCN to commute on to site. In addition, the proposals do not include large scale habitat clearance as the proposed development is for individual caravan plots and pathways to be built within the existing field.

iii The habitats on site are dominated by short mown grassland which limits suitability for GCN and as such, ponds outside of 250m are not considered to pose a constraint upon the development. It is unlikely that GCN are to persist within the site or breed within nearby ponds. While there are areas of suitable habitat present in the forms of longer grassland, tall ruderal and hedgerows, these are largely around the boundaries of the site and are to be retained, with minimal vegetation clearance being required for the development. As such, great crested newts are considered likely absent from site and no further surveys or mitigation for GCN are considered necessary to facilitate the proposals.



Key

- Site Boundary
- Watercourses
- Pond Locations
- 100m Buffer
- 250m buffer
- 500m Buffer

RammSanderson

Client:
Mr D Cragg

Project:
Elms Caravan Park Phase 4

Drawing Title:
Waterbody Plan

Drawing No.		Rev:
RSE_1632_Figure 3		V1
Drawn By:	Scale:	Date:
EA	1:12,163	29/03/2022

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4.5.3 Bats

Trees

iv All of the trees on site were subject to a ground level tree assessment. All trees were assessed as having negligible bat roost potential. Therefore, bat tree roots are likely absent from site.

Foraging Habitat

v The hedgerows and watercourses present on site provide potential foraging and commuting habitat, as well as providing connectivity to the wider landscape. These are not significant and there are many linear features in the surrounding area. Furthermore, these habitats are to be retained within the current proposals.

Buildings

vi No buildings were present on site.

4.5.4 Birds

vii The hedgerows and trees located on site are suitable habitat for bird nesting sites and local records of birds of conservation concern (BoCC) were returned. However, no suitable nesting habitat for Schedule 1 birds was recorded on site and these are considered likely absent. While BoCC could use the site, the footprint of the works is too restricted to impact more than one or two pairs of any given species. The banks of the water course were not deemed suitable to support kingfisher due to the lack of exposed earth.

4.5.5 Reptiles

viii The terrestrial habitats on site including hedgerows, poor semi-improved grassland and tall ruderal vegetation provided opportunities for foraging, refuge and commuting for reptiles. There were also local records of grass snake returned within the data search. The grassland forming the majority of the site was limited in suitability to support reptiles due to the lack of cover available. While the grassland in some areas had grown to a sward height of >10cm, the majority of the site was dominated by short mown grassland, limiting the suitability for reptiles. The hedgerows were of particular note in their ability to support reptiles, and they provide connectivity. Vegetation clearance for the development is likely to be minimal. The peripheral hedgerows are to be retained, and grassland loss will be limited to clearance of roadways, digging for electrical hook ups and small developed areas. As such it is unlikely that the works will impact a population or sever linkages between populations or resources. There remains a low residual risk of reptiles entering the site while commuting and foraging, and as such a Precautionary Method of Works is recommended to be implemented with regards to reptiles and vegetation clearance.

4.5.6 Water Vole, Otter and White Clawed Crayfish

ix During previous surveys of the wider site in 2018-2019, evidence of small mammals was identified in the form of burrows on the bank of the Main Drain. Further potential burrows were identified on the southern bank of the main drain, south of the site during the updated 2021 walkover survey.

x It should be noted that a full riparian mammal survey was beyond the remits of a walkover survey, however the presence of burrows throughout the site over various surveys as well as associated feeding lawns suggests water vole may be present on site. Furthermore, water vole records were returned within five metres of the site. As such, it is considered possible that water vole are present within the banks of the ditches throughout the site.

xi D3 is to be impacted under current plans, as a roadway is to be constructed across the ditch. As such, there is a risk of the works resulting in disturbance or injury to any potential water voles burrowing within the area.

It is therefore recommended that two water vole surveys of D3 are completed prior to works commencing. If water vole presence is confirmed, a mitigation license may be required.

xii The remaining ditches surrounding the site also offer potential to support water vole, however no development is proposed within 6-10m of these ditches. Some tree planting around nature trails are proposed around the peripheries of the site, however the nature trails will be mown grassland paths. Where tree planting is proposed within 6m of any ditches, this should be carried out using young bare root trees to minimise digging.

xiii No evidence of otter was identified during the survey or within 50m of the site boundary, however, there remains the potential for otter to traverse the site during the works period.

4.5.8 Other Priority Fauna Species

xv The habitats on site were suitable for hedgehogs *Erinaceus europaeus* and brown hare *Lepus europaeus*. Records were also identified for these species, and they are considered likely present on site. A hare was seen present on site during the survey.

xvi Due to a lack of suitable habitats, the site is not considered likely to support any other legally protected or Priority species.

5 DISCUSSION & RECOMMENDATIONS

5.1 Protected / Priority Species and Habitats Impact Appraisal

i The potential for protected species or habitats to be present on site and impacted by the proposals is provided below.

Table 8: Assessment of Likelihood of Impacts to Protected Species/Habitats

Species/Habitat	Suitable Habitat on Site	Local Records	Likelihood of Impacts by Proposals	Mitigation	Further Survey
Designated sites	None	The site lies within the IRZ for Chapel Point – Wolla Bank SSSI for aviation proposals, air pollution caused by agricultural developments and combustion process. The proposals do not fall under these categories and so no impacts are anticipated from the development.	N/A	N/A	No
Habitats	Yes –hedgerows on site are Habitats of Principal Importance (NERC Act, 2006) and as such are a material consideration in planning. The adjacent main drain should also be considered as this is hydrologically connected to rivers.	Yes – on site	Outfall could change the flow and quality of watercourses. Construction processes could pollute watercourses or damage hedgerow roots.	Avoid outfall into adjacent watercourses and follow Environment Agency Pollution prevention guidance 2013 and ensure adequate provisions are on site in the form of spill kits and wash down areas. Maintain 1m root protection zones around hedgerows during construction.	No

Species/Habitat	Suitable Habitat on Site	Local Records	Likelihood of Impacts by Proposals	Mitigation	Further Survey
Great crested newt	Yes – Eight ponds present within 250m of the site, however these were either located beyond a barrier to dispersal or known to be stocked with fish. The site was dominated by short mown grassland however there were some areas of and hedgerow offering connectivity.	No – but is within the known range of this species	GCN are likely absent from site due to the limited areas of suitable habitat, and ponds being stocked with fish. Furthermore, habitat clearance will be minimal.	N/A	No
Bat tree roosts	No – Of the trees assessed within the footprint of the works area, none are considered to have bat roosting potential.	No	Increased ambient lighting levels across the site. This will be limited due to the development being a campsite.	Sensitive bat lighting strategy as described within the Biodiversity Management Plan (RammSanderson, 2022a) (BMP).	No
Bat building roosts	No – no buildings within works area.	Yes - within 1km.	None	N/A	No
Bat activity	Yes – hedgerows and water courses form good quality bat foraging and commuting lines.	Yes - within 1km.	Hedgerows and watercourses to remain and not to be directly lit. However, low increased ambient lighting levels across the site can impact bats.	Sensitive bat lighting strategy as described within the BMP.	No
Birds	Yes – boundary hedgerows and scattered trees.	Yes - within 1km.	Habitats to be removed to facilitate proposals.	Avoid clearance in bird nesting season (March – September). If not possible have an ecologist on site to check for nests	No – but ecologist may be needed on site for nesting bird check. While suitable habitats for BoCC are to be lost, these are limited in extent and unlikely to support significant

Species/Habitat	Suitable Habitat on Site	Local Records	Likelihood of Impacts by Proposals	Mitigation	Further Survey
				immediately prior to works.	populations, Furthermore, these habitats are common and widespread surrounding the site – offering alternatives.
Reptiles	Yes – areas of grass with long sward height offer suitable refuge and foraging habitat, hedgerows and watercourses facilitate commuting across the site	Yes - grass snake within 1km.	Could be injured during initial site set up, clearance and ground works	Clear areas of suitable habitat using methods set out in the BMP due to the small size of footprint, populations unlikely to be adverse affected or isolated. Therefore, trapping removal is disproportional to plans.	No
Water vole	Yes – vegetated watercourse banks offer high quality water vole forage and burrowing habitat. Water vole evidence has been identified within previous surveys in the area.	Yes - within 5m.	Ditch 3 is to be directly impacted through the construction of a road across it. Potential water voles may be impacted.	TBC	Two surveys required; one mid-April-June and one July-September
Otter	Yes – main drain adjacent to the south of the site presents suitable habitat for otter, and the species may use other water courses for commuting. No evidence was identified during walkover survey.	No	Low level risk of otters traversing the site during the construction period.	Precautionary methods with regard to mammals, as provided within the BMP.	No

Species/Habitat	Suitable Habitat on Site	Local Records	Likelihood of Impacts by Proposals	Mitigation	Further Survey
[redacted]					
	the site.				
Terrestrial invertebrates	Yes – grassland, hedgerows, trees	Yes – within 500m.	Clearance of vegetation, but small scale reduces impacts to minimal	N/A	No
Freshwater invertebrates	Yes – drains and ditches located along the boundaries of the site.	No	No direct impacts anticipated, however, potential for indirect pollution impacts to local watercourses during the construction phase of the development.	Follow Environment Agency Pollution prevention guidance 2013 and ensure adequate provisions are on site in the form of spill kits and wash down areas. Dust suppression techniques to be utilised throughout the works.	No
Eels/Fish	Yes - drains and ditches located along the boundaries of the site.	Yes – Eel within 50m.	No direct impacts anticipated, however, potential for indirect pollution impacts to local watercourses during the construction phase of the development.	Follow Environment Agency Pollution prevention guidance 2013 and ensure adequate provisions are on site in the form of spill kits and wash down areas.	No

Species/Habitat	Suitable Habitat on Site	Local Records	Likelihood of Impacts by Proposals	Mitigation	Further Survey
				Dust suppression techniques to be utilised throughout the works.	
Priority Species	Yes – hedgerows and for hedgehogs, grassland for brown hare.	Yes – within 1km.	Resting places for these species unlikely to be affected	PMW to prevent injury to small mammals to be followed, as provided within the BMP.	No
Invasive species	None present on site.	Yes – within 1km.	N/A	N/A	No
Biodiversity	Yes – site is dominated by grassland, and hedgerows offer linear biodiversity value.	N/A	Ne Net gain of 3.41 habitat units (14.95%) and 1.01 hedgerow units (39.89%). There is likely to be a minor net loss of 0.02 river units.t biodiversity gain in h	Enhancement of site detailed within Biodiversity Management Plan (RammSanderson, 2022a).	No – although BIA has been separately issued (RammSanderson, 2022b).

6 ENHANCEMENTS

i It is a requirement of the NPPF (2021) that developments provide a measurable net gain for biodiversity post development. Full details of biodiversity enhancement can be found within the separately issued Biodiversity Management Plan (RammSanderson, 2022a).

6.2 Habitats

6.2.1 Woodland Planting

i There will be a woodland area created along the western extent of the site. The trees planted should consist of a variety of species to improve biodiversity. The planting should utilise a range of native species that provide a broad variety of microclimates suited to different invertebrate species. The tree species recommended below all have many associated insect species (Kennedy & Southwood, 1984). Trees with berries and fruit will also be attractive to birds. These trees will provide connectivity to wider habitats. Tree species recommended below should be considered based upon their location within the site; for example, fruiting trees are unlikely to be suitable where they over-hang footpaths or roads. All trees should be planted as young whips, using hand tools only. Species recommended include;

- Pedunculate oak (*Quercus robur*)
- Silver birch (*Betula pendula*)
- Rowan (*Sorbus aucuparia*)
- Hornbeam (*Carpinus betulus*)
- Fruiting trees (apple *Malus* sp., plum & cherry *Prunus* sp., pear *Pyrus* sp.)
- Alder (near pond/SUDS)
- Sweet chestnut (*Castanea sativa*)
- White poplar (*Populus alba*)

6.2.2 Wildflower Meadow

ii An area of wildflower meadow is currently proposed within the eastern portion of the site, south of P1. Incorporating wildflowers and herbs or local provenance into the planting will benefit invertebrates, particularly pollinating insects. Any native plant with a simple, open-structured flower will provide greatest benefit.

iii The ground could be prepared for supplementary planting with minimal effort, using a chain harrow. Any existing vegetation should be removed, and the soil should be raked to break it up, producing a fine, firm layer of soil. It is recommended that Long Season Meadow Seed Mix N5 (available from Naturescapes) is used as it contains a diverse mix of 29 native wildflower species (N5F) and 10 species of grass. It also allows for a long growing season, producing an aesthetically pleasing meadow of flowers, thus negating the requirement for an extensive mowing regime.

iv This seed mix could also be supplemented with additional species from grasslands of local provenance.

6.2.3 Hedgerows

v The existing hedgerows on site can be enhanced with native species including planting a tree standard every 10m. Some suggestions include, but are not limited to:

- Hawthorn (*Crataegus monogyna*)
- Holly (*Ilex aquifolium*)
- Hazel (*Corylus avellana*)

- Elder (*Sambucus nigra*)
- Rowan (*Sorbus aucuparia*)
- Crab Apple (*Malus sylvestris*)

6.2.4 Water Features

vi As part of proposals, five new water features will be created on the site. These ponds should be designed to provide suitable habitat for invertebrates and other protected species, with species consideration given to the depth of the water bodies. Creating a 'varied' pond design with separate basins will add variety to a site, which is advantageous for wildlife.

vii The edges of the ponds could be planted with a water's edge meadow mixture to further benefit biodiversity and wildlife.

6.3 Protected/Priority Species

6.3.1 Nest Box Provisions

i Additional enhancements that could easily be met within the development scope include the incorporation of bat and bird nest boxes, as well as insect and hedgehog boxes. Boxes could be placed within the new woodland once trees have matured with hedgehog boxes within the understorey. The tree mounted bat boxes should face south (for additional warmth), and be positioned at least 4 metres from the ground, with the entrances being free of overhanging branches. It is also recommended that bird nest boxes be placed 1.5m below each bat box, to ensure that the birds have somewhere to nest and do not inhabit the bat boxes. Suitable bat box dimensions are 430mm high X 270mm wide X 140mm deep. The boxes are designed to mimic natural roost sites and to provide a stable environment.

ii Insect houses within the newly created woodland, and wildflower meadows could also be easily met within the development scope. These nest boxes will help to provide a variety of niches for a diverse spectrum of invertebrates to inhabit, and therefore help to increase the terrestrial invertebrate species diversity on site.

Figure 4: Nest Box Examples

Insect House © NHBS

Hedgehog Nest Box © NHBS

Bird Box © NHBS

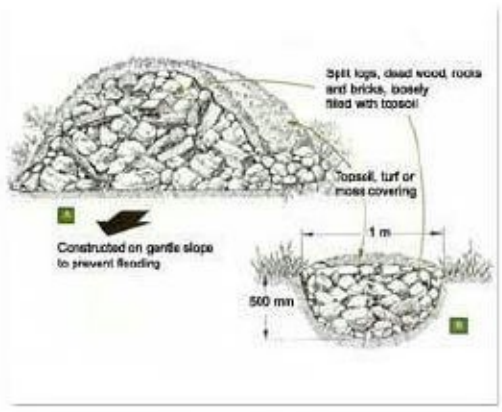
Bat Box © NHBS

6.3.2 Hibernacula

iii Log piles, rocks and dead wood under dense ground cover could also be created across the site for herpetofauna hibernacula. These will provide important places for herpetofauna to rest during the day or during cold or dry weather. Hibernacula should be c. 2m² long, a minimum of 0.5m wide and c.1m in height and comprise log or debris piles with a cap composed of topsoil and a turf covering. Any spoil from the pond creation can be used to create herpetofauna hibernacula, adjacent to the waterbodies.

iv It is also advisable to create a pebbly beach on the sloping sides of the new ponds, graduating the size of stones from large to small. Building this slope from the outside to the floor of the pond will create a ramp for aquatic animals to use.

Figure 5: Hibernacula Example



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APPENDIX 1: REFERENCES AND CONSULTED INDUSTRY GUIDANCE

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xxiii RammSanderson Ecology Lt. 2022a. Elms Caravan Site Extension Phase 4, Addlethorpe, Skegness, Biodiversity Management Plan (RSE_1632_R9_V1), March 2022.

xxiv RammSanderson Ecology Ltd 2022b. Elms Caravan Site Extension Phase 4 Biodiversity Impact Assessment (RSE_1632_Phase 4_BIA) March 2022.

xxv Roper T.J., 2010, 'Badger'. Collins New Naturalist.

xxvi Strachan, *et al.* 2011, 'Water Vole Conservation Handbook'. 3rd Ed.

APPENDIX 2: LEGISLATION AND PLANNING POLICY

6.4 General & Regionally Specific Policies

i. Articles of British legislation, policy guidance and both Local Biodiversity Action Plans (BAPs) and the NERC Act 2006 are referred to throughout this report. Their context and application is explained in the relevant sections of this report. The relevant articles of legislation are:

- The National Planning Policy Framework (2021);
- ODPM Circular 06/2005 (retained as Technical Guidance on NPPF 2021);
- The Environment Act (2021);
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019;
- The Wildlife and Countryside Act 1981 (as amended);
- EC Council Directive on the Conservation of Wild Birds 79/409/EEC;
- National Parks and Access to the Countryside Act 1949;
- The Protection of Badgers Act 1992;
- The Countryside and Rights of Way Act 2000;
- The Hedgerow Regulations 1997;
- The Natural Environment and Rural Communities (NERC) Act 2006; and
- Local Biodiversity Action Plan for Lincolnshire

Daucus Carota

Galium Verum

Knautia Arvensis

Lotus Corniculatus

Prunella Vulgaris

Rhinanthus Minor

Silene Dioica

Specification for establishment and maintenance of planted areas

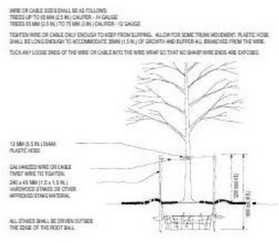
Preparation
Prior to planting, shrub beds shall prepared by being forked, dug and hoed with stones picked to create a smooth even surfaces, all stones greater than 50mm in any dimension or any other foreign material found are to be removed. All perennial weeds to be removed including root systems. If necessary apply an approved herbicide following all manufacturer's instructions.
First season's maintenance
Following planting all areas shall be mulched with coarse grade bark to a minimum depth of 75mm during moist ground conditions. Shrub beds are to be kept clear of all weeds during the first growing season. Edges of shrub beds that abut grassed areas shall be kept tidy by regular edging.
Long term maintenance
Garden maintenance to be provided by the end user. Bark mulch to be topped up as required at the start of each season to maintain a minimum settled depth of 75mm. Mulching shall only be applied once beds are weed-free. Weeding shall be carried out as necessary during the growing season to keep beds in a tidy condition. Prune shrubs as necessary to remove dead, damaged or diseased branches; to prevent overcrowding of plants; to maintain health of plants; to promote growth; to bring out natural form of plant. Shape each specimen appropriately to species, location, season, and stage of growth, leaving a well balanced natural appearance. Long term maintenance of trees to be carried out in conjunction with BS5837:2005 section 15 and any damaged or dead new trees to be replaced within the first 5 years.
Imported soil
Break up and remove hard surfacing / ground. Provide as necessary to make up any deficiency existing on site and to complete the scheme. Quality of topsoil – as defined in BS 3882:1994. It is possible to assess the quality of soil by using a simple 'finger and thumb' test as outlined in the BS but essentially a light, sandy and 'open' texture is required
Grade - all imported soil to BS 3882:1994
Grading - reasonably free from stones with a maximum size of stone being 50mm in any dimension
Purity - free of weeds, roots of perennial weeds, sticks, subsoil and other foreign matter
Spreading - spread when reasonably dry, not to be compacted and to be spread in 150mm layers (maximum)
Turfing
A depth of least 150 mm of topsoil is recommended for establishment of turf (450mm if ground is poor). Turf to be supplied and laid by an approved landscape supplier (turf should be in accordance with the specifications given in BS 3969, and in accordance with BS 4428:1989 section 6).
Root Protection
The root protection area (RPA) is the minimum area around a tree which should be left undisturbed, in order to avoid damage to the roots or the rooting environment (see specific site tree survey for existing tree RPA, where applicable).

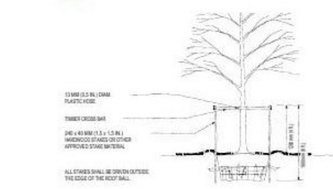
Tree protection will be installed prior to any demolition or ground-works commencing, remaining in place throughout construction and be removed only after completion.

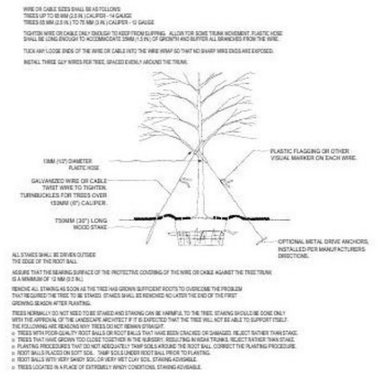
Tree protection will be installed as agreed with the Local Authority Arboricultural Officer and with reference to the British Standard 5837:2012 'Recommendations for Trees in Relation to design, demolition and construction'. The default specification as per section 6.2.2.2 of BS 5837:2012 will be used where the risk of damage to roots is negligible. Where the protective fencing is within the RPA then an appropriate above ground stabilization system will be used as shown in figure 3 of the BS also. Within the fenced zone, no materials or chemicals should be stored at any time, no fires should be lit, no pedestrian or vehicle traffic, and level changes within these areas should be kept to an absolute minimum. Every effort should be taken to protect a maximum possible area of the root system.
Within the RPA no level changes or excavation within the RPA should be undertaken without the consent of the LPA Arboricultural Officer.
Clear notices are to be fixed to the outside of the fencing with words such as 'TREE PROTECTION AREA – NO ACCESS OR WORKING WITHIN THIS AREA'. See Appendix 4. These notices shall be in A3 in size, laminated and fixed to the fencing using suitable aids such as tie wires.
The site agent, all contractors and other relevant personnel are to be informed of the role of the Tree Protection Fencing and their importance. A copy of the Tree Protection Plan will be displayed on site at all times during construction.
Specification for hard landscaping
Tree pits
Tree pits to be 500mm greater in all directions than the root ball. Roots must not be compressed. Shrubs to be planted in 300 x 300mm pits. Field grown trees (light standards) to be planted in 500 x 500mm pits (minimum). Select Standard Trees to be planted in 900 x 900mm pits (minimum). Pit bottoms should have slightly raised centre and scarified sides.
Plant conditions
Undamaged, healthy, sturdy and vigorous, free of pests, diseases, weeds, root system and condition: balanced with branch system (national plant specification) species: true to name/origin plant identification: retain in ground after planting
Tree staking
Softwood chestnut, larch, oak, free from projections and large or edge knots with pointed lower end. Nails: to BS1202-1 (galvanized 25mm long with 10mm dia heads).
Short staking for standard trees
Secure tree with 2 no 100mm dia tantalised softwood stakes driven a min 600mm into the ground vertically. A 100mm half round cross bar to be secured horizontally 100mm from ground. Tree to be secure with crossing 25mm reinforced rubber belt nailed neatly at rear of cross bar.

Light standard trees
Long single staking for light standard trees/whips
Position stake close to tree on windward side and drive vertically at least 300mm into bottom of pit beforeplanting. Backfilling: consolidate material around stake, height of stake cut off below lower branch of tree. Ties: shall be expandable/adjustable. Tying: secure tree firmly but not rigidly to stake with at least two ties. Use three where require to prevent tree touching stake. Position: top tie within 25mm of top of stake and lower tie approx. halfway down.

Shrubs
All shrubs to comply with BS4428:1989 and to have 3-5 branching shoots. Minimum stem diameter to be 7mm. Heights to be measured from root collar and does not include pot or roots.
All plants and trees to be well watered in planting and again immediately before mulch is applied. Compacted soil should be loosened or scooped out to allow water to roots. All plants to receive application of slow release fertilizer and annually thereafter.







Client:	The Elms Caravan Park	Project Title:	Proposed alterations to caravan park at The Elms Touring Caravan Site, Orby Road, Addlethorpe, Skegness, PE24 4TR	Drawing Title:	PROPOSED SITE PLAN
Scale	1:1000 @ A1	Date	18.03.2022	Project No.	0278
Drawing No.	(10)019	Rev	P00	Status:	PLANNING

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