Quod

Representations - Site A8 - Chichester Local Plan Reg.19

Chichester Strategic Land Promotion

MARCH 2023

Q090707

Contents

Appendices

1 Introduction

These representations are made on behalf of Obsidian Strategic Asset Management Limited, DC Heaver and Eurequity Ltd and relate to strategic site allocation A8 Land East of Chichester, within the draft *Chichester Local Plan 2021 – 2039: Proposed Submission.*

1.1 Strategic site allocation A8 comprises two land ownerships: the northern and eastern parts are owned by DC Heaver and Eurequity Ltd, and the south-western part is owned by SUEZ Recycling & Recovery Southern Ltd who along with SUEZ Recycling & Recovery UK Ltd form part of the SUEZ group of companies within the UK. Obsidian Strategic Asset Management Limited ('Obsidian') have partnered with DC Heaver and Eurequity Ltd to promote their part of the site and are doing so collaboratively with SUEZ. The objective is to promote a residential-led mixed-use masterplan through the Local Plan process, leading to an application for planning permission and ultimately, delivery of the scheme.

1.2 As identified above, Obsidian, DC Heaver and Eurequity continue to work in collaboration with SUEZ. In response to Chichester District Council's Regulation 19 consultation, SUEZ has prepared a separate submission which addresses the deliverability of the SUEZ land-holding within Strategic site allocation A8.

1.3 Obsidian, and the landowners they represent, support the Local Plan in relation to draft Policy A8 in principle:

- Obsidian agrees with the overall spatial approach to development including the focus upon the East West Corridor and in particular sites that are well located in and around the ain settlement of Chichester.
- Obsidian agrees with the allocation of site A8 as a strategic housing site capable of delivering at least 680 dwellings together with social and community infrastructure. These representations provide evidence that the site is suitable and available for this purpose and that delivery of at least 680 homes is achievable.

1.4 However, there are some areas where Obsidian believe the drat Local Plan requires to be improved and refined. Details are set out in the sections that follow including changes to Policies A8 and other policies which are required to make the plan sound.

1.5 These representations are structured as follows:

- Section 2 examines the site and surrounding area.
- Section 3 examines housing need and supply.

- Section 4 provides an assessment of the relevant policies and suggests amendments.
- Section 5 provides a conclusion.

2 The Site and Surrounding Context

The Site

2.1 The Site is approximately 35 hectares in area and is located east of the city of Chichester in West Sussex. It is located within Oving Parish and falls under the jurisdiction of Chichester District Council (CDC). Figure 1 depicts the Site in its local context.

2.2 The Site comprises the eastern part of draft Strategic Site Allocation A8 - Land East of Chichester, as identified in the Chichester Local Plan 2021 – 2039: Proposed Submission.

Figure 2.1 – The Site

2.3 The Site is bound by the B2144 to the north, Drayton Lane to the east and a railway line to the south. The site is accessed off Shopwhyke Road to the north. The Site comprises restored

farmland, a man-made lake, and overgrown scrub and self-seeded trees of poor arboricultural quality which stand on loose made-ground, much of the site is inaccessible and of little public benefit at present.

2.4 The Site itself is not subject to any statutory designations. There are a number of European designations within the wider surrounds, the nearest of which include the Eartham Pit Boxgrove Site of Special Scientific Interest (SSSI) and the Halnaker Chalk Pit SSSI which are located approximately 6km to the north-east of the Site. The Pagham Harbour SSSI/Ramsar site is located approximately 4.6km to the south. The Chichester Harbour Area of Outstanding Natural Beauty (AONB) and adjoining Special Area of Conservation (SAC) / Special Protection Area (SPA) / Ramsar designation is located around 4.2km to the south-west. Lastly, the South Downs National Park is located approximately 2.6km to the north.

2.5 The Site is wholly situated within Flood Zone 1 and lies outside of the Sussex North Water Supply Zone.

2.6 There are three listed buildings located in close proximity to, but outside of, the Site's north-eastern boundary including Shopwhyke Hall, a Grade II* building (List UID: 1026295), Shopwhyke Grange, a Grade II listed building (List UID: 1232815) and West Lodge, a Grade II listed building (List UID: 1276924).

2.7 The Site is in a sustainable and accessible location, immediately south of the Shopwhyke Lakes urban extension, with access to a range of services. The site is under a 30 minute walk to Chichester city centre and under a 15 minute walk to Portfield Retail Park. The site benefits from excellent transport connections with two bus stops served by Route 85/85A on the B2144 which borders the Site to the north. Bus Route 85/85A provides a direct service to Chichester city centre within 10 minutes. Chichester Station is located approximately 2.4km west of the Site which is served by direct trains to a number of locations including London, Brighton, Southampton and Portsmouth.

Surrounding Context

2.8 The immediate surrounding area is undergoing significant change. The parcel of land directly adjacent to the Site's north western boundary is currently being developed to deliver 143 dwellings, as approved by planning permission 20/02471/FUL (see Figure 2.2). The land to the north of the site on the opposite side of the B2144 is the Shopwhyke strategic development site (Policy 16 of the adopted Local Plan) and is being developed to deliver 585 dwellings, as approved by planning permissions 11/05283/OUT and 15/03720/OUT (see Figure 2.3). The

relationship between the Site and these developments that are being built-out to the west and north of the site is shown in Figures 2 and 3.

Figure 2.2 – The Site (on the left) and planning permission 20/02471/FUL being built out (on the right)

Figure 2.3 – The Site (on the left) and the Shopwhyke strategic development site being built out (on the right)

Planning History of Site

2.9 The planning history of the Site is limited. The Site and the adjoining parcel of land under ownership of SUEZ Recycling and Recovery UK ('SUEZ') (the western part of draft Strategic Site Allocation A8) was previously a sand and gravel quarry that was subsequently landfilled.

Landfilling operations are believed to have ceased in 1990 and soil investigation work has been undertaken which has identified that the site is not significantly contaminated and any potential contamination that may be present can be overcome through an appropriate remediation strategy.

3 Housing Delivery and Draft Policy A8

3.1 This section focusses on the availability and suitability of the site for delivering 680 homes (or more) and other policy requirements on site A8, and the achievability of doing so.

3.2 Policy A8 Land East of Chichester allocates the site for:

- 680 dwellings (including 10 plots for self/custom build housing).
- Specialist accommodation for older persons.
- A neighbourhood centre including shops, community centre, employment and leisure space.
- A primary school (one-form entry, expandable to two-form entry).
- Open space and play areas.
- Nine gypsy and traveller pitches.

3.3 Obsidian has commissioned extensive survey and masterplanning work to establish the site's capacity to deliver the above policy requirements. This is summarised below and is provided in greater detail in the appendices. The evidence comprises:

- An indicative Concept Plan (prepared by Carter Jonas), demonstrating how 680 homes, the other uses and the supporting infrastructure could be delivered while respecting the site's constraints.
- Arboricultural Appraisal, by Tree:fabrik;
- A Technical Note on flood risk and drainage, prepared by Glanville Consultants.
- Ecological Baseline Assessment, by Aspect Ecology;
- A Transport Delivery Report, prepared by i-Transport;

3.4 A schedule of suggested policy amendments, prepared by Quod, can be found at Appendix 6.

National policy requirements

3.5 Section 3 of the National Planning Policy Framework (NPPF) sets out the requirements for Local Plans. This includes the requirement for plans to be "deliverable". It follows that sites that

are key to delivery of the plan's strategy must also be deliverable. "Deliverability" is defined by the Glossary to the NPPF as follows:

***Deliverable**: To be considered deliverable, sites for housing should be available now, offer a suitable location for development now, and be achievable with a realistic prospect that housing will be delivered on the site within five years. In particular:*

a) sites which do not involve major development and have planning permission, and all sites with detailed planning permission, should be considered deliverable until permission expires, unless there is clear evidence that homes will not be delivered within five years (for example because they are no longer viable, there is no longer a demand for the type of units or sites have long term phasing plans).

b) where a site has outline planning permission for major development, has been allocated in a development plan, has a grant of permission in principle, or is identified on a brownfield register, it should only be considered deliverable where there is clear evidence that housing completions will begin on site within five years.

3.6 The key aspects with regard to the assessment of a site's deliverability are therefore its **availability**, its **suitability** and its **achievability**, with regard to whether it could deliver housing within five years.

Availability

3.7 Turning first to consider availability; these representations can be taken as confirmation by the promoter and landowners that their land is available for development now.

3.8 It should also be noted that the A8 site falls within only two ownerships, and both landowners have consistently promoted their sites for housing-led development through the plan making process. The land owned by DC Heaver and Eurequity Ltd (and promoted by Obsidian) has been the subject of pre-application discussions between Obsidian and CDC. There is no doubt that the site is available within the early years of the plan period.

Suitability

3.9 Regarding the suitability of the location for development, the site assessment for parcel HOV0020 in the 2021 Housing and Economic Land Availability Assessment (HELAA) concluded:

"The site is potentially suitable for a strategic allocation for residential-led mixed use development, alongside land to south east of the site (HOV0005a), subject to detailed consideration of relevant constraints."[1]

3.10 Those constraints have been assessed and although they will shape the emerging masterplan for the site, they present no impediment to its development for housing and related uses. The key site constraints/issues are:

- arboriculture;
- flood risk and drainage;
- ecology;
- landscape and visual impact;
- minerals safeguarding;
- contamination;
- built heritage; and
- transport and access.

3.11 These issues have been assessed in the context of an indicative Concept Plan for the A8 site. This is not a final masterplan but, at this stage, can act as a tool for testing the site against the key constraints. The emerging indicative Concept Plan can be seen at Appendix 1 and we comment on each of the issues set out above in the sections below.

Arboriculture

3.12 The site has been the subject of an arboricultural survey by Tree:fabrik. Their report (shown at Appendix 2) notes that the tree stock falls into two main groups. The first, located along the north and east boundaries, comprises early-mature and mature English Oak, Turkey Oak and Holm Oak. These trees are assessed as having some benefit to the street scene and visual amenity. The second group (largest by quantum and spread) occupies the remainder of the site and comprises, *"dense stands [sic] of young to semi-mature Birch, Goat Willow and Sallow forming scrub areas.*[2]*"* These trees are assessed as having limited future longevity and are of low quality. The report concludes that,

[1] HELAA Appendix 3
[2] Arboricultural Appraisal paragraph 6.2.5

"With the exception of the principal trees to the north and [north east] boundaries and hedgerow trees located along the east boundary, trees are therefore of low quality and would not therefore normally form a constraint on development."

3.13 The site was the subject of a draft Tree Preservation Order[3] dated 9 June 2021. However, following objection from the landowners and promoter, supported by technical evidence, this draft Order was not confirmed and was allowed to lapse on 9 December 2021.

Flood risk and drainage

3.14 A Flood Risk & Drainage Technical Note has been prepared by Glanville Consultants (Appendix 3). The assessment has been prepared in accordance with the requirements of the NPPF, PPG, and relevant flood risk and drainage guidance, and with reference to CDC's Level 1 Strategic Flood Risk Assessment.

3.15 The entire site is located within Flood Zone 1, which is the most suitable zone for all development types in terms of flood risk. Some localised areas of the site that are associated with ditches / waterbodies and local ground depressions are indicated to be at varying risk of surface water flooding. The site is also located in a region where groundwater emergence is more likely than others. However, the introduction of a suitable positive drainage system for the development will provide mitigation against these risks. In addition, flow routes through the site will be preserved and buildings designed to provide resilience against any residual risk, as appropriate. The site is at low risk from all other sources of flooding, including an allowance for the potential effects of climate change.

3.16 It is proposed that the development will discharge all surface water run-off to drainage ditches and waterbodies within the site at pre-development greenfield run-off rates. SuDS will be incorporated to attenuate surface water flows for all events up to and including the 1 in 100-year event, including an allowance for a 40% increase in rainfall intensity due to climate change. The surface water drainage strategy will ensure that flood risk will not increase either on-site or elsewhere as a result of the development.

3.17 Regarding foul drainage, the site lies within the Apuldram Wastewater Treatment Works (WwTW) catchment but is close to the catchment for the Tangmere WwTW. There is limited capacity at the Apuldram WwTW, with what capacity there is being reserved for sites already allocated within the Chichester Local Plan. Therefore, wastewater from the proposed

[3] TPO reference TCP-19-005433

development will discharge to the Tangmere WwTW. Southern Water has undertaken a capacity study providing three options to connect to the existing sewerage network, with the preferred point of connection being the Gamecock Terrace Tangmere wastewater pumping station some 2km to the east of the site.

3.18 Therefore, in terms of flood risk and drainage, the A8 Site is suitable to accommodate the development proposed, and any potential impacts can be overcome through appropriate mitigation.

Ecology

3.19 An Ecological Baseline Assessment has been prepared by Aspect Ecology (Appendix 4). The assessment concludes that the site is not subject to any statutory or non-statutory ecological designations. The assessment also notes that the Site is a former gravel extraction site which now comprises woodland, trees, open mosaic habitat, recolonised ground, semi-improved grassland, arable land, dense scrub, hedgerows, trees, ditches and hardstanding. The assessment states that the woodland is of limited ecological value and does not constitute an important ecological feature. Similarly, the individual and groups of trees on the Site are heavily encroached by Horsetail, and the majority are of poor individual quality with a limited life expectancy due to the presence of loose silty made-soil resulting from excavations (this is confirmed by an Arboriculture Report undertaken by TreeFabrik).

3.20 While our surveys show that the majority of the site does not have any great nature importance, they have also shown that there is a line of mature trees at the eastern boundary which merit preserving for their nature interest. These trees would also serve as a link between the existing better quality woodland in the north east corner of the site and the lake in the south east corner, and thence to the lakes south of the railway. These provide the basis for the designation of a narrow SWC on the eastern side of the site.

3.21 Aspect Ecology have undertaken a wide range of site-specific technical assessments including a range of seasonally appropriate bat surveys and monitoring, ground nesting bird surveys over a number of appropriate seasons, wintering bird surveys, and dormouse surveys. All of the surveys undertaken to date have shown that the majority of the site (save for the man-made lake and the lake margins) are not intensively used by any protected or notable species. These assessments have also been reviewed by an independent senior ecologist (Dr Peter Shepherd of BSG Ecology) for their rigor and suitability. Dr Shepherd is satisfied with the approach taken and survey data collected.

3.22 Furthermore, Aspect Ecology's Assessment notes that the site offers a number of opportunities for protected species including roosting, foraging and commuting bats, other mammals, reptiles, breeding birds and invertebrates. However, through appropriate mitigation the impact on these habitats can be avoided or reduced. Equally, the site provides new ecological opportunities through the provision of good quality habitats, notably through the provision of ecological enhancements in the form of integrated bat/bird bricks and boxes and the incorporation of locally- sourced native plant species, or those of known wildlife benefit, into the landscape strategy.

3.23 Overall, the site has been technically assessed by ecologists as having no overriding nature conservation constraints that would preclude the development of the site and that the development of this site will provide new ecological opportunities through mitigation and active management.

Landscape and visual impact

3.24 Any development of this site would need to include landscaping and screening to minimise its visual impact. This can be achieved through robust planting blocks and tree lines established within the localised setting and adjacent highway, so that any development is both visually and physically contained. The indicative Concept Plan demonstrates how this could be achieved and still allow for a quantum of development that would meet the requirements of draft Policy A8.

Minerals safeguarding

3.25 The Site lies within a Minerals Safeguarding Area. Land and Minerals have assessed the site's potential for mineral extraction and have concluded that all former minerals on the Site are known to have been extracted and therefore there is no constraint in this regard.

Contamination

3.26 A preliminary ground conditions investigation including borehole testing across the site has been undertaken which has identified a moderate/low risk of ground contamination which can be managed through routine remediation and does not limit the Site's development potential.

Built heritage

3.27 Whilst archaeological considerations are not considered to be a constraint to development on the site, due to historic quarrying which is anticipated to have removed any below ground remains, there are several listed buildings in the vicinity of the site. These are the Grade I listed Chichester Cathedral, the Grade II* listed Shopwyke Hall and the Grade II listed Shopwyke

Grange and West Lodge. Savills' assessment of the impact of the Concept Plan upon these heritage assets is that there would be no adverse impact and no harm to the listed buildings identified. This is due to both the low-rise character of the proposals and the mitigation measures embedded within the design of the scheme, as outlined below.

3.28 With regard to the Grade I listed Chichester Cathedral, this comprises the inclusion of a 'viewing corridor' between buildings within the site, in order to maintain views of the cathedral spire. These views of the spire are currently not publicly accessible, and the scheme will therefore provide a positive enhancement to the listed building's appreciation from this location through emphasising such views as part of the masterplan. The contribution made by the setting to the significance of the Grade II* listed Shopwyke Hall and the Grade II listed Shopewyke Grange is derived from their interrelated immediate rather than wider setting, with the two listed buildings currently screened from the site by dense woodland. This screening will be maintained as part of the masterplan through a vegetation buffer at the north-eastern corner of the site, meaning that the visual separation of the site from the listed buildings will be preserved. This will also act as buffer to any additional noise/light from the masterplan, whilst new buildings will be set back from Shopwyke Road in order to maintain the leafy street scene experienced when approaching from the west. The Grade II listed West Lodge is also separated from the site by mature woodland, with the immediate setting of the listed building considered to be the primary contributor to its significance by way of setting. This contribution and the listed building's intimate setting will also be maintained through vegetation buffering in the north-eastern corner of the site, with the existing visual separation preserved.

Transport and access

3.29 A Transport Delivery Note prepared by i-Transport (Appendix 5) addresses this key issue and concludes, amongst a raft of findings, that:

- Safe and suitable access can be achieved;
- Opportunities for sustainable travel have or can be taken up;
- The design of streets, parking areas, provision for safe pedestrian and cycling and other transport elements and the content of associated standards will reflect current national guidance, including the National Design Guide and the National Model Design Code;
- That cost effective solutions can be delivered to address the significant impacts of the proposed development, such that the proposal would not result in a severe residual cumulative impact, or unacceptable safety impact.

3.30 The note also confirms that access from Shopwhyke Road can be achieved, as can a Sustainable Modes Access Strategy.

3.31 Draft Policy A8 identifies the site to deliver 680 dwellings as well as various other land uses. The evidence prepared by the site promoters and provided within these representations demonstrates that the site is capable of delivering at least 680 dwellings and that all technical matters are capable of being addressed in a policy-compliant manner. Of particular note is that the CDC Transport Evidence Base ('Chichester Transport Study (Local Plan Review Transport Assessment)' (2023)) demonstrates that the impact of additional housing delivery (above that proposed LP housing allocations) would lead to *'similar'* impacts on critical infrastructure (being the A27 corridor). On that basis, draft Policy A8 should recognise that development of the Site should be for at least 680 dwellings.

Achievability

3.32 The indicative Concept Plan demonstrates one way in which the combined policy requirements for the site can be met while respecting the site's sensitivities and constraints. The indicative Concept Plan includes provision for:

- 680 homes.
- Care home.
- Primary school (of sufficient size to be two-form entry).
- Neighbourhood centre.
- Generous public open space and play areas.
- Sustainable Urban Drainage Systems (SuDS).
- Retained lake and lake margins.
- Retained woodland buffer including the trees of greatest landscape and ecological value, specifically along Drayton Lane and around the lake.
- Retained views of Chichester Cathedral.
- Gypsy and traveller pitches.

3.33 The indicative Concept Plan has been designed to accommodate all of the above policy requirements. It therefore demonstrates that a development of the range and scale envisaged by draft Policy A8 is achievable on the site.

Summary

3.34 The summary evidence set out above demonstrates that the draft Policy A8 site is in a sustainable and accessible location and surrounded on two sides by established development. The draft allocation of the site is clearly appropriate as part of the Local Plan's spatial growth strategy. Furthermore, all of the technical evidence and raft of site assessment work undertaken by Obsidian and the landowners over the past four years show that the site is available and suitable for strategic housing-led development and that such development is achievable in the early years of the Plan period.

3.35 In all these respects, it follows that the draft allocation Policy A8 site meets the NPPF definition of a "deliverable" site that can be included in the emerging Local Plan in a way that will meet the tests of soundness.

4 Required Policy Changes

4.1 Appendix 6 sets out suggested changes to the draft policies. Of particular note are the suggestions for policies A8 and NE4.

Policy A8 Land East of Chichester

Number of dwellings

4.2 Draft Policy A8 states that the allocation is for a phased, residential-led development comprising (inter alia) 680 dwellings. However, the indicative Concept Plan shows that these can be accommodated and it is possible that further refinement of the development parcels will yield greater capacity.

4.3 The NPPF, at chapter 11, requires planning policies and decisions to make effective use of land. It is especially important to do so in constrained areas such as Chichester, and particularly when the land in question is sustainably located adjacent to the existing urban area. NPPF paragraph 120 states:

"Planning policies and decisions should:

…

d) promote and support the development of under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained…"

4.4 Site A8 is under-utilised land that is well-placed to help meet housing needs. Full and effective use should be made of it. We therefore recommend that draft Policy A8 is amended to read "at least 680 dwellings." This would allow flexibility should greater capacity be identified. The current draft runs the risk of being contrary to NPPF chapter 11 if it limits the site to 680 dwellings and evidence is produced that it can accommodate a greater number.

Transport

4.5 Regarding transport, Policy A8 should be amended so that site specific requirement 11 conforms to the NPPF with regard to mitigation. Mitigation should only be required where an impact is identified. The suggested alternative wording is as follows:

11. Provide safe and suitable access points for all users, including a vehicular access from Shopwhyke Road. Should significant impacts on the local highway network be identified through assessment, provide or fund mitigation for potential off-site traffic impacts through a

package of measures in conformity with Policy T1 (Transport Infrastructure) and T2 (Transport and Development), which will include promoting sustainable transport options;

4.6 In addition, site specific requirement 16 is open-ended. Alternative wording would be as follows:

16. Where a significant impact is identified requiring mitigation, provide for infrastructure and community facilities in accordance with the most recent Infrastructure Delivery Plan;

Landscaping and ecology

4.7 Site specific requirement 6, related to landscaping and the SWC, currently requires *"a substantial and effective buffer with significant planting to the Strategic Wildlife Corridor…in order to ensure the development is well integrated with its surroundings and successfully mitigates the impacts on the wider landscape character."* This requires some amendment. The only requirement of the landscape buffer is for it to be effective. It is not necessary for the policy to insist that it must be *"substantial"* and *"significant";* these are unnecessary and arbitrary terms.

4.8 Site specific requirement 8, related to ecology, should be amended to remove the requirement to avoid harm, which is an overly precise and potentially onerous requirement, and instead require harm to be minimised. The same change should be made to requirement 8 related to flood risk and drainage. This would bring the policy into line with NPPF paragraph 180 which only supports refusal of planning applications where there is "significant harm". That is the threshold that should also be used in policy.

4.9 Requirements 6 and 8 are also in conflict with regard to maintaining darkness in the SWC. Requirement 6 requires the buffer to the SWC to "ensure darkness" – an absolute term – whereas requirement 8 looks for the buffer to reduce light levels to specified values. The latter is a more appropriate approach (although we comment further on the specific lux levels at Appendix 6) and we therefore recommend that requirement 6 is amended.

Policy NE4 Strategic Wildlife Corridors

4.10 Policy NE4 Strategic Wildlife Corridors should be amended to make the extent of the SWC clear and unambiguous. The final paragraph to NE4 requires, *"All proposals for new development (with the exception of householder applications) within or in close proximity to wildlife corridors should take opportunities available in order to extend and enhance those corridors."* This approach effectively requires the developer of site A8 to extend the SWC

beyond the boundaries that are delineated on the Proposals Map but does not make clear how far the SWC should extend. There are several problems with this approach:

- It introduces uncertainty in that any developer of site A8 will be unsure how much development can be delivered as the developable area will diminish as the SWC expands. NPPF paragraph 16 requires Local Plan policies to be "clearly written and unambiguous." The current wording of NE4 fails this test.

- There would potentially be a conflict with Policy A8, which requires delivery of 680 homes together with significant social infrastructure, including a school. As the required extent of the SWC is uncertain it is equally uncertain that all of Policy A8's requirements could be delivered.

4.11 To comply with the NPPF's requirements for Local Plans, draft Policy NE4 and the Proposals Map should clearly define the SWC and remove uncertainty about its ultimate boundaries. This can be achieved by deleting the final paragraph to NE4.

5 Conclusion

5.1 The summary evidence set out above demonstrates that the draft Policy A8 site is in a sustainable and accessible location and surrounded on two sides by established development. The sites' draft allocation as part of Policy A8 is clearly appropriate as part of the Local Plan's spatial growth strategy. Furthermore, all of the technical evidence and raft of site assessment work undertaken on behalf of Obsidian and the landowners over the past four years show that the site is available and suitable for strategic housing-led development and that such development is achievable in the early years of the plan period. To support this process, we shall continue to work collaboratively with SUEZ to promote a residential-led mixed-use masterplan through the Local Plan process for the entire A8 site allocation.

5.2 However, amendments to Policy A8 are required to ensure that it is flexible enough to support a greater quantum of development should there be evidence that this is feasible. This is required to ensure that the site is used effectively. Amendments to the wording regarding mitigation of highways impacts and the requirement for landscaping should also be made.

5.3 Policy NE4 also requires amendment to remove the non-specific requirement to extend the SWC beyond its delineated boundaries. This would make those boundaries meaningless and introduce uncertainty. The extent of the SWC should be based on the evidence base for it.

5.4 These changes (and other changes set out in Appendix 6) are required to make the draft Local Plan fully justified and sound.

5.5 Obsidian and the landowners they represent reserve their right to appear at the Local Plan Examination to put these proposed changes to the appointed Inspector.

APPENDIX 1

LEGEND

- Heaver Land (Ref: A8)
- SUEZ land (Ref: A8)
- Residential parcel
- Key building / frontage
- Two Form Entry School and Early Years Centre (2.47 ha)
- LEAP
- NEAP
- Public open space (POS)
- Potential access
- Pedestrian / cycle access
- Existing gas pipe
- Primary road
- Secondary road
- Tertiary road
- Shared drive
- SUDS
- Planting buffer
- Green corridor
- Views to Chichester Cathedral
- Parking
- Proposed cycle route
- Proposed pedestrian route
- Neighbourhood centre
- Assisted living & retirement
- Strategic Wildlife Corridor (SWC)

Carter Jonas

PROJECT TITLE

LAND AT DRAYTON WATER, CHICHESTER

DRAWING TITLE

OBSIDIAN STRATEGIC INDICATIVE CONCEPT PLAN

ISSUED BY	London	T: 020 7016 0720	
DATE	Mar 2023	**DRAWN**	MH
SCALE@A3	1:5000	**CHECKED**	JC
STATUS	Reg 19	**APPROVED**	JC

DWG. NO. J0058438_002_V10

No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

APPENDIX 2

Arboricultural Appraisal

LAND SOUTH OF SHOPWHYKE ROAD CHICHESTER

Produced for:
Obsidian Strategic AC Ltd

January 2019

tree : fabrik

Ref: TF/TS/1111revA
Prepared by: Alan Richardson
Issued: 24/01/19

CONTENTS

1.0 INTRODUCTION

1.1 Instructions were received from Obsidian Strategic AC Ltd to carry out a walk-over assessment and provide a high level overview of the opportunities and constraints formed by arboricultural features at land south of Shopwhyke Road, Chichester.

1.2 The area of land subject to this report is referred to as the 'site' hereon in throughout this report.

2.0 PURPOSE OF REPORT

2.1 This report presents the results of an assessment of arboricultural features, their quality and visual amenity.

2.2 This enables an initial review by the design team to identify site wide constraints and opportunities during the design evolution process and ensure a considered approach to maintaining a sustainable landscape is adopted through properly considered development.

3.0 SITE DESCRIPTION

3.1 The site is located within Shopwhyke to the east of Chichester City centre and is formed by extant gravel pits.

3.2 The site, irregular in shape, is bound to the north by Shopwyke Road with Shopwhyke Grange, Sherwood Nursery and Drayton Lane to the east and railway line to the south. The west boundary is located adjacent to agricultural and scrub land that also forms part of the site (see Figure 1 below).

3.3 The topography of the site reflects its former use with level areas (excavated) set at a lower level to the surrounding topography. The southern excavation is water filled forming a pond.

3.4 Within the local and wider landscape, the surrounding area is formed of residential areas to the north and west with agricultural land to the east and further gravel pits to the south.

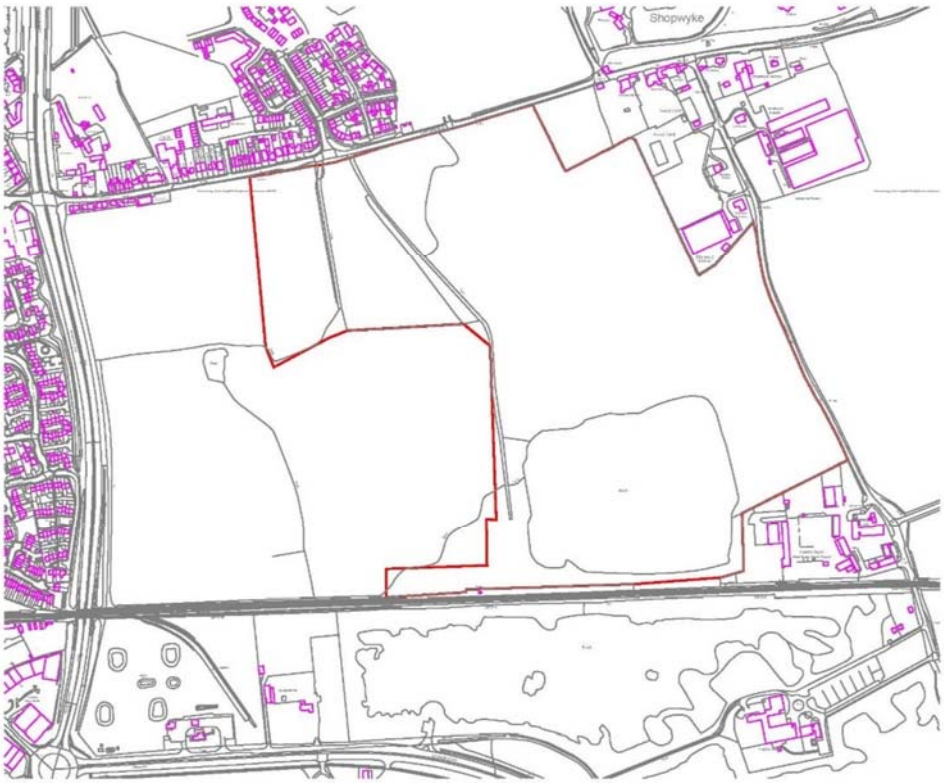


Figure 1 Land south of Shopwhyke Road indicative Redline Plan

4.0 STATUTORY DESIGNATIONS (Trees)

4.1 Enquiries with Chichester District Council online mapping site confirm that trees within the site are not subject to a Tree Preservation Order (TPO) and site does not lie within a Conservation Area.

4.2 However, a number of individual trees are subject to TPO ref: 74/00755/TPO to the west of the site. The details of the TPO are not known and it is recommended that a copy of the TPO be obtained for reference.

4.3 All trees within the United Kingdom are protected under the Forestry Acts. In general, anyone felling more than 5 cubic metres of timber in any calendar quarter requires a Felling License from the Forestry Commission. There are exemptions however and these are as follows: -

A Felling License is not required in the following instances:

- To fell trees in a garden, an orchard, a churchyard, or a designated open space (Commons Act 1899).

- To carry out surgery operations such as pruning, reduction, dead wooding or pollarding.

- To fell less than 5 cubic metres in a calendar quarter. (Please note that not more than more than 2 cubic metres in a calendar quarter may be sold).

- To fell trees that are 8 centimetres or less in diameter when measured 1.3 metres from the ground. Trees removed for thinning may have a diameter of up to 10 centimetres and trees managed under a coppice regime may have a diameter of up to 15 centimetres.

- To fell trees previously approved for removal under a Dedication Scheme, or where Detailed Planning Permission has been granted.

4.4 All trees, regardless of their status, are a material consideration in a planning application, and consequently the Local Planning Authority will take them into account when considering planning applications.

5.0 OTHER HABITATS (Trees)

5.1 A search of the Multi Agency Geographic Information for the Countryside's (MAGIC) online database indicates that the area is identified within the National Forestry Inventory as '*Shrub*' (blue hatch).

5.2 Fig 3 below provides an overview of the landscape designations (trees). The information within MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation.

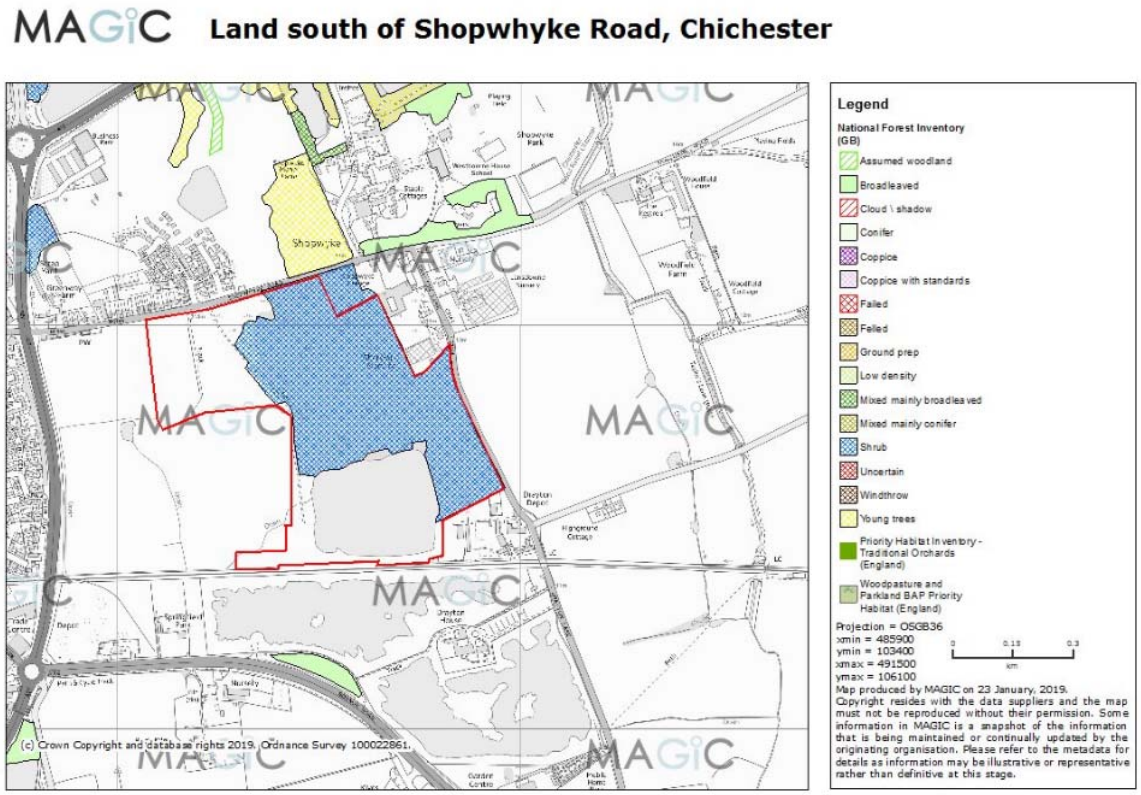


Figure 2 Landscape designation map (extract)

5.3 Whilst not a detailed tree survey, two English Oak trees (A12.1 and A12.2) located to the north boundary display biological features attributed to the classification and with great age.

5.4 National Planning Policy Framework:- para 175c states;

. . *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons58 and a suitable compensation strategy exists*;

5.5 A veteran tree is a tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient, but are old relative to other trees of the same species.

5.6 There is a presumption for a buffer zone to be implemented within development to protect ancient or veteran trees. A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's

diameter. Where possible, a buffer zone should: contribute to wider ecological networks, be part of the green infrastructure of the area.

5.7 The clients' attention is drawn to the responsibilities under the Wildlife & Countryside Act (1981) as amended by the Countryside and Rights of Way Act 2000. This may place additional constraints on existing trees in addition to arboricultural aspects considered within this report.

6.0 APPRAISAL

6.1 General

6.1.1 The following observations form a visual walk over appraisal of the tree stock and are subject to a further land survey and detailed assessment being carried out in accordance with BS5837 (2012) *Tree in relation to design, demolition and construction - Recommendations*.

6.1.2 A description of the tree stock within the site and a photographic record forms Appendix 1. The location of area compartments is identified within the Area and Features Plan [TF1111/TS/100] Appendix 2.

6.2 Tree Stock

6.2.1 The tree stock reflects the sites former use and is predominantly formed by broadleaf species located within areas subject to previous excavation forming gravel pits and silt beds.

6.2.2 Species include young to early mature Birch, Crack Willow, Goat Willow, Sallow and White Willow with early mature to mature English Oak, Turkey Oak, Holm Oak and Poplar.

6.2.3 The tree stock, and in particular the species selection, broadly falls into two distinct groups; the first group is formed by early-mature and mature English Oak, Turkey Oak and Holm Oak to the north and east boundaries of the site. The second group, is formed of dense stands of pioneer species and scattered mature Crack Willow and White Willow that have established following a lapse in workings of the gravel pits.

6.2.4 Of the first group, the principal arboricultural features are located within an area of previously undisturbed land to the north and northeast boundaries (A10.0, A11.0 and A12.0). As such, the trees are early mature to mature including English Oak, Turkey

Oak, Holm Oak, Sycamore and Hybrid Black Poplar. Where these trees are located adjacent to the highway, particularly Shopwhyke Road, they contribute to the street scene and accrue public visual amenity.

6.2.5 The second group occupies the remaining area and form dense stands of young to semi-mature Birch, Goat Willow and Sallow forming scrub areas (A2.0, A3.0, A6.0, A9.0). With the exception of A2.0, which provides cover to the pond, as pioneer species they have a limited future longevity and are of low quality.

6.2.6 Similarly, within these areas individuals and groups of mature Crack Willow and White Willow (A8.0 and A5.0) are scattered along ditches. Whilst these trees are prominent due to the otherwise low scrub canopy formed by the scrub areas, they have been drawn up due to companion shelter and are of poor individual quality. The trees therefore have potential for future collapse and have a limited safe life expectancy. Careful consideration should therefore be given to their retention following a change in land use. In particular, Willow adjacent to Drayton Lane should be subject to regular inspection on ground of health and safety regardless of future development.

6.2.7 With the exception of the principal trees to the north and northwest boundaries and hedgerow trees located along the east boundary, trees are therefore of low quality and would not therefore normally form a constraint on development.

6.3 Site Access

6.3.1 Existing vehicle access to the site is from Shopwhyke Road.

6.4 Above and Below Ground Constraints

6.4.1 Consideration should be given to the retention of a suitable buffer beyond the root protection area and crown spread of retained trees. The root protection area (RPA) is a design tool indicating the area surrounding a tree that contains sufficient rooting area to ensure survival of the tree in m^2 and forms part of a detailed tree assessment in accordance with BS5837 (2012). Consideration of these constraints at an early stage will minimise future conflict, perceived threat or over dominance.

6.4.2 The existing tree stock is early mature to mature and therefore the future mature crown extents should also be considered within potential development as these are likely to increase in volume with maturity. Additional separation from adjacent trees should

therefore be considered to allow the trees' crowns to develop naturally. Similarly, over shadowing and dominance should be carefully considered. This may influence tree retention, site use, location and/or orientation of dwellings, amenity space or infrastructure.

7.0 SUPPORTING ARBORICULTURAL INFORMATION

7.1 Should future development occur, BS5837 (2012) provides guidance for a balanced approach to tree removal & retention, effect of trees on design constraints and means of protection during construction. This follows a logical sequence of events from tree survey to planning submission involving discussion with the design team and the local authority.

7.2 Similarly, 'Ancient woodland, ancient trees and veteran trees: protecting them from development', provides government guidance on Veteran trees.

7.3 It is therefore recommended that emerging design proposals are considered at an early stage by the project arboriculturist and potential conflict minimised through the inherent design and parameter plans.

7.4 In particular, additional detailed work in the form of land survey and tree surveys may be required, particularly to the north boundary, in order to assess potential impact or where road widening and/or footpaths are required outside of the site.

7.5 Further, as part of the planning process Chichester District Council will have local requirements for validation of a planning submissions including Tree Survey and Arboricultural Impact Assessment. It is therefore recommended that the following reports accompany a future outline planning application;

- Arboricultural Impact Assessment including Heads of Terms to be included within an Arboricultural Method Statement (AMS). (AMS and Tree Protection Plan to be subject to pre-commencement condition).

- Tree Retention & Removal Plan.

8.0 CONCLUSION & RECOMMENDATIONS

8.1 Trees and woodlands within the site are not subject to a Tree Preservation Order.

8.2 Within the National Forestry Inventory, the area is classified as 'Shrub'.

8.3 The character of the tree stock largely reflects the sites former use as gravel pits with the majority of the tree stock formed by young to semi-mature trees following a lapse in extraction and/or use as silt ponds. As such, trees are of pioneer species including Birch, Willow and Poplar and are of low quality and value. These trees would not therefore normally be considered a constraint on development .

8.4 The principal arboricultural features are set within areas of undisturbed land forming buffers to the north and northwest boundaries. Within these buffers, species include early mature and mature Oak (including two Veteran trees), Sycamore and Poplar. Whilst the majority of these trees form skyline features due to the surrounding low scrub canopy, those trees, in particular the Oak, adjacent to Shopwhyke Road are prominent within the street scene and therefore accrue some public visual amenity.

8.5 The retention of the principal arboricultural features, together with Oak adjacent to Shopwhyke Road, is desirable and consideration should therefore be given to BS5837 (2012) and Government Guidance on Veteran trees as previously discussed. This will ensure that retained and new trees can be successfully integrated into a future development; to maintain a sustainable landscape and minimise future conflict.

8.6 Elsewhere within the site, groups of White Willow and Crack Willow are scattered along ditches and to the highway along the east boundary. Whilst these trees break the general canopy layer, they have matured and now, typically characteristic for the species, have a high potential for collapse. The retention of these trees should therefore be carefully considered and where appropriate retained within low public access areas, buffers and/or green links.

8.7 Tree loss could reasonably be mitigated through new tree planting within the development layout and strengthening of the boundaries. This would provide resilience and enhance the diversity of the future tree stock .

8.8 Whilst it is understood that this is an allocated site within the Development Plan Document 2014 - 2029, it is recommended that any proposed tree loss be confirmed through discussion with Chichester District Council at an early stage.

APPENDIX 1

Appraisal Schedule

A1. Limitations

A1.1 Trees are living organisms whose health and condition can change rapidly. The validity of this report and conclusions or recommendations cease at the prescribed period of two years from the site inspection or if the site conditions change due to unspecified works or storm events that affect the subject tree(s) whichever is the sooner.

A1.2 This tree survey assessment is a basic data collection exercise for the sole use of identifying site constraints in context of the planning process and a record of the trees condition at the time of assessment. This is not a vegetation assessment for NHBC guidance or a higher level inspection (full hazard or risk assessment) and no guarantee, either expressed or implied can therefore be given with regards to identification, safety, stability or internal condition.

A1.3 All observations are confined to that which was visible from the site. Where dense ivy/ground vegetation hampered visual assessment of trees assessed its quality and condition was assessed from that which was visible from the point of inspection. This preliminary assessment may therefore be subject to amendment following additional detailed inspection.

Area No.	Principal Species	Height range (m)	Comments	Photography
A1.0	English Oak (EM) Turkey Oak (EM)	6m – 10m	**Woodland Type** Occasional individual trees located to boundary adjacent railway line. Dense bramble understorey forming naturalised scrub with occasional Elder and Dog rose.	
A2.0	Goat Willow (SM/EM) Sallow (SM/EM) White Willow	3m – 6m	**Woodland Type** Naturalised trees forming riparian edge to pond, multi-stemmed from ground level, understorey of bramble, Buddleia with occasional Birch saplings. Occasional White Willow (11m) forming isolated trees.	

Area No.	Principal Species	Height range (m)	Comments	Photography
A 3.0	Birch (Y/SM)	2m to 11m	**Woodland Type** Naturalised area of dense saplings within area of extant workings, separated from pond and to north by bund.	
H 4.0	Hawthorn (M)	3m	**Woodland Type** Linear row of hawthorn forming hedgerow adjacent highway, outgrown but maintained on east and top profile, gappy and suppressed by bramble.	

Area No.	Principal Species	Height range (m)	Comments	Photography
A 5.0	Crack Willow (M) White Willow (M)	18m – 24m	**Woodland Type** Area of mature Willow, within area of extant workings, area to north drawn up and mutual shelter reliant, occasional storm damage, major deadwood, area extends forming line of dominant trees parallel with highway, limited useful life expectancy due to future potential for collapse. Understorey formed by scrub Sallow/Goat Willow with nettles.	
A 6.0	Sallow (Y/SM) Goat Willow (Y/SM) Birch (Y)		**Woodland Type** Naturalised area of dense saplings within area of extant workings, multi-stemmed from ground level. Occasional White/Crack Willow trees (up to 23m). Understorey formed of Sedge.	

Area No.	Principal Species	Height range (m)	Comments	Photography
H 7.0	Hawthorn (M)	6m - 8m	**Woodland Type** Linear row of hawthorn forming hedgerow, outgrown, gappy, poor quality	
A 8.0	Crack Willow (M) White Willow (M)	18m – 24m	**Woodland Type** Linear group of scattered mature Willow, within area of extant workings, some multi-stemmed from 2m above ground level, drawn up, occasional collapse, mutual shelter reliant, limited useful life expectancy due to future potential for collapse.	

Area No.	Principal Species	Height range (m)	Comments	Photography
A 9.0	Sallow (Y/SM) Birch (Y/EM) Crack Willow (Y/M)	4m – 15m	**Woodland Type** Naturalised area of dense saplings with occasional mature Willow breaking canopy layer, multi-stemmed, within area of extant workings and at lower level to north and east, limited understorey.	
A 10.0	Hybrid Black Poplar (EM)	8m – 22m	**Woodland Type** Linear group along boundary with residential garden forming skyline feature.	

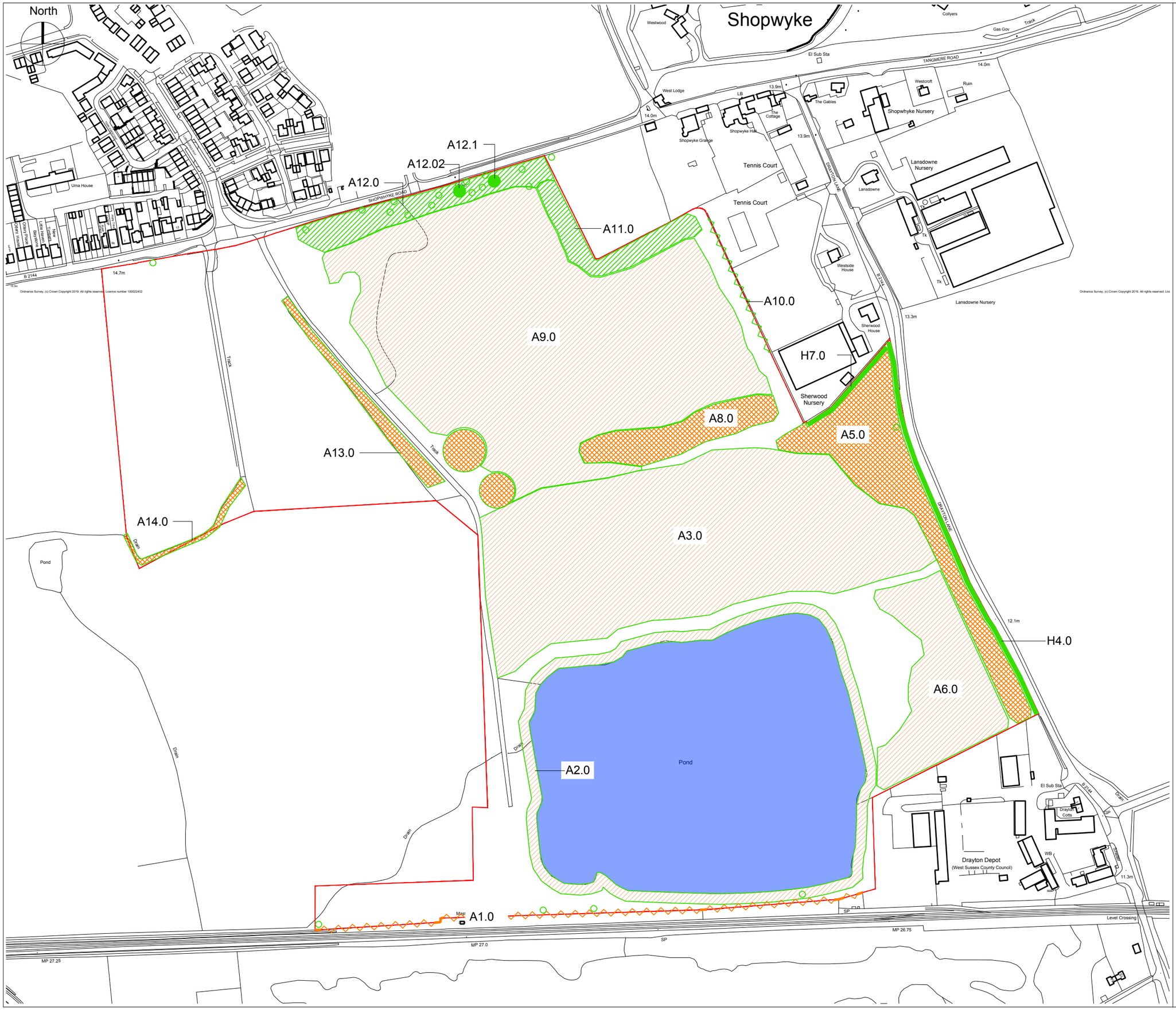
Area No.	Principal Species	Height range (m)	Comments	Photography
A 11.0	Sycamore (EM)	16m – 21m	**Woodland Type** Two linear rows forming avenue located on original ground level, twin-stemmed from g.l. drawn up due to companion shelter, beech woodland to north and east within residential garden	
A 12.0	English Oak (EM) Turkey Oak (EM) Holm Oak (EM)	12m – 17m	**Woodland Type** Scattered trees located within original ground area strip adjacent highway, deadwood, prominent within street scene, future potential to mature. Hawthorn forming linear hedgerow adjacent highway maintained on north side. Double hedgerow outgrown along south of strip.	

Area No.	Principal Species	Height range (m)	Comments	Photography
A 12.1	English Oak (M)	17m	**Woodland Type** Within area A 12.0, trunk diameter 1620mm, fungal brackets at trunk base to north and south (Ganoderma sp), cavity north side, hollow, lower branches retained, previously pollarded at 5m above ground level forming poles, nest box in fork, burs, shattered stubs and deadwood, potential Veteran tree.	
A 12.2	English Oak (EM)	17m	**Woodland Type** Within area A 12.0, trunk diameter 11210mm, perched buttress roots, hollow, full crown, burs, shattered stubs and deadwood, potential Veteran tree.	

Area No.	Principal Species	Height range (m)	Comments	Photography
A 13.0	Crack Willow (EM/M)	8m – 22m	**Woodland Type** Linear group adjacent ditch, multi-stemmed from g.l., prominent due to edge location but future potential for collapse.	
A 14.0	Crack Willow (SM/EM) Aspen (EM) Blackthorn (EM/M) Hawthorn (EM/M)	4m – 12m	**Woodland Type** Linear group along ditch, average height 7m with occasional group of Aspen.	

APPENDIX 2

Area & Features Plan



NOTES

 This is a basic data collection exercise for the sole use of providing a high level arboricultural appraisal following a site walkover illustrating the principal arboricultural features in context of the planning process. It is recommended that a land survey and detailed tree survey in accordance with BS5837 (2012) vegetation be carried out to inform site constraints. This is not an assessment for NHBC guidance or a higher level inspection (full hazard or risk assessment) and no guarantee, either expressed or implied can therefore be given with regards to identification, safety, stability or internal condition.

Boundary

Indicative site boundary

Features

Area Characteristics

- Area of early mature and mature broadleaf trees
- Area of predominantly young and semi-mature pioneer species including Birch, Goat Willow and Sallow.
- Area of early mature and mature Crack Willow or White Willow breaking general canopy.
- English Oak displaying attrubutes of veteran tree.
- Linear group of Hybrid Black Poplar
- Occasional boundary trees adjacent railway line
- Tree forming individual feature.
- Water feature

Compartment Notes

A1.0 — Area illustrated as compartments. Compartments are defined by physical features or where a change in the appearance of the tree stock occurs ie. species mix, age class or environmental features. For a description of each compartment please refer to the Arboricultural Appraisal report.

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Project
LAND SOUTH OF SHOPWHYKE ROAD
CHICHESTER

Drawing
ARBORICULTURAL APPRAISAL -
AREA & FEATURES PLAN

Scale	Date	Drawn
NTS	JAN '19	AR

Drawing No.	Revision
tf 1111/TS/100	.

- ☐ Preliminary
- ☐ Issued for Planning Approval
- ☐ Issued for Construction
- ■ Issued for Design/Information
- ☐ Issued for Tender
- ☐ As Built

Drawing sheet size - A3

APPENDIX 3

Qualifications and Experience

Brief qualifications and experience of Alan Richardson

Qualifications: I hold the National Diploma in Arboriculture and I am a Professional Member of the Arboricultural Association.

Career experience: I started my career at the grass roots of the industry working in Britain and West Germany, obtaining experience in all aspects of practical tree care. In 1989 I joined Westminster City Council as an Arboricultural Officer, dealing with municipal tree management. This provided me with a comprehensive insight into the social, safety and contract management issues of urban tree management.

In 1991 I joined Historic England as Trees and Woodlands Advisor providing specialist advice on all aspects of trees, woodlands and forestry within the historic environment. During the next nine years, I developed and established national policy and strategy for tree management on the 420 historic properties under guardianship including the co-ordination, inspection and monitoring of the annual H&S inspection programme, contracts and standards and represented Historic England on policy matters relating to trees, including liaison with other government departments on joint projects such as the Veteran Tree Initiative and the Parklands & Wood Pasture Habitat Action Plan.

As a Director of ***tree* : fabrik**, I draw on the wide range of experience obtained and specialise in supplying bespoke arboricultural planning services to Local Planning Authorities and the private sector. This includes advising on a full range of tree issues within the planning environment, providing site surveys to BS5837 (2012), arboricultural implication reports, method statements and supervision, development control advice to Local Planning Authorities, successful enforcement and prosecution, appeal statements and attendance at hearings, liaison with and on behalf of Local Planning Authorities, developers, architects and town planners.

This comprehensive experience and current working knowledge of Local Authorities and the private sector encourages a pragmatic approach that has been found to be of benefit to all parties.

Continuing professional development**:** I keep current on arboricultural issues and best practice through membership of the Arboricultural Association and attendance at short courses.

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APPENDIX 3

Land East of Chichester (Site A8)

Technical Note – Flood Risk & Drainage

1.0 Introduction

1.1 This Technical Note has been prepared in relation to development of land to the south of Shopwyke Road, Chichester for residential purposes. The site comprises the proposed Chichester District Council Local Plan strategic site allocation AL3 (now referred to as A8).

1.2 A comprehensive Flood Risk Assessment has been prepared previously to support the development of the eastern part of proposed strategic site allocation AL3 – Land East of (refer to report ref. 015_818114, Issue 5, dated 2 December 2021). The assessment was prepared in accordance with the requirements of the then current National Planning Policy Framework (NPPF), Planning Practice Guidance (PPG), flood risk and drainage guidance and with reference to the relevant Strategic Flood Risk Assessment.

1.3 This note summarises the work undertaken previously and provides an update in respect of flood risk and drainage matters pertaining the proposed allocation AL3 (now A8). It takes account of the Chichester District Council Level 2 Interim Strategic Flood Risk Assessment (SFRA) dated December 2022 that was prepared with the purpose of providing part of the evidence base for the Local Plan and follows on from the Chichester District Council Level 1 Interim SFRA update, completed in December 2022. The Level 2 SFRA includes an assessment of Site AL3 (now A8) and confirms the principle of development is supported at the site.

1.4 This note briefly considers flood risk from all sources and summaries the proposed strategies in respect of foul and surface water drainage. The previous Flood Risk Assessment covers these issues in more detail and will be updated in due course to support any application.

1.5 A framework plan has been prepared for the proposed development of Site A8 and is included in Appendix A.

2.0 Flood Risk

Tidal

2.1 There is no tidally influenced watercourse on or within the vicinity of the site, so tidal flooding is not an issue that would prevent or constrain development. However, it is possible that long term changes in mean sea level could affect the performance of local watercourse systems so consideration will be given to the arrangements for water level management.

Fluvial

2.2 The Environment Agency (EA) publishes the Flood Map for Planning on the GOV.UK website which shows the maximum extent of fluvial flooding.

2.3 The vast majority of the site is located within Flood Zone 1, which the NPPF considers to be the most suitable zone for all development types in terms of flood risk, with only a very narrow strip of land along the western boundary of the site located in Flood Zone 2.Any built development proposed will be situated within Flood Zone 1, following a sequential approach. It is therefore considered that the risk of fluvial flooding is very low and is not an issue that would prevent or unduly constrain development.

Surface Water

2.4 The EA publishes the Flood Risk from Surface Water map on the GOV.UK website which indicates the predicted risk of surface water flooding in the event that rainwater does not drain away through normal drainage systems or soak into the ground.

2.5 The mapping indicates that the majority of the site is at very low risk of surface water flooding, with an annual probability of flooding of less than 1:1,000. However, some localised areas of land are indicated to be at low to high risk of surface water flooding. These areas are associated with drainage ditches, local ground depressions and overland flow routes.

2.6 The development has been planned to exclude built development from those areas identified to be at risk of surface water flooding, again to demonstrate a sequential approach has been followed by locating development on land at the lowest risk of flooding from any source, in accordance with the NPPF.

2.7 The development has been generally planned to exclude built development from those areas identified to be at risk of surface water flooding, again to demonstrate a sequential approach has been followed by locating development on land at the lowest risk of flooding from any source, in accordance with the NPPF. Where development is proposed within isolated areas at risk of surface water flooding, appropriate mitigation measures will be incorporated.

2.8 The introduction of a positive drainage system for the development will provide further mitigation against the risk of surface water flooding.

Reservoir

2.9 EA publishes indicative mapping on the GOV.UK website which shows the maximum extent of reservoir flooding in the unlikely event that a reservoir should fail. The mapping indicates that the entire site allocation is located outside of a reservoir flood risk area. Therefore, reservoir flooding is not considered to be an issue that would prevent the site's development for its intended end use.

Sewer

2.10 Sewer flooding is not considered to be an issue that would prevent or constrain the development.

Groundwater

2.11 The site is located in a region where groundwater emergence is more likely than others, but it is not anticipated that groundwater flooding would prevent or constrain the development to any significant extent. The introduction of a positive drainage system will provide effective mitigation against the risk of groundwater flooding.

Historical Flooding

2.12 No historical flood incidents have been recorded within the site boundary.

Safe Access

2.13 Safe access and egress at this site is possible via the B2144 road to the north or to Drayton Lane to the east.

Summary

2.14 The site is at low risk from all sources of flooding, except for a narrow strip of land along the western boundary of the site that is in Flood Zone 2 and some localised areas at risk of surface water flooding. The development has been planned by taking a sequential approach to flood risk such that flooding will not prevent or constrain the development of the site to any significant extent.

3.0 Surface Water Drainage

3.1 Due to ground conditions, infiltration methods are likely to be ineffective on the site, so it is proposed that the development will discharge all surface water run-off to existing drainage ditches and waterbodies within the site at pre-development greenfield run-off rates.

3.2 Adequate space for Sustainable Drainage Systems (SuDS) has been allocated within the framework plan to attenuate surface water flows for all events up to and including the 1 in 100-year event including an allowance for a 40% increase in rainfall intensities due to climate change. The drainage strategy will ensure that flood risk will not increase either on-site or elsewhere as a result of the development.

3.3 Proposed above ground SuDS include basins, ponds and wetlands that offer additional ecological and bio-diversity benefits which, along with other drainage components, such as permeable pavements and bioretention systems (e.g. swales, raingardens and tree pits) will help to provide effective pollution prevention measures for the surface water run-off from the proposed development.

4.0 Foul Water Drainage

4.1 Infrastructure charging means that Southern Water, as local sewerage authority, is obliged to accept foul water flows generated by committed development and fund any necessary network improvements via infrastructure charges payable by the developer. As such, foul capacity will not be a constraint to development, although the timing of any network improvements may influence the development programme.

4.2 The site lies within the catchment of Apuldram wastewater treatment works (WwTW) but is close to the catchment for the Tangmere WwTW. There is limited capacity at the Apuldram WwTW, with what capacity there is being reserved for sites previously allocated within the Chichester Local Plan. Therefore, wastewater from the proposed development will discharge to the Tangmere WwTW. This solution will avoid any potential detrimental effects on Chichester Harbour in terms of nitrate pollution and achieving nitrate neutrality.

4.3 Southern Water has previously undertaken a capacity study for the wider proposed allocation AL3, providing three options to connect to the existing sewerage network, with the preferred point of connection being the Gamecock Terrace Tangmere wastewater pumping station (WPS) some 2.5km to the east of the site. A plan showing the proposed foul water drainage strategy for the wider allocation as proposed by Southern Water is provided at Appendix B.

4.4 Due to local topography, it will be necessary to pump foul effluent from the development to the point of connection.

5.0 Conclusion

5.1 It is concluded that the proposed development:

- is in accordance with the National Planning Policy Framework;
- will not be at an unacceptable risk of flooding from any source;
- will not increase flood risk elsewhere;
- will employ a surface water drainage strategy based on the principles of sustainable drainage; and
- will provide effective nitrogen mitigation measures for the surface water run-off from the proposed development.

5.2 Therefore, the proposals fully comply with national and local planning policies in respect of flood risk and drainage.

Appendix A

Proposed Framework Plan

LEGEND

- Heaver Land (Ref: A8)
- SUEZ land (Ref: A8)
- Residential parcel
- Key building / frontage
- Two Form Entry School and Early Years Centre (2.47 ha)
- LEAP
- NEAP
- Public open space (POS)
- Potential access
- Pedestrian / cycle access
- Existing gas pipe
- Primary road
- Secondary road
- Tertiary road
- Shared drive
- SUDS
- Planting buffer
- Green corridor
- Views to Chichester Cathedral
- Parking
- Proposed cycle route
- Proposed pedestrian route
- Neighbourhood centre
- Assisted living & retirement
- Strategic Wildlife Corridor (SWC)

Carter Jonas

PROJECT TITLE

LAND AT DRAYTON WATER, CHICHESTER

DRAWING TITLE

OBSIDIAN STRATEGIC INDICATIVE CONCEPT PLAN

ISSUED BY	London	T: 020 7016 0720	
DATE	Mar 2023	**DRAWN**	MH
SCALE@A3	1:5000	**CHECKED**	JC
STATUS	Reg 19	**APPROVED**	JC

DWG. NO. J0058438_002_V10

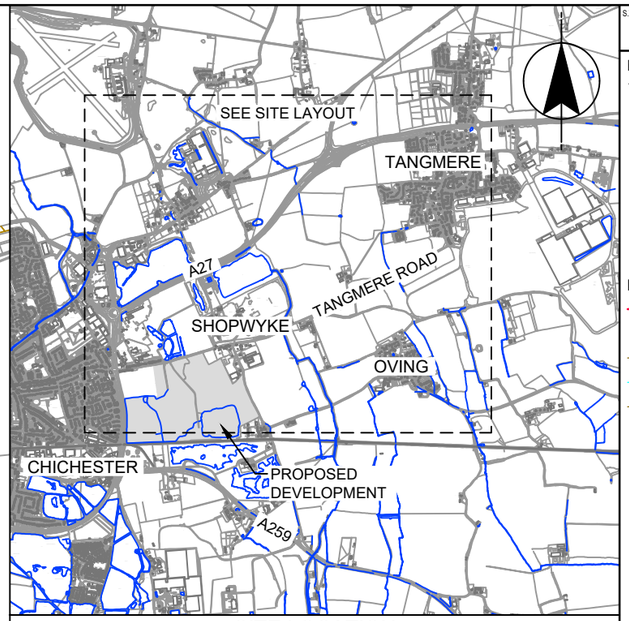
No dimensions are to be scaled from this drawing.
All dimensions are to be checked on site.
Area measurements for indicative purposes only.

Appendix B

Proposed Foul Water Drainage Strategy

BULLET POINT NOTES:

- THIS DRAWING IS BASED ON HISTORICAL AND O.S. DATA. INCONSISTENCY IN DATA SHOULD BE CHECKED AND VERIFIED BEFORE COMMENCING DETAIL DESIGN
- EXISTING AND INDICATIVE PIPE ROUTES BASED ON GIS DATA. SOUTHERN WATER SERVICES LTD. ACCEPT NO RESPONSIBILITY IN THE EVENT OF INACCURACY. THE ROUTES ARE TO BE CHECKED AND VERIFIED BEFORE DETAIL DESIGN AND ARE SHOWN PURELY FOR OUTLINE DESIGN.



SITE LOCATION
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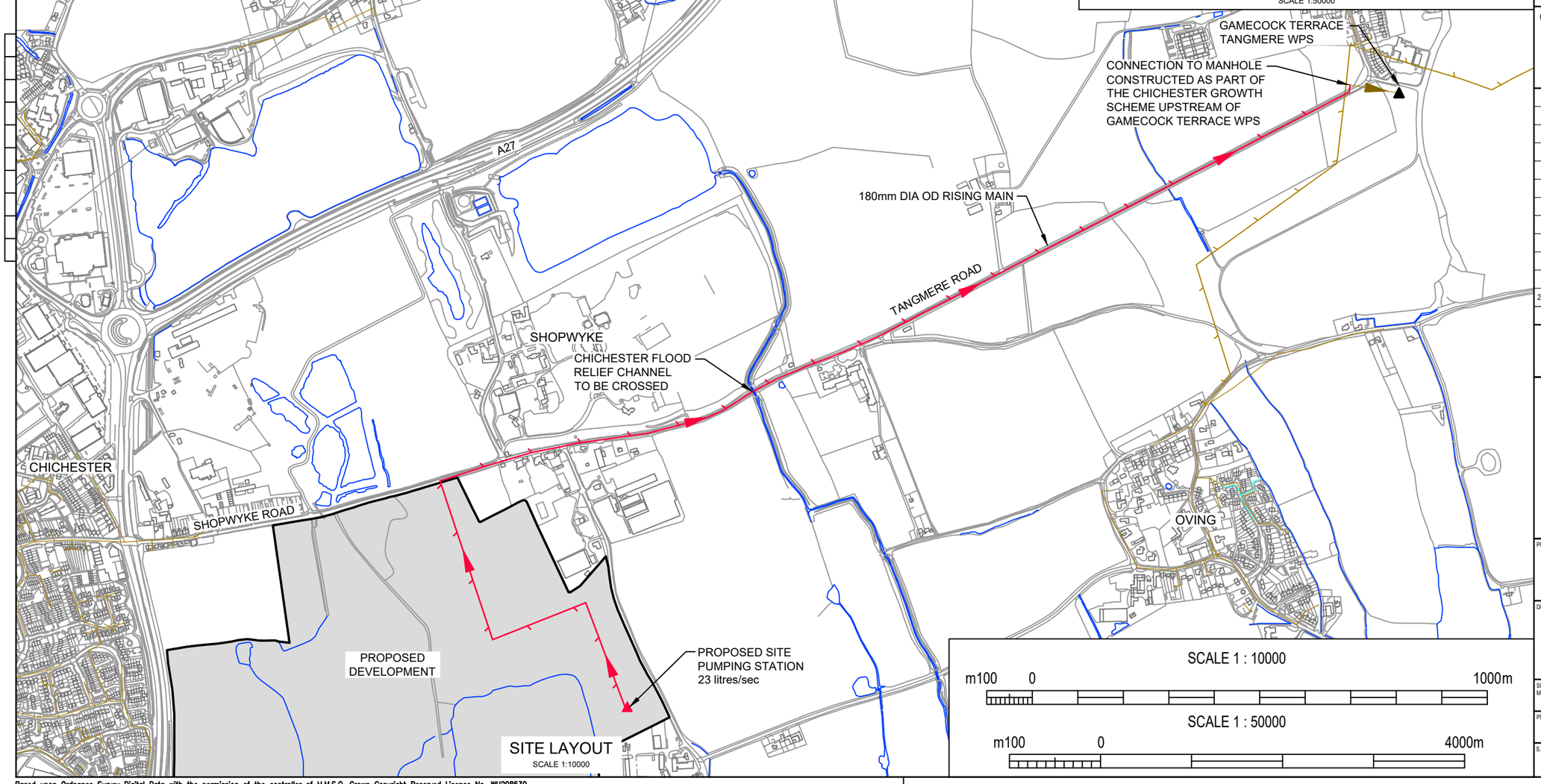

SITE LAYOUT
SCALE 1:10000

SCALE 1 : 10000
m100 0 1000m

SCALE 1 : 50000
m100 0 4000m

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S.W. DRAWING NO. JN.670597-972.0Z0801 | REVISION A

NOTES
1. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METRES UNLESS SHOWN OTHERWISE.

LEGEND
- PROPOSED RISING MAIN
- PROPOSED SITE PUMPING STATION
- FW — EXISTING FOUL WATER SEWER AND MANHOLE
- SW — EXISTING SURFACE WATER SEWER AND MANHOLE
- EXISTING FOUL WATER RISING MAIN
- EXISTING PUMPING STATION
- DEVELOPMENT SITE

CURRENT VERSION INFORMATION

DATE	DRWN	CHKD	REVD	REV	REASON FOR ISSUE
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APPENDIX 4

Drayton Water, Chichester

Ecological Baseline Assessment

November 2021

Quality Management	
Client:	Obsidian Strategic Asset Management Ltd
Project:	Drayton Water, Chichester
Report Title:	Ecological Baseline Assessment
Project Number:	1005625
File Reference:	5625 EcoBaseline vf1 /CG/DS
Date:	22/11/2021

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Executive Summary

i) **Introduction.** Aspect Ecology has been commissioned by Obsidian Strategic Asset Management Ltd to undertake an Ecological Baseline Assessment in respect of proposed development of land at Drayton Water, Chichester, hereafter referred to as the survey area, and to provide input into an illustrative masterplan for mixed-use development.

ii) **Survey.** The survey area was surveyed in April 2019 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger, Great Crested Newt, reptiles and breeding birds.

iii) **Ecological Designations.** The survey area is not subject to any statutory or non-statutory ecological designations. The nearest statutory designation is Brandy Hole Copse Local Nature Reserve (LNR) located approximately 2.9km north-west of the survey area at its closest point. The nearest non-statutory designation is Chichester Gravel Pits and Leythorne Meadow Local Wildlife Site (LWS), located approximately 0.7km south-west of the survey area. None of the nearby ecological designations pose a constraint to development of the site.

iv) **Habitats.** The survey area is part of a former gravel extraction site which now comprises an open water gravel pit with associated reedbeds, surrounded by woodland, trees, open mosaic habitat, recolonising ground, semi-improved grassland, arable, dense scrub, hedgerows, trees, ditches and hardstanding. Features of ecological importance include the gravel pit, open mosaic habitat, reedbeds, hedgerows, potential veteran trees and ditches, which are of local to district level value. With the exception of small areas of hedgerow, these features have all been incorporated within the illustrative masterplan. The woodland within the survey area is primarily overgrown scrubland and secondary woodland largely comprising dense stands of pioneer species that have colonised over the former gravel workings, and does not represent an overriding constraint to development.

v) **Protected Species.** The survey area offers a number of opportunities for protected species including roosting, foraging and commuting bats, other mammals, reptiles, breeding birds and invertebrates. Many of these constitute important ecological features and are of site to local level importance, and can be accommodated within the illustrative masterplan.

vi) **Ecological Enhancements.** The illustrative masterplan provides the opportunity to secure a range of ecological enhancements, including improvement of existing retained features and the incorporation of new ecological features, such as new wetland habitat and areas of native planting, which form integral components of the green infrastructure strategy for the development.

vii) **Summary.** In summary, the information in this report provides details of the ecological baseline position within the survey area, setting out the habitat types and species present and evaluating their ecological importance. The results of this assessment demonstrate that there are no overriding ecological constraints to development of the site, subject to the incorporation of key ecological features as shown on the illustrative masterplan. A range of ecological enhancements can be delivered in association with development of the site.

1 Introduction

1.1 Background and Understanding

1.1.1 Aspect Ecology has been commissioned by Obsidian Strategic Asset Management Ltd to undertake an Ecological Baseline Assessment in respect of proposed development of land at Drayton Water, Chichester centred at grid reference SU 8858 0482 (see Plan 5265/ECO1), hereafter referred to as the 'survey area', and to provide input into an illustrative masterplan for mixed-use development.

1.1.2 The survey area forms part of a wider proposed strategic site allocation (AL3) including contiguous land to the west for residential-led development within the emerging Chichester District Local Plan.

1.2 Survey Area Overview

1.2.1 The survey area is located on the eastern outskirts of Chichester with open countryside to the east. The survey area is bound to the north by the B2144 (Shopwhyke Road), beyond which a new residential development (Shopwhyke Lakes) is under construction. To the north-west the survey area is bound by land currently undergoing residential development for 100 dwellings (Redrow Homes), south of which is a mosaic of grassland and scrub. The south of the survey area is bound by an active railway line, beyond which lies a former gravel pit lake and commercial units. Detached houses and Drayton Lane bound the east of the survey area, beyond which is largely arable land.

1.2.2 The survey area itself is part of a former gravel extraction site which now comprises an open water gravel pit with associated reedbeds, surrounded by woodland, trees, open mosaic habitat, recolonising ground, semi-improved grassland, arable, dense scrub, hedgerows, trees, ditches and hardstanding.

1.3 Purpose of the Report

1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the survey area. The importance of the habitats and species present is subsequently evaluated.

2 Methodology

2.1 Desktop Study

2.1.1 In order to compile background information on the survey area and its immediate surroundings, Sussex Biodiversity Record Centre (SxBRC) was contacted in May 2019 and September 2021 with data requested on the basis of a search radius of 2km. Where information has been received from this organisation this is discussed below and reproduced on Plan 5625/ECO2, where appropriate.

2.1.2 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (25km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the survey area.

2.1.3 In addition, the Woodland Trust database was searched for any records of ancient, veteran or notable trees within or adjacent to the survey area.

2.2 Habitat Survey

2.2.1 The survey area was subject to habitat survey work in April 2019 in order to ascertain the general ecological value of the land contained within the boundaries of the survey area and to identify the main habitats and ecological features present.

2.2.2 The survey was based on standard Phase 1 Habitat Survey methodology[1], whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal[2] to record details on the actual or potential presence of any notable or protected species or habitats.

2.2.3 Using the above method, the survey area was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

2.3 Faunal Surveys

2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to bats, Badger, Great Crested Newt, reptiles and breeding birds as described below.

1 Joint Nature Conservation Committee (2010, as amended) *'Handbook for Phase 1 habitat survey: A technique for environmental audit.'*

2 Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) '*Guidelines for Preliminary Ecological Appraisal.*'

Bats[3]

Activity Surveys

2.3.2 Walked transect surveys were undertaken in May, June, July, August and September 2020 to ascertain the level of usage of the survey area by foraging or commuting bats. This survey method involves walking planned transect routes with key listening points, specifically covering habitats / features with particular potential for commuting or foraging bats (see Plan 5625/ECO4a). Anabat Scout or Echometer EM3 handheld bat detectors were employed to aid identification of any bats observed. Each transect was walked from sunset, for 2-3 hours, with a minimum 5 minute stop at each listening point. This methodology was repeated from 2 hours prior to sunrise until sunrise to complete the dawn survey.

2.3.3 This survey work was carried out during suitable weather conditions, as set out in Tables 2.1 and 2.2 below.

Table 2.1. Dusk walked transect survey details.

Date	Start & end times & time of sunset	Equipment used	Weather
28/05/2020	Start time: 21.03 End time: 23.03 Sunset: 21.03	Anabat Scout	Dry, 0% cloud, BF3, 17°C
Comments: The survey was undertaken by 2 surveyors under direction of licence holder C133796.			
09/06/2020	Start time: 21.15 End time: 23.17 Sunset: 21.15	Anabat Scout	Dry, 60% cloud, BF1, 14°C
Comments: The survey was undertaken by 2 surveyors under direction of licence holder C133796.			
14/07/2020	Start time: 21.11 End time: 23.13 Sunset: 21.11	Echo Meter EM3 and Bat Box Duet	Dry, 100% cloud, BF2, 17°C
Comments: The survey was undertaken by 2 surveyors under direction of licence holder C133796.			
10/08/2020	Start time: 20.32 End time: 22.32 Sunset: 20.32	Anabat Scout	Dry, 20% cloud, BF1, 17°C
Comments: The survey was undertaken by 2 surveyors under direction of licence holder C133796.			
16/09/2020	Start time: 19.14 End time: 21.25 Sunset: 19.14	Anabat Scout	Dry, 5% cloud, BF0, 22°C
Comments: The survey was undertaken by 2 surveyors under direction of licence holder C133796.			

BF0 = calm, BF12 = hurricane force

Table 2.2. Dawn walked transect survey details.

Date	Start & end times & time of sunrise	Equipment used	Weather
11/08/2020	Start time: 03.45 End time: 05.45 Sunrise: 05.45	Anabat Scout	Dry, 0% cloud, BF1, 22°C
Comments: The survey was undertaken by 2 surveyors under direction of licence holder C133796.			

BF0 = calm, BF12 = hurricane force

2.3.4 Automated static detector surveys were also carried out during which Song Meter 4 (SM4) detectors were positioned at four locations within the survey area (see Plan 5625/ECO4b) for a period of at least five consecutive nights in May, June, July, August and September 2020 to record any bat activity.

[3] Surveys based on: English Nature (2004) '*Bat Mitigation Guidelines'* and Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

2.3.5 Detectors SD1 and SD2 were both sited within areas of woodland (woodland W1 and W2 respectively), whilst detector SD3 was located on a tree on the southern bank of waterbody WB1. Detector SD4 was located at the northern survey area boundary at the intersection of hedgerow H1 and H4. The detectors were set to switch on approximately 30 minutes before sunset and switch off approximately 30 minutes after sunrise. The weather conditions during the static detector surveys are provided in Table 2.3 below.

Table 2.3. Automated detector survey details.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation (mm)
May				
28/05/2020	3-4	10-12	0-5	0
29/05/2020	3-4	10-12	0-10	0
30/05/2020	4	13	0	0
31/05/2020	4	12-13	0-15	0
01/06/2020	2-3	12-14	10-25	0
June				
09/06/2020	2-3	12-13	70-100	0-0.2
10/06/2020	2-4	11-12	25-100	0-0.7
11/06/2020	4-5	13-15	60-100	0
12/06/2020	3-4	14	5-70	0-0.1
13/06/2020	1-4	14-16	25-70	0-0.1
14/06/2020	1-2	13-15	15-60	0
15/06/2020	1-3	13-15	25-65	0
July				
14/07/2020	3	13-16	40-100	0
15/07/2020	3	9-15	70-100	0
16/07/2020	2-3	16-18	40-90	0
17/07/2020	3	14-17	0-40	0
18/07/2020	2-4	15-16	10-100	0-1.2
19/07/2020	3-4	11-15	0-90	0-0.1
August				
10/08/2020	2-3	20-21	50-80	1.1-1.3
11/08/2020	1-3	20-22	5-80	0-0.8
12/08/2020	2-3	19-20	65-80	0.2-4.2
13/08/2020	1-2	19-20	35-80	0-1.7
14/08/2020	2-3	14-19	55-100	0.1-0.6
15/08/2020	1-3	18-19	40-90	0
16/08/2020	1-2	11-17	70-95	0-1.1
September				
16/09/2020	4-5	15-18	10-25	0
17/09/2020	5	14-15	0	0
18/09/2020	5	15-16	0-100	0
19/09/2020	4-5	13-17	25-85	0-0.4
20/09/2020	3-4	14-16	10-15	0
21/09/2020	1-2	17-19	10-15	0

BF0 = calm, BF12 = hurricane force

Analysis of Bat Survey Recordings

2.3.6 All bat calls were analysed using Analook W v4.4a to verify the species recorded during the survey work. Where recordings could not be reliably attributed to species (such as for *Myotis* species) or where overlaps between otherwise distinguishable species occur (such as in Pipistrelle bat calls around 40kHz or 50kHz) calls were identified to genus level; in the case of calls which could not be distinguished between *Nyctalus* sp. and Serotine *Eptesicus serotinus*, these have been labelled as 'unidentified big bat' species.

Badger (*Meles meles*)[4]

2.3.7 A detailed Badger survey was carried out in April 2019. The surveys comprised two main elements. The first element involved searching for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and mapped. The following information was recorded:

- Number and location of well used / active entrances; these are clear from any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently;
- Number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance; and
- Number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

2.3.8 The second element involved searching for signs of Badger activity such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs, so as to build up a picture of any use of the survey area by Badger.

Reptiles[5]

2.3.9 Given the presence of potentially suitable reptile habitat within the survey area, a specific survey was undertaken to establish the presence / absence of common reptile species between April and June 2020.

2.3.10 A total of 140 50x50cm sheets of thick roofing felt were placed within suitable areas across the survey area to act as artificial refugia, which represents a density of 26.2 refugia per hectare. The refugia, or 'tins', provide shelter and heat up more quickly than their surroundings in the morning and can remain warmer than their surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles use them to bask under and raise their body temperature, which allows them to forage earlier and later in the day. Therefore, checking the refugia at appropriate times of the day (morning and evening) enables the presence / absence of common reptiles to be determined.

2.3.11 The refugia remained undisturbed for approximately 1-2 weeks to allow reptiles to find and start using them. Following this initial bedding-in period, refugia were checked at appropriate times of the day on seven occasions during suitable weather conditions, as set out below in Table 2.4.

4 Based on: Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

5 Surveys based on: Froglife Advice Sheet 10 (1999) '*Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.*'

Table 2.4. Reptile survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation
23/04/2020	1-2	19-22	0	None
30/04/2020	3-5	12	70	None
07/05/2020	1-2	17	40	None
11/05/2020	3-5	10	70	None
15/05/2020	1	12	10	None
22/05/2020	4	16-18	100	None
02/06/2020	1	18	5	None

BF0 = calm, BF12 = hurricane force

2.3.12 In addition, reptiles basking in the open or partial cover were actively searched for in suitable locations across the survey area through direct observation. Existing natural objects (e.g. logs and rocks) and artificial refugia (e.g. debris, tyres, etc.) were also searched, where present, for reptiles or evidence of reptiles (e.g. sloughed skin).

Great Crested Newt (*Triturus cristatus)*

Habitat Suitability Index (HSI)

2.3.13 As a first step in identifying the potential presence of Great Crested Newt within the survey area, a Habitat Suitability Index (HSI) study was undertaken of all relevant waterbodies within 250m[6] of the survey area boundary (based on a review of Ordnance Survey mapping and satellite imagery). Guidance set out within Natural England's Method Statement template, to be used when applying for a Great Crested Newt development licence, states that surveys of ponds within 500m of the survey area boundary are only required when '(a) data indicates that the pond(s) has potential to support a large Great Crested Newt population, (b) the footprint contains particularly favourable habitat, (c) the development would have a substantial negative effect on that habitat and (d) there is an absence of dispersal barriers'. Given that in this instance, all waterbodies greater than 250m from the survey area are separated from by roads or an active railway line, it is considered that survey of ponds within 500m of the survey area boundary is not required, and that survey of ponds within 250m represents adequate survey effort.

2.3.14 An HSI study is used to assess the potential of waterbodies to support Great Crested Newt. It is undertaken by attributing a score to a number of factors that can affect the presence or absence of this species. Ten factors are utilised in an HSI assessment, as described below:

- *SI1 Location.* The location of the water body within Great Britain;
- *SI2 Pond area.* The size of the water body;
- *SI3 Permanence.* How often the water body dries out;
- *SI4 Water Quality.* The water quality, based primarily on invertebrate diversity;
- *SI5 Shade.* The percentage of the perimeter of the water body that is shaded;
- *SI6 Fowl.* The presence or absence of water fowl;
- *SI7 Fish.* The presence or absence of fish;

[6] 250m is the typical maximum migratory range of this species, see English Nature (2004) '*An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt* Triturus cristatus'. English Nature Research Report 576

- *SI8 Pond Count.* The number of water bodies within 1km of the surveyed water body (not counting those on the far side of major barriers such as roads);
- *SI9 Terrestrial.* The quality of terrestrial habitat surrounding the water body; and
- *SI10 Macrophytes.* The percentage cover of the surface area of the water body covered by macrophytes (aquatic plants).

2.3.15 The overall suitability of the waterbody is then determined by entering these figures into an equation devised by Oldham *et al*. (2000)[7]. The suitability of water bodies is classed into one of five categories, either 'poor', 'below average', 'average', 'good' or 'excellent'.

2.3.16 This HSI study was undertaken in line with the guidelines developed by Oldham *et al.* and subsequently adapted by ARG UK (2010)[8]. A suitably experienced ecologist undertook the assessment in line with these guidelines, with the study also supplemented by desktop research where appropriate.

Environmental DNA (eDNA)

2.3.17 An eDNA survey was carried out to determine the presence / absence of Great Crested Newt within the gravel pit within the survey area (WB1) in 2019, and both this and a waterbody located outside of the survey area (WB3) in 2021 (see Plan 5625/ECO5). Water samples were collected on the 17/05/2019 and 29/04/2021 following the procedure outlined in the methods manual prepared for DEFRA by Biggs *et al*. (2014)[9]. The survey fell within the acceptable seasonal window set out by Natural England (15th April to 30th June)[10]. Samples were collected by suitably licensed Aspect Ecology staff. The water samples were sent for laboratory analysis which was conducted by 'Fera' and also followed the procedure set out by Biggs *et al.* (2014)[14].

Detailed Presence / Absence Survey

2.3.18 A waterbody located outside of the survey area (see WB3 on Plan 5625/ECO5) was subject to further specific Great Crested Newt survey during May 2019, having been identified through the HSI assessment as having 'good' potential to support Great Crested Newt.

2.3.19 Surveys were undertaken in suitable weather conditions, using at least three methods per visit (where possible) in accordance with the 'Great Crested Newt Mitigation Guidelines'[11] to determine the presence or absence of Great Crested Newt. Suitable weather conditions are those nights when the night-time air temperature is 5°C or warmer. All surveys were conducted during such conditions.

2.3.20 Torch surveys involved the use of high-powered torches (min. 50,000 candlepower) to count the number of each amphibian species present. As recommended by the guidance, the entire margin of each water body was walked once, slowly searching for Great Crested Newt.

7 Oldham RS, Keeble J, Swan MJS & Jeffcote M (2000) '*Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*'. Herpetological Journal 10 (4), 143-155

8 Amphibian & Reptile Groups of the UK (2010) '*ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index*'

9 Biggs J., Ewald N., Valentini A., Gaboriaud C., Griffiths R.A., Foster J., Wilkinson J., Arnett A., Williams P. and Dunn F. (2014). '*Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA*'. Freshwater Habitats Trust, Oxford.

10 Natural England (2015) '*Great crested newts: surveys and mitigation for development projects. Standing advice for local planning authorities who need to assess the impacts of development on great crested newts*'. Last updated at www.gov.uk on 24/12/2015.

11 Surveys based on: English Nature (2001) *'Great Crested Newt Mitigation Guidelines'*

2.3.21 Bottle-trapping involved setting traps made from 2-litre plastic bottles around the pond margins, and leaving the traps in place overnight before checking them the following morning. A density of one trap every two metres of shoreline was employed, where possible, as recommended by the guidance.

2.3.22 Where suitable vegetation was present within the waterbody, egg searching took place. This involved searching for newt eggs amongst vegetation and unfolding leaves where necessary to confirm species identification. As recommended by the guidance, once a Great Crested Newt egg had been identified no further egg searching was carried out.

Breeding Birds[12]

2.3.23 The use of the survey area by breeding birds was assessed over three survey visits, (on separate days) in April, May and June 2020. Birds present within the survey area were recorded using a method modified from the British Trust for Ornithology's (BTO's) Common Bird Census technique.

2.3.24 This involved walking a route over the survey area and recording all 'registrations' of birds either seen or heard. The sightings or 'registrations' were recorded on a survey area plan using standard BTO codes for each bird species and appropriate abbreviations.

2.3.25 This survey methodology has the advantage over other survey methods of mapping each registration to a specific point within the survey area and this therefore illustrates those areas containing the highest density and diversity of bird species. The dates of each survey, together with a summary of the weather conditions are given in Table 2.5 below.

Table 2.5. Breeding bird survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation (0-5)
04/04/2020	1	12	15	None
03/05/2020	0	9	90	None
08/06/2020	1	12	90	None

2.4 Survey Constraints and Limitations

2.4.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat survey was undertaken within the optimal season therefore allowing a robust assessment of habitats and botanical interest across the survey area.

2.4.2 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

2.4.3 Due to the extent of the wooded habitats it was not practical to undertake detailed visual inspection surveys of trees within the survey area to assess suitability for roosting bats. As such, for the purposes of this baseline assessment it is assumed likely that a reasonable number of trees with varying bat roosting suitability are present within the survey area.

[12] Surveys based on methodology within: Baille *et al*. RA (2010) '*Breeding Birds in the Wider Countryside: their conservation status*', BTO Research Report No. 385, BTO, Thetford.

2.4.4 A recognised limitation of the bat activity surveys is that bat detectors can only provide an index of activity rather than absolute numbers of bats. Therefore, the results of the bat activity surveys should only be considered indicative of the amount of use bats make of an area rather than the abundance of bats. In addition, some bat species, e.g. Brown Long-eared Bat *Plecotus auritus*, are difficult to detect due to their quiet echolocation calls.

2.4.5 One of the seven reptile survey visits was undertaken during temperatures above the optimal range for reptile surveys (i.e. above 18°C), with a peak temperature of 22°C recorded during this visit. As the species assemblage and peak count recorded on this survey visit was comparable to those undertaken within the optimal temperature range, it is not considered likely to have had an adverse effect on the results of the survey work as a whole.

2.4.6 Densely vegetated habitats within the survey area have the potential to reduce the detectability of field signs for faunal species such as Badger. A detailed survey was able to be completed and, whilst dense vegetation is present within the survey area, it is considered that the survey results provide an accurate baseline.

2.5 Principles of Ecological Evaluation

2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)[13], which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). For full details refer to Appendix 5625/1.

[13] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine' version 1.1*, Chartered Institute of Ecology and Environmental Management, Winchester

3 Ecological Designations

3.1 Statutory Designations

European-level Designations

3.1.1 The European-level statutory designations of ecological importance that occur within 25km of the survey area are set out in Table 3.1 below.

Table 3.1: Summary of European-level designations within 25km of the survey area.

Site	Status	Description	Distance and Direction from Survey area
Chichester and Langstone Harbours	Special Protection Area (SPA) / Ramsar	**SPA:** Designated on the basis of supporting Bar-tailed Godwit *Limosa lapponica*, Common Tern *Sterna hirundo*, Curlew *Numenius arquata*, Dark-bellied Brent Goose *Branta bernicla bernicla*, Dunlin *Calidris alpina,* Grey Plover *Pluvialis squatarola*, Little Tern *Sternula albifrons*, Pintail *Anas acuta*, Red-breasted Merganser *Mergus serrator*, Redshank *Triga totanus*, Ringed Plover *Charadrius hiaticula*, Sanderling *Calidris alba*, Sandwich Tern *Thalasseus sandvicensis*, Shelduck *Tadorna tadorna*, Shoveler *Spatula clypeata*, Teal *Anas crecca*, Turnstone *Arenaria interpres* and Wigeon *Mareca penelope*. **Ramsar:** Designated on the basis of comprising wetlands of international importance supporting important botanical communities and over 20,000 wintering birds including internationally important numbers of Dark-bellied Brent Goose*,* Ringed Plover*,* Grey Plover*,* Dunlin and Black Tailed Godwit *Limosa limosa.*	4.2km W
Solent Maritime	Special Area of Conservation (SAC)	Designated for the presence of the Annex 1 habitats '*Estuaries*', '*Spartina swards (Spartinion maritimae)*', and '*Atlantic salt meadows (Glauco-puccinellietalia maritimae)*'. Other Annex 1 habitats present as a qualifying feature include '*sandbanks which are slightly covered by sea water all the time*', '*mudflats and sandflats not covered by seawater at low tide*'. '*coastal lagoons*', '*annual vegetation of drift lines*', '*perennial vegetation of stony banks*', '*Salicornia and other annuals colonizing mud and sand*', '*shifting dunes along the shoreline with Ammophilia arenaria (white dunes)*'. The presence of the Annex 2 listed species Desmoulin's Whorl Snail *Vertigo moulinsiana* is also present as a qualifying feature.	4.2km W
Pagham Harbour	SPA / Ramsar	**SPA:** Designated on the basis of supporting breeding Little Tern and Common Tern, in addition to wintering Ruff *Philomachus pugnax* and Dark-bellied Brent Goose. **Ramsar:** Designated on the basis of comprising wetlands of international importance supporting internationally important numbers of wintering Dark-bellied Brent Goose, and nationally important numbers of waders and breeding Little Tern.	4.6km SW
Kingley Vale	SAC	Designated on the basis of the presence of the Annex 1 listed habitat '*Taxus baccata woods of the British Isles*'. The Annex 1 listed habitat '*semi-natural dry grasslands and scrubland facies on calcareous*	7.6km NW

Site	Status	Description	Distance and Direction from Survey area
		substrates (Festuco-Brometalia) (important orchid sites)*' is also present as a qualifying feature.	
Singleton and Cocking Tunnels	SAC	Supports the Annex 2 listed species Barbastelle *Barbastella barbastellus* and Bechstein's Bat *Myotis bechsteinii*.	8.9km N
Duncton to Bignor Escarpment	SAC	Designated on the basis of the presence of the Annex 1 habitat '*Asperulo-Fagetum Beech forests*'.	11.4km NE
Rook Clift	SAC	Designated on the basis of the presence of the Annex 1 habitat '*Tilio-Acerion forests of slopes, screes and ravines'*.	14.4km NW
Arun Valley	SAC / SPA / Ramsar	**SAC:** Supports the Annex 2 listed species Ramshorn Snail *Anisus vorticulus*. **SPA:** Designated on the basis of supporting 1.6% of Great Britain's population of Bewick's Swan *Cygnus columbianus bewickii* (Annex 1 listed), in addition to being regularly used by over 20,000 waterfowl. **Ramsar:** Designated on the basis of comprising wetlands of international importance supporting internationally important waterfowl assemblages (>20,000); seven wetland invertebrate species listed in the British Red Data Book as threatened; four nationally rare and four nationally scarce plant species; and rich aquatic botanical assemblages.	15.9km NE
Solent & Isle of Wight Lagoons	SAC	Designated on the basis of the presence of the Annex 1 habitat '*coastal lagoons'*.	20km W
Butser Hill	SAC	Designated on the basis of the presence of the Annex 1 listed habitats '*semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)*' and '*Taxus baccata woods of the British Isles*'.	21.1km NW
The Mens	SAC	Designated on the basis of the presence of the Annex 1 listed habitat '*Atlantic acidophilous Beech forests with Ilex and sometimes also Taxus in the shrublayer (Querciuon robori-petraeae or Ilici-Fagenion)'.* The Annex 2 listed species Barbastelle is also present as a qualifying feature.	21.3km NE
Ebernoe Common	SAC	Designated on the basis of the presence of the Annex 1 listed habitat '*Atlantic acidophilous Beech forests with Ilex and sometimes also Taxus in the shrublayer (Querciuon robori-petraeae or Ilici-Fagenion)',* in addition to the Annex 2 listed species Barbastelle and Bechstein's Bat.	21.8km NE
Portsmouth Harbour	SPA / Ramsar	**SPA:** Designated on the basis of supporting Black-tailed Godwit *Limosa limosa*, Dark-bellied Brent Goose, Dunlin and Red-breasted Merganser. **Ramsar:** Designated on the basis of comprising wetlands of international importance supporting Sea Bass *Dicentrarchus labrax,* important invertebrate and botanical assemblages, in addition to an internationally important wintering population of Dark-bellied Brent Goose and nationally important numbers of Dunlin, Black-tailed Godwit and Red-breasted Merganser.	22.9km W

National / Local-level Designations

3.1.2 The national / local-level statutory designations of ecological importance that occur within the local area are shown on Plan 5625/ECO2. The nearest statutory designation is Brandy Hole Copse Local Nature Reserve (LNR) located approximately 2.9km north-west of the survey area at its closest point. The LNR is designated on the basis of its habitats comprising broadleaved woodland, coniferous woodland, lowland heath, tall herb, fen, bog, flush and open water which support Pipistrelle *Pipistrellus* sp. The next nearest statutory designation is Chichester Harbour Site of Special Scientific Interest (SSSI), located approximately 4.2km west of the survey area and underpins Chichester and Langstone Harbours SPA / Ramsar and Solent Maritime SAC (see Table 3.1 above). The SSSI is designated on the basis of its wetland, pasture field and woodland habitats which support important botanical communities, breeding birds, and wintering wildfowl and waders.

3.1.3 Natural England has developed Impact Risk Zones (IRZs) as an initial tool to help assess the risk of developments adversely affecting SSSIs, taking into account the type and scale of developments. The survey area falls within a number of IRZs with any new residential development of 500 or more units requiring further consultation between the LPA and Natural England, in addition to financial contributions to mitigate increased recreational disturbance on coastal SPA's and Ramsar sites, and consideration of Solent nutrient neutrality.

3.2 Non-statutory Designations

3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 5625/ECO2. The nearest non-statutory designation is Chichester Gravel Pits and Leythorne Meadow Local Wildlife Site (LWS), located approximately 0.7km south-west of the survey area. The LWS is designated on the basis of its importance for wintering wildfowl, breeding birds, damselflies, in addition to its botanical importance. No other non-statutory designations within 2km of the survey area were returned from SxBRC.

3.3 Priority Habitats, Ancient Woodland, Notable Trees and National Habitat Network

3.3.1 There are no records of any notable or veteran trees, or areas of ancient woodland, within or adjacent to the survey area and the survey area does not fall within any parcels identified within the National Habitat Network. An area of the survey area is identified in MAGIC as 'Open Mosaic Habitat'. This is discussed further within the relevant habitat sections in Chapter 4 below.

3.4 Summary

3.4.1 In summary, the survey area itself is not subject to any statutory or non-statutory ecological designations, and none of the designations in the surrounding area pose an overriding constraint to development of the survey area. A small part of the survey area is identified in MAGIC as 'Open Mosaic Habitat' and this has been incorporated within the illustrative masterplan (see Appendix 5625/5).

4 Habitats and Ecological Features

4.1 Background Records

4.1.1 Information returned from SxBRC included records of a number of protected and notable plant species from within the last 20 years, including the Priority Species Cornflower *Centaurea cyanus* and Yellow Bird's-nest *Hypopitys monotropa*. The closest records of these species returned were located approximately 0.86km north of the survey area in 2010 and 1.06km south-east of the survey area in 2019 respectively. A record of Field Scabious *Knautia arvensis* (identified as near threatened on the Red List for England), was returned from a 2km x 2km OS grid square that the survey area falls within in 2013. No evidence for the presence of any of these species within the survey area was recorded during the survey work undertaken.

4.2 Overview

4.2.1 The habitats and ecological features present within the survey area are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

4.2.2 The following habitats / ecological features were identified within / adjacent to the survey area:

- Woodland;
- Gravel Pit;
- Open Mosaic Habitat;
- Recolonising Ground;
- Semi-improved Grassland;
- Arable;
- Reedbeds;
- Dense Scrub;
- Hedgerows;
- Trees;
- Ditches;
- Hardstanding; and
- Introduced Shrub.

4.2.3 The locations of these habitat types and features are illustrated on Plan 5625/ECO3 and are described in detail below.

4.3 Priority Habitats

4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of

State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

4.3.2 Of the habitats within the survey area, the gravel pit, open mosaic habitat, reedbeds and a number of hedgerows are considered to qualify as Priority Habitats and therefore constitute important ecological features. This is discussed further in the relevant habitat sections below.

4.4 Woodland

Description

4.4.1 The Phase 1 survey identified three main parcels of woodland within the survey area, labelled W1 – W3 on Plan 5625/ECO3. A number of ephemerally wet depressions are present across woodland areas W1-W3.

4.4.2 Woodland **W1** is located at the north of the survey area and is dominated by mature Willow *Salix* sp., with young Silver Birch *Betula pendula* also present within the canopy. The understorey is sparsely vegetated, comprising Elm *Ulmus* sp. saplings, Hawthorn *Crataegus monogyna* and Dog Rose *Rosa canina*, whilst the ground flora comprises species including Wood Avens *Geum urbanum*, Common Nettle *Urtica diocia*, Hart's Tongue *Phyllitis scolopendrium*, Montbretia *Crocosmia pottsii x aurea = C. x crocosmiiflora*, Primrose *Primula vulgaris*, Agrimony *Agrimonia eupatoria* and Ground-ivy *Glechoma hederacea*. A band of early mature to mature trees is present at the northern edge of W1, adjacent the highway, comprising English Oak *Quercus robur*, Turkey Oak *Quercus cerris* and Holm Oak *Quercus ilex*.

4.4.3 Woodland **W2** is located centrally within the survey area and is dominated by young regenerating Silver Birch and Willow. The ground flora was recorded to be heavily dominated by invasive Horsetail *Equisetum* sp., with other species recorded including Bramble *Rubus fruticosus* agg., Wood Avens, Colt's-foot *Tussilago farfara*, Violet *Viola* sp., a Primrose *Primula* sp., Marsh Thistle *Cirsium palustre*, Agrimony, Lords-and-Ladies *Arum maculatum*, Foxglove *Digitalis purpurea*, Hard Rush *Juncus inflexus*, Common Twayblade *Listera ovata* and Gypsywort *Lycopus europaeus*.

4.4.4 The eastern aspect of woodland W2 was recorded to be dominated by semi-mature and mature Willow, with ground flora comprising Common Nettle, Bramble, Forget-me-not *Myosotis* sp. and Lords-and-ladies.

4.4.5 Woodland **W3** is located at the south-east of the survey area and is dominated by young Willow with native specimens at the eastern boundary. The understorey was recorded to comprise young Sycamore and Elder *Sambucus nigra*, with Lords-and-ladies, Enchanter's-nightshade *Circaea lutetiana*, Stinking Iris *Iris foetidissima*, Ground-ivy and Common Nettle present in the ground flora.

Evaluation

4.4.6 The woodland within the site is primarily an area of overgrown scrubland and secondary woodland largely comprising dense stands of pioneer species (e.g. Birch and Willow) which have colonised over the former gravel workings. The majority of the woodland is of limited ecological value and is heavily encroached by Horsetail.

4.4.7 The scrubland/woodland has been subject to an initial arboricultural appraisal, which identifies that the pioneer species are of low quality and have a limited future longevity. Similarly, within the areas of secondary woodland are individuals and groups of mature Crack Willow and White Willow. These trees have been drawn up due to companion shelter and are of poor individual quality. The trees therefore have potential for future collapse and have a limited safe life expectancy. There are trees of greater relative importance in the north of W1 (see section 4.13 below).

4.4.8 A review of the MAGIC database shows that the National Woodland Inventory identifies the woodland type as 'shrub' and none of the woodland is mapped as Priority Habitat. Similarly, none of the woodland is mapped as Priority Habitat within the background data provided by SxBRC. As such, the woodland within the survey area does not constitute an important ecological feature.

4.5 Gravel Pit

Description

4.5.1 A single waterbody is present within the survey area, labelled WB1 on Plan 5625/ECO3, comprising an artificial man-made lake, arising from the former gravel workings. WB1 comprises a large area of open water with a surface area of approximately 6.7ha surrounded by woodland, scrub and trees. Several reedbeds are present at much of its perimeter as described in Section 4.10 below, whilst an informal footpath runs around its perimeter. Evidence of recreational use including fishing areas and remnants of a fire were observed on the northern bank.

Evaluation

4.5.2 The gravel pit supports limited aquatic vegetation and is of relatively limited botanical interest, however, as discussed at Chapter 5 below, the waterbody provides a valuable resource to faunal species such as breeding birds. Furthermore, the gravel pit is identified as open water Priority Habitat within the SxBRC background data. As such, the gravel pit is assessed as being an important ecological feature. Due to the presence of numerous gravel pits and waterbodies within the surrounding area, including Drayton Gravel Pits to the south which, in contrast to the on-site gravel pit, are managed for biodiversity, the gravel pit is assessed as being of local to district level value.

4.6 Open Mosaic Habitat

Description

4.6.1 In the south-west of the survey area lies an area of open mosaic habitat (OMH), which is a habitat type characterised by land with a known history of disturbance (e.g. gravel extraction), typically comprising early successional communities forming a mosaic with other habitat features such as unvegetated bare substrate and pools, for example. The area of OMH within the survey area features areas of grassland, bare ground and ruderals, together with scrub (the latter is not characteristic of OMH but often occurs in conjunction).

4.6.2 Species recorded include Bramble, Hawthorn, Dog Rose, Dogwood *Cornus sanguinea*, Butterfly-bush *Buddleja davidii*, Knapweed *Centaurea* sp., Agrimony, Silverweed *Potentilla anserina*, Dandelion *Taraxacum officinale* agg., Daisy *Bellis perennis*, Creeping Cinquefoil *Potentilla reptans*, Bristly Oxtongue *Picris echioides*, Cat's-ear *Hypochaeris radicata*, Ground-ivy, Common Ragwort *Senecio jacobaea*, a Tare *Vicia* sp., Hard Rush, Water Mint *Mentha aquatica*, Caper Spurge *Euphorbia lathyris*, Strawberry *Fragaria* sp., Burdock

Arctium sp. and Primrose. Other notable species recorded within this habitat include Pyramidal Orchid *Anacamptis pyramidalis*, which was recorded frequently, in addition to Southern Marsh-orchid *Dactylorhiza praetermissa* and Bee Orchid *Ophrys apifera* which were recorded rarely. No ephemeral pools were recorded during the survey work undertaken, albeit areas of bare ground were noted to be present.

Description

4.6.3 The habitat at the south-west of the survey area is identified in the MAGIC database as the Priority Habitat 'Open Mosaic Habitat on Previously Developed Land', contiguous to land to the west. Based on the mosaic of botanical communities present, evidence of disturbance, and areas of bare ground, this area does indeed meet the definition for this Priority Habitat. As such, the area of OMH represents an important ecological feature and, as it forms part of a larger area of this habitat type to the west, it is assessed to be of importance at the local to district level, noting that other examples of this habitat type occur within the immediate area.

4.7 Recolonising Ground

Description

4.7.1 Areas of recolonising ground are present adjacent to and throughout the woodland within the survey area and were recorded to comprise areas that have been cleared through vegetation removal and / or machinery access. Species recorded within areas adjacent to the woodland include Bramble, Hawthorn, Dog Rose, Dogwood, Butterfly-bush, Knapweed, Agrimony, Silverweed, Dandelion, Daisy, Creeping Cinquefoil, Bristly Oxtongue, Cat's-ear, Ground-ivy, Common Ragwort, a Tare, Hard Rush, Water Mint, Caper Spurge, Strawberry, Burdock and Primrose.

4.7.2 Where this habitat was recorded within areas of woodland, the botanical communities were noted to be consistent with the associated ground flora of the associated woodland habitats.

Description

4.7.3 The areas of recolonising ground support a relatively low diversity of common and widespread species, and does not qualify as a Priority Habitat. As such, the recolonising ground habitat does not constitute an important ecological feature.

4.8 Semi-improved Grassland

Description

4.8.1 Two areas of semi-improved grassland are present within the north-west of the survey area, within proximity of the arable habitat (see Plan 5625/ECO3). These areas of semi-improved grassland were not recorded to be subject to recent management, albeit tussocks were only noted to be present at the boundaries, supporting a sward height of 5-30cm, suggesting that the majority of the grassland does receive periodic management. The sward was recorded to be dominated by grass species including Perennial Rye-grass *Lolium perenne*, Cock's-foot *Dactylis glomerata*, Red Fescue *Festuca rubra* and Creeping Bent *Agrostis stolonifera*, with other species recorded including Common Bird's-foot-trefoil *Lotus corniculatus*, Creeping Thistle *Cirsium arvense*, Wild Carrot *Daucus carota* subsp. *carota*, Common Vetch *Vicia sativa* subsp. *segetalis*, a Tare, Oxeye Daisy *Leucanthemum vulgare*, Cut-leaved Crane's-bill *Geranium dissectum*, Daisy, Hawkbit *Leontodon* sp., Hogweed

Heracleum sphondylium, Creeping Cinquefoil, Red Clover *Trifolium pratense*, Bulbous Buttercup *Ranunculus bulbosus*, Ribwort Plantain *Plantago lanceolata* and Bramble.

Evaluation

4.8.2 Overall, the areas of grassland support a relatively modest diversity of common and widespread species, with a low herb content, and based on the type and abundance of species present it can be classified as semi-improved grassland[14]. A number of wildflower indicator species are present, e.g. Bird's-foot-trefoil and Oxeye Daisy, however these are not sufficiently numerous or abundant for the grassland to qualify as a Priority Habitat grassland type (e.g. lowland meadow) and the grassland present is fairly typical of agriculturally improved grassland, which is a frequent feature in the local area. As such, the semi-improved grassland within the survey area does not constitute an important ecological feature.

4.9 Arable

Description

4.9.1 A single area of arable habitat is present in the north-west of the survey area as shown on Plan 5625/ECO3. At the time of the survey work undertaken in 2019, the arable habitat was not recorded to be in current use, supporting a short sward and areas of bare ground. Species recorded within the arable habitat included Black Grass *Alopecurus myosuroides*, Groundsel *Senecio vulgaris*, Scentless Mayweed *Tripleurospermum inodorum*, Cleavers *Galium aparine*, Dove's-foot Crane's-bill *Geranium molle*, Cut-leaved Crane's-bill and Smooth Sow-thistle *Sonchus oleraceus*.

Evaluation

4.9.2 Overall, the arable habitat was recorded to support a low diversity of common and widespread species. As such, the arable habitat does not constitute an important ecological feature.

4.10 Reedbeds

Description

4.10.1 A number of reedbeds are present at the margins of the gravel pit within the survey area and were noted to be dominated by Common Reed *Phragmites australis*, with small areas of Bulrush *Typha latifolia* and Hard Rush also recorded.

Evaluation

4.10.2 The reedbed areas present within the survey area are not identified in MAGIC or SxBRC background data as the Priority Habitat 'Reedbeds'. However, the reedbeds are an intrinsic feature of the gravel pit and therefore for the purposes of this assessment are assessed as being an important ecological feature, albeit due to the presence of comparable habitats within the local area and given the relatively small coverage, at the local level only.

[14] Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

4.11 Dense Scrub

Description

4.11.1 Areas of dense scrub is present within the northern part of the survey area, largely associated with hedgerows and woodland W1, as shown on Plan 5625/ECO3. The dense scrub was recorded to comprise Bramble, Hawthorn, Dog Rose, Dogwood and Butterfly-bush.

Evaluation

4.11.2 The dense scrub comprises a variety of species, albeit including an undesirable non-native species (Butterfly-bush), and is of intrinsic ecological value, however it does not constitute a Priority Habitat type and therefore does not form an important ecological feature

4.12 Hedgerows

Description

4.12.1 Four hedgerows are present within the survey area, labelled H1 – H4 on Plan 5625/ECO3 and described in table 4.1 below.

Table 4.1. Hedgerow descriptions.

No.	H	W	Woody species	Ground flora & climbers	Associated features	Comments (including structure / management)	Likely to qualify#
H1	2m	2m	Field Maple *Acer campestre*, Hawthorn, Hazel *Corylus avellana*, Oak *Quercus robur* (m)	Broad-leaved Dock Rumex obtusifolius, Hemlock *Conium maculatum*, Cleavers, White Campion *Silene latifolia*, White Dead-nettle *Lamium album,* Mallow *Malva* sp., Barren Brome *Anisantha sterilis*, Red Dead-nettle *Lamium purpureum*, Cow Parsley *Anthriscus sylvestris*	>10% gaps, standard tree, f/p,	Unmanaged defunct hedgerow	N
H2	5m	2m	Hawthorn (D), Beech *Fagus sylvatica*, Willow, Poplar *Populus sp.*, Aspen *Populus tremula*, Field Maple, Sycamore *Acer pseudoplatanus*	Ivy *Hedera helix*, Red Dead-nettle, Cleavers, Bramble, Herb-Robert *Geranium robertianum*, Burdock	<10% gaps, standard trees, ditch	Unmanaged	N
H3	3m	1.5-2m	Hawthorn (D), Field Maple, Elder *Sambucus nigra*, Wych Elm *Ulmus glabra*, Oak (y), Willow (y), Sycamore	Lords-and-ladies	Dry ditch, <10% gaps, standard trees, parallel hedge	Managed on the eastern aspect and on top	N
H4	3-4m	1.5-2m	Hawthorn (D), Sycamore, Willow (y), Oak (pv), Field Maple	-	<10% haps, Standard tree, parallel hedge	Managed on the northern aspect and on top	N

Woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) and woodland ground flora species (as listed under Schedule 2 of the Hedgerows Regulations 1997) underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway, (D) = dominant species

[#] likely to qualify – as 'important' under the wildlife and landscape criteria of the Hedgerows Regulations 1997

Evaluation

4.12.2 The majority of hedgerows recorded within the survey area are well established features and contain a number of standard trees. From a preliminary appraisal, hedgerow H2, H3 and H4 are considered to be species-rich[15]. None of the hedgerows within the survey area are likely to qualify as ecologically 'important' under the Hedgerows Regulations 1997, based on the number of woody species and associated features.

4.12.3 All of the hedgerows within the survey area are likely to qualify as a Priority Habitat based on the standard definition[15], which includes all hedgerows (>20m long and <5m wide) consisting predominantly (≥80%) of at least one native woody species. It has been estimated that approximately 84% of countryside hedgerows in GB qualify as a Priority Habitat under this definition. [16]

4.12.4 On this basis, the hedgerows within the survey constitute important ecological features, although given the relatively limited network present, are only of importance at the local level.

4.13 Trees

Description

4.13.1 A number of trees were recorded within the survey area, largely associated with the hedgerows (as set out at Table 4.1 above), the woodland habitats and the banks of the gravel pit. Standard trees within the hedgerows were noted to largely be of a relatively substantial size and range from young to mature in age, with two possible veteran Oak trees present within hedgerow H4. Other trees within the survey area were noted to be young to semi-mature in age.

Evaluation

4.13.2 The majority of standard trees recorded across the survey area are young to semi-mature in nature and are of inherent ecological value, albeit at present do not constitute important ecological features.

4.13.3 Two possible veteran Oak trees were recorded within the survey area which are of a substantial size and likely to be of considerable age. Accordingly, these possible veteran trees are of ecological interest in their own right and due to their age, are assessed as important ecological features of local level value.

[15] i.e. five or more native woody species within a 30m length (or four or more in Northern England) – FEP Manual

[16] Based on: Biodiversity Reporting and Information Group (2011) '*UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions'*, ed. Ant Maddock

4.14 Ditches

Description

4.14.1 Two ditches are present within the survey area, associated with hedgerow H2 (as detailed at Table 4.1 above) and running centrally within the survey area.

4.14.2 The ditch associated with hedgerow H2 was recorded to be approximately 2m deep and 1-1.5m wide and was noted to be damp in places. The ditch was recorded to support species consistent with the ground flora of the adjacent hedgerow, with Pendulous Sedge *Carex pendula* also noted to be present.

4.14.3 The ditch running centrally within the survey area was recorded to be approximately 2m deep and 0.5m wide and was noted to be largely dry. Species recorded within this ditch were consistent with those present within the adjacent scrub, recolonising ground and open mosaic habitat.

Evaluation

4.14.4 Although not of particular ecological value in isolation, given that the ditches are associated with other habitats forming important ecological features such as hedgerows and open mosaic habitat, they are assessed as important ecological features of local level value for the purposes of this assessment.

4.15 Hardstanding

Description

4.15.1 A single access road is present at the north-west of the survey area, as shown on Plan 5625/ECO3. This road was recorded to comprise crushed aggregate and concrete with colonising vegetation comprising Creeping Cinquefoil, Oxeye Daisy, a Crane's-bill *Geranium* sp., Dandelion, Bramble, Wild Teasel *Dipsacus fullonum* and Ribwort Plantain.

Evaluation

4.15.2 The hardstanding supports a limited range of common and widespread floral species and is inherently of negligible ecological value. As such, the hardstanding does not form an important ecological feature.

4.16 Introduced Shrub

Description

4.16.1 An area of Montbretia was recorded within woodland W1 as detailed at Section 4.4 above. Montbretia is listed under Schedule 9 Part II of the Wildlife and Countryside Act 1981 (as amended).

Evaluation

4.16.2 Montbretia is listed under Schedule 9 Part II of the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to cause to grow in the wild any plant listed on the schedule.

4.17 Habitat Evaluation Summary

4.17.1 On the basis of the above, the following habitats within and adjacent to the survey area are considered to form important ecological features:

Table 4.2. Evaluation summary of habitats forming important ecological features.

Habitat	Level of Importance
Gravel Pit	Local – District
Open Mosaic Habitat	Local - District
Reedbeds	Local
Hedgerows	Local
Trees (Possible veteran trees only)	Local
Ditches	Local

4.17.2 As shown on the illustrative masterplan (see Appendix 5625/5), with the exception of small areas of hedgerow, the above important ecological features have all been incorporated within the illustrative masterplan. The proposed development provides the opportunity to enhance a number of retained ecological features in addition to the creation of new habitats, such as new native planting and wetland habitat in conjunction with the surface water and landscape strategies.

4.17.3 Other habitats present within the survey area include woodland, recolonising ground, semi-improved grassland, arable, dense scrub, hardstanding and introduced shrub. However, these habitats do not form important ecological features and do not pose an overriding constraint to development of the survey area.

5 Faunal Use of the Survey Area

5.1 Overview

5.1.1 During the survey work, general observations were made of any faunal use of the survey area with specific attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of bats, Badger, Great Crested Newt, reptiles and breeding birds, with the results described below.

5.2 Priority Species

5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

5.2.2 During the survey work undertaken, the Priority Species Soprano Pipistrelle *Pipistrellus pygmaeus*, Barbastelle, Noctule *Nyctalus noctula*, Brown Long-eared Bat, Slow-worm *Anguis fragilis*, Grass Snake *Natrix helvetica* (aka *Natrix natrix*), Common Lizard *Zootoca vivipara*, Herring Gull *Larus argentatus* subsp. *argentatus*, Skylark *Alauda arvensis,* Starling *Sturnus vulgaris*, Song Thrush *Turdus philomelos,* House Sparrow *Passer domesticus,* Bullfinch *Pyrrhula pyrrhula*, Linnet *Linaria cannabina,* Yellowhammer *Emberiza citronella* and Reed Bunting *Emeriza schoeniclus* were recorded within the survey area. This is discussed further below.

5.3 Bats

5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 5625/2 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also considered S41 Priority Species.

5.3.2 **Background Records.** Information received from SxBRC from within the last 20 years includes two records of Barbastelle from within two separate 1km x 1km OS grid squares that the survey area partially falls within in 2015. However, due to the coarse resolution of these records it is not possible to confirm if these originated from within the survey area itself. Other species recorded within the wider 2km search area include Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle, Nathusius' Pipistrelle *Pipistrellus nathusii*, Serotine, Daubenton's Bat *Myotis daubentonii*, Noctule, Brown Long-eared Bat, an unidentified Myotis bat *Myotis* sp., an unidentified Long-eared Bat *Plecotus* sp., and unidentified bat species.

5.3.3 **Survey Results**

Activity surveys (foraging /commuting)

5.3.4 The woodland, hedgerows, semi-improved grassland, waterbody, open mosaic habitat, trees, ditches, scrub and recolonising ground within the survey area offer potential opportunities for foraging bats as they are likely to support a reasonable biomass of invertebrate prey. In addition, the hedgerows and woodland form linear corridors that could act as navigational aids for commuting bats and provide connectivity to similar off-site habitats in the surrounding area. As such, bat activity surveys were undertaken between May to September 2020.

5.3.5 **Manual walked transect surveys.** The detailed manual walked transect survey results are included at Appendix 5625/3 and illustrated on Plan 5625/ECO4a. A discussion of activity levels across the survey area is set out below.

Transect A

5.3.6 As detailed at Appendix 5625/3, during the dusk and dawn surveys undertaken during 2020, Soprano Pipistrelle was the most commonly recorded species, ranging from 35% of all registrations in June (n=55), to 88% of all registrations in July (n=128). The next most commonly recorded species was Common Pipistrelle, ranging from 0% of total registrations for the dawn survey undertaken in August, and 39% of all registrations recorded in June (n=61). The remainder of the registrations across all the surveys were attributed to Noctule (8%), *Pipistrellus* sp. (7%), *Myotis* sp. (6%), Nathusius' Pipistrelle (2%), Long-eared Bat (likely Brown Long-eared Bat) (1%), Serotine (<1%), big bat species *Nyctalus / Eptesicus* sp. (<1%) and Barbastelle (<1%).

5.3.7 Activity peaked on the survey undertaken on 28th May, with a total of 219 registrations recorded, comprising 142 Soprano Pipistrelle passes, 52 Common Pipistrelle passes, 11 Noctule passes, 9 *Pipistrellus* sp. passes, 4 *Myotis* sp. passes and one Barbastelle pass.

5.3.8 The greatest levels of bat activity were recorded within areas of woodland, open mosaic habitat and the waterbody, with comparably low levels of activity at the north-west of the survey area as shown on Plan 5625/ECO4b.

5.3.9 **Remote Detector Surveys.** A total of nine bat species (or species groups[17]) were recorded over the course of all the remote detector surveys, namely Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle, *Pipistrellus* sp., Noctule, Serotine, big bat species *Nyctalus / Eptesicus* sp., *Myotis* sp., *Plecotus* sp. (likely Brown Long-eared Bat) and Barbastelle.

5.3.10 The detailed remote detector survey results are included at Appendix 5625/4 and illustrated on Plan 5625/ECO4b. A discussion of activity levels for each remote detector location is set out below.

Remote detector location SD1

5.3.11 Comparably low levels of bat activity were recorded at location SD1, with all registrations recorded at this location attributable to 7.51% of registrations across all detector locations between May and September.

[17] *Myotis* sp. bats are difficult to separate based on analysis of calls alone, and have therefore been identified to species group level only. It is likely several different species within each group are present within the survey area. Similarly, some Pipistrelle, Long-eared Bat and *Nyctalus/Eptesicus* (or 'big bat') sp. calls were not possible to identify to species level and are assigned to a species group.

5.3.12 Across all months, the majority of registrations were attributed to Soprano Pipistrelle, accounting for 54.66% of all registrations, with the next most frequently recorded species group being *Pipistrellus* sp. accounting for 16.33% of all registrations. The remaining registrations were attributable to Noctule (14.77%), Common Pipistrelle (8.05%), *Myotis* sp. (4.52%), big bat species *Nyctalus / Eptesicus* sp. (1.15%), Nathusius' Pipistrelle (0.38%), *Plecotus* sp. (0.10%) and Serotine (0.03%).

5.3.13 Activity peaked in July 2020 where an average of 19.80 Soprano Pipistrelle bat passes were recorded per hour. In contrast, across all other months, the average number of Soprano Pipistrelle passes per hour at location SD1 was 2.51.

Remote detector location SD2

5.3.14 Comparably moderate levels of bat activity were recorded at location SD2, with all registrations recorded at this location attributable to 19.87% of registrations across all detector locations between May and September 2020.

5.3.15 Across all months, the majority of registrations were attributed to Soprano Pipistrelle, accounting for 34.46% of all registrations, with the next most frequently recorded species group being Common Pipistrelle accounting for 29.76% of all registrations. The remaining registrations were attributable to *Pipistrellus* sp. (14.16%), Noctule (9.34%), Nathusius' Pipistrelle (5.40%), *Myotis* sp. (3.98%), big bat species *Nyctalus* / *Eptesicus* sp. (2.55%), Barbastelle (0.17%), *Plecotus* sp. (0.14%) and Serotine (0.04%).

5.3.16 Activity peaked in June 2020 where an average of 31.93 Common Pipistrelle and 20.88 Soprano Pipistrelle bat passes were recorded per hour. In contrast, across all other months, the average number of Common Pipistrelle and Soprano Pipistrelle passes per hour at location SD2 was 2.97 and 7.60 respectively.

Remote detector location SD3

5.3.17 Comparably high levels of bat activity were recorded at location SD3, with all registrations recorded at this location attributable to 60.38% of registrations across all detector locations between May and September 2020.

5.3.18 Across all months, the majority of registrations were attributed to Common Pipistrelle, accounting for 56.50% of all registrations, with the next most frequently recorded species group being Soprano Pipistrelle accounting for 30.21% of all registrations. The remaining registrations were attributable to *Pipistrellus* sp. (4.79%), Noctule (4.05%), Nathusius' Pipistrelle (2.10%), big bat species *Nyctalus* / *Eptesicus* sp. (0.31%), *Plecotus* sp. (0.02%) and Barbastelle (<0.00%).

5.3.19 Activity peaked in June 2020 where an average of 112.05 Common Pipistrelle bat passes were recorded per hour. In contrast, across all other months, the average number of Common Pipistrelle passes per hour at location SD3 was 40.07.

Remote detector location SD4

5.3.20 Comparably low levels of bat activity were recorded at location SD4, with all registrations recorded at this location attributable to 12.25% of registrations across all detector locations between May and September 2020.

5.3.21 Across all months, the majority of registrations were attributed to Soprano Pipistrelle, accounting for 38.31% of all registrations, with the next most frequently recorded species group being Noctule accounting for 22.74% of all registrations. The remaining registrations

were attributable to Common Pipistrelle (21.99%), *Pipistrellus* sp. (13.13%), Nathusius' Pipistrelle (1.62%), *Myotis* sp. (1.27%), big bat species *Nyctalus* / *Eptesicus* sp. (0.72%), *Plecotus* sp. (0.18%), Serotine (0.02%) and Barbastelle (0.02%).

5.3.22 Activity peaked in July 2020 where an average of 20.58 Soprano Pipistrelle bat passes were recorded per hour. In contrast, across all other months, the average number of Common Pipistrelle passes per hour at location SD4 was 3.54.

5.3.23 **Evaluation**

Roosting

Trees

5.3.24 Due to the extent of the wooded habitats it was not practical to undertake detailed visual inspection surveys of all trees within the survey area. As such, it is considered likely that a number of trees of varying bat roosting suitability are present within the survey area and, if roosts are present, these would likely be of importance at the local to district level.

Foraging / Commuting

5.3.25 Overall, varying levels of bat activity were recorded within the survey area, with at least nine species (or species groups[18]) recorded during the surveys, including Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle, *Pipistrellus* sp., Noctule, Serotine, big bat species *Nyctalus / Eptesicus* sp., *Myotis* sp., *Plecotus* sp. (likely Brown Long-eared Bat) and Barbastelle. During the manual walked transect surveys the greatest levels of bat activity were recorded within areas of woodland, open mosaic habitat and the waterbody, with comparably low levels of activity at the north-west of the survey area.

5.3.26 The results of the remote detector surveys indicate that the greatest levels of activity were recorded at location SD3, with moderate levels of activity recorded at SD2 and comparably low levels of activity recorded at locations SD1 and SD4. The majority of registrations were attributable to Common Pipistrelle and Soprano Pipistrelle (Priority Species) which are common and widespread.

5.3.27 Barbastelle bat was recorded within the survey area, which is notable in Sussex in the context of several areas designated for supporting important Barbastelle populations, including Singleton and Cocking Tunnels SAC[19]. Relatively few registrations of Barbastelle were recorded at the survey area; a total of only 16 registrations across the entire five-month survey period. The data suggest only very occasional use of the survey area by this species and is consistent with the survey area falling outside of the core sustenance zone (6.5km) of the SAC. The low-level use of the survey area is also consistent with radio-tracking studies of Barbastelle bat originating from roosts in Goodwood (Westhampnett) as part of the South Downs Barbastelle Project, during which relatively few fixes of Barbastelle were recorded within the survey area and with three individuals commuting along the eastern boundary (Drayton Lane) on route to foraging grounds[20]. The majority of bats originating from Goodwood were found to forage within close proximity of the roost sites, with very little dispersal away from the core maternal woodland.

[18] *Myotis* sp. bats are difficult to separate based on analysis of calls alone, and have therefore been identified to species group level only. It is likely several different species within each group are present within the survey area. Similarly, some Pipistrelle, Long-eared Bat and *Nyctalus/Eptesicus* (or 'big bat') sp. calls were not possible to identify to species level and are assigned to a species group.

[19] South Downs National Park in conjunction with Natural England (2017) 'Draft Sussex Special Area of Conservation Planning and Landscape Scale Enhancement Protocol'.

[20] Whitby, D. & Shereston, S. (2015) 'Barbastelle Bats in The South Downs National Park – Draft Report'.

5.3.28 The rare but widespread Nathusius' Pipistrelle was recorded relatively frequently within the survey area, with the highest number of registrations noted at the location SD2 which is located adjacent to the gravel pit. This is consistent with this species' affinity for wetland habitat, in particular freshwater lakes. Bat activity in general was also highest adjacent to the gravel pit, indicating this is a key resource for bats within the survey area.

5.3.29 *Myotis* sp., Noctule, Serotine, big bat species *Nyctalus* / *Eptesicus* sp. and *Plecotus* sp. were recorded relatively infrequently, indicating that the survey area is used sporadically and is unlikely to be of high importance for these species.

5.3.30 As noted above, the woodland, hedgerows, semi-improved grassland, gravel pit, open mosaic habitat, trees, ditches, scrub and recolonising ground within the survey area offer potential foraging / commuting habitat for bats. Indeed, foraging and commuting bat activity was recorded within these habitats, with the greatest activity recorded to be associated with the woodland, gravel pit and open mosaic habitat. A number of similar waterbodies and smaller parcels of woodland are present within the local landscape, whilst the area of open mosaic habitat forms a small section of a larger parcel of this habitat type. Taking this into the account, together with the levels of activity and species recorded during the survey work, it is considered that overall the populations of bats associated with the survey area are of importance at the local level.

5.4 Badger

5.4.1 **Legislation.** Badger receive legislative protection under the Protection of Badgers Act 1992 (see Appendix 5625/2 for detailed provisions), and as such should be assessed as an important ecological feature. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It is the duty of planning authorities to consider the conservation and welfare impacts of development upon Badger and issue permissions accordingly.

5.4.2 Licences can be obtained from Natural England for development activities that would otherwise be unlawful under the legislation. Guidance on the types of activity that should be licensed is laid out in the relevant best practice guidance. [21, 22]

5.4.3 **Background Records.** No specific records of Badger were returned from the desktop study from within the 2km search area.

5.4.4 **Survey Results.** Three inactive Badger setts were recorded within the survey area at the time of survey, labelled BS1 – BS3 on Plan 5625/ECO3. These are described further below.

5.4.5 **Sett BS1:** an inactive likely main sett located within the western aspect of woodland W1. Sett BS1 comprises 14 inactive entrances, with no evidence of fresh spoil, bedding or dung pits. Some mammal scrapes were identified within proximity of the sett.

5.4.6 **Sett BS2:** an inactive likely outlier sett located within the north-eastern aspect of woodland W2 and comprises two inactive entrances.

5.4.7 **Sett BS3:** an inactive likely outlier sett located north of the waterbody and comprises a single inactive entrance.

21 English Nature (2002) '*Badgers and Development*'
22 Natural England (2011) '*Badgers and Development: A Guide to Best Practice and Licensing*', Interim Guidance Document

5.4.8 No other evidence of Badger such as well-worn paths and push-throughs, snagged hair, footprints, latrines and foraging signs were recorded within the survey area.

5.4.9 **Evaluation.** The habitats present within the survey area offer suitable foraging and commuting habitat in the form of woodland, open mosaic habitat, recolonising ground, semi-improved grassland, arable, dense scrub and hedgerows. Indeed, inactive Badger setts were recorded within the survey area confirming that the survey area has been historically utilised by this species. However, as all setts were recorded to be inactive and no evidence of current presence was identified, the survey area is not currently considered to be of particular importance for this species.

5.5 Otter

5.5.1 **Legislation.** Otter is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 5625/1 for detailed provisions). Otter is also a S41 Priority Species. On this basis, Otter is considered to represent an important ecological feature.

5.5.2 **Background Records.** No specific records of Otter were returned from the desktop study from within the 2km search area. Furthermore, information returned from SxBRC states that '*there are no recent breeding Otter records and very few resident Otters in Sussex*'.

5.5.3 **Survey Results and Evaluation.** The terrestrial habitats within the survey area are largely sub-optimal, dominated by woodland, open mosaic habitat, recolonising ground, semi-improved grassland and arable. However, the gravel pit may offer potential opportunities for foraging.

5.5.4 No evidence of Otter was recorded during the extended Phase 1 habitat survey and the gravel pit is not connected to any nearby watercourses. As such, and due to the paucity of Otter records returned from the desktop study, the survey area is not considered likely to be of importance to this species.

5.6 Water Vole

5.6.1 **Legislation.** Water Vole is fully protected under the Wildlife and Countryside Act 1981 (as amended). Water Vole is also a S41 Priority Species. As such, this species is considered to represent an important ecological feature. The legislation affords protection to individuals of the species and their breeding sites and places of shelter (see Appendix 5625/2 for detailed provisions). There is no provision under the Act for licensing what would otherwise be offences for the purpose of development. Such activities must be covered by the defence in the Act that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not reasonably be avoided.

5.6.2 If, despite all reasonable efforts, properly authorised development will adversely affect Water Vole and there are no alternative habitats nearby, Natural England may issue a licence to trap and translocate Water Vole for the purpose of conservation. To issue such a licence, Natural England would need to be assured there is no reasonable alternative to the development and that there are no other practical solutions that would allow Water Vole to be retained at the same location. Natural England would also require assurance that the actions would make a positive contribution to Water Vole conservation.

5.6.3 **Background Records.** Information returned from SxBRC included three records of Water Vole within the last 20 years, the closest of which was recorded approximately 0.95km south-west of the survey area in 2014.

5.6.4 **Survey Results and Evaluation.** The terrestrial habitats within the survey area are largely sub-optimal, dominated by woodland, open mosaic habitat, recolonising ground, semi-improved grassland and arable. However, the gravel pit may offer potential opportunities for foraging.

5.6.5 No evidence of Water Vole was recorded during the extended Phase 1 habitat survey and the gravel pit is not connected to any nearby watercourses. Therefore, on balance, it is considered Water Vole are absent from the survey area.

5.7 Dormouse

5.7.1 **Legislation.** Dormouse is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 5625/2 for detailed provisions). Dormouse is also a S41 Priority Species. On this basis, Dormouse is considered to form an important ecological feature.

5.7.2 **Background Records.** No specific records of Dormouse were returned from the desktop study from within the 2km search area.

5.7.3 **Survey Results and Evaluation.** The majority of the survey area, comprising woodland, hedgerows and, to a lesser extent, scrub offer suitable habitat for this species, albeit the woodland is not comprised of species offering high-quality foraging resources for this species. Furthermore, there are no records of Dormouse within 2km of the survey area and no evidence of Dormouse was recorded during the extended Phase 1 Habitat Survey (although a specific survey was not undertaken). The survey area is also isolated form more suitable habitat in the wider area by the surrounding road network. As such, the survey area is not likely to be of importance to this species.

5.8 Other Mammals

5.8.1 **Legislation.** A number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are S41 Priority Species and should be assessed as important ecological features.

5.8.2 **Background Records.** Information returned from SxBRC included records of Hedgehog *Erinaceus europaeus*, Brown Hare *Lepus europaeus* and Rabbit *Oryctolagus cuniculus* within 2km of the survey area. Of these, the closest record of Hedgehog was recorded approximately 0.36km north of the survey area in 2013. The closest record of Brown Hare was recorded approximately 0.19km south-west of the survey area in 2016.

5.8.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the survey area. Other mammal species likely to utilise the survey area, such as Fox *Vulpes Vulpes* and Rabbit, remain common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not considered to form important ecological features.

5.8.4 The desktop study returned records of Hedgehog and Brown Hare within the local landscape. Both of these species are Priority Species, albeit Hedgehog species remains common and widespread in England. The habitats within the survey area offer potential opportunities for both species, with areas of arable, woodland, semi-improved grassland, open mosaic habitat, recolonising ground, hedgerows and denser scrub, although the habitats are unlikely to be of particular importance in a local context. As such, should these species be present, they are likely to be of importance at the site level only.

5.9 Amphibians

5.9.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 5625/2 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.

5.9.2 **Background Records.** Information returned from SxBRC included a number of records of Great Crested Newt originating from approximately 1.14km north of the survey area in 2018. No other records of Great Crested Newt were returned from the desktop study, albeit records of Common Toad, Common Frog *Rana temporaria* and Smooth Newt *Lissotriton vulgaris* were identified within the search area from within the last 20 years. The closest of these records was attributable to a Smooth Newt within a 1km x 1km OS grid square that the survey area partially falls within in 2001. However, due to the coarse resolution of this record, it is not possible to ascertain whether this originated from within the survey area itself.

5.9.3 **Survey Results.** A single waterbody is located within the survey area, in addition to three located within 250m of the survey area (see WB1 - WB4 on Plan 5625/ECO5). An initial appraisal of each waterbody was made using the HSI system to identify potential suitability to support Great Crested Newt, see Table 5.1, below.

Table 5.1. HSI survey results.

Waterbody	Suitability Indices										HSI Score	Suitability
	SI 1 Location	**SI 2** Pond Area	**SI 3** Pond Drying	**SI 4** Water Quality	**SI 5** Shade	**SI 6** Water Fowl	**SI 7** Fish	**SI 8** Ponds	**SI 9** Terrestrial Habitat	**SI 10** Macrophytes		
Waterbodies within Survey Area Boundary												
WB1	1	-	0.9	1	0.5	0.67	0.01	0.85	1	0.35	**0.46**	*Poor*
Waterbodies outside Survey Area Boundary												
WB2	1	-	0.9	1	1	0.67	0.01	0.85	1	0.3	**0.49**	*Poor*
WB3	1	0.9	0.9	0.67	0.3	1	1	0.65	1	0.3	**0.71**	*Good*
WB4	1	-	0.9	0.33	1	0.67	0.67	0.6	0.33	0.3	**0.58**	*Below Average*

'-' Value omitted due to waterbody area exceeding 2,000m²

5.9.4 In summary, waterbodies WB1 and WB2 were found to be of 'poor' suitability, waterbody WB4 was found to be of 'below average' suitability, and waterbody WB3 was found to be of 'good' suitability.

5.9.5 Due to the potentially suitable terrestrial habitat within the survey area and the favourable HSI scores, specific Great Crested Newt presence / absence survey work was undertaken of waterbody WB3 in 2019 with further eDNA survey work undertaken in 2021. Furthermore, as waterbody WB1 falls within the survey area, Great Crested Newt eDNA survey work was undertaken in 2019 and 2021, despite its apparent poor suitability. The results of this survey work are detailed in Tables 5.2 and 5.3 below.

Table 5.2. GCN 2019 presence / absence survey results summary.

Pond Ref.	GCN Present	GCN Peak Count	GCN Population Size Class	Smooth Newt Peak Count	Palmate Newt Peak Count	Other amphibians	Fish
WB3	N	0	N/A	45	0	x	x

Table 5.3. GCN 2019 / 2021 eDNA survey results summary.

Pond Ref.	2019 eDNA Result	2021 eDNA Result
WB1	Negative	Negative
WB3	-	Negative

5.9.6 **Evaluation.** No evidence of Great Crested Newt or any other amphibians was recorded during the survey work undertaken and, as such, the survey area is not considered to be of importance to this species group.

5.10 Reptiles

5.10.1 **Legislation**. All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5625/2 for detailed provisions. All six reptile species are also S41 Priority Species. As such, all reptile species should be assessed as important ecological features.

5.10.2 **Background Records.** No specific records of reptiles from within or adjacent to the survey area were returned from SxBRC. A large number of records of Slow-worm and Common Lizard were returned from the wider search area, the majority of which were recorded to approximately 0.08km west of the survey area in 2019.

5.10.3 **Survey Results.** Specific survey work for reptiles was undertaken at the survey area, the results of which are summarised in Table 5.4 below and illustrated on Plan 5625/ECO6.

Table 5.4. Reptile survey results summary.

Visit	Date	Common Lizard		Slow-worm		Grass Snake		Other Species
		Adult	Juv.	Adult	Juv.	Adult	Juv.	
1	23/04/2020	17	1	8	2	0	0	0
2	30/04/2020	32	0	17	8	0	0	0
3	07/05/2020	17	3	14	4	0	0	0
4	11/05/2020	25	0	27	8	0	0	0
5	15/05/2020	1	0	17	0	0	0	0
6	22/05/2020	36	0	37	17	0	1	0
7	02/06/2020	3	3	17	14	0	0	0
Peak Adult Count		**36**		**37**		**0**		

5.10.4 **Evaluation**. A peak count of 36 Common Lizard and 37 Slow-worm was recorded during the survey work undertaken within the survey area. The area of suitable reptile habitat within the survey area measures approximately 5ha and therefore the peak count equates to a population of seven Common Lizard and Slow-worm per hectare, which would be classified as low populations under the standard guidance[23]. As such, it is considered that the populations of reptiles supported by the study area are of importance at the local level only.

5.11 Birds

5.11.1 **Legislation.** All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 5625/2 for detailed provisions).

5.11.2 **Conservation Status.** The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status[24]. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

5.11.3 **Background Records.** Information from SxBRC included records for a large number of bird species within the last 20 years originating from 1km x 1km OS grid squares that the survey area falls within including the Red Listed species, White-fronted Goose *Anser albifrons*, Scaup *Aythya marila*, Lapwing *Vanellus vanellus*, Cuckoo *Cuculus canorus*, Skylark, Hawfinch *Coccothraustes coccothraustes*, Linnet, Tree Sparrow *Passer montanus*, Song Thrush *Turdus philomelos* and Ring Ouzel *Turdus torquatus* which are also all Priority Species.

5.11.4 **Survey Results.** The survey area offers a range of opportunities for bird species, particularly in the form of woodland, the gravel pit, open mosaic habitat, semi-improved grassland, reedbeds, dense scrub, hedgerows and trees, which offer foraging areas and potential nesting opportunities for a range of bird species. Use of the survey area by breeding birds was assessed between April and June 2020, with a summary of observations for each

[23] Herpetofauna Groups of Britain and Ireland (1998) 'Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards'

[24] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man'* British Birds *108*, pp.708-746

species included in Table 5.5 below, whilst the distribution of each species is shown on Plan 5625/ECO7.

5.11.5 A total of 57 species of birds was recorded during the surveys, of which 35 were considered to be breeding or probably breeding and nine possibly breeding (i.e. habitat suitable to support the species is present). The remaining 13 species were either recorded in adjacent areas or flying over the survey area, or were represented by non-breeding individuals.

Table 5.5. Bird species recorded during the breeding bird survey.

Species (and BTO species code)	RSPB listed	Est. no. pairs*	Notes
Pheasant (PH) *Phasianus colchicus*	Feral	1	
Greylag Goose (GJ) *Anser anser*	Feral	0	Recorded flying over.
Mute Swan (MS) *Cygnus olor*		1	
Shoveler (SV)	Amber	0-1	Four pairs on the lake on the first visit.
Gadwall (GA) *Mareca strepera*	Amber	0-1	Nine adults on the lake in June.
Mallard (MA) *Anas platyrhynchos*	Amber	0-1	Up to three on the lake.
Pochard (PO) *Aythya ferina*	Red	0-1	Six on the lake in June.
Tufted Duck (TU) *Aythya fuligula*		0-1	Up to two on the lake.
Swift (SI) *Apus apus*	Amber	0	Recorded flying over.
Stock Dove (SD) *Columba oenas*	Amber	0-1	
Woodpigeon (WP) *Columba palumbus*		14	
Moorhen (MH) *Gallinula chloropus*		1	
Coot (CO) *Fulica atra*		4	
Little Grebe (LG) *Tachybaptus ruficollis*		2	
Great Crested Grebe (GG) *Podiceps cristatus*		1	
Black-headed Gull (BH) *Chroicocephalus ridibundus*	Amber	0	Recorded flying over.
Herring Gull (HG)	Red	0	Recorded flying over.
Lesser Black-backed Gull (LB) *L. fuscus*	Amber	0	Recorded flying over.
Common Tern (CN)	Amber	0	One flying around the lake in June.
Cormorant (CA) *Phalacrocorax carbo*		0	One on the lake in April.
Grey Heron (H.) *Ardea cinerea*		0	One on the lake edge in May.
Buzzard (BZ) *Buteo buteo*		0-1	
Sparrowhawk (SH) *Accipiter nisus*		0-1	
Tawny Owl (TO) *Strix aluco*	Amber	1	
Great Spotted Woodpecker (GS) *Dendrocopos major*		1	

Species (and BTO species code)	RSPB listed	Est. no. pairs*	Notes
Green Woodpecker (G.) *Picus viridis*		1	
Kestrel (K.) *Falco tinnunculus*	Amber	0	Two flew over in April.
Jay (J.) *Garrulus glandarius*		1	
Magpie (MG) *Pica pica*		1	
Jackdaw (JD) *Corvus monedula*		1	
Carrion Crow (C.) *Corvus corone*		1	
Blue Tit (BT) *Cyanistes caeruleus*		5	
Great Tit (GT) *Parus major*		4	
Skylark (S.)	Red	1	In grassland.
Cetti's Warbler (CW) *Cettia cetti*	Sch.1	3	On the southern edge.
Long-tailed Tit (LT) *Aegithalos caudatus*		2	
Chiffchaff (CC) *Phylloscopus collybita*		18	Common in the woodland.
Willow Warbler (WW) *P. trochilus*	Amber	0	A migrant by the lake in April.
Reed Warbler (RW) *Acrocephalus scirpeus*		4	In reedbeds around the lake.
Blackcap (BC) *Sylvia atricapilla*		8	
Lesser Whitethroat (LW) *Sylvia curruca*		1	
Whitethroat (WH) *Sylvia communis*		5	
Goldcrest (GC) *Regulus regulus*		0	One in June, presumed dispersing.
Wren (WR) *Troglodytes troglodytes*		19	
Starling (SG)	Red	0	Noted on nearby housing.
Blackbird (B.) *Turdus merula*		5	
Song Thrush (ST)	Red	7	
Robin (R.) *Erithacus rubecula*		10	
House Sparrow (HS) *Passer domesticus*	Red	0	Associated with nearby housing.
Dunnock (D.) *Prunella modularis*	Amber	3	
Chaffinch (CH) *Fringilla coelebs*		1	
Bullfinch (BF)	Amber	1	
Greenfinch (GR) *Chloris chloris*		1	
Linnet (LI)	Red	2	In scrub.
Goldfinch (GO) *Carduelis carduelis*		2	

Species (and BTO species code)	RSPB listed	Est. no. pairs*	Notes
Yellowhammer (Y.)	Red	0-1	
Reed Bunting (RB)	Amber	2	On the southern edge.

** A "0" indicates the species was recorded, but not breeding*

5.11.6 **Evaluation.** The waterbody supports a number of species including Mute Swan, Moorhen, Coot, Little Grebe, Great Crested Grebe and Reed Warbler. Whilst there was no conclusive evidence of breeding, a number of duck species were recorded that could potentially nest, including Shoveler, Gadwall, Mallard and Pochard. These four species are included on the RSPB Red or Amber Lists having undergone major or moderate declines in their UK populations. Species in the surrounding vegetation include Reed Bunting (Amber List) and Cetti's Warbler, which is included in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

5.11.7 The woodland supports an unremarkable range of species typical of the habitat including Tawny Owl, Song Thrush and possibly Stock Dove, all of which are included on the Red or Amber Lists.

5.11.8 Species present in the more open habitats include one Skylark territory in the grassland, with Dunnock, Bullfinch, Linnet and possibly Yellowhammer in scrub. All these species are included on the Red or Amber Lists, although they all remain common and widespread in both a local and national context, as are all the other species recorded breeding within the survey area.

5.11.9 Based on the range of breeding bird species recorded (35 – 44), and given the relatively low numbers of birds observed, the bird assemblage present is assessed as being of no more than local level value[25], albeit the bird assemblage supported by the survey area is assessed as being an important ecological feature.

5.12 Invertebrates

5.12.1 **Legislation.** A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5625/2 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.

5.12.2 **Background Records.** Information from SxBRC included a number of invertebrate records originating from an 1km x 1km OS grid square that the survey area falls within from the last 20 years including the beetles *Agabus bipustulatus*, *Agabus nebulosus*, *Cercyon tristis*, *Chlaenius vestitus*, *Enochrus melanocephalus*, *Gymnetron villosulum*, *Helochares lividus*, *Hydroglyphus geminus*, *Phytobius leucogaster*, and *Neobisnius procerulus* which are listed as rare in Sussex, in addition to *Peltodytes caesus* which is listed as nationally scarce. A large number of records of the Priority Species Stag Beetle *Lucanus cervus*, which is also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), were also returned from the wider search area between 2002 and 2018.

[25] Fuller, R.J.. (1980). A method for assessing the ornithological interest of sites for conservation. Biological Conservation - BIOL CONSERV.

5.12.3 **Survey Results and Evaluation.** No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the survey area. The survey area contains areas of open mosaic habitat, in addition to areas of woodland, aquatic habitats, recolonising ground, semi-improved grassland, scrub, hedgerows, and trees, which may offer micro-habitats for a range of invertebrates[26], such as areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; and free-draining light soils. However, given the lack of adjacent sites designated for significant invertebrate interest, should the survey area support an important invertebrate assemblage, it is considered that this would likely be of importance at the local level.

5.13 Summary

5.13.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.6. Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the Survey Area	Level of Importance
Bats – Roosting	Potential habitat in the form of trees	Local - District (if present)
Bats – Foraging / Commuting	Confirmed presence within survey area	Local
Other Mammals	Potential habitat present	Site (if present)
Reptiles	Confirmed presence within survey area	Local
Breeding Birds	Confirmed presence within survey area	Local
Invertebrates	Potential habitat present	Local

5.13.2 Suitable green infrastructure has been incorporated within the illustrative masterplan to enable the survey area to continue to support the above fauna and new habitat creation is proposed to provide opportunities for additional faunal species.

[26] Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

6 Conclusions

6.1 Aspect Ecology has been commissioned to undertake an Ecological Baseline Assessment in respect of land at Drayton Water, Chichester. A desk study has been undertaken and the survey area has been surveyed based on standard extended Phase 1 survey methodology. A general appraisal of faunal species has also been undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of bats, Badger, Great Crested Newt, reptiles and breeding birds.

6.2 **Ecological Designations.** The survey area is not subject to any statutory or non-statutory ecological designations.

6.3 **Habitats.** The survey area is a former gravel extraction site which now comprises an open water gravel pit with associated reedbeds, surrounded by woodland, trees, open mosaic habitat, recolonising ground, semi-improved grassland, arable, dense scrub, hedgerows, trees, ditches and hardstanding. A summary of habitats assessed to form important ecological features within the survey area is given in Table 6.1 below:

Table 6.1. Summary of habitat evaluation.

Habitat	Level of Importance
Gravel Pit	Local – District
Open Mosaic Habitat	Local – District
Reedbeds	Local
Hedgerows	Local
Trees (possible veteran trees only)	Local
Ditches	Local

6.4 **Faunal Species.** Surveys have recorded evidence of a number of protected and notable faunal species / groups including bats, reptiles and breeding birds. A summary of species / species groups assessed to form important ecological features which are supported by or associated with the survey area and its immediate surrounds is given in Table 6.2 below:

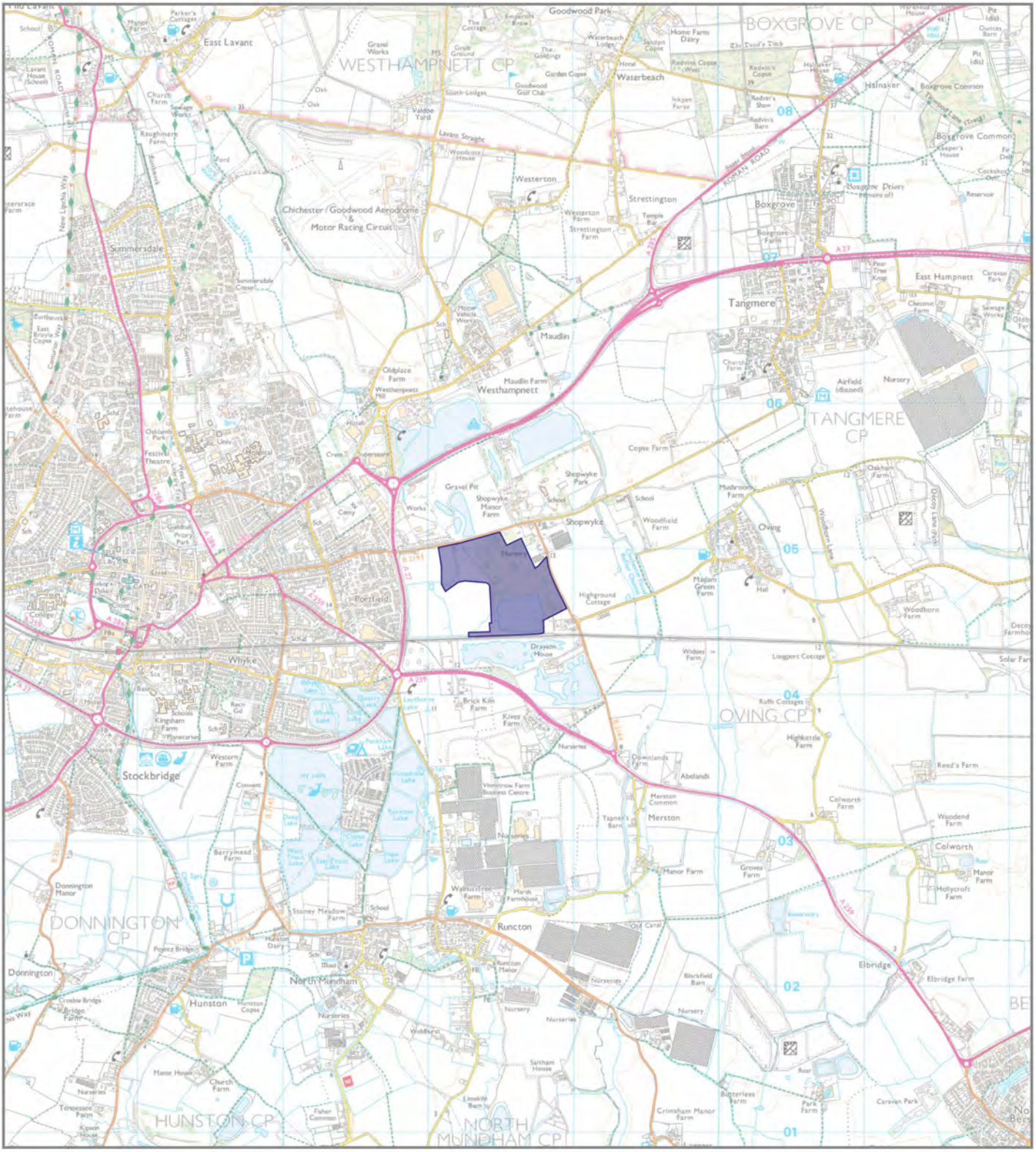
Table 6.2. Summary of faunal species evaluation.

Species / Group	Level of Importance
Bats – Roosting	Local – District (if present)
Bats – Foraging / Commuting	Local
Other Mammals	Site (if present)
Reptiles	Local
Breeding Birds	Local
Invertebrates	Local

6.5 **Conclusion.** The information in this report details the ecological baseline position within the survey area, setting out the habitat types and species present and evaluating their ecological importance. This information has been used to inform the illustrative masterplan and demonstrates there are no overriding ecological constraints to development of the site. Furthermore, a range of ecological enhancements can be delivered in association with development of the site.

Plan 5625/ECO1:

Survey Area Location



Key:

Survey Area

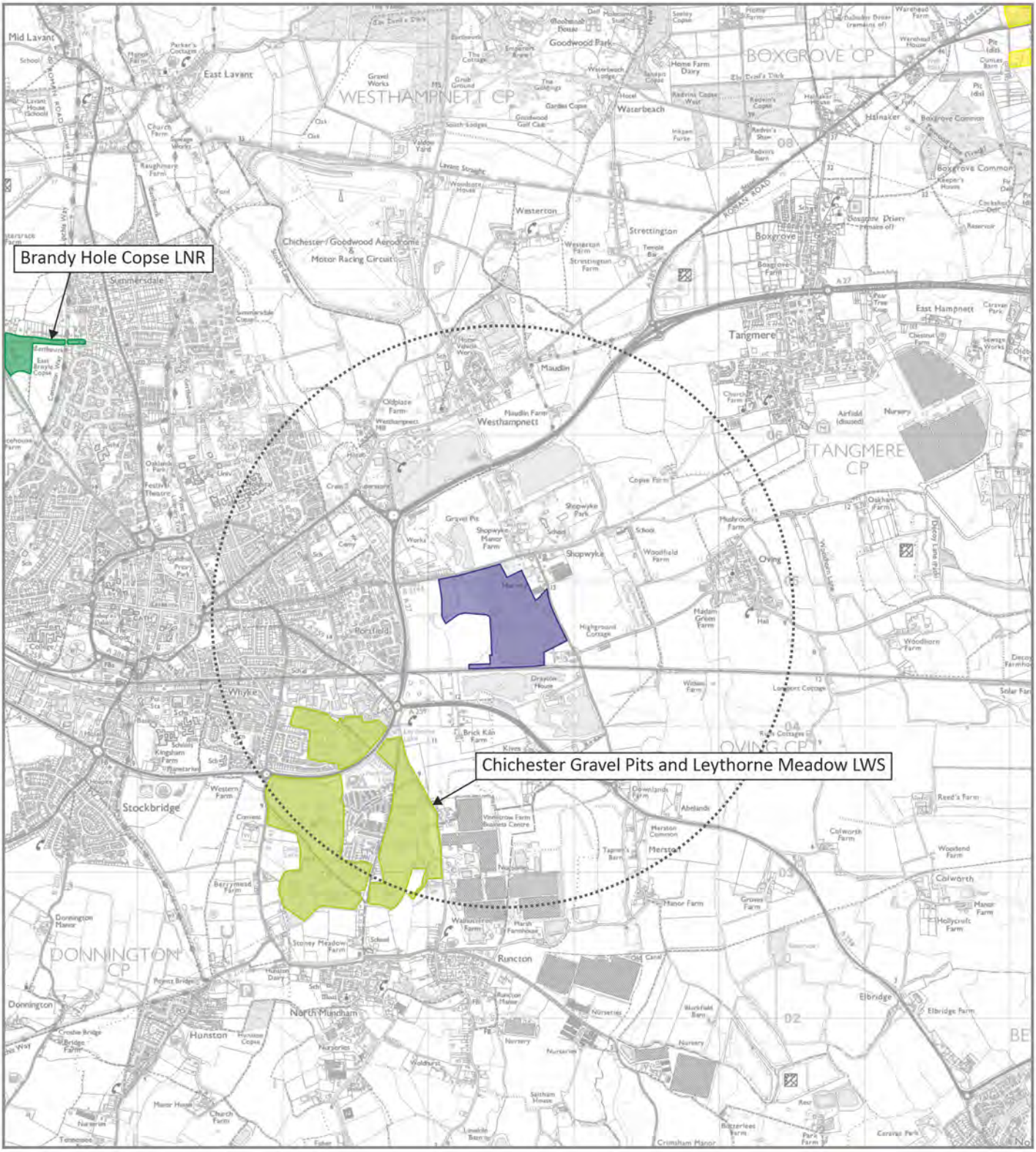
aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Drayton Water, Chichester	PROJECT
Survey Area Location	TITLE
5625/ECO1	DRAWING NO.
A	REV.
November 2021	DATE

Plan 5625/ECO2:

Ecological Designations



Key:

- Survey Area
- Site of Special Scientific Interest (SSSI)
- Local Nature Reserve (LNR)
- Local Wildlife Site (LWS)
- 2km Non-statutory Designation Search Area*

Only non-statuatory designations occurring within 2km of the site centre are shown

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Drayton Water, Chichester	PROJECT
Ecological Designations	TITLE
5625/ECO2	DRAWING NO.
A	REV.
November 2021	DATE

Plan 5625/ECO3:

Habitats and Ecological Features

Key:

- Survey Area
- Woodland
- Waterbody
- Open Mosaic Habitat
- Recolonising Ground
- Semi-improved Grassland
- Arable
- Reedbed
- Dense Scrub
- Hedgerow
- Tree
- Potential Veteran Tree
- Ditch
- Hardstanding
- Montbretia
- Inactive Badger Sett

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Drayton Water, Chichester	PROJECT
Habitats and Ecological Features	TITLE
5625/ECO3	DRAWING NO.
A	REV.
November 2021	DATE

Plan 5625/ECO4a:

Bat Manual Activity Survey Results

Key:

Survey Area

Species Observed

- Common Pipistrelle
- Soprano Pipistrelle
- Noctule
- Myotis

Transect Route

- Negligible Bat Activity (Bat Activity Index 0)
- Low Bat Activity (Bat Activity Index 0.01 - 0.5)
- Moderate Bat Activity (Bat Activity Index 0.51 - 1.0)
- High Bat Activity (Bat Activity Index >1)

Listening Point

- Negligible Bat Activity (Bat Activity Index 0)
- Low Bat Activity (Bat Activity Index 0.01 - 0.5)
- Moderate Bat Activity (Bat Activity Index 0.51 - 1.0)
- High Bat Activity (Bat Activity Index >1)

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Drayton Water, Chichester	PROJECT
Bat Manual Activity Survey Results	TITLE
5625/ECO4a	DRAWING NO.
A	REV.
November 2021	DATE

Plan 5625/ECO4b:

Bat Automated Activity Survey Results

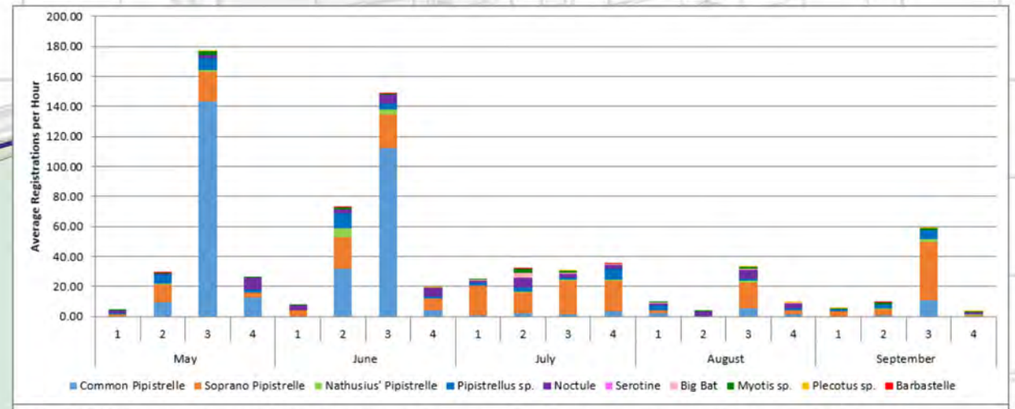

Figure 5625/ECO4b-a: Average bat registrations per hour stratified by location, month of deployment and species.

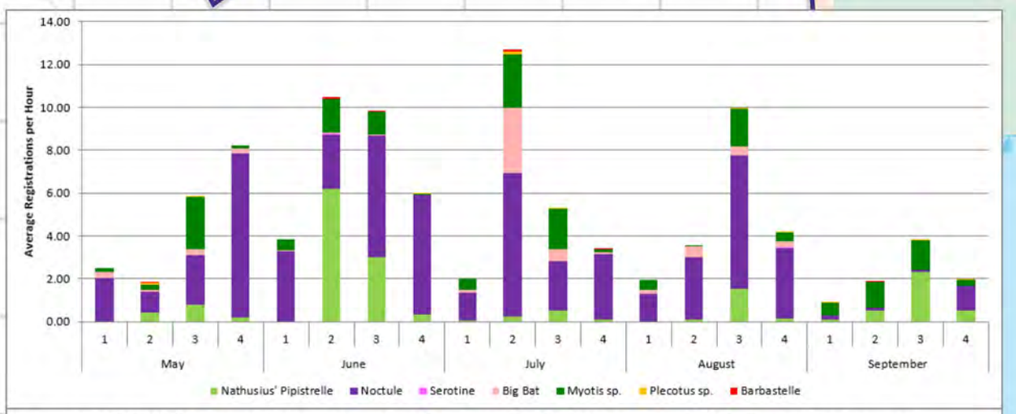

Figure 5625/ECO4b-b: Average bat registrations per hour stratified by location, month of deployment and species. Common Pipistrelle, Soprano Pipistrelle and Pipistrellus sp. have been removed.

SD1

SD2

SD3

SD4

Key:

Survey Area

SD1 Location of Automated Bat Detector

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Drayton Water, Chichester	PROJECT
Bat Automated Activity Survey Results	TITLE
5625/ECO4b	DRAWING NO.
A	REV.
November 2021	DATE

Plan 5625/ECO5:

Great Crested Newt Survey Results